PERIODIC REVIEW REPORT

(Reporting Period 7/17/2022 to 7/17/2023)

for

GREATER WATERSIDE SITE
700-708 FIRST AVENUE
Manhattan, New York

Block 970, Lots 1 and 2
NYSDEC BCP No. C231013

Prepared For:

700 First Realty Company LLC and 708 First Realty Company LLC
9 West 57th Street, 45th Floor
New York, New York 10019

Prepared By:

Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001

LANGAN

July 12, 2023
Langan Project No. 170446801

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Site Description 1
1.2 Site History and Remediation Summary 2
2.0 EVALUATION OF THE REMEDY 3
2.1 Soil/fill Import 3
3.0 IC/EC COMPLIANCE REPORT 3
3.1 Institutional Controls 3
4.0 CONCLUSIONS AND RECOMMENDATIONS 4

FIGURES

Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Imported Fill Placement Map

APPENDICES

Appendix A Photograph Log – Site Inspection
Appendix B NYSDOH FOIL Request and Responses
Appendix C IC/EC Certification Form
Appendix D Imported Fill Documentation

1.0 INTRODUCTION

This Periodic Review Report (PRR) documents compliance with the August 17, 2011 Environmental Easements (EE), September 27, 2011 Site Management Plan (SMP), and February 27, 2021 SMP Addendum Letter for 700 First Avenue and 708 First Avenue, New York, NY (collectively referred to as the site). A periodic review of the institutional and engineering controls (IC/EC) is a requirement of the EEs and SMP, and the New York State Brownfield Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation (NYSDEC).

Remediation for unrestricted use to the Development Depth[1] was completed in March 2004 and January 2008 for 700 First Avenue and 708 First Avenue, respectively. The September 2011 Final Engineering Report (FER) documents site remediation and was approved by the NYSDEC in November 2011. Although the site was approved for unrestricted use to the Development Depth, residual contamination below Development Depth requires implementing and periodic monitoring of IC/ECs.

Langan completed an annual site review and inspection for the reporting period from July 17, 2022 to July 17, 2023. The annual site inspection was completed on June 7, 2023. Photographs from the annual site inspection are presented in Appendix A.

1.1 Site Description

The site consists of two contiguous properties, 700 First Avenue and 708 First Avenue, and is located in the Murray Hill neighborhood of Manhattan. The approximately 6.3-acre site is identified as Block 970, Lot 1 (700 First Avenue) and Lot 2 (708 First Avenue) on the Manhattan Borough Tax Map. The site is bound by East 41st Street to the north, the Franklin D. Roosevelt Drive (FDR) and Marginal Street to the east, East 38th Street to the south, and First Avenue to the west. High-rise, mixed-use residential and commercial buildings are located to the north, west, and south of the site. The site is a fenced, vacant lot and the northeastern corner is intermittently used for vehicle parking and storage of construction trailers and materials (plastic traffic/safety barricades). The central and western parts of the site are overgrown with vegetation. Topsoil imported to the site from December 2019 to March 2020 was placed and graded at the site with the exception of two remaining topsoil stockpiles (covered with vegetation), which are present in the south-central part of the site.

During this PRR reporting period, an approximately 50,000-square-foot area at the eastern side of the site was cleared of vegetation and regraded with NYSDEC-approved fill as part of the construction of a temporary parking and staging area that will be used to support a United Nations General Assembly session in late 2023. In addition, a localized area of solidified concrete wash and/or spoils (a likely remnant of the site's use as a construction materials and equipment staging area during the redevelopment of 685 First Avenue) was encountered during the regrading operation, broken up, and placed in a stockpile on-site. A change of use (COU) notice for this

[1] The Development Depth is defined as the depth to the top of competent bedrock or the mean high groundwater table (elevation -0.4 feet Manhattan Highway Datum, or 2.05 feet NAVD88), whichever is higher.

temporary use was submitted to the NYSDEC on April 17, 2023. This use of the site is compliant with the EEs in effect for the site.

A site location map is included as Figure 1 and a site plan is included as Figure 2.

1.2 Site History and Remediation Summary

The site was formerly occupied by a manufactured gas plant (MGP), a steam/electricity generating station, and an office building used by a Con Edison predecessor company. MGP facility structures, including aboveground gas holders, underground naphtha tanks, and other related structures were demolished between 1910 and the early 1920s. The steam/electricity generating station and office building were constructed following demolition of the MGP facility structures.

The site was remediated in accordance with a June 27, 2001 Voluntary Cleanup Order (VCO) Index #D2-0001-01-03, Site Nos. V00432-2 (Lot 1) and V00431-2 (Lot 2). Remediation was required to address environmental conditions, including the presence of volatile organic compounds (VOC), polychlorinated biphenyls (PCB) and lead in soil, and VOCs in groundwater. Remediation was completed between 2002 and 2008 and included excavation and source removal of impacted soil and weathered bedrock down to Development Depth. Remediation also included the following components:

1. Asbestos abatement, decommissioning, and demolition of all buildings and subsurface structures (Lots 1 and 2)
2. Closure of NYSDEC spills (Lots 1 and 2)
3. Placement of 2 feet of clean soil meeting Technical and Administrative Guidance Memorandum (TAGM) 4046 soil cleanup objectives (SCOs), excluding areas of exposed bedrock (Lots 1 and 2)
4. Closure of intake and discharge tunnels (Lot 1 only)
5. Removal of nine underground storage tanks (USTs) and excavation of VOC-contaminated soil to depths of 25 to 39 feet below grade surface in the UST area (Lot 2 only)
6. Application of an oxygen release compound to treat residual VOCs in groundwater and groundwater monitoring and evaluations (Lot 2 only)
7. Completion of a post-remediation soil-gas survey (Lots 1 and 2)

Remediation of Lot 2 was completed in 2004 and documented in the April 2006 *Final Report for 708 Office Building Remediation Work Plan* prepared by TRC. Remediation of Lot 1 was completed in 2008 and documented in the February 2008 *Final Report for Waterside Generating Station Remediation Work Plan* prepared by TRC. The 2001 VCO was superseded by Brownfield Cleanup Agreement (BCA) Index # A2-0515-0405, Site No. C231013, which was executed by the NYSDEC on June 16, 2010. The BCP FER and SMP were issued in September 2011. The documents certified that remediation was complete and established protocols for the management of soil and groundwater below Development Depth. EEs were drafted in August 2011 (later recorded in September 2011) and Certificates of Completion (COCs) were issued by the NYSDEC and recorded in January 2012.

The SMP was amended to change the soil import and reuse criteria for the site. An SMP addendum letter was submitted to the NYSDEC on February 26, 2020 and later approved by the agency on March 4, 2020. The SMP was amended to reflect 1) that the soil import and reuse criteria is the lower of 6 NYCRR Part 375 Restricted Use Restricted-Residential and Protection of Groundwater SCOs (above or below Development Depth) and that the Department may issue a site-specific exemption for this requirement based on various site-specific conditions as set forth in Part 375-6.7(d)(3).

2.0 EVALUATION OF THE REMEDY

The remedy prepared the site for unrestricted use to the Development Depth and restricted-residential and commercial uses below Development Depth provided ECs and ICs are employed and maintained. The current ICs include property use restrictions, prohibition of groundwater use, and an SMP requiring management of activities disturbing residual contamination below Development Depth and annual inspection and certification of ICs/ECs. The current EC for the site consists of at least 2 feet of clean soil cover across the site, excluding areas of exposed bedrock. Previous PRRs document that no intrusive work disturbing soil below Development Depth has occurred at the site since the COCs were issued. Based on our review of current conditions, property research, and the annual site inspection, the remedy remains effective.

2.1 Soil/fill Import

A total of 1,219.32 tons (about 871 cubic yards) of manufactured fill (processed virgin stone) was imported to the site between June 2 and June 7, 2023. The fill was placed in the eastern part of the site as part of the construction of a temporary parking and staging area that will be used to support a United Nations General Assembly session in late 2023. The fill was sourced from the East Haven Trap Rock Quarry (EHTRQ), located in East Haven, Connecticut. An import request package for the import of up to 1,000 cubic yards of fill from EHTRQ was submitted to the NYSDEC on May 25, 2023 and approved on the same day.

A map showing the imported fill placement area is provided as Figure 3. Imported fill documentation, including the import request package and NYSDEC approval, hauler tickets, and an import tracking log is included in Appendix D.

3.0 IC/EC COMPLIANCE REPORT

3.1 Institutional Controls

The ICs for the site are documented in two EEs (City Register File Nos. 2011000329546 and 2011000329547) that contain restrictions and/or prohibitions with respect to disturbances of soil below the Development Depth and use of groundwater. The objective of the easements is to ensure the ICs prescribed in the SMP are maintained.

On May 12, 2023, Langan submitted a Freedom of Information Law (FOIL) request to the New York State Department of Health (NYSDOH) to verify that no well or water withdrawal permits were issued for the site during the reporting period. No response from the NYSDOH has been received as of the date of this PRR. A copy of the FOIL request is included in Appendix B.

Using the New York City Department of Finance (DOF) online Automated City Register Information System (ACRIS), Langan determined no real and/or personal property transfers or modifications to the deeds were made during the reporting period.

Using the New York City Department of Buildings (DOB) online Building Information System (BIS), Langan determined no work permits were filed for the site during the reporting period.

The ICs remains in place and are effective and no changes are recommended.

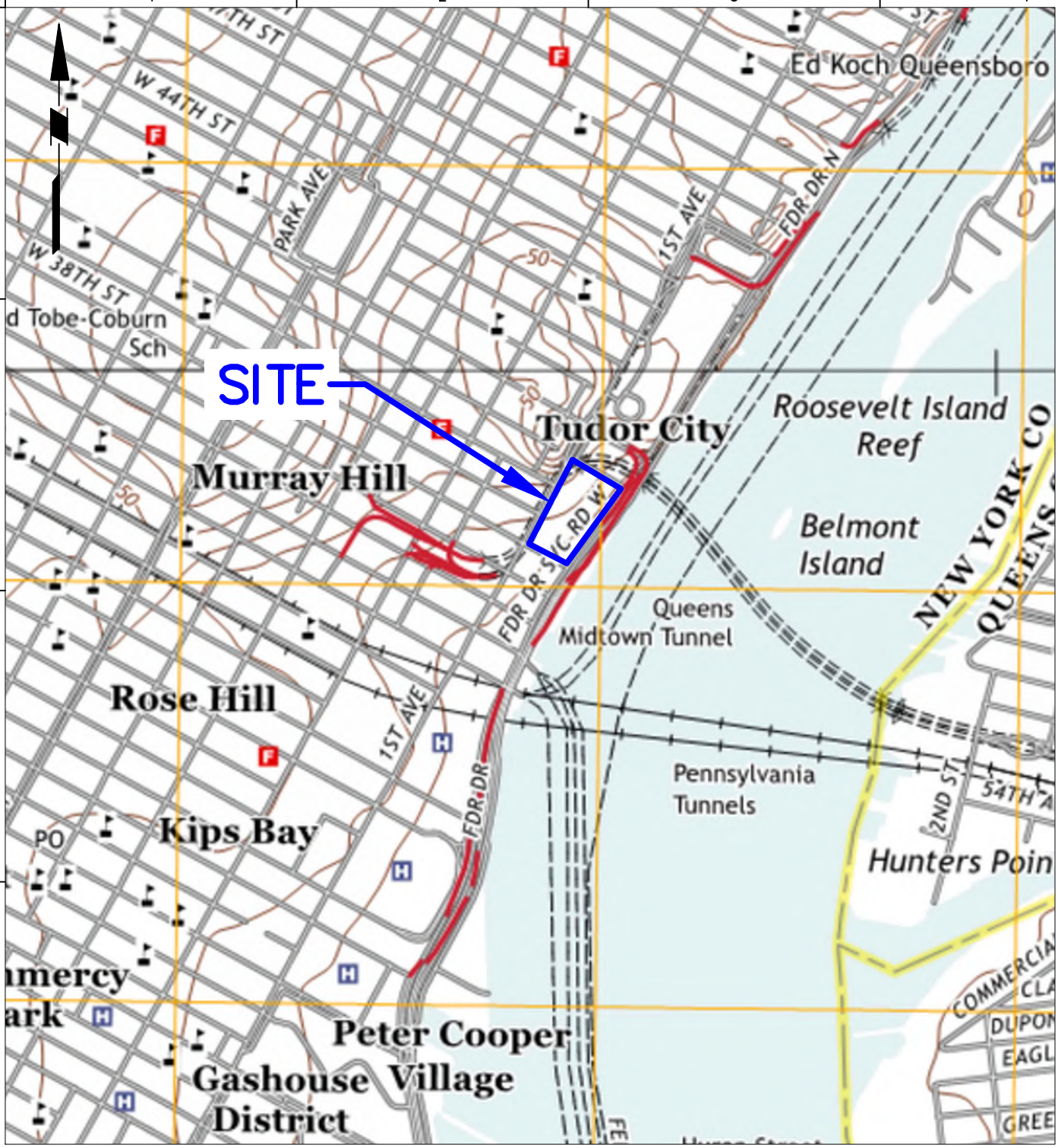
3.2 Engineering Controls

The EC for the site consists of at least 2 feet of clean cover soil across the site, excluding areas of exposed bedrock. The northeastern corner of the site is intermittently used for parking and a new temporary parking and staging area was constructed at the eastern part of the site during this PRR reporting period. The remainder of the site is overgrown with vegetation. Topsoil imported to the site from December 2019 to March 2020 and fill imported to the site during this reporting period were placed and graded and thereby added to the existing clean cover soil layer. Topsoil that was not graded is contained in two stockpiles (covered with vegetation) at the south-central part of the site. No disturbances of the cover soil layer were observed during the site inspection on June 15, 2022. The EC remains in place and is effective and no changes are recommended.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The IC/ECs remain in place and are effective. The completed IC/EC certification form is included as Appendix C.

FIGURES



GENERAL NOTES:

1. BASE MAPS TAKEN FROM UNITED STATES GEOLOGICAL SURVEY (USGS) BROOKLYN AND CENTRAL PARK QUADRANGLE MAPS (2013).

LEGEND:

APPROXIMATE SITE BOUNDARY

LANGAN
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project	THE GREATER WATERSIDE SITE BLOCK No. 970, LOT Nos. 1 and 2 NEW YORK NEW YORK
Figure Title	SITE LOCATION MAP
Project No.	170446801
Date	5/13/2020
Scale	NTS
Drawn By	JFY
Checked By	GCW
Submission Date	
Figure No.	1
Sheet	1 of 2

© 2017 Langan

Filename: \\langan.com\data\NYC\data8\170446801\Cadd Data - 170446801\SheetFiles\Enviromental\Periodic Review Reports\2020\Figure 1 - Site Location Map_2020.dwg Date: 5/13/2020 Time: 16:13 User: jyanowitz Style Table: Langan.stb Layout: ANSIA-BP



LEGEND:

APPROXIMATE SITE BOUNDARY

GENERAL NOTES

1. BASE MAP SOURCE: NEARMAP.COM AERIAL PHOTO DATED MARCH 12, 2021.

150 0 75 150

SCALE IN FEET

LANGAN
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project

THE GREATER WATERSIDE SITE

BLOCK No. 970, LOT Nos. 1 and 2

NEW YORK NEW YORK

Figure Title

SITE PLAN

Project No. 170446801	Figure No. 2
Date 7/21/2021	
Scale 1" = 150'	
Drawn By TG / Checked By GCW	
Submission Date	

© 2017 Langan

Filename: \\langan.com\data\NY\data8\170446801\Cadd Data - 170446801\SheetFiles\Enviromental\Periodic Review Reports\Figure 2 - Site Plan_2021.dwg Date: 8/3/2021 Time: 10:30 User: gwyka Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

APPROXIMATE SITE BOUNDARY

APPROXIMATE PLACEMENT AREA OF IMPORTED FILL

GENERAL NOTES

1. BASE MAP SOURCE: NEARMAP.COM AERIAL PHOTO DATED MARCH 12, 2021.

150 0 75 150

SCALE IN FEET

LANGAN
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project

THE GREATER WATERSIDE SITE

BLOCK No. 970, LOT Nos. 1 and 2

NEW YORK NEW YORK

Figure Title

IMPORTED FILL PLACEMENT MAP

Project No.	Figure No.
170446801	3
Date: 6/30/2023	
Scale: 1" = 150'	
Drawn By: TG / Checked By: GCW	
Submission Date	

© 2017 Langan

Filename: \\langan.com\data\NY\data8\170446801\Cadd Data - 170446801\SheetFiles\Enviromental\Periodic Review Reports\Figure 2 - Site Plan_2021.dwg Date: 8/3/2021 Time: 10:30 User: gwyka Style Table: Langan.stb Layout: ANSIB-BL

APPENDIX A

PHOTOGRAPH LOG – SITE INSPECTION

Appendix A – Field Photograph Log
Periodic Review Report
The Greater Waterside Site
700-708 First Avenue
Manhattan, New York
Block 970, Lots 1 and 2
Langan Project No. 170446801



Photograph 1 – View of the site entrance along the FDR Drive; facing east (photograph dated 6/7/2023).



Photograph 2 – View of temporary parking and staging area and construction trailers and materials related to previous construction activity at 685 First Avenue; facing north (photograph dated 6/7/2023).



Photograph 3 – View of the site; facing southeast (photograph dated 6/7/2023).



Photograph 4 – View of the site; facing east (photograph dated 6/7/2023).



Photograph 5 – View of vegetation overgrowth at the southern part of the site; facing south (photograph dated 6/7/2023).



Photograph 6 – View of vegetation overgrowth at the southwestern corner of the site; facing south (photograph dated 6/7/2023).



Photograph 7 – View of topsoil stockpiles in the south-central part of the site; facing southwest (photograph dated 6/7/2023).



Photograph 8 – View of the northwest corner of the site; facing north (photograph dated 6/7/2023).



Photograph 9 – View of the northeast corner of the site; facing northeast (photograph dated 6/7/2023).



Photograph 10 – View of the central part of the site and stockpile of solidified concrete wash and/or spoils; facing south (photograph dated 6/7/2023).

APPENDIX B

NYSDOH FOIL REQUEST AND RESPONSES

Open FOIL NY (https://www.ny.gov/programs/open-foil-ny)

Review & Submit FOIL Request

Records requested from:

- Department of Health

Title:

--

First Name:

Tyler

Middle Initial:

Last Name:

Goodnough

Email Address:

tgoodnough@langan.com

Organization:

Langan Engineering

Address Line 1:

360 West 31st Street

Address Line 2:

City:

New York

State / Province:

NY

Zip / Postal Code:

10001

Country:

USA

Phone:

(212) 479-5400

Fax:

Short title of requested records:

Well permits or water withdrawal permits

FOIL Request / Description of records sought:

Pursuant to the Federal Freedom of Information Act (5 U.S.C 552 et seq.) dealing with the examination and duplication of documents maintained by public agencies, Langan is requesting any information or copies of files regarding well permits or water withdrawal permits for the above properties that your department may have. The property is located at 700-708 First Avenue, New York, NY (Block 970, Lots 1 and 2). The property is bound by East 41st Street to the north, the Franklin D. Roosevelt Drive (FDR) and Marginal Street to the east, East 38th Street to the south, and First Avenue to the west.

Response Format:

Email

Fee Limit:

$

Checked Additional Information:

- I am affiliated with a private corporation and am seeking information for use in the company's business for commercial purpose

Uploaded Files:

BACK SUBMIT

Accessibility (http://www.ny.gov/node/55121)
Agencies (http://www.ny.gov/agencies)
App Directory (http://www.ny.gov/mobileapps)
Counties (http://www.ny.gov/counties)
Disclaimer (http://www.ny.gov/node/55126)
Events (http://www.ny.gov/events)
Privacy Policy (http://www.ny.gov/node/56891)
Programs (http://www.ny.gov/programs)
Services (http://www.ny.gov/services)
Site Map (http://www.ny.gov/sitemap)

APPENDIX C

IC/EC CERTIFICATION FORM

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **C231013**

Site Name The Greater Waterside Site

Site Address: 700-708 First Avenue Zip Code: 10016
City/Town: New York
County: New York
Site Acreage: 6.340

Reporting Period: July 17, 2022 to July 17, 2023

	YES	NO
1. Is the information above correct?	X	
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? 2023-04-17 Change of Use Notice for the construction of a temporary parking lot is attached to this form	X	
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?		X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	X	
7. Are all ICs in place and functioning as designed?	X	

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☒

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☒	☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C231013 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
970-1	700 First Realty Company, LLC	Ground Water Use Restriction Site Management Plan IC/EC Plan Landuse Restriction

1. The Property may only be used for restricted residential and commercial use below the Development Depth provided that the long term Engineering and Institutional Controls included in the Site Management Plan (SMP) are employed. No environmental eaements, engineering controls, institutional controls, or any other consents, approvals, or authorizations are required for any activities above the Development Depth.

2. A higher level of use, such as residential use, will not be allowed for activities below the Development Depth without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC.

3. All future activities on the Property that will disturb remaining contaminated material must be conducted in accordance with the SMP; and,

4. The use of the groundwater underlying the Property is prohibited without treatment rendering it safe for intended use.

970-2	708 First Realty Company, LLC	IC/EC Plan Ground Water Use Restriction Landuse Restriction Site Management Plan

1. The Property may only be used for restricted residential and commercial use below the Development Depth provided that the long term Engineering and Institutional Controls included in the Site Management Plan (SMP) are employed. No environmental eaements, engineering controls, institutional controls, or any other consents, approvals, or authorizations are required for any activities above the Development Depth.

2. A higher level of use, such as residential use, will not be allowed for activities below the Development Depth without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC.

3. All future activities on the Property that will disturb remaining contaminated material must be conducted in accordance with the SMP; and,

4. The use of the groundwater underlying the Property is prohibited without treatment rendering it safe for intended use.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
970-1	Cover System

There is greater than two feet of cover over the entire site. After site redevelopment the cover system will consist of the building structures, clean fill soil, landscaping and concrete and asphalt paving.

970-2	Cover System

There is greater than two feet of cover over the entire site. After redevelopment the cover system will consist of the building structures, clean fill soil, landscaping and concrete and asphalt paving.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C231013

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I William Potts at 9 West 57th Street, 45th Floor, New York, NY 10019,
print name print business address

am certifying as owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.



Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

06.28.23
Date

EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Jason J. Hayes, P.E. at 360 West 31st Street, 8th Floor, New York, NY 10001,
print name print business address

am certifying as a Qualified Environmental Professional for the owner
(Owner or Remedial Party)



Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

7/10/2023
Date

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

60-Day Advance Notification of Site Change of Use, Transfer of Certificate of Completion, and/or Ownership

Required by 6NYCRR Part 375-1.11(d) and 375-1.9(f)

To be submitted at least 60 days prior to change of use to:

Chief, Site Control Section
New York State Department of Environmental Conservation
Division of Environmental Remediation, 625 Broadway
Albany NY 12233-7020

I. Site Name: Greater Waterside Site **DEC Site ID No.** C231013

II. Contact Information of Person Submitting Notification:

Name: Gregory C. Wyka

Address1: 360 West 31st Street, 8th Floor

Address2: New York, NY 10001

Phone: 212-479-5476 E-mail: gwyka@langan.com

III. Type of Change and Date: Indicate the Type of Change(s) (check all that apply):

☐ Change in Ownership or Change in Remedial Party(ies)

☐ Transfer of Certificate of Completion (CoC)

☑ Other (e.g., any physical alteration or other change of use)

Proposed Date of Change (mm/dd/yyyy): 6/16/2023

IV. Description: Describe proposed change(s) indicated above and attach maps, drawings, and/or parcel information.

Minor physical alterations, including the regrading of two areas (see red-crossed hatched areas in attachment) covering about 36,000 square feet and placing of 6 inches of imported fill (Item 4 or other type)(700 cubic yards) on top of these areas to prepare for the deployment of mobile construction office trailers or equivalent for temporary use during the United Nation's General Assembly in September to December 2023.

If "Other," the description must explain and advise the Department how such change may or may not affect the site's proposed, ongoing, or completed remedial program (attach additional sheets if needed).

There will be negligible disturbance of the surface of the site's cover system (2 feet of clean soil), which is an engineering control for the completed remedy, during the proposed regrading work. An additional 6 inches of imported clean fill (to be sampled and tested before import and placement) will be placed on top of regraded areas. The cover system engineering control will remain in place and continue to be effective after this work. No corrective action is proposed or necessary.

V. Certification Statement: Where the change of use results in a change in ownership or in responsibility for the proposed, ongoing, or completed remedial program for the site, the following certification must be completed (by owner or designated representative; see §375-1.11(d)(3)(i)):

I hereby certify that the prospective purchaser and/or remedial party has been provided a copy of any order, agreement, Site Management Plan, or State Assistance Contract regarding the Site's remedial program as well as a copy of all approved remedial work plans and reports.

Name: _____ _____
(Signature) (Date)

_____
(Print Name)

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

VI. Contact Information for New Owner, Remedial Party, or CoC Holder: If the site will be sold or there will be a new remedial party, identify the prospective owner(s) or party(ies) along with contact information. If the site is subject to an Environmental Easement, Deed Restriction, or Site Management Plan requiring periodic certification of institutional controls/engineering controls (IC/ECs), indicate who will be the certifying party (attach additional sheets if needed).

☐ Prospective Owner ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

Certifying Party Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

VII. Agreement to Notify DEC after Transfer: If Section VI applies, and all or part of the site will be sold, a letter to notify the DEC of the completion of the transfer must be provided. If the current owner is also the holder of the CoC for the site, the CoC should be transferred to the new owner using DEC's form found at http://www.dec.ny.gov/chemical/54736.html. This form has its own filing requirements (see 6NYCRR Part 375-1.9(f)).

Signing below indicates that these notices will be provided to the DEC within the specified time frames. If the sale of the site also includes the transfer of a CoC, the DEC agrees to accept the notice given in VII.3 below in satisfaction of the notice required by VII.1 below (which normally must be submitted within 15 days of the sale of the site).

Within 30 days of the sale of the site, I agree to submit to the DEC:

1. the name and contact information for the new owner(s) (see §375-1.11(d)(3)(ii));
2. the name and contact information for any owner representative; and
3. a notice of transfer using the DEC's form found at http://www.dec.ny.gov/chemical/54736.html (see §375-1.9(f)).

Name: _____ _____

(Signature) (Date)

_____

(Print Name)

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

Continuation Sheet

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

☐ Prospective Owner/Holder ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: _____

Address1: _____

Address2: _____

Phone: _____ E-mail: _____

3/20/23


2nd Preferred
- Gate 3 paved
- Allows for use of gate 3
- Allows for dispersion of vehicles and non-exposed route out of staging area using gate 3
- Section between Gates 1 and 2 leveled
Basketball courts
E 41st St
Queens Midtown Tunnel (Toll road)
Appr. 18m
Appr. 33m
Appr. 34m
Appr. 132m
Gate 3
FDR Dr
East River Esplanade
New Wave Pier
Park Sales Gallery
685 E 39th St Parking
Bathroom and
Kitchen Floor Tile
NYU Langone
Seligman Center
1st Ave.
NYU Langone Medical
Center Surgical...
E 38th St
Brideawee
Rivergate

APPENDIX D

IMPORTED FILL DOCUMENTATION

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e). Use of this form is not a substitute for reading the applicable Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Restricted Residential Use

Have Ecological Resources been identified? no

Is this soil originating from the site? no

How many cubic yards of soil will be imported/reused? 800-1000

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? no

Does it contain less than 10%, by weight, material that would pass a size 80 sieve? yes

Is this virgin material from a permitted mine or quarry? yes

Is this material recycled concrete or brick from a DEC registered processing facility? no

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

The proposed imported material is manufactured fill from the East Haven Trap Rock Quarry located in East Haven, Connecticut. Samples for lab analysis were collected on May 5, 2023 at a frequency in accordance with NYSDEC DER-10 Table 5.4(e)10. Seven (7) grab samples were collected and analyzed for TCL/Part 375 VOCs. Two (2) 5-point composite samples were collected and analyzed for the following parameters: TCL/Part 375 SVOCs, PCBs, pesticides, herbicides, TAL metals, hexavalent chromium, trivalent chromium, cyanide, 1,4-dioxane, and PFAS (via 1633).

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Please see attached Tables 1 to 3. No analytes exceeded the lower of the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Restricted Use Restricted-Residential (RURR) Soil Cleanup Objectives (SCO) and Protection of Groundwater (PGW) SCOs. PFOA and PFOS did not exceed the lower of the NYSDEC Part 375 Remedial Programs Guidelines for Sampling and Analysis of Per- and Polyfluoroalkyl Substances (PFAS) RURR and PGW Guidance Values (April 2023).

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

East Haven Trap Rock Quarry

Location where fill was obtained:

East Haven Trap Rock Quarry, 400 Totoket Rd, North Branford, CT 06471

Identification of any state or local approvals as a fill source:

N/A

If no approvals are available, provide a brief history of the use of the property that is the fill source:

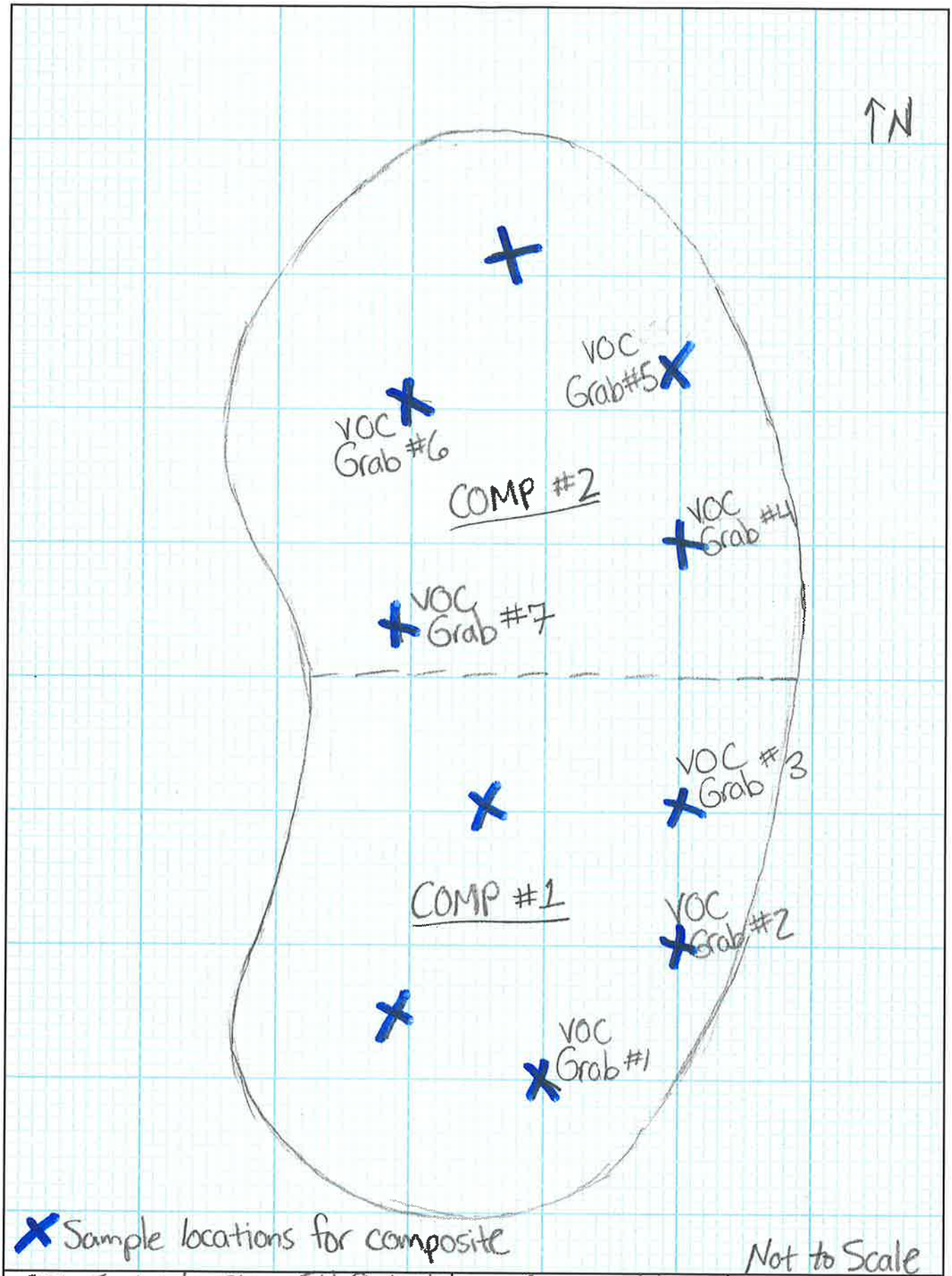
Quarry, gravel and stone crushing site for over 75 years. A Letter of Pre-Existing Nonconforming Use issued by the Town of East Haven Planning and Zoning Administrator is included in the supporting documentation.

Provide a list of supporting documentation included with this request:

Figure 1 - Site Plan and Sample Location Plan
Figure 2 - Imported Fill Placement Plan
East Haven Trap Rock Quarry - Clean Source Documentation and Sieve/Gradation Report
Field Photographs
Tables 1 to 3
Laboratory Analytical Data Package

The information provided on this form is accurate and complete.

	5/25/2023
Signature	Date
Gregory Wyka	
Print Name	
Langan	
Firm	



SDL Eastside Clean Fill Stockpile East Haven Trap Rock Quarry, CT	BY HHG DATE 5/5/2023 CKD. _____ DATE _____	Figure 1 - Sample Location Map

LANGAN



LEGEND:

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE IMPORTED FILL PLACEMENT AREA

GENERAL NOTES

1. BASE MAP SOURCE: NEARMAP.COM AERIAL PHOTO DATED MARCH 12, 2021.

150 0 75 150
SCALE IN FEET

LANGAN
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture and Geology, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan
NEW YORK NEW YORK

Project
THE GREATER WATERSIDE SITE
BLOCK No. 970, LOT Nos. 1 and 2

Figure Title
IMPORTED FILL PLACEMENT PLAN

Project No. 170446801	Figure No. 2
Date 7/21/2021	
Scale 1" = 150'	
Drawn By TG / Checked By GCW	
Submission Date	

© 2017 Langan

Filename: \\langan.com\data\NY\data8\170446801\Cadd Data - 170446801\SheetFiles\Enviromental\Periodic Review Reports\Figure 2 - Site Plan_2021.dwg Date: 8/3/2021 Time: 10:30 User: gwyka Style Table: Langan.stb Layout: ANSIB-BL

VOL: 2399 PG: 125
TOWN OF 3931

EAST HAVEN

PLANNING AND ZONING DEPARTMENT

LETTER OF PRE- EXISTING NONCONFORMING USE

1 Barberry Road

November 10th, 2014

WHAT TF LLC
218 Foxon Road
East Haven, CT 06512

Subject: Pre-existing Nonconforming Use of Property

WHAT TF LLC:

In regards to the property located at 1 Barberry Road, also known as by the Town's Assessor's Office as Map 610, Block 7344, Lot 001 which is located in East Haven and extends into North Branford to Totoket Road, the property has historically been a quarrying, gravel, & stone crush-ing operation dating back to at least the 1950s.

Through aerial mapping, affidavits, and research, as well as the previous Planning and Zoning Administrators testimony, it is determined that there is no doubt that this property is a legal pre-existing nonconforming use. The use of the property predates the Town of East Haven's Zoning Regulations and through the research done, there is sufficient proof and evidence that this property has operated as a quarry, gravel, and stone crushing site for well over 75 years, if not longer.

It is my determination as the current Planning and Zoning Administrator that the use of the property is a legal pre-existing nonconforming use and there are no Zoning issues there. Also the operation at 1 Barberry Road should continue without any interference from the Town.

Frank Biancur Jr.
Planning and Zoning Administrator
Town of East Haven
203-468-3349
eh.biancur@gmail.com

CC: Sal Brancati; Director of Administration & Management
Mike Milici; Town Assessor

RECEIVED FOR RECORD
Nov 12,2014 03:19:01P
STACY GRAVINO
TOWN CLERK
EAST HAVEN, CT

EAST HAVEN TRAP ROCK QUARRY LLC

400 TOTOKET ROAD NORTH BRANFORD/BARBERRY ROAD EAST HAVEN
Mailing Address: PO Box 535 Willington CT 06279
Telephone (203) 208-4136

April 18, 2023

Steven Dubner Landscaping Inc.
505 Grand Street
Westbury, NY 11590

RE: Virgin Material Inquiry

To whom it may concern:

East Haven Trap Rock Quarry is a 32-acre trap rock quarry located in East Haven, Connecticut surrounded by Totoket Road in North Branford, and Borelli Road and Barberry Road in East Haven, CT. Our materials are made from blasted rock and the rock consists of basalt, breccia basalt, and compressed red sandstone.

Our process begins by blasting the rock into a muck pile – and processed by us to create our product mix of clean stone and dense grade fills. Our processing plants are all “dry” and the product is only crushed and sorted and only on-site virgin material is used. There is a small amount of on-site water misted onto the process at various points, for purposes of dust control.

We do bring in fill material as part of our beneficial reuse project of the quarry. The materials are kept separate from any mining and crushing process. Please contact me with any questions.

Sincerely,

Todd Ruttura

Todd Ruttura
Managing Member
East Haven Trap Rock Quarry, LLC

145 Sherwood Avenue, Farmingdale, NY 11735 (631) 815-1900

Serving the Mid-Atlantic and Northeast Regions for over40 years
www.intertek.com

Client: East Haven Trap Rock Quarry
400 Totoket Road
North Branford, CT 06472

Project ID: 00713420
Weather:
Temperature:

Report Date: 04/04/2023
Report #: 1-7094-000016
Inspector: Jesse Roden
Time Start: 11:00 am
Time Finish: 03:00 pm

Project: Various Projects 2023

REPORT: Sieve Analysis

MTG NO: 296192-2
Test Method: ASTM C136

Material: 1 1/4" Process

Sieve	% Passing
6 in	100
3 in	100
2 in	100
1 1/2 in	100
1.00 in	94
3/4 in	70
1/2 in	42
3/8 in	34
No. 4	24
No. 8	18
No. 16	14
No. 30	11
No. 50	9
No. 100	7
No. 200	5.4

* Denotes Out of Specification

Remarks:
Test Method (As Applicable):ASTM C136

Respectfully Submitted,
Intertek-MT Group

Marisa A. Harte P.E., Director

04/12/2023

INSPECTIONS AND TESTS REPORTED HEREIN WERE PERFORMED IN ACCORDANCE WITH INDUSTRY ACCEPTED STANDARDS AND PROCEDURES. FINDINGS ARE LIMITED TO THOSE PORTIONS OF THE WORK INSPECTED AND/OR TESTED AS IDENTIFIED HEREIN. NO REPRESENTATIONS ARE MADE ABOUT THE CONDITION OF OTHER PORTIONS OF THE WORK. THIS REPORT MAY NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN PERMISSION BY MT GROUP, LLC.

HALEY & ALDRICH, INC.
100 Corporate Place
Suite 105
Rocky Hill, CT 06067
860.282.9400

21 January 2021
File No. 128663-003

East Haven Trap Rock Quarry LLC
PO Box 535
Willington, CT 06279

Attention: Mr. John Patton

Subject: Site Reconnaissance
East Haven Trap Rock Quarry
Totoket Road/Barberry Road
North Branford/East Haven, Connecticut

Our Mr. Chris Harriman of Haley & Aldrich, Inc. visited the subject site on 23 January 2021 to observe existing site conditions with Mr. John Patton of East Haven Trap Rock Quarry LLC.

The central and northeastern portion of the site is an active bedrock quarry. Bedrock cliffs with freshly exposed rock are present along with areas of rubble from recent on-site blasting operations (refer to attached photo). There is a processing plant, stockpiles of processed materials and a truck scale. The remaining portions of the site are undeveloped. The site is gated and surrounded by farmland and residential properties.

In our opinion, the processed materials at the quarry originate from naturally occurring on-site materials (i.e., virgin bedrock) and should, from an environmental perspective, be considered “clean” material.

Please contact the undersigned at 860.989.9439 if you wish to discuss our observations further.

Sincerely yours,
HALEY & ALDRICH, INC.

Chris G. Harriman, LEP
Senior Associate

https://haleyaldrich-my.sharepoint.com/personal/charriman_haleyaldrich_com/Documents/Documents/Beckers/East Haven/2021_0125_Virgin Material_draft.docx



Field Photographs
Proposed Fill Sampling
East Haven Trap Rock Quarry, East Haven, CT
May 5, 2023



Photograph 1: View of segregated material stockpile at East Haven Trap Rock Quarry



Photograph 2: View of segregated material stockpile at East Haven Trap Rock Quarry

Field Photographs
Proposed Fill Sampling
East Haven Trap Rock Quarry, East Haven, CT
May 5, 2023



Photograph 3: View of segregated material stockpile at East Haven Trap Rock Quarry



Photograph 4: Close-up view of material

Field Photographs
Proposed Fill Sampling
East Haven Trap Rock Quarry, East Haven, CT
May 5, 2023



Photograph 5: View of stockpile label

Table 1
Import Material Sampling - East Haven Quarry
Composite Soil Sample Analytical Results

700-708 First Avenue
New York, New York
NYSDEC BCP Site No.: C231013
Langan Project No.: 170446801

Analyte	CAS Number	Lower of NYSDEC Part 375 Restricted Use Restricted-Residential and Protection of Groundwater SCOs	Location	EHQ_ITEM304_COMP01	EHQ_ITEM304_COMP01	EHQ_ITEM304_COMP02	EHQ_ITEM304_COMP02
			Sample Name	EHQ_ITEM304_COMP01_230505	EHQ_ITEM304_COMP01_230505 PFAS	EHQ_ITEM304_COMP02_230505	EHQ_ITEM304_COMP02_230505 PFAS
			Sample Date	05/05/2023	05/05/2023	05/05/2023	05/05/2023
			Unit	Result	Result	Result	Result
Semi-Volatile Organic Compounds							
1,2,4,5-Tetrachlorobenzene	95-94-3	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
1,2-Diphenylhydrazine	122-66-7	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
1,4-Dioxane (P-Dioxane)	123-91-1	0.1	mg/kg	<0.0194 U	NA	<0.0194 U	NA
2,3,4,6-Tetrachlorophenol	58-90-2	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
2,4,5-Trichlorophenol	95-95-4	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2,4,6-Trichlorophenol	88-06-2	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2,4-Dichlorophenol	120-83-2	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2,4-Dimethylphenol	105-67-9	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2,4-Dinitrophenol	51-28-5	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
2,4-Dinitrotoluene	121-14-2	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2,6-Dinitrotoluene	606-20-2	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2-Chloronaphthalene	91-58-7	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2-Chlorophenol	95-57-8	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2-Methylnaphthalene	91-57-6	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
2-Methylphenol (o-Cresol)	95-48-7	0.33	mg/kg	<0.0899 U	NA	<0.091 U	NA
2-Nitroaniline	88-74-4	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
2-Nitrophenol	88-75-5	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
3 & 4 Methylphenol (m&p Cresol)	65794-96-9	0.33	mg/kg	<0.0899 U	NA	<0.091 U	NA
3,3'-Dichlorobenzidine	91-94-1	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
3-Nitroaniline	99-09-2	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
4,6-Dinitro-2-Methylphenol	534-52-1	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
4-Bromophenyl Phenyl Ether	101-55-3	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
4-Chloro-3-Methylphenol	59-50-7	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
4-Chloroaniline	106-47-8	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
4-Chlorophenyl Phenyl Ether	7005-72-3	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
4-Nitroaniline	100-01-6	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
4-Nitrophenol	100-02-7	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
Acenaphthene	83-32-9	98	mg/kg	<0.0899 U	NA	<0.091 U	NA
Acenaphthylene	208-96-8	100	mg/kg	<0.0899 U	NA	<0.091 U	NA
Acetophenone	98-86-2	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Aniline (Phenylamine, Aminobenzene)	62-53-3	NS	mg/kg	<0.36 U	NA	<0.365 U	NA
Anthracene	120-12-7	100	mg/kg	<0.0899 U	NA	<0.091 U	NA
Atrazine	1912-24-9	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzaldehyde	100-52-7	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzidine	92-87-5	NS	mg/kg	<0.36 U	NA	<0.365 U	NA
Benzo(a)anthracene	56-55-3	1	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzo(a)pyrene	50-32-8	1	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzo(b)fluoranthene	205-99-2	1	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzo(g,h,i)Perylene	191-24-2	100	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzo(k)fluoranthene	207-08-9	1.7	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzoic Acid	65-85-0	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzyl Alcohol	100-51-6	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Benzyl Butyl Phthalate	85-68-7	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Biphenyl (Diphenyl)	92-52-4	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Bis(2-chloroethoxy) methane	111-91-1	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Bis(2-chloroisopropyl) ether	108-60-1	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Bis(2-ethylhexyl) phthalate	117-81-7	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Caprolactam	105-60-2	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
Carbazole	86-74-8	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Chrysene	218-01-9	1	mg/kg	<0.0899 U	NA	<0.091 U	NA
Dibenz(a,h)anthracene	53-70-3	0.33	mg/kg	<0.0899 U	NA	<0.091 U	NA
Dibenzofuran	132-64-9	59	mg/kg	<0.0899 U	NA	<0.091 U	NA
Dibutyl phthalate	84-74-2	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Diethyl phthalate	84-66-2	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Dimethyl phthalate	131-11-3	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Dioctyl phthalate	117-84-0	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Diphenylamine	122-39-4	NS	mg/kg	<0.18 U	NA	<0.182 U	NA
Fluoranthene	206-44-0	100	mg/kg	<0.0899 U	NA	<0.091 U	NA
Fluorene	86-73-7	100	mg/kg	<0.0899 U	NA	<0.091 U	NA
Hexachlorobenzene	118-74-1	1.2	mg/kg	<0.0899 U	NA	<0.091 U	NA
Hexachlorobutadiene	87-68-3	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Hexachlorocyclopentadiene	77-47-4	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Hexachloroethane	67-72-1	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.0899 U	NA	<0.091 U	NA
Isophorone	78-59-1	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Naphthalene	91-20-3	12	mg/kg	<0.0899 U	NA	<0.091 U	NA
Nitrobenzene	98-95-3	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
n-Nitrosodimethylamine	62-75-9	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
n-Nitrosodi-N-Propylamine	621-64-7	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
n-Nitrosodiphenylamine	86-30-6	NS	mg/kg	<0.0899 U	NA	<0.091 U	NA
Pentachlorophenol	87-86-5	0.8	mg/kg	<0.0899 U	NA	<0.091 U	NA
Phenanthrene	85-01-8	100	mg/kg	<0.0899 U	NA	<0.091 U	NA
Phenol	108-95-2	0.33	mg/kg	<0.0899 U	NA	<0.091 U	NA
Pyrene	129-00-0	100	mg/kg	<0.0899 U	NA	<0.091 U	NA
Pyridine	110-86-1	NS	mg/kg	<0.36 U	NA	<0.365 U	NA

Table 1
Import Material Sampling - East Haven Quarry
Composite Soil Sample Analytical Results

700-708 First Avenue
New York, New York
NYSDEC BCP Site No.: C231013
Langan Project No.: 170446801

Analyte	CAS Number	Lower of NYSDEC Part 375 Restricted Use Restricted-Residential and Protection of Groundwater SCOs	Location	EHQ_ITEM304_COMP01	EHQ_ITEM304_COMP01	EHQ_ITEM304_COMP02	EHQ_ITEM304_COMP02
			Sample Name	EHQ_ITEM304_COMP01_230505	EHQ_ITEM304_COMP01_230505 PFAS	EHQ_ITEM304_COMP02_230505	EHQ_ITEM304_COMP02_230505 PFAS
			Sample Date	05/05/2023	05/05/2023	05/05/2023	05/05/2023
			Unit	Result	Result	Result	Result
Pesticides							
4,4'-DDD	72-54-8	13	mg/kg	<0.00181 U	NA	<0.0018 U	NA
4,4'-DDE	72-55-9	8.9	mg/kg	<0.00181 U	NA	<0.0018 U	NA
4,4'-DDT	50-29-3	7.9	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Aldrin	309-00-2	0.097	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Alpha BHC (Alpha Hexachlorocyclohexane)	319-84-6	0.02	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Alpha Chlordane	5103-71-9	2.9	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Alpha Endosulfan	959-98-8	24	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Beta Bhc (Beta Hexachlorocyclohexane)	319-85-7	0.09	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Beta Endosulfan	33213-65-9	24	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Chlordane (alpha and gamma)	57-74-9	NS	mg/kg	<0.0363 U	NA	<0.0359 U	NA
Delta Bhc (Delta Hexachlorocyclohexane)	319-86-8	0.25	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Dieldrin	60-57-1	0.1	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Endosulfan Sulfate	1031-07-8	24	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Endrin	72-20-8	0.06	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Endrin Aldehyde	7421-93-4	NS	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Endrin Ketone	53494-70-5	NS	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Gamma Bhc (Lindane)	58-89-9	0.1	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Gamma-Chlordane	5566-34-7	NS	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Heptachlor	76-44-8	0.38	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Heptachlor Epoxide	1024-57-3	NS	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Methoxychlor	72-43-5	NS	mg/kg	<0.00181 U	NA	<0.0018 U	NA
Toxaphene	8001-35-2	NS	mg/kg	<0.181 U	NA	<0.18 U	NA
Herbicides							
2,4,5-T (Trichlorophenoxyacetic Acid)	93-76-5	NS	mg/kg	<0.0216 U	NA	<0.0213 U	NA
2,4-D (Dichlorophenoxyacetic Acid)	94-75-7	NS	mg/kg	<0.0216 U	NA	<0.0213 U	NA
Silvex (2,4,5-Tp)	93-72-1	3.8	mg/kg	<0.0216 U	NA	<0.0213 U	NA
Polychlorinated Biphenyl							
PCB-1016 (Aroclor 1016)	12674-11-2	NS	mg/kg	<0.0183 U	NA	<0.0181 U	NA
PCB-1221 (Aroclor 1221)	11104-28-2	NS	mg/kg	<0.0183 U	NA	<0.0181 U	NA
PCB-1232 (Aroclor 1232)	11141-16-5	NS	mg/kg	<0.0183 U	NA	<0.0181 U	NA
PCB-1242 (Aroclor 1242)	53469-21-9	NS	mg/kg	<0.0183 U	NA	<0.0181 U	NA
PCB-1248 (Aroclor 1248)	12672-29-6	NS	mg/kg	<0.0183 U	NA	<0.0181 U	NA
PCB-1254 (Aroclor 1254)	11097-69-1	NS	mg/kg	<0.0183 U	NA	<0.0181 U	NA
PCB-1260 (Aroclor 1260)	11096-82-5	NS	mg/kg	<0.0183 U	NA	<0.0181 U	NA
Total PCBs	1336-36-3	1	mg/kg	<0.0183 U	NA	<0.0181 U	NA
Metals							
Aluminum	7429-90-5	NS	mg/kg	30,500	NA	29,100	NA
Antimony	7440-36-0	NS	mg/kg	8.95	NA	7.17	NA
Arsenic	7440-38-2	16	mg/kg	8.58	NA	8.57	NA
Barium	7440-39-3	400	mg/kg	164	NA	158	NA
Beryllium	7440-41-7	47	mg/kg	0.226	NA	0.127	NA
Cadmium	7440-43-9	4.3	mg/kg	<0.276 U	NA	0.304	NA
Calcium	7440-70-2	NS	mg/kg	40,000	NA	53,000	NA
Chromium, Hexavalent	18540-29-9	19	mg/kg	<0.552 U	NA	<0.548 U	NA
Chromium, Total	7440-47-3	NS	mg/kg	136	NA	134	NA
Chromium, Trivalent	16065-83-1	180	mg/kg	136	NA	134	NA
Cobalt	7440-48-4	NS	mg/kg	36.6	NA	34.3	NA
Copper	7440-50-8	270	mg/kg	207	NA	207	NA
Iron	7439-89-6	NS	mg/kg	51,600	NA	50,500	NA
Lead	7439-92-1	400	mg/kg	35.6	NA	34.7	NA
Magnesium	7439-95-4	NS	mg/kg	29,700	NA	32,200	NA
Manganese	7439-96-5	2000	mg/kg	1,570	NA	1,590	NA
Mercury	7439-97-6	0.73	mg/kg	<0.0331 U	NA	<0.0329 U	NA
Nickel	7440-02-0	130	mg/kg	74.8	NA	70.7	NA
Potassium	7440-09-7	NS	mg/kg	561	NA	479	NA
Selenium	7782-49-2	4	mg/kg	<2.3 U	NA	<2.28 U	NA
Silver	7440-22-4	8.3	mg/kg	<0.463 U	NA	<0.46 U	NA
Sodium	7440-23-5	NS	mg/kg	1,800	NA	2,660	NA
Thallium	7440-28-0	NS	mg/kg	8.53	NA	7.78	NA
Vanadium	7440-62-2	NS	mg/kg	148	NA	151	NA
Zinc	7440-66-6	2480	mg/kg	68.3	NA	62.1	NA

Table 1
Import Material Sampling - East Haven Quarry
Composite Soil Sample Analytical Results

700-708 First Avenue
New York, New York
NYSDEC BCP Site No.: C231013
Langan Project No.: 170446801

Analyte	CAS Number	Lower of NYSDEC Part 375 Restricted Use Restricted-Residential and Protection of Groundwater SCOs	Location	EHQ_ITEM304_COMP01	EHQ_ITEM304_COMP01	EHQ_ITEM304_COMP02	EHQ_ITEM304_COMP02
			Sample Name	EHQ_ITEM304_COMP01_230505	EHQ_ITEM304_COMP01_230505 PFAS	EHQ_ITEM304_COMP02_230505	EHQ_ITEM304_COMP02_230505 PFAS
			Sample Date	05/05/2023	05/05/2023	05/05/2023	05/05/2023
			Unit	Result	Result	Result	Result
General Chemistry							
Cyanide	57-12-5	27	mg/kg	<0.5 U	NA	<0.5 U	NA
Solids, Percent	SOLID	NS	Percent	90.6	93.4	91.3	92
Perfluorooctanoic acids							
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	763051-92-9	NS	mg/kg	NA	<0.000806 U	NA	<0.000816 U
1h,1h,2h,2h-Perfluorohexanesulfonic Acid (4:2)	757124-72-4	NS	mg/kg	NA	<0.0008 U	NA	<0.000809 U
3:3 FTCA	356-02-5	NS	mg/kg	NA	<0.00107 U	NA	<0.00108 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	NS	mg/kg	NA	<0.000806 U	NA	<0.000816 U
5:3 FTCA	914637-49-3	NS	mg/kg	NA	<0.00533 U	NA	<0.00539 U
7:3 FTCA	812-70-4	NS	mg/kg	NA	<0.00533 U	NA	<0.00539 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	756426-58-1	NS	mg/kg	NA	<0.000798 U	NA	<0.000807 U
N-ethyl perfluorooctane- sulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
N-ethylperfluorooctane sulfonamide	4151-50-2	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
N-ethylperfluorooctane sulfonamidoe	1691-99-2	NS	mg/kg	NA	<0.00213 U	NA	<0.00216 U
N-methyl perfluorooctane- sulfonamidoacetic Acid (NMeFOSAA	2355-31-9	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
N-methylperfluorooctane sulfonamide	31506-32-8	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
N-methylperfluorooctanesulfonamidol	24448-09-7	NS	mg/kg	NA	<0.00213 U	NA	<0.00216 U
Nonafluoro-3,6-dioxaheptanoic acid	151772-58-6	NS	mg/kg	NA	<0.000427 U	NA	<0.000432 U
Perfluoro(2-ethoxyethane)sulfonic acid	113507-82-7	NS	mg/kg	NA	<0.00038 U	NA	<0.000384 U
Perfluoro-3-methoxypropanoic acid	377-73-1	NS	mg/kg	NA	<0.000427 U	NA	<0.000432 U
Perfluoro-4-methoxybutanoic acid	863090-89-5	NS	mg/kg	NA	<0.000427 U	NA	<0.000432 U
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NS	mg/kg	NA	<0.000189 U	NA	<0.000191 U
Perfluorobutanoic acid (PFBA)	375-22-4	NS	mg/kg	NA	<0.000853 U	NA	<0.000863 U
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NS	mg/kg	NA	<0.000206 U	NA	<0.000208 U
Perfluorodecanoic Acid (PFDA)	335-76-2	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluorododecanesulfonic Acid (PFDOS)	79780-39-5	NS	mg/kg	NA	<0.000207 U	NA	<0.000209 U
Perfluorododecanoic Acid (PFDoA)	307-55-1	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluoroheptanoic acid (PFHpA)	375-85-9	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	NS	mg/kg	NA	<0.000195 U	NA	<0.000197 U
Perfluorohexanoic Acid (PFHxA)	307-24-4	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NS	mg/kg	NA	<0.000205 U	NA	<0.000207 U
Perfluorononanoic Acid (PFNA)	375-95-1	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluorooctanesulfonamide (FOSA)	754-91-6	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	0.001	mg/kg	NA	<0.000198 U	NA	<0.000201 U
Perfluorooctanoic Acid (PFOA)	335-67-1	0.0008	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluoropentanesulfonic Acid	2706-91-4	NS	mg/kg	NA	<0.000201 U	NA	<0.000203 U
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NS	mg/kg	NA	<0.000427 U	NA	<0.000432 U
Perfluorotetradecanoic Acid (PFTA)	376-06-7	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NS	mg/kg	NA	<0.000213 U	NA	<0.000216 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2) (8:2FTS)	39108-34-4	NS	mg/kg	NA	<0.000819 U	NA	<0.000829 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2) (6:2FTS)	27619-97-2	NS	mg/kg	NA	<0.000811 U	NA	<0.00082 U
Tetrafluoro-2- (heptafluoropropoxy) propanoic Acid	13252-13-6	NS	mg/kg	NA	<0.000853 U	NA	<0.000863 U

Table 1
Import Material Sampling - East Haven Quarry
Composite Soil Sample Analytical Results

700-708 First Avenue
New York, New York
NYSDEC BCP Site No.: C231013
Langan Project No.: 170446801

Notes:

CAS - Chemical Abstract Service
NS - No standard
mg/kg - milligram per kilogram
NA - Not analyzed
RL - Reporting limit
<RL - Not detected
Soil sample analytical results are compared to the lower of the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Restricted Use Restricted-Residential Soil Cleanup Objectives (SCO) and Protection of Groundwater SCOs.
Soil sample analytical results are compared to the lower of the New York State Department of Environmental Conservation (NYSDEC) Part 375 Remedial Programs Guidelines for Sampling and Analysis of Per- and Polyfluoroalkyl Substances (PFAS) Restricted Use Restricted-Residential and Protection of Groundwater Guidance Values (April 2023).
Criterion comparisons for 3- & 4-methylphenol (m&p cresol) are provided for reference. Promulgated SCOs are for 3-methylphenol (m-cresol) and 4-methylphenol (p-cresol).

Qualifiers:

U - The analyte was analyzed for, but was not detected at a level greater than or equal to the RL; the value shown in the table is the RL.

Exceedance Summary:

10 - Result exceeds the lower of the NYSDEC Part 375 Restricted Use Restricted-Residential SCOs and Protection of Groundwater SCOs

Table 2
Import Material Sampling - East Haven Quarry
Grab Soil Sample Analytical Results

700-708 First Avenue
New York, New York
NYSDEC BCP Site No.: C231013
Langan Project No.: 170446801

Analyte	CAS Number	Lower of NYSDEC Part 375 Restricted Use Restricted-Residential and Protection of Groundwater SCOs	Location	EHQ_ITEM304_GRAB01	EHQ_ITEM304_GRAB02	EHQ_ITEM304_GRAB03	EHQ_ITEM304_GRAB04	EHQ_ITEM304_GRAB05	EHQ_ITEM304_GRAB06	EHQ_ITEM304_GRAB07
			Sample Name	EHQ_ITEM304_GRAB01_230505	EHQ_ITEM304_GRAB02_230505	EHQ_ITEM304_GRAB03_230505	EHQ_ITEM304_GRAB04_230505	EHQ_ITEM304_GRAB05_230505	EHQ_ITEM304_GRAB06_230505	EHQ_ITEM304_GRAB07_230505
			Sample Date	05/05/2023	05/05/2023	05/05/2023	05/05/2023	05/05/2023	05/05/2023	05/05/2023
			Unit	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	630-20-6	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,1,1-Trichloroethane	71-55-6	0.68	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,1,2,2-Tetrachloroethane	79-34-5	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,1,2-Trichloroethane	79-00-5	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,1-Dichloroethane	75-34-3	0.27	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,1-Dichloroethene	75-35-4	0.33	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2,3-Trichlorobenzene	87-61-6	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2,3-Trichloropropane	96-18-4	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2,4-Trichlorobenzene	120-82-1	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2,4-Trimethylbenzene	95-63-6	3.6	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2-Dibromo-3-Chloropropane	96-12-8	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2-Dichlorobenzene	95-50-1	1.1	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2-Dichloroethane	107-06-2	0.02	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,2-Dichloropropane	78-87-5	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	8.4	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,3-Dichlorobenzene	541-73-1	2.4	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,4-Dichlorobenzene	106-46-7	1.8	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
1,4-Dioxane (P-Dioxane)	123-91-1	0.1	mg/kg	<0.11 U	<0.098 U	<0.098 U	<0.096 U	<0.096 U	<0.11 U	<0.1 U
2-Hexanone (MBK)	591-78-6	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Acetone	67-64-1	0.05	mg/kg	<0.011 U	<0.0098 U	<0.0098 U	<0.0096 U	<0.0096 U	<0.011 U	<0.01 U
Acrolein	107-02-8	NS	mg/kg	<0.011 U	<0.0098 U	<0.0098 U	<0.0096 U	<0.0096 U	<0.011 U	<0.01 U
Acrylonitrile	107-13-1	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Benzene	71-43-2	0.06	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Bromochloromethane	74-97-5	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Bromodichloromethane	75-27-4	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Bromoform	75-25-2	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Bromomethane	74-83-9	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Carbon Disulfide	75-15-0	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Carbon Tetrachloride	56-23-5	0.76	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Chlorobenzene	108-90-7	1.1	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Chloroethane	75-00-3	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Chloroform	67-66-3	0.37	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Chloromethane	74-87-3	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Cis-1,2-Dichloroethene	156-59-2	0.25	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Cis-1,3-Dichloropropene	10061-01-5	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Cyclohexane	110-82-7	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Dibromochloromethane	124-48-1	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Dibromomethane	74-95-3	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Dichlorodifluoromethane	75-71-8	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Ethylbenzene	100-41-4	1	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Hexachlorobutadiene	87-68-3	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Isopropylbenzene (Cumene)	98-82-8	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
M,P-Xylene	179601-23-1	NS	mg/kg	<0.011 U	<0.0098 U	<0.0098 U	<0.0096 U	<0.0096 U	<0.011 U	<0.01 U
Methyl Acetate	79-20-9	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	0.12	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Methylcyclohexane	108-87-2	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Methylene Chloride	75-09-2	0.05	mg/kg	<0.011 U	<0.0098 U	<0.0098 U	<0.0096 U	<0.0096 U	<0.011 U	<0.01 U
n-Butylbenzene	104-51-8	12	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
n-Propylbenzene	103-65-1	3.9	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
p-Cymene (p-Isopropyltoluene)	CYMP	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Sec-Butylbenzene	135-98-8	11	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Styrene	100-42-5	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
T-Butylbenzene	98-06-6	5.9	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Tert-Butyl Alcohol	75-65-0	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Tert-Butyl Methyl Ether	1634-04-4	0.93	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Tetrachloroethene (PCE)	127-18-4	1.3	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Toluene	108-88-3	0.7	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Total Xylenes	1330-20-7	1.6	mg/kg	<0.016 U	<0.015 U	<0.015 U	<0.014 U	<0.014 U	<0.016 U	<0.016 U
Trans-1,2-Dichloroethene	156-60-5	0.19	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Trans-1,3-Dichloropropene	10061-02-6	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Trichloroethene (TCE)	79-01-6	0.47	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Trichlorofluoromethane	75-69-4	NS	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
Vinyl Chloride	75-01-4	0.02	mg/kg	<0.0053 U	<0.0049 U	<0.0049 U	<0.0048 U	<0.0048 U	<0.0053 U	<0.0052 U
General Chemistry										
Solids, Percent	SOLID	NS	Percent	88.8	88.4	91.3	94.6	90.1	91.5	91.8

Table 2
Import Material Sampling - East Haven Quarry
Grab Soil Sample Analytical Results

700-708 First Avenue
New York, New York
NYSDEC BCP Site No.: C231013
Langan Project No.: 170446801

Notes:

CAS - Chemical Abstract Service
NS - No standard
mg/kg - milligram per kilogram
NA - Not analyzed
RL - Reporting limit
<RL - Not detected
Soil sample analytical results are compared to the lower of the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Restricted Use Restricted-Residential Soil Cleanup Objectives (SCO) and Protection of Groundwater SCOs.

Qualifiers:

U - The analyte was analyzed for, but was not detected at a level greater than or equal to the RL; the value shown in the table is the RL.

Exceedance Summary:

10 - Result exceeds the lower of the NYSDEC Part 375 Restricted Use Restricted-Residential SCOs and Protection of Groundwater SCOs

Table 3
Import Material Sampling - East Haven Quarry
PFAS QA/QC Analytical Results

700-708 First Avenue
New York, New York
NYSDEC BCP Site No.: C231013
Langan Project No.: 170446801

Analyte	CAS Number	Sample Type	FB
		Sample Name	EHQ_ITEM304_PFASFB_230505
		Sample Date	05/05/2023
		Unit	Result
Perfluorooctanoic acids			
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	763051-92-9	ug/l	<0.00725 U
1h,1h,2h,2h-Perfluorohexanesulfonic Acid (4:2)	757124-72-4	ug/l	<0.00719 U
3:3 FTCA	356-02-5	ug/l	<0.00479 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	ug/l	<0.00725 U
5:3 FTCA	914637-49-3	ug/l	<0.024 U
7:3 FTCA	812-70-4	ug/l	<0.024 U
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid	756426-58-1	ug/l	<0.00717 U
N-ethyl perfluorooctane- sulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	ug/l	<0.00192 U
N-ethylperfluorooctane sulfonamide	4151-50-2	ug/l	<0.00192 U
N-ethylperfluorooctane sulfonamidoe	1691-99-2	ug/l	<0.0192 U
N-methyl perfluorooctane- sulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	ug/l	<0.00192 U
N-methylperfluorooctane sulfonamide	31506-32-8	ug/l	<0.00192 U
N-methylperfluorooctanesulfonamidol	24448-09-7	ug/l	<0.0192 U
Nonafluoro-3,6-dioxaheptanoic acid	151772-58-6	ug/l	<0.00384 U
Perfluoro(2-ethoxyethane)sulfonic acid	113507-82-7	ug/l	<0.00341 U
Perfluoro-3-methoxypropanoic acid	377-73-1	ug/l	<0.00384 U
Perfluoro-4-methoxybutanoic acid	863090-89-5	ug/l	<0.00384 U
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	ug/l	<0.0017 U
Perfluorobutanoic acid (PFBA)	375-22-4	ug/l	<0.00767 U
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	ug/l	<0.00185 U
Perfluorodecanoic Acid (PFDA)	335-76-2	ug/l	<0.00192 U
Perfluorododecanesulfonic Acid (PFDOS)	79780-39-5	ug/l	<0.00186 U
Perfluorododecanoic Acid (PFDoA)	307-55-1	ug/l	<0.00192 U
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	ug/l	<0.00183 U
Perfluoroheptanoic acid (PFHpA)	375-85-9	ug/l	<0.00192 U
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	ug/l	<0.00175 U
Perfluorohexanoic Acid (PFHxA)	307-24-4	ug/l	0.000702 J
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	ug/l	<0.00184 U
Perfluorononanoic Acid (PFNA)	375-95-1	ug/l	<0.00192 U
Perfluorooctanesulfonamide (FOSA)	754-91-6	ug/l	<0.00192 U
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	ug/l	<0.00178 U
Perfluorooctanoic Acid (PFOA)	335-67-1	ug/l	<0.00192 U
Perfluoropentanesulfonic Acid	2706-91-4	ug/l	<0.0018 U
Perfluoropentanoic Acid (PFPeA)	2706-90-3	ug/l	<0.00384 U
Perfluorotetradecanoic Acid (PFTA)	376-06-7	ug/l	<0.00192 U
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	ug/l	<0.00192 U
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	ug/l	<0.00192 U
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2) (8:2FTS)	39108-34-4	ug/l	<0.00736 U
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2) (6:2FTS)	27619-97-2	ug/l	<0.00729 U
Tetrafluoro-2- (heptafluoropropoxy) propanoic Acid	13252-13-6	ug/l	<0.00767 U

Notes:
FB - Field Blank
CAS - Chemical Abstract Service
ug/l - microgram per liter
RL - Reporting limit
<RL - Not detected

Qualifiers:
J - The analyte was detected above the method detection limit (MDL), but below the RL; therefore, the result is an estimated concentration.
U - The analyte was analyzed for, but was not detected at a level greater than or equal to the RL; the value shown in the table is the RL.

Table of Contents for York SDG 23E0419

23E0419 York QA Summary Report 1
Introduction and Sample Cross Reference 2
General Notes Relating to this Report 3
Sample Results 4
EHQ_ITEM304_COMP01_230505 PFAS 4
EHQ_ITEM304_COMP02_230505 PFAS 6
EHQ_ITEM304_PFASFB_230505 9
EHQ_ITEM304_GRAB01_230505 12
EHQ_ITEM304_GRAB02_230505 15
EHQ_ITEM304_GRAB03_230505 18
EHQ_ITEM304_GRAB04_230505 21
EHQ_ITEM304_GRAB04_230505 22
EHQ_ITEM304_GRAB05_230505 25
EHQ_ITEM304_GRAB06_230505 28
EHQ_ITEM304_GRAB07_230505 31
EHQ_ITEM304_GRAB07_230505 32
EHQ_ITEM304_COMP01_230505 35
EHQ_ITEM304_COMP02_230505 42
Case Narrative 50
Quality Batch Summary 98
QA/QC Summary Data 101
Volatile Organic Compounds by GC/MS EPA 8260C 101
Semivolatile Organic Compounds by GC/MS EPA 8270D 110
Semivolatile Organic Compounds by GC/MS/SIM EPA 8270D SIM 114
PFAS Target compounds by LC/MS-MS EPA 1633 Draft 2 115
Organochlorine Pesticides by GC/ECD EPA 8081B 126
Polychlorinated Biphenyls by GC/ECD EPA 8082A 127
Chlorinated Herbicides by GC/ECD EPA 8151A 128
Metals by ICP EPA 6010D 129
Mercury by EPA 7000/200 Series Methods EPA 7473 130
Wet Chemistry Parameters EPA 7196A 131
Miscellaneous Physical Parameters SM 2540G 132
Chains of Custody 136
23E0419 Data Package 141

23E0419 VOA Data 141
VOA QC Summary 143
Surrogate Summary Seq: S3E1504 144
Surrogate Summary Seq: S3E1513 146
Blank Spike Results - Batch: BD31853 147
Blank Spike Results - Batch: BD31857 153
Batch Summary - Batch: BD31853 159
Batch Summary - Batch: BD31857 160
Blank Results - Batch: BD31853 161
Blank Results - Batch: BD31857 164
Mass Spec Tune - Seq: S3D2816 167
Mass Spec Tune - Seq: S3E1015 168
Mass Spec Tune - Seq: S3E1504 169
Mass Spec Tune - Seq: S3E1513 170
Sequence Summary - Seq: S3D2816 171
Sequence Summary - Seq: S3E1015 172
Sequence Summary - Seq: S3E1504 173
Sequence Summary - Seq: S3E1513 174
Internal Std. Summary Seq: S3D2816 175
Internal Std. Summary Seq: S3E1015 176
Internal Std. Summary Seq: S3E1504 177
Internal Std. Summary Seq: S3E1513 179
Hold Time Summary 180
Reporting Limits Summary 181
VOA Sample Data 185
Sample Results and Raw Data[[TTOOCC]_4]EHQ_ITEM304_GRAB01_230505 186
EHQ_ITEM304_GRAB02_230505 196
EHQ_ITEM304_GRAB03_230505 205
EHQ_ITEM304_GRAB04_230505 214
EHQ_ITEM304_GRAB05_230505 223
EHQ_ITEM304_GRAB06_230505 231
EHQ_ITEM304_GRAB07_230505 240
VOA Standards Data 248
Initial Calibration - Cal: SD30046 249
Initial Calibration - Cal: SE30018 256
Initial Calibration Raw Data - Cal: SD30046 264
Initial Calibration Raw Data - Cal: SE30018 282

Initial Calibration Check - Cal: SD30046 300
Initial Calibration Check - Cal: SE30018 306
Continuing Calibration Check - Seq: S3E1504 312
Continuing Calibration Check - Seq: S3E1513 318
VOA Raw QC Data 324
Mass Spec Tune Raw Data - Seq: S3D2816 325
Mass Spec Tune Raw Data - Seq: S3E1015 326
Mass Spec Tune Raw Data - Seq: S3E1504 327
Mass Spec Tune Raw Data - Seq: S3E1513 328
Blank Raw Data - Batch: BD31853 329
Blank Raw Data - Batch: BD31857 338
Blank Spike Raw Data - Batch: BD31853 348
Blank Spike Raw Data - Batch: BD31857 355
Preparation Benchsheets - Batch: BD31853 362
Preparation Benchsheets - Batch: BD31857 364
23E0419 SVOA Data 366
SVOA QC Summary 368
Surrogate Summary Seq: S3E1642 369
Blank Spike Results - Batch: BE30878 370
Batch Summary - Batch: BE30878 373
Blank Results - Batch: BE30878 374
Mass Spec Tune - Seq: S3E0304 377
Mass Spec Tune - Seq: S3E1642 378
Sequence Summary - Seq: S3E0304 379
Sequence Summary - Seq: S3E1642 380
Internal Std. Summary Seq: S3E0304 381
Internal Std. Summary Seq: S3E1642 383
Hold Time Summary 384
Reporting Limits Summary 385
SVOA Sample Data 390
Sample Results and Raw Data[[TTOOCC]_4]EHQ_ITEM304_COMP01_230505 391
EHQ_ITEM304_COMP02_230505 406
SVOA Standards Data 419
Initial Calibration - Cal: SE30006 420
Initial Calibration Raw Data - Cal: SE30006 429
Initial Calibration Check - Cal: SE30006 453
Continuing Calibration Check - Seq: S3E1642 459

SVOA Raw QC Data 465
Mass Spec Tune Raw Data - Seq: S3E0304 466
Mass Spec Tune Raw Data - Seq: S3E1642 467
Blank Raw Data - Batch: BE30878 468
Blank Spike Raw Data - Batch: BE30878 481
Preparation Benchsheets - Batch: BE30878 485
23E0419 1,4-Dioxane Data 488
SVOA QC Summary 490
Surrogate Summary Seq: S3E1528 491
Blank Spike Results - Batch: BE30880 492
Batch Summary - Batch: BE30880 493
Blank Results - Batch: BE30880 494
Mass Spec Tune - Seq: S3B0926 495
Mass Spec Tune - Seq: S3E1528 496
Sequence Summary - Seq: S3B0926 497
Sequence Summary - Seq: S3E1528 498
Internal Std. Summary Seq: S3B0926 499
Internal Std. Summary Seq: S3E1528 500
Hold Time Summary 501
Reporting Limits Summary 502
SVOA Sample Data 503
Sample Results and Raw Data[[TTOOCC]_4]EHQ_ITEM304_COMP01_230505 504
EHQ_ITEM304_COMP02_230505 508
SVOA Standards Data 512
Initial Calibration - Cal: SB30015 513
Initial Calibration Raw Data - Cal: SB30015 516
Initial Calibration Check - Cal: SB30015 548
Continuing Calibration Check - Seq: S3E1528 553
SVOA Raw QC Data 573
Mass Spec Tune Raw Data - Seq: S3B0926 574
Mass Spec Tune Raw Data - Seq: S3E1528 575
Blank Raw Data - Batch: BE30880 576
Blank Spike Raw Data - Batch: BE30880 581
Preparation Benchsheets - Batch: BE30880 586
Isotope Dilution Calculation Data 588
23E0419 PFAS Data 590
PFAS QC Summary 592

Surrogate Summary Seq: S3E1022 593
Surrogate Summary Seq: S3E1762 606
Duplicate Results - Batch: BE30673 619
Blank Spike Results - Batch: BE30533 624
Blank Spike Results - Batch: BE30673 628
Batch Summary - Batch: BE30533 632
Batch Summary - Batch: BE30673 633
Blank Results - Batch: BE30533 634
Blank Results - Batch: BE30673 638
Sequence Summary - Seq: S3E1022 642
Sequence Summary - Seq: S3E1762 643
Internal Std. Summary Seq: S3E1022 644
Internal Std. Summary Seq: S3E1762 657
Hold Time Summary 670
Reporting Limits Summary 671
PFAS Sample Data 674
EHQ_ITEM304_COMP01_230505 PFAS 675
EHQ_ITEM304_COMP02_230505 PFAS 697
EHQ_ITEM304_PFASFB_230505 719
PFAS Standards Data 741
Initial Calibration - Cal: SD30043 742
Initial Calibration Raw Data - Cal: SD30043
Continuing Calibration Check - Seq: S3E1022 960
Continuing Calibration Check - Seq: S3E1762 1044
PFAS Raw QC Data 1128
Blank Raw Data - Batch: BE30533 1129
Blank Raw Data - Batch: BE30673 1153
Duplicate Raw Data - Batch: BE30673 1177
Blank Spike Raw Data - Batch: BE30533 1197
Blank Spike Raw Data - Batch: BE30673 1236
Preparation Benchsheets - Batch: BE30533 1275
Preparation Benchsheets - Batch: BE30673 1277
23E0419 Pesticide Data 1279
PEST QC Summary 1281
Surrogate Summary Seq: S3E1644 1282
Blank Spike Results - Batch: BE30881 1284
Batch Summary - Batch: BE30881 1286
Blank Results - Batch: BE30881 1287

Sequence Summary - Seq: S3E1644 1289
Hold Time Summary 1290
Reporting Limits Summary 1291
PEST Sample Data 1293
Sample Results and Raw Data 1294
EHQ_ITEM304_COMP01_230505 1294
EHQ_ITEM304_COMP02_230505 1297
Dual Column Sample Results[TO[CT]OC_4]EHQ_ITEM304_COMP01_230505 1300
EHQ_ITEM304_COMP02_230505 1301
PEST Standards Data 1302
Initial Calibration - Cal: SE30027 1303
Initial Calibration Raw Data - Cal: SE30027
Pesticide Breakdown - Seq: S3E1644 1349
Continuing Calibration Check - Seq: S3E1644 1355
PEST Raw QC Data 1389
Blank Raw Data - Batch: BE30881 1390
Blank Spike Raw Data - Batch: BE30881 1395
Preparation Benchsheets - Batch: BE30881 1398
23E0419 PCB Data 1401
ARO QC Summary 1403
Surrogate Summary Seq: S3E1636 1404
Surrogate Summary Seq: S3E1718 1406
Blank Spike Results - Batch: BE30881 1407
Batch Summary - Batch: BE30881 1408
Blank Results - Batch: BE30881 1409
Sequence Summary - Seq: S3E1601 1410
Sequence Summary - Seq: S3E1636 1411
Sequence Summary - Seq: S3E1718 1412
Hold Time Summary 1413
Reporting Limits Summary 1414
ARO Sample Data 1415
Sample Results and Raw Data 1416
EHQ_ITEM304_COMP01_230505 1416
EHQ_ITEM304_COMP02_230505 1419
Dual Column Sample Results[TO[CT]OC_4]EHQ_ITEM304_COMP01_230505 1422
EHQ_ITEM304_COMP02_230505 1423

ARO Standards Data 1424
Initial Calibration - Cal: SE30026 1425
Initial Calibration Raw Data - Cal: SE30026 1427
Initial Calibration Check - Cal: SE30026 1439
Continuing Calibration Check - Seq: S3E1636 1443
Continuing Calibration Check - Seq: S3E1718 1458
Initial Aroclor Single Point Calibration - Cal: SE30026 1473
ARO Raw QC Data 1479
Blank Raw Data - Batch: BE30881 1480
Blank Spike Raw Data - Batch: BE30881 1484
Preparation Benchsheets - Batch: BE30881 1487
23E0419 Herbicide Data 1490
HERB QC Summary 1492
Surrogate Summary Seq: S3E1157 1493
Blank Spike Results - Batch: BE30644 1494
Batch Summary - Batch: BE30644 1495
Blank Results - Batch: BE30644 1496
Sequence Summary - Seq: S3D1230 1497
Sequence Summary - Seq: S3E1157 1498
Hold Time Summary 1499
Reporting Limits Summary 1500
HERB Sample Data 1501
Sample Results and Raw Data 1502
EHQ_ITEM304_COMP01_230505 1502
EHQ_ITEM304_COMP02_230505 1505
Dual Column Sample Results[TO[CT]OC_4]EHQ_ITEM304_COMP01_230505 1508
EHQ_ITEM304_COMP02_230505 1509
HERB Standards Data 1510
Initial Calibration - Cal: SD30025 1511
Initial Calibration Raw Data - Cal: SD30025 1513
Initial Calibration Check - Cal: SD30025 1525
Continuing Calibration Check - Seq: S3E1157 1528
HERB Raw QC Data 1537
Blank Raw Data - Batch: BE30644 1538
Blank Spike Raw Data - Batch: BE30644 1542
Preparation Benchsheets - Batch: BE30644 1545
23E0419 Metals Data 1548

METALS QC Summary 1550
Standard Reference Material - Batch: BE30803 1551
Batch Summary - Batch: BE30803 1552
Blank Results - Seq: S3E1531 1553
Sequence Summary - Seq: S3E1531 1557
Hold Time Summary 1558
Reporting Limits Summary 1559
METALS Sample Data 1560
Sample Results 1561
EHQ_ITEM304_COMP01_230505 1561
EHQ_ITEM304_COMP02_230505 1562
METALS Standards Data 1563
Initial and Continuing Calibration Check - Seq: S3E1531 1564
CRDL Standard - Seq: S3E1531 1567
Interference Check Standard - Seq: S3E1531 1568
METALS Raw QC Data
Instrument Linear Range 1570
Interelement Correction Factors 1571
Raw Data - Sequence: S3E1531 1572
Preparation Benchsheets - Batch: BE30803 1771
23E0419 Mercury Data 1773
Sample Results 1775
EHQ_ITEM304_COMP01_230505 1775
EHQ_ITEM304_COMP02_230505 1776
Blank Results - Batch: BE30780 1777
Standard Reference Material - Batch: BE30780 1778
Reporting Limits Summary 1779
Batch Summary - Batch: BE30780 1780
Sequence Summary - Seq: S3E1166 1781
Continuing Calibration Check - Seq: S3E1166 1782
Blank Results - Seq: S3E1166 1783
Preparation Benchsheets - Batch: BE30780 1784
Mercury Raw Data 1786
Mercury Initial Calibration Data 1789
23E0419 Trivalent Chromium Data 1794
Sample Results 1796
EHQ_ITEM304_COMP01_230505 1796

EHQ_ITEM304_COMP02_230505 1797
Batch Summary - Batch: BE30924 1798
Preparation Benchsheets - Batch: BE30924 1799
Hold Time Summary 1801
Reporting Limits Summary 1802
23E0419 Hexavalent Chromium Data 1803
Sample Results 1805
EHQ_ITEM304_COMP01_230505 1805
EHQ_ITEM304_COMP02_230505 1806
Standard Reference Material - Batch: BE30689 1807
Blank Results - Batch: BE30689 1808
Batch Summary - Batch: BE30689 1809
Preparation Benchsheets - Batch: BE30689 1810
Calibration Curve Data 1812
Log Book Data 1814
Hold Time Summary 1816
Reporting Limits Summary 1817
23E0419 Cyanide Data 1818
Sample Results 1820
EHQ_ITEM304_COMP01_230505 1820
EHQ_ITEM304_COMP02_230505 1821
Blank Spike Results - Batch: BE30690 1822
Matrix Spike Results - Batch: BE30690 1823
Duplicate Results - Batch: BE30690 1825
Blank Results - Batch: BE30690 1826
Batch Summary - Batch: BE30690 1827
Preparation Benchsheets - Batch: BE30690 1828
Calibration Curve Data 1830
Log Book Data 1832
Hold Time Summary 1834
Reporting Limits Summary 1835
23E0419 Total Solids Data 1836
Sample Results 1838
EHQ_ITEM304_COMP01_230505 PFAS 1838
EHQ_ITEM304_COMP02_230505 PFAS 1839
EHQ_ITEM304_GRAB01_230505 1840
EHQ_ITEM304_GRAB02_230505 1841
EHQ_ITEM304_GRAB03_230505 1842

EHQ_ITEM304_GRAB04_230505 1843
EHQ_ITEM304_GRAB05_230505 1844
EHQ_ITEM304_GRAB06_230505 1845
EHQ_ITEM304_GRAB07_230505 1846
EHQ_ITEM304_COMP01_230505 1847
EHQ_ITEM304_COMP02_230505 1848
Duplicate Results - Batch: BE31042 1849
Batch Summary - Batch: BE30854 1850
Batch Summary - Batch: BE31042 1851
Preparation Benchsheets - Batch: BE30854 1852
Preparation Benchsheets - Batch: BE31042 1854
Log Book Data 1856
Hold Time Summary 1859
Reporting Limits Summary 1860

Technical Report

prepared for:

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Tyler Goodnough

Report Date: 05/23/2023
Client Project ID: 170446801
York Project (SDG) No.: 23E0419

CT Cert. No. PH-0723 New Jersey Cert. No. CT005 and NY037 New York Cert. Nos. 10854 and 12058 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 ■ 132-02 89th AVENUE RICHMOND HILL, NY 11418
www.YORKLAB.com (203) 325-1371 FAX (203) 357-0166 ClientServices@yorklab.com

Report Date: 05/23/2023
Client Project ID: 170446801
York Project (SDG) No.: 23E0419

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Tyler Goodnough

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on May 05, 2023 and listed below. The project was identified as your project: **170446801**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

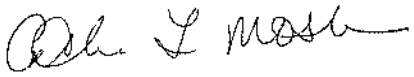
The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
23E0419-01	EHQ_ITEM304_COMP01_230505 PFAS	Soil	05/05/2023	05/05/2023
23E0419-02	EHQ_ITEM304_COMP02_230505 PFAS	Soil	05/05/2023	05/05/2023
23E0419-03	EHQ_ITEM304_PFASFB_230505	Water	05/05/2023	05/05/2023
23E0419-04	EHQ_ITEM304_GRAB01_230505	Soil	05/05/2023	05/05/2023
23E0419-05	EHQ_ITEM304_GRAB02_230505	Soil	05/05/2023	05/05/2023
23E0419-06	EHQ_ITEM304_GRAB03_230505	Soil	05/05/2023	05/05/2023
23E0419-07	EHQ_ITEM304_GRAB04_230505	Soil	05/05/2023	05/05/2023
23E0419-08	EHQ_ITEM304_GRAB05_230505	Soil	05/05/2023	05/05/2023
23E0419-09	EHQ_ITEM304_GRAB06_230505	Soil	05/05/2023	05/05/2023
23E0419-10	EHQ_ITEM304_GRAB07_230505	Soil	05/05/2023	05/05/2023
23E0419-11	EHQ_ITEM304_COMP01_230505	Soil	05/05/2023	05/05/2023
23E0419-12	EHQ_ITEM304_COMP02_230505	Soil	05/05/2023	05/05/2023

General Notes for York Project (SDG) No.: 23E0419

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 05/23/2023

Cassie L. Mosher
Laboratory Manager

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 PFAS

York Sample ID: 23E0419-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		ug/kg dry	0.118	0.189	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		ug/kg dry	0.0565	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		ug/kg dry	0.112	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		ug/kg dry	0.191	0.195	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				
335-67-1	Perfluorooctanoic acid (PFOA)	ND		ug/kg dry	0.183	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		ug/kg dry	0.178	0.198	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
375-95-1	Perfluorononanoic acid (PFNA)	ND		ug/kg dry	0.202	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
335-76-2	Perfluorodecanoic acid (PFDA)	ND		ug/kg dry	0.204	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		ug/kg dry	0.211	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		ug/kg dry	0.174	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND		ug/kg dry	0.133	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND		ug/kg dry	0.110	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
2355-31-9	N-MeFOSAA	ND		ug/kg dry	0.158	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
2991-50-6	N-EtFOSAA	ND		ug/kg dry	0.207	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		ug/kg dry	0.116	0.427	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND		ug/kg dry	0.156	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND		ug/kg dry	0.165	0.213	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND		ug/kg dry	0.204	0.206	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND		ug/kg dry	0.635	0.811	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND		ug/kg dry	0.805	0.819	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
375-22-4	Perfluoro-n-butanoic acid (PFBA)	ND		ug/kg dry	0.116	0.853	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:	NELAC-NY12058			
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		ug/kg dry	0.148	0.380	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		ug/kg dry	0.206	0.427	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
							Certifications:				

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 PFAS **York Sample ID:** 23E0419-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	ND		ug/kg dry	0.0661	0.427	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	ND		ug/kg dry	0.102	0.427	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	ND		ug/kg dry	0.167	0.201	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND		ug/kg dry	0.635	0.800	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
13252-13-6	HFPO-DA (Gen-X)	ND		ug/kg dry	0.649	0.853	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
763051-92-9	11CL-PF3OUdS	ND		ug/kg dry	0.332	0.806	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
756426-58-1	9CL-PF3ONS	ND		ug/kg dry	0.262	0.798	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
919005-14-4	ADONA	ND		ug/kg dry	0.186	0.806	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	ND		ug/kg dry	0.180	0.207	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	ND		ug/kg dry	0.132	0.205	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	ND		ug/kg dry	0.676	1.07	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	ND		ug/kg dry	2.24	5.33	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	ND		ug/kg dry	1.60	5.33	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
24448-09-7	N-MeFOSE	ND		ug/kg dry	0.652	2.13	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
31506-32-8	N-MeFOSA	ND		ug/kg dry	0.192	0.213	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
1691-99-2	N-EtFOSE	ND		ug/kg dry	0.743	2.13	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ
4151-50-2	N-EtFOSA	ND		ug/kg dry	0.211	0.213	1 Certifications:	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 17:59	ESJ

Surrogate Recoveries	Result	Acceptance Range
Surrogate: M3PFBS	*133 %*	*25-150*
Surrogate: M5PFHxA	*96.6 %*	*25-150*
Surrogate: M4PFHpA	*101 %*	*25-150*
Surrogate: M3PFHxS	*123 %*	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic acid	*83.3 %*	*25-150*
Surrogate: M6PFDA	*90.8 %*	*25-150*
Surrogate: M7PFUdA	*77.1 %*	*25-150*
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic	*70.9 %*	*25-150*
Surrogate: M2PFTeDA	*71.0 %*	*10-150*
Surrogate: Perfluoro-n-[13C4]butanoic acid	*86.4 %*	*25-150*

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 PFAS **York Sample ID:** 23E0419-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Surrogate: Perfluoro-1-[13C8]octanesulfon	*65.9 %*			*25-150*						
	Surrogate: Perfluoro-n-[13C5]pentanoic ac	*106 %*			*25-150*						
	Surrogate: Perfluoro-1-[13C8]octanesulfon	*93.7 %*			*10-150*						
	Surrogate: d3-N-MeFOSAA	*83.4 %*			*25-150*						
	Surrogate: d5-N-EtFOSAA	*85.2 %*			*25-150*						
	Surrogate: M2-6:2 FTS	*141 %*			*25-200*						
	Surrogate: M2-8:2 FTS	*99.9 %*			*25-200*						
	Surrogate: M9PFNA	*161 %*			*25-150*						
	Surrogate: M2-4:2 FTS	*110 %*			*25-150*						
	Surrogate: d-N-MeFOSA	*46.1 %*			*25-150*						
	Surrogate: d-N-EtFOSA	*107 %*			*25-150*						
	Surrogate: M3HFPO-DA	*112 %*			*25-150*						
	Surrogate: d9-N-EtFOSE	*57.0 %*			*25-150*						
	Surrogate: d7-N-MeFOSE	*59.3 %*			*25-150*						

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**93.4**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 PFAS **York Sample ID:** 23E0419-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		ug/kg dry	0.120	0.191	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		ug/kg dry	0.0572	0.216	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:	NELAC-NY12058			
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		ug/kg dry	0.113	0.216	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:	NELAC-NY12058			
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		ug/kg dry	0.193	0.197	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
335-67-1	Perfluorooctanoic acid (PFOA)	ND		ug/kg dry	0.186	0.216	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:	NELAC-NY12058			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 PFAS **York Sample ID:** 23E0419-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		ug/kg dry	0.180	0.201	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
375-95-1	Perfluorononanoic acid (PFNA)	ND		ug/kg dry	0.204	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
335-76-2	Perfluorodecanoic acid (PFDA)	ND		ug/kg dry	0.206	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		ug/kg dry	0.214	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		ug/kg dry	0.176	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND		ug/kg dry	0.135	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND		ug/kg dry	0.111	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
2355-31-9	N-MeFOSAA	ND		ug/kg dry	0.160	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
2991-50-6	N-EtFOSAA	ND		ug/kg dry	0.209	0.216	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		ug/kg dry	0.118	0.432	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND		ug/kg dry	0.158	0.216	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND		ug/kg dry	0.167	0.216	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND		ug/kg dry	0.206	0.208	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND		ug/kg dry	0.642	0.820	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND		ug/kg dry	0.815	0.829	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
375-22-4	Perfluoro-n-butanoic acid (PFBA)	ND		ug/kg dry	0.118	0.863	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/08/2023 17:34	05/10/2023 18:11	ESJ
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		ug/kg dry	0.150	0.384	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		ug/kg dry	0.208	0.432	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	ND		ug/kg dry	0.0669	0.432	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	ND		ug/kg dry	0.104	0.432	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	ND		ug/kg dry	0.169	0.203	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND		ug/kg dry	0.642	0.809	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ
13252-13-6	HFPO-DA (Gen-X)	ND		ug/kg dry	0.656	0.863	1	EPA 1633 Draft 2 Certifications:	05/08/2023 17:34	05/10/2023 18:11	ESJ

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 PFAS **York Sample ID:** 23E0419-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
763051-92-9	11CL-PF3OUdS	ND		ug/kg dry	0.336	0.816	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
756426-58-1	9CL-PF3ONS	ND		ug/kg dry	0.265	0.807	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
919005-14-4	ADONA	ND		ug/kg dry	0.188	0.816	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	ND		ug/kg dry	0.182	0.209	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	ND		ug/kg dry	0.134	0.207	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	ND		ug/kg dry	0.684	1.08	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	ND		ug/kg dry	2.26	5.39	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	ND		ug/kg dry	1.62	5.39	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
24448-09-7	N-MeFOSE	ND		ug/kg dry	0.659	2.16	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
31506-32-8	N-MeFOSA	ND		ug/kg dry	0.194	0.216	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
1691-99-2	N-EtFOSE	ND		ug/kg dry	0.752	2.16	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				
4151-50-2	N-EtFOSA	ND		ug/kg dry	0.214	0.216	1	EPA 1633 Draft 2	05/08/2023 17:34	05/10/2023 18:11	ESJ
							Certifications:				

Surrogate Recoveries	Result	Acceptance Range
Surrogate: M3PFBS	*112 %*	*25-150*
Surrogate: M5PFHxA	*101 %*	*25-150*
Surrogate: M4PFHpA	*99.9 %*	*25-150*
Surrogate: M3PFHxS	*103 %*	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic aci	*94.0 %*	*25-150*
Surrogate: M6PFDA	*102 %*	*25-150*
Surrogate: M7PFUdA	*111 %*	*25-150*
Surrogate: Perfluoro-n-[1,2-13C2]dodecan	*102 %*	*25-150*
Surrogate: M2PFTeDA	*98.1 %*	*10-150*
Surrogate: Perfluoro-n-[13C4]butanoic aci	*75.3 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*105 %*	*25-150*
Surrogate: Perfluoro-n-[13C5]pentanoic ac	*106 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*86.6 %*	*10-150*
Surrogate: d3-N-MeFOSAA	*80.7 %*	*25-150*
Surrogate: d5-N-EtFOSAA	*90.4 %*	*25-150*
Surrogate: M2-6:2 FTS	*118 %*	*25-200*
Surrogate: M2-8:2 FTS	*99.4 %*	*25-200*
Surrogate: M9PFNA	*78.6 %*	*25-150*

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 PFAS **York Sample ID:** 23E0419-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Surrogate: M2-4:2 FTS	*104 %*			*25-150*						
	Surrogate: d-N-MeFOSA	*63.6 %*			*25-150*						
	Surrogate: d-N-EtFOSA	*120 %*			*25-150*						
	Surrogate: M3HFPO-DA	*107 %*			*25-150*						
	Surrogate: d9-N-EtFOSE	*59.0 %*			*25-150*						
	Surrogate: d7-N-MeFOSE	*61.8 %*			*25-150*						

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**92.0**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_PFASFB_230505 **York Sample ID:** 23E0419-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Water	May 5, 2023 1:30 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		ng/L	0.451	1.70	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
307-24-4	**Perfluorohexanoic acid (PFHxA)**	**0.702**	J	ng/L	0.336	1.92	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		ng/L	0.681	1.92	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		ng/L	0.652	1.75	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
335-67-1	Perfluorooctanoic acid (PFOA)	ND		ng/L	0.403	1.92	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		ng/L	0.786	1.78	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
375-95-1	Perfluorononanoic acid (PFNA)	ND		ng/L	0.499	1.92	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
335-76-2	Perfluorodecanoic acid (PFDA)	ND		ng/L	0.719	1.92	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		ng/L	1.08	1.92	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		ng/L	0.844	1.92	1	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
							Certifications:	NELAC-NY12058			

Sample Information

Client Sample ID: EHQ_ITEM304_PFASFB_230505 **York Sample ID:** 23E0419-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Water	May 5, 2023 1:30 pm	05/05/2023

PFAS, EPA 1633 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND		ng/L	0.710	1.92	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND		ng/L	0.662	1.92	1	EPA 1633 Draft 2 Certifications:	05/15/2023 12:21	05/17/2023 12:42	ESJ
2355-31-9	N-MeFOSAA	ND		ng/L	0.758	1.92	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
2991-50-6	N-EtFOSAA	ND		ng/L	0.988	1.92	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		ng/L	0.221	3.84	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	ND		ng/L	0.844	1.92	1	EPA 1633 Draft 2 Certifications:	05/15/2023 12:21	05/17/2023 12:42	ESJ
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	ND		ng/L	0.873	1.83	1	EPA 1633 Draft 2 Certifications:	05/15/2023 12:21	05/17/2023 12:42	ESJ
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	ND		ng/L	1.27	1.85	1	EPA 1633 Draft 2 Certifications:	05/15/2023 12:21	05/17/2023 12:42	ESJ
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND		ng/L	1.02	7.29	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND		ng/L	1.97	7.36	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
375-22-4	Perfluoro-n-butanoic acid (PFBA)	ND		ng/L	0.316	7.67	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		ng/L	0.479	3.41	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		ng/L	2.05	3.84	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	ND		ng/L	0.240	3.84	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	ND		ng/L	0.355	3.84	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	ND		ng/L	0.729	1.80	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND		ng/L	1.72	7.19	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
13252-13-6	HFPO-DA (Gen-X)	ND		ng/L	3.10	7.67	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
763051-92-9	11CL-PF3OUdS	ND		ng/L	1.32	7.25	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
756426-58-1	9CL-PF3ONS	ND		ng/L	0.671	7.17	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
919005-14-4	ADONA	ND		ng/L	0.508	7.25	1	EPA 1633 Draft 2 Certifications: NELAC-NY12058	05/15/2023 12:21	05/17/2023 12:42	ESJ
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	ND		ng/L	0.892	1.86	1	EPA 1633 Draft 2 Certifications:	05/15/2023 12:21	05/17/2023 12:42	ESJ
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	ND		ng/L	0.825	1.84	1	EPA 1633 Draft 2 Certifications:	05/15/2023 12:21	05/17/2023 12:42	ESJ

Sample Information

Client Sample ID: EHQ_ITEM304_PFASFB_230505 **York Sample ID:** 23E0419-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Water	May 5, 2023 1:30 pm	05/05/2023

PFAS, EPA 1633 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 1633 Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	ND		ng/L	1.95	4.79	1 Certifications:	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	ND		ng/L	7.03	24.0	1 Certifications:	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	ND		ng/L	9.08	24.0	1 Certifications:	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
24448-09-7	N-MeFOSE	ND		ng/L	3.83	19.2	1 Certifications:	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
31506-32-8	N-MeFOSA	ND		ng/L	1.52	1.92	1 Certifications:	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
1691-99-2	N-EtFOSE	ND		ng/L	3.83	19.2	1 Certifications:	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ
4151-50-2	N-EtFOSA	ND		ng/L	1.73	1.92	1 Certifications:	EPA 1633 Draft 2	05/15/2023 12:21	05/17/2023 12:42	ESJ

Surrogate Recoveries	Result	Acceptance Range
Surrogate: M3PFBS	*91.6 %*	*25-150*
Surrogate: M5PFHxA	*99.3 %*	*25-150*
Surrogate: M4PFHpA	*98.5 %*	*25-150*
Surrogate: M3PFHxS	*84.5 %*	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic aci	*81.7 %*	*25-150*
Surrogate: M6PFDA	*77.7 %*	*25-150*
Surrogate: M7PFUdA	*71.7 %*	*25-150*
Surrogate: Perfluoro-n-[1,2-13C2]dodecan	*57.8 %*	*25-150*
Surrogate: M2PFTeDA	*23.8 %*	*10-150*
Surrogate: Perfluoro-n-[13C4]butanoic aci	*98.3 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*151 %*	*25-150*
Surrogate: Perfluoro-n-[13C5]pentanoic ac	*95.9 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*72.9 %*	*10-150*
Surrogate: d3-N-MeFOSAA	*78.1 %*	*25-150*
Surrogate: d5-N-EtFOSAA	*62.5 %*	*25-150*
Surrogate: M2-6:2 FTS	*103 %*	*25-200*
Surrogate: M2-8:2 FTS	*60.8 %*	*25-200*
Surrogate: M9PFNA	*100 %*	*25-150*
Surrogate: M2-4:2 FTS	*98.1 %*	*25-150*
Surrogate: d-N-MeFOSA	*42.3 %*	*25-150*
Surrogate: d-N-EtFOSA	*312 %*	*25-150*
Surrogate: M3HFPO-DA	*113 %*	*25-150*
Surrogate: d9-N-EtFOSE	*22.6 %*	*25-150*
Surrogate: d7-N-MeFOSE	*33.0 %*	*25-150*

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB01_230505 **York Sample ID:** 23E0419-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:10 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP			
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.053	0.11	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
591-78-6	2-Hexanone	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB01_230505 **York Sample ID:** 23E0419-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:10 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
107-02-8	Acrolein	ND	CCVE	mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-25-2	Bromoform	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-83-9	Bromomethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-00-3	Chloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-87-3	Chloromethane	ND	CCVE	mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
110-82-7	Cyclohexane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-71-8	Dichlorodifluoromethane	ND	CCVE	mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-20-9	Methyl acetate	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB01_230505 **York Sample ID:** 23E0419-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:10 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-42-5	Styrene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0079	0.016	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:00	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*114 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*99.3 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.5 %*	*76-130*

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB01_230505 **York Sample ID:** 23E0419-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:10 pm	05/05/2023

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**88.8**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB02_230505 **York Sample ID:** 23E0419-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:15 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP			
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB02_230505 **York Sample ID:** 23E0419-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:15 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.049	0.098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
591-78-6	2-Hexanone	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-02-8	Acrolein	ND	CCVE	mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-25-2	Bromoform	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-83-9	Bromomethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-00-3	Chloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-87-3	Chloromethane	ND	CCVE	mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
110-82-7	Cyclohexane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB02_230505 **York Sample ID:** 23E0419-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:15 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-71-8	Dichlorodifluoromethane	ND	CCVE	mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-20-9	Methyl acetate	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-42-5	Styrene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB02_230505 **York Sample ID:** 23E0419-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:15 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0073	0.015	1	EPA 8260C	05/10/2023 08:30	05/10/2023 16:31	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*113 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*101 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*98.9 %*	*76-130*

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**88.4**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB03_230505 **York Sample ID:** 23E0419-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:20 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB03_230505 **York Sample ID:** 23E0419-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:20 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP			
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.049	0.098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
591-78-6	2-Hexanone	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-02-8	Acrolein	ND	CCVE	mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-25-2	Bromoform	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-83-9	Bromomethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB03_230505 **York Sample ID:** 23E0419-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:20 pm	05/05/2023

VOA, 8260 MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-00-3	Chloroethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-87-3	Chloromethane	ND	CCVE	mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
110-82-7	Cyclohexane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-71-8	Dichlorodifluoromethane	ND	CCVE	mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-20-9	Methyl acetate	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0049	0.0098	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB03_230505 **York Sample ID:** 23E0419-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:20 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-42-5	Styrene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0024	0.0049	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0073	0.015	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:02	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*110 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*99.7 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.9 %*	*76-130*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**91.3**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB04_230505 **York Sample ID:** 23E0419-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:25 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB04_230505 **York Sample ID:** 23E0419-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:25 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP			
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.048	0.096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
591-78-6	2-Hexanone	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB04_230505 **York Sample ID:** 23E0419-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:25 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
107-02-8	Acrolein	ND	CCVE	mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-25-2	Bromoform	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-83-9	Bromomethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-00-3	Chloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-87-3	Chloromethane	ND	CCVE	mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
110-82-7	Cyclohexane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-71-8	Dichlorodifluoromethane	ND	CCVE	mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-20-9	Methyl acetate	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB04_230505 **York Sample ID:** 23E0419-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:25 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-42-5	Styrene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0072	0.014	1	EPA 8260C	05/10/2023 08:30	05/10/2023 17:33	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*116 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*100 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.1 %*	*76-130*

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB04_230505 **York Sample ID:** 23E0419-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:25 pm	05/05/2023

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**94.6**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB05_230505 **York Sample ID:** 23E0419-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:30 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP			
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB05_230505 **York Sample ID:** 23E0419-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:30 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.048	0.096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
591-78-6	2-Hexanone	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-02-8	Acrolein	ND	CCVE	mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-25-2	Bromoform	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-83-9	Bromomethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-00-3	Chloroethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-87-3	Chloromethane	ND	CCVE	mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
110-82-7	Cyclohexane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB05_230505 **York Sample ID:** 23E0419-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:30 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-71-8	Dichlorodifluoromethane	ND	CCVE	mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-20-9	Methyl acetate	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0048	0.0096	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-42-5	Styrene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB05_230505 **York Sample ID:** 23E0419-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:30 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0024	0.0048	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0072	0.014	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:04	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*115 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*99.2 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*99.1 %*	*76-130*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**90.1**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB06_230505 **York Sample ID:** 23E0419-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:35 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB06_230505 **York Sample ID:** 23E0419-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:35 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP			
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.053	0.11	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
591-78-6	2-Hexanone	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-02-8	Acrolein	ND	CCVE	mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-25-2	Bromoform	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-83-9	Bromomethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB06_230505 **York Sample ID:** 23E0419-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:35 pm	05/05/2023

VOA, 8260 MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-00-3	Chloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-87-3	Chloromethane	ND	CCVE	mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
110-82-7	Cyclohexane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-71-8	Dichlorodifluoromethane	ND	CCVE	mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-20-9	Methyl acetate	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0053	0.011	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB06_230505 **York Sample ID:** 23E0419-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:35 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-42-5	Styrene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0079	0.016	1	EPA 8260C	05/10/2023 08:30	05/10/2023 18:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*113 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*98.9 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*99.2 %*	*76-130*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**91.5**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB07_230505 **York Sample ID:** 23E0419-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:40 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB07_230505 **York Sample ID:** 23E0419-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:40 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP			
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.052	0.10	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
591-78-6	2-Hexanone	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB07_230505 **York Sample ID:** 23E0419-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:40 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
107-02-8	Acrolein	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-25-2	Bromoform	ND	CCVE, QL-02	mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-83-9	Bromomethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-00-3	Chloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-87-3	Chloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
110-82-7	Cyclohexane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
74-95-3	Dibromomethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-71-8	Dichlorodifluoromethane	ND	CCVE	mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-20-9	Methyl acetate	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB07_230505 **York Sample ID:** 23E0419-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:40 pm	05/05/2023

VOA, 8260 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP			
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-42-5	Styrene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-65-0	tert-Butyl alcohol (TBA)	ND	CCVE	mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0078	0.016	1	EPA 8260C	05/12/2023 10:04	05/12/2023 13:35	BMC
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*100 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*107 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*112 %*	*76-130*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: EHQ_ITEM304_GRAB07_230505 **York Sample ID:** 23E0419-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 12:40 pm	05/05/2023

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**91.8**		%	0.100	1	SM 2540G	05/15/2023 17:10	05/15/2023 17:12	AC
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1-Biphenyl	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
58-90-2	2,3,4,6-Tetrachlorophenol	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
95-95-4	2,4,5-Trichlorophenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
88-06-2	2,4,6-Trichlorophenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
120-83-2	2,4-Dichlorophenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
105-67-9	2,4-Dimethylphenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
51-28-5	2,4-Dinitrophenol	ND	CAL-E	mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
121-14-2	2,4-Dinitrotoluene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
606-20-2	2,6-Dinitrotoluene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-58-7	2-Chloronaphthalene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
95-57-8	2-Chlorophenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-57-6	2-Methylnaphthalene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
88-74-4	2-Nitroaniline	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
88-75-5	2-Nitrophenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-94-1	3,3-Dichlorobenzidine	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
99-09-2	3-Nitroaniline	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
534-52-1	4,6-Dinitro-2-methylphenol	ND	CAL-E	mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
101-55-3	4-Bromophenyl phenyl ether	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
59-50-7	4-Chloro-3-methylphenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
106-47-8	4-Chloroaniline	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7005-72-3	4-Chlorophenyl phenyl ether	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
100-01-6	4-Nitroaniline	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
100-02-7	4-Nitrophenol	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
83-32-9	Acenaphthene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
98-86-2	Acetophenone	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
62-53-3	Aniline	ND		mg/kg dry	0.180	0.360	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
1912-24-9	Atrazine	ND	CAL-E	mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
100-52-7	Benzaldehyde	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
92-87-5	Benzidine	ND		mg/kg dry	0.180	0.360	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,PADEP			
56-55-3	Benzo(a)anthracene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
65-85-0	Benzoic acid	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
100-51-6	Benzyl alcohol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
85-68-7	Benzyl butyl phthalate	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
111-91-1	Bis(2-chloroethoxy)methane	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
111-44-4	Bis(2-chloroethyl)ether	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
108-60-1	Bis(2-chloroisopropyl)ether	ND	CCVE	mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
117-81-7	Bis(2-ethylhexyl)phthalate	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
105-60-2	Caprolactam	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
86-74-8	Carbazole	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
132-64-9	Dibenzofuran	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
84-66-2	Diethyl phthalate	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
131-11-3	Dimethyl phthalate	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
84-74-2	Di-n-butyl phthalate	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
117-84-0	Di-n-octyl phthalate	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
122-39-4	Diphenylamine	ND		mg/kg dry	0.0899	0.180	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
206-44-0	Fluoranthene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
77-47-4	Hexachlorocyclopentadiene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
67-72-1	Hexachloroethane	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
78-59-1	Isophorone	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
98-95-3	Nitrobenzene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
62-75-9	N-Nitrosodimethylamine	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
621-64-7	N-nitroso-di-n-propylamine	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
86-30-6	N-Nitrosodiphenylamine	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		mg/kg dry	0.0451	0.0899	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
110-86-1	Pyridine	ND		mg/kg dry	0.180	0.360	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:21	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result		Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*81.0 %*		*20-108*
13127-88-3	*Surrogate: SURR: Phenol-d6*	*79.6 %*		*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*76.4 %*		*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*84.7 %*		*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*134 %*	S-08	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*99.6 %*		*24-116*

Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		mg/kg	0.0194	1	EPA 8270D SIM	05/14/2023 08:00	05/14/2023 19:23	KH
						Certifications:	NELAC-NY10854			

	Surrogate Recoveries	Result	Acceptance Range
17647-74-4	*Surrogate: 1,4-Dioxane-d8*	*43.9 %*	*39-127.5*

PEST, 8081 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

PEST, 8081 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
319-84-6	alpha-BHC	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
959-98-8	Endosulfan I	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7421-93-4	Endrin aldehyde	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
53494-70-5	Endrin ketone	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
5566-34-7	gamma-Chlordane	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	NELAC-NY10854,NJDEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
1024-57-3	Heptachlor epoxide	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
72-43-5	Methoxychlor	ND		mg/kg dry	0.00181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
8001-35-2	Toxaphene	ND		mg/kg dry	0.181	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
57-74-9	Chlordane, total	ND		mg/kg dry	0.0363	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:15	BCJ
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*84.4 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*63.3 %*	*30-150*

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

PCB, 8082 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
1336-36-3	Total PCBs	ND		mg/kg dry	0.0183	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:31	BCJ
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*81.0 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*72.0 %*	*30-120*

HERB, 8151 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		mg/kg dry	0.0216	1	EPA 8151A	05/10/2023 08:22	05/11/2023 18:16	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0216	1	EPA 8151A	05/10/2023 08:22	05/11/2023 18:16	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
94-75-7	2,4-D	ND		mg/kg dry	0.0216	1	EPA 8151A	05/10/2023 08:22	05/11/2023 18:16	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (I*	*81.6 %*	*21-150*

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**30500**		mg/kg dry	4.60	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-36-0	**Antimony**	**8.95**		mg/kg dry	2.30	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-38-2	**Arsenic**	**8.58**		mg/kg dry	1.38	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**164**		mg/kg dry	2.29	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	**Beryllium**	**0.226**		mg/kg dry	0.046	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-43-9	Cadmium	ND		mg/kg dry	0.276	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-70-2	**Calcium**	**40000**		mg/kg dry	4.60	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**136**		mg/kg dry	0.460	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-48-4	**Cobalt**	**36.6**		mg/kg dry	0.367	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**207**		mg/kg dry	1.84	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-89-6	**Iron**	**51600**		mg/kg dry	23.0	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**35.6**		mg/kg dry	0.460	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-95-4	**Magnesium**	**29700**		mg/kg dry	4.60	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**1570**		mg/kg dry	0.460	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**74.8**		mg/kg dry	0.916	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-09-7	**Potassium**	**561**		mg/kg dry	4.60	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	Selenium	ND		mg/kg dry	2.30	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.463	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-23-5	**Sodium**	**1800**		mg/kg dry	46.0	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-28-0	**Thallium**	**8.53**		mg/kg dry	2.30	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-62-2	**Vanadium**	**148**		mg/kg dry	0.916	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**68.3**		mg/kg dry	2.29	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:06	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0331	1	EPA 7473	05/11/2023 13:56	05/11/2023 19:19	AGNR
						Certifications:	CTDOH-PH-0723,NJDEP,NELAC-NY10854,PADEP			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.552	1	EPA 7196A	05/10/2023 14:22	05/10/2023 21:18	NJO
						Certifications:	NJDEP,CTDOH-PH-0723,NELAC-NY10854,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP01_230505 **York Sample ID:** 23E0419-11

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:00 pm	05/05/2023

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	**Chromium, Trivalent**	**136**		mg/kg	0.500	1	Calculation	05/15/2023 07:10	05/15/2023 17:35	PAM
						Certifications:				

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg	0.500	1	EPA 9014/9010C	05/10/2023 14:24	05/10/2023 22:18	NJO
						Certifications:				

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**90.6**		%	0.100	1	SM 2540G	05/12/2023 09:27	05/12/2023 13:12	sgs
						Certifications:	CTDOH-PH-0723			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1-Biphenyl	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
58-90-2	2,3,4,6-Tetrachlorophenol	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
95-95-4	2,4,5-Trichlorophenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
88-06-2	2,4,6-Trichlorophenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
120-83-2	2,4-Dichlorophenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
105-67-9	2,4-Dimethylphenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
51-28-5	2,4-Dinitrophenol	ND	CAL-E	mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
121-14-2	2,4-Dinitrotoluene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
606-20-2	2,6-Dinitrotoluene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-58-7	2-Chloronaphthalene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
95-57-8	2-Chlorophenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-57-6	2-Methylnaphthalene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
88-74-4	2-Nitroaniline	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
88-75-5	2-Nitrophenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-94-1	3,3-Dichlorobenzidine	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
99-09-2	3-Nitroaniline	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
534-52-1	4,6-Dinitro-2-methylphenol	ND	CAL-E	mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
101-55-3	4-Bromophenyl phenyl ether	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
59-50-7	4-Chloro-3-methylphenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
106-47-8	4-Chloroaniline	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7005-72-3	4-Chlorophenyl phenyl ether	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
100-01-6	4-Nitroaniline	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
100-02-7	4-Nitrophenol	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
83-32-9	Acenaphthene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
98-86-2	Acetophenone	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
62-53-3	Aniline	ND		mg/kg dry	0.182	0.365	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
1912-24-9	Atrazine	ND	CAL-E	mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-52-7	Benzaldehyde	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
92-87-5	Benzidine	ND		mg/kg dry	0.182	0.365	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,PADEP			
56-55-3	Benzo(a)anthracene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
65-85-0	Benzoic acid	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
100-51-6	Benzyl alcohol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
85-68-7	Benzyl butyl phthalate	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
111-91-1	Bis(2-chloroethoxy)methane	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
111-44-4	Bis(2-chloroethyl)ether	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
108-60-1	Bis(2-chloroisopropyl)ether	ND	CCVE	mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
117-81-7	Bis(2-ethylhexyl)phthalate	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
105-60-2	Caprolactam	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
86-74-8	Carbazole	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
132-64-9	Dibenzofuran	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
84-66-2	Diethyl phthalate	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
131-11-3	Dimethyl phthalate	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
84-74-2	Di-n-butyl phthalate	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
117-84-0	Di-n-octyl phthalate	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
122-39-4	Diphenylamine	ND		mg/kg dry	0.0910	0.182	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

SVOA, 8270 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
77-47-4	Hexachlorocyclopentadiene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
67-72-1	Hexachloroethane	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
78-59-1	Isophorone	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
98-95-3	Nitrobenzene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
62-75-9	N-Nitrosodimethylamine	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
621-64-7	N-nitroso-di-n-propylamine	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
86-30-6	N-Nitrosodiphenylamine	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		mg/kg dry	0.0456	0.0910	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
110-86-1	Pyridine	ND		mg/kg dry	0.182	0.365	2	EPA 8270D	05/14/2023 08:28	05/15/2023 12:51	KH
							Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result		Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*75.5 %*		*20-108*
13127-88-3	*Surrogate: SURR: Phenol-d6*	*78.1 %*		*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*71.4 %*		*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*80.6 %*		*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*114 %*	S-08	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*91.8 %*		*24-116*

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		mg/kg	0.0194	1	EPA 8270D SIM	05/14/2023 08:00	05/14/2023 19:40	KH
						Certifications:	NELAC-NY10854			

	Surrogate Recoveries	Result	Acceptance Range
17647-74-4	*Surrogate: 1,4-Dioxane-d8*	*43.4 %*	*39-127.5*

PEST, 8081 MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
319-84-6	alpha-BHC	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
959-98-8	Endosulfan I	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7421-93-4	Endrin aldehyde	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
53494-70-5	Endrin ketone	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
5566-34-7	gamma-Chlordane	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	NELAC-NY10854,NJDEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
1024-57-3	Heptachlor epoxide	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

PEST, 8081 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-43-5	Methoxychlor	ND		mg/kg dry	0.00180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
8001-35-2	Toxaphene	ND		mg/kg dry	0.180	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
57-74-9	Chlordane, total	ND		mg/kg dry	0.0359	5	EPA 8081B	05/14/2023 08:42	05/16/2023 13:34	BCJ
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*74.1 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*54.6 %*	*30-150*

PCB, 8082 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:	NELAC-NY10854,CTDOH-PH-0723,NJDEP,PADEP			
1336-36-3	Total PCBs	ND		mg/kg dry	0.0181	1	EPA 8082A	05/14/2023 08:42	05/16/2023 10:44	BCJ
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*65.0 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*54.0 %*	*30-120*

HERB, 8151 MASTER

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		mg/kg dry	0.0213	1	EPA 8151A	05/10/2023 08:22	05/11/2023 18:27	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0213	1	EPA 8151A	05/10/2023 08:22	05/11/2023 18:27	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
94-75-7	2,4-D	ND		mg/kg dry	0.0213	1	EPA 8151A	05/10/2023 08:22	05/11/2023 18:27	BCJ
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (I*	*70.6 %*	*21-150*

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**29100**		mg/kg dry	4.56	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-36-0	**Antimony**	**7.17**		mg/kg dry	2.28	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-38-2	**Arsenic**	**8.57**		mg/kg dry	1.37	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**158**		mg/kg dry	2.28	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	**Beryllium**	**0.127**		mg/kg dry	0.046	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	**Cadmium**	**0.304**		mg/kg dry	0.274	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-70-2	**Calcium**	**53000**		mg/kg dry	4.56	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**134**		mg/kg dry	0.457	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-48-4	**Cobalt**	**34.3**		mg/kg dry	0.365	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**207**		mg/kg dry	1.83	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-89-6	**Iron**	**50500**		mg/kg dry	22.8	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**34.7**		mg/kg dry	0.457	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-95-4	**Magnesium**	**32200**		mg/kg dry	4.57	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**1590**		mg/kg dry	0.457	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**70.7**		mg/kg dry	0.909	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-09-7	**Potassium**	**479**		mg/kg dry	4.57	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	Selenium	ND		mg/kg dry	2.28	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.460	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-23-5	**Sodium**	**2660**		mg/kg dry	45.6	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-28-0	**Thallium**	**7.78**		mg/kg dry	2.28	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-62-2	**Vanadium**	**151**		mg/kg dry	0.909	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**62.1**		mg/kg dry	2.27	1	EPA 6010D	05/11/2023 15:46	05/15/2023 12:08	AJL
						Certifications:	CTDOH-PH-0723,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: EHQ_ITEM304_COMP02_230505 **York Sample ID:** 23E0419-12

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23E0419	170446801	Soil	May 5, 2023 1:15 pm	05/05/2023

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0329	1	EPA 7473	05/11/2023 13:56	05/11/2023 19:28	AGNR
						Certifications:	CTDOH-PH-0723,NJDEP,NELAC-NY10854,PADEP			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.548	1	EPA 7196A	05/10/2023 14:22	05/10/2023 21:18	NJO
						Certifications:	NJDEP,CTDOH-PH-0723,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	**Chromium, Trivalent**	**134**		mg/kg	0.500	1	Calculation	05/15/2023 07:10	05/15/2023 17:35	PAM
						Certifications:				

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg	0.500	1	EPA 9014/9010C	05/10/2023 14:24	05/10/2023 22:18	NJO
						Certifications:				

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	**% Solids**	**91.3**		%	0.100	1	SM 2540G	05/12/2023 09:27	05/12/2023 13:12	sgs
						Certifications:	CTDOH-PH-0723			

York Narrative Contents Summary

This Work Order Narrative includes the following items for full review of any quality issues encountered with samples and their analyses for the parameters requested:

1. Sample Receipt Information, including a Sample Summary which cross references your sample ID with York Analytical sample ID, identifying the matrix and Date/Time collected and received at York.
2. Analysis Methodologies employed for the work order
3. Any Sample Issues encountered such as Holding time exceedances, improper containers/preservation, or any related issue with sample integrity
4. Specific Analysis Findings in order: Volatiles, Semi-Volatiles, Pesticides/PCBs, Herbicides, other GC parameters, Metals, Mercury, Wet Chemistry.
5. Analysis Findings Include:

    - Analyte qualifier summary
    - Samples and associated Calibration Curve(s)
    - Calibration Outliers Discussion/Tabular presentation and affected samples
    - Initial Calibration Verification (ICV) information
    - Batch QC Sample Performance (Blanks, Blank Spikes (BS), MS/MSD)
    - Internal Standard Performance
    - Surrogate Performance
    - Example Calculations

Work Order Narrative

York Analytical Work Order No.: 23E0419

Client : Langan Engineering & Environmental Services (NYC)

Client Project ID : 170446801

Prepared for : Tyler Goodnough

1.0) Introduction

This work order Narrative applies to the following samples submitted to our laboratory on: 05/05/2023 5:07 PM

13 sample(s) were received intact in a custody-sealed cooler(s) unless otherwise noted. Upon receipt, cooler temperature(s) was determined using a NIST traceable digital infrared thermometer. The cooler temperature was acceptable (<= 6 °C)
and documented as: **{3.5}°C**

Sample Summary

SampleName	Lab Number	Matrix	Date Collected	Date Received
EHQ_ITEM304_COMP01_230505 PFAS	23E0419-01	Soil	05/05/2023 1:00 PM	05/05/2023 5:07 PM
EHQ_ITEM304_COMP02_230505 PFAS	23E0419-02	Soil	05/05/2023 1:15 PM	05/05/2023 5:07 PM
EHQ_ITEM304_PFASFB_230505	23E0419-03	Water	05/05/2023 1:30 PM	05/05/2023 5:07 PM
EHQ_ITEM304_GRAB01_230505	23E0419-04	Soil	05/05/2023 12:10 PM	05/05/2023 5:07 PM
EHQ_ITEM304_GRAB02_230505	23E0419-05	Soil	05/05/2023 12:15 PM	05/05/2023 5:07 PM
EHQ_ITEM304_GRAB03_230505	23E0419-06	Soil	05/05/2023 12:20 PM	05/05/2023 5:07 PM
EHQ_ITEM304_GRAB04_230505	23E0419-07	Soil	05/05/2023 12:25 PM	05/05/2023 5:07 PM
EHQ_ITEM304_GRAB05_230505	23E0419-08	Soil	05/05/2023 12:30 PM	05/05/2023 5:07 PM
EHQ_ITEM304_GRAB06_230505	23E0419-09	Soil	05/05/2023 12:35 PM	05/05/2023 5:07 PM
EHQ_ITEM304_GRAB07_230505	23E0419-10	Soil	05/05/2023 12:40 PM	05/05/2023 5:07 PM
EHQ_ITEM304_COMP01_230505	23E0419-11	Soil	05/05/2023 1:00 PM	05/05/2023 5:07 PM
EHQ_ITEM304_COMP02_230505	23E0419-12	Soil	05/05/2023 1:15 PM	05/05/2023 5:07 PM
Trip Blank	23E0419-13	Water	05/05/2023 5:07 PM	05/05/2023 5:07 PM

WorkOrder Comments

On 5/8/23, client was made aware the trip blank was not received at the lab.
Greg Wyka confirmed the trip blank was not submitted with the samples.

2.0 Methodology

Analysis Class	Preparation Method	Analysis Methodology
VOA	EPA 5035A	EPA 8260C
SVOA	EPA 3510C	EPA 8270D
SVOA	EPA 3550C	EPA 8270D
SVOA	EPA 3550C	EPA 8270D SIM
PFAS	EPA 1633 Prep	EPA 1633 Draft 2
PEST	EPA 3550C	EPA 8081B
ARO	EPA 3550C	EPA 8082A
HERB	EPA 3550C/8151A	EPA 8151A
METALS	EPA 3050B	EPA 6010D
HG	EPA 7473 soil	EPA 7473
WET	Analysis Preparation	Calculation
WET	EPA SW846-3060	EPA 7196A
WET	Analysis Preparation Soil	EPA 9014/9010C
WET	% Solids Prep	SM 2540G

3.0 Sample Issues

No issues were encountered with the samples submitted other than those detailed below.

Qualifier Summary Report:

SampleID	Method	LabNumber	Matrix	Analyte	Qualifier
EHQ_ITEM304_PFASFB_230505	EPA 1633 Draft 2	23E0419-03	Water	Perfluorohexanoic acid (PFHxA)	J
	EPA 1633 Draft 2	BE30533-BS2	Soil	11CL-PF3OUdS	J
	EPA 1633 Draft 2	BE30533-BS2	Soil	3-Perfluoroheptyl propanoic acid (FHpPA)	J
	EPA 1633 Draft 2	BE30673-BLK1	Water	ADONA	J
	EPA 1633 Draft 2	BE30673-BLK1	Water	Perfluorooctanoic acid (PFOA)	J
	EPA 1633 Draft 2	BE30673-DUP1	Water	Perfluorohexanoic acid (PFHxA)	J
EHQ_ITEM304_GRAB01_230505	EPA 8260C	23E0419-04	Soil	Acrolein	CCVE
EHQ_ITEM304_GRAB01_230505	EPA 8260C	23E0419-04	Soil	Chloromethane	CCVE
EHQ_ITEM304_GRAB01_230505	EPA 8260C	23E0419-04	Soil	Dichlorodifluoromethane	CCVE
EHQ_ITEM304_GRAB02_230505	EPA 8260C	23E0419-05	Soil	Acrolein	CCVE
EHQ_ITEM304_GRAB02_230505	EPA 8260C	23E0419-05	Soil	Chloromethane	CCVE
EHQ_ITEM304_GRAB02_230505	EPA 8260C	23E0419-05	Soil	Dichlorodifluoromethane	CCVE
EHQ_ITEM304_GRAB03_230505	EPA 8260C	23E0419-06	Soil	Acrolein	CCVE
EHQ_ITEM304_GRAB03_230505	EPA 8260C	23E0419-06	Soil	Chloromethane	CCVE
EHQ_ITEM304_GRAB03_230505	EPA 8260C	23E0419-06	Soil	Dichlorodifluoromethane	CCVE
EHQ_ITEM304_GRAB04_230505	EPA 8260C	23E0419-07	Soil	Acrolein	CCVE
EHQ_ITEM304_GRAB04_230505	EPA 8260C	23E0419-07	Soil	Chloromethane	CCVE
EHQ_ITEM304_GRAB04_230505	EPA 8260C	23E0419-07	Soil	Dichlorodifluoromethane	CCVE
EHQ_ITEM304_GRAB05_230505	EPA 8260C	23E0419-08	Soil	Acrolein	CCVE

Qualifier Summary Report:

SampleID	Method	LabNumber	Matrix	Analyte	Qualifier
EHQ_ITEM304_GRAB05_230505	EPA 8260C	23E0419-08	Soil	Chloromethane	CCVE
EHQ_ITEM304_GRAB05_230505	EPA 8260C	23E0419-08	Soil	Dichlorodifluoromethane	CCVE
EHQ_ITEM304_GRAB06_230505	EPA 8260C	23E0419-09	Soil	Acrolein	CCVE
EHQ_ITEM304_GRAB06_230505	EPA 8260C	23E0419-09	Soil	Chloromethane	CCVE
EHQ_ITEM304_GRAB06_230505	EPA 8260C	23E0419-09	Soil	Dichlorodifluoromethane	CCVE
EHQ_ITEM304_GRAB07_230505	EPA 8260C	23E0419-10	Soil	Bromoform	QL-02
EHQ_ITEM304_GRAB07_230505	EPA 8260C	23E0419-10	Soil	Bromoform	CCVE
EHQ_ITEM304_GRAB07_230505	EPA 8260C	23E0419-10	Soil	Dichlorodifluoromethane	CCVE
EHQ_ITEM304_GRAB07_230505	EPA 8260C	23E0419-10	Soil	tert-Butyl alcohol (TBA)	CCVE
EHQ_ITEM304_COMP01_230505	EPA 8270D	23E0419-11	Soil	2,4-Dinitrophenol	CAL-E
EHQ_ITEM304_COMP01_230505	EPA 8270D	23E0419-11	Soil	4,6-Dinitro-2-methylphenol	CAL-E
EHQ_ITEM304_COMP01_230505	EPA 8270D	23E0419-11	Soil	Atrazine	CAL-E
EHQ_ITEM304_COMP01_230505	EPA 8270D	23E0419-11	Soil	Bis(2-chloroisopropyl)ether	CCVE
EHQ_ITEM304_COMP01_230505	EPA 8270D	23E0419-11	Soil	SURR: 2,4,6-Tribromophenol	S-08
EHQ_ITEM304_COMP02_230505	EPA 8270D	23E0419-12	Soil	2,4-Dinitrophenol	CAL-E
EHQ_ITEM304_COMP02_230505	EPA 8270D	23E0419-12	Soil	4,6-Dinitro-2-methylphenol	CAL-E
EHQ_ITEM304_COMP02_230505	EPA 8270D	23E0419-12	Soil	Atrazine	CAL-E
EHQ_ITEM304_COMP02_230505	EPA 8270D	23E0419-12	Soil	Bis(2-chloroisopropyl)ether	CCVE

York Analytical Work Order Narrative

Qualifier Summary Report:

SampleID	Method	LabNumber	Matrix	Analyte	Qualifier
EHQ_ITEM304_COMP02_230505	EPA 8270D	23E0419-12	Soil	SURR: 2,4,6-Tribromophenol	S-08
	EPA 8270D SIM	BE30880-BLK1	Soil	1,4-Dioxane-d8	S-HI

Qualifier Definitions :

CCVE	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
CAL-E	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%)
S-08	The recovery of this surrogate was outside of QC limits.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
CCVH	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
S-HI	Surrogate recovery is above acceptance limits. No target compound is detected in sample.

4.0 Analysis Issues

EPA 8260C

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SD30046

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SD30046	S3D2816	S3D2816	Secondary Cal Check	S3D2816-SCV1	QVOA4	QV432551.D
SD30046	S3E1504	S3E1504	Calibration Check	S3E1504-CCV1	QVOA4	QV433008.D
SD30046	BD31853	S3E1504	LCS	BD31853-BS1	QVOA4	QV433009.D
SD30046	BD31853	S3E1504	LCS Dup	BD31853-BSD1	QVOA4	QV433010.D
SD30046	BD31853	S3E1504	Blank	BD31853-BLK1	QVOA4	QV433011.D
SD30046	BD31853	S3E1504	EHQ_ITEM304_GRAB01_230505	23E0419-04	QVOA4	QV433016.D
SD30046	BD31853	S3E1504	EHQ_ITEM304_GRAB02_230505	23E0419-05	QVOA4	QV433017.D
SD30046	BD31853	S3E1504	EHQ_ITEM304_GRAB03_230505	23E0419-06	QVOA4	QV433018.D
SD30046	BD31853	S3E1504	EHQ_ITEM304_GRAB04_230505	23E0419-07	QVOA4	QV433019.D
SD30046	BD31853	S3E1504	EHQ_ITEM304_GRAB05_230505	23E0419-08	QVOA4	QV433020.D
SD30046	BD31853	S3E1504	EHQ_ITEM304_GRAB06_230505	23E0419-09	QVOA4	QV433021.D

Initial calibration for EPA 8260C exceeded method guidelines.

Calibration	Intrument	Calibration Date	File ID
SD30046	QVOA4	4/28/2023 12:19:13 PM	QV432522.D

Analyte	RSD%	RSDLim	<MinRRF	RRFLim	CorrCoeff	CCOut	SIM	CAL curve
1,4-Dioxane	**7.65**	20	**0.0029**	0.05				Avg

The following QC and or client samples were affected:

SampleName	LabNumber	SourceSample	File ID
Secondary Cal Check	S3D2816-SCV1		QV432551.D
Calibration Check	S3E1504-CCV1		QV433008.D
LCS	BD31853-BS1		QV433009.D
LCS Dup	BD31853-BSD1		QV433010.D

York Analytical Work Order Narrative

EPA 8260C

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 8260C

all target compounds recovered within method limits with the following exceptions:

Calibration ID	Lab Number	Analyte	True Value	Result	Recovery%	Limits
SD30046	S3D2816-SCV1	Acetone	50.0	125	**251**	70 - 130

The following QC and or client samples were affected:

LabNumber	SampleName	File ID
S3E1504-CCV1	Calibration Check	QV433008.D
BD31853-BS1	LCS	QV433009.D
BD31853-BSD1	LCS Dup	QV433010.D

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SD30046	S3E1504	S3E1504-CCV1	QV433008.D	05/10/23 08:59

The continuing calibration verification exceeded method limits for the following analytes.

Calibration	LabNumber	Analyte	Units	Result	TrueVal	REC%	Limits	File ID
SD30046	S3E1504-CCV1	Acetone	ug/L	62.7	50.0	**125**	80 120	QV433008.D
SD30046	S3E1504-CCV1	Acrolein	ug/L	18.5	50.0	**37**	80 120	QV433008.D
SD30046	S3E1504-CCV1	Chloromethane	ug/L	38.6	50.0	**77.2**	80 120	QV433008.D
SD30046	S3E1504-CCV1	Dichlorodifluoromethane	ug/L	35.0	50.0	**70**	80 120	QV433008.D

The following QC and or client samples were affected:

Calibration	Sequence	LabNumber	SampleName	Source Sample	File ID
SD30046	S3E1504	BD31853-BS1	LCS		QV433009.D
SD30046	S3E1504	BD31853-BSD1	LCS Dup		QV433010.D

EPA 8260C

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
VOA	BD31853	S3E1504	QVOA4	BD31853-BLK1	QV433011.D

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SD30046	S3E1504	BD31853-BS1	LCS	QV433009.D
SD30046	S3E1504	BD31853-BSD1	LCS Dup	QV433010.D

Sequence	SampleName	LabNumber	Analyte	DupRec%	Rec%	RPD%	REC Limits	RPD Limit
S3E1504	LCS	BD31853-BS1	Acetone		**416**		36 - 155	
S3E1504	LCS Dup	BD31853-BSD1	Acetone	416	**382**	8.51	36 - 155	30

EPA 8260C

Dilutions: No sample dilutions were required.

EPA 8260C

Internal Standards / Surrogates

Internal Standards Issues: No issues were encountered.

Surrogate Issues: No issues were encountered.

4.0 Analysis Issues

EPA 8260C

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SE30018

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SE30018	S3E1015	S3E1015	Secondary Cal Check	S3E1015-SCV1	QVOA1	QV130870.D
SE30018	S3E1513	S3E1513	Calibration Check	S3E1513-CCV1	QVOA1	QV130958.D
SE30018	BD31857	S3E1513	LCS	BD31857-BS1	QVOA1	QV130961.D
SE30018	BD31857	S3E1513	LCS Dup	BD31857-BSD1	QVOA1	QV130962.D
SE30018	BD31857	S3E1513	Blank	BD31857-BLK1	QVOA1	QV130963.D
SE30018	BD31857	S3E1513	EHQ_ITEM304_GRAB07_230505	23E0419-10	QVOA1	QV130964.D

Initial calibration for EPA 8260C exceeded method guidelines.

Calibration	Intrument	Calibration Date	File ID
SE30018	QVOA1	5/10/2023 2:46:46 PM	QV130857.D

Analyte	RSD%	RSDLim	<MinRRF	RRFLim	CorrCoeff	CCOut	SIM	CAL curve
1,4-Dioxane	**6.42**	20	**0.0056**	0.05				Avg

The following QC and or client samples were affected:

SampleName	LabNumber	SourceSample	File ID
Secondary Cal Check	S3E1015-SCV1		QV130870.D
Calibration Check	S3E1513-CCV1		QV130958.D
LCS	BD31857-BS1		QV130961.D
LCS Dup	BD31857-BSD1		QV130962.D

York Analytical Work Order Narrative

EPA 8260C

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 8260C

all target compounds recovered within method limits with the following exceptions:

Calibration ID	Lab Number	Analyte	True Value	Result	Recovery%	Limits
SE30018	S3E1015-SCV1	Acetone	50.0	247	**495**	70 - 130
SE30018	S3E1015-SCV1	Dichlorodifluoromethane	50.0	72.8	**146**	70 - 130

The following QC and or client samples were affected:

LabNumber	SampleName	File ID
S3E1513-CCV1	Calibration Check	QV130958.D
BD31857-BS1	LCS	QV130961.D
BD31857-BSD1	LCS Dup	QV130962.D

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SE30018	S3E1513	S3E1513-CCV1	QV130958.D	05/12/23 10:39

The continuing calibration verification exceeded method limits for the following analytes.

Calibration	LabNumber	Analyte	Units	Result	TrueVal	REC%	Limits		File ID
SE30018	S3E1513-CCV1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ug/L	65.0	50.0	**130**	80	120	QV130958.D
SE30018	S3E1513-CCV1	2-Butanone	ug/L	60.4	50.0	**121**	80	120	QV130958.D
SE30018	S3E1513-CCV1	Acetone	ug/L	87.7	50.0	**175**	80	120	QV130958.D
SE30018	S3E1513-CCV1	Acrolein	ug/L	68.6	50.0	**137**	80	120	QV130958.D
SE30018	S3E1513-CCV1	Bromoform	ug/L	37.7	50.0	**75.3**	80	120	QV130958.D
SE30018	S3E1513-CCV1	Bromomethane	ug/L	64.6	50.0	**129**	80	120	QV130958.D
SE30018	S3E1513-CCV1	Chloroethane	ug/L	61.3	50.0	**123**	80	120	QV130958.D
SE30018	S3E1513-CCV1	Dichlorodifluoromethane	ug/L	37.8	50.0	**75.5**	80	120	QV130958.D
SE30018	S3E1513-CCV1	tert-Butyl alcohol (TBA)	ug/L	39.0	50.0	**78.1**	80	120	QV130958.D
SE30018	S3E1513-CCV1	Trichlorofluoromethane	ug/L	63.9	50.0	**128**	80	120	QV130958.D

The following QC and or client samples were affected:

Calibration	Sequence	LabNumber	SampleName	Source Sample	File ID
SE30018	S3E1513	BD31857-BS1	LCS		QV130961.D
SE30018	S3E1513	BD31857-BSD1	LCS Dup		QV130962.D

York Analytical Work Order Narrative

EPA 8260C

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
VOA	BD31857	S3E1513	QVOA1	BD31857-BLK1	QV130963.D

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SE30018	S3E1513	BD31857-BS1	LCS	QV130961.D
SE30018	S3E1513	BD31857-BSD1	LCS Dup	QV130962.D

Sequence	SampleName	LabNumber	Analyte	DupRec%	Rec%	RPD%	REC Limits	RPD Limit
S3E1513	LCS	BD31857-BS1	Acetone		**432**		36 - 155	
S3E1513	LCS	BD31857-BS1	Bromoform		**71.5**		80 - 136	
S3E1513	LCS Dup	BD31857-BSD1	Acetone	432	**452**	4.68	36 - 155	30
S3E1513	LCS Dup	BD31857-BSD1	Bromoform	71.5	**76.1**	6.21	80 - 136	30

EPA 8260C

Dilutions: No sample dilutions were required.

EPA 8260C

Internal Standards / Surrogates

Internal Standards Issues: No issues were encountered.

Surrogate Issues: No issues were encountered.

4.0 Analysis Issues

EPA 8270D SIM

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SB30015

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SB30015	S3B0926	S3B0926	Secondary Cal Check	S3B0926-SCV1	MSBNA8	E800069043.D
SB30015	S3E1528	S3E1528	Calibration Check	S3E1528-CCV1	MSBNA8	E800070366.D
SB30015	BE30880	S3E1528	Blank	BE30880-BLK1	MSBNA8	E800070367.D
SB30015	BE30880	S3E1528	LCS	BE30880-BS1	MSBNA8	E800070368.D
SB30015	BE30880	S3E1528	EHQ_ITEM304_COMP01_230505	23E0419-11	MSBNA8	E800070371.D
SB30015	BE30880	S3E1528	EHQ_ITEM304_COMP02_230505	23E0419-12	MSBNA8	E800070372.D
SB30015	S3E1528	S3E1528	Calibration Check	S3E1528-CCV2	MSBNA8	E800070377.D
SB30015	S3E1528	S3E1528	Calibration Check	S3E1528-CCV3	MSBNA8	E800070388.D
SB30015	S3E1528	S3E1528	Calibration Check	S3E1528-CCV4	MSBNA8	E800070393.D

Initial calibration for EPA 8270D SIM met method guidelines.

EPA 8270D SI

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 8270D SIM
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SB30015	S3E1528	S3E1528-CCV1	E800070366.D	05/14/23 17:52
SB30015	S3E1528	S3E1528-CCV2	E800070377.D	05/14/23 21:06
SB30015	S3E1528	S3E1528-CCV3	E800070388.D	05/15/23 00:14
SB30015	S3E1528	S3E1528-CCV4	E800070393.D	05/15/23 01:39

The continuing calibration verification recovered within method limits.

York Analytical Work Order Narrative

EPA 8270D SIM

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
SVOA	BE30880	S3E1528	MSBNA8	BE30880-BLK1	E800070367.D

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SB30015	S3E1528	BE30880-BS1	LCS	E800070368.D

EPA 8270D SIM

Dilutions: No sample dilutions were required.

EPA 8270D SIM

Internal Standards / Surrogates

Internal Standards Issues: No issues were encountered.

Surrogate Issues: No issues were encountered.

4.0 Analysis Issues

EPA 8270D

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SE30006

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SE30006	S3E0304	S3E0304	Secondary Cal Check	S3E0304-SCV1	MSBNA9	E90025823.D
SE30006	S3E1642	S3E1642	Calibration Check	S3E1642-CCV1	MSBNA9	E90026067.D
SE30006	BE30878	S3E1642	Blank	BE30878-BLK1	MSBNA9	E90026069.D
SE30006	BE30878	S3E1642	LCS	BE30878-BS1	MSBNA9	E90026070.D
SE30006	BE30878	S3E1642	EHQ_ITEM304_COMP01_230505	23E0419-11	MSBNA9	E90026072.D
SE30006	BE30878	S3E1642	EHQ_ITEM304_COMP02_230505	23E0419-12	MSBNA9	E90026073.D

Initial calibration for EPA 8270D exceeded method guidelines.

Calibration	Intrument	Calibration Date	File ID
SE30006	MSBNA9	5/2/2023 12:50:13 AM	E90025813.D

Analyte	RSD%	RSDLim	<MinRRF	RRFLim	CorrCoeff	CCOut	SIM	CAL curve
2,4-Dinitrophenol	**24.19**	20						Avg
4,6-Dinitro-2-methylphenol	**20.87**	20						Avg
Atrazine	**49.09**	20						Avg
Parathion	**20.98**	20						Avg

The following QC and or client samples were affected:

SampleName	LabNumber	SourceSample	File ID
Secondary Cal Check	S3E0304-SCV1		E90025823.D
Calibration Check	S3E1642-CCV1		E90026067.D
LCS	BE30878-BS1		E90026070.D

York Analytical Work Order Narrative

EPA 8270D

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 8270D
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SE30006	S3E1642	S3E1642-CCV1	E90026067.D	05/15/23 09:33

The continuing calibration verification exceeded method limits for the following analytes.

Calibration	LabNumber	Analyte	Units	Result	TrueVal	REC%	Limits		File ID
SE30006	S3E1642-CCV1	1,2-Diphenylhydrazine (as Azobenzene)	ug/mL	23.3	30.0	**77.8**	80	120	E90026067.D
SE30006	S3E1642-CCV1	2,4-Dinitrophenol	ug/mL	51.0	30.0	**170**	80	120	E90026067.D
SE30006	S3E1642-CCV1	2,4-Dinitrotoluene	ug/mL	37.3	30.0	**124**	80	120	E90026067.D
SE30006	S3E1642-CCV1	4,6-Dinitro-2-methylphenol	ug/mL	49.2	30.0	**164**	80	120	E90026067.D
SE30006	S3E1642-CCV1	Alpha Terpineol	ug/mL	17.6	30.0	**58.6**	80	120	E90026067.D
SE30006	S3E1642-CCV1	Bis(2-chloroisopropyl)ether	ug/mL	10.1	30.0	**33.7**	80	120	E90026067.D
SE30006	S3E1642-CCV1	N-Nitrosodimethylamine	ug/mL	22.8	30.0	**76**	80	120	E90026067.D

The following QC and or client samples were affected:

Calibration	Sequence	LabNumber	SampleName	Source Sample	File ID
SE30006	S3E1642	BE30878-BS1	LCS		E90026070.D

EPA 8270D

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
SVOA	BE30878	S3E1642	MSBNA9	BE30878-BLK1	E90026069.D

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SE30006	S3E1642	BE30878-BS1	LCS	E90026070.D

EPA 8270D

Dilutions:

	SpecificMethod	Batch	SampleName	LabNumber	Dilution
	EPA 8270D	BE30878	EHQ_ITEM304_COMP01_230	23E0419-11	2
	EPA 8270D	BE30878	EHQ_ITEM304_COMP02_230	23E0419-12	2

EPA 8270D

Internal Standards / Surrogates

Internal Standards Issues: No issues were encountered.

Surrogate Issues:

Calibration	SampleName	LabNumber	Analyte	Rec %	Limits
SE30006	EHQ_ITEM304_COMP01_230505	23E0419-11	SURR: 2,4,6-Tribromophenol	**134**	19 - 110
SE30006	EHQ_ITEM304_COMP02_230505	23E0419-12	SURR: 2,4,6-Tribromophenol	**114**	19 - 110

4.0 Analysis Issues

EPA 1633 Draft 2

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SD30043

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SD30043	S3E1022	S3E1022	Calibration Check	S3E1022-CCV1	QQQ-2	QQQ2076920.d
SD30043	S3E1022	S3E1022	Calibration Blank	S3E1022-CCB1	QQQ-2	QQQ2076922.d
SD30043	BE30533	S3E1022	Blank	BE30533-BLK1	QQQ-2	QQQ2076923.d
SD30043	BE30533	S3E1022	LCS	BE30533-BS1	QQQ-2	QQQ2076924.d
SD30043	BE30533	S3E1022	LCS	BE30533-BS2	QQQ-2	QQQ2076925.d
SD30043	S3E1022	S3E1022	Calibration Check	S3E1022-CCV2	QQQ-2	QQQ2076933.d
SD30043	S3E1022	S3E1022	Calibration Blank	S3E1022-CCB2	QQQ-2	QQQ2076934.d
SD30043	S3E1022	S3E1022	Calibration Check	S3E1022-CCV3	QQQ-2	QQQ2076945.d
SD30043	S3E1022	S3E1022	Calibration Blank	S3E1022-CCB3	QQQ-2	QQQ2076946.d
SD30043	BE30533	S3E1022	EHQ_ITEM304_COMP01_230505 PFAS	23E0419-01	QQQ-2	QQQ2076948.d
SD30043	BE30533	S3E1022	EHQ_ITEM304_COMP02_230505 PFAS	23E0419-02	QQQ-2	QQQ2076949.d
SD30043	S3E1022	S3E1022	Calibration Check	S3E1022-CCV4	QQQ-2	QQQ2076950.d
SD30043	S3E1022	S3E1022	Calibration Blank	S3E1022-CCB4	QQQ-2	QQQ2076951.d
SD30043	S3E1762	S3E1762	Calibration Check	S3E1762-CCV1	QQQ-2	QQQ2077038.d
SD30043	S3E1762	S3E1762	Calibration Blank	S3E1762-CCB1	QQQ-2	QQQ2077040.d
SD30043	BE30673	S3E1762	Blank	BE30673-BLK1	QQQ-2	QQQ2077041.d
SD30043	BE30673	S3E1762	LCS	BE30673-BS1	QQQ-2	QQQ2077042.d
SD30043	BE30673	S3E1762	LCS	BE30673-BS2	QQQ-2	QQQ2077043.d
SD30043	BE30673	S3E1762	EHQ_ITEM304_PFASFB_230505	23E0419-03	QQQ-2	QQQ2077048.d
SD30043	BE30673	S3E1762	EHQ_ITEM304_PFASFB_230505DUP1	BE30673-DUP1	QQQ-2	QQQ2077049.d
SD30043	S3E1762	S3E1762	Calibration Check	S3E1762-CCV2	QQQ-2	QQQ2077051.d
SD30043	S3E1762	S3E1762	Calibration Blank	S3E1762-CCB2	QQQ-2	QQQ2077052.d
SD30043	S3E1762	S3E1762	Calibration Check	S3E1762-CCV3	QQQ-2	QQQ2077063.d
SD30043	S3E1762	S3E1762	Calibration Blank	S3E1762-CCB3	QQQ-2	QQQ2077064.d
SD30043	S3E1762	S3E1762	Calibration Check	S3E1762-CCV4	QQQ-2	QQQ2077070.d
SD30043	S3E1762	S3E1762	Calibration Blank	S3E1762-CCB4	QQQ-2	QQQ2077071.d

4.0 Analysis Issues

Initial calibration for EPA 1633 Draft 2 exceeded method guidelines.

Calibration	Intrument	Calibration Date	File ID
SD30043	QQQ-2	4/27/2023 6:13:17 PM	QQQ2076115.d

Analyte	RSD%	RSDLim	<MinRRF	RRFLim	CorrCoeff	CCOut	SIM	CAL curve
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	**42.06**	20						Avg
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	**33.47**	20						Avg
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	**39.30**	20						Avg
M2-4:2 FTS	**68.35**	20						Avg
M2-6:2 FTS	**73.95**	20						Avg
M2-8:2 FTS	**35.69**	20						Avg
Perfluorononanoic acid (PFNA)	**20.19**	20						Avg

The following QC and or client samples were affected:

SampleName	LabNumber	SourceSample	File ID
Calibration Check	S3E1022-CCV1		QQQ2076920.d
Calibration Blank	S3E1022-CCB1		QQQ2076922.d
Blank	BE30533-BLK1		QQQ2076923.d
LCS	BE30533-BS1		QQQ2076924.d
LCS	BE30533-BS2		QQQ2076925.d
Calibration Check	S3E1022-CCV2		QQQ2076933.d
Calibration Blank	S3E1022-CCB2		QQQ2076934.d
Calibration Check	S3E1022-CCV3		QQQ2076945.d
Calibration Blank	S3E1022-CCB3		QQQ2076946.d
EHQ_ITEM304_COMP01_2	23E0419-01		QQQ2076948.d
EHQ_ITEM304_COMP02_2	23E0419-02		QQQ2076949.d
Calibration Check	S3E1022-CCV4		QQQ2076950.d
Calibration Blank	S3E1022-CCB4		QQQ2076951.d
Calibration Check	S3E1762-CCV1		QQQ2077038.d
Calibration Blank	S3E1762-CCB1		QQQ2077040.d
Blank	BE30673-BLK1		QQQ2077041.d
LCS	BE30673-BS1		QQQ2077042.d
LCS	BE30673-BS2		QQQ2077043.d
EHQ_ITEM304_PFASFB_23	23E0419-03		QQQ2077048.d
Duplicate	BE30673-DUP1	EHQ_ITEM304_PFASF	QQQ2077049.d
Calibration Check	S3E1762-CCV2		QQQ2077051.d
Calibration Blank	S3E1762-CCB2		QQQ2077052.d
Calibration Check	S3E1762-CCV3		QQQ2077063.d
Calibration Blank	S3E1762-CCB3		QQQ2077064.d
Calibration Check	S3E1762-CCV4		QQQ2077070.d
Calibration Blank	S3E1762-CCB4		QQQ2077071.d

York Analytical Work Order Narrative

EPA 1633 Draft

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 1633 Draft 2
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SD30043	S3E1022	S3E1022-CCV1	QQQ2076920.d	05/10/23 11:21
SD30043	S3E1022	S3E1022-CCV2	QQQ2076933.d	05/10/23 14:32
SD30043	S3E1022	S3E1022-CCV3	QQQ2076945.d	05/10/23 17:22
SD30043	S3E1022	S3E1022-CCV4	QQQ2076950.d	05/10/23 18:23
SD30043	S3E1762	S3E1762-CCV1	QQQ2077038.d	05/17/23 09:39
SD30043	S3E1762	S3E1762-CCV2	QQQ2077051.d	05/17/23 13:19
SD30043	S3E1762	S3E1762-CCV3	QQQ2077063.d	05/17/23 15:46
SD30043	S3E1762	S3E1762-CCV4	QQQ2077070.d	05/17/23 17:15

The continuing calibration verification exceeded method limits for the following analytes.

Calibration	LabNumber	Analyte	Units	Result	TrueVal	REC%	Limits		File ID
SD30043	S3E1022-CCV1	Perfluorononanoic acid (PFNA)	ng/mL	1.36	2.50	**54.3**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	Perfluoroundecanoic acid (PFUnA)	ng/mL	3.39	2.50	**136**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	58.2	12.5	**466**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	13.6	62.6	**21.8**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	M3PFBS	ng/mL	3.27	2.33	**140**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	M3PFHxS	ng/mL	3.49	2.37	**147**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	M2-6:2 FTS	ng/mL	7.29	4.76	**153**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	M9PFNA	ng/mL	1.80	1.25	**144**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	M2-4:2 FTS	ng/mL	7.22	4.69	**154**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV1	d-N-EtFOSA	ng/mL	4.16	2.50	**166**	70	130	QQQ2076920.d
SD30043	S3E1022-CCV2	Perfluoroundecanoic acid (PFUnA)	ng/mL	3.48	2.50	**139**	70	130	QQQ2076933.d
SD30043	S3E1022-CCV2	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	59.7	12.5	**477**	70	130	QQQ2076933.d
SD30043	S3E1022-CCV2	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	12.6	62.6	**20.2**	70	130	QQQ2076933.d
SD30043	S3E1022-CCV2	d-N-EtFOSA	ng/mL	3.84	2.50	**153**	70	130	QQQ2076933.d
SD30043	S3E1022-CCV3	Perfluorooctanesulfonic acid (PFOS)	ng/mL	3.11	2.32	**134**	70	130	QQQ2076945.d
SD30043	S3E1022-CCV3	Perfluoroundecanoic acid (PFUnA)	ng/mL	3.54	2.50	**141**	70	130	QQQ2076945.d
SD30043	S3E1022-CCV3	Perfluorododecanoic acid (PFDoA)	ng/mL	1.68	2.50	**67.1**	70	130	QQQ2076945.d
SD30043	S3E1022-CCV3	Perfluoro-1-decanesulfonic acid (PFDS)	ng/mL	3.57	2.41	**148**	70	130	QQQ2076945.d
SD30043	S3E1022-CCV3	Perfluorododecanesulfonic acid (PFDoS)	ng/mL	3.43	2.42	**142**	70	130	QQQ2076945.d
SD30043	S3E1022-CCV3	Perfluoro-1-nonanesulfonic acid (PFNS)	ng/mL	3.45	2.40	**144**	70	130	QQQ2076945.d
SD30043	S3E1022-CCV3	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	55.7	12.5	**446**	70	130	QQQ2076945.d

SD30043	S3E1022-CCV3	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	13.5	62.6	**21.6**	70	130	QQQ2076945.d
SD30043	S3E1022-CCV4	Perfluorooctanesulfonic acid (PFOS)	ng/mL	3.36	2.32	**145**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	Perfluoroundecanoic acid (PFUnA)	ng/mL	3.63	2.50	**145**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	Perfluoro-1-heptanesulfonic acid (PFHpS)	ng/mL	3.67	2.38	**154**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	Perfluoro-1-decanesulfonic acid (PFDS)	ng/mL	4.29	2.41	**178**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	Perfluorododecanesulfonic acid (PFDoS)	ng/mL	4.45	2.42	**184**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	Perfluoro-1-nonanesulfonic acid (PFNS)	ng/mL	3.83	2.40	**160**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	55.6	12.5	**445**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	13.6	62.6	**21.7**	70	130	QQQ2076950.d
SD30043	S3E1022-CCV4	d-N-EtFOSA	ng/mL	3.67	2.50	**147**	70	130	QQQ2076950.d
SD30043	S3E1762-CCV1	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	60.4	12.5	**483**	70	130	QQQ2077038.d
SD30043	S3E1762-CCV1	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	12.0	62.6	**19.1**	70	130	QQQ2077038.d
SD30043	S3E1762-CCV1	N-EtFOSA	ng/mL	1.03	2.50	**41.4**	70	130	QQQ2077038.d
SD30043	S3E1762-CCV1	M2-6:2 FTS	ng/mL	7.73	4.76	**162**	70	130	QQQ2077038.d
SD30043	S3E1762-CCV1	M2-4:2 FTS	ng/mL	7.55	4.69	**161**	70	130	QQQ2077038.d
SD30043	S3E1762-CCV1	d-N-EtFOSA	ng/mL	6.40	2.50	**256**	70	130	QQQ2077038.d
SD30043	S3E1762-CCV2	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ng/mL	12.9	9.60	**134**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	Perfluorododecanesulfonic acid (PFDoS)	ng/mL	3.19	2.42	**132**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	Perfluoro-1-nonanesulfonic acid (PFNS)	ng/mL	3.24	2.40	**135**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	58.2	12.5	**465**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	10.7	62.6	**17.1**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	N-EtFOSA	ng/mL	1.19	2.50	**47.7**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	M2-6:2 FTS	ng/mL	6.85	4.76	**144**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	M2-8:2 FTS	ng/mL	3.32	4.80	**69.1**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	M2-4:2 FTS	ng/mL	6.63	4.69	**141**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV2	d-N-EtFOSA	ng/mL	5.90	2.50	**236**	70	130	QQQ2077051.d
SD30043	S3E1762-CCV3	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	58.4	12.5	**467**	70	130	QQQ2077063.d
SD30043	S3E1762-CCV3	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	11.1	62.6	**17.7**	70	130	QQQ2077063.d
SD30043	S3E1762-CCV3	N-EtFOSA	ng/mL	1.09	2.50	**43.4**	70	130	QQQ2077063.d
SD30043	S3E1762-CCV3	Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	ng/mL	3.53	2.40	**147**	70	130	QQQ2077063.d
SD30043	S3E1762-CCV3	M2-6:2 FTS	ng/mL	7.43	4.76	**156**	70	130	QQQ2077063.d
SD30043	S3E1762-CCV3	M2-4:2 FTS	ng/mL	6.38	4.69	**136**	70	130	QQQ2077063.d
SD30043	S3E1762-CCV3	d-N-EtFOSA	ng/mL	6.73	2.50	**269**	70	130	QQQ2077063.d
SD30043	S3E1762-CCV4	Perfluoroundecanoic acid (PFUnA)	ng/mL	3.43	2.50	**137**	70	130	QQQ2077070.d

SD30043	S3E1762-CCV4	Perfluoro-1-octanesulfonamide (FOSA)	ng/mL	1.65	2.50	**65.9**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	Perfluoro-1-heptanesulfonic acid (PFHpS)	ng/mL	3.18	2.38	**134**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	Perfluorododecanesulfonic acid (PFDoS)	ng/mL	3.30	2.42	**136**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	Perfluoro-1-nonanesulfonic acid (PFNS)	ng/mL	3.58	2.40	**149**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	3-Perfluoropropyl propanoic acid (FPrPA)	ng/mL	61.7	12.5	**494**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	3-Perfluoroheptyl propanoic acid (FHpPA)	ng/mL	10.7	62.6	**17.1**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	N-MeFOSA	ng/mL	3.56	2.50	**142**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	N-EtFOSA	ng/mL	1.27	2.50	**50.7**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	M2-6:2 FTS	ng/mL	7.36	4.76	**155**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	M2-4:2 FTS	ng/mL	6.67	4.69	**142**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	d-N-MeFOSA	ng/mL	1.73	2.50	**69.3**	70	130	QQQ2077070.d
SD30043	S3E1762-CCV4	d-N-EtFOSA	ng/mL	5.93	2.50	**237**	70	130	QQQ2077070.d

The following QC and or client samples were affected:

Calibration	Sequence	LabNumber	SampleName	Source Sample	File ID
SD30043	S3E1022	S3E1022-CCB1	Calibration Blank		QQQ2076922.d
SD30043	S3E1022	BE30533-BLK1	Blank		QQQ2076923.d
SD30043	S3E1022	BE30533-BS1	LCS		QQQ2076924.d
SD30043	S3E1022	BE30533-BS2	LCS		QQQ2076925.d
SD30043	S3E1022	S3E1022-CCB2	Calibration Blank		QQQ2076934.d
SD30043	S3E1022	S3E1022-CCB3	Calibration Blank		QQQ2076946.d
SD30043	S3E1022	23E0419-01	EHQ_ITEM304_COMP		QQQ2076948.d
SD30043	S3E1022	23E0419-02	EHQ_ITEM304_COMP		QQQ2076949.d
SD30043	S3E1022	S3E1022-CCB4	Calibration Blank		QQQ2076951.d
SD30043	S3E1762	S3E1762-CCB1	Calibration Blank		QQQ2077040.d
SD30043	S3E1762	BE30673-BLK1	Blank		QQQ2077041.d
SD30043	S3E1762	BE30673-BS1	LCS		QQQ2077042.d
SD30043	S3E1762	BE30673-BS2	LCS		QQQ2077043.d
SD30043	S3E1762	23E0419-03	EHQ_ITEM304_PFASF		QQQ2077048.d
SD30043	S3E1762	BE30673-DUP1	Duplicate	EHQ_ITEM304_PF	QQQ2077049.d
SD30043	S3E1762	S3E1762-CCB2	Calibration Blank		QQQ2077052.d
SD30043	S3E1762	S3E1762-CCB3	Calibration Blank		QQQ2077064.d
SD30043	S3E1762	S3E1762-CCB4	Calibration Blank		QQQ2077071.d

EPA 1633 Draft 2

Batch QC

Method Blank-

	Batch	Sequence	Instrument	Blank	FileID
PFAS	BE30533	S3E1022	QQQ-2	BE30533-BLK1	QQQ2076923.d
PFAS	BE30673	S3E1762	QQQ-2	BE30673-BLK1	QQQ2077041.d

Sequence	SampleName	LabNumber	Matrix	Analyte	Result	MRL	RptUnits
S3E1762	Blank	BE30673-BLK1	Water	Perfluorooctanoic acid (PFO	0.875	4.00	ng/L
S3E1762	Blank	BE30673-BLK1	Water	ADONA	1.15	15.1	ng/L

The following QC and or client samples had positive(s) in associated blanks:

Batch	LabNumber	SampleName	File ID
BE30673	BE30673-BS1	LCS	QQQ2077042.d
BE30673	BE30673-BS2	LCS	QQQ2077043.d

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SD30043	S3E1022	BE30533-BS1	LCS	QQQ2076924.d
SD30043	S3E1022	BE30533-BS2	LCS	QQQ2076925.d
SD30043	S3E1762	BE30673-BS1	LCS	QQQ2077042.d
SD30043	S3E1762	BE30673-BS2	LCS	QQQ2077043.d

Sequence	SampleName	LabNumber	Analyte	DupRec%	Rec%	RPD%	REC Limits	RPD Limit
S3E1022	LCS	BE30533-BS1	3-Perfluoropropyl propanoic acid (FPrPA)		**367**		50 - 150	
S3E1022	LCS	BE30533-BS1	3-Perfluoroheptyl propanoic acid (FHpPA)		**20.3**		50 - 150	
S3E1022	LCS	BE30533-BS1	N-EtFOSA		**35.7**		50 - 150	
S3E1022	LCS	BE30533-BS2	N-MeFOSAA		**162**		50 - 150	
S3E1022	LCS	BE30533-BS2	11CL-PF3OUdS		**49.7**		50 - 150	
S3E1022	LCS	BE30533-BS2	3-Perfluoropropyl propanoic acid (FPrPA)		**330**		50 - 150	
S3E1022	LCS	BE30533-BS2	3-Perfluoroheptyl propanoic acid (FHpPA)		**16.6**		50 - 150	
S3E1762	LCS	BE30673-BS1	3-Perfluoropropyl propanoic acid (FPrPA)		**445**		50 - 150	
S3E1762	LCS	BE30673-BS1	3-Perfluoroheptyl propanoic acid (FHpPA)		**16.7**		50 - 150	
S3E1762	LCS	BE30673-BS1	N-EtFOSA		**20.9**		50 - 150	
S3E1762	LCS	BE30673-BS2	3-Perfluoropropyl propanoic acid (FPrPA)		**440**		50 - 150	
S3E1762	LCS	BE30673-BS2	3-Perfluoroheptyl propanoic acid (FHpPA)		**18.4**		50 - 150	
S3E1762	LCS	BE30673-BS2	N-EtFOSA		**0**		50 - 150	

EPA 1633 Draft 2

Matrix Spike, Matrix Spike Duplicate and/or Sample Duplicate-

MS/MSD/Duplicate analysis was performed on sample;

AnaClass	Cal	Batch	Sequence	SampleName	Sample	SourceSample	LabNumber
PFAS	**SD30043**	BE30673	S3E1762	EHQ_ITEM304_PFASFB_2	23E0419-03	EHQ_ITEM304_PFAS	BE30673-DUP1

Sequence	SourceSample	LabNumber	Analyte	Units	DupRec%	Rec%	RPD	Limits	RPD Lim
S3E1762	EHQ_ITEM304_PFASFB_230505	BE30673-DUP1	d-N-EtFOSA	ng/L	312	327		25 - 150	
S3E1762	EHQ_ITEM304_PFASFB_230505	BE30673-DUP1	d9-N-EtFOSE	ng/L	22.6	10.5		25 - 150	
S3E1762	EHQ_ITEM304_PFASFB_230505	BE30673-DUP1	d7-N-MeFOSE	ng/L	33.0	17.8		25 - 150	

Dilutions: No sample dilutions were required.

York Analytical Work Order Narrative

EPA 1633 Draft 2

Internal Standards / Surrogates

Internal Standards Issues:

Surrogate Issues:

Batch	Instrument	Calibration	SampleName	LabNumber	Analyte	ISArea%	ISCVRTDiff
BE30533	QQQ-2	**SD30043**	EHQ_ITEM304_COMP01_230505 PFAS	23E0419-01	Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	208	0.0000
BE30533	QQQ-2	**SD30043**	Blank	BE30533-BLK1	Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	46	0.0000
BE30533	QQQ-2	**SD30043**	Blank	BE30533-BLK1	M6PFDA-EIS	47	-0.0093
BE30673	QQQ-2	**SD30043**	EHQ_ITEM304_PFAS_B_230505	23E0419-03	M2PFTeDA-EIS	21	0.0000
BE30673	QQQ-2	**SD30043**	Duplicate	BE30673-DUP1	M2PFTeDA-EIS	23	-0.0093
BE30673	QQQ-2	**SD30043**	Blank	BE30673-BLK1	M2-6-2FTS-EIS	204	0.0093
BE30673	QQQ-2	**SD30043**	Blank	BE30673-BLK1	d9-NEtFOSE-EIS	45	0.0000
BE30533	QQQ-2	**SD30043**	LCS	BE30533-BS2	d9-NEtFOSE-EIS	46	0.0000
BE30673	QQQ-2	**SD30043**	EHQ_ITEM304_PFAS_B_230505	23E0419-03	d9-NEtFOSE-EIS	16	0.0000
BE30533	QQQ-2	**SD30043**	Blank	BE30533-BLK1	d9-NEtFOSE-EIS	45	0.0000
BE30673	QQQ-2	**SD30043**	Duplicate	BE30673-DUP1	d9-NEtFOSE-EIS	9	0.0000
BE30533	QQQ-2	**SD30043**	LCS	BE30533-BS2	d7-NMeFOSE-EIS	44	0.0000
BE30533	QQQ-2	**SD30043**	Blank	BE30533-BLK1	d7-NMeFOSE-EIS	46	0.0000
BE30673	QQQ-2	**SD30043**	Duplicate	BE30673-DUP1	d7-NMeFOSE-EIS	14	0.0000
BE30673	QQQ-2	**SD30043**	EHQ_ITEM304_PFAS_B_230505	23E0419-03	d7-NMeFOSE-EIS	22	0.0092
BE30673	QQQ-2	**SD30043**	LCS	BE30673-BS2	d5-NEtFOSA-EIS	262	0.0000
BE30673	QQQ-2	**SD30043**	Blank	BE30673-BLK1	d5-NEtFOSA-EIS	488	-0.0093
BE30673	QQQ-2	**SD30043**	LCS	BE30673-BS1	d5-NEtFOSA-EIS	297	0.0000
BE30673	QQQ-2	**SD30043**	EHQ_ITEM304_PFAS_B_230505	23E0419-03	d5-NEtFOSA-EIS	222	-0.0371
BE30673	QQQ-2	**SD30043**	Duplicate	BE30673-DUP1	d5-NEtFOSA-EIS	267	0.0000
BE30673	QQQ-2	**SD30043**	EHQ_ITEM304_PFAS_B_230505	23E0419-03	d5-N-EtFOSAA-EIS	43	0.0000
BE30673	QQQ-2	**SD30043**	Duplicate	BE30673-DUP1	d5-N-EtFOSAA-EIS	45	0.0000
BE30533	QQQ-2	**SD30043**	Blank	BE30533-BLK1	d3-NMeFOSA-EIS	44	0.0092
BE30673	QQQ-2	**SD30043**	EHQ_ITEM304_PFAS_B_230505	23E0419-03	d3-NMeFOSA-EIS	31	0.0092
BE30533	QQQ-2	**SD30043**	EHQ_ITEM304_COMP01_230505 PFAS	23E0419-01	d3-NMeFOSA-EIS	43	-0.0093
BE30673	QQQ-2	**SD30043**	Duplicate	BE30673-DUP1	d3-NMeFOSA-EIS	32	0.0000
BE30673	QQQ-2	**SD30043**	LCS	BE30673-BS1	d3-NMeFOSA-EIS	44	0.0000
BE30673	QQQ-2	**SD30043**	Duplicate	BE30673-DUP1	d3-N-MeFOSAA-EIS	46	-0.0093

Calibration	SampleName	LabNumber	Analyte	Rec %	Limits
SD30043	Blank	BE30533-BLK1	d-N-EtFOSA	**191**	25 - 150
SD30043	LCS	BE30533-BS1	d-N-EtFOSA	**173**	25 - 150
SD30043	EHQ_ITEM304_COMP01_230505 PFAS	23E0419-01	M9PFNA	**161**	25 - 150
SD30043	Blank	BE30673-BLK1	M2-6:2 FTS	**299**	25 - 200
SD30043	Blank	BE30673-BLK1	M9PFNA	**153**	25 - 150
SD30043	Blank	BE30673-BLK1	M2-4:2 FTS	**218**	25 - 150

SD30043	Blank	BE30673-BLK1	d-N-EtFOSA	**609**	25 - 150
SD30043	LCS	BE30673-BS1	M2-6:2 FTS	**217**	25 - 200
SD30043	LCS	BE30673-BS1	M2-4:2 FTS	**214**	25 - 150
SD30043	LCS	BE30673-BS1	d-N-EtFOSA	**352**	25 - 150
SD30043	LCS	BE30673-BS2	M2-4:2 FTS	**156**	25 - 150
SD30043	LCS	BE30673-BS2	d-N-EtFOSA	**280**	25 - 150
SD30043	EHQ_ITEM304_PFASFB_230505	23E0419-03	Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	**151**	25 - 150
SD30043	EHQ_ITEM304_PFASFB_230505	23E0419-03	d-N-EtFOSA	**312**	25 - 150
SD30043	EHQ_ITEM304_PFASFB_230505	23E0419-03	d9-N-EtFOSE	**22.6**	25 - 150
SD30043	Duplicate	BE30673-DUP1	d-N-EtFOSA	**327**	25 - 150
SD30043	Duplicate	BE30673-DUP1	d9-N-EtFOSE	**10.5**	25 - 150
SD30043	Duplicate	BE30673-DUP1	d7-N-MeFOSE	**17.8**	25 - 150
SD30043	Calibration Check	S3E1022-CCV1	M3PFBS	**140**	70 - 130
SD30043	Calibration Check	S3E1022-CCV1	M3PFHxS	**147**	70 - 130
SD30043	Calibration Check	S3E1022-CCV1	M2-6:2 FTS	**153**	70 - 130
SD30043	Calibration Check	S3E1022-CCV1	M9PFNA	**144**	70 - 130
SD30043	Calibration Check	S3E1022-CCV1	M2-4:2 FTS	**154**	70 - 130
SD30043	Calibration Check	S3E1022-CCV1	d-N-EtFOSA	**166**	70 - 130
SD30043	Calibration Check	S3E1022-CCV2	d-N-EtFOSA	**153**	70 - 130
SD30043	Calibration Blank	S3E1022-CCB2	d-N-EtFOSA	**164**	25 - 150
SD30043	Calibration Check	S3E1022-CCV4	d-N-EtFOSA	**147**	70 - 130
SD30043	Calibration Blank	S3E1022-CCB4	d-N-EtFOSA	**161**	25 - 150
SD30043	Calibration Check	S3E1762-CCV1	M2-6:2 FTS	**162**	70 - 130
SD30043	Calibration Check	S3E1762-CCV1	M2-4:2 FTS	**161**	70 - 130
SD30043	Calibration Check	S3E1762-CCV1	d-N-EtFOSA	**256**	70 - 130
SD30043	Calibration Blank	S3E1762-CCB1	d-N-EtFOSA	**244**	25 - 150
SD30043	Calibration Check	S3E1762-CCV2	M2-6:2 FTS	**144**	70 - 130
SD30043	Calibration Check	S3E1762-CCV2	M2-8:2 FTS	**69.1**	70 - 130
SD30043	Calibration Check	S3E1762-CCV2	M2-4:2 FTS	**141**	70 - 130
SD30043	Calibration Check	S3E1762-CCV2	d-N-EtFOSA	**236**	70 - 130
SD30043	Calibration Blank	S3E1762-CCB2	M2-4:2 FTS	**164**	25 - 150
SD30043	Calibration Blank	S3E1762-CCB2	d-N-EtFOSA	**221**	25 - 150
SD30043	Calibration Check	S3E1762-CCV3	Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	**147**	70 - 130
SD30043	Calibration Check	S3E1762-CCV3	M2-6:2 FTS	**156**	70 - 130
SD30043	Calibration Check	S3E1762-CCV3	M2-4:2 FTS	**136**	70 - 130
SD30043	Calibration Check	S3E1762-CCV3	d-N-EtFOSA	**269**	70 - 130
SD30043	Calibration Blank	S3E1762-CCB3	d-N-EtFOSA	**220**	25 - 150
SD30043	Calibration Check	S3E1762-CCV4	M2-6:2 FTS	**155**	70 - 130
SD30043	Calibration Check	S3E1762-CCV4	M2-4:2 FTS	**142**	70 - 130
SD30043	Calibration Check	S3E1762-CCV4	d-N-MeFOSA	**69.3**	70 - 130
SD30043	Calibration Check	S3E1762-CCV4	d-N-EtFOSA	**237**	70 - 130
SD30043	Calibration Blank	S3E1762-CCB4	d-N-EtFOSA	**276**	25 - 150

4.0 Analysis Issues

EPA 8081B

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SE30027

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SE30027	S3E1644	S3E1644	Performance Mix	S3E1644-PEM1	GCECD6	P60040939.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV1	GCECD6	P60040941.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV2	GCECD6	P60040942.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV3	GCECD6	P60040943.D
SE30027	BE30881	S3E1644	Blank	BE30881-BLK1	GCECD6	P60040944.D
SE30027	BE30881	S3E1644	LCS	BE30881-BS1	GCECD6	P60040945.D
SE30027	BE30881	S3E1644	EHQ_ITEM304_COMP01_230505	23E0419-11	GCECD6	P60040950.D
SE30027	BE30881	S3E1644	EHQ_ITEM304_COMP02_230505	23E0419-12	GCECD6	P60040951.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV4	GCECD6	P60040959.D
SE30027	S3E1644	S3E1644	Performance Mix	S3E1644-PEM2	GCECD6	P60040960.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV5	GCECD6	P60040961.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV6	GCECD6	P60040973.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV7	GCECD6	P60040985.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV8	GCECD6	P60040998.D
SE30027	S3E1644	S3E1644	Calibration Check	S3E1644-CCV9	GCECD6	P60041010.D

Initial calibration for EPA 8081B met method guidelines.

York Analytical Work Order Narrative

EPA 8081B

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 8081B
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SE30027	S3E1644	S3E1644-CCV1	P60040941.D	05/16/23 10:17
SE30027	S3E1644	S3E1644-CCV2	P60040942.D	05/16/23 10:36
SE30027	S3E1644	S3E1644-CCV3	P60040943.D	05/16/23 10:55
SE30027	S3E1644	S3E1644-CCV4	P60040959.D	05/16/23 16:07
SE30027	S3E1644	S3E1644-CCV5	P60040961.D	05/16/23 16:58
SE30027	S3E1644	S3E1644-CCV6	P60040973.D	05/16/23 20:56
SE30027	S3E1644	S3E1644-CCV7	P60040985.D	05/17/23 00:46
SE30027	S3E1644	S3E1644-CCV8	P60040998.D	05/17/23 04:55
SE30027	S3E1644	S3E1644-CCV9	P60041010.D	05/17/23 08:44

The continuing calibration verification exceeded method limits for the following analytes.

Calibration	LabNumber	Analyte	Units	Result	TrueVal	REC%	Limits	File ID
SE30027	S3E1644-CCV1	4,4'-DDD [2C]	ng/mL	50.2	50.0	**100**		P60040941.D
SE30027	S3E1644-CCV1	4,4'-DDE [2C]	ng/mL	52.9	50.0	**106**		P60040941.D
SE30027	S3E1644-CCV1	4,4'-DDT [2C]	ng/mL	41.5	50.0	**83.1**		P60040941.D
SE30027	S3E1644-CCV1	Aldrin [2C]	ng/mL	47.5	50.0	**95**		P60040941.D
SE30027	S3E1644-CCV1	alpha-BHC [2C]	ng/mL	52.5	50.0	**105**		P60040941.D
SE30027	S3E1644-CCV1	alpha-Chlordane [2C]	ng/mL	52.5	50.0	**105**		P60040941.D
SE30027	S3E1644-CCV1	beta-BHC [2C]	ng/mL	54.9	50.0	**110**		P60040941.D
SE30027	S3E1644-CCV1	delta-BHC [2C]	ng/mL	47.8	50.0	**95.7**		P60040941.D
SE30027	S3E1644-CCV1	Dieldrin [2C]	ng/mL	51.8	50.0	**104**		P60040941.D
SE30027	S3E1644-CCV1	Endosulfan I [2C]	ng/mL	51.2	50.0	**102**		P60040941.D
SE30027	S3E1644-CCV1	Endosulfan II [2C]	ng/mL	51.4	50.0	**103**		P60040941.D
SE30027	S3E1644-CCV1	Endosulfan sulfate [2C]	ng/mL	53.1	50.0	**106**		P60040941.D
SE30027	S3E1644-CCV1	Endrin [2C]	ng/mL	51.4	50.0	**103**		P60040941.D
SE30027	S3E1644-CCV1	Endrin aldehyde [2C]	ng/mL	53.9	50.0	**108**		P60040941.D
SE30027	S3E1644-CCV1	Endrin ketone [2C]	ng/mL	53.3	50.0	**107**		P60040941.D
SE30027	S3E1644-CCV1	gamma-BHC (Lindane) [2C]	ng/mL	53.1	50.0	**106**		P60040941.D
SE30027	S3E1644-CCV1	gamma-Chlordane [2C]	ng/mL	52.3	50.0	**105**		P60040941.D
SE30027	S3E1644-CCV1	Heptachlor [2C]	ng/mL	42.2	50.0	**84.4**		P60040941.D
SE30027	S3E1644-CCV1	Heptachlor epoxide [2C]	ng/mL	51.3	50.0	**103**		P60040941.D
SE30027	S3E1644-CCV1	Methoxychlor [2C]	ng/mL	41.9	50.0	**83.7**		P60040941.D
SE30027	S3E1644-CCV1	Decachlorobiphenyl	ng/mL	137	160	**85.4**		P60040941.D
SE30027	S3E1644-CCV1	Decachlorobiphenyl [2C]	ng/mL	171	160	**107**		P60040941.D
SE30027	S3E1644-CCV1	Tetrachloro-m-xylene	ng/mL	135	160	**84.1**		P60040941.D
SE30027	S3E1644-CCV1	Tetrachloro-m-xylene [2C]	ng/mL	154	160	**96.3**		P60040941.D
SE30027	S3E1644-CCV3	Toxaphene	ng/mL	2130	2000	**107**		P60040943.D
SE30027	S3E1644-CCV3	Toxaphene [2C]	ng/mL	2280	2000	**114**		P60040943.D
SE30027	S3E1644-CCV4	4,4'-DDD [2C]	ng/mL	57.1	50.0	**114**		P60040959.D
SE30027	S3E1644-CCV4	4,4'-DDE [2C]	ng/mL	57.5	50.0	**115**		P60040959.D
SE30027	S3E1644-CCV4	4,4'-DDT [2C]	ng/mL	52.8	50.0	**106**		P60040959.D
SE30027	S3E1644-CCV4	Aldrin [2C]	ng/mL	55.4	50.0	**111**		P60040959.D

SE30027	S3E1644-CCV4	alpha-BHC [2C]	ng/mL	58.1	50.0	**116**	P60040959.D
SE30027	S3E1644-CCV4	alpha-Chlordane [2C]	ng/mL	56.6	50.0	**113**	P60040959.D
SE30027	S3E1644-CCV4	beta-BHC [2C]	ng/mL	59.7	50.0	**119**	P60040959.D
SE30027	S3E1644-CCV4	delta-BHC [2C]	ng/mL	53.6	50.0	**107**	P60040959.D
SE30027	S3E1644-CCV4	Dieldrin [2C]	ng/mL	56.7	50.0	**113**	P60040959.D
SE30027	S3E1644-CCV4	Endosulfan I [2C]	ng/mL	55.4	50.0	**111**	P60040959.D
SE30027	S3E1644-CCV4	Endosulfan II [2C]	ng/mL	58.1	50.0	**116**	P60040959.D
SE30027	S3E1644-CCV4	Endosulfan sulfate [2C]	ng/mL	60.2	50.0	**120**	P60040959.D
SE30027	S3E1644-CCV4	Endrin [2C]	ng/mL	56.6	50.0	**113**	P60040959.D
SE30027	S3E1644-CCV4	Endrin aldehyde [2C]	ng/mL	57.7	50.0	**115**	P60040959.D
SE30027	S3E1644-CCV4	Endrin ketone [2C]	ng/mL	60.4	50.0	**121**	P60040959.D
SE30027	S3E1644-CCV4	gamma-BHC (Lindane) [2C]	ng/mL	58.5	50.0	**117**	P60040959.D
SE30027	S3E1644-CCV4	gamma-Chlordane [2C]	ng/mL	55.5	50.0	**111**	P60040959.D
SE30027	S3E1644-CCV4	Heptachlor [2C]	ng/mL	48.2	50.0	**96.5**	P60040959.D
SE30027	S3E1644-CCV4	Heptachlor epoxide [2C]	ng/mL	55.3	50.0	**111**	P60040959.D
SE30027	S3E1644-CCV4	Methoxychlor [2C]	ng/mL	57.3	50.0	**115**	P60040959.D
SE30027	S3E1644-CCV4	Decachlorobiphenyl	ng/mL	152	160	**95**	P60040959.D
SE30027	S3E1644-CCV4	Decachlorobiphenyl [2C]	ng/mL	194	160	**121**	P60040959.D
SE30027	S3E1644-CCV4	Tetrachloro-m-xylene	ng/mL	141	160	**88.3**	P60040959.D
SE30027	S3E1644-CCV4	Tetrachloro-m-xylene [2C]	ng/mL	159	160	**99.6**	P60040959.D
SE30027	S3E1644-CCV5	4,4'-DDD [2C]	ng/mL	56.4	50.0	**113**	P60040961.D
SE30027	S3E1644-CCV5	4,4'-DDE [2C]	ng/mL	57.3	50.0	**115**	P60040961.D
SE30027	S3E1644-CCV5	4,4'-DDT [2C]	ng/mL	45.9	50.0	**91.7**	P60040961.D
SE30027	S3E1644-CCV5	Aldrin [2C]	ng/mL	56.4	50.0	**113**	P60040961.D
SE30027	S3E1644-CCV5	alpha-BHC [2C]	ng/mL	58.2	50.0	**116**	P60040961.D
SE30027	S3E1644-CCV5	alpha-Chlordane [2C]	ng/mL	56.7	50.0	**113**	P60040961.D
SE30027	S3E1644-CCV5	beta-BHC [2C]	ng/mL	56.4	50.0	**113**	P60040961.D
SE30027	S3E1644-CCV5	delta-BHC [2C]	ng/mL	56.4	50.0	**113**	P60040961.D
SE30027	S3E1644-CCV5	Dieldrin [2C]	ng/mL	56.7	50.0	**113**	P60040961.D
SE30027	S3E1644-CCV5	Endosulfan I [2C]	ng/mL	58.2	50.0	**116**	P60040961.D
SE30027	S3E1644-CCV5	Endosulfan II [2C]	ng/mL	57.1	50.0	**114**	P60040961.D
SE30027	S3E1644-CCV5	Endosulfan sulfate [2C]	ng/mL	58.4	50.0	**117**	P60040961.D
SE30027	S3E1644-CCV5	Endrin [2C]	ng/mL	55.9	50.0	**112**	P60040961.D
SE30027	S3E1644-CCV5	Endrin aldehyde [2C]	ng/mL	58.3	50.0	**117**	P60040961.D
SE30027	S3E1644-CCV5	Endrin ketone [2C]	ng/mL	57.4	50.0	**115**	P60040961.D
SE30027	S3E1644-CCV5	gamma-BHC (Lindane) [2C]	ng/mL	58.6	50.0	**117**	P60040961.D
SE30027	S3E1644-CCV5	gamma-Chlordane [2C]	ng/mL	56.4	50.0	**113**	P60040961.D
SE30027	S3E1644-CCV5	Heptachlor [2C]	ng/mL	57.0	50.0	**114**	P60040961.D
SE30027	S3E1644-CCV5	Heptachlor epoxide [2C]	ng/mL	55.6	50.0	**111**	P60040961.D
SE30027	S3E1644-CCV5	Methoxychlor [2C]	ng/mL	46.3	50.0	**92.6**	P60040961.D
SE30027	S3E1644-CCV5	Decachlorobiphenyl	ng/mL	145	160	**90.9**	P60040961.D
SE30027	S3E1644-CCV5	Decachlorobiphenyl [2C]	ng/mL	179	160	**112**	P60040961.D
SE30027	S3E1644-CCV5	Tetrachloro-m-xylene	ng/mL	143	160	**89.2**	P60040961.D
SE30027	S3E1644-CCV5	Tetrachloro-m-xylene [2C]	ng/mL	160	160	**100**	P60040961.D
SE30027	S3E1644-CCV6	4,4'-DDD [2C]	ng/mL	46.4	50.0	**92.8**	P60040973.D
SE30027	S3E1644-CCV6	4,4'-DDE [2C]	ng/mL	47.4	50.0	**94.7**	P60040973.D
SE30027	S3E1644-CCV6	4,4'-DDT [2C]	ng/mL	55.1	50.0	**110**	P60040973.D
SE30027	S3E1644-CCV6	Aldrin [2C]	ng/mL	47.5	50.0	**95**	P60040973.D
SE30027	S3E1644-CCV6	alpha-BHC [2C]	ng/mL	48.0	50.0	**96.1**	P60040973.D
SE30027	S3E1644-CCV6	alpha-Chlordane [2C]	ng/mL	47.5	50.0	**95.1**	P60040973.D

SE30027	S3E1644-CCV6	beta-BHC [2C]	ng/mL	48.6	50.0	**97.3**	P60040973.D
SE30027	S3E1644-CCV6	delta-BHC [2C]	ng/mL	46.1	50.0	**92.3**	P60040973.D
SE30027	S3E1644-CCV6	Dieldrin [2C]	ng/mL	47.2	50.0	**94.3**	P60040973.D
SE30027	S3E1644-CCV6	Endosulfan I [2C]	ng/mL	47.9	50.0	**95.9**	P60040973.D
SE30027	S3E1644-CCV6	Endosulfan II [2C]	ng/mL	46.6	50.0	**93.2**	P60040973.D
SE30027	S3E1644-CCV6	Endosulfan sulfate [2C]	ng/mL	45.1	50.0	**90.1**	P60040973.D
SE30027	S3E1644-CCV6	Endrin [2C]	ng/mL	46.9	50.0	**93.8**	P60040973.D
SE30027	S3E1644-CCV6	Endrin aldehyde [2C]	ng/mL	46.4	50.0	**92.8**	P60040973.D
SE30027	S3E1644-CCV6	Endrin ketone [2C]	ng/mL	48.1	50.0	**96.1**	P60040973.D
SE30027	S3E1644-CCV6	gamma-BHC (Lindane) [2C]	ng/mL	47.5	50.0	**95.1**	P60040973.D
SE30027	S3E1644-CCV6	gamma-Chlordane [2C]	ng/mL	46.3	50.0	**92.5**	P60040973.D
SE30027	S3E1644-CCV6	Heptachlor [2C]	ng/mL	46.8	50.0	**93.6**	P60040973.D
SE30027	S3E1644-CCV6	Heptachlor epoxide [2C]	ng/mL	47.0	50.0	**93.9**	P60040973.D
SE30027	S3E1644-CCV6	Methoxychlor [2C]	ng/mL	57.1	50.0	**114**	P60040973.D
SE30027	S3E1644-CCV6	Decachlorobiphenyl	ng/mL	142	160	**88.6**	P60040973.D
SE30027	S3E1644-CCV6	Decachlorobiphenyl [2C]	ng/mL	131	160	**81.9**	P60040973.D
SE30027	S3E1644-CCV6	Tetrachloro-m-xylene	ng/mL	144	160	**90.1**	P60040973.D
SE30027	S3E1644-CCV6	Tetrachloro-m-xylene [2C]	ng/mL	142	160	**88.9**	P60040973.D
SE30027	S3E1644-CCV7	4,4'-DDD [2C]	ng/mL	55.6	50.0	**111**	P60040985.D
SE30027	S3E1644-CCV7	4,4'-DDE [2C]	ng/mL	55.4	50.0	**111**	P60040985.D
SE30027	S3E1644-CCV7	4,4'-DDT [2C]	ng/mL	60.6	50.0	**121**	P60040985.D
SE30027	S3E1644-CCV7	Aldrin [2C]	ng/mL	55.8	50.0	**112**	P60040985.D
SE30027	S3E1644-CCV7	alpha-BHC [2C]	ng/mL	58.8	50.0	**118**	P60040985.D
SE30027	S3E1644-CCV7	alpha-Chlordane [2C]	ng/mL	55.2	50.0	**110**	P60040985.D
SE30027	S3E1644-CCV7	beta-BHC [2C]	ng/mL	55.4	50.0	**111**	P60040985.D
SE30027	S3E1644-CCV7	delta-BHC [2C]	ng/mL	55.8	50.0	**112**	P60040985.D
SE30027	S3E1644-CCV7	Dieldrin [2C]	ng/mL	56.0	50.0	**112**	P60040985.D
SE30027	S3E1644-CCV7	Endosulfan I [2C]	ng/mL	55.9	50.0	**112**	P60040985.D
SE30027	S3E1644-CCV7	Endosulfan II [2C]	ng/mL	56.2	50.0	**112**	P60040985.D
SE30027	S3E1644-CCV7	Endosulfan sulfate [2C]	ng/mL	58.2	50.0	**116**	P60040985.D
SE30027	S3E1644-CCV7	Endrin [2C]	ng/mL	54.9	50.0	**110**	P60040985.D
SE30027	S3E1644-CCV7	Endrin aldehyde [2C]	ng/mL	56.9	50.0	**114**	P60040985.D
SE30027	S3E1644-CCV7	Endrin ketone [2C]	ng/mL	61.3	50.0	**123**	P60040985.D
SE30027	S3E1644-CCV7	gamma-BHC (Lindane) [2C]	ng/mL	58.8	50.0	**118**	P60040985.D
SE30027	S3E1644-CCV7	gamma-Chlordane [2C]	ng/mL	55.4	50.0	**111**	P60040985.D
SE30027	S3E1644-CCV7	Heptachlor [2C]	ng/mL	55.8	50.0	**112**	P60040985.D
SE30027	S3E1644-CCV7	Heptachlor epoxide [2C]	ng/mL	54.9	50.0	**110**	P60040985.D
SE30027	S3E1644-CCV7	Methoxychlor [2C]	ng/mL	62.6	50.0	**125**	P60040985.D
SE30027	S3E1644-CCV7	Decachlorobiphenyl	ng/mL	138	160	**86.5**	P60040985.D
SE30027	S3E1644-CCV7	Decachlorobiphenyl [2C]	ng/mL	178	160	**111**	P60040985.D
SE30027	S3E1644-CCV7	Tetrachloro-m-xylene	ng/mL	137	160	**85.9**	P60040985.D
SE30027	S3E1644-CCV7	Tetrachloro-m-xylene [2C]	ng/mL	168	160	**105**	P60040985.D
SE30027	S3E1644-CCV8	4,4'-DDD [2C]	ng/mL	49.4	50.0	**98.8**	P60040998.D
SE30027	S3E1644-CCV8	4,4'-DDE [2C]	ng/mL	51.7	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	4,4'-DDT [2C]	ng/mL	43.5	50.0	**87**	P60040998.D
SE30027	S3E1644-CCV8	Aldrin [2C]	ng/mL	51.6	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	alpha-BHC [2C]	ng/mL	51.1	50.0	**102**	P60040998.D
SE30027	S3E1644-CCV8	alpha-Chlordane [2C]	ng/mL	51.6	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	beta-BHC [2C]	ng/mL	57.7	50.0	**115**	P60040998.D
SE30027	S3E1644-CCV8	delta-BHC [2C]	ng/mL	50.7	50.0	**101**	P60040998.D

SE30027	S3E1644-CCV8	Dieldrin [2C]	ng/mL	50.5	50.0	**101**	P60040998.D
SE30027	S3E1644-CCV8	Endosulfan I [2C]	ng/mL	50.7	50.0	**101**	P60040998.D
SE30027	S3E1644-CCV8	Endosulfan II [2C]	ng/mL	51.6	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	Endosulfan sulfate [2C]	ng/mL	51.4	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	Endrin [2C]	ng/mL	49.0	50.0	**97.9**	P60040998.D
SE30027	S3E1644-CCV8	Endrin aldehyde [2C]	ng/mL	51.6	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	Endrin ketone [2C]	ng/mL	52.1	50.0	**104**	P60040998.D
SE30027	S3E1644-CCV8	gamma-BHC (Lindane) [2C]	ng/mL	54.6	50.0	**109**	P60040998.D
SE30027	S3E1644-CCV8	gamma-Chlordane [2C]	ng/mL	51.7	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	Heptachlor [2C]	ng/mL	46.5	50.0	**92.9**	P60040998.D
SE30027	S3E1644-CCV8	Heptachlor epoxide [2C]	ng/mL	51.3	50.0	**103**	P60040998.D
SE30027	S3E1644-CCV8	Methoxychlor [2C]	ng/mL	43.1	50.0	**86.3**	P60040998.D
SE30027	S3E1644-CCV8	Decachlorobiphenyl	ng/mL	145	160	**90.6**	P60040998.D
SE30027	S3E1644-CCV8	Decachlorobiphenyl [2C]	ng/mL	169	160	**106**	P60040998.D
SE30027	S3E1644-CCV8	Tetrachloro-m-xylene	ng/mL	137	160	**85.7**	P60040998.D
SE30027	S3E1644-CCV8	Tetrachloro-m-xylene [2C]	ng/mL	151	160	**94.4**	P60040998.D
SE30027	S3E1644-CCV9	4,4'-DDD [2C]	ng/mL	56.8	50.0	**114**	P60041010.D
SE30027	S3E1644-CCV9	4,4'-DDE [2C]	ng/mL	57.2	50.0	**114**	P60041010.D
SE30027	S3E1644-CCV9	4,4'-DDT [2C]	ng/mL	66.6	50.0	**133**	P60041010.D
SE30027	S3E1644-CCV9	Aldrin [2C]	ng/mL	56.3	50.0	**113**	P60041010.D
SE30027	S3E1644-CCV9	alpha-BHC [2C]	ng/mL	60.5	50.0	**121**	P60041010.D
SE30027	S3E1644-CCV9	alpha-Chlordane [2C]	ng/mL	57.7	50.0	**115**	P60041010.D
SE30027	S3E1644-CCV9	beta-BHC [2C]	ng/mL	62.1	50.0	**124**	P60041010.D
SE30027	S3E1644-CCV9	delta-BHC [2C]	ng/mL	56.5	50.0	**113**	P60041010.D
SE30027	S3E1644-CCV9	Dieldrin [2C]	ng/mL	56.6	50.0	**113**	P60041010.D
SE30027	S3E1644-CCV9	Endosulfan I [2C]	ng/mL	55.6	50.0	**111**	P60041010.D
SE30027	S3E1644-CCV9	Endosulfan II [2C]	ng/mL	58.5	50.0	**117**	P60041010.D
SE30027	S3E1644-CCV9	Endosulfan sulfate [2C]	ng/mL	63.4	50.0	**127**	P60041010.D
SE30027	S3E1644-CCV9	Endrin [2C]	ng/mL	55.3	50.0	**111**	P60041010.D
SE30027	S3E1644-CCV9	Endrin aldehyde [2C]	ng/mL	58.7	50.0	**117**	P60041010.D
SE30027	S3E1644-CCV9	Endrin ketone [2C]	ng/mL	65.1	50.0	**130**	P60041010.D
SE30027	S3E1644-CCV9	gamma-BHC (Lindane) [2C]	ng/mL	60.8	50.0	**122**	P60041010.D
SE30027	S3E1644-CCV9	gamma-Chlordane [2C]	ng/mL	58.0	50.0	**116**	P60041010.D
SE30027	S3E1644-CCV9	Heptachlor [2C]	ng/mL	47.1	50.0	**94.2**	P60041010.D
SE30027	S3E1644-CCV9	Heptachlor epoxide [2C]	ng/mL	57.9	50.0	**116**	P60041010.D
SE30027	S3E1644-CCV9	Methoxychlor [2C]	ng/mL	73.9	50.0	**148**	P60041010.D
SE30027	S3E1644-CCV9	Decachlorobiphenyl	ng/mL	151	160	**94.1**	P60041010.D
SE30027	S3E1644-CCV9	Decachlorobiphenyl [2C]	ng/mL	198	160	**123**	P60041010.D
SE30027	S3E1644-CCV9	Tetrachloro-m-xylene	ng/mL	141	160	**88.3**	P60041010.D
SE30027	S3E1644-CCV9	Tetrachloro-m-xylene [2C]	ng/mL	171	160	**107**	P60041010.D

The following QC and or client samples were affected:

Calibration	Sequence	LabNumber	SampleName	Source Sample	File ID
SE30027	S3E1644	S3E1644-PEM1	Performance Mix		P60040939.D
SE30027	S3E1644	BE30881-BLK1	Blank		P60040944.D
SE30027	S3E1644	BE30881-BS1	LCS		P60040945.D
SE30027	S3E1644	23E0419-11	EHQ_ITEM304_COMP		P60040950.D
SE30027	S3E1644	23E0419-12	EHQ_ITEM304_COMP		P60040951.D
SE30027	S3E1644	S3E1644-PEM2	Performance Mix		P60040960.D

York Analytical Work Order Narrative

EPA 8081B

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
PEST	BE30881	S3E1644	GCECD6	BE30881-BLK1	P60040944.D

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SE30027	S3E1644	BE30881-BS1	LCS	P60040945.D

EPA 8081B

Dilutions:

	SpecificMethod	Batch	SampleName	LabNumber	Dilution
	EPA 8081B	BE30881	EHQ_ITEM304_COMP01_230	23E0419-11	5
	EPA 8081B	BE30881	EHQ_ITEM304_COMP02_230	23E0419-12	5

EPA 8081B

Internal Standards / Surrogates

Surrogate Issues:

Calibration	SampleName	LabNumber	Analyte	Rec %	Limits
SE30027	Calibration Check	S3E1644-CCV1	Decachlorobiphenyl	**85.4**	-
SE30027	Calibration Check	S3E1644-CCV1	Decachlorobiphenyl [2C]	**107**	-
SE30027	Calibration Check	S3E1644-CCV1	Tetrachloro-m-xylene	**84.1**	-
SE30027	Calibration Check	S3E1644-CCV1	Tetrachloro-m-xylene [2C]	**96.3**	-
SE30027	Calibration Check	S3E1644-CCV4	Decachlorobiphenyl	**95**	-
SE30027	Calibration Check	S3E1644-CCV4	Decachlorobiphenyl [2C]	**121**	-
SE30027	Calibration Check	S3E1644-CCV4	Tetrachloro-m-xylene	**88.3**	-
SE30027	Calibration Check	S3E1644-CCV4	Tetrachloro-m-xylene [2C]	**99.6**	-
SE30027	Calibration Check	S3E1644-CCV5	Decachlorobiphenyl	**90.9**	-
SE30027	Calibration Check	S3E1644-CCV5	Decachlorobiphenyl [2C]	**112**	-
SE30027	Calibration Check	S3E1644-CCV5	Tetrachloro-m-xylene	**89.2**	-
SE30027	Calibration Check	S3E1644-CCV5	Tetrachloro-m-xylene [2C]	**100**	-
SE30027	Calibration Check	S3E1644-CCV6	Decachlorobiphenyl	**88.6**	-
SE30027	Calibration Check	S3E1644-CCV6	Decachlorobiphenyl [2C]	**81.9**	-
SE30027	Calibration Check	S3E1644-CCV6	Tetrachloro-m-xylene	**90.1**	-
SE30027	Calibration Check	S3E1644-CCV6	Tetrachloro-m-xylene [2C]	**88.9**	-
SE30027	Calibration Check	S3E1644-CCV7	Decachlorobiphenyl	**86.5**	-
SE30027	Calibration Check	S3E1644-CCV7	Decachlorobiphenyl [2C]	**111**	-
SE30027	Calibration Check	S3E1644-CCV7	Tetrachloro-m-xylene	**85.9**	-
SE30027	Calibration Check	S3E1644-CCV7	Tetrachloro-m-xylene [2C]	**105**	-
SE30027	Calibration Check	S3E1644-CCV8	Decachlorobiphenyl	**90.6**	-
SE30027	Calibration Check	S3E1644-CCV8	Decachlorobiphenyl [2C]	**106**	-
SE30027	Calibration Check	S3E1644-CCV8	Tetrachloro-m-xylene	**85.7**	-
SE30027	Calibration Check	S3E1644-CCV8	Tetrachloro-m-xylene [2C]	**94.4**	-
SE30027	Calibration Check	S3E1644-CCV9	Decachlorobiphenyl	**94.1**	-
SE30027	Calibration Check	S3E1644-CCV9	Decachlorobiphenyl [2C]	**123**	-
SE30027	Calibration Check	S3E1644-CCV9	Tetrachloro-m-xylene	**88.3**	-
SE30027	Calibration Check	S3E1644-CCV9	Tetrachloro-m-xylene [2C]	**107**	-

4.0 Analysis Issues

EPA 8082A

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SE30026

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SE30026	S3E1601	S3E1601	Secondary Cal Check	S3E1601-SCV1	ECD#1	P1121464.D
SE30026	S3E1636	S3E1636	Calibration Check	S3E1636-CCV1	ECD#1	P1121475.D
SE30026	S3E1636	S3E1636	Aroclor Reference	S3E1636-ARC1	ECD#1	P1121476.D
SE30026	S3E1636	S3E1636	Calibration Check	S3E1636-CCV2	ECD#1	P1121498.D
SE30026	S3E1636	S3E1636	Calibration Check	S3E1636-CCV3	ECD#1	P1121519.D
SE30026	BE30881	S3E1636	Blank	BE30881-BLK2	ECD#1	P1121526.D
SE30026	BE30881	S3E1636	LCS	BE30881-BS2	ECD#1	P1121527.D
SE30026	BE30881	S3E1636	EHQ_ITEM304_COMP01_230505	23E0419-11	ECD#1	P1121530.D
SE30026	BE30881	S3E1636	EHQ_ITEM304_COMP02_230505	23E0419-12	ECD#1	P1121531.D
SE30026	S3E1636	S3E1636	Calibration Check	S3E1636-CCV4	ECD#1	P1121537.D
SE30026	S3E1636	S3E1636	Calibration Check	S3E1636-CCV5	ECD#1	P1121554.D
SE30026	S3E1718	S3E1718	Calibration Check	S3E1718-CCV1	ECD#1	P1121557.D
SE30026	S3E1718	S3E1718	Aroclor Reference	S3E1718-ARC1	ECD#1	P1121558.D
SE30026	S3E1718	S3E1718	Calibration Check	S3E1718-CCV2	ECD#1	P1121579.D
SE30026	S3E1718	S3E1718	Calibration Check	S3E1718-CCV3	ECD#1	P1121596.D
SE30026	S3E1718	S3E1718	Calibration Check	S3E1718-CCV4	ECD#1	P1121615.D
SE30026	S3E1718	S3E1718	Calibration Check	S3E1718-CCV5	ECD#1	P1121629.D

Initial calibration for EPA 8082A met method guidelines.

York Analytical Work Order Narrative

EPA 8082A

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 8082A
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SE30026	S3E1636	S3E1636-CCV1	P1121475.D	05/15/23 20:05
SE30026	S3E1636	S3E1636-CCV2	P1121498.D	05/16/23 03:12
SE30026	S3E1636	S3E1636-CCV3	P1121519.D	05/16/23 08:00
SE30026	S3E1636	S3E1636-CCV4	P1121537.D	05/16/23 12:06
SE30026	S3E1636	S3E1636-CCV5	P1121554.D	05/16/23 16:00
SE30026	S3E1718	S3E1718-CCV1	P1121557.D	05/16/23 17:00
SE30026	S3E1718	S3E1718-CCV2	P1121579.D	05/16/23 22:01
SE30026	S3E1718	S3E1718-CCV3	P1121596.D	05/17/23 01:54
SE30026	S3E1718	S3E1718-CCV4	P1121615.D	05/17/23 06:15
SE30026	S3E1718	S3E1718-CCV5	P1121629.D	05/17/23 09:27

The continuing calibration verification exceeded method limits for the following analytes.

Calibration	LabNumber	Analyte	Units	Result	TrueVal	REC%	Limits		File ID
SE30026	S3E1636-CCV2	Aroclor 1260 (5)	ug/mL	0.772	1.00	**77.2**	80	120	P1121498.D

The following QC and or client samples were affected:

EPA 8082A

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
ARO	BE30881	S3E1636	ECD#1	BE30881-BLK2	P1121526.D

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SE30026	S3E1636	BE30881-BS2	LCS	P1121527.D

EPA 8082A

Dilutions: No sample dilutions were required.

EPA 8082A

Internal Standards / Surrogates

Surrogate Issues:

Calibration	SampleName	LabNumber	Analyte	Rec %	Limits
SE30026	Aroclor Reference	S3E1636-ARC1	Tetrachloro-m-xylene	**102**	-
SE30026	Aroclor Reference	S3E1636-ARC1	Tetrachloro-m-xylene [2C]	**99.5**	-
SE30026	Aroclor Reference	S3E1636-ARC1	Decachlorobiphenyl	**82**	-
SE30026	Aroclor Reference	S3E1636-ARC1	Decachlorobiphenyl [2C]	**86**	-
SE30026	Aroclor Reference	S3E1718-ARC1	Tetrachloro-m-xylene	**110**	-
SE30026	Aroclor Reference	S3E1718-ARC1	Tetrachloro-m-xylene [2C]	**108**	-
SE30026	Aroclor Reference	S3E1718-ARC1	Decachlorobiphenyl	**84**	-
SE30026	Aroclor Reference	S3E1718-ARC1	Decachlorobiphenyl [2C]	**97.5**	-

4.0 Analysis Issues

EPA 8151A

No problems were encountered with analysis of the samples, other than detailed below.

Initial Calibration : SD30025

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
SD30025	S3D1230	S3D1230	Secondary Cal Check	S3D1230-SCV1	GCECD4	PS452942.d
SD30025	S3E1157	S3E1157	Calibration Check	S3E1157-CCV1	GCECD4	PS454000.d
SD30025	BE30644	S3E1157	Blank	BE30644-BLK1	GCECD4	PS454014.d
SD30025	BE30644	S3E1157	LCS	BE30644-BS1	GCECD4	PS454015.d
SD30025	S3E1157	S3E1157	Calibration Check	S3E1157-CCV2	GCECD4	PS454019.d
SD30025	BE30644	S3E1157	EHQ_ITEM304_COMP01_230505	23E0419-11	GCECD4	PS454032.d
SD30025	BE30644	S3E1157	EHQ_ITEM304_COMP02_230505	23E0419-12	GCECD4	PS454033.d
SD30025	S3E1157	S3E1157	Calibration Check	S3E1157-CCV3	GCECD4	PS454041.d

Initial calibration for EPA 8151A met method guidelines.

EPA 8151A

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 8151A
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
SD30025	S3E1157	S3E1157-CCV1	PS454000.d	05/11/23 12:09
SD30025	S3E1157	S3E1157-CCV2	PS454019.d	05/11/23 15:57
SD30025	S3E1157	S3E1157-CCV3	PS454041.d	05/11/23 19:53

The continuing calibration verification recovered within method limits.

York Analytical Work Order Narrative

EPA 8151A

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
HERB	BE30644	S3E1157	GCECD4	BE30644-BLK1	PS454014.d

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
SD30025	S3E1157	BE30644-BS1	LCS	PS454015.d

EPA 8151A

Dilutions: No sample dilutions were required.

EPA 8151A

Internal Standards / Surrogates

Surrogate Issues: No issues were encountered.

4.0 Analysis Issues

EPA 6010D

No problems were encountered with analysis of the samples, other than detailed below.

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
	S3E1531	S3E1531	Initial Cal Check	S3E1531-ICV1	WinLabICP	QBI051523ARE_1-001
	S3E1531	S3E1531	Initial Cal Blank	S3E1531-ICB1	WinLabICP	QBI051523ARE_1-002
	S3E1531	S3E1531	Instrument RL Check	S3E1531-CRL1	WinLabICP	QBI051523ARE_1-003
	S3E1531	S3E1531	Interference Check A	S3E1531-IFA1	WinLabICP	QBI051523ARE_1-005
	S3E1531	S3E1531	Interference Check B	S3E1531-IFB1	WinLabICP	QBI051523ARE_1-006
	S3E1531	S3E1531	Calibration Check	S3E1531-CCV1	WinLabICP	QBI051523ARE_1-007
	S3E1531	S3E1531	Calibration Blank	S3E1531-CCB1	WinLabICP	QBI051523ARE_1-008
	BE30803	S3E1531	Blank	BE30803-BLK1	WinLabICP	QBI051523ARE_1-009
	BE30803	S3E1531	Reference	BE30803-SRM1	WinLabICP	QBI051523ARE_1-010
	S3E1531	S3E1531	Calibration Check	S3E1531-CCV2	WinLabICP	QBI051523ARE_1-019
	S3E1531	S3E1531	Calibration Blank	S3E1531-CCB2	WinLabICP	QBI051523ARE_1-020
	BE30803	S3E1531	EHQ_ITEM304_COMP01_230505	23E0419-11	WinLabICP	QBI051523ARE_1-022
	BE30803	S3E1531	EHQ_ITEM304_COMP02_230505	23E0419-12	WinLabICP	QBI051523ARE_1-023
	S3E1531	S3E1531	Calibration Check	S3E1531-CCV3	WinLabICP	QBI051523ARE_1-031
	S3E1531	S3E1531	Calibration Blank	S3E1531-CCB3	WinLabICP	QBI051523ARE_1-032
	S3E1531	S3E1531	Calibration Check	S3E1531-CCV4	WinLabICP	QBI051523ARE_1-043
	S3E1531	S3E1531	Calibration Blank	S3E1531-CCB4	WinLabICP	QBI051523ARE_1-044

Initial calibration for EPA 6010D met method guidelines.

York Analytical Work Order Narrative

EPA 6010D

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 6010D
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
	S3E1531	S3E1531-CCV1	QBI051523ARE_1-007	05/15/23 11:09
	S3E1531	S3E1531-CCV2	QBI051523ARE_1-019	05/15/23 11:56
	S3E1531	S3E1531-CCV3	QBI051523ARE_1-031	05/15/23 12:27
	S3E1531	S3E1531-CCV4	QBI051523ARE_1-043	05/15/23 13:04
	S3E1531	S3E1531-ICV1	QBI051523ARE_1-001	05/15/23 10:51

The continuing calibration verification exceeded method limits for the following analytes.

Calibration	LabNumber	Analyte	Units	Result	TrueVal	REC%	Limits		File ID
	S3E1531-CCV4	Selenium	ug/mL	0.556	0.500	**111**	90	110	QBI051523ARE_1-043
	S3E1531-ICV1	Selenium	ug/mL	0.295	0.250	**118**	90	110	QBI051523ARE_1-001

The following QC and or client samples were affected:

Calibration	Sequence	LabNumber	SampleName	Source Sample	File ID
	S3E1531	S3E1531-ICB1	Initial Cal Blank		QBI051523ARE_1-002
	S3E1531	S3E1531-IFA1	Interference Check A		QBI051523ARE_1-005
	S3E1531	S3E1531-IFB1	Interference Check B		QBI051523ARE_1-006
	S3E1531	S3E1531-CCB1	Calibration Blank		QBI051523ARE_1-008
	S3E1531	BE30803-SRM1	Reference		QBI051523ARE_1-010
	S3E1531	S3E1531-CCB2	Calibration Blank		QBI051523ARE_1-020
	S3E1531	S3E1531-CCB3	Calibration Blank		QBI051523ARE_1-032
	S3E1531	S3E1531-CCB4	Calibration Blank		QBI051523ARE_1-044

EPA 6010D

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
METALS	BE30803	S3E1531	WinLabICP	BE30803-BLK1	QBI051523ARE_1-009

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
UNASSIGNED	S3E1531	BE30803-SRM1	Reference	QBI051523ARE_1-010

EPA 6010D

Dilutions: No sample dilutions were required.

York Analytical Work Order Narrative

EPA 6010D

Internal Standards / Surrogates

Internal Standards Issues: No issues were encountered.

4.0 Analysis Issues

EPA 7473

No problems were encountered with analysis of the samples, other than detailed below.

Samples and QC analyzed using this calibration / sequence.

Calibration	Batch	Sequence	SampleName	LabNumber	Instrument	File ID
	S3E1166	S3E1166	Low Cal Check	S3E1166-LCV1	DMA 80-02	QBHg-DMA80-02 051123a-001
	S3E1166	S3E1166	High Cal Check	S3E1166-HCV1	DMA 80-02	QBHg-DMA80-02 051123a-002
	BE30780	S3E1166	Blank	BE30780-BLK1	DMA 80-02	QBHg-DMA80-02 051123a-003
	BE30780	S3E1166	Reference	BE30780-SRM1	DMA 80-02	QBHg-DMA80-02 051123a-004
	S3E1166	S3E1166	Calibration Check	S3E1166-CCV1	DMA 80-02	QBHg-DMA80-02 051123a-017
	S3E1166	S3E1166	Calibration Blank	S3E1166-CCB1	DMA 80-02	QBHg-DMA80-02 051123a-018
	BE30780	S3E1166	EHQ_ITEM304_COMP01_230505	23E0419-11	DMA 80-02	QBHg-DMA80-02 051123a-023
	BE30780	S3E1166	EHQ_ITEM304_COMP02_230505	23E0419-12	DMA 80-02	QBHg-DMA80-02 051123a-024
	S3E1166	S3E1166	Calibration Check	S3E1166-CCV2	DMA 80-02	QBHg-DMA80-02 051123a-029
	S3E1166	S3E1166	Calibration Blank	S3E1166-CCB2	DMA 80-02	QBHg-DMA80-02 051123a-030

Initial calibration for EPA 7473 met method guidelines.

EPA 7473

Initial Calibration Verification-

The initial calibration verification for analytical method EPA 7473
all target compounds recovered within method limits with the following exceptions:

Continuing Calibration Verification-

Calibration	Sequence	LabNumber	File ID	Date / Time
	S3E1166	S3E1166-CCV1	QBHg-DMA80-02 051123a-017	05/11/23 18:21
	S3E1166	S3E1166-CCV2	QBHg-DMA80-02 051123a-029	05/11/23 20:15

The continuing calibration verification recovered within method limits.

York Analytical Work Order Narrative

EPA 7473

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

	Batch	Sequence	Instrument	Blank	FileID
HG	BE30780	S3E1166	DMA 80-02	BE30780-BLK1	QBHg-DMA80-02 051123a-003

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
UNASSIGNED	S3E1166	BE30780-SRM1	Reference	QBHg-DMA80-02 051123a-004

EPA 7473

Dilutions: No sample dilutions were required.

4.0 Analysis Issues

Calculation

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calculation

Dilutions: No sample dilutions were required.

4.0 Analysis Issues

EPA 7196A

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
none		BE30689-SRM1	Reference	

EPA 7196A

Dilutions: No sample dilutions were required.

4.0 Analysis Issues

EPA 9014/9010C

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

Calibration	Sequence	LabNumber	SampleName	File ID
none		BE30690-BS1	LCS	

EPA 9014/9010C

Dilutions: No sample dilutions were required.

4.0 Analysis Issues

SM 2540G

Batch QC

Method Blank- No reportable target compounds were detected in the method blank(s)

Laboratory Control Sample (LCS) or Standard Reference Material (SRM)-

Were run as batch QC for this project. Please refer to the Quality Control Data attached to this report for bias information.

SM 2540G

Dilutions: No sample dilutions were required.

York Analytical Laboratories, Inc.

Formulae Used for Sample Calculations

1. Volatiles in Air-ppbv

Cx (ppbv) = Compound concentration, ppbv (parts per billion by volume)

$$Cx = \frac{(Ax)(Cis)(DF)}{(Ais)(RRF)}$$

2. Volatiles in Air-ug/m³

Cx (ug/m³)= Compound concentration in ug/m³

$$Cx\ (ug/m^3) = \frac{(ppbv \times Molecular\ wt.)}{(24.040)}$$

3. Volatile Organics (water and soil), ug/L or ug/kg

Soils/Waters

$$Cx = \frac{(Ax)(IS)(DF)}{(Ais)(RRF)(V)(\%\ solids)}$$

Medium Level Soils

$$Cx = \frac{(Ax)(IS)(VT)(1000)(DF)}{(Ais)(RRF)(VA)(V)(\%\ solids)}$$

4. Semi-Volatiles (waters and soils)

$$Cx = \frac{(Ax)(IS)(VE)(DF)}{(Ais)(RRF)(Volume\ injected,\ uL)(V)(\%\ solids)}$$

5. Pesticides/PCB (waters and soils), DRO, CTETPH

$$Cx = \frac{(Ax)(VE)(DF)}{(CF)(Volume\ injected,\ uL)(V)(\%\ solids)}$$

WHERE:
Cx = concentration of analyte as ug/L or ug/kg
Ax = Area of the characteristic ion for the compound to be measured, counts.
Ais = Area of the characteristic ion for the specific internal standard, counts.
IS = Concentration of the internal standard spiking mixture, ng
RRF = Mean relative response factor from the initial calibration.
DF = Dilution factor calculated as described in section 2. If no dilution is performed, DF= 1
V = Volume for liquids in mL, weight for soils/solids in grams.
VA = volume of MeOH aliquot for medium level soils
VE = final volume of concentrated extract
VT = volume of MeOH for volatiles medium level soils
CF = calibration factor for external calibration used in GC pest/pcb
Cis = Concentration of the internal standard spiking mixture, ppbv

Analytical Batch Summary

Batch ID: BD31853 **Preparation Method:** EPA 5035A **Prepared By:** BMC

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-04	EHQ_ITEM304_GRAB01_230	05/10/23
23E0419-05	EHQ_ITEM304_GRAB02_230	05/10/23
23E0419-06	EHQ_ITEM304_GRAB03_230	05/10/23
23E0419-07	EHQ_ITEM304_GRAB04_230	05/10/23
23E0419-08	EHQ_ITEM304_GRAB05_230	05/10/23
23E0419-09	EHQ_ITEM304_GRAB06_230	05/10/23
BD31853-BLK1	Blank	05/10/23
BD31853-BS1	LCS	05/10/23
BD31853-BSD1	LCS Dup	05/10/23

Batch ID: BD31857 **Preparation Method:** EPA 5035A **Prepared By:** BMC

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-10	EHQ_ITEM304_GRAB07_230	05/12/23
BD31857-BLK1	Blank	05/12/23
BD31857-BS1	LCS	05/12/23
BD31857-BSD1	LCS Dup	05/12/23

Batch ID: BE30533 **Preparation Method:** EPA 1633 Prep **Prepared By:** BAMW

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-01	EHQ_ITEM304_COMP01_230	05/08/23
23E0419-02	EHQ_ITEM304_COMP02_230	05/08/23
BE30533-BLK1	Blank	05/08/23
BE30533-BS1	LCS	05/08/23
BE30533-BS2	LCS	05/08/23

Batch ID: BE30644 **Preparation Method:** EPA 3550C/8151A **Prepared By:** agg

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_230	05/10/23
23E0419-12	EHQ_ITEM304_COMP02_230	05/10/23
BE30644-BLK1	Blank	05/10/23
BE30644-BS1	LCS	05/10/23

Batch ID: BE30673 **Preparation Method:** EPA 1633 Prep **Prepared By:** WJH

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-03	EHQ_ITEM304_PFASFB_230	05/15/23
BE30673-BLK1	Blank	05/15/23
BE30673-BS1	LCS	05/15/23
BE30673-BS2	LCS	05/15/23
BE30673-DUP1	Duplicate	05/15/23

Batch ID: BE30689 **Preparation Method:** EPA SW846-3060 **Prepared By:** SMK

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_23(	05/10/23
23E0419-12	EHQ_ITEM304_COMP02_23(	05/10/23
BE30689-BLK1	Blank	05/10/23
BE30689-SRM1	Reference	05/10/23

Batch ID: BE30690 **Preparation Method:** Analysis Preparation Soil **Prepared By:** ZTS

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_23(	05/10/23
23E0419-12	EHQ_ITEM304_COMP02_23(	05/10/23
BE30690-BLK1	Blank	05/10/23
BE30690-BS1	LCS	05/10/23
BE30690-DUP1	Duplicate	05/10/23
BE30690-MS1	Matrix Spike	05/10/23
BE30690-MSD1	Matrix Spike Dup	05/10/23

Batch ID: BE30780 **Preparation Method:** EPA 7473 soil **Prepared By:** AGNR

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_23(	05/11/23
23E0419-12	EHQ_ITEM304_COMP02_23(	05/11/23
BE30780-BLK1	Blank	05/11/23
BE30780-SRM1	Reference	05/11/23

Batch ID: BE30803 **Preparation Method:** EPA 3050B **Prepared By:** KMQ

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_23(	05/11/23
23E0419-12	EHQ_ITEM304_COMP02_23(	05/11/23
BE30803-BLK1	Blank	05/11/23
BE30803-SRM1	Reference	05/11/23

Batch ID: BE30854 **Preparation Method:** % Solids Prep **Prepared By:** sgs

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_23(	05/12/23
23E0419-12	EHQ_ITEM304_COMP02_23(	05/12/23

Batch ID: BE30878 **Preparation Method:** EPA 3550C **Prepared By:** agg

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_23(	05/14/23
23E0419-12	EHQ_ITEM304_COMP02_23(	05/14/23

BE30878-BLK1	Blank	05/14/23
BE30878-BS1	LCS	05/14/23

Batch ID: BE30880 **Preparation Method:** EPA 3550C **Prepared By:** NF

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_230	05/14/23
23E0419-12	EHQ_ITEM304_COMP02_230	05/14/23
BE30880-BLK1	Blank	05/14/23
BE30880-BS1	LCS	05/14/23

Batch ID: BE30881 **Preparation Method:** EPA 3550C **Prepared By:** kaz

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_230	05/14/23
23E0419-11	EHQ_ITEM304_COMP01_230	05/14/23
23E0419-12	EHQ_ITEM304_COMP02_230	05/14/23
23E0419-12	EHQ_ITEM304_COMP02_230	05/14/23
BE30881-BLK1	Blank	05/14/23
BE30881-BLK2	Blank	05/14/23
BE30881-BS1	LCS	05/14/23
BE30881-BS2	LCS	05/14/23

Batch ID: BE30924 **Preparation Method:** Analysis Preparation **Prepared By:** VR

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-11	EHQ_ITEM304_COMP01_230	05/15/23
23E0419-12	EHQ_ITEM304_COMP02_230	05/15/23

Batch ID: BE31042 **Preparation Method:** % Solids Prep **Prepared By:** AC

YORK Sample ID	Client Sample ID	Preparation Date
23E0419-01	EHQ_ITEM304_COMP01_230	05/15/23
23E0419-02	EHQ_ITEM304_COMP02_230	05/15/23
23E0419-04	EHQ_ITEM304_GRAB01_230	05/15/23
23E0419-05	EHQ_ITEM304_GRAB02_230	05/15/23
23E0419-06	EHQ_ITEM304_GRAB03_230	05/15/23
23E0419-07	EHQ_ITEM304_GRAB04_230	05/15/23
23E0419-08	EHQ_ITEM304_GRAB05_230	05/15/23
23E0419-09	EHQ_ITEM304_GRAB06_230	05/15/23
23E0419-10	EHQ_ITEM304_GRAB07_230	05/15/23
BE31042-DUP1	Duplicate	05/15/23

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31853 - EPA 5035A											
Blank (BD31853-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet								
1,1,1-Trichloroethane	ND	0.0050	"								
1,1,2,2-Tetrachloroethane	ND	0.0050	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0050	"								
1,1,2-Trichloroethane	ND	0.0050	"								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,3-Trichlorobenzene	ND	0.0050	"								
1,2,3-Trichloropropane	ND	0.0050	"								
1,2,4-Trichlorobenzene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dibromo-3-chloropropane	ND	0.0050	"								
1,2-Dibromoethane	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,2-Dichloropropane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
2-Hexanone	ND	0.0050	"								
4-Methyl-2-pentanone	ND	0.0050	"								
Acetone	ND	0.010	"								
Acrolein	ND	0.010	"								
Acrylonitrile	ND	0.0050	"								
Benzene	ND	0.0050	"								
Bromochloromethane	ND	0.0050	"								
Bromodichloromethane	ND	0.0050	"								
Bromoform	ND	0.0050	"								
Bromomethane	ND	0.0050	"								
Carbon disulfide	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroethane	ND	0.0050	"								
Chloroform	ND	0.0050	"								
Chloromethane	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
cis-1,3-Dichloropropylene	ND	0.0050	"								
Cyclohexane	ND	0.0050	"								
Dibromochloromethane	ND	0.0050	"								
Dibromomethane	ND	0.0050	"								
Dichlorodifluoromethane	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Hexachlorobutadiene	ND	0.0050	"								
Isopropylbenzene	ND	0.0050	"								
Methyl acetate	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylcyclohexane	ND	0.0050	"								
Methylene chloride	ND	0.010	"								

Prepared & Analyzed: 05/10/2023

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31853 - EPA 5035A											
Blank (BD31853-BLK1)								Prepared & Analyzed: 05/10/2023			
n-Butylbenzene	ND	0.0050	mg/kg wet								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	ND	0.010	"								
p-Isopropyltoluene	ND	0.0050	"								
sec-Butylbenzene	ND	0.0050	"								
Styrene	ND	0.0050	"								
tert-Butyl alcohol (TBA)	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
trans-1,3-Dichloropropylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Trichlorofluoromethane	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*53.5*		*ug/L*	*50.0*		*107*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.6*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*49.1*		*"*	*50.0*		*98.1*	*76-130*				
LCS (BD31853-BS1)								Prepared & Analyzed: 05/10/2023			
1,1,1,2-Tetrachloroethane	56.8		ug/L	50.0		114	75-129				
1,1,1-Trichloroethane	57.4		"	50.0		115	71-137				
1,1,2,2-Tetrachloroethane	50.3		"	50.0		101	79-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	59.3		"	50.0		119	58-146				
1,1,2-Trichloroethane	50.7		"	50.0		101	83-123				
1,1-Dichloroethane	52.2		"	50.0		104	75-130				
1,1-Dichloroethylene	59.3		"	50.0		119	64-137				
1,2,3-Trichlorobenzene	49.6		"	50.0		99.3	81-140				
1,2,3-Trichloropropane	52.9		"	50.0		106	81-126				
1,2,4-Trichlorobenzene	52.0		"	50.0		104	80-141				
1,2,4-Trimethylbenzene	52.9		"	50.0		106	84-125				
1,2-Dibromo-3-chloropropane	53.5		"	50.0		107	74-142				
1,2-Dibromoethane	53.8		"	50.0		108	86-123				
1,2-Dichlorobenzene	49.9		"	50.0		99.8	85-122				
1,2-Dichloroethane	56.1		"	50.0		112	71-133				
1,2-Dichloropropane	51.0		"	50.0		102	81-122				
1,3,5-Trimethylbenzene	51.1		"	50.0		102	82-126				
1,3-Dichlorobenzene	51.3		"	50.0		103	84-124				
1,4-Dichlorobenzene	49.7		"	50.0		99.5	84-124				
1,4-Dioxane	1180		"	1050		112	10-228				
2-Butanone	44.3		"	50.0		88.6	58-147				
2-Hexanone	53.6		"	50.0		107	70-139				
4-Methyl-2-pentanone	53.3		"	50.0		107	72-132				
Acetone	208		"	50.0		416	36-155	High Bias			
Acrolein	45.7		"	50.0		91.5	10-238				
Acrylonitrile	51.4		"	50.0		103	66-141				
Benzene	51.3		"	50.0		103	77-127				
Bromochloromethane	52.1		"	50.0		104	74-129				
Bromodichloromethane	56.6		"	50.0		113	81-124				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31853 - EPA 5035A											
LCS (BD31853-BS1)							Prepared & Analyzed: 05/10/2023				
Bromoform	52.3		ug/L	50.0		105	80-136				
Bromomethane	66.9		"	50.0		134	32-177				
Carbon disulfide	55.8		"	50.0		112	10-136				
Carbon tetrachloride	61.3		"	50.0		123	66-143				
Chlorobenzene	54.4		"	50.0		109	86-120				
Chloroethane	60.3		"	50.0		121	51-142				
Chloroform	54.7		"	50.0		109	76-131				
Chloromethane	43.9		"	50.0		87.7	49-132				
cis-1,2-Dichloroethylene	49.8		"	50.0		99.6	74-132				
cis-1,3-Dichloropropylene	54.6		"	50.0		109	81-129				
Cyclohexane	50.5		"	50.0		101	70-130				
Dibromochloromethane	58.6		"	50.0		117	10-200				
Dibromomethane	54.3		"	50.0		109	83-124				
Dichlorodifluoromethane	48.8		"	50.0		97.7	28-158				
Ethyl Benzene	54.1		"	50.0		108	84-125				
Hexachlorobutadiene	52.0		"	50.0		104	83-133				
Isopropylbenzene	52.8		"	50.0		106	81-127				
Methyl acetate	46.9		"	50.0		93.8	41-143				
Methyl tert-butyl ether (MTBE)	49.6		"	50.0		99.2	74-131				
Methylcyclohexane	52.1		"	50.0		104	70-130				
Methylene chloride	53.5		"	50.0		107	57-141				
n-Butylbenzene	52.0		"	50.0		104	80-130				
n-Propylbenzene	51.8		"	50.0		104	74-136				
o-Xylene	54.8		"	50.0		110	83-123				
p- & m- Xylenes	108		"	100		108	82-128				
p-Isopropyltoluene	52.1		"	50.0		104	85-125				
sec-Butylbenzene	50.9		"	50.0		102	83-125				
Styrene	51.9		"	50.0		104	86-126				
tert-Butyl alcohol (TBA)	231		"	250		92.3	70-130				
tert-Butylbenzene	52.0		"	50.0		104	80-127				
Tetrachloroethylene	47.4		"	50.0		94.7	80-129				
Toluene	52.1		"	50.0		104	85-121				
trans-1,2-Dichloroethylene	55.0		"	50.0		110	72-132				
trans-1,3-Dichloropropylene	54.6		"	50.0		109	78-132				
Trichloroethylene	55.6		"	50.0		111	84-123				
Trichlorofluoromethane	59.5		"	50.0		119	62-140				
Vinyl Chloride	55.6		"	50.0		111	52-130				
Surrogate: SURR: 1,2-Dichloroethane-d4	*54.6*		*"*	*50.0*		*109*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.6*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*50.3*		*"*	*50.0*		*101*	*76-130*				



Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31853 - EPA 5035A											
LCS Dup (BD31853-BSD1)								Prepared & Analyzed: 05/10/2023			
1,1,1,2-Tetrachloroethane	56.3		ug/L	50.0		113	75-129		0.919	30	
1,1,1-Trichloroethane	55.5		"	50.0		111	71-137		3.21	30	
1,1,2,2-Tetrachloroethane	49.7		"	50.0		99.3	79-129		1.32	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	57.1		"	50.0		114	58-146		3.71	30	
1,1,2-Trichloroethane	50.4		"	50.0		101	83-123		0.633	30	
1,1-Dichloroethane	50.9		"	50.0		102	75-130		2.48	30	
1,1-Dichloroethylene	57.2		"	50.0		114	64-137		3.64	30	
1,2,3-Trichlorobenzene	49.5		"	50.0		99.0	81-140		0.323	30	
1,2,3-Trichloropropane	52.6		"	50.0		105	81-126		0.568	30	
1,2,4-Trichlorobenzene	50.6		"	50.0		101	80-141		2.69	30	
1,2,4-Trimethylbenzene	52.0		"	50.0		104	84-125		1.73	30	
1,2-Dibromo-3-chloropropane	52.4		"	50.0		105	74-142		2.06	30	
1,2-Dibromoethane	53.2		"	50.0		106	86-123		1.25	30	
1,2-Dichlorobenzene	50.6		"	50.0		101	85-122		1.31	30	
1,2-Dichloroethane	54.8		"	50.0		110	71-133		2.33	30	
1,2-Dichloropropane	51.6		"	50.0		103	81-122		1.27	30	
1,3,5-Trimethylbenzene	52.0		"	50.0		104	82-126		1.78	30	
1,3-Dichlorobenzene	50.9		"	50.0		102	84-124		0.743	30	
1,4-Dichlorobenzene	48.8		"	50.0		97.6	84-124		1.85	30	
1,4-Dioxane	1130		"	1050		108	10-228		3.58	30	
2-Butanone	46.2		"	50.0		92.4	58-147		4.20	30	
2-Hexanone	52.8		"	50.0		106	70-139		1.48	30	
4-Methyl-2-pentanone	52.4		"	50.0		105	72-132		1.72	30	
Acetone	191		"	50.0		382	36-155	High Bias	8.51	30	
Acrolein	44.3		"	50.0		88.6	10-238		3.13	30	
Acrylonitrile	47.6		"	50.0		95.3	66-141		7.47	30	
Benzene	49.7		"	50.0		99.4	77-127		3.21	30	
Bromochloromethane	49.7		"	50.0		99.4	74-129		4.66	30	
Bromodichloromethane	55.5		"	50.0		111	81-124		2.10	30	
Bromoform	50.7		"	50.0		101	80-136		3.01	30	
Bromomethane	60.1		"	50.0		120	32-177		10.7	30	
Carbon disulfide	55.4		"	50.0		111	10-136		0.792	30	
Carbon tetrachloride	59.2		"	50.0		118	66-143		3.60	30	
Chlorobenzene	53.9		"	50.0		108	86-120		1.02	30	
Chloroethane	57.1		"	50.0		114	51-142		5.33	30	
Chloroform	53.3		"	50.0		107	76-131		2.57	30	
Chloromethane	44.2		"	50.0		88.4	49-132		0.727	30	
cis-1,2-Dichloroethylene	53.1		"	50.0		106	74-132		6.47	30	
cis-1,3-Dichloropropylene	54.3		"	50.0		109	81-129		0.514	30	
Cyclohexane	48.8		"	50.0		97.5	70-130		3.53	30	
Dibromochloromethane	57.9		"	50.0		116	10-200		1.20	30	
Dibromomethane	52.7		"	50.0		105	83-124		2.99	30	
Dichlorodifluoromethane	44.9		"	50.0		89.8	28-158		8.43	30	
Ethyl Benzene	53.4		"	50.0		107	84-125		1.32	30	
Hexachlorobutadiene	51.7		"	50.0		103	83-133		0.733	30	
Isopropylbenzene	52.9		"	50.0		106	81-127		0.246	30	
Methyl acetate	45.5		"	50.0		90.9	41-143		3.08	30	
Methyl tert-butyl ether (MTBE)	48.8		"	50.0		97.7	74-131		1.58	30	
Methylcyclohexane	51.2		"	50.0		102	70-130		1.67	30	
Methylene chloride	51.3		"	50.0		103	57-141		4.20	30	
n-Butylbenzene	51.8		"	50.0		104	80-130		0.405	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31853 - EPA 5035A											
LCS Dup (BD31853-BSD1)								Prepared & Analyzed: 05/10/2023			
n-Propylbenzene	51.5		ug/L	50.0		103	74-136		0.600	30	
o-Xylene	54.0		"	50.0		108	83-123		1.62	30	
p- & m- Xylenes	107		"	100		107	82-128		1.65	30	
p-Isopropyltoluene	51.6		"	50.0		103	85-125		0.984	30	
sec-Butylbenzene	51.4		"	50.0		103	83-125		0.899	30	
Styrene	52.6		"	50.0		105	86-126		1.42	30	
tert-Butyl alcohol (TBA)	233		"	250		93.3	70-130		1.08	30	
tert-Butylbenzene	52.2		"	50.0		104	80-127		0.384	30	
Tetrachloroethylene	47.4		"	50.0		94.7	80-129		0.0211	30	
Toluene	51.9		"	50.0		104	85-121		0.327	30	
trans-1,2-Dichloroethylene	51.9		"	50.0		104	72-132		5.89	30	
trans-1,3-Dichloropropylene	55.3		"	50.0		111	78-132		1.22	30	
Trichloroethylene	54.1		"	50.0		108	84-123		2.81	30	
Trichlorofluoromethane	57.5		"	50.0		115	62-140		3.42	30	
Vinyl Chloride	52.9		"	50.0		106	52-130		4.94	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*52.9*		*"*	*50.0*		*106*	*77-125*				
Surrogate: SURR: Toluene-d8	*51.2*		*"*	*50.0*		*102*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*51.8*		*"*	*50.0*		*104*	*76-130*				
Batch BD31857 - EPA 5035A											
Blank (BD31857-BLK1)								Prepared & Analyzed: 05/12/2023			
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet								
1,1,1-Trichloroethane	ND	0.0050	"								
1,1,2,2-Tetrachloroethane	ND	0.0050	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0050	"								
1,1,2-Trichloroethane	ND	0.0050	"								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,3-Trichlorobenzene	ND	0.0050	"								
1,2,3-Trichloropropane	ND	0.0050	"								
1,2,4-Trichlorobenzene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dibromo-3-chloropropane	ND	0.0050	"								
1,2-Dibromoethane	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,2-Dichloropropane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
2-Hexanone	ND	0.0050	"								
4-Methyl-2-pentanone	ND	0.0050	"								
Acetone	ND	0.010	"								
Acrolein	ND	0.010	"								
Acrylonitrile	ND	0.0050	"								
Benzene	ND	0.0050	"								
Bromochloromethane	ND	0.0050	"								
Bromodichloromethane	ND	0.0050	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31857 - EPA 5035A											
Blank (BD31857-BLK1)									Prepared & Analyzed: 05/12/2023		
Bromoform	ND	0.0050	mg/kg wet								
Bromomethane	ND	0.0050	"								
Carbon disulfide	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroethane	ND	0.0050	"								
Chloroform	ND	0.0050	"								
Chloromethane	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
cis-1,3-Dichloropropylene	ND	0.0050	"								
Cyclohexane	ND	0.0050	"								
Dibromochloromethane	ND	0.0050	"								
Dibromomethane	ND	0.0050	"								
Dichlorodifluoromethane	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Hexachlorobutadiene	ND	0.0050	"								
Isopropylbenzene	ND	0.0050	"								
Methyl acetate	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylcyclohexane	ND	0.0050	"								
Methylene chloride	ND	0.010	"								
n-Butylbenzene	ND	0.0050	"								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	ND	0.010	"								
p-Isopropyltoluene	ND	0.0050	"								
sec-Butylbenzene	ND	0.0050	"								
Styrene	ND	0.0050	"								
tert-Butyl alcohol (TBA)	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
trans-1,3-Dichloropropylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Trichlorofluoromethane	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.5*		*ug/L*	*50.0*		*101*	*77-125*				
Surrogate: SURR: Toluene-d8	*53.4*		*"*	*50.0*		*107*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*56.6*		*"*	*50.0*		*113*	*76-130*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31857 - EPA 5035A											
LCS (BD31857-BS1)								Prepared & Analyzed: 05/12/2023			
1,1,1,2-Tetrachloroethane	44.3		ug/L	50.0		88.6	75-129				
1,1,1-Trichloroethane	40.4		"	50.0		80.9	71-137				
1,1,2,2-Tetrachloroethane	54.7		"	50.0		109	79-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	59.0		"	50.0		118	58-146				
1,1,2-Trichloroethane	48.1		"	50.0		96.2	83-123				
1,1-Dichloroethane	45.7		"	50.0		91.5	75-130				
1,1-Dichloroethylene	56.9		"	50.0		114	64-137				
1,2,3-Trichlorobenzene	46.5		"	50.0		93.0	81-140				
1,2,3-Trichloropropane	48.8		"	50.0		97.6	81-126				
1,2,4-Trichlorobenzene	47.3		"	50.0		94.7	80-141				
1,2,4-Trimethylbenzene	50.2		"	50.0		100	84-125				
1,2-Dibromo-3-chloropropane	48.8		"	50.0		97.6	74-142				
1,2-Dibromoethane	47.1		"	50.0		94.1	86-123				
1,2-Dichlorobenzene	50.7		"	50.0		101	85-122				
1,2-Dichloroethane	45.6		"	50.0		91.3	71-133				
1,2-Dichloropropane	52.7		"	50.0		105	81-122				
1,3,5-Trimethylbenzene	54.0		"	50.0		108	82-126				
1,3-Dichlorobenzene	49.1		"	50.0		98.2	84-124				
1,4-Dichlorobenzene	47.9		"	50.0		95.8	84-124				
1,4-Dioxane	1060		"	1050		101	10-228				
2-Butanone	52.6		"	50.0		105	58-147				
2-Hexanone	53.0		"	50.0		106	70-139				
4-Methyl-2-pentanone	41.4		"	50.0		82.8	72-132				
Acetone	216		"	50.0		432	36-155	High Bias			
Acrolein	47.6		"	50.0		95.1	10-238				
Acrylonitrile	48.6		"	50.0		97.2	66-141				
Benzene	46.9		"	50.0		93.7	77-127				
Bromochloromethane	48.2		"	50.0		96.4	74-129				
Bromodichloromethane	48.8		"	50.0		97.6	81-124				
Bromoform	35.8		"	50.0		71.5	80-136	Low Bias			
Bromomethane	68.9		"	50.0		138	32-177				
Carbon disulfide	51.1		"	50.0		102	10-136				
Carbon tetrachloride	39.7		"	50.0		79.5	66-143				
Chlorobenzene	50.6		"	50.0		101	86-120				
Chloroethane	65.2		"	50.0		130	51-142				
Chloroform	45.4		"	50.0		90.8	76-131				
Chloromethane	56.6		"	50.0		113	49-132				
cis-1,2-Dichloroethylene	44.8		"	50.0		89.6	74-132				
cis-1,3-Dichloropropylene	45.6		"	50.0		91.2	81-129				
Cyclohexane	47.5		"	50.0		95.0	70-130				
Dibromochloromethane	47.3		"	50.0		94.6	10-200				
Dibromomethane	48.7		"	50.0		97.4	83-124				
Dichlorodifluoromethane	44.4		"	50.0		88.8	28-158				
Ethyl Benzene	50.2		"	50.0		100	84-125				
Hexachlorobutadiene	45.4		"	50.0		90.7	83-133				
Isopropylbenzene	52.3		"	50.0		105	81-127				
Methyl acetate	49.0		"	50.0		98.0	41-143				
Methyl tert-butyl ether (MTBE)	41.1		"	50.0		82.2	74-131				
Methylcyclohexane	49.6		"	50.0		99.2	70-130				
Methylene chloride	47.1		"	50.0		94.1	57-141				
n-Butylbenzene	53.8		"	50.0		108	80-130				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31857 - EPA 5035A											
LCS (BD31857-BS1)							Prepared & Analyzed: 05/12/2023				
n-Propylbenzene	52.8		ug/L	50.0		106	74-136				
o-Xylene	50.3		"	50.0		101	83-123				
p- & m- Xylenes	101		"	100		101	82-128				
p-Isopropyltoluene	50.9		"	50.0		102	85-125				
sec-Butylbenzene	52.1		"	50.0		104	83-125				
Styrene	49.7		"	50.0		99.3	86-126				
tert-Butyl alcohol (TBA)	184		"	250		73.7	70-130				
tert-Butylbenzene	45.0		"	50.0		90.0	80-127				
Tetrachloroethylene	40.7		"	50.0		81.4	80-129				
Toluene	50.4		"	50.0		101	85-121				
trans-1,2-Dichloroethylene	46.9		"	50.0		93.7	72-132				
trans-1,3-Dichloropropylene	40.8		"	50.0		81.7	78-132				
Trichloroethylene	49.4		"	50.0		98.9	84-123				
Trichlorofluoromethane	63.8		"	50.0		128	62-140				
Vinyl Chloride	63.2		"	50.0		126	52-130				
Surrogate: SURR: 1,2-Dichloroethane-d4	*47.9*		*"*	*50.0*		*95.7*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.9*		*"*	*50.0*		*106*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*51.3*		*"*	*50.0*		*103*	*76-130*				
LCS Dup (BD31857-BSD1)							Prepared & Analyzed: 05/12/2023				
1,1,1,2-Tetrachloroethane	45.5		ug/L	50.0		91.0	75-129		2.65	30	
1,1,1-Trichloroethane	40.9		"	50.0		81.8	71-137		1.18	30	
1,1,2,2-Tetrachloroethane	55.3		"	50.0		111	79-129		1.11	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	60.8		"	50.0		122	58-146		3.04	30	
1,1,2-Trichloroethane	50.3		"	50.0		101	83-123		4.55	30	
1,1-Dichloroethane	46.3		"	50.0		92.6	75-130		1.26	30	
1,1-Dichloroethylene	57.4		"	50.0		115	64-137		0.805	30	
1,2,3-Trichlorobenzene	46.6		"	50.0		93.3	81-140		0.344	30	
1,2,3-Trichloropropane	50.8		"	50.0		102	81-126		3.96	30	
1,2,4-Trichlorobenzene	47.9		"	50.0		95.9	80-141		1.26	30	
1,2,4-Trimethylbenzene	49.1		"	50.0		98.3	84-125		2.17	30	
1,2-Dibromo-3-chloropropane	50.6		"	50.0		101	74-142		3.66	30	
1,2-Dibromoethane	49.3		"	50.0		98.6	86-123		4.61	30	
1,2-Dichlorobenzene	50.6		"	50.0		101	85-122		0.158	30	
1,2-Dichloroethane	45.7		"	50.0		91.4	71-133		0.197	30	
1,2-Dichloropropane	53.4		"	50.0		107	81-122		1.30	30	
1,3,5-Trimethylbenzene	53.0		"	50.0		106	82-126		2.00	30	
1,3-Dichlorobenzene	48.7		"	50.0		97.4	84-124		0.777	30	
1,4-Dichlorobenzene	47.6		"	50.0		95.1	84-124		0.670	30	
1,4-Dioxane	1100		"	1050		104	10-228		3.25	30	
2-Butanone	47.6		"	50.0		95.3	58-147		9.80	30	
2-Hexanone	55.5		"	50.0		111	70-139		4.65	30	
4-Methyl-2-pentanone	43.3		"	50.0		86.5	72-132		4.42	30	
Acetone	226		"	50.0		452	36-155	High Bias	4.68	30	
Acrolein	47.6		"	50.0		95.2	10-238		0.126	30	
Acrylonitrile	48.5		"	50.0		97.1	66-141		0.165	30	
Benzene	47.7		"	50.0		95.4	77-127		1.71	30	
Bromochloromethane	49.3		"	50.0		98.6	74-129		2.24	30	
Bromodichloromethane	50.2		"	50.0		100	81-124		2.91	30	
Bromoform	38.0		"	50.0		76.1	80-136	Low Bias	6.21	30	
Bromomethane	66.3		"	50.0		133	32-177		3.91	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD31857 - EPA 5035A											
LCS Dup (BD31857-BSD1)							Prepared & Analyzed: 05/12/2023				
Carbon disulfide	48.5		ug/L	50.0		97.1	10-136		5.22	30	
Carbon tetrachloride	39.8		"	50.0		79.5	66-143		0.0503	30	
Chlorobenzene	51.9		"	50.0		104	86-120		2.50	30	
Chloroethane	64.7		"	50.0		129	51-142		0.831	30	
Chloroform	46.4		"	50.0		92.9	76-131		2.24	30	
Chloromethane	54.5		"	50.0		109	49-132		3.92	30	
cis-1,2-Dichloroethylene	46.0		"	50.0		91.9	74-132		2.62	30	
cis-1,3-Dichloropropylene	46.7		"	50.0		93.4	81-129		2.38	30	
Cyclohexane	49.6		"	50.0		99.1	70-130		4.22	30	
Dibromochloromethane	49.1		"	50.0		98.2	10-200		3.74	30	
Dibromomethane	50.2		"	50.0		100	83-124		3.09	30	
Dichlorodifluoromethane	41.2		"	50.0		82.3	28-158		7.55	30	
Ethyl Benzene	51.1		"	50.0		102	84-125		1.80	30	
Hexachlorobutadiene	45.0		"	50.0		90.0	83-133		0.841	30	
Isopropylbenzene	51.3		"	50.0		103	81-127		1.91	30	
Methyl acetate	50.2		"	50.0		100	41-143		2.30	30	
Methyl tert-butyl ether (MTBE)	42.8		"	50.0		85.6	74-131		4.05	30	
Methylcyclohexane	50.0		"	50.0		99.9	70-130		0.743	30	
Methylene chloride	47.5		"	50.0		94.9	57-141		0.825	30	
n-Butylbenzene	53.2		"	50.0		106	80-130		1.21	30	
n-Propylbenzene	51.8		"	50.0		104	74-136		1.82	30	
o-Xylene	51.4		"	50.0		103	83-123		2.14	30	
p- & m- Xylenes	103		"	100		103	82-128		1.95	30	
p-Isopropyltoluene	50.4		"	50.0		101	85-125		0.947	30	
sec-Butylbenzene	51.1		"	50.0		102	83-125		1.96	30	
Styrene	51.0		"	50.0		102	86-126		2.58	30	
tert-Butyl alcohol (TBA)	196		"	250		78.3	70-130		6.09	30	
tert-Butylbenzene	44.1		"	50.0		88.3	80-127		1.95	30	
Tetrachloroethylene	41.3		"	50.0		82.6	80-129		1.37	30	
Toluene	51.3		"	50.0		103	85-121		1.79	30	
trans-1,2-Dichloroethylene	46.7		"	50.0		93.4	72-132		0.406	30	
trans-1,3-Dichloropropylene	42.6		"	50.0		85.2	78-132		4.24	30	
Trichloroethylene	49.8		"	50.0		99.5	84-123		0.625	30	
Trichlorofluoromethane	63.4		"	50.0		127	62-140		0.566	30	
Vinyl Chloride	62.1		"	50.0		124	52-130		1.77	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*49.0*		*"*	*50.0*		*97.9*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.7*		*"*	*50.0*		*105*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*50.0*		*"*	*50.0*		*100*	*76-130*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30878 - EPA 3550C											
Blank (BE30878-BLK1)											
Prepared: 05/14/2023 Analyzed: 05/15/2023											
1,1-Biphenyl	ND	0.0417	mg/kg wet								
1,2,4,5-Tetrachlorobenzene	ND	0.0833	"								
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.0417	"								
2,3,4,6-Tetrachlorophenol	ND	0.0833	"								
2,4,5-Trichlorophenol	ND	0.0417	"								
2,4,6-Trichlorophenol	ND	0.0417	"								
2,4-Dichlorophenol	ND	0.0417	"								
2,4-Dimethylphenol	ND	0.0417	"								
2,4-Dinitrophenol	ND	0.0833	"								
2,4-Dinitrotoluene	ND	0.0417	"								
2,6-Dinitrotoluene	ND	0.0417	"								
2-Chloronaphthalene	ND	0.0417	"								
2-Chlorophenol	ND	0.0417	"								
2-Methylnaphthalene	ND	0.0417	"								
2-Methylphenol	ND	0.0417	"								
2-Nitroaniline	ND	0.0833	"								
2-Nitrophenol	ND	0.0417	"								
3- & 4-Methylphenols	ND	0.0417	"								
3,3-Dichlorobenzidine	ND	0.0417	"								
3-Nitroaniline	ND	0.0833	"								
4,6-Dinitro-2-methylphenol	ND	0.0833	"								
4-Bromophenyl phenyl ether	ND	0.0417	"								
4-Chloro-3-methylphenol	ND	0.0417	"								
4-Chloroaniline	ND	0.0417	"								
4-Chlorophenyl phenyl ether	ND	0.0417	"								
4-Nitroaniline	ND	0.0833	"								
4-Nitrophenol	ND	0.0833	"								
Acenaphthene	ND	0.0417	"								
Acenaphthylene	ND	0.0417	"								
Acetophenone	ND	0.0417	"								
Aniline	ND	0.167	"								
Anthracene	ND	0.0417	"								
Atrazine	ND	0.0417	"								
Benzaldehyde	ND	0.0417	"								
Benzidine	ND	0.167	"								
Benzo(a)anthracene	ND	0.0417	"								
Benzo(a)pyrene	ND	0.0417	"								
Benzo(b)fluoranthene	ND	0.0417	"								
Benzo(g,h,i)perylene	ND	0.0417	"								
Benzo(k)fluoranthene	ND	0.0417	"								
Benzoic acid	ND	0.0417	"								
Benzyl alcohol	ND	0.0417	"								
Benzyl butyl phthalate	ND	0.0417	"								
Bis(2-chloroethoxy)methane	ND	0.0417	"								
Bis(2-chloroethyl)ether	ND	0.0417	"								
Bis(2-chloroisopropyl)ether	ND	0.0417	"								
Bis(2-ethylhexyl)phthalate	ND	0.0417	"								
Caprolactam	ND	0.0833	"								
Carbazole	ND	0.0417	"								
Chrysene	ND	0.0417	"								
Dibenzo(a,h)anthracene	ND	0.0417	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30878 - EPA 3550C											
Blank (BE30878-BLK1)											
Prepared: 05/14/2023 Analyzed: 05/15/2023											
Dibenzofuran	ND	0.0417	mg/kg wet								
Diethyl phthalate	ND	0.0417	"								
Dimethyl phthalate	ND	0.0417	"								
Di-n-butyl phthalate	ND	0.0417	"								
Di-n-octyl phthalate	ND	0.0417	"								
Diphenylamine	ND	0.0833	"								
Fluoranthene	ND	0.0417	"								
Fluorene	ND	0.0417	"								
Hexachlorobenzene	ND	0.0417	"								
Hexachlorobutadiene	ND	0.0417	"								
Hexachlorocyclopentadiene	ND	0.0417	"								
Hexachloroethane	ND	0.0417	"								
Indeno(1,2,3-cd)pyrene	ND	0.0417	"								
Isophorone	ND	0.0417	"								
Naphthalene	ND	0.0417	"								
Nitrobenzene	ND	0.0417	"								
N-Nitrosodimethylamine	ND	0.0417	"								
N-nitroso-di-n-propylamine	ND	0.0417	"								
N-Nitrosodiphenylamine	ND	0.0417	"								
Pentachlorophenol	ND	0.0417	"								
Phenanthrene	ND	0.0417	"								
Phenol	ND	0.0417	"								
Pyrene	ND	0.0417	"								
Pyridine	ND	0.167	"								
Surrogate: SURR: 2-Fluorophenol	*1.20*		"	*1.67*		*71.9*	*20-108*				
Surrogate: SURR: Phenol-d6	*1.22*		"	*1.67*		*73.5*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.611*		"	*0.833*		*73.3*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.629*		"	*0.833*		*75.4*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.66*		"	*1.67*		*99.6*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.749*		"	*0.833*		*89.8*	*24-116*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30878 - EPA 3550C											
LCS (BE30878-BS1)								Prepared: 05/14/2023 Analyzed: 05/15/2023			
1,1-Biphenyl	0.635	0.0417	mg/kg wet	0.833		76.2	18-111				
1,2,4,5-Tetrachlorobenzene	0.941	0.0833	"	0.833		113	21-131				
1,2-Diphenylhydrazine (as Azobenzene)	0.479	0.0417	"	0.833		57.5	17-137				
2,3,4,6-Tetrachlorophenol	0.644	0.0833	"	0.833		77.3	30-130				
2,4,5-Trichlorophenol	0.762	0.0417	"	0.833		91.4	27-118				
2,4,6-Trichlorophenol	0.728	0.0417	"	0.833		87.4	31-120				
2,4-Dichlorophenol	0.756	0.0417	"	0.833		90.7	20-127				
2,4-Dimethylphenol	0.525	0.0417	"	0.833		63.0	14-132				
2,4-Dinitrophenol	0.840	0.0833	"	0.833		101	10-171				
2,4-Dinitrotoluene	0.753	0.0417	"	0.833		90.4	34-131				
2,6-Dinitrotoluene	0.726	0.0417	"	0.833		87.2	31-128				
2-Chloronaphthalene	0.590	0.0417	"	0.833		70.8	31-117				
2-Chlorophenol	0.609	0.0417	"	0.833		73.1	33-113				
2-Methylnaphthalene	0.644	0.0417	"	0.833		77.3	12-138				
2-Methylphenol	0.602	0.0417	"	0.833		72.2	10-136				
2-Nitroaniline	0.685	0.0833	"	0.833		82.2	27-132				
2-Nitrophenol	0.784	0.0417	"	0.833		94.1	17-129				
3- & 4-Methylphenols	0.554	0.0417	"	0.833		66.5	29-103				
3,3-Dichlorobenzidine	0.675	0.0417	"	0.833		81.0	22-149				
3-Nitroaniline	0.522	0.0833	"	0.833		62.6	20-133				
4,6-Dinitro-2-methylphenol	0.836	0.0833	"	0.833		100	10-143				
4-Bromophenyl phenyl ether	0.691	0.0417	"	0.833		83.0	29-120				
4-Chloro-3-methylphenol	0.704	0.0417	"	0.833		84.5	24-129				
4-Chloroaniline	0.453	0.0417	"	0.833		54.3	10-132				
4-Chlorophenyl phenyl ether	0.705	0.0417	"	0.833		84.6	27-124				
4-Nitroaniline	0.615	0.0833	"	0.833		73.8	16-128				
4-Nitrophenol	0.523	0.0833	"	0.833		62.7	10-141				
Acenaphthene	0.584	0.0417	"	0.833		70.1	30-121				
Acenaphthylene	0.589	0.0417	"	0.833		70.7	30-115				
Acetophenone	0.632	0.0417	"	0.833		75.9	20-112				
Aniline	0.451	0.167	"	0.833		54.1	10-119				
Anthracene	0.660	0.0417	"	0.833		79.2	34-118				
Atrazine	0.574	0.0417	"	0.833		68.8	26-112				
Benzaldehyde	0.689	0.0417	"	0.833		82.6	21-100				
Benzo(a)anthracene	0.664	0.0417	"	0.833		79.7	32-122				
Benzo(a)pyrene	0.622	0.0417	"	0.833		74.6	29-133				
Benzo(b)fluoranthene	0.670	0.0417	"	0.833		80.4	25-133				
Benzo(g,h,i)perylene	0.682	0.0417	"	0.833		81.8	10-143				
Benzo(k)fluoranthene	0.684	0.0417	"	0.833		82.0	25-128				
Benzoic acid	0.773	0.0417	"	0.833		92.8	10-140				
Benzyl alcohol	0.586	0.0417	"	0.833		70.3	30-115				
Benzyl butyl phthalate	0.554	0.0417	"	0.833		66.5	26-126				
Bis(2-chloroethoxy)methane	0.581	0.0417	"	0.833		69.7	19-132				
Bis(2-chloroethyl)ether	0.526	0.0417	"	0.833		63.1	19-125				
Bis(2-chloroisopropyl)ether	0.197	0.0417	"	0.833		23.6	20-135				
Bis(2-ethylhexyl)phthalate	0.638	0.0417	"	0.833		76.5	10-155				
Caprolactam	0.781	0.0833	"	0.833		93.7	10-127				
Carbazole	0.622	0.0417	"	0.833		74.7	35-123				
Chrysene	0.682	0.0417	"	0.833		81.8	32-123				
Dibenzo(a,h)anthracene	0.695	0.0417	"	0.833		83.4	10-136				
Dibenzofuran	0.628	0.0417	"	0.833		75.4	29-121				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30878 - EPA 3550C											
LCS (BE30878-BS1)								Prepared: 05/14/2023 Analyzed: 05/15/2023			
Diethyl phthalate	0.609	0.0417	mg/kg wet	0.833		73.1	34-116				
Dimethyl phthalate	0.614	0.0417	"	0.833		73.7	35-124				
Di-n-butyl phthalate	0.579	0.0417	"	0.833		69.4	31-116				
Di-n-octyl phthalate	0.580	0.0417	"	0.833		69.6	26-136				
Diphenylamine	0.733	0.0833	"	0.833		87.9	40-140				
Fluoranthene	0.623	0.0417	"	0.833		74.7	33-122				
Fluorene	0.629	0.0417	"	0.833		75.4	29-123				
Hexachlorobenzene	0.538	0.0417	"	0.833		64.6	21-124				
Hexachlorobutadiene	0.731	0.0417	"	0.833		87.8	10-149				
Hexachlorocyclopentadiene	0.424	0.0417	"	0.833		50.9	10-129				
Hexachloroethane	0.565	0.0417	"	0.833		67.8	28-108				
Indeno(1,2,3-cd)pyrene	0.652	0.0417	"	0.833		78.3	10-135				
Isophorone	0.632	0.0417	"	0.833		75.9	20-132				
Naphthalene	0.615	0.0417	"	0.833		73.8	23-124				
Nitrobenzene	0.563	0.0417	"	0.833		67.6	13-132				
N-Nitrosodimethylamine	0.409	0.0417	"	0.833		49.0	11-129				
N-nitroso-di-n-propylamine	0.521	0.0417	"	0.833		62.5	24-119				
N-Nitrosodiphenylamine	0.678	0.0417	"	0.833		81.4	22-152				
Pentachlorophenol	0.678	0.0417	"	0.833		81.4	10-139				
Phenanthrene	0.631	0.0417	"	0.833		75.8	33-123				
Phenol	0.582	0.0417	"	0.833		69.8	23-115				
Pyrene	0.666	0.0417	"	0.833		79.9	24-130				
Pyridine	0.343	0.167	"	0.833		41.2	10-91				
Surrogate: SURR: 2-Fluorophenol	*1.18*		"	*1.67*		*70.9*	*20-108*				
Surrogate: SURR: Phenol-d6	*1.18*		"	*1.67*		*70.9*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.595*		"	*0.833*		*71.4*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.617*		"	*0.833*		*74.0*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.73*		"	*1.67*		*104*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.744*		"	*0.833*		*89.2*	*24-116*				

Semivolatile Organic Compounds by GC/MS/SIM - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30880 - EPA 3550C											
Blank (BE30880-BLK1)									Prepared & Analyzed: 05/14/2023		
1,4-Dioxane	ND	0.0198	mg/kg								
Surrogate: 1,4-Dioxane-d8	*0.343*		*"*	*0.495*		*69.3*	*39-127.5*				
LCS (BE30880-BS1)									Prepared & Analyzed: 05/14/2023		
1,4-Dioxane	0.484	0.0198	mg/kg	0.495		97.8	40-130				
Surrogate: 1,4-Dioxane-d8	*0.278*		*"*	*0.495*		*56.1*	*39-127.5*				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30533 - EPA 1633 Prep											
Blank (BE30533-BLK1)											
Perfluorobutanesulfonic acid (PFBS)	ND	0.175	ug/kg wet								
Perfluorohexanoic acid (PFHxA)	ND	0.198	"								
Perfluoroheptanoic acid (PFHpA)	ND	0.198	"								
Perfluorohexanesulfonic acid (PFHxS)	ND	0.181	"								
Perfluorooctanoic acid (PFOA)	ND	0.198	"								
Perfluorooctanesulfonic acid (PFOS)	ND	0.184	"								
Perfluorononanoic acid (PFNA)	ND	0.198	"								
Perfluorodecanoic acid (PFDA)	ND	0.198	"								
Perfluoroundecanoic acid (PFUnA)	ND	0.198	"								
Perfluorododecanoic acid (PFDoA)	ND	0.198	"								
Perfluorotridecanoic acid (PFTrDA)	ND	0.198	"								
Perfluorotetradecanoic acid (PFTA)	ND	0.198	"								
N-MeFOSAA	ND	0.198	"								
N-EtFOSAA	ND	0.198	"								
Perfluoropentanoic acid (PFPeA)	ND	0.395	"								
Perfluoro-1-octanesulfonamide (FOSA)	ND	0.198	"								
Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	0.198	"								
Perfluoro-1-decanesulfonic acid (PFDS)	ND	0.191	"								
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	0.751	"								
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	0.759	"								
Perfluoro-n-butanoic acid (PFBA)	ND	0.791	"								
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.352	"								
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.395	"								
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	0.395	"								
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	0.395	"								
Perfluoro-1-pentanesulfonate (PFPeS)	ND	0.186	"								
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND	0.741	"								
HFPO-DA (Gen-X)	ND	0.791	"								
11CL-PF3OUdS	ND	0.747	"								
9CL-PF3ONS	ND	0.739	"								
ADONA	ND	0.747	"								
Perfluorododecanesulfonic acid (PFDoS)	ND	0.192	"								
Perfluoro-1-nonanesulfonic acid (PFNS)	ND	0.190	"								
3-Perfluoropropyl propanoic acid (FPrPA)	ND	0.988	"								
3-Perfluoropentyl propanoic acid (FPePA)	ND	4.94	"								
3-Perfluoroheptyl propanoic acid (FHpPA)	ND	4.94	"								
N-MeFOSE	ND	1.98	"								
N-MeFOSA	ND	0.198	"								
N-EtFOSE	ND	1.98	"								
N-EtFOSA	ND	0.198	"								
Surrogate: M3PFBS	*3.07*		"	*2.30*		*133*	*25-150*				
Surrogate: M5PFHxA	*2.53*		"	*2.47*		*103*	*25-150*				
Surrogate: M4PFHpA	*2.51*		"	*2.47*		*102*	*25-150*				
Surrogate: M3PFHxS	*2.11*		"	*2.34*		*90.0*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*1.68*		"	*2.47*		*68.2*	*25-150*				
Surrogate: M6PFDA	*0.747*		"	*1.24*		*60.5*	*25-150*				
Surrogate: M7PFUdA	*0.899*		"	*1.24*		*72.8*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*0.865*		"	*1.24*		*70.1*	*25-150*				
Surrogate: M2PFTeDA	*0.851*		"	*1.24*		*68.9*	*10-150*				

Prepared: 05/08/2023 Analyzed: 05/10/2023



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30533 - EPA 1633 Prep											
Blank (BE30533-BLK1)								Prepared: 05/08/2023 Analyzed: 05/10/2023			
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*9.59*		*ug/kg wet*	*9.88*		*97.0*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*1.40*		*"*	*2.37*		*59.0*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*5.33*		*"*	*4.94*		*108*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*1.69*		*"*	*2.47*		*68.3*	*10-150*				
Surrogate: d3-N-MeFOSAA	*3.63*		*"*	*4.94*		*73.5*	*25-150*				
Surrogate: d5-N-EtFOSAA	*3.13*		*"*	*4.94*		*63.4*	*25-150*				
Surrogate: M2-6:2 FTS	*4.09*		*"*	*4.70*		*87.1*	*25-200*				
Surrogate: M2-8:2 FTS	*2.19*		*"*	*4.74*		*46.1*	*25-200*				
Surrogate: M9PFNA	*0.853*		*"*	*1.24*		*69.0*	*25-150*				
Surrogate: M2-4:2 FTS	*6.42*		*"*	*4.63*		*138*	*25-150*				
Surrogate: d-N-MeFOSA	*1.23*		*"*	*2.47*		*49.6*	*25-150*				
Surrogate: d-N-EtFOSA	*4.71*		*"*	*2.47*		*191*	*25-150*				
Surrogate: M3HFPO-DA	*11.9*		*"*	*9.88*		*120*	*25-150*				
Surrogate: d9-N-EtFOSE	*12.8*		*"*	*24.7*		*51.8*	*25-150*				
Surrogate: d7-N-MeFOSE	*13.8*		*"*	*24.7*		*55.7*	*25-150*				
LCS (BE30533-BS1)								Prepared: 05/08/2023 Analyzed: 05/10/2023			
Perfluorobutanesulfonic acid (PFBS)	3.57	0.176	ug/kg wet	3.51		102	50-150				
Perfluorohexanoic acid (PFHxA)	4.48	0.198	"	3.97		113	50-150				
Perfluoroheptanoic acid (PFHpA)	3.61	0.198	"	3.97		91.0	50-150				
Perfluorohexanesulfonic acid (PFHxS)	3.60	0.182	"	3.63		99.0	50-150				
Perfluorooctanoic acid (PFOA)	4.76	0.198	"	3.97		120	50-150				
Perfluorooctanesulfonic acid (PFOS)	5.28	0.185	"	3.69		143	50-150				
Perfluorononanoic acid (PFNA)	2.64	0.198	"	3.97		66.6	50-150				
Perfluorodecanoic acid (PFDA)	3.58	0.198	"	3.97		90.1	50-150				
Perfluoroundecanoic acid (PFUnA)	4.84	0.198	"	3.97		122	50-150				
Perfluorododecanoic acid (PFDoA)	3.43	0.198	"	3.97		86.4	50-150				
Perfluorotridecanoic acid (PFTrDA)	3.14	0.198	"	3.97		79.2	50-150				
Perfluorotetradecanoic acid (PFTA)	3.36	0.198	"	3.97		84.6	50-150				
N-MeFOSAA	4.55	0.198	"	3.97		115	50-150				
N-EtFOSAA	4.42	0.198	"	3.97		111	50-150				
Perfluoropentanoic acid (PFPeA)	7.84	0.397	"	7.94		98.7	50-150				
Perfluoro-1-octanesulfonamide (FOSA)	3.68	0.198	"	3.97		92.7	50-150				
Perfluoro-1-heptanesulfonic acid (PFHpS)	4.32	0.198	"	3.79		114	50-150				
Perfluoro-1-decanesulfonic acid (PFDS)	4.26	0.191	"	3.83		111	50-150				
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	17.2	0.754	"	15.1		114	50-150				
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	13.4	0.762	"	15.2		87.6	50-150				
Perfluoro-n-butanoic acid (PFBA)	16.6	0.794	"	15.9		104	50-150				
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	7.82	0.353	"	7.06		111	50-150				
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	9.49	0.397	"	7.94		120	50-150				
Perfluoro-4-oxapentanoic acid (PFMPA)	7.76	0.397	"	7.94		97.8	50-150				
Perfluoro-5-oxahexanoic acid (PFMBA)	7.21	0.397	"	7.94		90.8	50-150				
Perfluoro-1-pentanesulfonate (PFPeS)	3.74	0.187	"	3.73		100	50-150				
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	14.4	0.744	"	14.9		96.6	50-150				
HFPO-DA (Gen-X)	7.24	0.794	"	7.94		91.2	50-150				
11CL-PF3OUdS	4.48	0.750	"	7.50		59.7	50-150				
9CL-PF3ONS	5.04	0.742	"	7.42		67.9	50-150				
ADONA	6.25	0.750	"	7.50		83.4	50-150				

PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30533 - EPA 1633 Prep											
LCS (BE30533-BS1)								Prepared: 05/08/2023 Analyzed: 05/10/2023			
Perfluorododecanesulfonic acid (PFDoS)	4.16	0.192	ug/kg wet	3.85		108	50-150				
Perfluoro-1-nonanesulfonic acid (PFNS)	4.63	0.190	"	3.81		122	50-150				
3-Perfluoropropyl propanoic acid (FPrPA)	58.3	0.992	"	15.9		367	50-150	High Bias			
3-Perfluoropentyl propanoic acid (FPePA)	84.9	4.96	"	79.4		107	50-150				
3-Perfluoroheptyl propanoic acid (FHpPA)	16.1	4.96	"	79.4		20.3	50-150	Low Bias			
N-MeFOSE	32.4	1.98	"	39.7		81.5	50-150				
N-MeFOSA	4.12	0.198	"	3.97		104	50-150				
N-EtFOSE	32.3	1.98	"	39.7		81.3	50-150				
N-EtFOSA	1.42	0.198	"	3.97		35.7	50-150	Low Bias			
Surrogate: M3PFBS	*2.49*		*"*	*2.31*		*108*	*25-150*				
Surrogate: M5PFHxA	*2.31*		*"*	*2.48*		*93.1*	*25-150*				
Surrogate: M4PFHpA	*2.34*		*"*	*2.48*		*94.3*	*25-150*				
Surrogate: M3PFHxS	*2.17*		*"*	*2.35*		*92.3*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*1.92*		*"*	*2.48*		*77.3*	*25-150*				
Surrogate: M6PFDA	*0.712*		*"*	*1.24*		*57.4*	*25-150*				
Surrogate: M7PFUdA	*0.745*		*"*	*1.24*		*60.1*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*0.757*		*"*	*1.24*		*61.0*	*25-150*				
Surrogate: M2PFTeDA	*0.953*		*"*	*1.24*		*76.8*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*8.31*		*"*	*9.92*		*83.8*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*1.79*		*"*	*2.38*		*75.2*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*4.71*		*"*	*4.96*		*94.9*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*1.61*		*"*	*2.48*		*64.8*	*10-150*				
Surrogate: d3-N-MeFOSAA	*3.60*		*"*	*4.96*		*72.7*	*25-150*				
Surrogate: d5-N-EtFOSAA	*3.15*		*"*	*4.96*		*63.6*	*25-150*				
Surrogate: M2-6:2 FTS	*4.12*		*"*	*4.72*		*87.4*	*25-200*				
Surrogate: M2-8:2 FTS	*3.57*		*"*	*4.76*		*74.9*	*25-200*				
Surrogate: M9PFNA	*1.29*		*"*	*1.24*		*104*	*25-150*				
Surrogate: M2-4:2 FTS	*5.21*		*"*	*4.65*		*112*	*25-150*				
Surrogate: d-N-MeFOSA	*1.42*		*"*	*2.48*		*57.3*	*25-150*				
Surrogate: d-N-EtFOSA	*4.29*		*"*	*2.48*		*173*	*25-150*				
Surrogate: M3HFPO-DA	*10.8*		*"*	*9.92*		*109*	*25-150*				
Surrogate: d9-N-EtFOSE	*16.0*		*"*	*24.8*		*64.4*	*25-150*				
Surrogate: d7-N-MeFOSE	*17.9*		*"*	*24.8*		*72.0*	*25-150*				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30533 - EPA 1633 Prep											
LCS (BE30533-BS2)								Prepared: 05/08/2023 Analyzed: 05/10/2023			
Perfluorobutanesulfonic acid (PFBS)	0.645	0.175	ug/kg wet	0.700		92.2	50-150				
Perfluorohexanoic acid (PFHxA)	0.688	0.198	"	0.791		87.0	50-150				
Perfluoroheptanoic acid (PFHpA)	0.687	0.198	"	0.791		86.9	50-150				
Perfluorohexanesulfonic acid (PFHxS)	0.639	0.181	"	0.723		88.4	50-150				
Perfluorooctanoic acid (PFOA)	1.00	0.198	"	0.791		127	50-150				
Perfluorooctanesulfonic acid (PFOS)	1.05	0.184	"	0.735		143	50-150				
Perfluorononanoic acid (PFNA)	0.618	0.198	"	0.791		78.2	50-150				
Perfluorodecanoic acid (PFDA)	0.801	0.198	"	0.791		101	50-150				
Perfluoroundecanoic acid (PFUnA)	0.947	0.198	"	0.791		120	50-150				
Perfluorododecanoic acid (PFDoA)	0.650	0.198	"	0.791		82.2	50-150				
Perfluorotridecanoic acid (PFTrDA)	0.663	0.198	"	0.791		83.9	50-150				
Perfluorotetradecanoic acid (PFTA)	0.905	0.198	"	0.791		114	50-150				
N-MeFOSAA	1.28	0.198	"	0.791		162	50-150	High Bias			
N-EtFOSAA	0.830	0.198	"	0.791		105	50-150				
Perfluoropentanoic acid (PFPeA)	1.43	0.395	"	1.58		90.6	50-150				
Perfluoro-1-octanesulfonamide (FOSA)	0.698	0.198	"	0.791		88.3	50-150				
Perfluoro-1-heptanesulfonic acid (PFHpS)	0.874	0.198	"	0.755		116	50-150				
Perfluoro-1-decanesulfonic acid (PFDS)	0.580	0.191	"	0.763		76.0	50-150				
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	3.22	0.751	"	3.00		107	50-150				
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	3.26	0.759	"	3.04		107	50-150				
Perfluoro-n-butanoic acid (PFBA)	3.02	0.791	"	3.16		95.6	50-150				
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	1.28	0.352	"	1.41		91.1	50-150				
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	1.50	0.395	"	1.58		94.6	50-150				
Perfluoro-4-oxapentanoic acid (PFMPA)	1.49	0.395	"	1.58		93.9	50-150				
Perfluoro-5-oxahexanoic acid (PFMBA)	1.39	0.395	"	1.58		87.9	50-150				
Perfluoro-1-pentanesulfonate (PFPeS)	0.741	0.186	"	0.743		99.7	50-150				
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	2.98	0.741	"	2.96		100	50-150				
HFPO-DA (Gen-X)	1.74	0.791	"	1.58		110	50-150				
11CL-PF3OUdS	0.743	0.747	"	1.49		49.7	50-150	Low Bias			
9CL-PF3ONS	1.04	0.739	"	1.48		70.2	50-150				
ADONA	1.22	0.747	"	1.49		81.4	50-150				
Perfluorododecanesulfonic acid (PFDoS)	0.474	0.192	"	0.767		61.8	50-150				
Perfluoro-1-nonanesulfonic acid (PFNS)	0.673	0.190	"	0.759		88.7	50-150				
3-Perfluoropropyl propanoic acid (FPrPA)	10.4	0.988	"	3.16		330	50-150	High Bias			
3-Perfluoropentyl propanoic acid (FPePA)	13.3	4.94	"	15.8		84.2	50-150				
3-Perfluoroheptyl propanoic acid (FHpPA)	2.63	4.94	"	15.8		16.6	50-150	Low Bias			
N-MeFOSE	7.46	1.98	"	7.91		94.4	50-150				
N-MeFOSA	0.726	0.198	"	0.791		91.8	50-150				
N-EtFOSE	6.52	1.98	"	7.91		82.5	50-150				
N-EtFOSA	0.395	0.198	"	0.791		50.0	50-150				
Surrogate: M3PFBS	*2.76*		"	*2.30*		*120*	*25-150*				
Surrogate: M5PFHxA	*2.81*		"	*2.47*		*114*	*25-150*				
Surrogate: M4PFHpA	*2.59*		"	*2.47*		*105*	*25-150*				
Surrogate: M3PFHxS	*2.56*		"	*2.34*		*110*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*2.18*		"	*2.47*		*88.4*	*25-150*				
Surrogate: M6PFDA	*0.812*		"	*1.24*		*65.7*	*25-150*				
Surrogate: M7PFUdA	*0.797*		"	*1.24*		*64.5*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*0.748*		"	*1.24*		*60.6*	*25-150*				
Surrogate: M2PFTeDA	*0.646*		"	*1.24*		*52.3*	*10-150*				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30533 - EPA 1633 Prep											
LCS (BE30533-BS2)											
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*7.84*		*ug/kg wet*	*9.88*		*79.3*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*2.12*		*"*	*2.37*		*89.6*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*4.90*		*"*	*4.94*		*99.2*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*1.99*		*"*	*2.47*		*80.6*	*10-150*				
Surrogate: d3-N-MeFOSAA	*3.34*		*"*	*4.94*		*67.5*	*25-150*				
Surrogate: d5-N-EtFOSAA	*3.05*		*"*	*4.94*		*61.8*	*25-150*				
Surrogate: M2-6:2 FTS	*5.01*		*"*	*4.70*		*107*	*25-200*				
Surrogate: M2-8:2 FTS	*4.17*		*"*	*4.74*		*88.0*	*25-200*				
Surrogate: M9PFNA	*1.30*		*"*	*1.24*		*105*	*25-150*				
Surrogate: M2-4:2 FTS	*5.19*		*"*	*4.63*		*112*	*25-150*				
Surrogate: d-N-MeFOSA	*1.95*		*"*	*2.47*		*78.8*	*25-150*				
Surrogate: d-N-EtFOSA	*3.17*		*"*	*2.47*		*128*	*25-150*				
Surrogate: M3HFPO-DA	*11.2*		*"*	*9.88*		*113*	*25-150*				
Surrogate: d9-N-EtFOSE	*12.7*		*"*	*24.7*		*51.2*	*25-150*				
Surrogate: d7-N-MeFOSE	*12.8*		*"*	*24.7*		*51.9*	*25-150*				
Batch BE30673 - EPA 1633 Prep											
Blank (BE30673-BLK1)											
Perfluorobutanesulfonic acid (PFBS)	ND	3.54	ng/L								
Perfluorohexanoic acid (PFHxA)	ND	4.00	"								
Perfluoroheptanoic acid (PFHpA)	ND	4.00	"								
Perfluorohexanesulfonic acid (PFHxS)	ND	3.66	"								
Perfluorooctanoic acid (PFOA)	0.875	4.00	"								
Perfluorooctanesulfonic acid (PFOS)	ND	3.72	"								
Perfluorononanoic acid (PFNA)	ND	4.00	"								
Perfluorodecanoic acid (PFDA)	ND	4.00	"								
Perfluoroundecanoic acid (PFUnA)	ND	4.00	"								
Perfluorododecanoic acid (PFDoA)	ND	4.00	"								
Perfluorotridecanoic acid (PFTrDA)	ND	4.00	"								
Perfluorotetradecanoic acid (PFTA)	ND	4.00	"								
N-MeFOSAA	ND	4.00	"								
N-EtFOSAA	ND	4.00	"								
Perfluoropentanoic acid (PFPeA)	ND	8.00	"								
Perfluoro-1-octanesulfonamide (FOSA)	ND	4.00	"								
Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	3.82	"								
Perfluoro-1-decanesulfonic acid (PFDS)	ND	3.86	"								
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	15.2	"								
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS	ND	15.4	"								
Perfluoro-n-butanoic acid (PFBA)	ND	16.0	"								
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	7.12	"								
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	8.00	"								
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	8.00	"								
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	8.00	"								
Perfluoro-1-pentanesulfonate (PFPeS)	ND	3.76	"								
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS	ND	15.0	"								
HFPO-DA (Gen-X)	ND	16.0	"								
11CL-PF3OUdS	ND	15.1	"								

PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30673 - EPA 1633 Prep											
Blank (BE30673-BLK1)											
9CL-PF3ONS	ND	15.0	ng/L								
ADONA	1.15	15.1	"								
Perfluorododecanesulfonic acid (PFDoS)	ND	3.88	"								
Perfluoro-1-nonanesulfonic acid (PFNS)	ND	3.84	"								
3-Perfluoropropyl propanoic acid (FPrPA)	ND	10.0	"								
3-Perfluoropentyl propanoic acid (FPePA)	ND	50.0	"								
3-Perfluoroheptyl propanoic acid (FHpPA)	ND	50.0	"								
N-MeFOSE	ND	40.0	"								
N-MeFOSA	ND	4.00	"								
N-EtFOSE	ND	40.0	"								
N-EtFOSA	ND	4.00	"								
Surrogate: M3PFBS	*62.0*		"	*46.6*		*133*	*25-150*				
Surrogate: M5PFHxA	*60.9*		"	*50.0*		*122*	*25-150*				
Surrogate: M4PFHpA	*54.9*		"	*50.0*		*110*	*25-150*				
Surrogate: M3PFHxS	*55.3*		"	*47.4*		*117*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*59.0*		"	*50.0*		*118*	*25-150*				
Surrogate: M6PFDA	*21.6*		"	*25.0*		*86.3*	*25-150*				
Surrogate: M7PFUdA	*19.8*		"	*25.0*		*79.1*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*23.5*		"	*25.0*		*94.2*	*25-150*				
Surrogate: M2PFTeDA	*17.3*		"	*25.0*		*69.2*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*231*		"	*200*		*115*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*63.6*		"	*47.9*		*133*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*126*		"	*100*		*126*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*49.8*		"	*50.0*		*99.6*	*10-150*				
Surrogate: d3-N-MeFOSAA	*122*		"	*100*		*122*	*25-150*				
Surrogate: d5-N-EtFOSAA	*126*		"	*100*		*126*	*25-150*				
Surrogate: M2-6:2 FTS	*284*		"	*95.1*		*299*	*25-200*				
Surrogate: M2-8:2 FTS	*186*		"	*96.0*		*194*	*25-200*				
Surrogate: M9PFNA	*38.3*		"	*25.0*		*153*	*25-150*				
Surrogate: M2-4:2 FTS	*205*		"	*93.8*		*218*	*25-150*				
Surrogate: d-N-MeFOSA	*39.1*		"	*50.0*		*78.2*	*25-150*				
Surrogate: d-N-EtFOSA	*304*		"	*50.0*		*609*	*25-150*				
Surrogate: M3HFPO-DA	*265*		"	*200*		*132*	*25-150*				
Surrogate: d9-N-EtFOSE	*285*		"	*500*		*56.9*	*25-150*				
Surrogate: d7-N-MeFOSE	*368*		"	*500*		*73.6*	*25-150*				

Prepared: 05/15/2023 Analyzed: 05/17/2023

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30673 - EPA 1633 Prep											
LCS (BE30673-BS1)								Prepared: 05/15/2023 Analyzed: 05/17/2023			
Perfluorobutanesulfonic acid (PFBS)	63.1	3.54	ng/L	70.8		89.1	50-150				
Perfluorohexanoic acid (PFHxA)	72.0	4.00	"	80.0		90.0	50-150				
Perfluoroheptanoic acid (PFHpA)	63.2	4.00	"	80.0		78.9	50-150				
Perfluorohexanesulfonic acid (PFHxS)	64.6	3.66	"	73.2		88.3	50-150				
Perfluorooctanoic acid (PFOA)	81.4	4.00	"	80.0		102	50-150				
Perfluorooctanesulfonic acid (PFOS)	77.1	3.72	"	74.4		104	50-150				
Perfluorononanoic acid (PFNA)	64.6	4.00	"	80.0		80.7	50-150				
Perfluorodecanoic acid (PFDA)	112	4.00	"	80.0		140	50-150				
Perfluoroundecanoic acid (PFUnA)	107	4.00	"	80.0		133	50-150				
Perfluorododecanoic acid (PFDoA)	61.7	4.00	"	80.0		77.2	50-150				
Perfluorotridecanoic acid (PFTrDA)	73.7	4.00	"	80.0		92.1	50-150				
Perfluorotetradecanoic acid (PFTA)	72.6	4.00	"	80.0		90.7	50-150				
N-MeFOSAA	87.4	4.00	"	80.0		109	50-150				
N-EtFOSAA	98.9	4.00	"	80.0		124	50-150				
Perfluoropentanoic acid (PFPeA)	141	8.00	"	160		88.4	50-150				
Perfluoro-1-octanesulfonamide (FOSA)	63.6	4.00	"	80.0		79.5	50-150				
Perfluoro-1-heptanesulfonic acid (PFHpS)	82.7	3.82	"	76.4		108	50-150				
Perfluoro-1-decanesulfonic acid (PFDS)	77.4	3.86	"	77.2		100	50-150				
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	325	15.2	"	304		107	50-150				
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	240	15.4	"	307		78.2	50-150				
Perfluoro-n-butanoic acid (PFBA)	294	16.0	"	320		92.0	50-150				
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	134	7.12	"	142		94.2	50-150				
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	174	8.00	"	160		109	50-150				
Perfluoro-4-oxapentanoic acid (PFMPA)	153	8.00	"	160		95.8	50-150				
Perfluoro-5-oxahexanoic acid (PFMBA)	146	8.00	"	160		91.4	50-150				
Perfluoro-1-pentanesulfonate (PFPeS)	63.6	3.76	"	75.2		84.5	50-150				
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	249	15.0	"	300		82.9	50-150				
HFPO-DA (Gen-X)	140	16.0	"	160		87.8	50-150				
11CL-PF3OUdS	124	15.1	"	151		81.9	50-150				
9CL-PF3ONS	160	15.0	"	150		107	50-150				
ADONA	145	15.1	"	151		95.8	50-150				
Perfluorododecanesulfonic acid (PFDoS)	70.0	3.88	"	77.6		90.3	50-150				
Perfluoro-1-nonanesulfonic acid (PFNS)	81.7	3.84	"	76.8		106	50-150				
3-Perfluoropropyl propanoic acid (FPrPA)	1420	10.0	"	320		445	50-150	High Bias			
3-Perfluoropentyl propanoic acid (FPePA)	1570	50.0	"	1600		97.9	50-150				
3-Perfluoroheptyl propanoic acid (FHpPA)	267	50.0	"	1600		16.7	50-150	Low Bias			
N-MeFOSE	744	40.0	"	800		93.0	50-150				
N-MeFOSA	109	4.00	"	80.0		136	50-150				
N-EtFOSE	738	40.0	"	800		92.2	50-150				
N-EtFOSA	16.7	4.00	"	80.0		20.9	50-150	Low Bias			
Surrogate: M3PFBS	*62.6*		*"*	*46.6*		*134*	*25-150*				
Surrogate: M5PFHxA	*55.5*		*"*	*50.0*		*111*	*25-150*				
Surrogate: M4PFHpA	*59.5*		*"*	*50.0*		*119*	*25-150*				
Surrogate: M3PFHxS	*62.5*		*"*	*47.4*		*132*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*54.3*		*"*	*50.0*		*109*	*25-150*				
Surrogate: M6PFDA	*19.3*		*"*	*25.0*		*77.4*	*25-150*				
Surrogate: M7PFUdA	*27.2*		*"*	*25.0*		*109*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*30.5*		*"*	*25.0*		*122*	*25-150*				
Surrogate: M2PFTeDA	*23.4*		*"*	*25.0*		*93.7*	*10-150*				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30673 - EPA 1633 Prep											
LCS (BE30673-BS1)									Prepared: 05/15/2023 Analyzed: 05/17/2023		
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*222*		*ng/L*	*200*		*111*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*54.7*		*"*	*47.9*		*114*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*106*		*"*	*100*		*106*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*47.4*		*"*	*50.0*		*94.9*	*10-150*				
Surrogate: d3-N-MeFOSAA	*120*		*"*	*100*		*120*	*25-150*				
Surrogate: d5-N-EtFOSAA	*111*		*"*	*100*		*111*	*25-150*				
Surrogate: M2-6:2 FTS	*206*		*"*	*95.1*		*217*	*25-200*				
Surrogate: M2-8:2 FTS	*171*		*"*	*96.0*		*178*	*25-200*				
Surrogate: M9PFNA	*26.4*		*"*	*25.0*		*105*	*25-150*				
Surrogate: M2-4:2 FTS	*201*		*"*	*93.8*		*214*	*25-150*				
Surrogate: d-N-MeFOSA	*25.5*		*"*	*50.0*		*51.1*	*25-150*				
Surrogate: d-N-EtFOSA	*176*		*"*	*50.0*		*352*	*25-150*				
Surrogate: M3HFPO-DA	*250*		*"*	*200*		*125*	*25-150*				
Surrogate: d9-N-EtFOSE	*314*		*"*	*500*		*62.8*	*25-150*				
Surrogate: d7-N-MeFOSE	*352*		*"*	*500*		*70.3*	*25-150*				
LCS (BE30673-BS2)									Prepared: 05/15/2023 Analyzed: 05/17/2023		
Perfluorobutanesulfonic acid (PFBS)	12.4	3.54	ng/L	14.2		87.6	50-150				
Perfluorohexanoic acid (PFHxA)	16.1	4.00	"	16.0		101	50-150				
Perfluoroheptanoic acid (PFHpA)	13.7	4.00	"	16.0		85.8	50-150				
Perfluorohexanesulfonic acid (PFHxS)	10.9	3.66	"	14.6		74.7	50-150				
Perfluorooctanoic acid (PFOA)	17.2	4.00	"	16.0		107	50-150				
Perfluorooctanesulfonic acid (PFOS)	13.4	3.72	"	14.9		90.0	50-150				
Perfluorononanoic acid (PFNA)	13.1	4.00	"	16.0		81.6	50-150				
Perfluorodecanoic acid (PFDA)	19.3	4.00	"	16.0		120	50-150				
Perfluoroundecanoic acid (PFUnA)	17.3	4.00	"	16.0		108	50-150				
Perfluorododecanoic acid (PFDoA)	17.7	4.00	"	16.0		110	50-150				
Perfluorotridecanoic acid (PFTrDA)	17.4	4.00	"	16.0		109	50-150				
Perfluorotetradecanoic acid (PFTA)	11.8	4.00	"	16.0		73.7	50-150				
N-MeFOSAA	16.2	4.00	"	16.0		101	50-150				
N-EtFOSAA	13.4	4.00	"	16.0		83.7	50-150				
Perfluoropentanoic acid (PFPeA)	26.8	8.00	"	32.0		83.7	50-150				
Perfluoro-1-octanesulfonamide (FOSA)	10.6	4.00	"	16.0		66.1	50-150				
Perfluoro-1-heptanesulfonic acid (PFHpS)	12.7	3.82	"	15.3		83.0	50-150				
Perfluoro-1-decanesulfonic acid (PFDS)	15.5	3.86	"	15.4		101	50-150				
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	65.3	15.2	"	60.8		107	50-150				
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS	61.2	15.4	"	61.4		99.6	50-150				
Perfluoro-n-butanoic acid (PFBA)	57.6	16.0	"	64.0		90.0	50-150				
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	25.0	7.12	"	28.5		87.9	50-150				
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	29.4	8.00	"	32.0		91.9	50-150				
Perfluoro-4-oxapentanoic acid (PFMPA)	33.0	8.00	"	32.0		103	50-150				
Perfluoro-5-oxahexanoic acid (PFMBA)	29.0	8.00	"	32.0		90.7	50-150				
Perfluoro-1-pentanesulfonate (PFPeS)	9.39	3.76	"	15.0		62.5	50-150				
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS	59.7	15.0	"	60.0		99.5	50-150				
HFPO-DA (Gen-X)	38.3	16.0	"	32.0		120	50-150				
11CL-PF3OUdS	23.6	15.1	"	30.2		78.1	50-150				
9CL-PF3ONS	30.2	15.0	"	29.9		101	50-150				
ADONA	25.8	15.1	"	30.2		85.5	50-150				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30673 - EPA 1633 Prep											
LCS (BE30673-BS2)								Prepared: 05/15/2023 Analyzed: 05/17/2023			
Perfluorododecanesulfonic acid (PFDoS)	15.1	3.88	ng/L	15.5		97.6	50-150				
Perfluoro-1-nonanesulfonic acid (PFNS)	12.7	3.84	"	15.4		83.0	50-150				
3-Perfluoropropyl propanoic acid (FPrPA)	282	10.0	"	64.0		440	50-150	High Bias			
3-Perfluoropentyl propanoic acid (FPePA)	291	50.0	"	320		90.9	50-150				
3-Perfluoroheptyl propanoic acid (FHpPA)	58.8	50.0	"	320		18.4	50-150	Low Bias			
N-MeFOSE	134	40.0	"	160		83.9	50-150				
N-MeFOSA	19.1	4.00	"	16.0		119	50-150				
N-EtFOSE	143	40.0	"	160		89.2	50-150				
N-EtFOSA	ND	4.00	"	16.0			50-150	Low Bias			
Surrogate: M3PFBS	*63.1*		"	*46.6*		*136*	*25-150*				
Surrogate: M5PFHxA	*57.8*		"	*50.0*		*116*	*25-150*				
Surrogate: M4PFHpA	*59.2*		"	*50.0*		*118*	*25-150*				
Surrogate: M3PFHxS	*67.3*		"	*47.4*		*142*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*48.4*		"	*50.0*		*96.8*	*25-150*				
Surrogate: M6PFDA	*20.1*		"	*25.0*		*80.5*	*25-150*				
Surrogate: M7PFUdA	*26.1*		"	*25.0*		*104*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*21.9*		"	*25.0*		*87.6*	*25-150*				
Surrogate: M2PFTeDA	*21.4*		"	*25.0*		*85.8*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*223*		"	*200*		*111*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*60.2*		"	*47.9*		*126*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*104*		"	*100*		*104*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*44.0*		"	*50.0*		*88.0*	*10-150*				
Surrogate: d3-N-MeFOSAA	*99.3*		"	*100*		*99.3*	*25-150*				
Surrogate: d5-N-EtFOSAA	*92.8*		"	*100*		*92.8*	*25-150*				
Surrogate: M2-6:2 FTS	*162*		"	*95.1*		*170*	*25-200*				
Surrogate: M2-8:2 FTS	*92.6*		"	*96.0*		*96.5*	*25-200*				
Surrogate: M9PFNA	*28.6*		"	*25.0*		*114*	*25-150*				
Surrogate: M2-4:2 FTS	*147*		"	*93.8*		*156*	*25-150*				
Surrogate: d-N-MeFOSA	*34.9*		"	*50.0*		*69.8*	*25-150*				
Surrogate: d-N-EtFOSA	*140*		"	*50.0*		*280*	*25-150*				
Surrogate: M3HFPO-DA	*264*		"	*200*		*132*	*25-150*				
Surrogate: d9-N-EtFOSE	*333*		"	*500*		*66.7*	*25-150*				
Surrogate: d7-N-MeFOSE	*373*		"	*500*		*74.6*	*25-150*				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30673 - EPA 1633 Prep											
Duplicate (BE30673-DUP1)	*Source sample: 23E0419-03 (EHQ_ITEM304_PFASFB_230505)								Prepared: 05/15/2023 Analyzed: 05/17/2023		
Perfluorobutanesulfonic acid (PFBS)	ND	1.66	ng/L		ND					30	
Perfluorohexanoic acid (PFHxA)	0.701	1.88	"		0.702				0.182	30	
Perfluoroheptanoic acid (PFHpA)	ND	1.88	"		ND					30	
Perfluorohexanesulfonic acid (PFHxS)	ND	1.72	"		ND					30	
Perfluorooctanoic acid (PFOA)	ND	1.88	"		ND					30	
Perfluorooctanesulfonic acid (PFOS)	ND	1.75	"		ND					30	
Perfluorononanoic acid (PFNA)	ND	1.88	"		ND					30	
Perfluorodecanoic acid (PFDA)	ND	1.88	"		ND					30	
Perfluoroundecanoic acid (PFUnA)	ND	1.88	"		ND					30	
Perfluorododecanoic acid (PFDoA)	ND	1.88	"		ND					30	
Perfluorotridecanoic acid (PFTrDA)	ND	1.88	"		ND					30	
Perfluorotetradecanoic acid (PFTA)	ND	1.88	"		ND					30	
N-MeFOSAA	ND	1.88	"		ND					30	
N-EtFOSAA	ND	1.88	"		ND					30	
Perfluoropentanoic acid (PFPeA)	ND	3.75	"		ND					30	
Perfluoro-1-octanesulfonamide (FOSA)	ND	1.88	"		ND					30	
Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	1.79	"		ND					30	
Perfluoro-1-decanesulfonic acid (PFDS)	ND	1.81	"		ND					30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	7.13	"		ND					30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	7.21	"		ND					30	
Perfluoro-n-butanoic acid (PFBA)	ND	7.51	"		ND					30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	3.34	"		ND					30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	3.75	"		ND					30	
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	3.75	"		ND					30	
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	3.75	"		ND					30	
Perfluoro-1-pentanesulfonate (PFPeS)	ND	1.76	"		ND					30	
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	ND	7.04	"		ND					30	
HFPO-DA (Gen-X)	ND	7.51	"		ND					30	
11CL-PF3OUdS	ND	7.09	"		ND					30	
9CL-PF3ONS	ND	7.02	"		ND					30	
ADONA	ND	7.09	"		ND					30	
Perfluorododecanesulfonic acid (PFDoS)	ND	1.82	"		ND					30	
Perfluoro-1-nonanesulfonic acid (PFNS)	ND	1.80	"		ND					30	
3-Perfluoropropyl propanoic acid (FPrPA)	ND	4.69	"		ND					30	
3-Perfluoropentyl propanoic acid (FPePA)	ND	23.5	"		ND					30	
3-Perfluoroheptyl propanoic acid (FHpPA)	ND	23.5	"		ND					30	
N-MeFOSE	ND	18.8	"		ND					30	
N-MeFOSA	ND	1.88	"		ND					30	
N-EtFOSE	ND	18.8	"		ND					30	
N-EtFOSA	ND	1.88	"		ND					30	
Surrogate: M3PFBS	*19.1*		"	*21.9*		*87.3*	*25-150*				
Surrogate: M5PFHxA	*24.2*		"	*23.5*		*103*	*25-150*				
Surrogate: M4PFHpA	*24.7*		"	*23.5*		*105*	*25-150*				
Surrogate: M3PFHxS	*20.1*		"	*22.2*		*90.2*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*21.8*		"	*23.5*		*92.8*	*25-150*				
Surrogate: M6PFDA	*10.2*		"	*11.7*		*87.1*	*25-150*				
Surrogate: M7PFUdA	*10.3*		"	*11.7*		*87.9*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*7.41*		"	*11.7*		*63.2*	*25-150*				
Surrogate: M2PFTeDA	*3.25*		"	*11.7*		*27.7*	*10-150*				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30673 - EPA 1633 Prep											
Duplicate (BE30673-DUP1)	*Source sample: 23E0419-03 (EHQ_ITEM304_PFASFB_230505)							Prepared: 05/15/2023 Analyzed: 05/17/2023			
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*92.4*		*ng/L*	*93.8*		*98.4*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*20.1*		*"*	*22.5*		*89.2*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*46.2*		*"*	*46.9*		*98.5*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*14.2*		*"*	*23.5*		*60.3*	*10-150*				
Surrogate: d3-N-MeFOSAA	*27.3*		*"*	*46.9*		*58.2*	*25-150*				
Surrogate: d5-N-EtFOSAA	*26.7*		*"*	*46.9*		*56.9*	*25-150*				
Surrogate: M2-6:2 FTS	*55.1*		*"*	*44.6*		*124*	*25-200*				
Surrogate: M2-8:2 FTS	*28.5*		*"*	*45.0*		*63.3*	*25-200*				
Surrogate: M9PFNA	*9.54*		*"*	*11.7*		*81.3*	*25-150*				
Surrogate: M2-4:2 FTS	*47.2*		*"*	*44.0*		*107*	*25-150*				
Surrogate: d-N-MeFOSA	*9.07*		*"*	*23.5*		*38.6*	*25-150*				
Surrogate: d-N-EtFOSA	*76.7*		*"*	*23.5*		*327*	*25-150*				
Surrogate: M3HFPO-DA	*110*		*"*	*93.8*		*117*	*25-150*				
Surrogate: d9-N-EtFOSE	*24.6*		*"*	*235*		*10.5*	*25-150*				
Surrogate: d7-N-MeFOSE	*41.8*		*"*	*235*		*17.8*	*25-150*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30881 - EPA 3550C											
Blank (BE30881-BLK1)											Prepared: 05/14/2023 Analyzed: 05/16/2023
4,4'-DDD	ND	0.00165	mg/kg wet								
4,4'-DDE	ND	0.00165	"								
4,4'-DDT	ND	0.00165	"								
Aldrin	ND	0.00165	"								
alpha-BHC	ND	0.00165	"								
alpha-Chlordane	ND	0.00165	"								
beta-BHC	ND	0.00165	"								
delta-BHC	ND	0.00165	"								
Dieldrin	ND	0.00165	"								
Endosulfan I	ND	0.00165	"								
Endosulfan II	ND	0.00165	"								
Endosulfan sulfate	ND	0.00165	"								
Endrin	ND	0.00165	"								
Endrin aldehyde	ND	0.00165	"								
Endrin ketone	ND	0.00165	"								
gamma-BHC (Lindane)	ND	0.00165	"								
gamma-Chlordane	ND	0.00165	"								
Heptachlor	ND	0.00165	"								
Heptachlor epoxide	ND	0.00165	"								
Methoxychlor	ND	0.00165	"								
Toxaphene	ND	0.165	"								
Chlordane, total	ND	0.0330	"								
Surrogate: Decachlorobiphenyl	*0.0660*		*"*	*0.0667*		*99.0*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.0526*		*"*	*0.0667*		*78.8*	*30-150*				
LCS (BE30881-BS1)											Prepared: 05/14/2023 Analyzed: 05/16/2023
4,4'-DDD	0.0216	0.00165	mg/kg wet	0.0333		64.9	40-140				
4,4'-DDE	0.0203	0.00165	"	0.0333		60.8	40-140				
4,4'-DDT	0.0212	0.00165	"	0.0333		63.7	40-140				
Aldrin	0.0215	0.00165	"	0.0333		64.6	40-140				
alpha-BHC	0.0221	0.00165	"	0.0333		66.2	40-140				
alpha-Chlordane	0.0200	0.00165	"	0.0333		60.1	40-140				
beta-BHC	0.0205	0.00165	"	0.0333		61.5	40-140				
delta-BHC	0.0223	0.00165	"	0.0333		66.9	40-140				
Dieldrin	0.0214	0.00165	"	0.0333		64.3	40-140				
Endosulfan I	0.0220	0.00165	"	0.0333		66.0	40-140				
Endosulfan II	0.0226	0.00165	"	0.0333		67.7	40-140				
Endosulfan sulfate	0.0224	0.00165	"	0.0333		67.1	40-140				
Endrin	0.0221	0.00165	"	0.0333		66.4	40-140				
Endrin aldehyde	0.0200	0.00165	"	0.0333		59.9	40-140				
Endrin ketone	0.0233	0.00165	"	0.0333		70.0	40-140				
gamma-BHC (Lindane)	0.0218	0.00165	"	0.0333		65.4	40-140				
gamma-Chlordane	0.0210	0.00165	"	0.0333		62.9	40-140				
Heptachlor	0.0219	0.00165	"	0.0333		65.7	40-140				
Heptachlor epoxide	0.0218	0.00165	"	0.0333		65.5	40-140				
Methoxychlor	0.0220	0.00165	"	0.0333		66.1	40-140				
Surrogate: Decachlorobiphenyl	*0.0512*		*"*	*0.0667*		*76.8*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.0407*		*"*	*0.0667*		*61.0*	*30-150*				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30881 - EPA 3550C											
Blank (BE30881-BLK2)											Prepared: 05/14/2023 Analyzed: 05/16/2023
Aroclor 1016	ND	0.0167	mg/kg wet								
Aroclor 1221	ND	0.0167	"								
Aroclor 1232	ND	0.0167	"								
Aroclor 1242	ND	0.0167	"								
Aroclor 1248	ND	0.0167	"								
Aroclor 1254	ND	0.0167	"								
Aroclor 1260	ND	0.0167	"								
Total PCBs	ND	0.0167	"								
Surrogate: Tetrachloro-m-xylene	*0.0560*		*"*	*0.0667*		*84.0*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.0453*		*"*	*0.0667*		*68.0*	*30-120*				
LCS (BE30881-BS2)											Prepared: 05/14/2023 Analyzed: 05/16/2023
Aroclor 1016	0.279	0.0167	mg/kg wet	0.333		83.6	40-130				
Aroclor 1260	0.274	0.0167	"	0.333		82.3	40-130				
Surrogate: Tetrachloro-m-xylene	*0.0497*		*"*	*0.0667*		*74.5*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.0437*		*"*	*0.0667*		*65.5*	*30-120*				

Chlorinated Herbicides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30644 - EPA 3550C/8151A											
Blank (BE30644-BLK1)											Prepared: 05/10/2023 Analyzed: 05/11/2023
2,4,5-T	ND	0.0199	mg/kg wet								
2,4,5-TP (Silvex)	ND	0.0199	"								
2,4-D	ND	0.0199	"								
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*0.353*		*"*	*0.415*		*85.0*	*21-150*				
LCS (BE30644-BS1)											Prepared: 05/10/2023 Analyzed: 05/11/2023
2,4,5-T	0.110	0.0199	mg/kg wet	0.133		82.5	10-120				
2,4,5-TP (Silvex)	0.115	0.0199	"	0.133		86.9	10-120				
2,4-D	0.120	0.0199	"	0.133		90.6	10-118				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*0.377*		*"*	*0.415*		*90.8*	*21-150*				

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30803 - EPA 3050B											
Blank (BE30803-BLK1)											
Prepared: 05/11/2023 Analyzed: 05/15/2023											
Aluminum	ND	4.17	mg/kg wet								
Antimony	ND	2.08	"								
Arsenic	ND	1.25	"								
Barium	ND	2.08	"								
Beryllium	ND	0.042	"								
Cadmium	ND	0.250	"								
Calcium	ND	4.17	"								
Chromium	ND	0.417	"								
Cobalt	ND	0.333	"								
Copper	ND	1.67	"								
Iron	ND	20.8	"								
Lead	ND	0.417	"								
Magnesium	ND	4.17	"								
Manganese	ND	0.417	"								
Nickel	ND	0.830	"								
Potassium	ND	4.17	"								
Selenium	ND	2.08	"								
Silver	ND	0.420	"								
Sodium	ND	41.7	"								
Thallium	ND	2.08	"								
Vanadium	ND	0.830	"								
Zinc	ND	2.08	"								
Reference (BE30803-SRM1)											
Prepared: 05/11/2023 Analyzed: 05/15/2023											
Aluminum	8680	4.17	mg/kg wet	8040		108	49.9-150.5				
Antimony	55.1	2.08	"	129		42.7	18-250.4				
Arsenic	200	1.25	"	183		109	69.9-130.1				
Barium	324	2.08	"	297		109	75.1-125.3				
Beryllium	80.9	0.042	"	78.8		103	75-124.9				
Cadmium	233	0.250	"	221		105	75.1-124.9				
Calcium	4830	4.17	"	4710		102	72.4-127.4				
Chromium	202	0.417	"	200		101	70-130				
Cobalt	105	0.333	"	97.4		108	74.9-125.3				
Copper	155	1.67	"	136		114	75-125				
Iron	13300	20.8	"	14000		94.7	34.9-165.7				
Lead	270	0.417	"	257		105	73.9-126.1				
Magnesium	2380	4.17	"	2290		104	62-138.4				
Manganese	407	0.417	"	381		107	75.9-124.1				
Nickel	196	0.830	"	169		116	69.8-129.6				
Potassium	2070	4.17	"	2030		102	59.1-140.9				
Selenium	176	2.08	"	217		81.3	69.1-131.3				
Silver	58.5	0.420	"	67.8		86.3	70.6-129.2				
Sodium	447	41.7	"	427		105	58.3-141.9				
Thallium	83.0	2.08	"	80.5		103	65.1-135.4				
Vanadium	207	0.830	"	205		101	74.6-125.4				
Zinc	228	2.08	"	224		102	70.1-130.4				

Mercury by EPA 7000/200 Series Methods - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30780 - EPA 7473 soil											
Blank (BE30780-BLK1)									Prepared & Analyzed: 05/11/2023		
Mercury	ND	0.0300	mg/kg wet								
Reference (BE30780-SRM1)									Prepared & Analyzed: 05/11/2023		
Mercury	34.144		mg/kg	27.2		126	59.9-140.1				

Wet Chemistry Parameters - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30689 - EPA SW846-3060											
Blank (BE30689-BLK1)								Prepared & Analyzed: 05/10/2023			
Chromium, Hexavalent	ND	0.500	mg/kg wet								
Reference (BE30689-SRM1)								Prepared & Analyzed: 05/10/2023			
Chromium, Hexavalent	356		mg/L	227		157	42.3-157.7				
Batch BE30690 - Analysis Preparation Soil											
Blank (BE30690-BLK1)								Prepared & Analyzed: 05/10/2023			
Cyanide, total	ND	0.500	mg/kg								
LCS (BE30690-BS1)								Prepared & Analyzed: 05/10/2023			
Cyanide, total	133		ug/mL	131		102	72.9-112				
Duplicate (BE30690-DUP1)	*Source sample: 23E0419-12 (EHQ_ITEM304_COMP02_230505)							Prepared & Analyzed: 05/10/2023			
Cyanide, total	ND	0.500	mg/kg		ND					15	
Matrix Spike (BE30690-MS1)	*Source sample: 23E0419-12 (EHQ_ITEM304_COMP02_230505)							Prepared & Analyzed: 05/10/2023			
Cyanide, total	9.95	0.500	mg/kg	10.0	ND	99.5	79.6-107				
Matrix Spike Dup (BE30690-MSD1)	*Source sample: 23E0419-12 (EHQ_ITEM304_COMP02_230505)							Prepared & Analyzed: 05/10/2023			
Cyanide, total	9.30	0.500	mg/kg	10.0	ND	93.0	79.6-107		6.75	200	

Miscellaneous Physical Parameters - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE31042 - % Solids Prep											
Duplicate (BE31042-DUP1)	*Source sample: 23E0419-01 (EHQ_ITEM304_COMP01_230505 PFAS)								Prepared & Analyzed: 05/15/2023		
% Solids	92.1	0.100	%		93.4				1.39	20	

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
23E0419-04	EHQ_ITEM304_GRAB01_230505	40mL Vial with Stir Bar-Cool 4° C
23E0419-05	EHQ_ITEM304_GRAB02_230505	40mL Vial with Stir Bar-Cool 4° C
23E0419-06	EHQ_ITEM304_GRAB03_230505	40mL Vial with Stir Bar-Cool 4° C
23E0419-07	EHQ_ITEM304_GRAB04_230505	40mL Vial with Stir Bar-Cool 4° C
23E0419-08	EHQ_ITEM304_GRAB05_230505	40mL Vial with Stir Bar-Cool 4° C
23E0419-09	EHQ_ITEM304_GRAB06_230505	40mL Vial with Stir Bar-Cool 4° C
23E0419-10	EHQ_ITEM304_GRAB07_230505	40mL Vial with Stir Bar-Cool 4° C

Sample and Data Qualifiers Relating to This Work Order

S-HI	Surrogate recovery is above acceptance limits. No target compound is detected in sample.
S-08	The recovery of this surrogate was outside of QC limits.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
CCVE	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
CAL-E	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%)

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

Corrective Action:	On 5/8/23, client was made aware the trip blank was not received at the lab. Greg Wyka confirmed the trip blank was not submitted with the samples.

Laboratory Chain-of-Custody Record

York Project (SDG) No.: 23E0419

Samples Received: 05/05/2023 17:07 **By:** Hunter L. Lammers **Logged In:** 05/05/2023 17:50 **By:** Thien Dang

Sample Conditions:

- [ ] Custody Seals
- [x] Containers Intact
- [x] COC/Labels Agree
- [x] Preservation Confirmed
- [x] Cooler Temperature Confirmed
- [x] COC Complete
- [x] Chain of Custody Form Received
- [x] Appropriate Sample Volumes Received
- [x] Appropriate Sample Containers Submitted
- [x] Samples Submitted within Holding Times
- [x] Corrective Action Form Required

Preparation Chain-of-Custody

Sample ID	Reason Prep	Prep Start Date	Prep End Date	Prep Analyst
23E0419-01	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-02	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-04	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-05	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-06	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-07	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-08	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-09	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-10	% Solids Prep	05/15/2023 17:10	05/15/2023 17:10	Adanny Camacho
23E0419-11	% Solids Prep	05/12/2023 9:27	05/12/2023 9:27	Shauna G. Souza
23E0419-12	% Solids Prep	05/12/2023 9:27	05/12/2023 9:27	Shauna G. Souza
23E0419-11	Analysis Preparation	05/15/2023 7:10	05/15/2023 7:10	Victoria Richards
23E0419-12	Analysis Preparation	05/15/2023 7:10	05/15/2023 7:10	Victoria Richards
23E0419-11	Analysis Preparation Soil	05/10/2023 14:24	05/10/2023 14:24	Zach T. Scott
23E0419-12	Analysis Preparation Soil	05/10/2023 14:24	05/10/2023 14:24	Zach T. Scott
23E0419-01	EPA 1633 Prep	05/08/2023 17:34	05/08/2023 17:34	Britania Walters
23E0419-02	EPA 1633 Prep	05/08/2023 17:34	05/08/2023 17:34	Britania Walters
23E0419-03	EPA 1633 Prep	05/15/2023 12:21	05/15/2023 12:21	William Higgins
23E0419-11	EPA 3050B	05/11/2023 15:46	05/11/2023 15:46	Kristina M. Qubick
23E0419-12	EPA 3050B	05/11/2023 15:46	05/11/2023 15:46	Kristina M. Qubick
23E0419-11	EPA 3550C	05/14/2023 8:00	05/14/2023 8:00	Nicholas Fasnakis
23E0419-11	EPA 3550C	05/14/2023 8:28	05/14/2023 8:28	Ashley G Galvez
23E0419-11	EPA 3550C	05/14/2023 8:42	05/14/2023 8:42	Kaio A Zanette
23E0419-11	EPA 3550C	05/14/2023 8:42	05/14/2023 8:42	Kaio A Zanette
23E0419-12	EPA 3550C	05/14/2023 8:28	05/14/2023 8:28	Ashley G Galvez
23E0419-12	EPA 3550C	05/14/2023 8:42	05/14/2023 8:42	Kaio A Zanette
23E0419-12	EPA 3550C	05/14/2023 8:42	05/14/2023 8:42	Kaio A Zanette
23E0419-12	EPA 3550C	05/14/2023 8:00	05/14/2023 8:00	Nicholas Fasnakis



Preparation Chain-of-Custody

Sample ID	Reason Prep	Prep Start Date	Prep End Date	Prep Analyst
23E0419-11	EPA 3550C/8151A	05/10/2023 8:22	05/10/2023 8:22	Ashley G Galvez
23E0419-12	EPA 3550C/8151A	05/10/2023 8:22	05/10/2023 8:22	Ashley G Galvez
23E0419-04	EPA 5035A	05/10/2023 8:30	05/10/2023 8:30	Brittany Michelle Connolly
23E0419-05	EPA 5035A	05/10/2023 8:30	05/10/2023 8:30	Brittany Michelle Connolly
23E0419-06	EPA 5035A	05/10/2023 8:30	05/10/2023 8:30	Brittany Michelle Connolly
23E0419-07	EPA 5035A	05/10/2023 8:30	05/10/2023 8:30	Brittany Michelle Connolly
23E0419-08	EPA 5035A	05/10/2023 8:30	05/10/2023 8:30	Brittany Michelle Connolly
23E0419-09	EPA 5035A	05/10/2023 8:30	05/10/2023 8:30	Brittany Michelle Connolly
23E0419-10	EPA 5035A	05/12/2023 10:04	05/12/2023 10:04	Brittany Michelle Connolly
23E0419-11	EPA 7473 soil	05/11/2023 13:56	05/11/2023 13:56	Ariana G Narbasta Ruffner
23E0419-12	EPA 7473 soil	05/11/2023 13:56	05/11/2023 13:56	Ariana G Narbasta Ruffner
23E0419-11	EPA SW846-3060	05/10/2023 14:22	05/10/2023 14:22	Sarah M. Kotsay
23E0419-12	EPA SW846-3060	05/10/2023 14:22	05/10/2023 14:22	Sarah M. Kotsay

Analysis Chain-of-Custody

Sample ID	Reason Analysis	Analysis Start Date	Analysis End Date	Analyst
23E0419-11	Chromium, Hexavalent	05/10/2023 14:22	05/10/2023 21:18	Nadia J. Ostreicher
23E0419-12	Chromium, Hexavalent	05/10/2023 14:22	05/10/2023 21:18	Nadia J. Ostreicher
23E0419-11	Chromium, Trivalent	05/15/2023 7:10	05/15/2023 17:35	Philip Murphy
23E0419-12	Chromium, Trivalent	05/15/2023 7:10	05/15/2023 17:35	Philip Murphy
23E0419-11	Cyanide, Total	05/10/2023 14:24	05/10/2023 22:18	Nadia J. Ostreicher
23E0419-12	Cyanide, Total	05/10/2023 14:24	05/10/2023 22:18	Nadia J. Ostreicher
23E0419-11	HERB, 8151 MASTER	05/10/2023 8:22	05/11/2023 18:16	Ben Johnson
23E0419-12	HERB, 8151 MASTER	05/10/2023 8:22	05/11/2023 18:27	Ben Johnson
23E0419-11	Mercury by 7473	05/11/2023 13:56	05/11/2023 19:19	Ariana G Narbasta Ruffner
23E0419-12	Mercury by 7473	05/11/2023 13:56	05/11/2023 19:28	Ariana G Narbasta Ruffner
23E0419-11	Metals, Target Analyte	05/11/2023 15:46	05/15/2023 12:06	Andrew J. Lioio
23E0419-12	Metals, Target Analyte	05/11/2023 15:46	05/15/2023 12:08	Andrew J. Lioio
23E0419-11	PCB, 8082 MASTER	05/14/2023 8:42	05/16/2023 10:31	Ben Johnson
23E0419-12	PCB, 8082 MASTER	05/14/2023 8:42	05/16/2023 10:44	Ben Johnson
23E0419-11	PEST, 8081 MASTER	05/14/2023 8:42	05/16/2023 13:15	Ben Johnson
23E0419-12	PEST, 8081 MASTER	05/14/2023 8:42	05/16/2023 13:34	Ben Johnson
23E0419-01	PFAS, EPA 1633 Target List	05/08/2023 17:34	05/10/2023 17:59	Elisa James
23E0419-02	PFAS, EPA 1633 Target List	05/08/2023 17:34	05/10/2023 18:11	Elisa James
23E0419-03	PFAS, EPA 1633 Target List	05/15/2023 12:21	05/17/2023 12:42	Elisa James
23E0419-11	Semi-Volatiles, 1,4-Dioxane 8270 SIM	05/14/2023 8:00	05/14/2023 19:23	Kimberly Holbrook
23E0419-12	Semi-Volatiles, 1,4-Dioxane 8270 SIM	05/14/2023 8:00	05/14/2023 19:40	Kimberly Holbrook
23E0419-11	SVOA, 8270 MASTER	05/14/2023 8:28	05/15/2023 12:21	Kimberly Holbrook

Analysis Chain-of-Custody

Sample ID	Reason Analysis	Analysis Start Date	Analysis End Date	Analyst
23E0419-12	SVOA, 8270 MASTER	05/14/2023 8:28	05/15/2023 12:51	Kimberly Holbrook
23E0419-01	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-02	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-04	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-05	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-06	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-07	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-08	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-09	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-10	Total Solids	05/15/2023 17:10	05/15/2023 17:12	Adanny Camacho
23E0419-11	Total Solids	05/12/2023 9:27	05/12/2023 13:12	Shauna G. Souza
23E0419-12	Total Solids	05/12/2023 9:27	05/12/2023 13:12	Shauna G. Souza
23E0419-04	VOA, 8260 MASTER	05/10/2023 8:30	05/10/2023 16:00	Brittany Michelle Connolly
23E0419-05	VOA, 8260 MASTER	05/10/2023 8:30	05/10/2023 16:31	Brittany Michelle Connolly
23E0419-06	VOA, 8260 MASTER	05/10/2023 8:30	05/10/2023 17:02	Brittany Michelle Connolly
23E0419-07	VOA, 8260 MASTER	05/10/2023 8:30	05/10/2023 17:33	Brittany Michelle Connolly
23E0419-08	VOA, 8260 MASTER	05/10/2023 8:30	05/10/2023 18:04	Brittany Michelle Connolly
23E0419-09	VOA, 8260 MASTER	05/10/2023 8:30	05/10/2023 18:35	Brittany Michelle Connolly
23E0419-10	VOA, 8260 MASTER	05/12/2023 10:04	05/12/2023 13:35	Brittany Michelle Connolly

YORK — Field Chain-of-Custody Record

YORK Analytical Laboratories, Inc. (YORK)'s Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No. 23041/9

120 Research Drive Stratford, CT 06615 | 132-02 89th Ave Queens, NY 11418 | 56 Church Hill Rd. #2 Newtown, CT 06470 | clientservices@yorklab.com | www.yorklab.com | 800-306-YORK | Page 1 of 2

YOUR Information	Report To:	Invoice To:	YOUR Project Number	Turn-Around Time
Company: [illegible]	Company: Langan DPC	Company:	170446801	RUSH - Next Day
Address: [illegible]	Address: 360 W. 31ST Street NY, NY	Address:	YOUR Project Name: 700-708 First Ave	RUSH - Two Day
Phone: [illegible]	Phone:	Phone:		RUSH - Three Day
Contact: H. Gnesbach	Contact: Tyler Goodnough	Contact: → SAME		RUSH - Four Day
E-mail: hgnesbach@langan.com	E-mail: tgoodnough@langan.com	E-mail: → SAME	YOUR PO#:	RUSH - Five Day
				Standard (6-9 Day): X
				PFAS Standard is 7-10 Days

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

Hannah Gnesbach

Samples Collected by: (print AND sign your name)

Matrix Codes	Samples From	Report / EDD Type (circle selections)			YORK Reg. Comp.
S - soil / solid	New York	Summary Report	CT RCP	EQuIS (Standard)	Compared to the following Regulation(s): (please fill in)
GW - groundwater	New Jersey	QA Report	CT RCP DQA/DUE	NYSDEC EQuIS	
DW - drinking water	Connecticut X	CMDP	NJDEP Reduced Deliverables	NJDKQP	
WW - wastewater	Pennsylvania	Standard Excel EDD		NJDEP SRP HazSite	
O - Oil | Other	Other:	NY ASP B Package	Other:		

Sample Identification	Sample Matrix	Date/Time Sampled	Analyses Requested	Container Type	No.
EHQ-ITEM304_GRAB01_230505	S	5/5/23			
EHQ-ITEM304_COMP01_230505	S	5/5/23 1300	PFAS via 1633	250 HDPE	1
EHQ-ITEM304_COMP02_230505	S	1305	↓	↓	1
EHQ-ITEM304_PFASFB_230505	Aq	↓ 1330	↓	500 plastic	2
	D				

Comments: Pease send deliverables tgoodnough & gwyka @langan.com

Samples iced/chilled at time of lab pickup? circle: Yes or No

Preservation: (check all that apply) HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other ___

Special Instruction: Field Filtered ☐ Lab to Filter ☐

1. Samples Relinquished by / Company	Date/Time	1. Samples Received by / Company	Date/Time	2. Samples Relinquished by / Company	Date/Time
Taylor Dalling/Langan	5/5/23 17:07				
2. Samples Received by / Company	Date/Time	3. Samples Relinquished by / Company	Date/Time	3. Samples Received by / Company	Date/Time
4. Samples Relinquished by / Company	Date/Time	4. Samples Received by / Company	Date/Time	Samples Received in LAB by	Date/Time / Temperature
				[illegible]	5/5/23 1707 / 3.1 Degrees C

Field Chain-of-Custody Record

YORK Analytical Laboratories, Inc. (YORK)'s Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No. 23EC419

120 Research Drive Stratford, CT 06615 | 132-02 89th Ave Queens, NY 11418 | 56 Church Hill Rd. #2 Newtown, CT 06470 | clientservices@yorklab.com | www.yorklab.com | 800-306-YORK

YOUR Information	Report To:	Invoice To:	YOUR Project Number	Turn-Around Time
Company:	Company:	Company:	170446801	RUSH - Next Day
Address: see page 1	Address:	Address:	YOUR Project Name	RUSH - Two Day
Phone:	Phone:	Phone:	700-708 First Ave	RUSH - Three Day
Contact:	Contact:	Contact:		RUSH - Four Day
E-mail:	E-mail:	E-mail:	YOUR PO#:	RUSH - Five Day
				Standard (6-9 Day) X
				PFAS Standard is 7-10 Days

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

Hannah Gjesbach

Samples Collected by: (print AND sign your name)

Matrix Codes: S - soil / solid; GW - groundwater; DW - drinking water; WW - wastewater; O - Oil; Other

Samples From: New York; New Jersey; Connecticut X; Pennsylvania; Other:

Report / EDD Type (circle selections): Summary Report; QA Report; CMDP; Standard ExcelEDD; CT RCP; CT RCP DQA/DUE; NJDEP Reduced Deliverables; NY ASP B Package; EQuIS (Standard); NYSDEC EQuIS; NJDKQP; NJDEP SRP HazSite; Other:

YORK Reg. Comp.: Compared to the following Regulation(s): (please fill in)

Sample Identification	Sample Matrix	Date/Time Sampled	Analyses Requested	Container Type	No.
EHQ_ITEM304_GRAB01_230505	S	6/5/23 1210	TCL/PaRt 375 VOCs	5035 Vial Set	4
GRAB02		1215			
GRAB03		1220			
GRAB04		1225			
GRAB05		1230			
GRAB06		1235			
GRAB07		1240			
EHQ_ITEM304_COMP01_230505		1300	TCL/PaRt 375 SVOCs, 1,4-dioxane via SIM, PCBs, TAL metals (hex/tri)	8 oz glass	2
COMP02		1315	Pesticides, Herbicides, TAL-metals (hex/tri)	G	2
Trip Blank	Aq		TCL/PaRt 375 VOCs | total cyanide	40 VOAs	2

Comments: please send deliverables to tgoodhaugh & gwojka @langan.com

Samples loaded/chilled at time of lab pickup? circle Yes or No

Preservation: (check all that apply) HCl X MeOH X HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other: DI

Special Instruction: Field Filtered; Lab to Filter

1. Samples Relinquished by / Company	Date/Time	1. Samples Received by / Company	Date/Time	2. Samples Relinquished by / Company	Date/Time
Taylor Dalling / Langan	5/5/23 17:07				
2. Samples Received by / Company	Date/Time	3. Samples Relinquished by / Company	Date/Time	3. Samples Received by / Company	Date/Time
4. Samples Relinquished by / Company	Date/Time	4. Samples Received by / Company	Date/Time	Samples Received in LAB by	Date/Time / Temperature
					5/5/23 1707 / 3.5 Degrees C

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: VOA

METHOD: EPA 8260C

DATA PACKAGE COVER PAGE

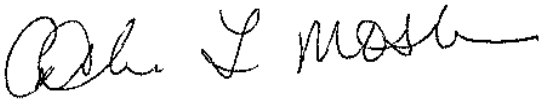
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_GRAB01_230505	23E0419-04
EHQ_ITEM304_GRAB02_230505	23E0419-05
EHQ_ITEM304_GRAB03_230505	23E0419-06
EHQ_ITEM304_GRAB04_230505	23E0419-07
EHQ_ITEM304_GRAB05_230505	23E0419-08
EHQ_ITEM304_GRAB06_230505	23E0419-09
EHQ_ITEM304_GRAB07_230505	23E0419-10

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1504 Instrument: QVOA4

Calibration: SD30046

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BD31853-BS1)			Lab File ID: QV433009.D		Analyzed: 05/10/23 09:39			
SURR: 1,2-Dichloroethane-d4	50.0	109	77 - 125	4.588	4.5885	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.357	6.357	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	101	76 - 130	9.098	9.098333	-0.0003	+/-1.00	
LCS Dup (BD31853-BSD1)			Lab File ID: QV433010.D		Analyzed: 05/10/23 10:07			
SURR: 1,2-Dichloroethane-d4	50.0	106	77 - 125	4.59	4.5885	0.0015	+/-1.00	
SURR: Toluene-d8	50.0	102	85 - 120	6.357	6.357	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	104	76 - 130	9.098	9.098333	-0.0003	+/-1.00	
Blank (BD31853-BLK1)			Lab File ID: QV433011.D		Analyzed: 05/10/23 10:36			
SURR: 1,2-Dichloroethane-d4	50.0	107	77 - 125	4.59	4.5885	0.0015	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.357	6.357	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	98.1	76 - 130	9.098	9.098333	-0.0003	+/-1.00	
EHQ_ITEM304_GRAB01_230505 (23E0419-04)			Lab File ID: QV433016.D		Analyzed: 05/10/23 16:00			
SURR: 1,2-Dichloroethane-d4	50.0	114	77 - 125	4.59	4.5885	0.0015	+/-1.00	
SURR: Toluene-d8	50.0	99.3	85 - 120	6.36	6.357	0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	96.5	76 - 130	9.1	9.098333	0.0017	+/-1.00	
EHQ_ITEM304_GRAB02_230505 (23E0419-05)			Lab File ID: QV433017.D		Analyzed: 05/10/23 16:31			
SURR: 1,2-Dichloroethane-d4	50.0	113	77 - 125	4.588	4.5885	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.357	6.357	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	98.9	76 - 130	9.1	9.098333	0.0017	+/-1.00	
EHQ_ITEM304_GRAB03_230505 (23E0419-06)			Lab File ID: QV433018.D		Analyzed: 05/10/23 17:02			
SURR: 1,2-Dichloroethane-d4	50.0	110	77 - 125	4.59	4.5885	0.0015	+/-1.00	
SURR: Toluene-d8	50.0	99.7	85 - 120	6.357	6.357	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	96.9	76 - 130	9.098	9.098333	-0.0003	+/-1.00	
EHQ_ITEM304_GRAB04_230505 (23E0419-07)			Lab File ID: QV433019.D		Analyzed: 05/10/23 17:33			
SURR: 1,2-Dichloroethane-d4	50.0	116	77 - 125	4.59	4.5885	0.0015	+/-1.00	
SURR: Toluene-d8	50.0	100	85 - 120	6.36	6.357	0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	96.1	76 - 130	9.098	9.098333	-0.0003	+/-1.00	
EHQ_ITEM304_GRAB05_230505 (23E0419-08)			Lab File ID: QV433020.D		Analyzed: 05/10/23 18:04			
SURR: 1,2-Dichloroethane-d4	50.0	115	77 - 125	4.59	4.5885	0.0015	+/-1.00	
SURR: Toluene-d8	50.0	99.2	85 - 120	6.357	6.357	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	99.1	76 - 130	9.097	9.098333	-0.0013	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1504	Instrument:	QVOA4
		Calibration:	SD30046

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_GRAB06_230505 (23E0419-09)			Lab File ID: QV433021.D		Analyzed: 05/10/23 18:35			
SURR: 1,2-Dichloroethane-d4	50.0	113	77 - 125	4.59	4.5885	0.0015	+/-1.00	
SURR: Toluene-d8	50.0	98.9	85 - 120	6.36	6.357	0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	99.2	76 - 130	9.098	9.098333	-0.0003	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1513	Instrument:	QVOA1
		Calibration:	SE30018

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BD31857-BS1)			Lab File ID: QV130961.D		Analyzed: 05/12/23 12:07			
SURR: 1,2-Dichloroethane-d4	50.0	95.7	77 - 125	4.487	4.4865	0.0005	+/-1.00	
SURR: Toluene-d8	50.0	106	85 - 120	6.29	6.2885	0.0015	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	103	76 - 130	9	8.9985	0.0015	+/-1.00	
LCS Dup (BD31857-BSD1)			Lab File ID: QV130962.D		Analyzed: 05/12/23 12:34			
SURR: 1,2-Dichloroethane-d4	50.0	97.9	77 - 125	4.487	4.4865	0.0005	+/-1.00	
SURR: Toluene-d8	50.0	105	85 - 120	6.287	6.2885	-0.0015	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	100	76 - 130	8.997	8.9985	-0.0015	+/-1.00	
Blank (BD31857-BLK1)			Lab File ID: QV130963.D		Analyzed: 05/12/23 13:02			
SURR: 1,2-Dichloroethane-d4	50.0	101	77 - 125	4.484	4.4865	-0.0025	+/-1.00	
SURR: Toluene-d8	50.0	107	85 - 120	6.287	6.2885	-0.0015	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	113	76 - 130	8.997	8.9985	-0.0015	+/-1.00	
EHQ_ITEM304_GRAB07_230505 (23E0419-10)			Lab File ID: QV130964.D		Analyzed: 05/12/23 13:35			
SURR: 1,2-Dichloroethane-d4	50.0	100	77 - 125	4.485	4.4865	-0.0015	+/-1.00	
SURR: Toluene-d8	50.0	107	85 - 120	6.287	6.2885	-0.0015	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	112	76 - 130	8.997	8.9985	-0.0015	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31853	Laboratory ID:	BD31853-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	56.8	114	75 - 129
1,1,1-Trichloroethane	50.0	57.4	115	71 - 137
1,1,2,2-Tetrachloroethane	50.0	50.3	101	79 - 129
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	50.0	59.3	119	58 - 146
1,1,2-Trichloroethane	50.0	50.7	101	83 - 123
1,1-Dichloroethane	50.0	52.2	104	75 - 130
1,1-Dichloroethylene	50.0	59.3	119	64 - 137
1,2,3-Trichlorobenzene	50.0	49.6	99.3	81 - 140
1,2,3-Trichloropropane	50.0	52.9	106	81 - 126
1,2,4-Trichlorobenzene	50.0	52.0	104	80 - 141
1,2,4-Trimethylbenzene	50.0	52.9	106	84 - 125
1,2-Dibromo-3-chloropropane	50.0	53.5	107	74 - 142
1,2-Dibromoethane	50.0	53.8	108	86 - 123
1,2-Dichlorobenzene	50.0	49.9	99.8	85 - 122
1,2-Dichloroethane	50.0	56.1	112	71 - 133
1,2-Dichloropropane	50.0	51.0	102	81 - 122
1,3,5-Trimethylbenzene	50.0	51.1	102	82 - 126
1,3-Dichlorobenzene	50.0	51.3	103	84 - 124
1,4-Dichlorobenzene	50.0	49.7	99.5	84 - 124
1,4-Dioxane	1050	1180	112	10 - 228
2-Butanone	50.0	44.3	88.6	58 - 147
2-Hexanone	50.0	53.6	107	70 - 139
4-Methyl-2-pentanone	50.0	53.3	107	72 - 132
Acetone	50.0	208	416 *	36 - 155
Acrolein	50.0	45.7	91.5	10 - 238
Acrylonitrile	50.0	51.4	103	66 - 141
Benzene	50.0	51.3	103	77 - 127
Bromochloromethane	50.0	52.1	104	74 - 129
Bromodichloromethane	50.0	56.6	113	81 - 124
Bromoform	50.0	52.3	105	80 - 136

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31853	Laboratory ID:	BD31853-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Bromomethane	50.0	66.9	134	32 - 177
Carbon disulfide	50.0	55.8	112	10 - 136
Carbon tetrachloride	50.0	61.3	123	66 - 143
Chlorobenzene	50.0	54.4	109	86 - 120
Chloroethane	50.0	60.3	121	51 - 142
Chloroform	50.0	54.7	109	76 - 131
Chloromethane	50.0	43.9	87.7	49 - 132
cis-1,2-Dichloroethylene	50.0	49.8	99.6	74 - 132
cis-1,3-Dichloropropylene	50.0	54.6	109	81 - 129
Cyclohexane	50.0	50.5	101	70 - 130
Dibromochloromethane	50.0	58.6	117	10 - 200
Dibromomethane	50.0	54.3	109	83 - 124
Dichlorodifluoromethane	50.0	48.8	97.7	28 - 158
Ethyl Benzene	50.0	54.1	108	84 - 125
Hexachlorobutadiene	50.0	52.0	104	83 - 133
Isopropylbenzene	50.0	52.8	106	81 - 127
Methyl acetate	50.0	46.9	93.8	41 - 143
Methyl tert-butyl ether (MTBE)	50.0	49.6	99.2	74 - 131
Methylcyclohexane	50.0	52.1	104	70 - 130
Methylene chloride	50.0	53.5	107	57 - 141
n-Butylbenzene	50.0	52.0	104	80 - 130
n-Propylbenzene	50.0	51.8	104	74 - 136
o-Xylene	50.0	54.8	110	83 - 123
p- & m- Xylenes	100	108	108	82 - 128
p-Isopropyltoluene	50.0	52.1	104	85 - 125
sec-Butylbenzene	50.0	50.9	102	83 - 125
Styrene	50.0	51.9	104	86 - 126
tert-Butyl alcohol (TBA)	250	231	92.3	70 - 130
tert-Butylbenzene	50.0	52.0	104	80 - 127
Tetrachloroethylene	50.0	47.4	94.7	80 - 129

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31853	Laboratory ID:	BD31853-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Toluene	50.0	52.1	104	85 - 121
trans-1,2-Dichloroethylene	50.0	55.0	110	72 - 132
trans-1,3-Dichloropropylene	50.0	54.6	109	78 - 132
Trichloroethylene	50.0	55.6	111	84 - 123
Trichlorofluoromethane	50.0	59.5	119	62 - 140
Vinyl Chloride	50.0	55.6	111	52 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31853	Laboratory ID:	BD31853-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	56.3	113	0.919	30	75 - 129
1,1,1-Trichloroethane	50.0	55.5	111	3.21	30	71 - 137
1,1,2,2-Tetrachloroethane	50.0	49.7	99.3	1.32	30	79 - 129
1,1,2-Trichloro-1,2,2-trifluoroeth ane (Freon 113)	50.0	57.1	114	3.71	30	58 - 146
1,1,2-Trichloroethane	50.0	50.4	101	0.633	30	83 - 123
1,1-Dichloroethane	50.0	50.9	102	2.48	30	75 - 130
1,1-Dichloroethylene	50.0	57.2	114	3.64	30	64 - 137
1,2,3-Trichlorobenzene	50.0	49.5	99.0	0.323	30	81 - 140
1,2,3-Trichloropropane	50.0	52.6	105	0.568	30	81 - 126
1,2,4-Trichlorobenzene	50.0	50.6	101	2.69	30	80 - 141
1,2,4-Trimethylbenzene	50.0	52.0	104	1.73	30	84 - 125
1,2-Dibromo-3-chloropropane	50.0	52.4	105	2.06	30	74 - 142
1,2-Dibromoethane	50.0	53.2	106	1.25	30	86 - 123
1,2-Dichlorobenzene	50.0	50.6	101	1.31	30	85 - 122
1,2-Dichloroethane	50.0	54.8	110	2.33	30	71 - 133
1,2-Dichloropropane	50.0	51.6	103	1.27	30	81 - 122
1,3,5-Trimethylbenzene	50.0	52.0	104	1.78	30	82 - 126
1,3-Dichlorobenzene	50.0	50.9	102	0.743	30	84 - 124
1,4-Dichlorobenzene	50.0	48.8	97.6	1.85	30	84 - 124
1,4-Dioxane	1050	1130	108	3.58	30	10 - 228
2-Butanone	50.0	46.2	92.4	4.20	30	58 - 147
2-Hexanone	50.0	52.8	106	1.48	30	70 - 139
4-Methyl-2-pentanone	50.0	52.4	105	1.72	30	72 - 132
Acetone	50.0	191	382 *	8.51	30	36 - 155
Acrolein	50.0	44.3	88.6	3.13	30	10 - 238
Acrylonitrile	50.0	47.6	95.3	7.47	30	66 - 141
Benzene	50.0	49.7	99.4	3.21	30	77 - 127
Bromochloromethane	50.0	49.7	99.4	4.66	30	74 - 129
Bromodichloromethane	50.0	55.5	111	2.10	30	81 - 124
Bromoform	50.0	50.7	101	3.01	30	80 - 136

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31853	Laboratory ID:	BD31853-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Bromomethane	50.0	60.1	120	10.7	30	32 - 177
Carbon disulfide	50.0	55.4	111	0.792	30	10 - 136
Carbon tetrachloride	50.0	59.2	118	3.60	30	66 - 143
Chlorobenzene	50.0	53.9	108	1.02	30	86 - 120
Chloroethane	50.0	57.1	114	5.33	30	51 - 142
Chloroform	50.0	53.3	107	2.57	30	76 - 131
Chloromethane	50.0	44.2	88.4	0.727	30	49 - 132
cis-1,2-Dichloroethylene	50.0	53.1	106	6.47	30	74 - 132
cis-1,3-Dichloropropylene	50.0	54.3	109	0.514	30	81 - 129
Cyclohexane	50.0	48.8	97.5	3.53	30	70 - 130
Dibromochloromethane	50.0	57.9	116	1.20	30	10 - 200
Dibromomethane	50.0	52.7	105	2.99	30	83 - 124
Dichlorodifluoromethane	50.0	44.9	89.8	8.43	30	28 - 158
Ethyl Benzene	50.0	53.4	107	1.32	30	84 - 125
Hexachlorobutadiene	50.0	51.7	103	0.733	30	83 - 133
Isopropylbenzene	50.0	52.9	106	0.246	30	81 - 127
Methyl acetate	50.0	45.5	90.9	3.08	30	41 - 143
Methyl tert-butyl ether (MTBE)	50.0	48.8	97.7	1.58	30	74 - 131
Methylcyclohexane	50.0	51.2	102	1.67	30	70 - 130
Methylene chloride	50.0	51.3	103	4.20	30	57 - 141
n-Butylbenzene	50.0	51.8	104	0.405	30	80 - 130
n-Propylbenzene	50.0	51.5	103	0.600	30	74 - 136
o-Xylene	50.0	54.0	108	1.62	30	83 - 123
p- & m- Xylenes	100	107	107	1.65	30	82 - 128
p-Isopropyltoluene	50.0	51.6	103	0.984	30	85 - 125
sec-Butylbenzene	50.0	51.4	103	0.899	30	83 - 125
Styrene	50.0	52.6	105	1.42	30	86 - 126
tert-Butyl alcohol (TBA)	250	233	93.3	1.08	30	70 - 130
tert-Butylbenzene	50.0	52.2	104	0.384	30	80 - 127
Tetrachloroethylene	50.0	47.4	94.7	0.0211	30	80 - 129

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31853	Laboratory ID:	BD31853-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Toluene	50.0	51.9	104	0.327	30	85 - 121
trans-1,2-Dichloroethylene	50.0	51.9	104	5.89	30	72 - 132
trans-1,3-Dichloropropylene	50.0	55.3	111	1.22	30	78 - 132
Trichloroethylene	50.0	54.1	108	2.81	30	84 - 123
Trichlorofluoromethane	50.0	57.5	115	3.42	30	62 - 140
Vinyl Chloride	50.0	52.9	106	4.94	30	52 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31857	Laboratory ID:	BD31857-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	44.3	88.6	75 - 129
1,1,1-Trichloroethane	50.0	40.4	80.9	71 - 137
1,1,2,2-Tetrachloroethane	50.0	54.7	109	79 - 129
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	50.0	59.0	118	58 - 146
1,1,2-Trichloroethane	50.0	48.1	96.2	83 - 123
1,1-Dichloroethane	50.0	45.7	91.5	75 - 130
1,1-Dichloroethylene	50.0	56.9	114	64 - 137
1,2,3-Trichlorobenzene	50.0	46.5	93.0	81 - 140
1,2,3-Trichloropropane	50.0	48.8	97.6	81 - 126
1,2,4-Trichlorobenzene	50.0	47.3	94.7	80 - 141
1,2,4-Trimethylbenzene	50.0	50.2	100	84 - 125
1,2-Dibromo-3-chloropropane	50.0	48.8	97.6	74 - 142
1,2-Dibromoethane	50.0	47.1	94.1	86 - 123
1,2-Dichlorobenzene	50.0	50.7	101	85 - 122
1,2-Dichloroethane	50.0	45.6	91.3	71 - 133
1,2-Dichloropropane	50.0	52.7	105	81 - 122
1,3,5-Trimethylbenzene	50.0	54.0	108	82 - 126
1,3-Dichlorobenzene	50.0	49.1	98.2	84 - 124
1,4-Dichlorobenzene	50.0	47.9	95.8	84 - 124
1,4-Dioxane	1050	1060	101	10 - 228
2-Butanone	50.0	52.6	105	58 - 147
2-Hexanone	50.0	53.0	106	70 - 139
4-Methyl-2-pentanone	50.0	41.4	82.8	72 - 132
Acetone	50.0	216	432 *	36 - 155
Acrolein	50.0	47.6	95.1	10 - 238
Acrylonitrile	50.0	48.6	97.2	66 - 141
Benzene	50.0	46.9	93.7	77 - 127
Bromochloromethane	50.0	48.2	96.4	74 - 129
Bromodichloromethane	50.0	48.8	97.6	81 - 124
Bromoform	50.0	35.8	71.5 *	80 - 136

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31857	Laboratory ID:	BD31857-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Bromomethane	50.0	68.9	138	32 - 177
Carbon disulfide	50.0	51.1	102	10 - 136
Carbon tetrachloride	50.0	39.7	79.5	66 - 143
Chlorobenzene	50.0	50.6	101	86 - 120
Chloroethane	50.0	65.2	130	51 - 142
Chloroform	50.0	45.4	90.8	76 - 131
Chloromethane	50.0	56.6	113	49 - 132
cis-1,2-Dichloroethylene	50.0	44.8	89.6	74 - 132
cis-1,3-Dichloropropylene	50.0	45.6	91.2	81 - 129
Cyclohexane	50.0	47.5	95.0	70 - 130
Dibromochloromethane	50.0	47.3	94.6	10 - 200
Dibromomethane	50.0	48.7	97.4	83 - 124
Dichlorodifluoromethane	50.0	44.4	88.8	28 - 158
Ethyl Benzene	50.0	50.2	100	84 - 125
Hexachlorobutadiene	50.0	45.4	90.7	83 - 133
Isopropylbenzene	50.0	52.3	105	81 - 127
Methyl acetate	50.0	49.0	98.0	41 - 143
Methyl tert-butyl ether (MTBE)	50.0	41.1	82.2	74 - 131
Methylcyclohexane	50.0	49.6	99.2	70 - 130
Methylene chloride	50.0	47.1	94.1	57 - 141
n-Butylbenzene	50.0	53.8	108	80 - 130
n-Propylbenzene	50.0	52.8	106	74 - 136
o-Xylene	50.0	50.3	101	83 - 123
p- & m- Xylenes	100	101	101	82 - 128
p-Isopropyltoluene	50.0	50.9	102	85 - 125
sec-Butylbenzene	50.0	52.1	104	83 - 125
Styrene	50.0	49.7	99.3	86 - 126
tert-Butyl alcohol (TBA)	250	184	73.7	70 - 130
tert-Butylbenzene	50.0	45.0	90.0	80 - 127
Tetrachloroethylene	50.0	40.7	81.4	80 - 129

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31857	Laboratory ID:	BD31857-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Toluene	50.0	50.4	101	85 - 121
trans-1,2-Dichloroethylene	50.0	46.9	93.7	72 - 132
trans-1,3-Dichloropropylene	50.0	40.8	81.7	78 - 132
Trichloroethylene	50.0	49.4	98.9	84 - 123
Trichlorofluoromethane	50.0	63.8	128	62 - 140
Vinyl Chloride	50.0	63.2	126	52 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Soil
Batch: BD31857
Laboratory ID: BD31857-BSD1
Preparation: EPA 5035A
Initial/Final: 5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	45.5	91.0	2.65	30	75 - 129
1,1,1-Trichloroethane	50.0	40.9	81.8	1.18	30	71 - 137
1,1,2,2-Tetrachloroethane	50.0	55.3	111	1.11	30	79 - 129
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	50.0	60.8	122	3.04	30	58 - 146
1,1,2-Trichloroethane	50.0	50.3	101	4.55	30	83 - 123
1,1-Dichloroethane	50.0	46.3	92.6	1.26	30	75 - 130
1,1-Dichloroethylene	50.0	57.4	115	0.805	30	64 - 137
1,2,3-Trichlorobenzene	50.0	46.6	93.3	0.344	30	81 - 140
1,2,3-Trichloropropane	50.0	50.8	102	3.96	30	81 - 126
1,2,4-Trichlorobenzene	50.0	47.9	95.9	1.26	30	80 - 141
1,2,4-Trimethylbenzene	50.0	49.1	98.3	2.17	30	84 - 125
1,2-Dibromo-3-chloropropane	50.0	50.6	101	3.66	30	74 - 142
1,2-Dibromoethane	50.0	49.3	98.6	4.61	30	86 - 123
1,2-Dichlorobenzene	50.0	50.6	101	0.158	30	85 - 122
1,2-Dichloroethane	50.0	45.7	91.4	0.197	30	71 - 133
1,2-Dichloropropane	50.0	53.4	107	1.30	30	81 - 122
1,3,5-Trimethylbenzene	50.0	53.0	106	2.00	30	82 - 126
1,3-Dichlorobenzene	50.0	48.7	97.4	0.777	30	84 - 124
1,4-Dichlorobenzene	50.0	47.6	95.1	0.670	30	84 - 124
1,4-Dioxane	1050	1100	104	3.25	30	10 - 228
2-Butanone	50.0	47.6	95.3	9.80	30	58 - 147
2-Hexanone	50.0	55.5	111	4.65	30	70 - 139
4-Methyl-2-pentanone	50.0	43.3	86.5	4.42	30	72 - 132
Acetone	50.0	226	452 *	4.68	30	36 - 155
Acrolein	50.0	47.6	95.2	0.126	30	10 - 238
Acrylonitrile	50.0	48.5	97.1	0.165	30	66 - 141
Benzene	50.0	47.7	95.4	1.71	30	77 - 127
Bromochloromethane	50.0	49.3	98.6	2.24	30	74 - 129
Bromodichloromethane	50.0	50.2	100	2.91	30	81 - 124
Bromoform	50.0	38.0	76.1 *	6.21	30	80 - 136

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31857	Laboratory ID:	BD31857-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Bromomethane	50.0	66.3	133	3.91	30	32 - 177
Carbon disulfide	50.0	48.5	97.1	5.22	30	10 - 136
Carbon tetrachloride	50.0	39.8	79.5	0.0503	30	66 - 143
Chlorobenzene	50.0	51.9	104	2.50	30	86 - 120
Chloroethane	50.0	64.7	129	0.831	30	51 - 142
Chloroform	50.0	46.4	92.9	2.24	30	76 - 131
Chloromethane	50.0	54.5	109	3.92	30	49 - 132
cis-1,2-Dichloroethylene	50.0	46.0	91.9	2.62	30	74 - 132
cis-1,3-Dichloropropylene	50.0	46.7	93.4	2.38	30	81 - 129
Cyclohexane	50.0	49.6	99.1	4.22	30	70 - 130
Dibromochloromethane	50.0	49.1	98.2	3.74	30	10 - 200
Dibromomethane	50.0	50.2	100	3.09	30	83 - 124
Dichlorodifluoromethane	50.0	41.2	82.3	7.55	30	28 - 158
Ethyl Benzene	50.0	51.1	102	1.80	30	84 - 125
Hexachlorobutadiene	50.0	45.0	90.0	0.841	30	83 - 133
Isopropylbenzene	50.0	51.3	103	1.91	30	81 - 127
Methyl acetate	50.0	50.2	100	2.30	30	41 - 143
Methyl tert-butyl ether (MTBE)	50.0	42.8	85.6	4.05	30	74 - 131
Methylcyclohexane	50.0	50.0	99.9	0.743	30	70 - 130
Methylene chloride	50.0	47.5	94.9	0.825	30	57 - 141
n-Butylbenzene	50.0	53.2	106	1.21	30	80 - 130
n-Propylbenzene	50.0	51.8	104	1.82	30	74 - 136
o-Xylene	50.0	51.4	103	2.14	30	83 - 123
p- & m- Xylenes	100	103	103	1.95	30	82 - 128
p-Isopropyltoluene	50.0	50.4	101	0.947	30	85 - 125
sec-Butylbenzene	50.0	51.1	102	1.96	30	83 - 125
Styrene	50.0	51.0	102	2.58	30	86 - 126
tert-Butyl alcohol (TBA)	250	196	78.3	6.09	30	70 - 130
tert-Butylbenzene	50.0	44.1	88.3	1.95	30	80 - 127
Tetrachloroethylene	50.0	41.3	82.6	1.37	30	80 - 129

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BD31857	Laboratory ID:	BD31857-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Toluene	50.0	51.3	103	1.79	30	85 - 121
trans-1,2-Dichloroethylene	50.0	46.7	93.4	0.406	30	72 - 132
trans-1,3-Dichloropropylene	50.0	42.6	85.2	4.24	30	78 - 132
Trichloroethylene	50.0	49.8	99.5	0.625	30	84 - 123
Trichlorofluoromethane	50.0	63.4	127	0.566	30	62 - 140
Vinyl Chloride	50.0	62.1	124	1.77	30	52 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BD31853 Batch Matrix: Soil Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_GRAB01_230505	23E0419-04	QV433016.D	05/10/23 08:30	
EHQ_ITEM304_GRAB02_230505	23E0419-05	QV433017.D	05/10/23 08:30	
EHQ_ITEM304_GRAB03_230505	23E0419-06	QV433018.D	05/10/23 08:30	
EHQ_ITEM304_GRAB04_230505	23E0419-07	QV433019.D	05/10/23 08:30	
EHQ_ITEM304_GRAB05_230505	23E0419-08	QV433020.D	05/10/23 08:30	
EHQ_ITEM304_GRAB06_230505	23E0419-09	QV433021.D	05/10/23 08:30	
Blank	BD31853-BLK1	QV433011.D	05/10/23 08:30	
LCS	BD31853-BS1	QV433009.D	05/10/23 08:30	
LCS Dup	BD31853-BSD1	QV433010.D	05/10/23 08:30	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BD31857 Batch Matrix: Soil Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_GRAB07_230505	23E0419-10	QV130964.D	05/12/23 10:04	
Blank	BD31857-BLK1	QV130963.D	05/12/23 10:04	
LCS	BD31857-BS1	QV130961.D	05/12/23 10:04	
LCS Dup	BD31857-BSD1	QV130962.D	05/12/23 10:04	

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31853-BLK1	File ID:	QV433011.D
Prepared:	05/10/23 08:30	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/10/23 10:36	Instrument:	QVOA4		
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
630-20-6	1,1,1,2-Tetrachloroethane	0.0050	U
71-55-6	1,1,1-Trichloroethane	0.0050	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0050	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0050	U
79-00-5	1,1,2-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
87-61-6	1,2,3-Trichlorobenzene	0.0050	U
96-18-4	1,2,3-Trichloropropane	0.0050	U
120-82-1	1,2,4-Trichlorobenzene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
96-12-8	1,2-Dibromo-3-chloropropane	0.0050	U
106-93-4	1,2-Dibromoethane	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
78-87-5	1,2-Dichloropropane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
591-78-6	2-Hexanone	0.0050	U
108-10-1	4-Methyl-2-pentanone	0.0050	U
67-64-1	Acetone	0.010	U
107-02-8	Acrolein	0.010	U
107-13-1	Acrylonitrile	0.0050	U
71-43-2	Benzene	0.0050	U
74-97-5	Bromochloromethane	0.0050	U
75-27-4	Bromodichloromethane	0.0050	U
75-25-2	Bromoform	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31853-BLK1	File ID:	QV433011.D
Prepared:	05/10/23 08:30	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/10/23 10:36	Instrument:	QVOA4		
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
74-83-9	Bromomethane	0.0050	U
75-15-0	Carbon disulfide	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
75-00-3	Chloroethane	0.0050	U
67-66-3	Chloroform	0.0050	U
74-87-3	Chloromethane	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
10061-01-5	cis-1,3-Dichloropropylene	0.0050	U
110-82-7	Cyclohexane	0.0050	U
124-48-1	Dibromochloromethane	0.0050	U
74-95-3	Dibromomethane	0.0050	U
75-71-8	Dichlorodifluoromethane	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
87-68-3	Hexachlorobutadiene	0.0050	U
98-82-8	Isopropylbenzene	0.0050	U
79-20-9	Methyl acetate	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
108-87-2	Methylcyclohexane	0.0050	U
75-09-2	Methylene chloride	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.010	U
99-87-6	p-Isopropyltoluene	0.0050	U
135-98-8	sec-Butylbenzene	0.0050	U
100-42-5	Styrene	0.0050	U
75-65-0	tert-Butyl alcohol (TBA)	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31853-BLK1	File ID:	QV433011.D
Prepared:	05/10/23 08:30	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/10/23 10:36	Instrument:	QVOA4		
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U
10061-02-6	trans-1,3-Dichloropropylene	0.0050	U
79-01-6	Trichloroethylene	0.0050	U
75-69-4	Trichlorofluoromethane	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	53.5	107	77 - 125	
SURR: p-Bromofluorobenzene	50.0	49.1	98.1	76 - 130	
SURR: Toluene-d8	50.0	50.6	101	85 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,2-Dichlorobenzene-d4	399472	10.784	408296	10.786	
ISTD: Chlorobenzene-d5	821583	7.837	861769	7.837	
ISTD: Fluorobenzene	256249	4.86	261973	4.863	

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31857-BLK1	File ID:	QV130963.D
Prepared:	05/12/23 10:04	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/12/23 13:02	Instrument:	QVOA1		
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
630-20-6	1,1,1,2-Tetrachloroethane	0.0050	U
71-55-6	1,1,1-Trichloroethane	0.0050	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0050	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0050	U
79-00-5	1,1,2-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
87-61-6	1,2,3-Trichlorobenzene	0.0050	U
96-18-4	1,2,3-Trichloropropane	0.0050	U
120-82-1	1,2,4-Trichlorobenzene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
96-12-8	1,2-Dibromo-3-chloropropane	0.0050	U
106-93-4	1,2-Dibromoethane	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
78-87-5	1,2-Dichloropropane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
591-78-6	2-Hexanone	0.0050	U
108-10-1	4-Methyl-2-pentanone	0.0050	U
67-64-1	Acetone	0.010	U
107-02-8	Acrolein	0.010	U
107-13-1	Acrylonitrile	0.0050	U
71-43-2	Benzene	0.0050	U
74-97-5	Bromochloromethane	0.0050	U
75-27-4	Bromodichloromethane	0.0050	U
75-25-2	Bromoform	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31857-BLK1	File ID:	QV130963.D
Prepared:	05/12/23 10:04	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/12/23 13:02	Instrument:	QVOA1		
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
74-83-9	Bromomethane	0.0050	U
75-15-0	Carbon disulfide	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
75-00-3	Chloroethane	0.0050	U
67-66-3	Chloroform	0.0050	U
74-87-3	Chloromethane	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
10061-01-5	cis-1,3-Dichloropropylene	0.0050	U
110-82-7	Cyclohexane	0.0050	U
124-48-1	Dibromochloromethane	0.0050	U
74-95-3	Dibromomethane	0.0050	U
75-71-8	Dichlorodifluoromethane	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
87-68-3	Hexachlorobutadiene	0.0050	U
98-82-8	Isopropylbenzene	0.0050	U
79-20-9	Methyl acetate	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
108-87-2	Methylcyclohexane	0.0050	U
75-09-2	Methylene chloride	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.010	U
99-87-6	p-Isopropyltoluene	0.0050	U
135-98-8	sec-Butylbenzene	0.0050	U
100-42-5	Styrene	0.0050	U
75-65-0	tert-Butyl alcohol (TBA)	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31857-BLK1	File ID:	QV130963.D
Prepared:	05/12/23 10:04	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/12/23 13:02	Instrument:	QVOA1		
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U
10061-02-6	trans-1,3-Dichloropropylene	0.0050	U
79-01-6	Trichloroethylene	0.0050	U
75-69-4	Trichlorofluoromethane	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	50.5	101	77 - 125	
SURR: p-Bromofluorobenzene	50.0	56.6	113	76 - 130	
SURR: Toluene-d8	50.0	53.4	107	85 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,2-Dichlorobenzene-d4	222365	10.678	266835	10.678	
ISTD: Chlorobenzene-d5	556748	7.742	581506	7.742	
ISTD: Fluorobenzene	162411	4.788	164305	4.788	

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	QV432522.D	Injection Date:	04/25/23
Instrument ID:	QVOA4	Injection Time:	14:33
Sequence:	S3D2816	Lab Sample ID:	S3D2816-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	29.7	PASS
75	30 - 60% of 95	58.3	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.28	PASS
173	Less than 2% of 174	0.517	PASS
174	50 - 100% of 95	60.4	PASS
175	5 - 9% of 174	8.49	PASS
176	95 - 101% of 174	97.3	PASS
177	5 - 9% of 176	6.84	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	QV130857.D	Injection Date:	05/08/23
Instrument ID:	QVOA1	Injection Time:	14:55
Sequence:	S3E1015	Lab Sample ID:	S3E1015-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	21.6	PASS
75	30 - 60% of 95	51.8	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.8	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	65.7	PASS
175	5 - 9% of 174	7.31	PASS
176	95 - 101% of 174	96.4	PASS
177	5 - 9% of 176	6.64	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	QV433007.D	Injection Date:	05/10/23
Instrument ID:	QVOA4	Injection Time:	08:30
Sequence:	S3E1504	Lab Sample ID:	S3E1504-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	26.8	PASS
75	30 - 60% of 95	59.2	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.11	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	67.4	PASS
175	5 - 9% of 174	7.89	PASS
176	95 - 101% of 174	99.1	PASS
177	5 - 9% of 176	5.11	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	QV130957.D	Injection Date:	05/12/23
Instrument ID:	QVOA1	Injection Time:	10:04
Sequence:	S3E1513	Lab Sample ID:	S3E1513-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	22.6	PASS
75	30 - 60% of 95	53.2	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.59	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	61.8	PASS
175	5 - 9% of 174	7.01	PASS
176	95 - 101% of 174	95.4	PASS
177	5 - 9% of 176	6.5	PASS

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3D2816	Instrument:	QVOA4
		Calibration:	SD30046

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3D2816-TUN1	QV432522.D	04/25/23 14:33
Cal Standard	S3D2816-CAL1	QV432523.D	04/25/23 15:01
Cal Standard	S3D2816-CAL2	QV432524.D	04/25/23 15:30
Cal Standard	S3D2816-CAL3	QV432525.D	04/25/23 15:59
Cal Standard	S3D2816-CAL4	QV432526.D	04/25/23 16:28
Cal Standard	S3D2816-CAL5	QV432527.D	04/25/23 16:56
Cal Standard	S3D2816-CAL6	QV432528.D	04/25/23 17:25
Secondary Cal Check	S3D2816-SCV1	QV432551.D	04/28/23 09:37

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1015	Instrument:	QVOA1
		Calibration:	SE30018

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3E1015-TUN1	QV130857.D	05/08/23 14:55
Cal Standard	S3E1015-CAL1	QV130858.D	05/08/23 15:24
Cal Standard	S3E1015-CAL2	QV130859.D	05/08/23 15:50
Cal Standard	S3E1015-CAL3	QV130860.D	05/08/23 16:17
Cal Standard	S3E1015-CAL4	QV130861.D	05/08/23 16:46
Cal Standard	S3E1015-CAL5	QV130862.D	05/08/23 17:13
Cal Standard	S3E1015-CAL6	QV130863.D	05/08/23 17:40
Secondary Cal Check	S3E1015-SCV1	QV130870.D	05/09/23 10:28

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1504	Instrument:	QVOA4
		Calibration:	SD30046

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3E1504-TUN1	QV433007.D	05/10/23 08:30
Calibration Check	S3E1504-CCV1	QV433008.D	05/10/23 08:59
LCS	BD31853-BS1	QV433009.D	05/10/23 09:39
LCS Dup	BD31853-BSD1	QV433010.D	05/10/23 10:07
Blank	BD31853-BLK1	QV433011.D	05/10/23 10:36
EHQ_ITEM304_GRAB01_230505	23E0419-04	QV433016.D	05/10/23 16:00
EHQ_ITEM304_GRAB02_230505	23E0419-05	QV433017.D	05/10/23 16:31
EHQ_ITEM304_GRAB03_230505	23E0419-06	QV433018.D	05/10/23 17:02
EHQ_ITEM304_GRAB04_230505	23E0419-07	QV433019.D	05/10/23 17:33
EHQ_ITEM304_GRAB05_230505	23E0419-08	QV433020.D	05/10/23 18:04
EHQ_ITEM304_GRAB06_230505	23E0419-09	QV433021.D	05/10/23 18:35

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1513	Instrument:	QVOA1
		Calibration:	SE30018

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3E1513-TUN1	QV130957.D	05/12/23 10:04
Calibration Check	S3E1513-CCV1	QV130958.D	05/12/23 10:39
LCS	BD31857-BS1	QV130961.D	05/12/23 12:07
LCS Dup	BD31857-BSD1	QV130962.D	05/12/23 12:34
Blank	BD31857-BLK1	QV130963.D	05/12/23 13:02
EHQ_ITEM304_GRAB07_230505	23E0419-10	QV130964.D	05/12/23 13:35

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC) Project: 170446801
Sequence: S3D2816 Instrument: QVOA4
Calibration: SD30046

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (S3D2816-CAL1)			Lab File ID: QV432523.D			Analyzed: 04/25/23 15:01			
ISTD: Fluorobenzene	230354	4.857	239986	4.857	96	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	779686	7.837	783695	7.837	99	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	365979	10.784	364764	10.781	100	50 - 200	0.0030	+/-0.17	
Cal Standard (S3D2816-CAL2)			Lab File ID: QV432524.D			Analyzed: 04/25/23 15:30			
ISTD: Fluorobenzene	235551	4.86	239986	4.857	98	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	767306	7.837	783695	7.837	98	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	365996	10.783	364764	10.781	100	50 - 200	0.0020	+/-0.17	
Cal Standard (S3D2816-CAL3)			Lab File ID: QV432525.D			Analyzed: 04/25/23 15:59			
ISTD: Fluorobenzene	236547	4.86	239986	4.857	99	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	774180	7.837	783695	7.837	99	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	368241	10.784	364764	10.781	101	50 - 200	0.0030	+/-0.17	
Cal Standard (S3D2816-CAL4)			Lab File ID: QV432526.D			Analyzed: 04/25/23 16:28			
ISTD: Fluorobenzene	239986	4.857	239986	4.857	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	783695	7.837	783695	7.837	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	364764	10.781	364764	10.781	100	50 - 200	0.0000	+/-0.17	
Cal Standard (S3D2816-CAL5)			Lab File ID: QV432527.D			Analyzed: 04/25/23 16:56			
ISTD: Fluorobenzene	238686	4.86	239986	4.857	99	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	790367	7.837	783695	7.837	101	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	357094	10.784	364764	10.781	98	50 - 200	0.0030	+/-0.17	
Cal Standard (S3D2816-CAL6)			Lab File ID: QV432528.D			Analyzed: 04/25/23 17:25			
ISTD: Fluorobenzene	244284	4.86	239986	4.857	102	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	807739	7.84	783695	7.837	103	50 - 200	0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	357825	10.789	364764	10.781	98	50 - 200	0.0080	+/-0.17	
Secondary Cal Check (S3D2816-SCV1)			Lab File ID: QV432551.D			Analyzed: 04/28/23 09:37			
ISTD: Fluorobenzene	232880	4.857	239986	4.857	97	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	749919	7.84	783695	7.837	96	50 - 200	0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	350456	10.784	364764	10.781	96	50 - 200	0.0030	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC) Project: 170446801
Sequence: S3E1015 Instrument: QVOA1
Calibration: SE30018

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (S3E1015-CAL1)			Lab File ID: QV130858.D			Analyzed: 05/08/23 15:24			
ISTD: Fluorobenzene	208127	4.788	201692	4.788	103	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	791629	7.742	774208	7.743	102	50 - 200	-0.0010	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	342706	10.678	355385	10.678	96	50 - 200	0.0000	+/-0.17	
Cal Standard (S3E1015-CAL2)			Lab File ID: QV130859.D			Analyzed: 05/08/23 15:50			
ISTD: Fluorobenzene	205511	4.788	201692	4.788	102	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	785222	7.742	774208	7.743	101	50 - 200	-0.0010	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	343910	10.678	355385	10.678	97	50 - 200	0.0000	+/-0.17	
Cal Standard (S3E1015-CAL3)			Lab File ID: QV130860.D			Analyzed: 05/08/23 16:17			
ISTD: Fluorobenzene	203023	4.788	201692	4.788	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	770379	7.743	774208	7.743	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	341074	10.678	355385	10.678	96	50 - 200	0.0000	+/-0.17	
Cal Standard (S3E1015-CAL4)			Lab File ID: QV130861.D			Analyzed: 05/08/23 16:46			
ISTD: Fluorobenzene	201692	4.788	201692	4.788	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	774208	7.743	774208	7.743	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	355385	10.678	355385	10.678	100	50 - 200	0.0000	+/-0.17	
Cal Standard (S3E1015-CAL5)			Lab File ID: QV130862.D			Analyzed: 05/08/23 17:13			
ISTD: Fluorobenzene	200100	4.79	201692	4.788	99	50 - 200	0.0020	+/-0.17	
ISTD: Chlorobenzene-d5	773847	7.742	774208	7.743	100	50 - 200	-0.0010	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	373098	10.68	355385	10.678	105	50 - 200	0.0020	+/-0.17	
Cal Standard (S3E1015-CAL6)			Lab File ID: QV130863.D			Analyzed: 05/08/23 17:40			
ISTD: Fluorobenzene	200384	4.79	201692	4.788	99	50 - 200	0.0020	+/-0.17	
ISTD: Chlorobenzene-d5	774591	7.745	774208	7.743	100	50 - 200	0.0020	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	386664	10.68	355385	10.678	109	50 - 200	0.0020	+/-0.17	
Secondary Cal Check (S3E1015-SCV1)			Lab File ID: QV130870.D			Analyzed: 05/09/23 10:28			
ISTD: Fluorobenzene	199612	4.788	201692	4.788	99	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	786096	7.742	774208	7.743	102	50 - 200	-0.0010	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	367081	10.678	355385	10.678	103	50 - 200	0.0000	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1504
Instrument: QVOA4
Calibration: SD30046

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1504-CCV1)			Lab File ID: QV433008.D			Analyzed: 05/10/23 08:59			
ISTD: Fluorobenzene	261973	4.863				50 - 200		+/-0.17	
ISTD: Chlorobenzene-d5	861769	7.837				50 - 200		+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	408296	10.786				50 - 200		+/-0.17	
LCS (BD31853-BS1)			Lab File ID: QV433009.D			Analyzed: 05/10/23 09:39			
ISTD: Fluorobenzene	265323	4.857	261973	4.863	101	50 - 200	-0.0060	+/-0.17	
ISTD: Chlorobenzene-d5	864556	7.84	861769	7.837	100	50 - 200	0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	416734	10.784	408296	10.786	102	50 - 200	-0.0020	+/-0.17	
LCS Dup (BD31853-BSD1)			Lab File ID: QV433010.D			Analyzed: 05/10/23 10:07			
ISTD: Fluorobenzene	267675	4.86	261973	4.863	102	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	863760	7.837	861769	7.837	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	412891	10.784	408296	10.786	101	50 - 200	-0.0020	+/-0.17	
Blank (BD31853-BLK1)			Lab File ID: QV433011.D			Analyzed: 05/10/23 10:36			
ISTD: Fluorobenzene	256249	4.86	261973	4.863	98	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	821583	7.837	861769	7.837	95	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	399472	10.784	408296	10.786	98	50 - 200	-0.0020	+/-0.17	
EHQ_ITEM304_GRAB01_230505 (23E0419-04)			Lab File ID: QV433016.D			Analyzed: 05/10/23 16:00			
ISTD: Fluorobenzene	243630	4.86	261973	4.863	93	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	790174	7.837	861769	7.837	92	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	385455	10.786	408296	10.786	94	50 - 200	0.0000	+/-0.17	
EHQ_ITEM304_GRAB02_230505 (23E0419-05)			Lab File ID: QV433017.D			Analyzed: 05/10/23 16:31			
ISTD: Fluorobenzene	221416	4.86	261973	4.863	85	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	714673	7.837	861769	7.837	83	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	344682	10.786	408296	10.786	84	50 - 200	0.0000	+/-0.17	
EHQ_ITEM304_GRAB03_230505 (23E0419-06)			Lab File ID: QV433018.D			Analyzed: 05/10/23 17:02			
ISTD: Fluorobenzene	231913	4.863	261973	4.863	89	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	750338	7.837	861769	7.837	87	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	366956	10.784	408296	10.786	90	50 - 200	-0.0020	+/-0.17	
EHQ_ITEM304_GRAB04_230505 (23E0419-07)			Lab File ID: QV433019.D			Analyzed: 05/10/23 17:33			
ISTD: Fluorobenzene	227928	4.857	261973	4.863	87	50 - 200	-0.0060	+/-0.17	
ISTD: Chlorobenzene-d5	748624	7.837	861769	7.837	87	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	367619	10.786	408296	10.786	90	50 - 200	0.0000	+/-0.17	
EHQ_ITEM304_GRAB05_230505 (23E0419-08)			Lab File ID: QV433020.D			Analyzed: 05/10/23 18:04			
ISTD: Fluorobenzene	226614	4.857	261973	4.863	87	50 - 200	-0.0060	+/-0.17	
ISTD: Chlorobenzene-d5	744828	7.837	861769	7.837	86	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	357628	10.784	408296	10.786	88	50 - 200	-0.0020	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1504	Instrument:	QVOA4
		Calibration:	SD30046

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_GRAB06_230505 (23E0419-09)			Lab File ID: QV433021.D			Analyzed: 05/10/23 18:35			
ISTD: Fluorobenzene	206338	4.86	261973	4.863	79	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	659807	7.837	861769	7.837	77	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	317712	10.784	408296	10.786	78	50 - 200	-0.0020	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1513
Instrument: QVOA1
Calibration: SE30018

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1513-CCV1)			Lab File ID: QV130958.D			Analyzed: 05/12/23 10:39			
ISTD: Fluorobenzene	164305	4.788				50 - 200		+/-0.17	
ISTD: Chlorobenzene-d5	581506	7.742				50 - 200		+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	266835	10.678				50 - 200		+/-0.17	
LCS (BD31857-BS1)			Lab File ID: QV130961.D			Analyzed: 05/12/23 12:07			
ISTD: Fluorobenzene	164177	4.788	164305	4.788	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	579984	7.742	581506	7.742	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	253290	10.678	266835	10.678	95	50 - 200	0.0000	+/-0.17	
LCS Dup (BD31857-BSD1)			Lab File ID: QV130962.D			Analyzed: 05/12/23 12:34			
ISTD: Fluorobenzene	167458	4.788	164305	4.788	102	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	589157	7.743	581506	7.742	101	50 - 200	0.0010	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	266630	10.678	266835	10.678	100	50 - 200	0.0000	+/-0.17	
Blank (BD31857-BLK1)			Lab File ID: QV130963.D			Analyzed: 05/12/23 13:02			
ISTD: Fluorobenzene	162411	4.788	164305	4.788	99	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	556748	7.742	581506	7.742	96	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	222365	10.678	266835	10.678	83	50 - 200	0.0000	+/-0.17	
EHQ_ITEM304_GRAB07_230505 (23E0419-10)			Lab File ID: QV130964.D			Analyzed: 05/12/23 13:35			
ISTD: Fluorobenzene	161221	4.788	164305	4.788	98	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	550523	7.743	581506	7.742	95	50 - 200	0.0010	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	222175	10.678	266835	10.678	83	50 - 200	0.0000	+/-0.17	

HOLDING TIME SUMMARY

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_GRAB01_230505	05/05/23 12:10	05/05/23 17:07	05/10/23 08:30	4.85	14.00	05/10/23 16:00	5.16	14.00	
EHQ_ITEM304_GRAB02_230505	05/05/23 12:15	05/05/23 17:07	05/10/23 08:30	4.84	14.00	05/10/23 16:31	5.18	14.00	
EHQ_ITEM304_GRAB03_230505	05/05/23 12:20	05/05/23 17:07	05/10/23 08:30	4.84	14.00	05/10/23 17:02	5.20	14.00	
EHQ_ITEM304_GRAB04_230505	05/05/23 12:25	05/05/23 17:07	05/10/23 08:30	4.84	14.00	05/10/23 17:33	5.21	14.00	
EHQ_ITEM304_GRAB05_230505	05/05/23 12:30	05/05/23 17:07	05/10/23 08:30	4.83	14.00	05/10/23 18:04	5.23	14.00	
EHQ_ITEM304_GRAB06_230505	05/05/23 12:35	05/05/23 17:07	05/10/23 08:30	4.83	14.00	05/10/23 18:35	5.25	14.00	
EHQ_ITEM304_GRAB07_230505	05/05/23 12:40	05/05/23 17:07	05/12/23 10:04	6.89	14.00	05/12/23 13:35	7.04	14.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: SOIL **Instrument:** QVOA1

Analyte	LOD	LOQ	Units
1,1,1,2-Tetrachloroethane	0.0025	0.0050	mg/kg
1,1,1-Trichloroethane	0.0025	0.0050	mg/kg
1,1,2,2-Tetrachloroethane	0.0025	0.0050	mg/kg
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0025	0.0050	mg/kg
1,1,2-Trichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethylene	0.0025	0.0050	mg/kg
1,2,3-Trichlorobenzene	0.0025	0.0050	mg/kg
1,2,3-Trichloropropane	0.0025	0.0050	mg/kg
1,2,4-Trichlorobenzene	0.0025	0.0050	mg/kg
1,2,4-Trimethylbenzene	0.0025	0.0050	mg/kg
1,2-Dibromo-3-chloropropane	0.0025	0.0050	mg/kg
1,2-Dibromoethane	0.0025	0.0050	mg/kg
1,2-Dichlorobenzene	0.0025	0.0050	mg/kg
1,2-Dichloroethane	0.0025	0.0050	mg/kg
1,2-Dichloropropane	0.0025	0.0050	mg/kg
1,3,5-Trimethylbenzene	0.0025	0.0050	mg/kg
1,3-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dioxane	0.050	0.10	mg/kg
2-Butanone	0.0025	0.0050	mg/kg
2-Hexanone	0.0025	0.0050	mg/kg
4-Methyl-2-pentanone	0.0025	0.0050	mg/kg
Acetone	0.0050	0.010	mg/kg
Acrolein	0.0050	0.010	mg/kg
Acrylonitrile	0.0025	0.0050	mg/kg
Benzene	0.0025	0.0050	mg/kg
Bromochloromethane	0.0025	0.0050	mg/kg
Bromodichloromethane	0.0025	0.0050	mg/kg
Bromoform	0.0025	0.0050	mg/kg
Bromomethane	0.0025	0.0050	mg/kg
Carbon disulfide	0.0025	0.0050	mg/kg
Carbon tetrachloride	0.0025	0.0050	mg/kg
Chlorobenzene	0.0025	0.0050	mg/kg
Chloroethane	0.0025	0.0050	mg/kg
Chloroform	0.0025	0.0050	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: SOIL **Instrument:** QVOA1

Analyte	LOD	LOQ	Units
Chloromethane	0.0025	0.0050	mg/kg
cis-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
cis-1,3-Dichloropropylene	0.0025	0.0050	mg/kg
Cyclohexane	0.0025	0.0050	mg/kg
Dibromochloromethane	0.0025	0.0050	mg/kg
Dibromomethane	0.0025	0.0050	mg/kg
Dichlorodifluoromethane	0.0025	0.0050	mg/kg
Ethyl Benzene	0.0025	0.0050	mg/kg
Hexachlorobutadiene	0.0025	0.0050	mg/kg
Isopropylbenzene	0.0025	0.0050	mg/kg
Methyl acetate	0.0025	0.0050	mg/kg
Methyl tert-butyl ether (MTBE)	0.0025	0.0050	mg/kg
Methylcyclohexane	0.0025	0.0050	mg/kg
Methylene chloride	0.0050	0.010	mg/kg
n-Butylbenzene	0.0025	0.0050	mg/kg
n-Propylbenzene	0.0025	0.0050	mg/kg
o-Xylene	0.0025	0.0050	mg/kg
p- & m- Xylenes	0.0050	0.010	mg/kg
p-Isopropyltoluene	0.0025	0.0050	mg/kg
sec-Butylbenzene	0.0025	0.0050	mg/kg
Styrene	0.0025	0.0050	mg/kg
tert-Butyl alcohol (TBA)	0.0025	0.0050	mg/kg
tert-Butylbenzene	0.0025	0.0050	mg/kg
Tetrachloroethylene	0.0025	0.0050	mg/kg
Toluene	0.0025	0.0050	mg/kg
trans-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
trans-1,3-Dichloropropylene	0.0025	0.0050	mg/kg
Trichloroethylene	0.0025	0.0050	mg/kg
Trichlorofluoromethane	0.0025	0.0050	mg/kg
Vinyl Chloride	0.0025	0.0050	mg/kg
Xylenes, Total	0.0075	0.015	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: SOIL **Instrument:** QVOA4

Analyte	LOD	LOQ	Units
1,1,1,2-Tetrachloroethane	0.0025	0.0050	mg/kg
1,1,1-Trichloroethane	0.0025	0.0050	mg/kg
1,1,2,2-Tetrachloroethane	0.0025	0.0050	mg/kg
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0025	0.0050	mg/kg
1,1,2-Trichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethylene	0.0025	0.0050	mg/kg
1,2,3-Trichlorobenzene	0.0025	0.0050	mg/kg
1,2,3-Trichloropropane	0.0025	0.0050	mg/kg
1,2,4-Trichlorobenzene	0.0025	0.0050	mg/kg
1,2,4-Trimethylbenzene	0.0025	0.0050	mg/kg
1,2-Dibromo-3-chloropropane	0.0025	0.0050	mg/kg
1,2-Dibromoethane	0.0025	0.0050	mg/kg
1,2-Dichlorobenzene	0.0025	0.0050	mg/kg
1,2-Dichloroethane	0.0025	0.0050	mg/kg
1,2-Dichloropropane	0.0025	0.0050	mg/kg
1,3,5-Trimethylbenzene	0.0025	0.0050	mg/kg
1,3-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dioxane	0.050	0.10	mg/kg
2-Butanone	0.0025	0.0050	mg/kg
2-Hexanone	0.0025	0.0050	mg/kg
4-Methyl-2-pentanone	0.0025	0.0050	mg/kg
Acetone	0.0050	0.010	mg/kg
Acrolein	0.0050	0.010	mg/kg
Acrylonitrile	0.0025	0.0050	mg/kg
Benzene	0.0025	0.0050	mg/kg
Bromochloromethane	0.0025	0.0050	mg/kg
Bromodichloromethane	0.0025	0.0050	mg/kg
Bromoform	0.0025	0.0050	mg/kg
Bromomethane	0.0025	0.0050	mg/kg
Carbon disulfide	0.0025	0.0050	mg/kg
Carbon tetrachloride	0.0025	0.0050	mg/kg
Chlorobenzene	0.0025	0.0050	mg/kg
Chloroethane	0.0025	0.0050	mg/kg
Chloroform	0.0025	0.0050	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: SOIL **Instrument:** QVOA4

Analyte	LOD	LOQ	Units
Chloromethane	0.0025	0.0050	mg/kg
cis-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
cis-1,3-Dichloropropylene	0.0025	0.0050	mg/kg
Cyclohexane	0.0025	0.0050	mg/kg
Dibromochloromethane	0.0025	0.0050	mg/kg
Dibromomethane	0.0025	0.0050	mg/kg
Dichlorodifluoromethane	0.0025	0.0050	mg/kg
Ethyl Benzene	0.0025	0.0050	mg/kg
Hexachlorobutadiene	0.0025	0.0050	mg/kg
Isopropylbenzene	0.0025	0.0050	mg/kg
Methyl acetate	0.0025	0.0050	mg/kg
Methyl tert-butyl ether (MTBE)	0.0025	0.0050	mg/kg
Methylcyclohexane	0.0025	0.0050	mg/kg
Methylene chloride	0.0050	0.010	mg/kg
n-Butylbenzene	0.0025	0.0050	mg/kg
n-Propylbenzene	0.0025	0.0050	mg/kg
o-Xylene	0.0025	0.0050	mg/kg
p- & m- Xylenes	0.0050	0.010	mg/kg
p-Isopropyltoluene	0.0025	0.0050	mg/kg
sec-Butylbenzene	0.0025	0.0050	mg/kg
Styrene	0.0025	0.0050	mg/kg
tert-Butyl alcohol (TBA)	0.0025	0.0050	mg/kg
tert-Butylbenzene	0.0025	0.0050	mg/kg
Tetrachloroethylene	0.0025	0.0050	mg/kg
Toluene	0.0025	0.0050	mg/kg
trans-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
trans-1,3-Dichloropropylene	0.0025	0.0050	mg/kg
Trichloroethylene	0.0025	0.0050	mg/kg
Trichlorofluoromethane	0.0025	0.0050	mg/kg
Vinyl Chloride	0.0025	0.0050	mg/kg
Xylenes, Total	0.0075	0.015	mg/kg

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-04 File ID: QV433016.D

Sampled: 05/05/23 12:10 Prepared: 05/10/23 08:30 Analyzed: 05/10/23 16:00

Solids: 88.82 Preparation: EPA 5035A Initial/Final: 5.34 g / 5 ml

Batch: BD31853 Sequence: S3E1504 Calibration: SD30046 Instrument: QVOA4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	0.0053	U
71-55-6	1,1,1-Trichloroethane	1	0.0053	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.0053	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1	0.0053	U
79-00-5	1,1,2-Trichloroethane	1	0.0053	U
75-34-3	1,1-Dichloroethane	1	0.0053	U
75-35-4	1,1-Dichloroethylene	1	0.0053	U
87-61-6	1,2,3-Trichlorobenzene	1	0.0053	U
96-18-4	1,2,3-Trichloropropane	1	0.0053	U
120-82-1	1,2,4-Trichlorobenzene	1	0.0053	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0053	U
96-12-8	1,2-Dibromo-3-chloropropane	1	0.0053	U
106-93-4	1,2-Dibromoethane	1	0.0053	U
95-50-1	1,2-Dichlorobenzene	1	0.0053	U
107-06-2	1,2-Dichloroethane	1	0.0053	U
78-87-5	1,2-Dichloropropane	1	0.0053	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0053	U
541-73-1	1,3-Dichlorobenzene	1	0.0053	U
106-46-7	1,4-Dichlorobenzene	1	0.0053	U
123-91-1	1,4-Dioxane	1	0.11	U
78-93-3	2-Butanone	1	0.0053	U
591-78-6	2-Hexanone	1	0.0053	U
108-10-1	4-Methyl-2-pentanone	1	0.0053	U
67-64-1	Acetone	1	0.011	U
107-02-8	Acrolein	1	0.011	U
107-13-1	Acrylonitrile	1	0.0053	U
71-43-2	Benzene	1	0.0053	U
74-97-5	Bromochloromethane	1	0.0053	U
75-27-4	Bromodichloromethane	1	0.0053	U
75-25-2	Bromoform	1	0.0053	U
74-83-9	Bromomethane	1	0.0053	U
75-15-0	Carbon disulfide	1	0.0053	U
56-23-5	Carbon tetrachloride	1	0.0053	U
108-90-7	Chlorobenzene	1	0.0053	U
75-00-3	Chloroethane	1	0.0053	U
67-66-3	Chloroform	1	0.0053	U
74-87-3	Chloromethane	1	0.0053	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0053	U
10061-01-5	cis-1,3-Dichloropropylene	1	0.0053	U
110-82-7	Cyclohexane	1	0.0053	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB01_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-04	File ID:	QV433016.D
Sampled:	05/05/23 12:10	Prepared:	05/10/23 08:30	Analyzed:	05/10/23 16:00
Solids:	88.82	Preparation:	EPA 5035A	Initial/Final:	5.34 g / 5 ml
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046
Instrument:	QVOA4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
124-48-1	Dibromochloromethane	1	0.0053	U
74-95-3	Dibromomethane	1	0.0053	U
75-71-8	Dichlorodifluoromethane	1	0.0053	U
100-41-4	Ethyl Benzene	1	0.0053	U
87-68-3	Hexachlorobutadiene	1	0.0053	U
98-82-8	Isopropylbenzene	1	0.0053	U
79-20-9	Methyl acetate	1	0.0053	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0053	U
108-87-2	Methylcyclohexane	1	0.0053	U
75-09-2	Methylene chloride	1	0.011	U
104-51-8	n-Butylbenzene	1	0.0053	U
103-65-1	n-Propylbenzene	1	0.0053	U
95-47-6	o-Xylene	1	0.0053	U
179601-23-1	p- & m- Xylenes	1	0.011	U
99-87-6	p-Isopropyltoluene	1	0.0053	U
135-98-8	sec-Butylbenzene	1	0.0053	U
100-42-5	Styrene	1	0.0053	U
75-65-0	tert-Butyl alcohol (TBA)	1	0.0053	U
98-06-6	tert-Butylbenzene	1	0.0053	U
127-18-4	Tetrachloroethylene	1	0.0053	U
108-88-3	Toluene	1	0.0053	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0053	U
10061-02-6	trans-1,3-Dichloropropylene	1	0.0053	U
79-01-6	Trichloroethylene	1	0.0053	U
75-69-4	Trichlorofluoromethane	1	0.0053	U
75-01-4	Vinyl Chloride	1	0.0053	U
1330-20-7	Xylenes, Total	1	0.016	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	56.9	114	77 - 125	
SURR: Toluene-d8	50.0	49.7	99.3	85 - 120	
SURR: p-Bromofluorobenzene	50.0	48.2	96.5	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	243630	4.86	261973	4.863	
ISTD: Chlorobenzene-d5	790174	7.837	861769	7.837	
ISTD: 1,2-Dichlorobenzene-d4	385455	10.786	408296	10.786	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433016.D
Acq On : 10 May 2023 4:00 pm
Operator : BMC
Sample : 23E0419-04
Misc : QBQV40051023A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 11 11:51:17 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

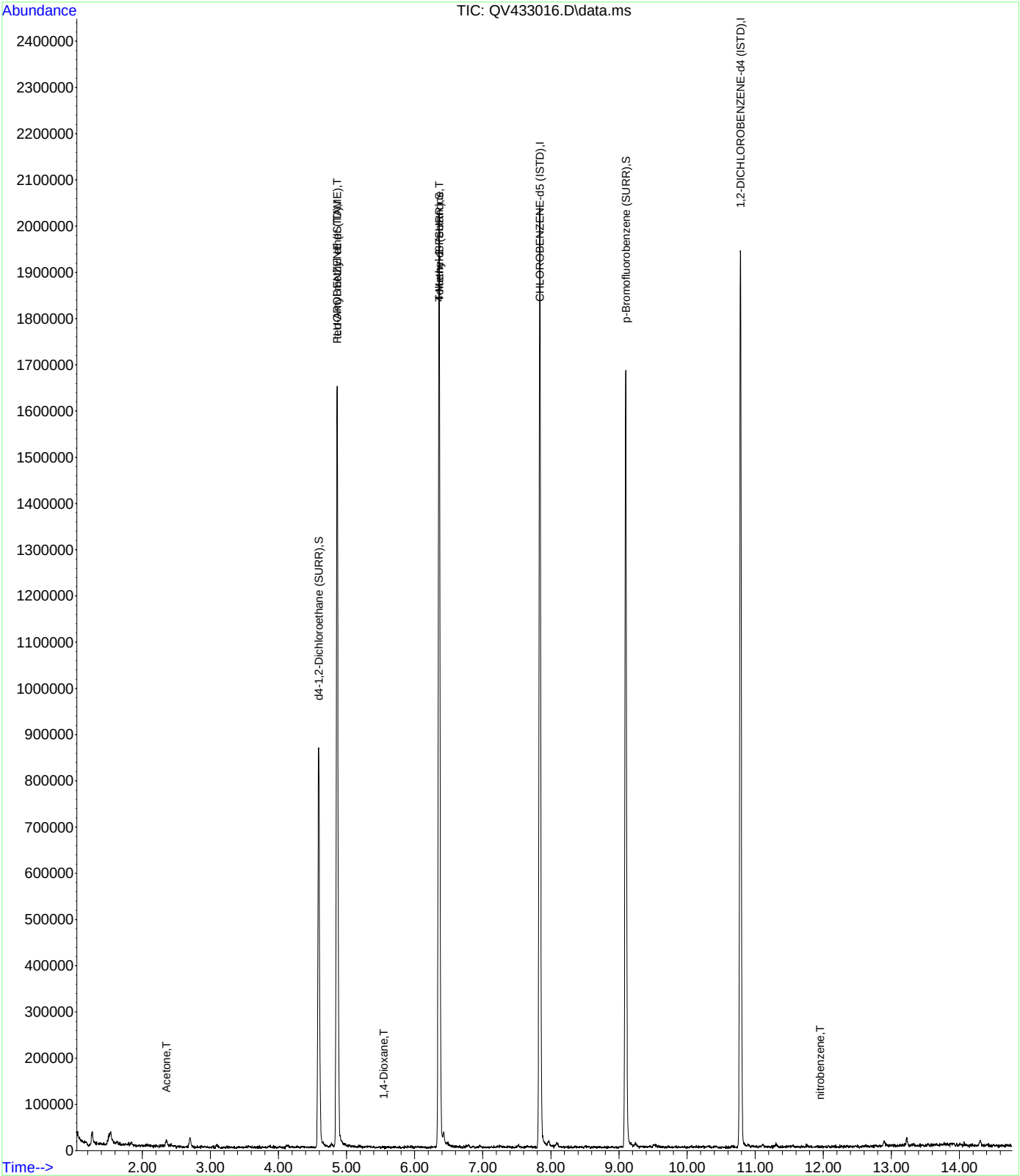
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.860	70	243630	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	790174	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.786	152	385455	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.590	65	645083	56.93	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 113.86%			
54) Toluene-d8 (SURR)	6.360	98	1111083	49.66	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.32%			
73) p-Bromofluorobenzene (...	9.100	95	528314	48.25	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.50%			
Target Compounds						Qvalue
13) Acetone	2.351	43	14019	4.78	ppb	# 36
40) tert-Amyl methyl ether...	4.863	73	17668	1.34	ppb	# 83
48) 1,4-Dioxane	5.545	88	67	1.45	ppb	88
53) 4-Methyl-2-Pentanone	6.360	43	8498	1.61	ppb	# 1
90) nitrobenzene	11.952	77	190	1.36	ppb	# 100

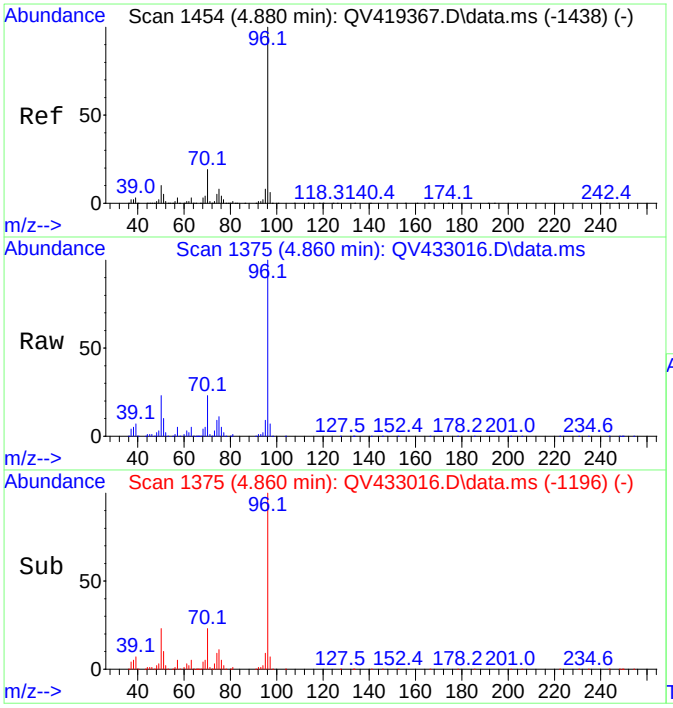
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433016.D
Acq On : 10 May 2023 4:00 pm
Operator : BMC
Sample : 23E0419-04
Misc : QBQV40051023A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 11 11:51:17 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

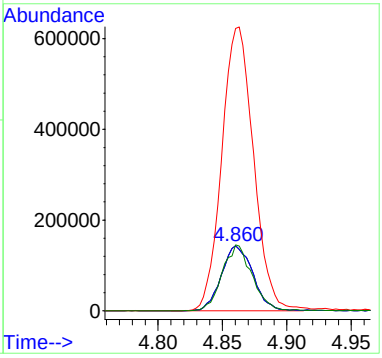


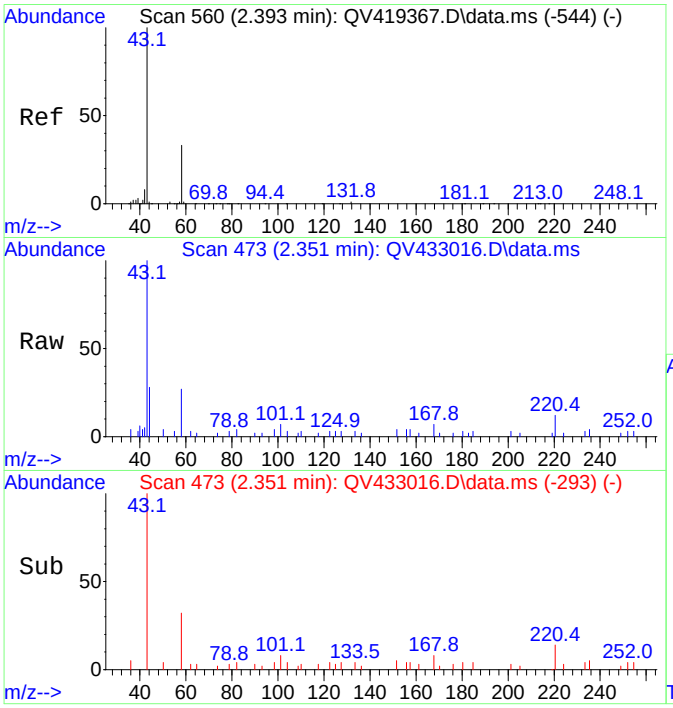


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.860 min Scan# 1375
Delta R.T. -0.003 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 70 Resp: 243630

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	441.2	362.2	752.2
50	0.0	0.0	0.0

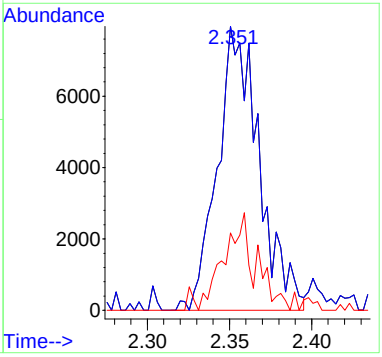


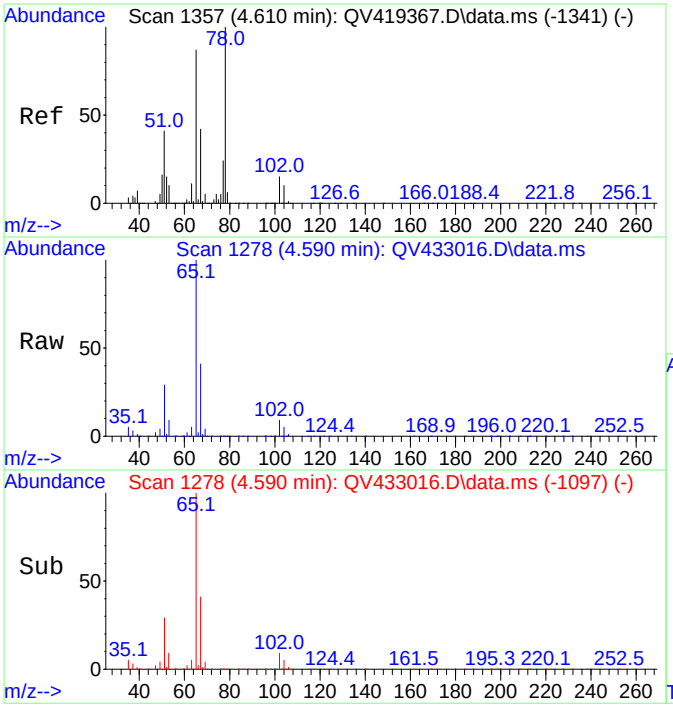


#13
Acetone
Concen: 4.78 ppb
RT: 2.351 min Scan# 473
Delta R.T. -0.000 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 43 Resp: 14019

Ion	Ratio	Lower	Upper
43	100		
43	100.0	32.2	48.2#
58	19.5	15.1	45.3

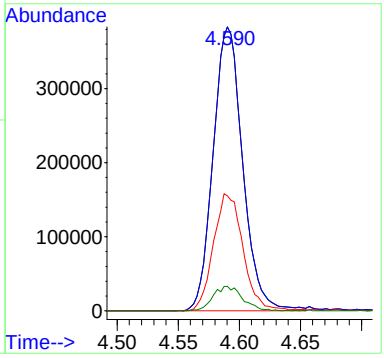


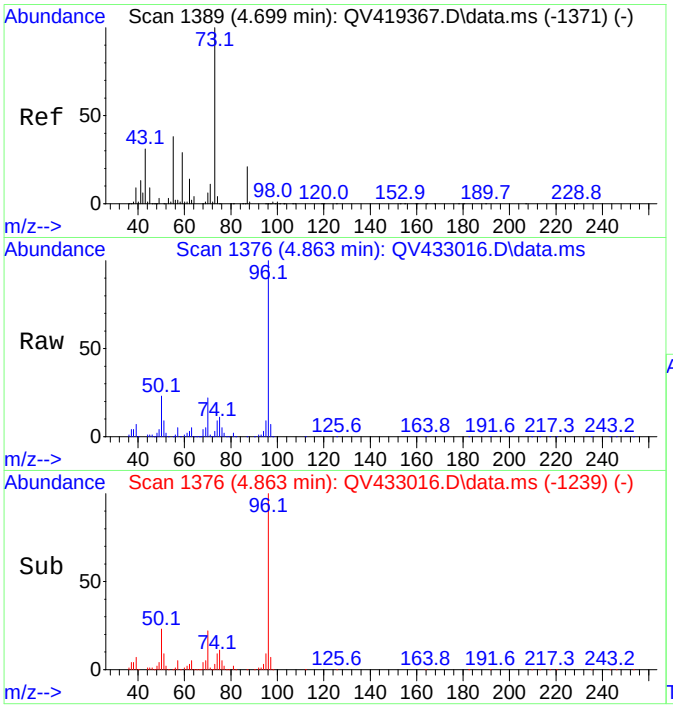


#35
d4-1,2-Dichloroethane (SURR)
Concen: 56.93 ppb
RT: 4.590 min Scan# 1278
Delta R.T. 0.002 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 65 Resp: 645083

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	41.1	34.1	70.7
102	8.6	11.6	34.7#

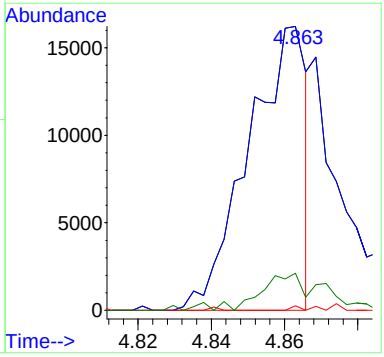


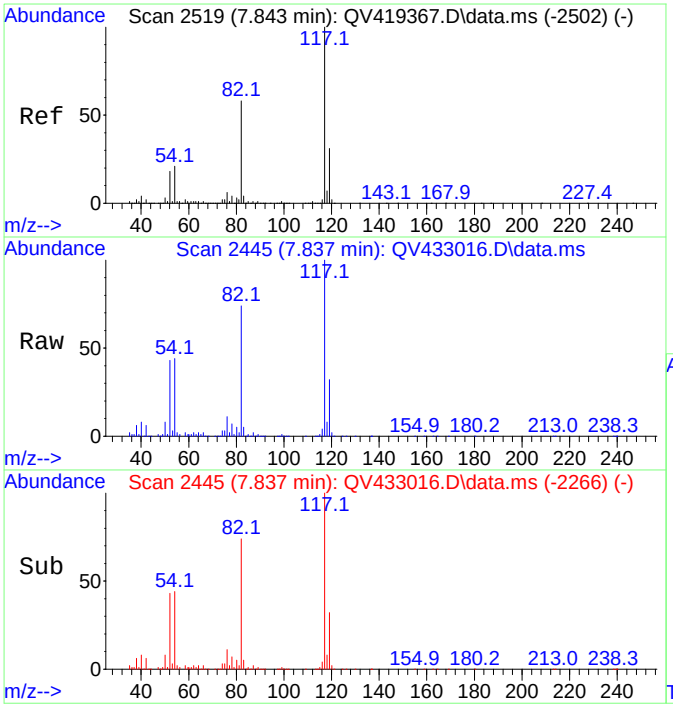


#40
tert-Amyl methyl ether (TAME)
Concen: 1.34 ppb
RT: 4.863 min Scan# 1376
Delta R.T. 0.181 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 73 Resp: 17668

Ion	Ratio	Lower	Upper
73	100		
73	100.0	80.0	120.0
87	0.2	10.8	32.4#
55	0.0	14.1	42.4#

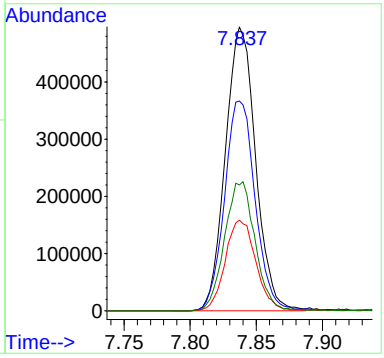


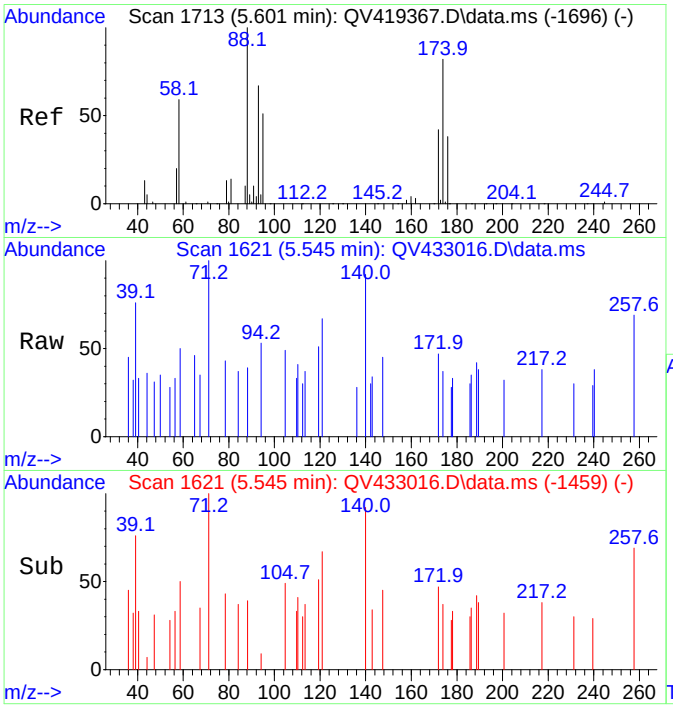


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.837 min Scan# 2445
Delta R.T. -0.003 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion:117 Resp: 790174

Ion	Ratio	Lower	Upper
117	100		
82	74.8	31.7	65.9#
119	32.5	14.0	29.2#
54	45.8	13.3	27.7#

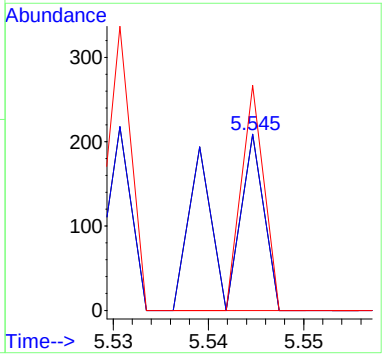


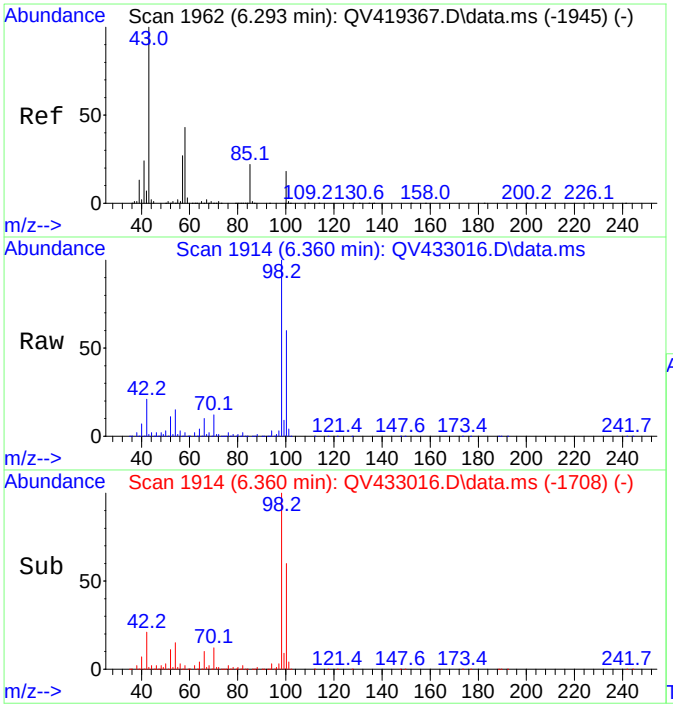


#48
1,4-Dioxane
Concen: 1.45 ppb
RT: 5.545 min Scan# 1621
Delta R.T. -0.050 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 88 Resp: 67

Ion	Ratio	Lower	Upper
88	100		
88	100.0	71.8	107.6
58	67.2	28.1	84.4

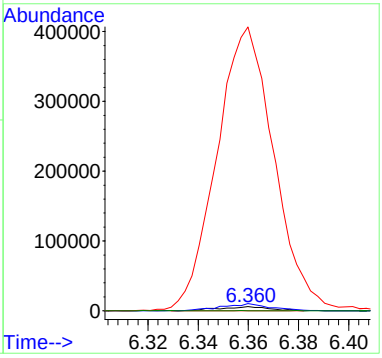


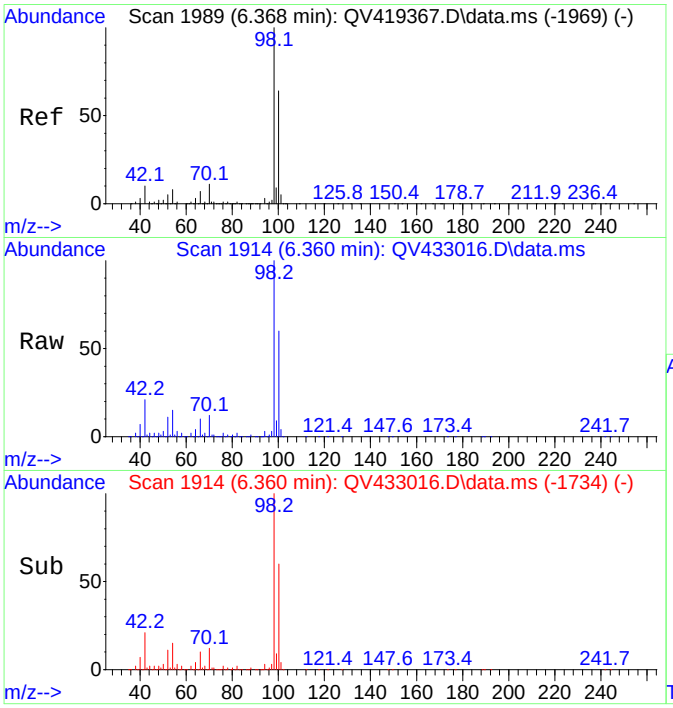


#53
4-Methyl-2-Pentanone
Concen: 1.61 ppb
RT: 6.360 min Scan# 1914
Delta R.T. 0.072 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 43 Resp: 8498

Ion	Ratio	Lower	Upper
43	100		
58	168.5	25.7	53.5#
100	7655.9	8.1	24.3#
85	0.7	8.7	26.1#

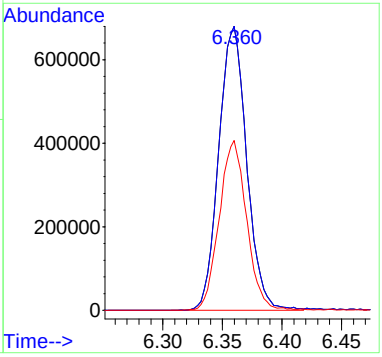


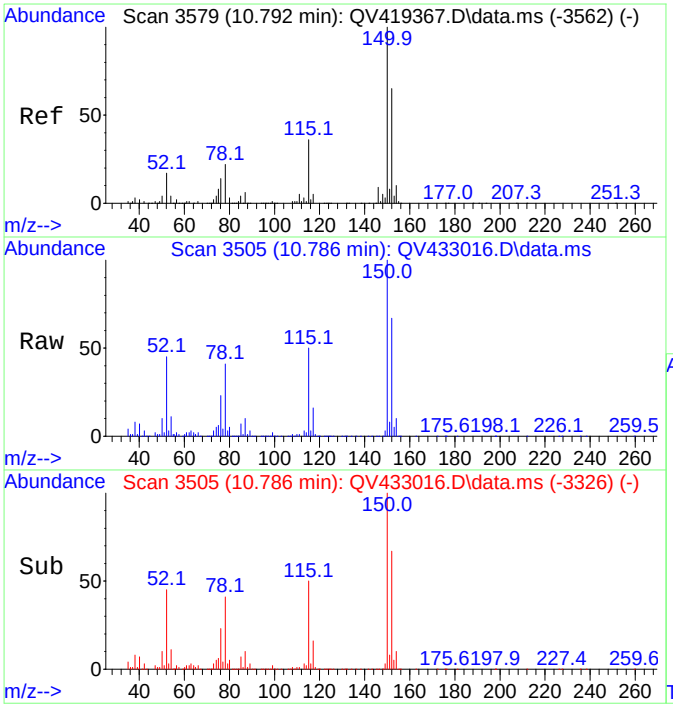


#54
Toluene-d8 (SURR)
Concen: 49.66 ppb
RT: 6.360 min Scan# 1914
Delta R.T. -0.000 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 98 Resp: 1111083

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	58.6	37.1	77.1

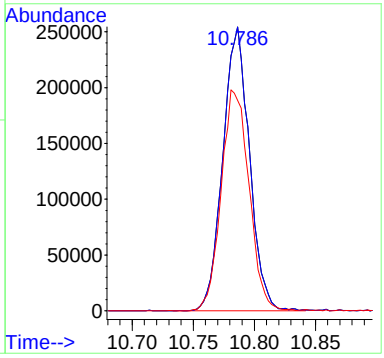


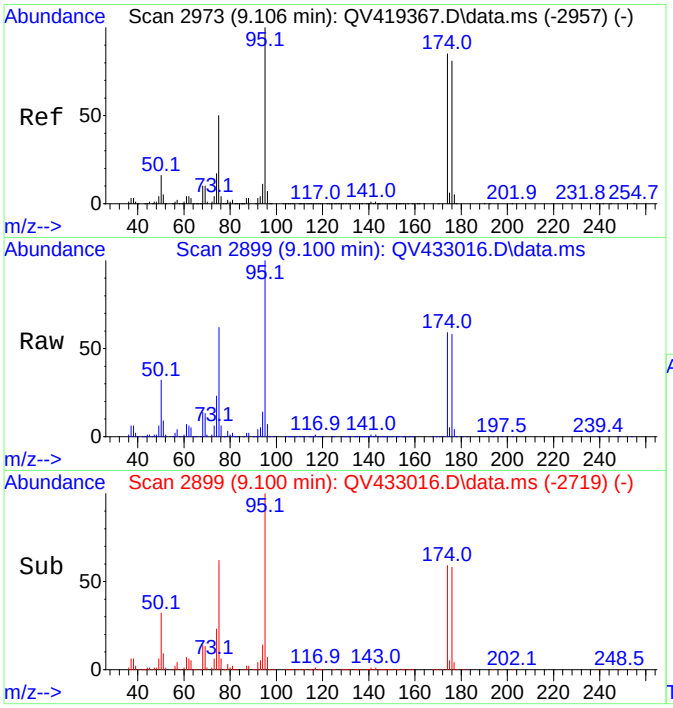


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.786 min Scan# 3505
Delta R.T. -0.003 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion:152 Resp: 385455

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	81.5	28.6	85.9

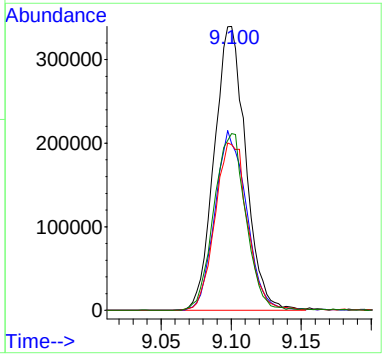


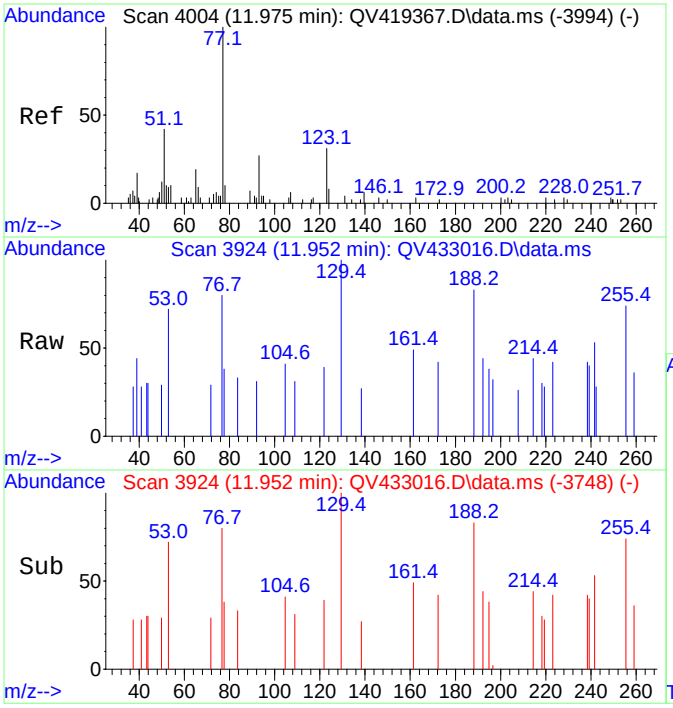


#73
p-Bromofluorobenzene (SURR)
Concen: 48.25 ppb
RT: 9.100 min Scan# 2899
Delta R.T. 0.000 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 95 Resp: 528314

Ion	Ratio	Lower	Upper
95	100		
174	63.4	62.9	130.5
176	60.8	60.4	125.4
75	63.4	34.3	71.3

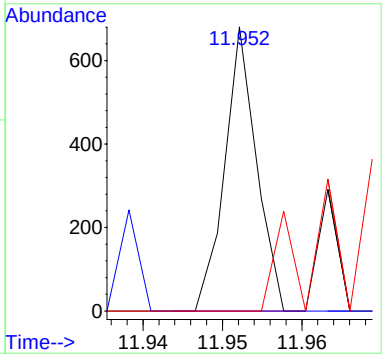




#90
nitrobenzene
Concen: 1.36 ppb
RT: 11.952 min Scan# 3924
Delta R.T. -0.011 min
Lab File: QV433016.D
Acq: 10 May 2023 4:00 pm

Tgt Ion: 77 Resp: 190

Ion	Ratio	Lower	Upper
77	100		
123	0.0	0.0	0.0
51	21.1	0.0	0.0#



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-05	File ID:	QV433017.D
Sampled:	05/05/23 12:15	Prepared:	05/10/23 08:30	Analyzed:	05/10/23 16:31
Solids:	88.44	Preparation:	EPA 5035A	Initial/Final:	5.77 g / 5 ml
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046
Instrument:	QVOA4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	0.0049	U
71-55-6	1,1,1-Trichloroethane	1	0.0049	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.0049	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1	0.0049	U
79-00-5	1,1,2-Trichloroethane	1	0.0049	U
75-34-3	1,1-Dichloroethane	1	0.0049	U
75-35-4	1,1-Dichloroethylene	1	0.0049	U
87-61-6	1,2,3-Trichlorobenzene	1	0.0049	U
96-18-4	1,2,3-Trichloropropane	1	0.0049	U
120-82-1	1,2,4-Trichlorobenzene	1	0.0049	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0049	U
96-12-8	1,2-Dibromo-3-chloropropane	1	0.0049	U
106-93-4	1,2-Dibromoethane	1	0.0049	U
95-50-1	1,2-Dichlorobenzene	1	0.0049	U
107-06-2	1,2-Dichloroethane	1	0.0049	U
78-87-5	1,2-Dichloropropane	1	0.0049	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0049	U
541-73-1	1,3-Dichlorobenzene	1	0.0049	U
106-46-7	1,4-Dichlorobenzene	1	0.0049	U
123-91-1	1,4-Dioxane	1	0.098	U
78-93-3	2-Butanone	1	0.0049	U
591-78-6	2-Hexanone	1	0.0049	U
108-10-1	4-Methyl-2-pentanone	1	0.0049	U
67-64-1	Acetone	1	0.0098	U
107-02-8	Acrolein	1	0.0098	U
107-13-1	Acrylonitrile	1	0.0049	U
71-43-2	Benzene	1	0.0049	U
74-97-5	Bromochloromethane	1	0.0049	U
75-27-4	Bromodichloromethane	1	0.0049	U
75-25-2	Bromoform	1	0.0049	U
74-83-9	Bromomethane	1	0.0049	U
75-15-0	Carbon disulfide	1	0.0049	U
56-23-5	Carbon tetrachloride	1	0.0049	U
108-90-7	Chlorobenzene	1	0.0049	U
75-00-3	Chloroethane	1	0.0049	U
67-66-3	Chloroform	1	0.0049	U
74-87-3	Chloromethane	1	0.0049	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0049	U
10061-01-5	cis-1,3-Dichloropropylene	1	0.0049	U
110-82-7	Cyclohexane	1	0.0049	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-05	File ID:	QV433017.D
Sampled:	05/05/23 12:15	Prepared:	05/10/23 08:30	Analyzed:	05/10/23 16:31
Solids:	88.44	Preparation:	EPA 5035A	Initial/Final:	5.77 g / 5 ml
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046
Instrument:	QVOA4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
124-48-1	Dibromochloromethane	1	0.0049	U
74-95-3	Dibromomethane	1	0.0049	U
75-71-8	Dichlorodifluoromethane	1	0.0049	U
100-41-4	Ethyl Benzene	1	0.0049	U
87-68-3	Hexachlorobutadiene	1	0.0049	U
98-82-8	Isopropylbenzene	1	0.0049	U
79-20-9	Methyl acetate	1	0.0049	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0049	U
108-87-2	Methylcyclohexane	1	0.0049	U
75-09-2	Methylene chloride	1	0.0098	U
104-51-8	n-Butylbenzene	1	0.0049	U
103-65-1	n-Propylbenzene	1	0.0049	U
95-47-6	o-Xylene	1	0.0049	U
179601-23-1	p- & m- Xylenes	1	0.0098	U
99-87-6	p-Isopropyltoluene	1	0.0049	U
135-98-8	sec-Butylbenzene	1	0.0049	U
100-42-5	Styrene	1	0.0049	U
75-65-0	tert-Butyl alcohol (TBA)	1	0.0049	U
98-06-6	tert-Butylbenzene	1	0.0049	U
127-18-4	Tetrachloroethylene	1	0.0049	U
108-88-3	Toluene	1	0.0049	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0049	U
10061-02-6	trans-1,3-Dichloropropylene	1	0.0049	U
79-01-6	Trichloroethylene	1	0.0049	U
75-69-4	Trichlorofluoromethane	1	0.0049	U
75-01-4	Vinyl Chloride	1	0.0049	U
1330-20-7	Xylenes, Total	1	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	56.4	113	77 - 125	
SURR: Toluene-d8	50.0	50.6	101	85 - 120	
SURR: p-Bromofluorobenzene	50.0	49.4	98.9	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	221416	4.86	261973	4.863	
ISTD: Chlorobenzene-d5	714673	7.837	861769	7.837	
ISTD: 1,2-Dichlorobenzene-d4	344682	10.786	408296	10.786	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433017.D
Acq On : 10 May 2023 4:31 pm
Operator : BMC
Sample : 23E0419-05
Misc : QBQV40051023A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 11 11:51:20 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

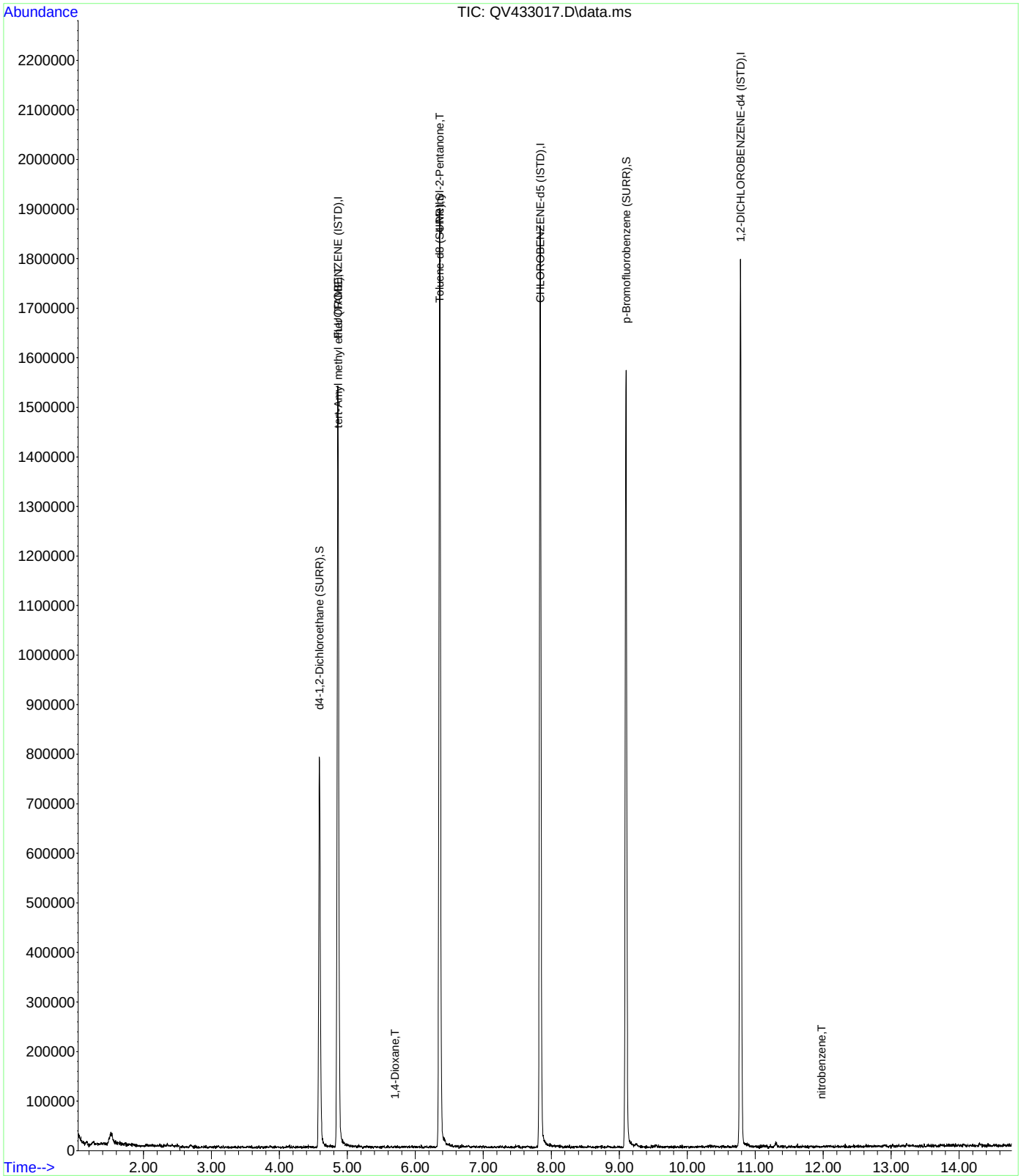
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.860	70	221416	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	714673	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.786	152	344682	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.588	65	580787	56.40	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 112.80%			
54) Toluene-d8 (SURR)	6.357	98	1024904	50.64	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.28%			
73) p-Bromofluorobenzene (...	9.100	95	484083	49.44	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 98.88%			
Target Compounds						Qvalue
40) tert-Amyl methyl ether...	4.866	73	17472	1.46	ppb	# 85
48) 1,4-Dioxane	5.698	88	58	1.39	ppb	88
53) 4-Methyl-2-Pentanone	6.354	43	7722	1.61	ppb	# 1
90) nitrobenzene	11.974	77	218	1.74	ppb	# 100

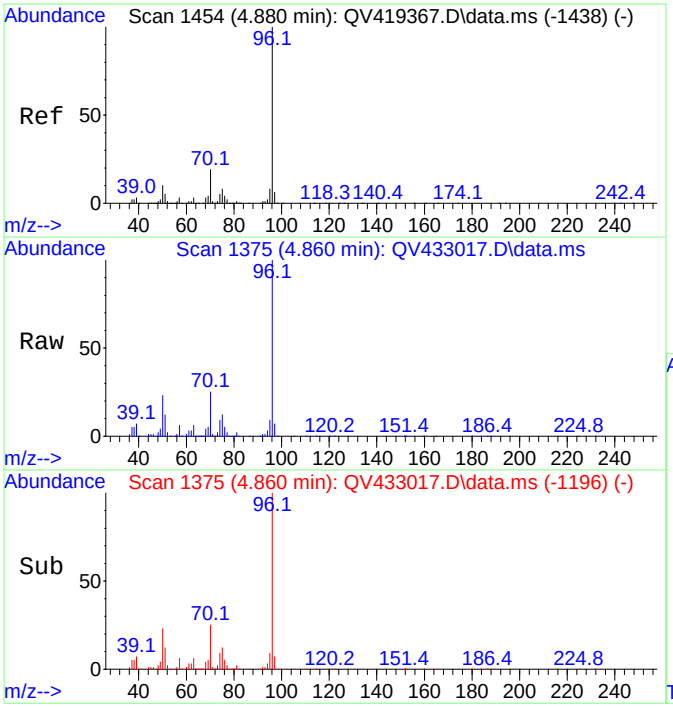
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433017.D
Acq On : 10 May 2023 4:31 pm
Operator : BMC
Sample : 23E0419-05
Misc : QBQV40051023A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 11 11:51:20 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

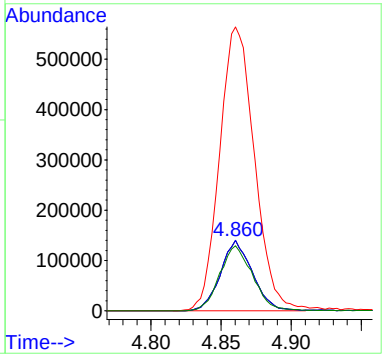


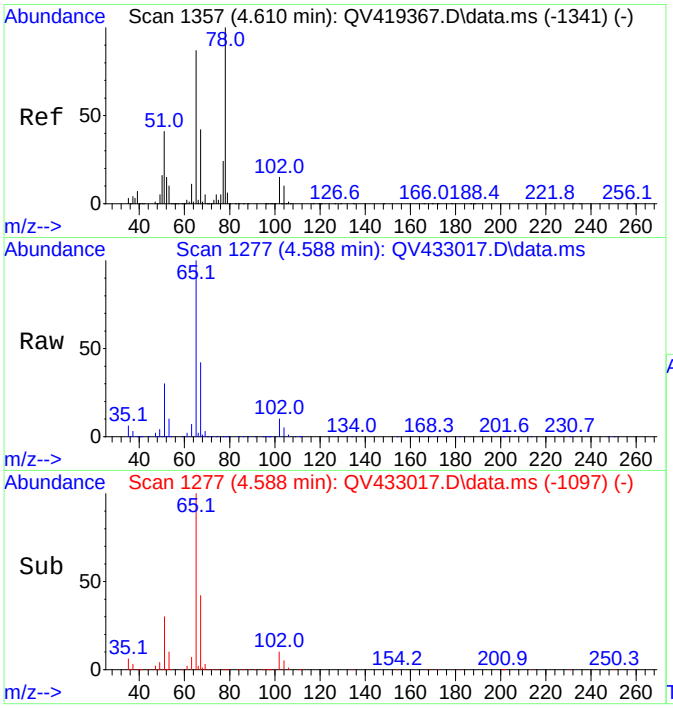


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.860 min Scan# 1375
Delta R.T. -0.003 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 70 Resp: 221416

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	442.0	362.2	752.2
50	0.0	0.0	0.0

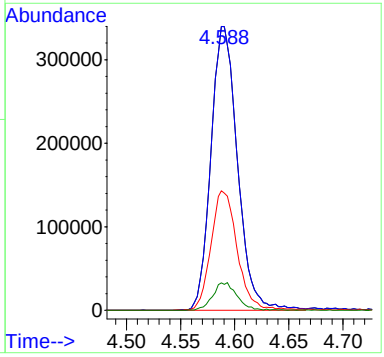


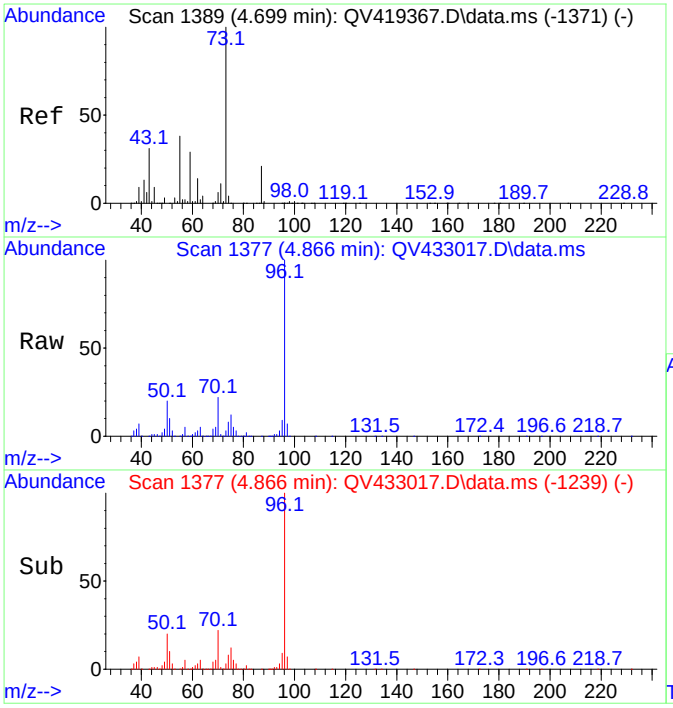


#35
d4-1,2-Dichloroethane (SURR)
Concen: 56.40 ppb
RT: 4.588 min Scan# 1277
Delta R.T. -0.000 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 65 Resp: 580787

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	0.0	34.1	70.7#
102	0.0	11.6	34.7#

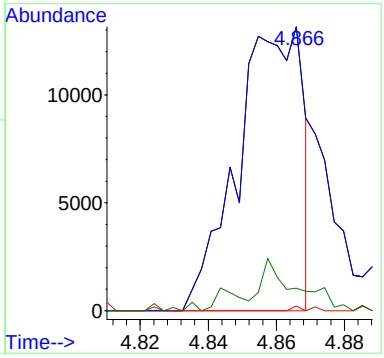


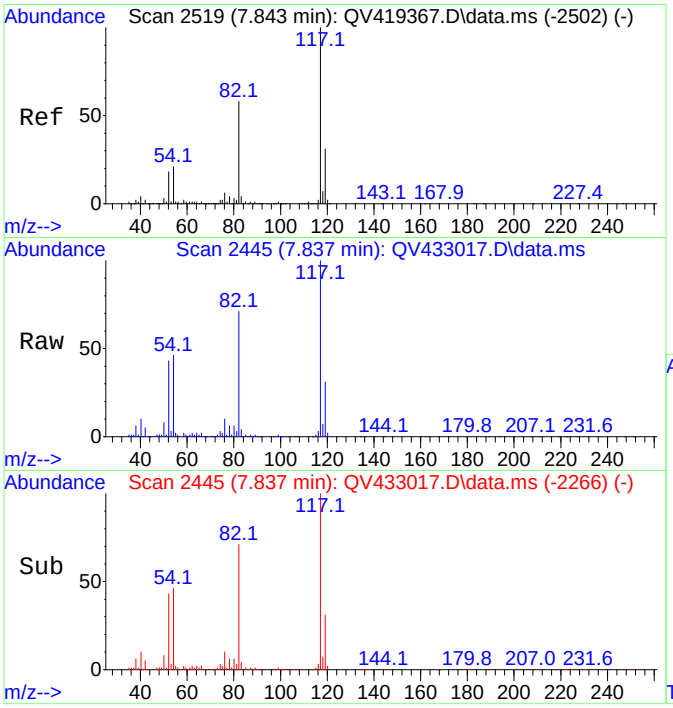


#40
tert-Amyl methyl ether (TAME)
Concen: 1.46 ppb
RT: 4.866 min Scan# 1377
Delta R.T. 0.184 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 73 Resp: 17472

Ion	Ratio	Lower	Upper
73	100		
73	100.0	80.0	120.0
87	0.0	10.8	32.4#
55	4.7	14.1	42.4#

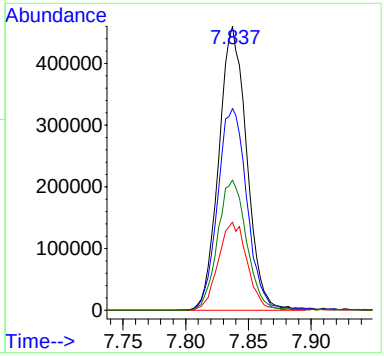


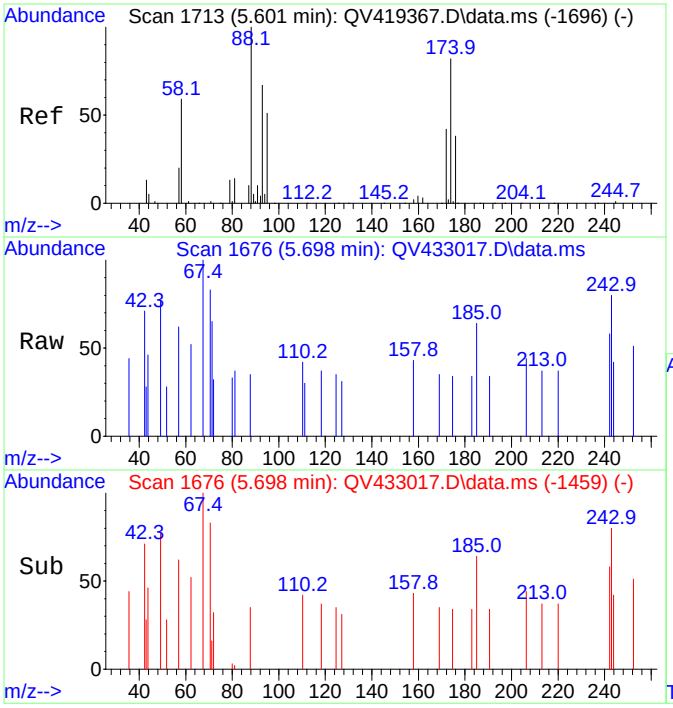


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.837 min Scan# 2445
Delta R.T. -0.003 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion:117 Resp: 714673

Ion	Ratio	Lower	Upper
117	100		
82	74.7	31.7	65.9#
119	32.1	14.0	29.2#
54	47.6	13.3	27.7#

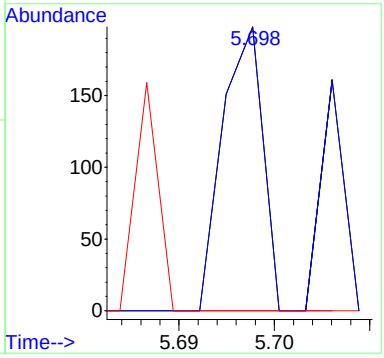


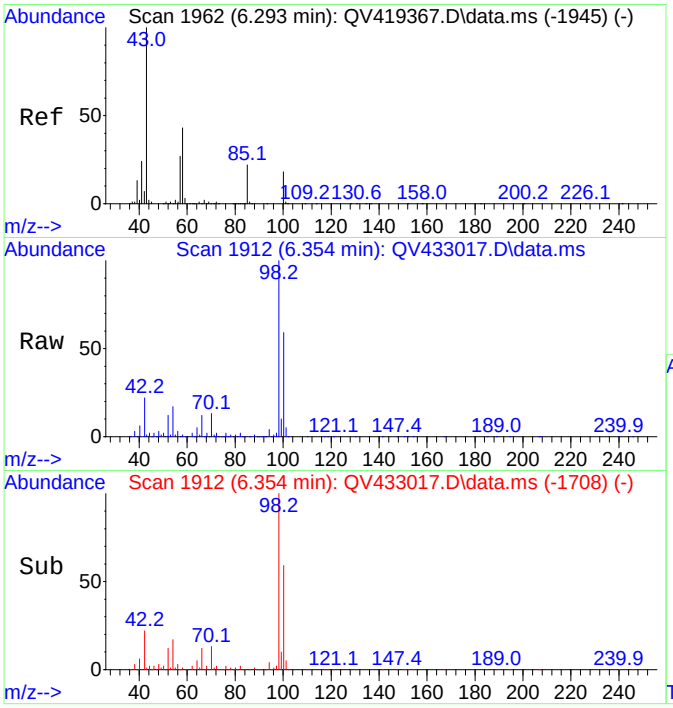


#48
1,4-Dioxane
Concen: 1.39 ppb
RT: 5.698 min Scan# 1676
Delta R.T. 0.103 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 88 Resp: 58

Ion	Ratio	Lower	Upper
88	100		
88	100.0	71.8	107.6
58	46.6	28.1	84.4

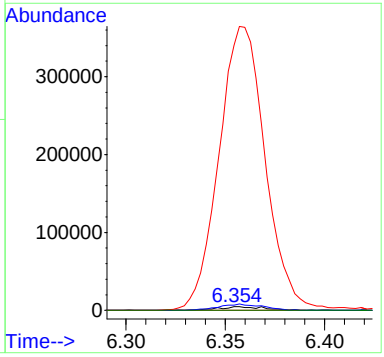


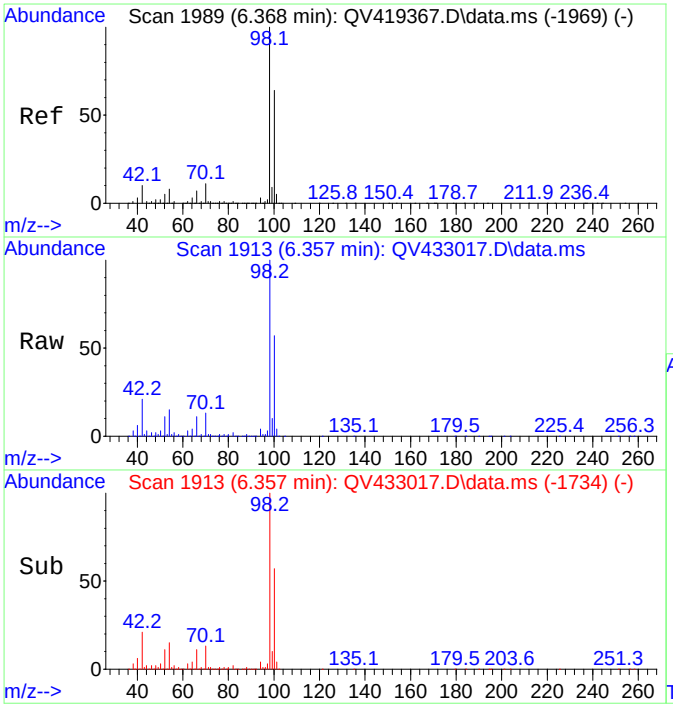


#53
4-Methyl-2-Pentanone
Concen: 1.61 ppb
RT: 6.354 min Scan# 1912
Delta R.T. 0.066 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 43 Resp: 7722

Ion	Ratio	Lower	Upper
43	100		
58	160.7	25.7	53.5#
100	7657.5	8.1	24.3#
85	0.3	8.7	26.1#

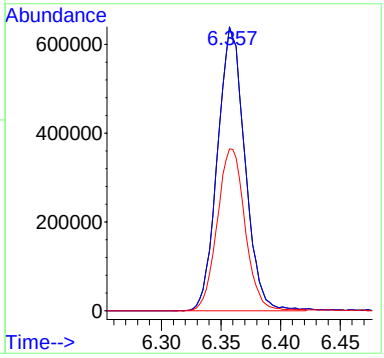


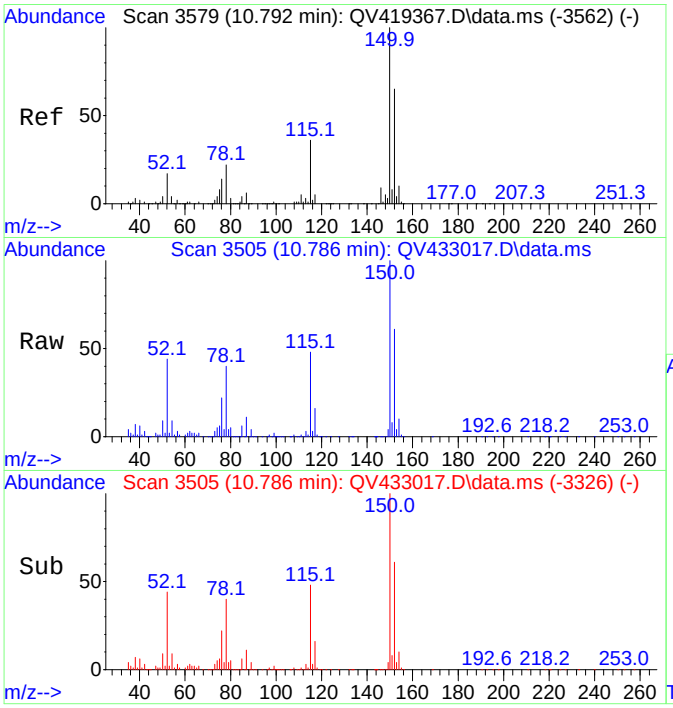


#54
Toluene-d8 (SURR)
Concen: 50.64 ppb
RT: 6.357 min Scan# 1913
Delta R.T. -0.003 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 98 Resp: 1024904

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	57.7	37.1	77.1

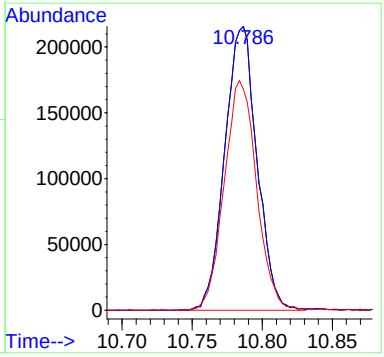


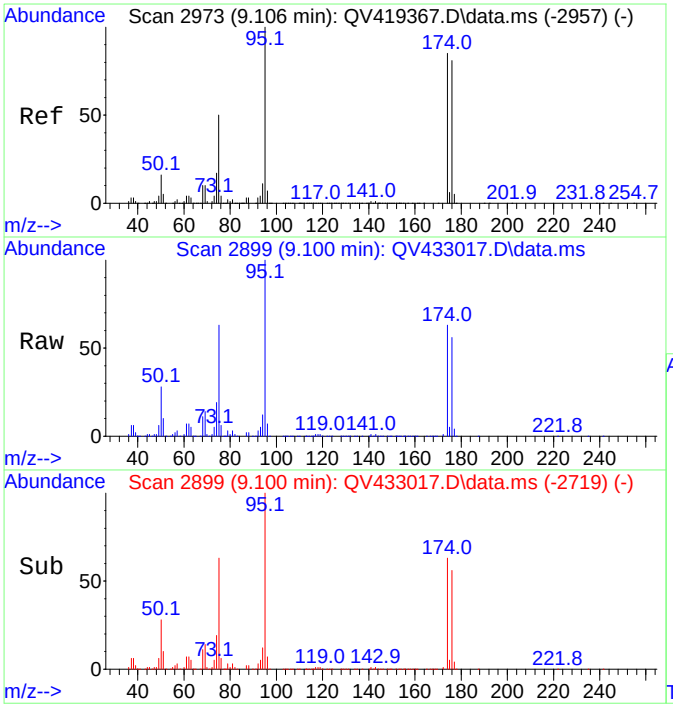


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.786 min Scan# 3505
Delta R.T. -0.003 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion:152 Resp: 344682

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	81.5	28.6	85.9

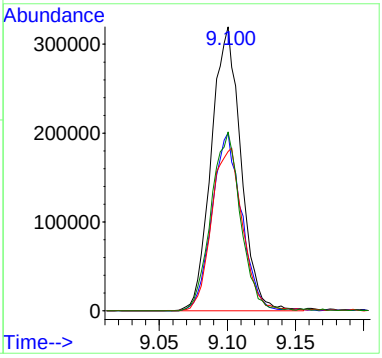


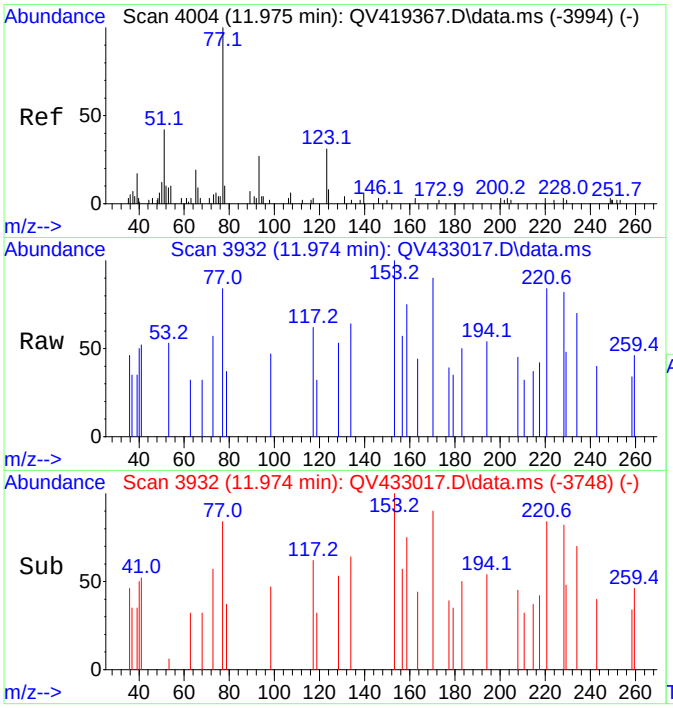


#73
p-Bromofluorobenzene (SURR)
Concen: 49.44 ppb
RT: 9.100 min Scan# 2899
Delta R.T. 0.000 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 95 Resp: 484083

Ion	Ratio	Lower	Upper
95	100		
174	62.3	62.9	130.5#
176	60.0	60.4	125.4#
75	63.0	34.3	71.3

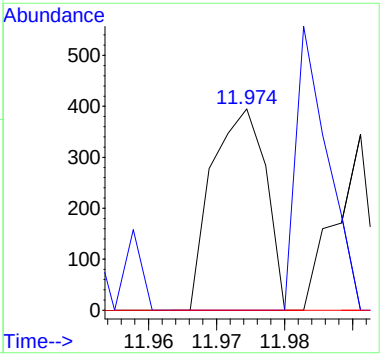




#90
nitrobenzene
Concen: 1.74 ppb
RT: 11.974 min Scan# 3932
Delta R.T. 0.011 min
Lab File: QV433017.D
Acq: 10 May 2023 4:31 pm

Tgt Ion: 77 Resp: 218

Ion	Ratio	Lower	Upper
77	100		
123	38.5	0.0	0.0#
51	45.4	0.0	0.0#



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB03_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-06 File ID: QV433018.D

Sampled: 05/05/23 12:20 Prepared: 05/10/23 08:30 Analyzed: 05/10/23 17:02

Solids: 91.26 Preparation: EPA 5035A Initial/Final: 5.61 g / 5 ml

Batch: BD31853 Sequence: S3E1504 Calibration: SD30046 Instrument: QVOA4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	0.0049	U
71-55-6	1,1,1-Trichloroethane	1	0.0049	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.0049	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1	0.0049	U
79-00-5	1,1,2-Trichloroethane	1	0.0049	U
75-34-3	1,1-Dichloroethane	1	0.0049	U
75-35-4	1,1-Dichloroethylene	1	0.0049	U
87-61-6	1,2,3-Trichlorobenzene	1	0.0049	U
96-18-4	1,2,3-Trichloropropane	1	0.0049	U
120-82-1	1,2,4-Trichlorobenzene	1	0.0049	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0049	U
96-12-8	1,2-Dibromo-3-chloropropane	1	0.0049	U
106-93-4	1,2-Dibromoethane	1	0.0049	U
95-50-1	1,2-Dichlorobenzene	1	0.0049	U
107-06-2	1,2-Dichloroethane	1	0.0049	U
78-87-5	1,2-Dichloropropane	1	0.0049	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0049	U
541-73-1	1,3-Dichlorobenzene	1	0.0049	U
106-46-7	1,4-Dichlorobenzene	1	0.0049	U
123-91-1	1,4-Dioxane	1	0.098	U
78-93-3	2-Butanone	1	0.0049	U
591-78-6	2-Hexanone	1	0.0049	U
108-10-1	4-Methyl-2-pentanone	1	0.0049	U
67-64-1	Acetone	1	0.0098	U
107-02-8	Acrolein	1	0.0098	U
107-13-1	Acrylonitrile	1	0.0049	U
71-43-2	Benzene	1	0.0049	U
74-97-5	Bromochloromethane	1	0.0049	U
75-27-4	Bromodichloromethane	1	0.0049	U
75-25-2	Bromoform	1	0.0049	U
74-83-9	Bromomethane	1	0.0049	U
75-15-0	Carbon disulfide	1	0.0049	U
56-23-5	Carbon tetrachloride	1	0.0049	U
108-90-7	Chlorobenzene	1	0.0049	U
75-00-3	Chloroethane	1	0.0049	U
67-66-3	Chloroform	1	0.0049	U
74-87-3	Chloromethane	1	0.0049	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0049	U
10061-01-5	cis-1,3-Dichloropropylene	1	0.0049	U
110-82-7	Cyclohexane	1	0.0049	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB03_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-06	File ID:	QV433018.D
Sampled:	05/05/23 12:20	Prepared:	05/10/23 08:30	Analyzed:	05/10/23 17:02
Solids:	91.26	Preparation:	EPA 5035A	Initial/Final:	5.61 g / 5 ml
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046
Instrument:	QVOA4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
124-48-1	Dibromochloromethane	1	0.0049	U
74-95-3	Dibromomethane	1	0.0049	U
75-71-8	Dichlorodifluoromethane	1	0.0049	U
100-41-4	Ethyl Benzene	1	0.0049	U
87-68-3	Hexachlorobutadiene	1	0.0049	U
98-82-8	Isopropylbenzene	1	0.0049	U
79-20-9	Methyl acetate	1	0.0049	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0049	U
108-87-2	Methylcyclohexane	1	0.0049	U
75-09-2	Methylene chloride	1	0.0098	U
104-51-8	n-Butylbenzene	1	0.0049	U
103-65-1	n-Propylbenzene	1	0.0049	U
95-47-6	o-Xylene	1	0.0049	U
179601-23-1	p- & m- Xylenes	1	0.0098	U
99-87-6	p-Isopropyltoluene	1	0.0049	U
135-98-8	sec-Butylbenzene	1	0.0049	U
100-42-5	Styrene	1	0.0049	U
75-65-0	tert-Butyl alcohol (TBA)	1	0.0049	U
98-06-6	tert-Butylbenzene	1	0.0049	U
127-18-4	Tetrachloroethylene	1	0.0049	U
108-88-3	Toluene	1	0.0049	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0049	U
10061-02-6	trans-1,3-Dichloropropylene	1	0.0049	U
79-01-6	Trichloroethylene	1	0.0049	U
75-69-4	Trichlorofluoromethane	1	0.0049	U
75-01-4	Vinyl Chloride	1	0.0049	U
1330-20-7	Xylenes, Total	1	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	55.0	110	77 - 125	
SURR: Toluene-d8	50.0	49.8	99.7	85 - 120	
SURR: p-Bromofluorobenzene	50.0	48.5	96.9	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	231913	4.863	261973	4.863	
ISTD: Chlorobenzene-d5	750338	7.837	861769	7.837	
ISTD: 1,2-Dichlorobenzene-d4	366956	10.784	408296	10.786	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433018.D
Acq On : 10 May 2023 5:02 pm
Operator : BMC
Sample : 23E0419-06
Misc : QBQV40051023A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 11 11:51:23 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

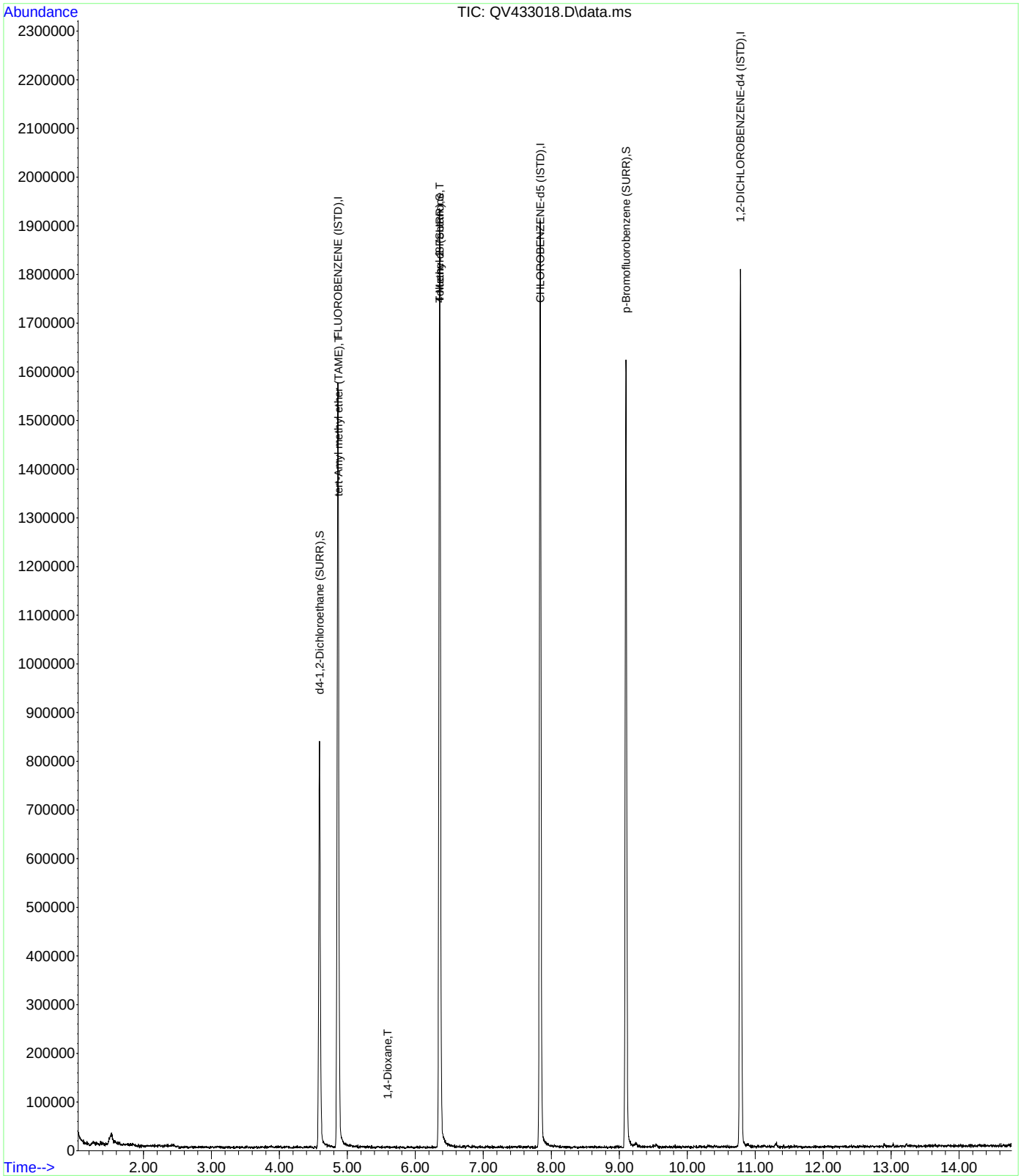
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.863	70	231913	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	750338	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	366956	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.590	65	593713	55.04	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 110.08%			
54) Toluene-d8 (SURR)	6.357	98	1058700	49.83	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.66%			
73) p-Bromofluorobenzene (...	9.098	95	505070	48.46	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.92%			
Target Compounds						Qvalue
40) tert-Amyl methyl ether...	4.869	73	19062	1.52	ppb	# 85
48) 1,4-Dioxane	5.589	88	48	1.09	ppb	90
53) 4-Methyl-2-Pentanone	6.354	43	5744	1.14	ppb	# 1

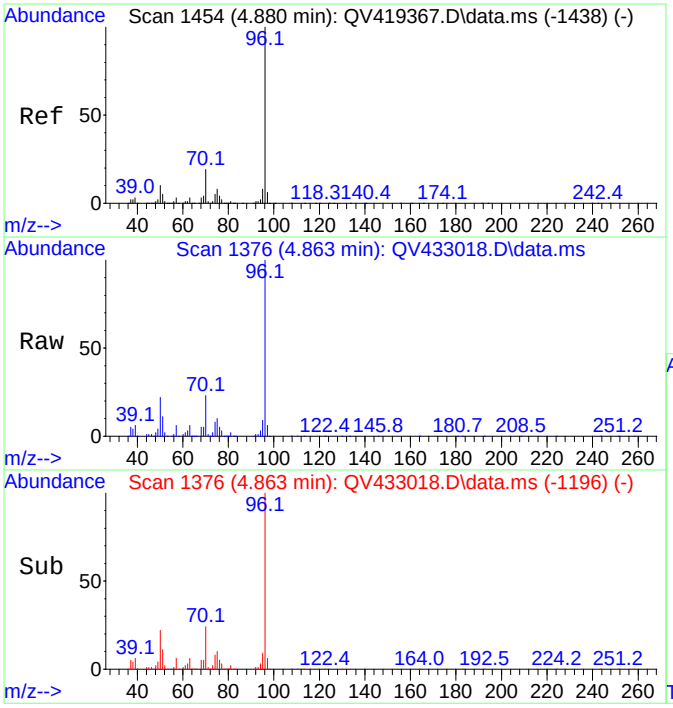
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433018.D
Acq On : 10 May 2023 5:02 pm
Operator : BMC
Sample : 23E0419-06
Misc : QBQV40051023A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 11 11:51:23 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

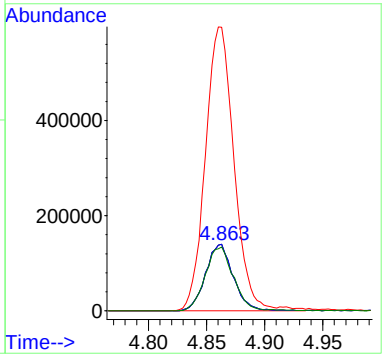


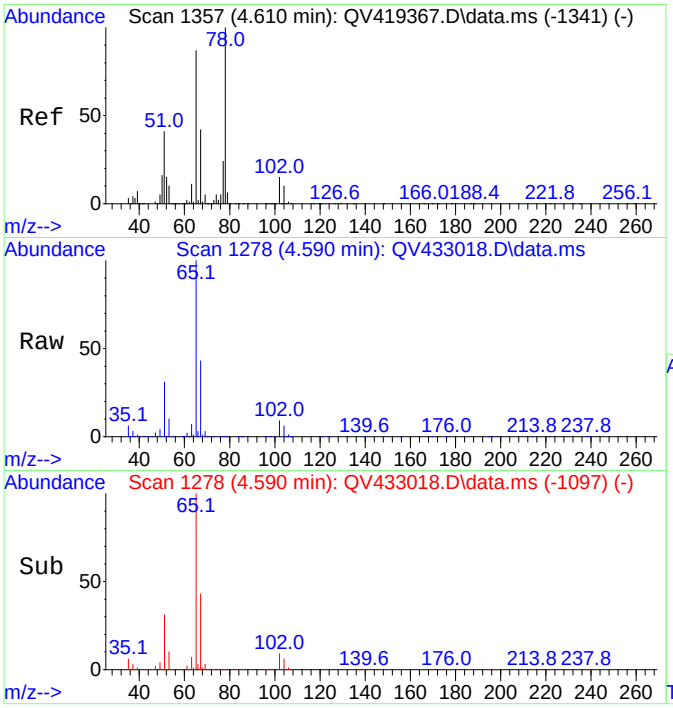


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.863 min Scan# 1376
Delta R.T. 0.000 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion: 70 Resp: 231913

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	0.0	362.2	752.2#
50	0.0	0.0	0.0

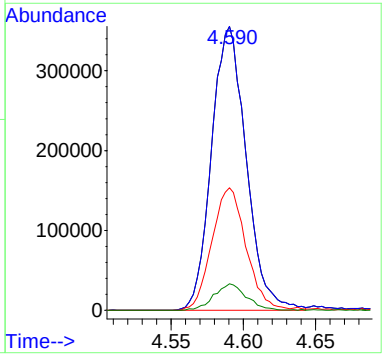


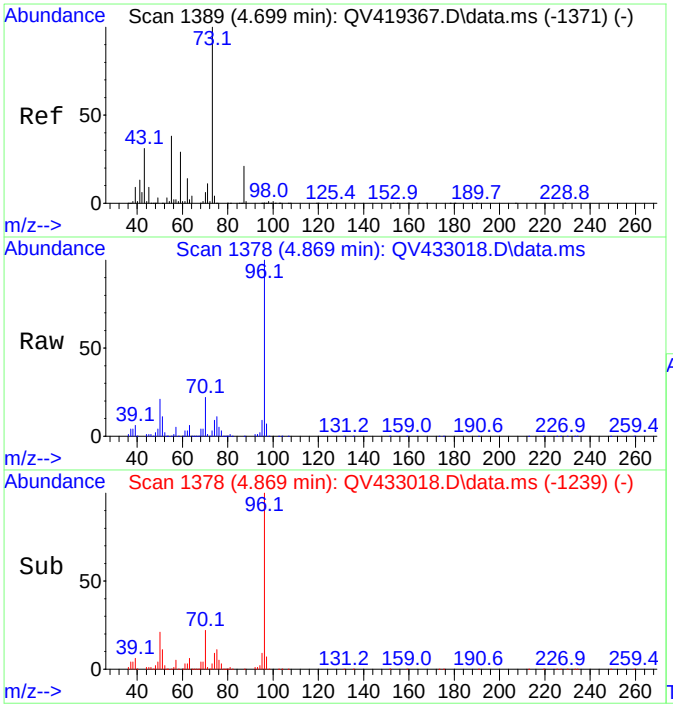


#35
d4-1,2-Dichloroethane (SURR)
Concen: 55.04 ppb
RT: 4.590 min Scan# 1278
Delta R.T. 0.002 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion: 65 Resp: 593713

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	42.5	34.1	70.7
102	8.7	11.6	34.7#

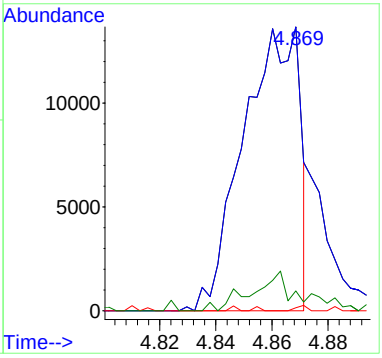


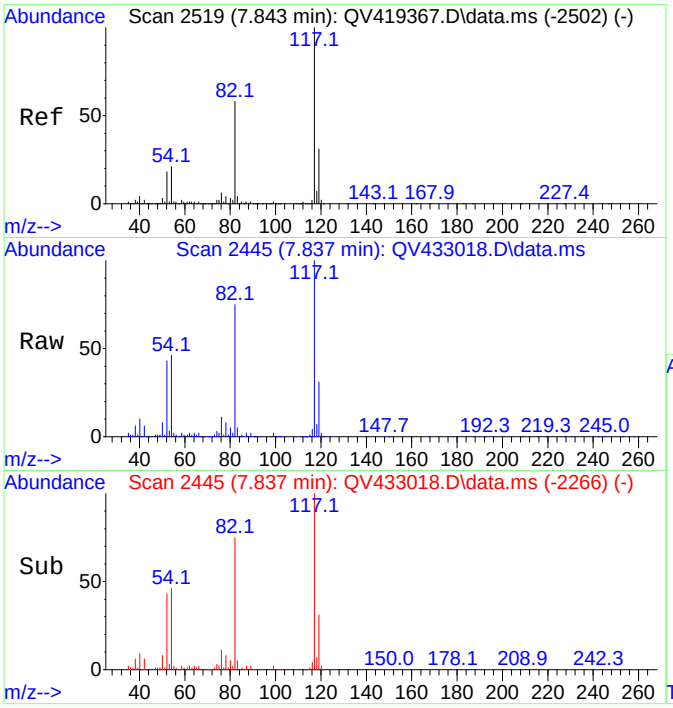


#40
tert-Amyl methyl ether (TAME)
Concen: 1.52 ppb
RT: 4.869 min Scan# 1378
Delta R.T. 0.187 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion: 73 Resp: 19062

Ion	Ratio	Lower	Upper
73	100		
73	100.0	80.0	120.0
87	0.2	10.8	32.4#
55	4.1	14.1	42.4#

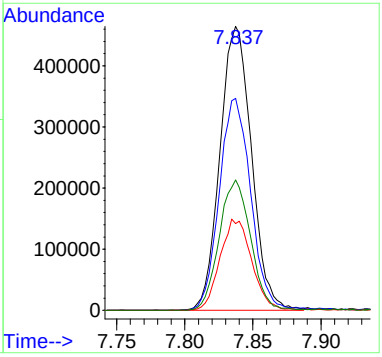


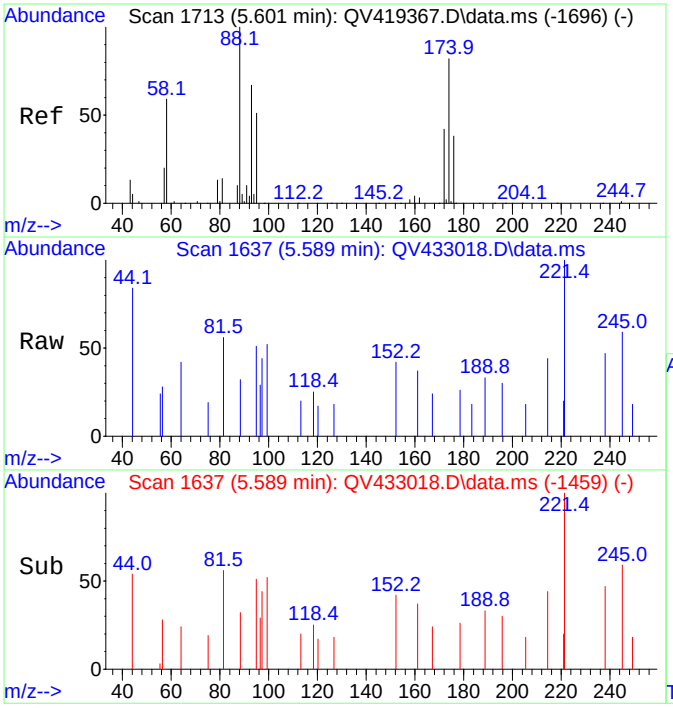


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.837 min Scan# 2445
Delta R.T. -0.003 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion:117 Resp: 750338

Ion	Ratio	Lower	Upper
117	100		
82	74.5	31.7	65.9#
119	32.2	14.0	29.2#
54	45.6	13.3	27.7#

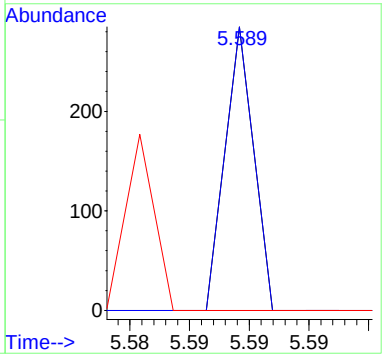


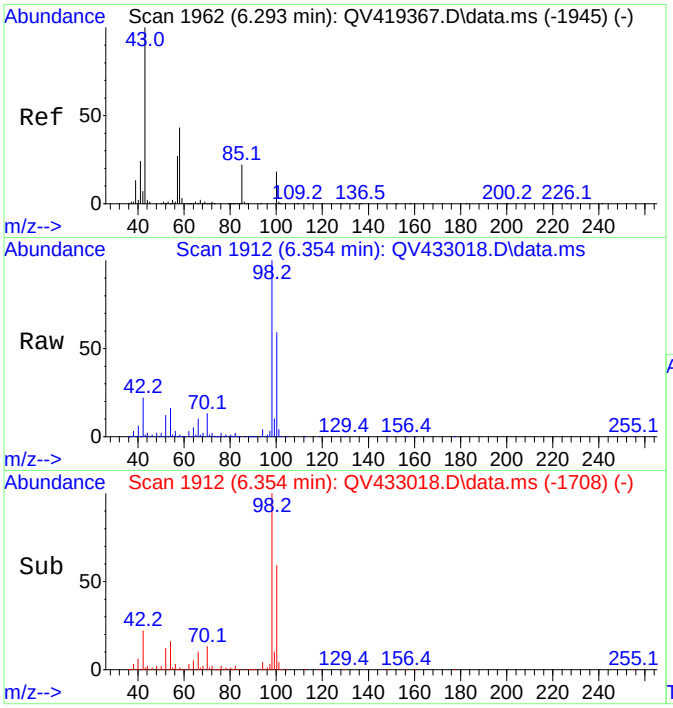


#48
1,4-Dioxane
Concen: 1.09 ppb
RT: 5.589 min Scan# 1637
Delta R.T. -0.006 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion: 88 Resp: 48

Ion	Ratio	Lower	Upper
88	100		
88	100.0	71.8	107.6
58	62.5	28.1	84.4

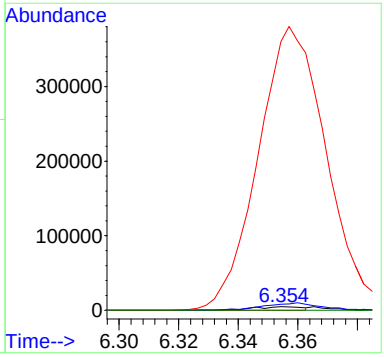


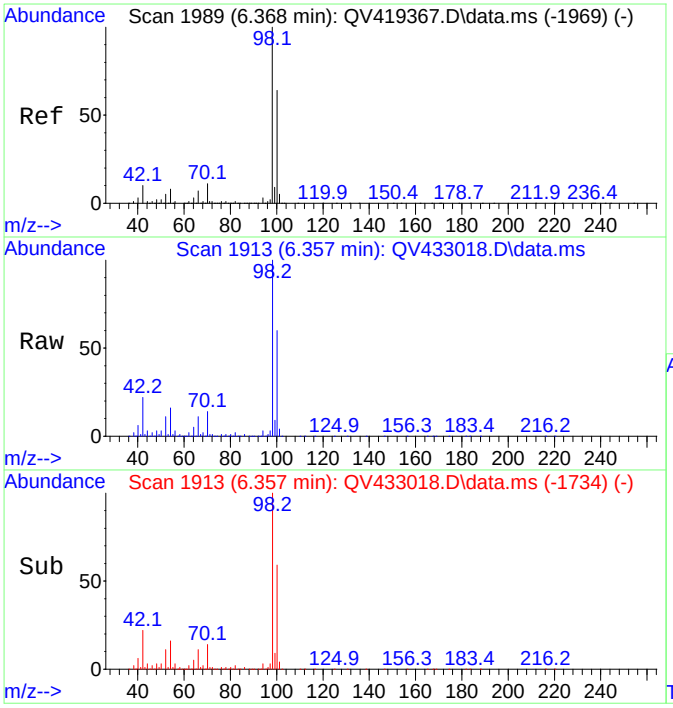


#53
4-Methyl-2-Pentanone
Concen: 1.14 ppb
RT: 6.354 min Scan# 1912
Delta R.T. 0.066 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion: 43 Resp: 5744

Ion	Ratio	Lower	Upper
43	100		
58	239.5	25.7	53.5#
100	10667.5	8.1	24.3#
85	0.5	8.7	26.1#

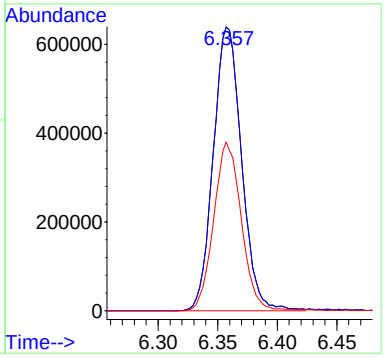


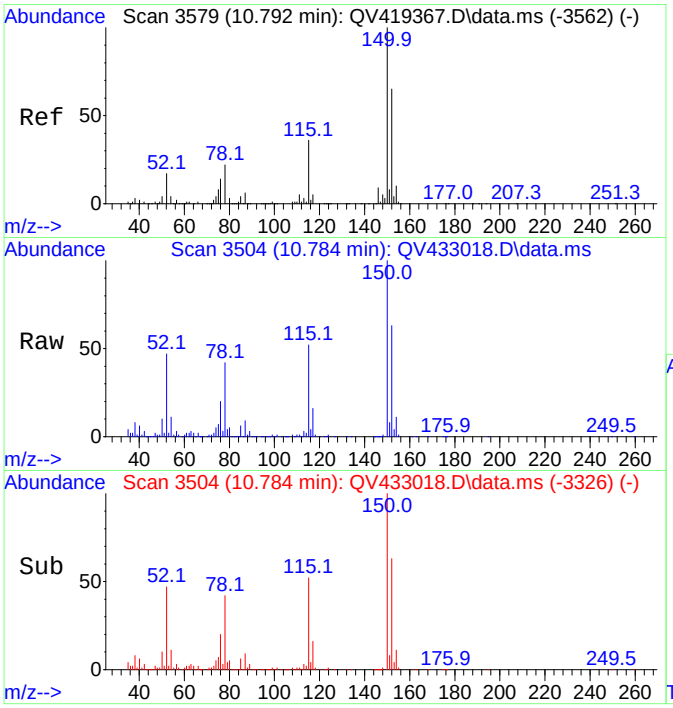


#54
Toluene-d8 (SURR)
Concen: 49.83 ppb
RT: 6.357 min Scan# 1913
Delta R.T. -0.003 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion: 98 Resp: 1058700

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	57.9	37.1	77.1

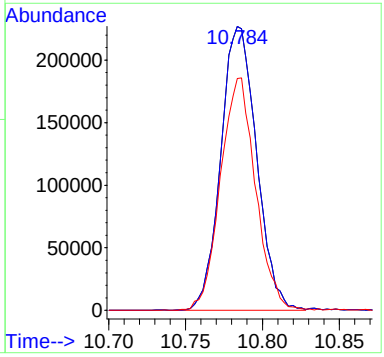


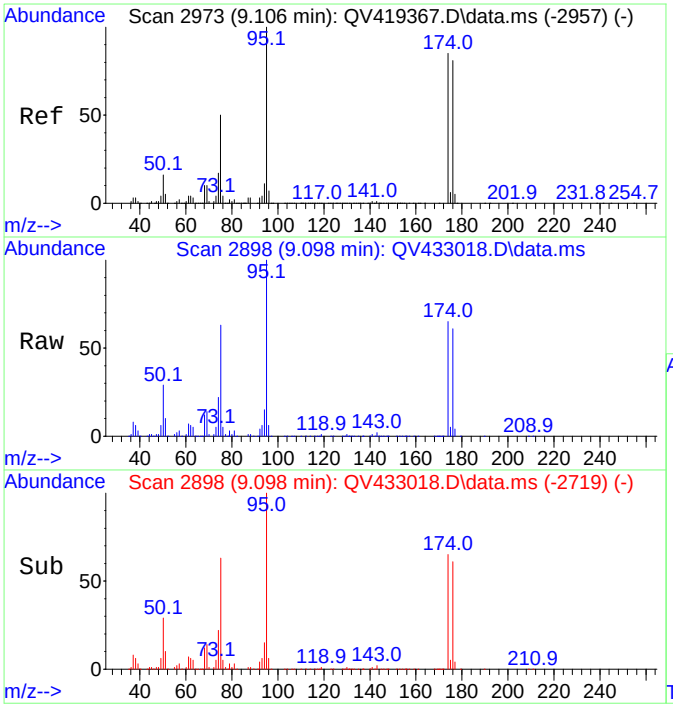


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.784 min Scan# 3504
Delta R.T. -0.005 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion:152 Resp: 366956

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	80.4	28.6	85.9

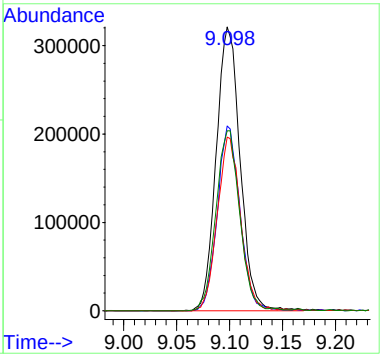




#73
p-Bromofluorobenzene (SURR)
Concen: 48.46 ppb
RT: 9.098 min Scan# 2898
Delta R.T. -0.002 min
Lab File: QV433018.D
Acq: 10 May 2023 5:02 pm

Tgt Ion: 95 Resp: 505070

Ion	Ratio	Lower	Upper
95	100		
174	61.7	62.9	130.5#
176	59.3	60.4	125.4#
75	62.7	34.3	71.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB04_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-07 File ID: QV433019.D

Sampled: 05/05/23 12:25 Prepared: 05/10/23 08:30 Analyzed: 05/10/23 17:33

Solids: 94.61 Preparation: EPA 5035A Initial/Final: 5.51 g / 5 ml

Batch: BD31853 Sequence: S3E1504 Calibration: SD30046 Instrument: QVOA4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	0.0048	U
71-55-6	1,1,1-Trichloroethane	1	0.0048	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.0048	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1	0.0048	U
79-00-5	1,1,2-Trichloroethane	1	0.0048	U
75-34-3	1,1-Dichloroethane	1	0.0048	U
75-35-4	1,1-Dichloroethylene	1	0.0048	U
87-61-6	1,2,3-Trichlorobenzene	1	0.0048	U
96-18-4	1,2,3-Trichloropropane	1	0.0048	U
120-82-1	1,2,4-Trichlorobenzene	1	0.0048	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0048	U
96-12-8	1,2-Dibromo-3-chloropropane	1	0.0048	U
106-93-4	1,2-Dibromoethane	1	0.0048	U
95-50-1	1,2-Dichlorobenzene	1	0.0048	U
107-06-2	1,2-Dichloroethane	1	0.0048	U
78-87-5	1,2-Dichloropropane	1	0.0048	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0048	U
541-73-1	1,3-Dichlorobenzene	1	0.0048	U
106-46-7	1,4-Dichlorobenzene	1	0.0048	U
123-91-1	1,4-Dioxane	1	0.096	U
78-93-3	2-Butanone	1	0.0048	U
591-78-6	2-Hexanone	1	0.0048	U
108-10-1	4-Methyl-2-pentanone	1	0.0048	U
67-64-1	Acetone	1	0.0096	U
107-02-8	Acrolein	1	0.0096	U
107-13-1	Acrylonitrile	1	0.0048	U
71-43-2	Benzene	1	0.0048	U
74-97-5	Bromochloromethane	1	0.0048	U
75-27-4	Bromodichloromethane	1	0.0048	U
75-25-2	Bromoform	1	0.0048	U
74-83-9	Bromomethane	1	0.0048	U
75-15-0	Carbon disulfide	1	0.0048	U
56-23-5	Carbon tetrachloride	1	0.0048	U
108-90-7	Chlorobenzene	1	0.0048	U
75-00-3	Chloroethane	1	0.0048	U
67-66-3	Chloroform	1	0.0048	U
74-87-3	Chloromethane	1	0.0048	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0048	U
10061-01-5	cis-1,3-Dichloropropylene	1	0.0048	U
110-82-7	Cyclohexane	1	0.0048	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB04_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-07 File ID: QV433019.D

Sampled: 05/05/23 12:25 Prepared: 05/10/23 08:30 Analyzed: 05/10/23 17:33

Solids: 94.61 Preparation: EPA 5035A Initial/Final: 5.51 g / 5 ml

Batch: BD31853 Sequence: S3E1504 Calibration: SD30046 Instrument: QVOA4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
124-48-1	Dibromochloromethane	1	0.0048	U
74-95-3	Dibromomethane	1	0.0048	U
75-71-8	Dichlorodifluoromethane	1	0.0048	U
100-41-4	Ethyl Benzene	1	0.0048	U
87-68-3	Hexachlorobutadiene	1	0.0048	U
98-82-8	Isopropylbenzene	1	0.0048	U
79-20-9	Methyl acetate	1	0.0048	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0048	U
108-87-2	Methylcyclohexane	1	0.0048	U
75-09-2	Methylene chloride	1	0.0096	U
104-51-8	n-Butylbenzene	1	0.0048	U
103-65-1	n-Propylbenzene	1	0.0048	U
95-47-6	o-Xylene	1	0.0048	U
179601-23-1	p- & m- Xylenes	1	0.0096	U
99-87-6	p-Isopropyltoluene	1	0.0048	U
135-98-8	sec-Butylbenzene	1	0.0048	U
100-42-5	Styrene	1	0.0048	U
75-65-0	tert-Butyl alcohol (TBA)	1	0.0048	U
98-06-6	tert-Butylbenzene	1	0.0048	U
127-18-4	Tetrachloroethylene	1	0.0048	U
108-88-3	Toluene	1	0.0048	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0048	U
10061-02-6	trans-1,3-Dichloropropylene	1	0.0048	U
79-01-6	Trichloroethylene	1	0.0048	U
75-69-4	Trichlorofluoromethane	1	0.0048	U
75-01-4	Vinyl Chloride	1	0.0048	U
1330-20-7	Xylenes, Total	1	0.014	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	58.1	116	77 - 125	
SURR: Toluene-d8	50.0	50.0	100	85 - 120	
SURR: p-Bromofluorobenzene	50.0	48.0	96.1	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	227928	4.857	261973	4.863	
ISTD: Chlorobenzene-d5	748624	7.837	861769	7.837	
ISTD: 1,2-Dichlorobenzene-d4	367619	10.786	408296	10.786	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433019.D
Acq On : 10 May 2023 5:33 pm
Operator : BMC
Sample : 23E0419-07
Misc : QBQV40051023A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 11 11:51:27 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

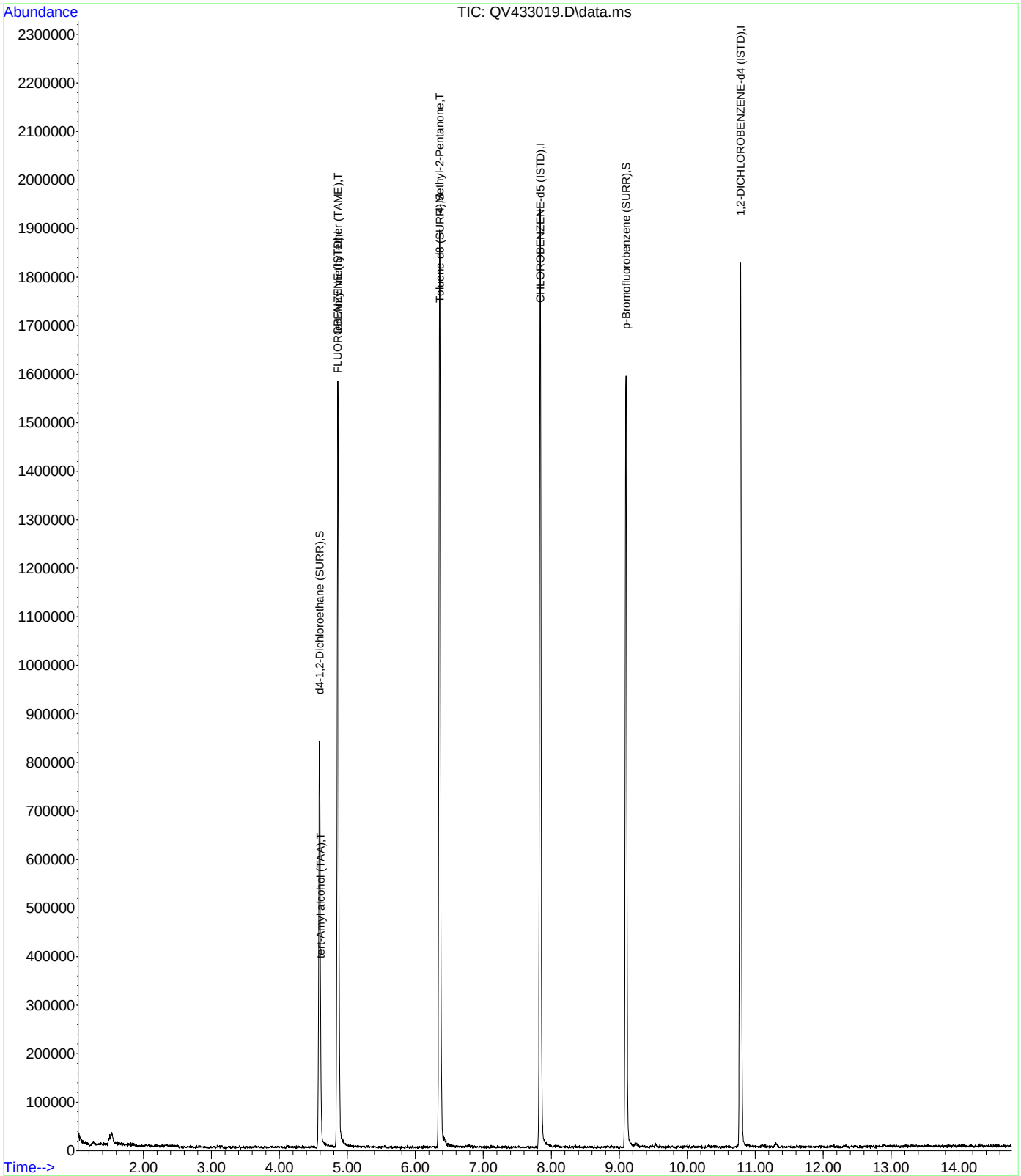
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.857	70	227928	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	748624	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.786	152	367619	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.590	65	615808	58.09	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 116.18%			
54) Toluene-d8 (SURR)	6.360	98	1059667	49.99	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.98%			
73) p-Bromofluorobenzene (...	9.098	95	501594	48.04	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.08%			
Target Compounds						Qvalue
37) tert-Amyl alcohol (TAA)	4.607	59	498	1.24	ppb	# 100
40) tert-Amyl methyl ether...	4.860	73	16027	1.30	ppb	# 86
53) 4-Methyl-2-Pentanone	6.354	43	7858	1.57	ppb	# 1

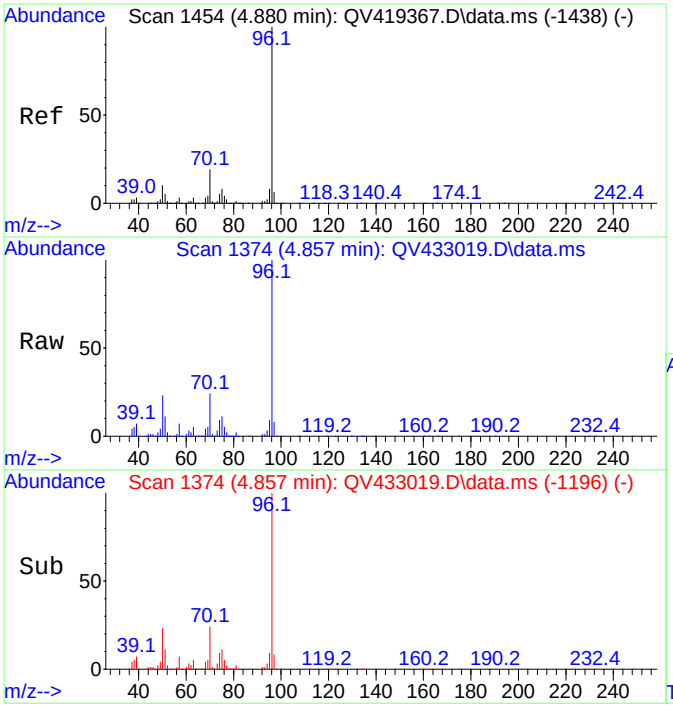
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433019.D
Acq On : 10 May 2023 5:33 pm
Operator : BMC
Sample : 23E0419-07
Misc : QBQV40051023A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 11 11:51:27 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

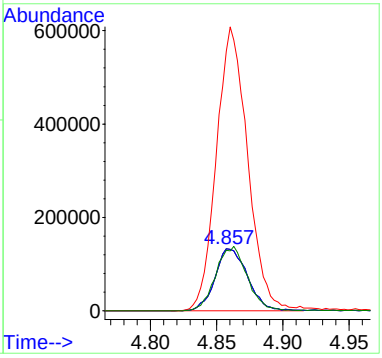


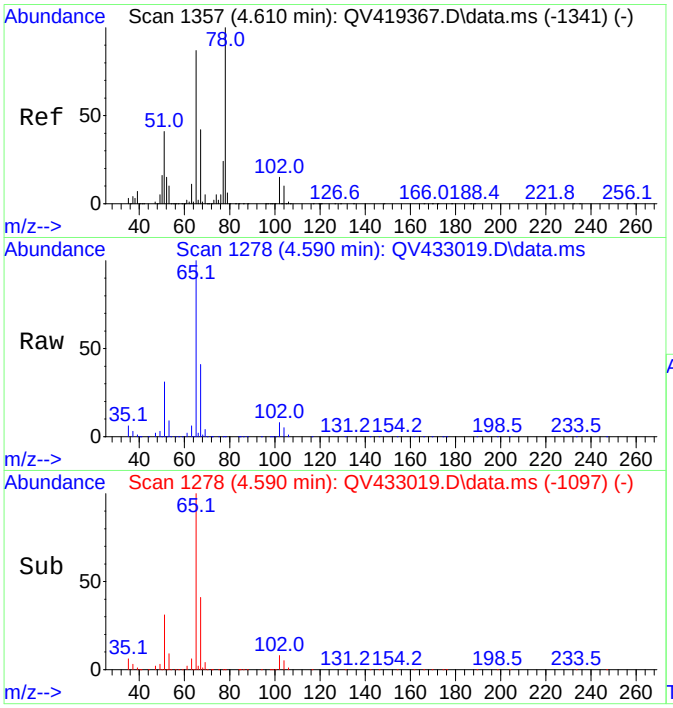


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.857 min Scan# 1374
Delta R.T. -0.006 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion: 70 Resp: 227928

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	437.2	362.2	752.2
50	100.0	0.0	0.0#

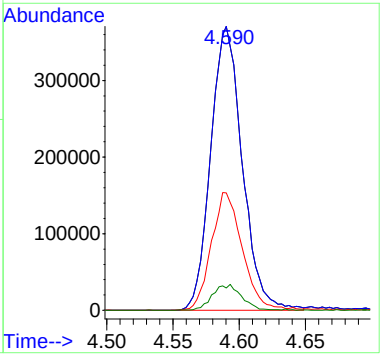


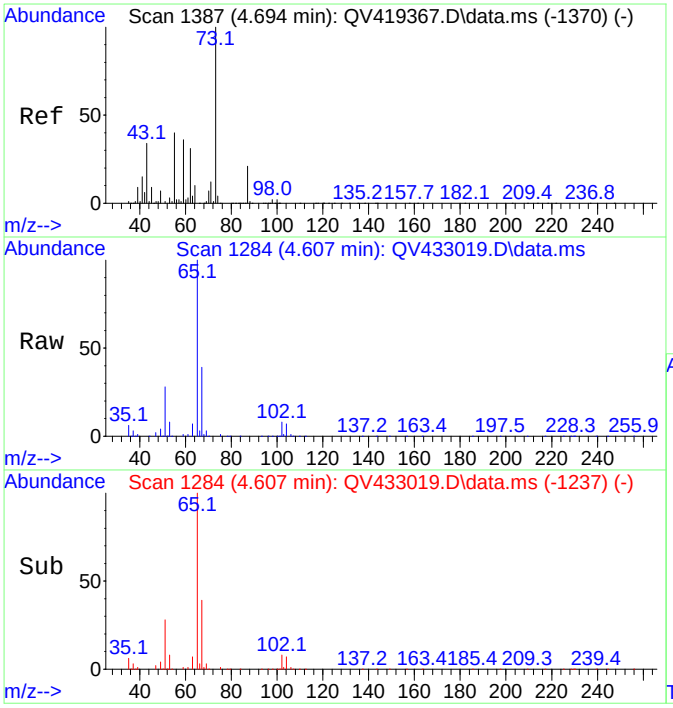


#35
d4-1,2-Dichloroethane (SURR)
Concen: 58.09 ppb
RT: 4.590 min Scan# 1278
Delta R.T. 0.002 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion: 65 Resp: 615808

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	40.6	34.1	70.7
102	0.0	11.6	34.7#

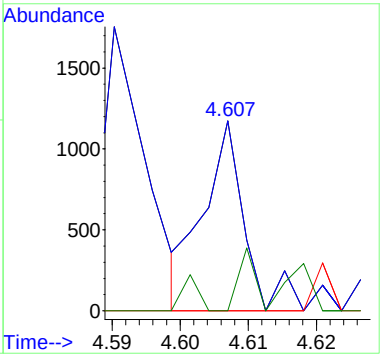


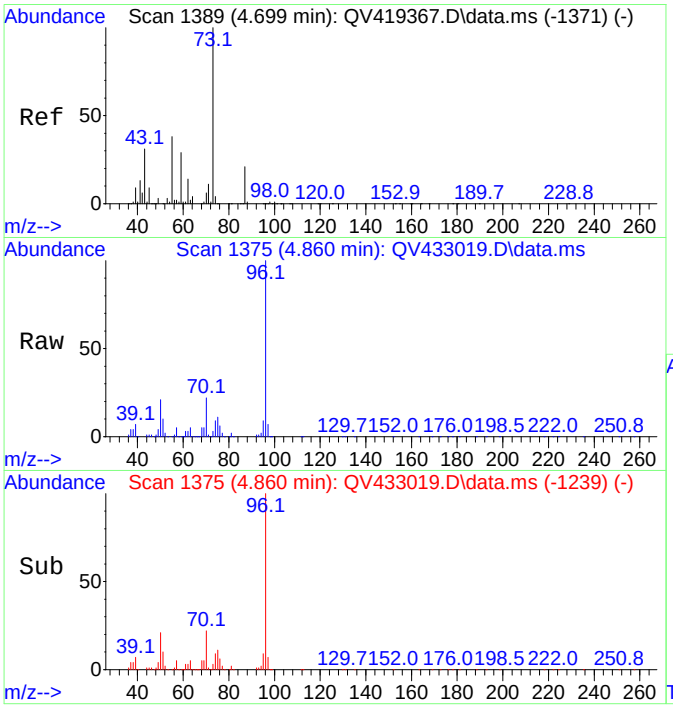


#37
tert-Amyl alcohol (TAA)
Concen: 1.24 ppb
RT: 4.607 min Scan# 1284
Delta R.T. -0.070 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion: 59 Resp: 498

Ion	Ratio	Lower	Upper
59	100		
59	100.0	80.0	120.0
73	0.0	0.0	0.0
55	13.1	0.0	0.0#

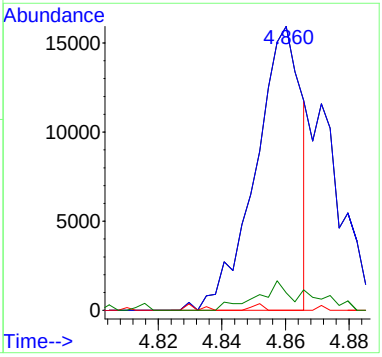


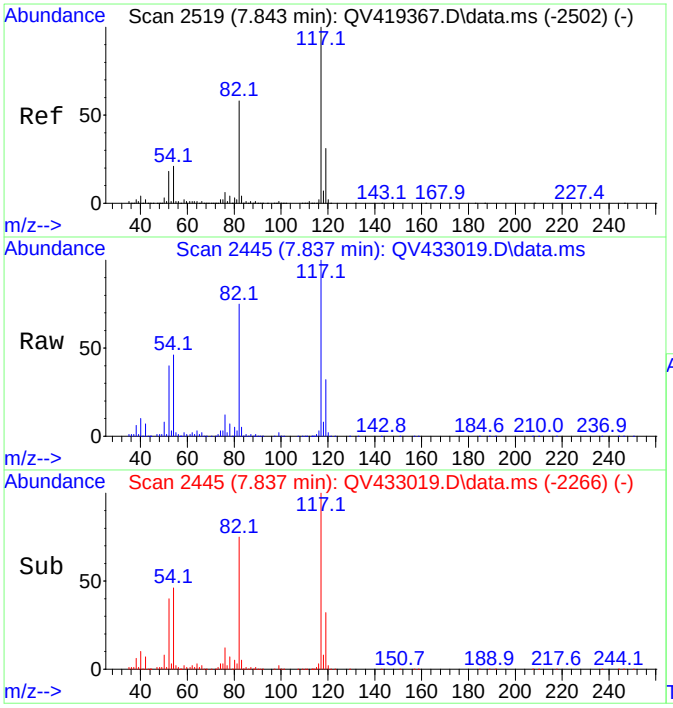


#40
tert-Amyl methyl ether (TAME)
Concen: 1.30 ppb
RT: 4.860 min Scan# 1375
Delta R.T. 0.178 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion: 73 Resp: 16027

Ion	Ratio	Lower	Upper
73	100		
73	100.0	80.0	120.0
87	0.6	10.8	32.4#
55	6.8	14.1	42.4#

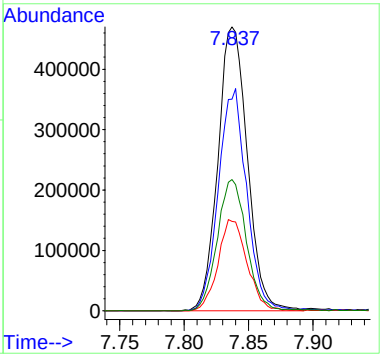


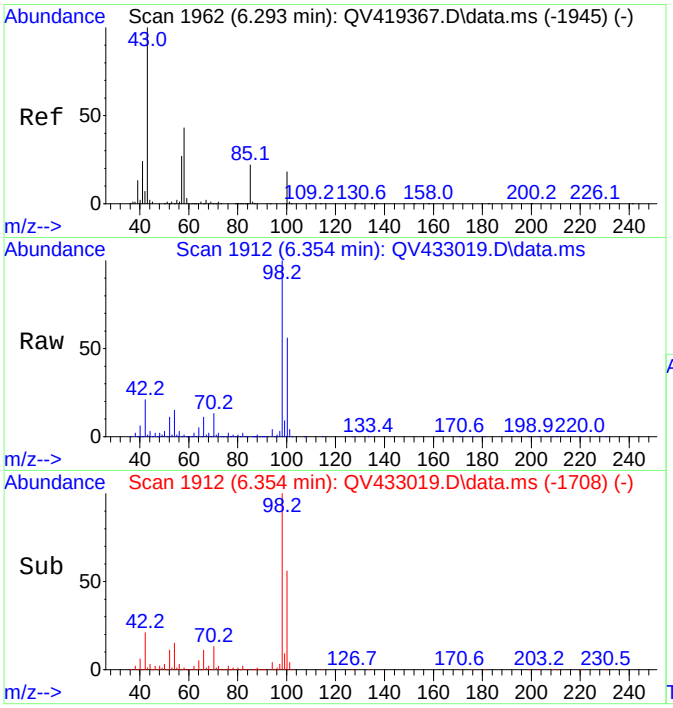


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.837 min Scan# 2445
Delta R.T. -0.003 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion:117 Resp: 748624

Ion	Ratio	Lower	Upper
117	100		
82	75.1	31.7	65.9#
119	31.6	14.0	29.2#
54	46.1	13.3	27.7#

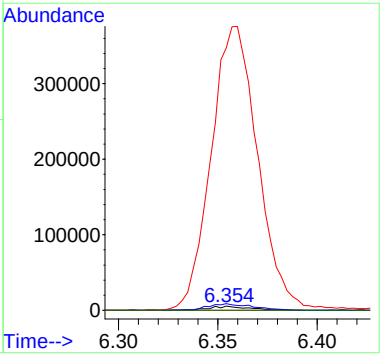


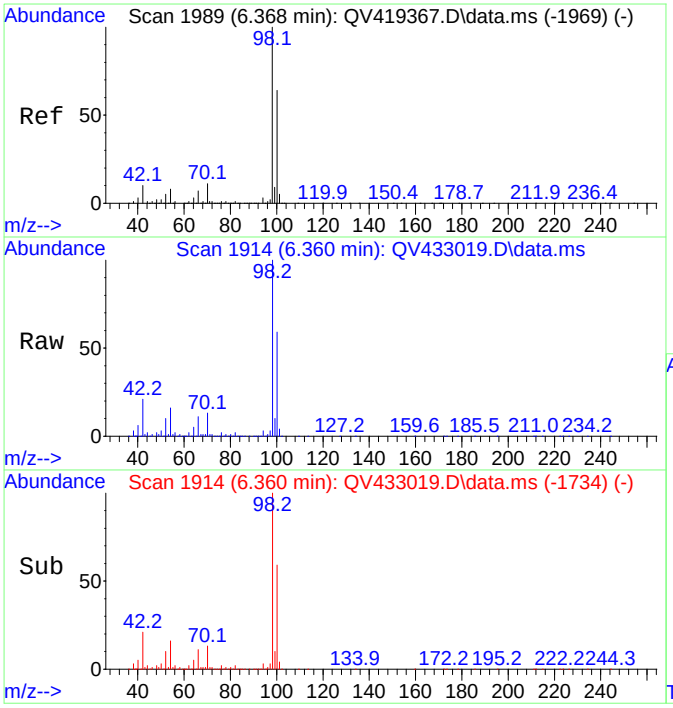


#53
4-Methyl-2-Pentanone
Concen: 1.57 ppb
RT: 6.354 min Scan# 1912
Delta R.T. 0.066 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion: 43 Resp: 7858

Ion	Ratio	Lower	Upper
43	100		
58	175.1	25.7	53.5#
100	7860.1	8.1	24.3#
85	0.8	8.7	26.1#

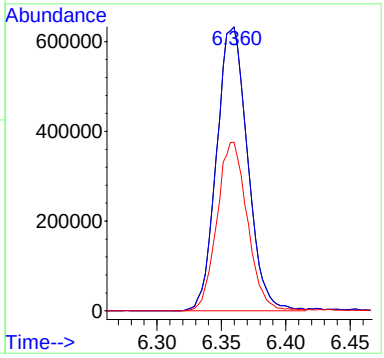


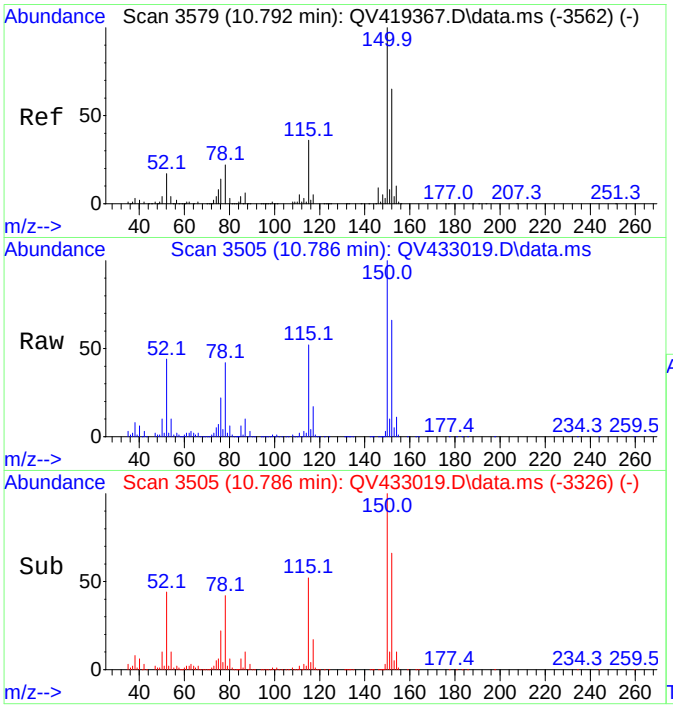


#54
Toluene-d8 (SURR)
Concen: 49.99 ppb
RT: 6.360 min Scan# 1914
Delta R.T. -0.000 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion: 98 Resp: 1059667

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	58.3	37.1	77.1

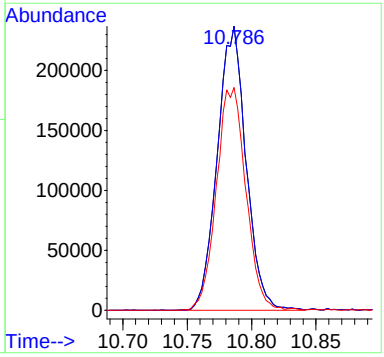


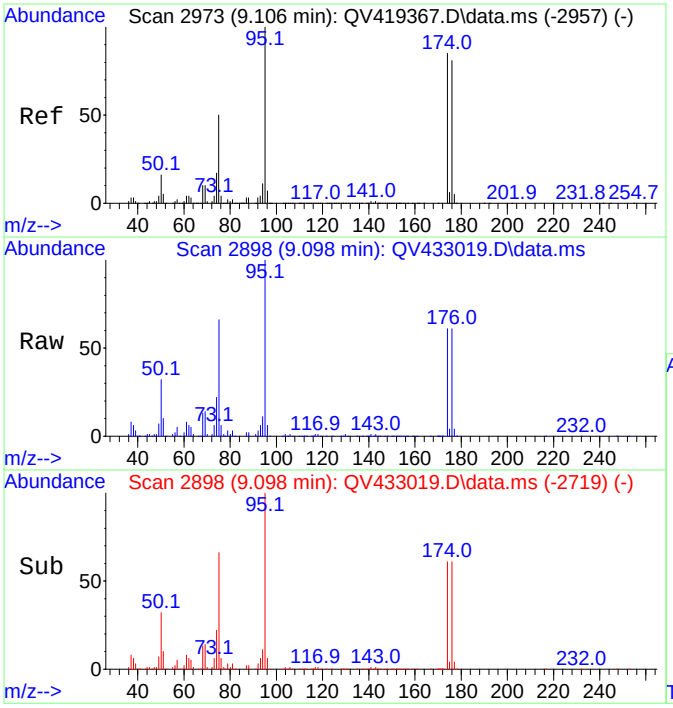


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.786 min Scan# 3505
Delta R.T. -0.003 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion:152 Resp: 367619

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	80.3	28.6	85.9

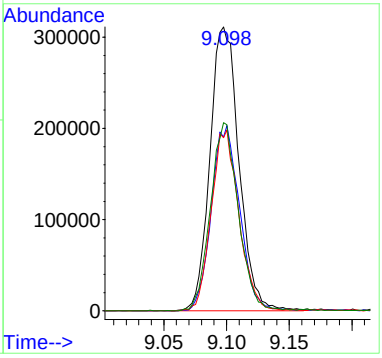




#73
p-Bromofluorobenzene (SURR)
Concen: 48.04 ppb
RT: 9.098 min Scan# 2898
Delta R.T. -0.002 min
Lab File: QV433019.D
Acq: 10 May 2023 5:33 pm

Tgt Ion: 95 Resp: 501594

Ion	Ratio	Lower	Upper
95	100		
174	63.4	62.9	130.5
176	60.4	60.4	125.4
75	63.7	34.3	71.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB05_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-08 File ID: QV433020.D

Sampled: 05/05/23 12:30 Prepared: 05/10/23 08:30 Analyzed: 05/10/23 18:04

Solids: 90.14 Preparation: EPA 5035A Initial/Final: 5.78 g / 5 ml

Batch: BD31853 Sequence: S3E1504 Calibration: SD30046 Instrument: QVOA4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	0.0048	U
71-55-6	1,1,1-Trichloroethane	1	0.0048	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.0048	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1	0.0048	U
79-00-5	1,1,2-Trichloroethane	1	0.0048	U
75-34-3	1,1-Dichloroethane	1	0.0048	U
75-35-4	1,1-Dichloroethylene	1	0.0048	U
87-61-6	1,2,3-Trichlorobenzene	1	0.0048	U
96-18-4	1,2,3-Trichloropropane	1	0.0048	U
120-82-1	1,2,4-Trichlorobenzene	1	0.0048	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0048	U
96-12-8	1,2-Dibromo-3-chloropropane	1	0.0048	U
106-93-4	1,2-Dibromoethane	1	0.0048	U
95-50-1	1,2-Dichlorobenzene	1	0.0048	U
107-06-2	1,2-Dichloroethane	1	0.0048	U
78-87-5	1,2-Dichloropropane	1	0.0048	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0048	U
541-73-1	1,3-Dichlorobenzene	1	0.0048	U
106-46-7	1,4-Dichlorobenzene	1	0.0048	U
123-91-1	1,4-Dioxane	1	0.096	U
78-93-3	2-Butanone	1	0.0048	U
591-78-6	2-Hexanone	1	0.0048	U
108-10-1	4-Methyl-2-pentanone	1	0.0048	U
67-64-1	Acetone	1	0.0096	U
107-02-8	Acrolein	1	0.0096	U
107-13-1	Acrylonitrile	1	0.0048	U
71-43-2	Benzene	1	0.0048	U
74-97-5	Bromochloromethane	1	0.0048	U
75-27-4	Bromodichloromethane	1	0.0048	U
75-25-2	Bromoform	1	0.0048	U
74-83-9	Bromomethane	1	0.0048	U
75-15-0	Carbon disulfide	1	0.0048	U
56-23-5	Carbon tetrachloride	1	0.0048	U
108-90-7	Chlorobenzene	1	0.0048	U
75-00-3	Chloroethane	1	0.0048	U
67-66-3	Chloroform	1	0.0048	U
74-87-3	Chloromethane	1	0.0048	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0048	U
10061-01-5	cis-1,3-Dichloropropylene	1	0.0048	U
110-82-7	Cyclohexane	1	0.0048	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB05_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-08	File ID:	QV433020.D
Sampled:	05/05/23 12:30	Prepared:	05/10/23 08:30	Analyzed:	05/10/23 18:04
Solids:	90.14	Preparation:	EPA 5035A	Initial/Final:	5.78 g / 5 ml
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046
Instrument:	QVOA4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
124-48-1	Dibromochloromethane	1	0.0048	U
74-95-3	Dibromomethane	1	0.0048	U
75-71-8	Dichlorodifluoromethane	1	0.0048	U
100-41-4	Ethyl Benzene	1	0.0048	U
87-68-3	Hexachlorobutadiene	1	0.0048	U
98-82-8	Isopropylbenzene	1	0.0048	U
79-20-9	Methyl acetate	1	0.0048	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0048	U
108-87-2	Methylcyclohexane	1	0.0048	U
75-09-2	Methylene chloride	1	0.0096	U
104-51-8	n-Butylbenzene	1	0.0048	U
103-65-1	n-Propylbenzene	1	0.0048	U
95-47-6	o-Xylene	1	0.0048	U
179601-23-1	p- & m- Xylenes	1	0.0096	U
99-87-6	p-Isopropyltoluene	1	0.0048	U
135-98-8	sec-Butylbenzene	1	0.0048	U
100-42-5	Styrene	1	0.0048	U
75-65-0	tert-Butyl alcohol (TBA)	1	0.0048	U
98-06-6	tert-Butylbenzene	1	0.0048	U
127-18-4	Tetrachloroethylene	1	0.0048	U
108-88-3	Toluene	1	0.0048	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0048	U
10061-02-6	trans-1,3-Dichloropropylene	1	0.0048	U
79-01-6	Trichloroethylene	1	0.0048	U
75-69-4	Trichlorofluoromethane	1	0.0048	U
75-01-4	Vinyl Chloride	1	0.0048	U
1330-20-7	Xylenes, Total	1	0.014	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	57.5	115	77 - 125	
SURR: Toluene-d8	50.0	49.6	99.2	85 - 120	
SURR: p-Bromofluorobenzene	50.0	49.6	99.1	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	226614	4.857	261973	4.863	
ISTD: Chlorobenzene-d5	744828	7.837	861769	7.837	
ISTD: 1,2-Dichlorobenzene-d4	357628	10.784	408296	10.786	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433020.D
Acq On : 10 May 2023 6:04 pm
Operator : BMC
Sample : 23E0419-08
Misc : QBQV40051023A
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 11 11:51:30 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

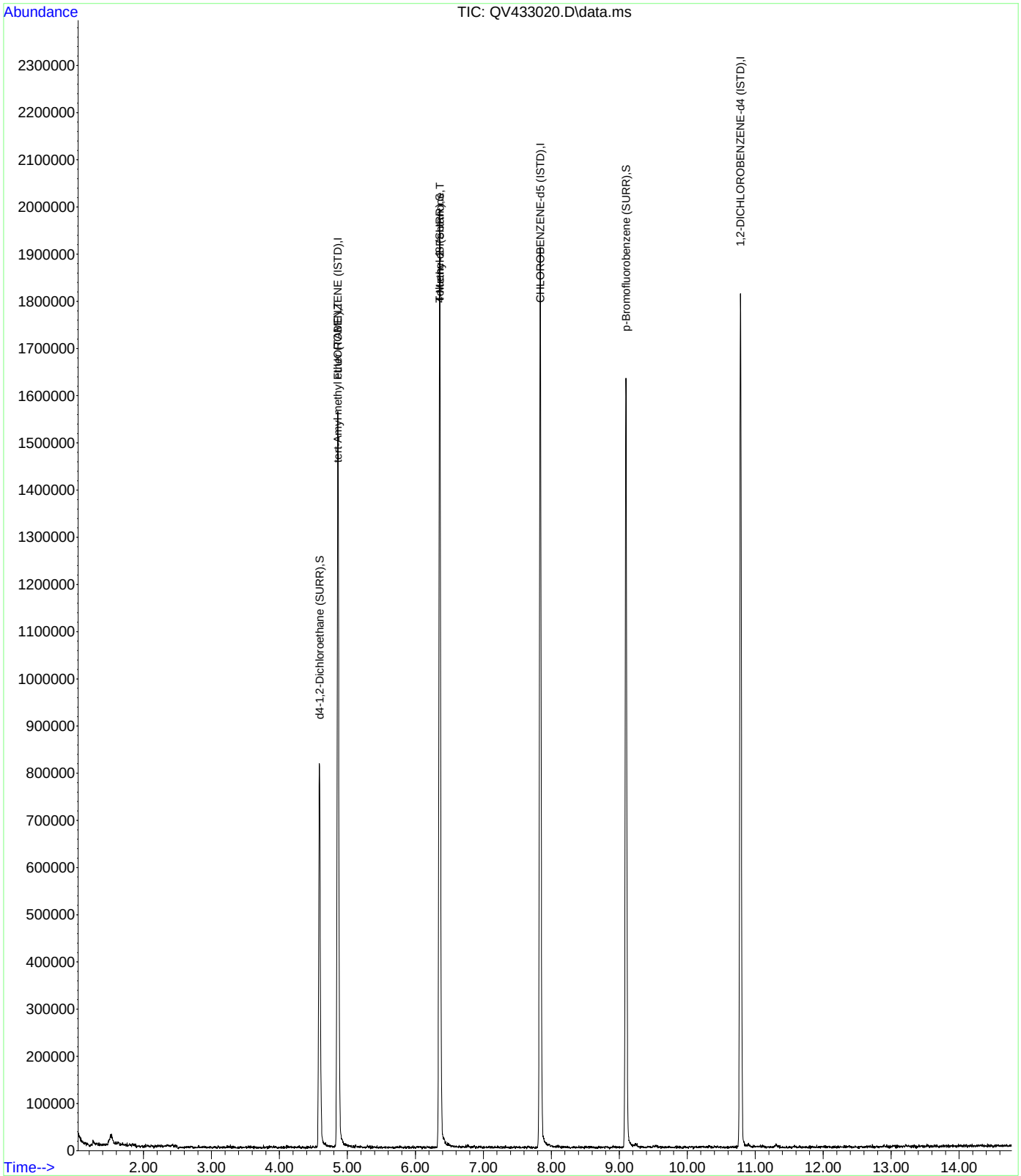
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.857	70	226614	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	744828	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	357628	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.590	65	605804	57.48	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 114.96%			
54) Toluene-d8 (SURR)	6.357	98	1046363	49.61	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.22%			
73) p-Bromofluorobenzene (...	9.097	95	503554	49.57	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 99.14%			
Target Compounds						Qvalue
40) tert-Amyl methyl ether...	4.855	73	15260	1.24	ppb	# 85
53) 4-Methyl-2-Pentanone	6.360	43	8722	1.75	ppb	# 1

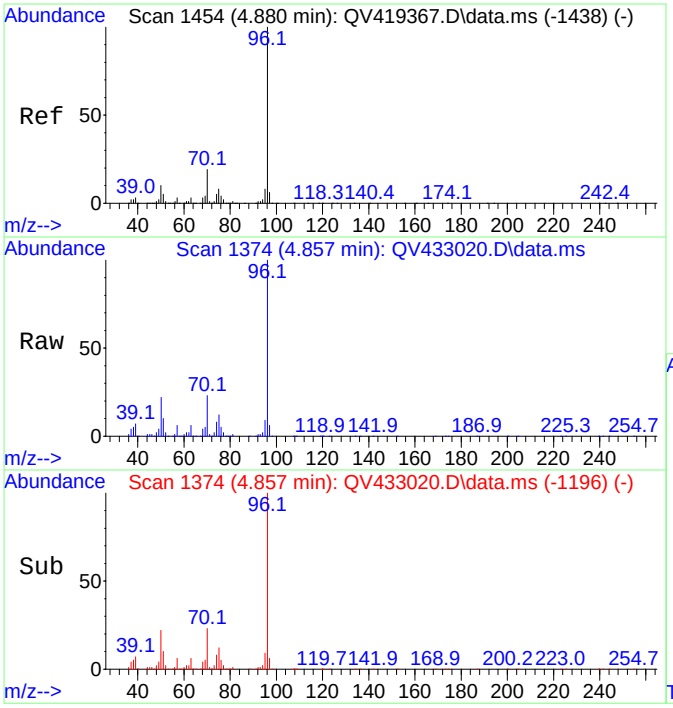
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433020.D
Acq On : 10 May 2023 6:04 pm
Operator : BMC
Sample : 23E0419-08
Misc : QBQV40051023A
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 11 11:51:30 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

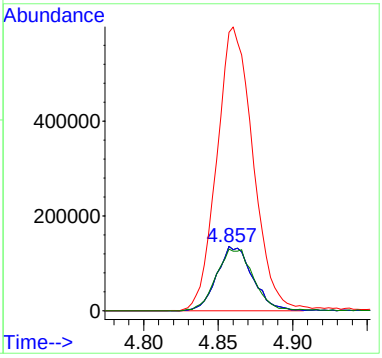


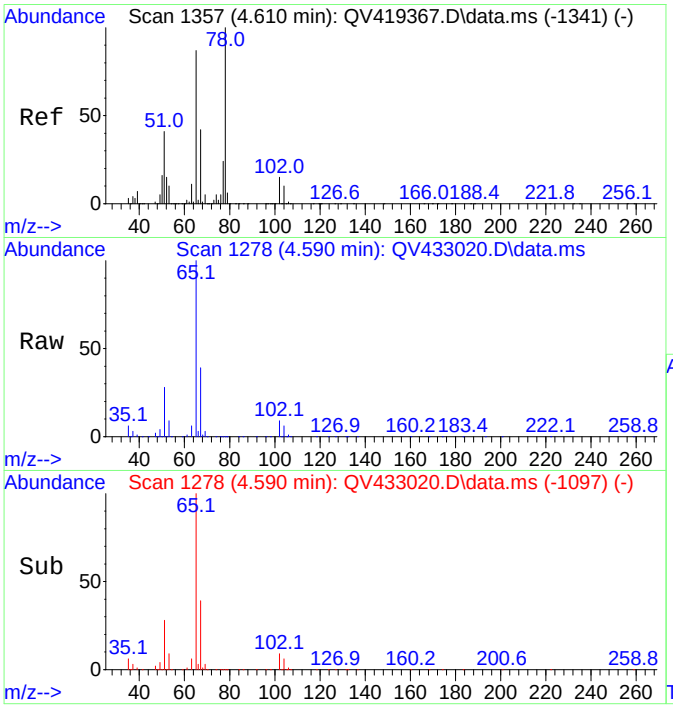


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.857 min Scan# 1374
Delta R.T. -0.006 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion: 70 Resp: 226614

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	449.4	362.2	752.2
50	0.0	0.0	0.0

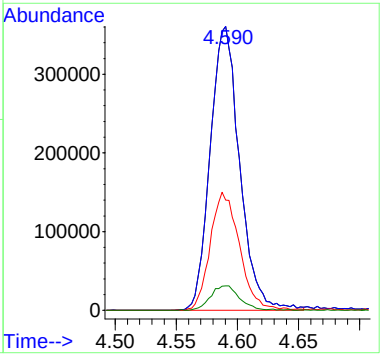


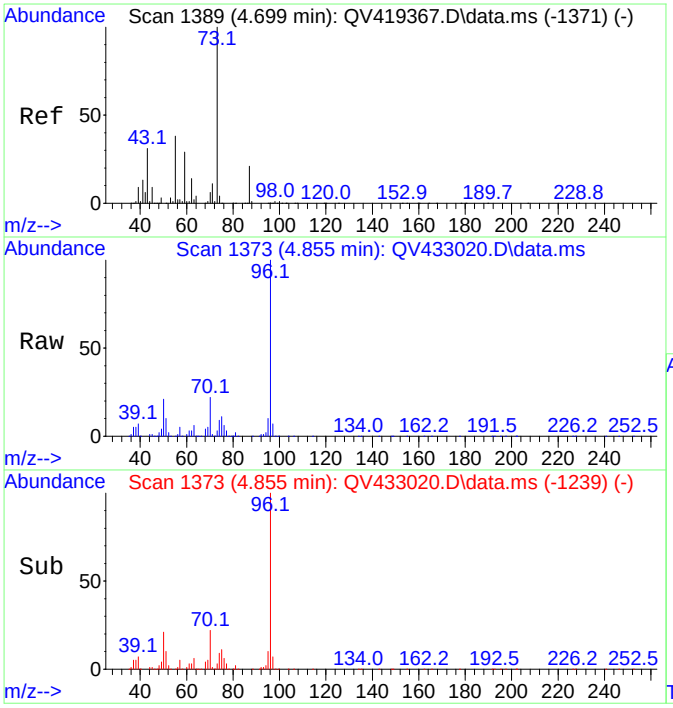


#35
d4-1,2-Dichloroethane (SURR)
Concen: 57.48 ppb
RT: 4.590 min Scan# 1278
Delta R.T. 0.002 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion: 65 Resp: 605804

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	41.4	34.1	70.7
102	0.0	11.6	34.7#

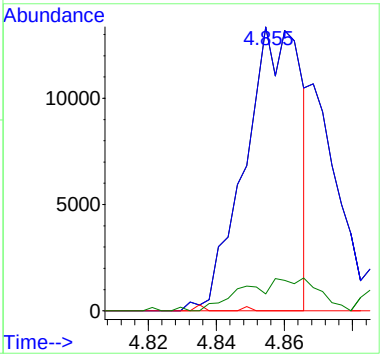


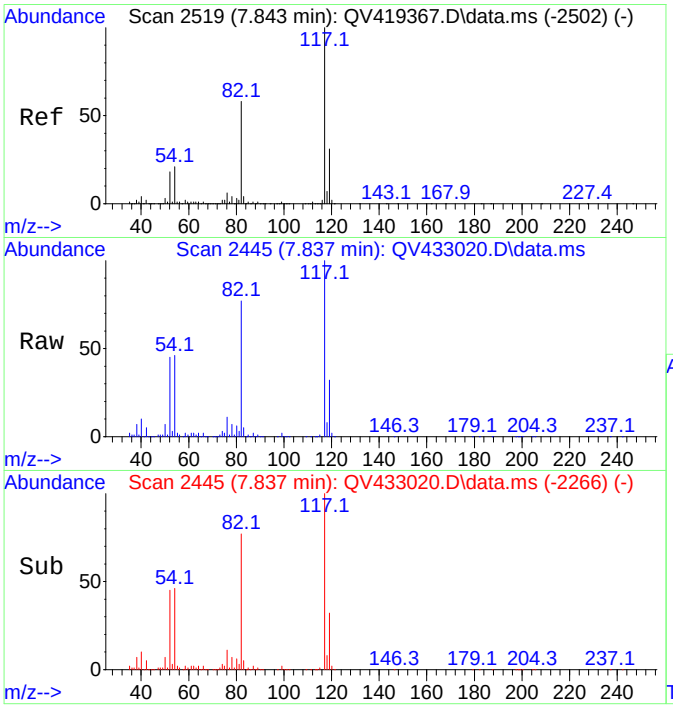


#40
tert-Amyl methyl ether (TAME)
Concen: 1.24 ppb
RT: 4.855 min Scan# 1373
Delta R.T. 0.173 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion: 73 Resp: 15260

Ion	Ratio	Lower	Upper
73	100		
73	100.0	80.0	120.0
87	0.2	10.8	32.4#
55	5.9	14.1	42.4#

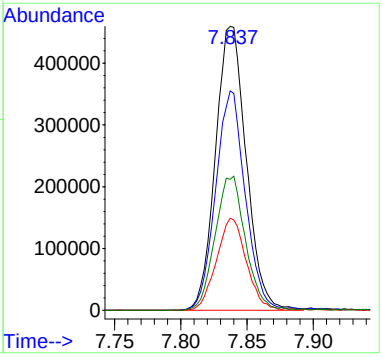


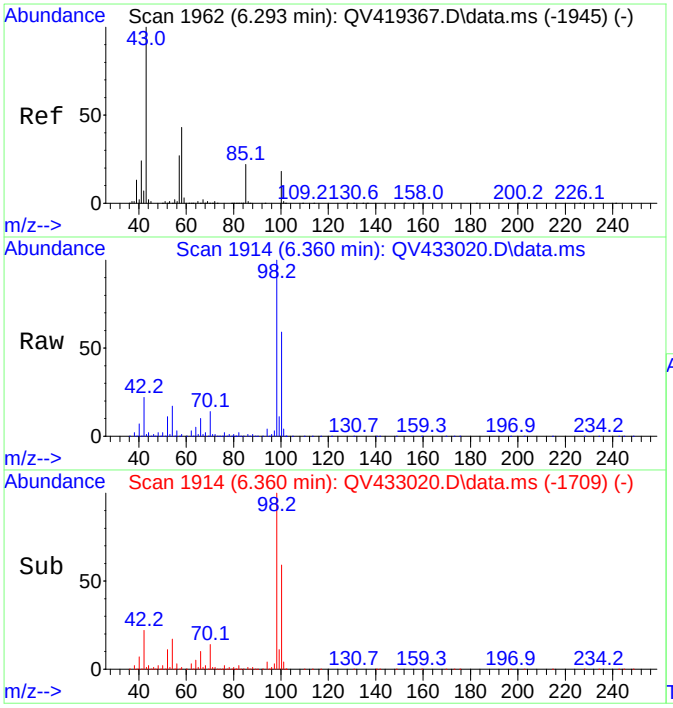


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.837 min Scan# 2445
Delta R.T. -0.003 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion:117 Resp: 744828

Ion	Ratio	Lower	Upper
117	100		
82	75.1	31.7	65.9#
119	31.5	14.0	29.2#
54	46.6	13.3	27.7#

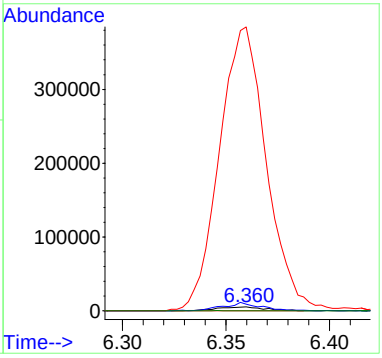


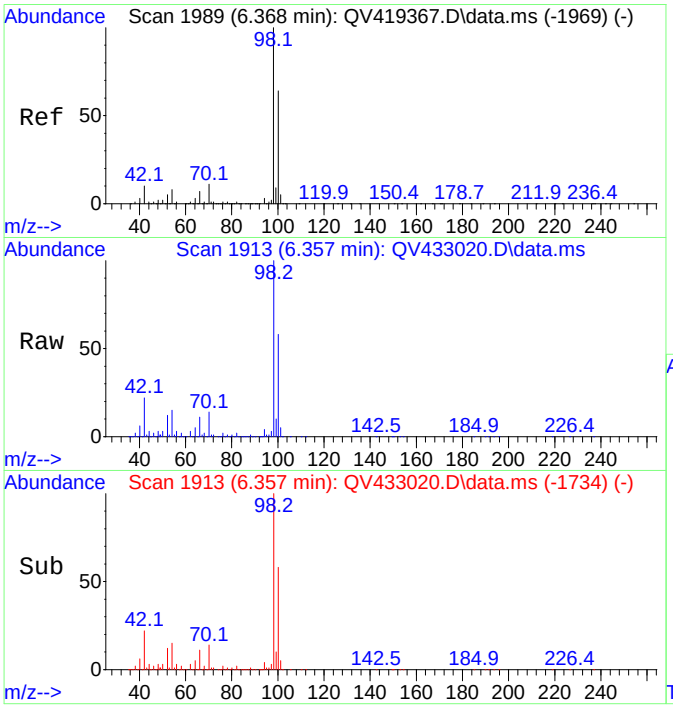


#53
4-Methyl-2-Pentanone
Concen: 1.75 ppb
RT: 6.360 min Scan# 1914
Delta R.T. 0.072 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion: 43 Resp: 8722

Ion	Ratio	Lower	Upper
43	100		
58	161.6	25.7	53.5#
100	6977.2	8.1	24.3#
85	0.3	8.7	26.1#

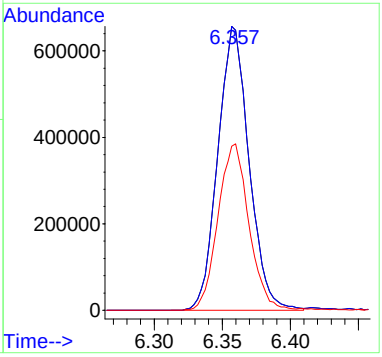


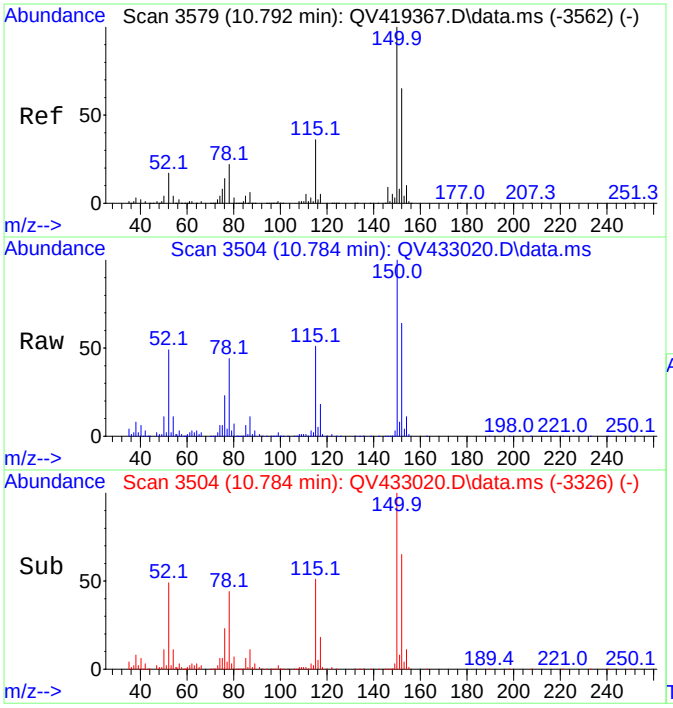


#54
Toluene-d8 (SURR)
Concen: 49.61 ppb
RT: 6.357 min Scan# 1913
Delta R.T. -0.003 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion: 98 Resp: 1046363

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	58.2	37.1	77.1

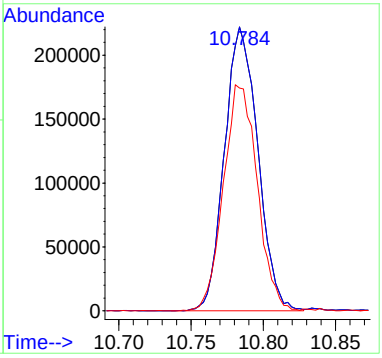


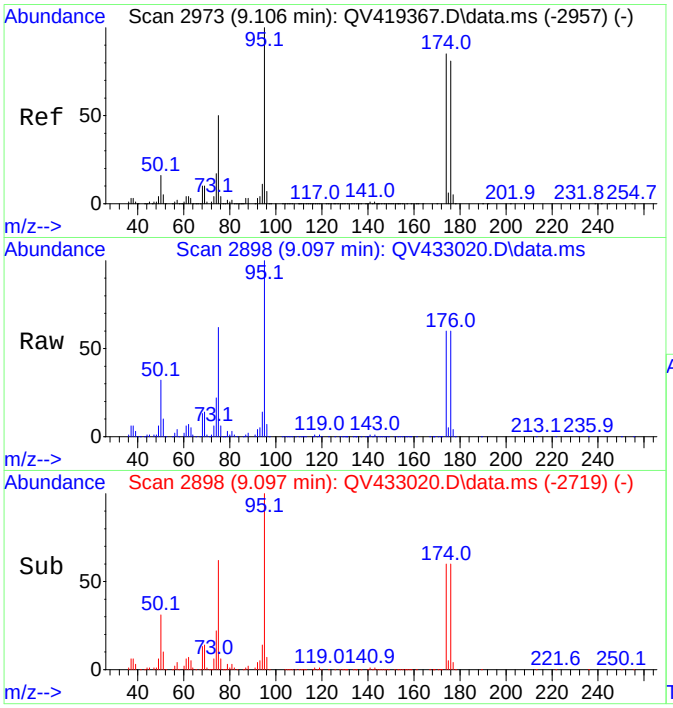


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.784 min Scan# 3504
Delta R.T. -0.005 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion:152 Resp: 357628

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	80.6	28.6	85.9

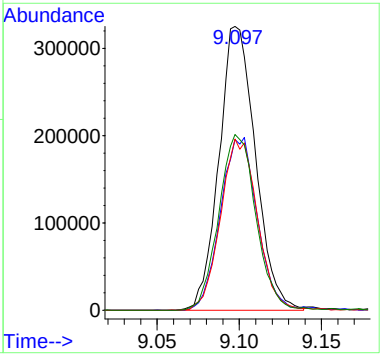




#73
p-Bromofluorobenzene (SURR)
Concen: 49.57 ppb
RT: 9.097 min Scan# 2898
Delta R.T. -0.003 min
Lab File: QV433020.D
Acq: 10 May 2023 6:04 pm

Tgt Ion: 95 Resp: 503554

Ion	Ratio	Lower	Upper
95	100		
174	61.4	62.9	130.5#
176	60.9	60.4	125.4
75	62.9	34.3	71.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB06_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-09 File ID: QV433021.D

Sampled: 05/05/23 12:35 Prepared: 05/10/23 08:30 Analyzed: 05/10/23 18:35

Solids: 91.55 Preparation: EPA 5035A Initial/Final: 5.2 g / 5 ml

Batch: BD31853 Sequence: S3E1504 Calibration: SD30046 Instrument: QVOA4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	0.0053	U
71-55-6	1,1,1-Trichloroethane	1	0.0053	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.0053	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1	0.0053	U
79-00-5	1,1,2-Trichloroethane	1	0.0053	U
75-34-3	1,1-Dichloroethane	1	0.0053	U
75-35-4	1,1-Dichloroethylene	1	0.0053	U
87-61-6	1,2,3-Trichlorobenzene	1	0.0053	U
96-18-4	1,2,3-Trichloropropane	1	0.0053	U
120-82-1	1,2,4-Trichlorobenzene	1	0.0053	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0053	U
96-12-8	1,2-Dibromo-3-chloropropane	1	0.0053	U
106-93-4	1,2-Dibromoethane	1	0.0053	U
95-50-1	1,2-Dichlorobenzene	1	0.0053	U
107-06-2	1,2-Dichloroethane	1	0.0053	U
78-87-5	1,2-Dichloropropane	1	0.0053	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0053	U
541-73-1	1,3-Dichlorobenzene	1	0.0053	U
106-46-7	1,4-Dichlorobenzene	1	0.0053	U
123-91-1	1,4-Dioxane	1	0.11	U
78-93-3	2-Butanone	1	0.0053	U
591-78-6	2-Hexanone	1	0.0053	U
108-10-1	4-Methyl-2-pentanone	1	0.0053	U
67-64-1	Acetone	1	0.011	U
107-02-8	Acrolein	1	0.011	U
107-13-1	Acrylonitrile	1	0.0053	U
71-43-2	Benzene	1	0.0053	U
74-97-5	Bromochloromethane	1	0.0053	U
75-27-4	Bromodichloromethane	1	0.0053	U
75-25-2	Bromoform	1	0.0053	U
74-83-9	Bromomethane	1	0.0053	U
75-15-0	Carbon disulfide	1	0.0053	U
56-23-5	Carbon tetrachloride	1	0.0053	U
108-90-7	Chlorobenzene	1	0.0053	U
75-00-3	Chloroethane	1	0.0053	U
67-66-3	Chloroform	1	0.0053	U
74-87-3	Chloromethane	1	0.0053	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0053	U
10061-01-5	cis-1,3-Dichloropropylene	1	0.0053	U
110-82-7	Cyclohexane	1	0.0053	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB06_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-09	File ID:	QV433021.D
Sampled:	05/05/23 12:35	Prepared:	05/10/23 08:30	Analyzed:	05/10/23 18:35
Solids:	91.55	Preparation:	EPA 5035A	Initial/Final:	5.2 g / 5 ml
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046
Instrument:	QVOA4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
124-48-1	Dibromochloromethane	1	0.0053	U
74-95-3	Dibromomethane	1	0.0053	U
75-71-8	Dichlorodifluoromethane	1	0.0053	U
100-41-4	Ethyl Benzene	1	0.0053	U
87-68-3	Hexachlorobutadiene	1	0.0053	U
98-82-8	Isopropylbenzene	1	0.0053	U
79-20-9	Methyl acetate	1	0.0053	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0053	U
108-87-2	Methylcyclohexane	1	0.0053	U
75-09-2	Methylene chloride	1	0.011	U
104-51-8	n-Butylbenzene	1	0.0053	U
103-65-1	n-Propylbenzene	1	0.0053	U
95-47-6	o-Xylene	1	0.0053	U
179601-23-1	p- & m- Xylenes	1	0.011	U
99-87-6	p-Isopropyltoluene	1	0.0053	U
135-98-8	sec-Butylbenzene	1	0.0053	U
100-42-5	Styrene	1	0.0053	U
75-65-0	tert-Butyl alcohol (TBA)	1	0.0053	U
98-06-6	tert-Butylbenzene	1	0.0053	U
127-18-4	Tetrachloroethylene	1	0.0053	U
108-88-3	Toluene	1	0.0053	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0053	U
10061-02-6	trans-1,3-Dichloropropylene	1	0.0053	U
79-01-6	Trichloroethylene	1	0.0053	U
75-69-4	Trichlorofluoromethane	1	0.0053	U
75-01-4	Vinyl Chloride	1	0.0053	U
1330-20-7	Xylenes, Total	1	0.016	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	56.6	113	77 - 125	
SURR: Toluene-d8	50.0	49.4	98.9	85 - 120	
SURR: p-Bromofluorobenzene	50.0	49.6	99.2	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	206338	4.86	261973	4.863	
ISTD: Chlorobenzene-d5	659807	7.837	861769	7.837	
ISTD: 1,2-Dichlorobenzene-d4	317712	10.784	408296	10.786	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433021.D
Acq On : 10 May 2023 6:35 pm
Operator : BMC
Sample : 23E0419-09
Misc : QBQV40051023A
ALS Vial : 16 Sample Multiplier: 1

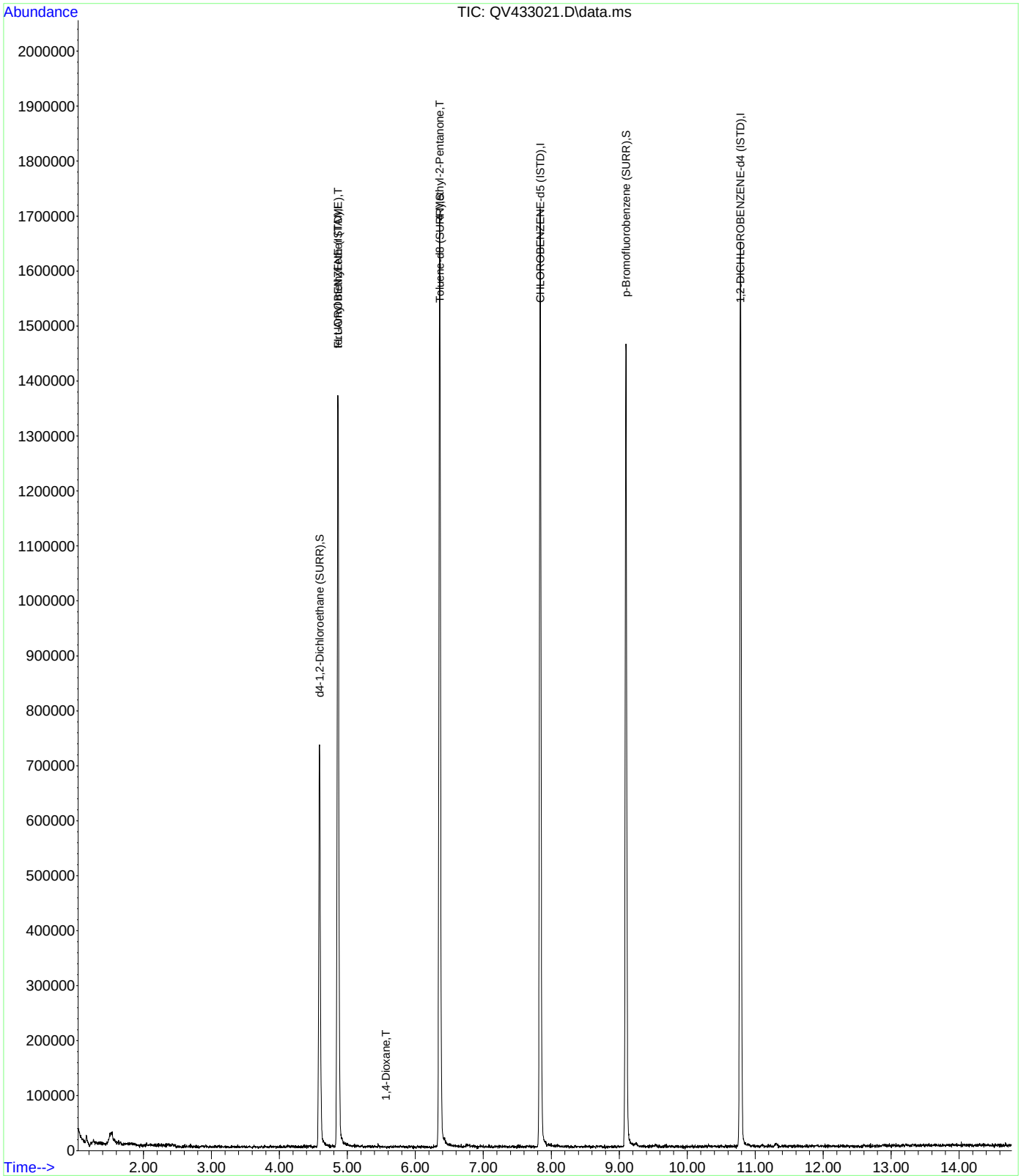
Quant Time: May 11 11:51:33 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

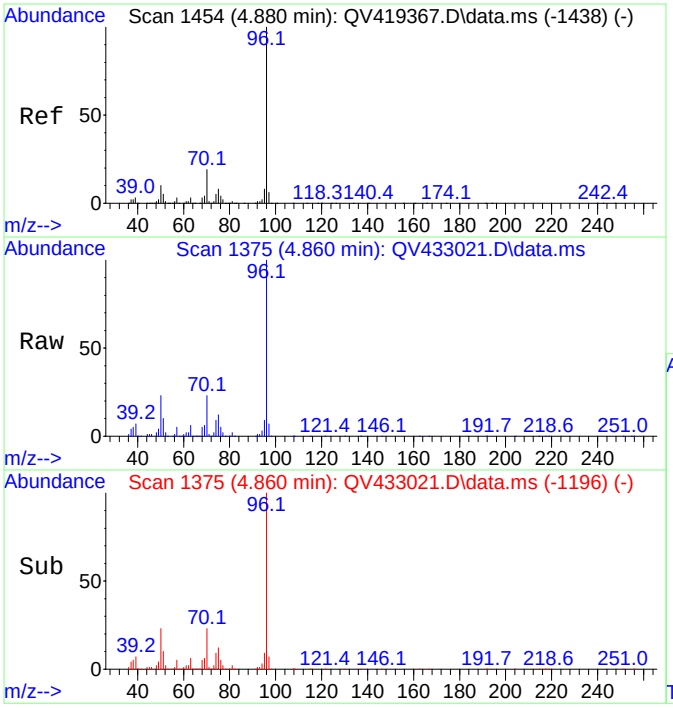
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.860	70	206338	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	659807	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	317712	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.590	65	543361	56.62	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 113.24%			
54) Toluene-d8 (SURR)	6.360	98	923688	49.44	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.88%			
73) p-Bromofluorobenzene (...	9.098	95	447772	49.62	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 99.24%			
Target Compounds						Qvalue
40) tert-Amyl methyl ether...	4.860	73	11364	1.02	ppb	# 83
48) 1,4-Dioxane	5.567	88	44	1.14	ppb	87
53) 4-Methyl-2-Pentanone	6.354	43	8427	1.91	ppb	# 1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051023\
Data File : QV433021.D
Acq On : 10 May 2023 6:35 pm
Operator : BMC
Sample : 23E0419-09
Misc : QBQV40051023A
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 11 11:51:33 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

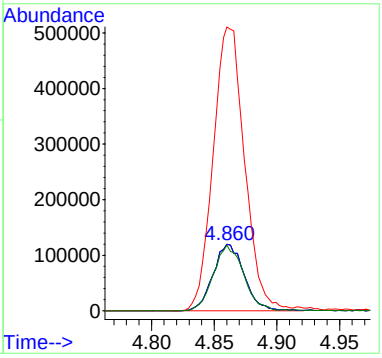


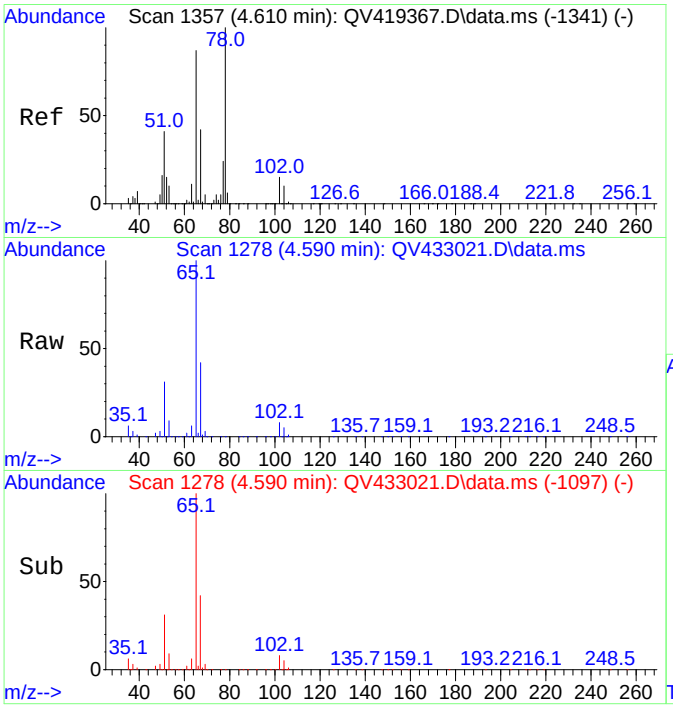


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.860 min Scan# 1375
Delta R.T. -0.003 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion: 70 Resp: 206338

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	431.4	362.2	752.2
50	0.0	0.0	0.0

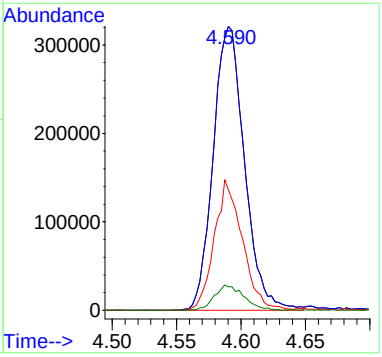


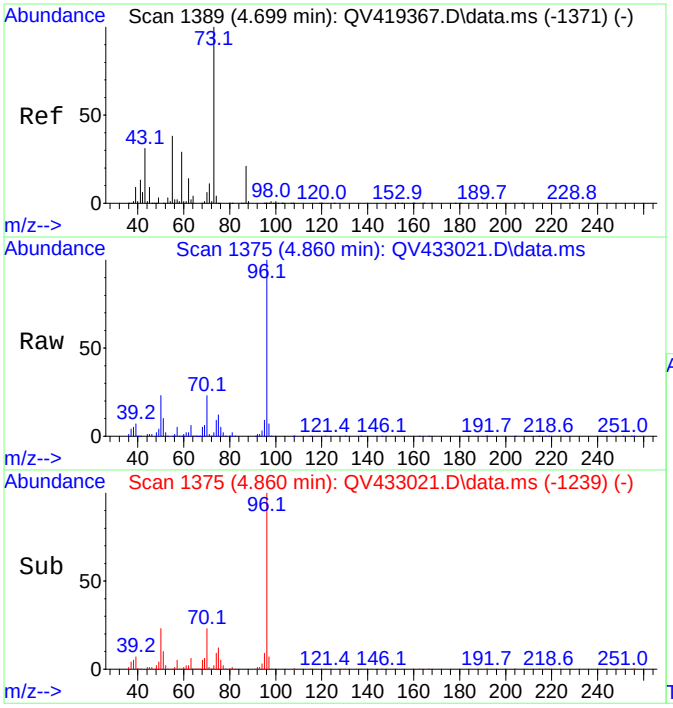


#35
d4-1,2-Dichloroethane (SURR)
Concen: 56.62 ppb
RT: 4.590 min Scan# 1278
Delta R.T. 0.002 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion: 65 Resp: 543361

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	41.2	34.1	70.7
102	8.4	11.6	34.7#

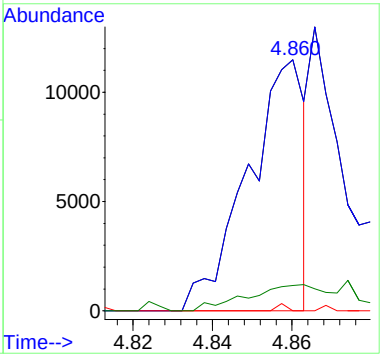


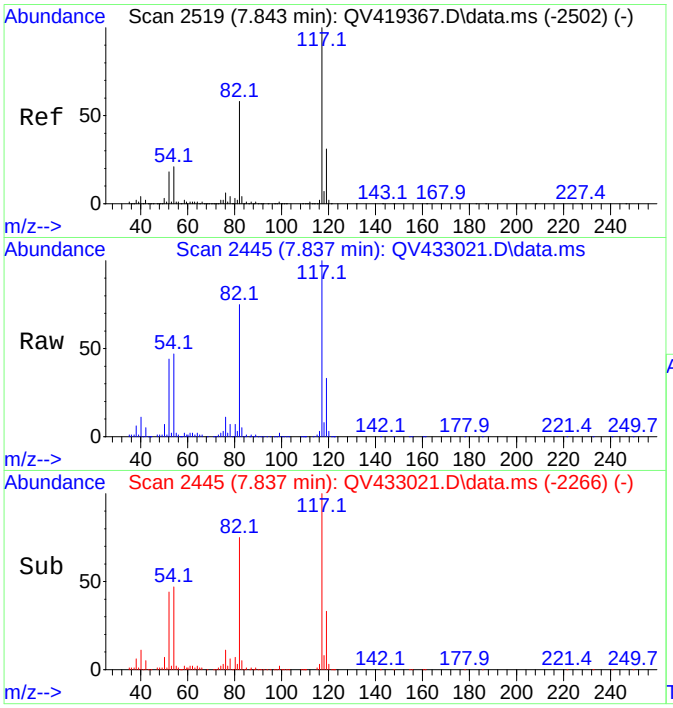


#40
tert-Amyl methyl ether (TAME)
Concen: 1.02 ppb
RT: 4.860 min Scan# 1375
Delta R.T. 0.178 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion: 73 Resp: 11364

Ion	Ratio	Lower	Upper
73	100		
73	100.0	80.0	120.0
87	0.5	10.8	32.4#
55	0.0	14.1	42.4#

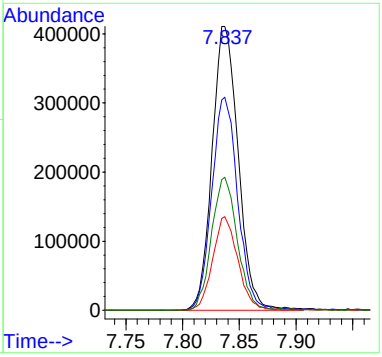


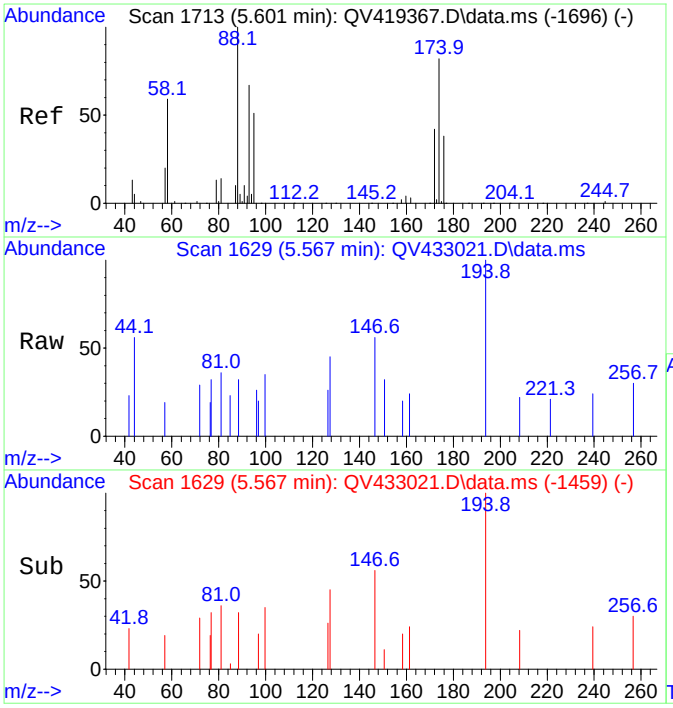


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.837 min Scan# 2445
Delta R.T. -0.003 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion:117 Resp: 659807

Ion	Ratio	Lower	Upper
117	100		
82	74.3	31.7	65.9#
119	31.6	14.0	29.2#
54	46.1	13.3	27.7#

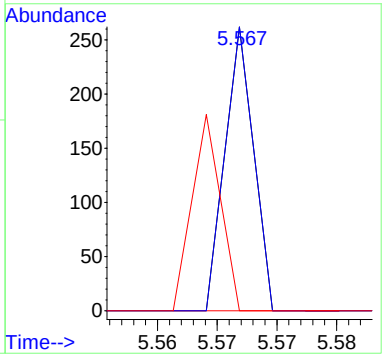


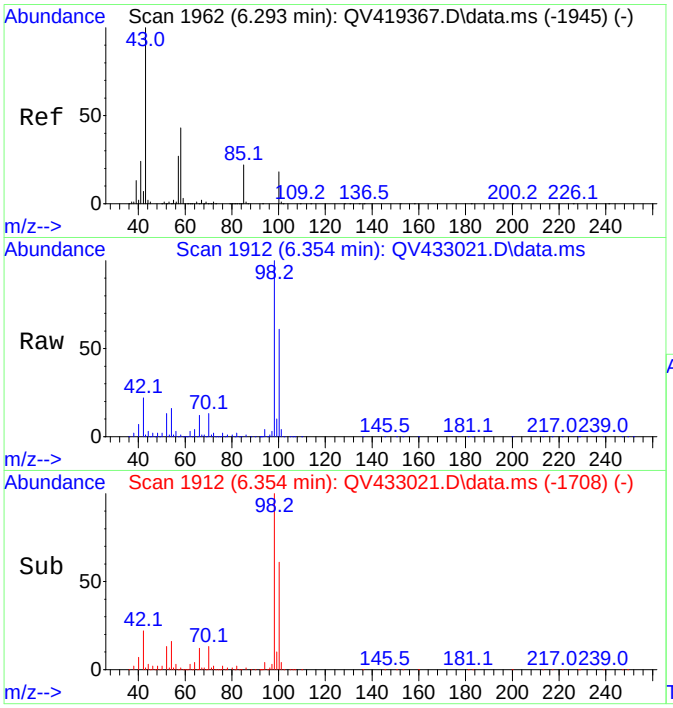


#48
1,4-Dioxane
Concen: 1.14 ppb
RT: 5.567 min Scan# 1629
Delta R.T. -0.028 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion: 88 Resp: 44

Ion	Ratio	Lower	Upper
88	100		
88	100.0	71.8	107.6
58	68.2	28.1	84.4

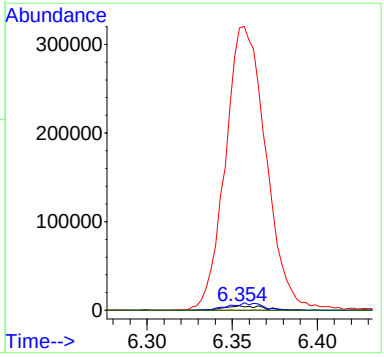


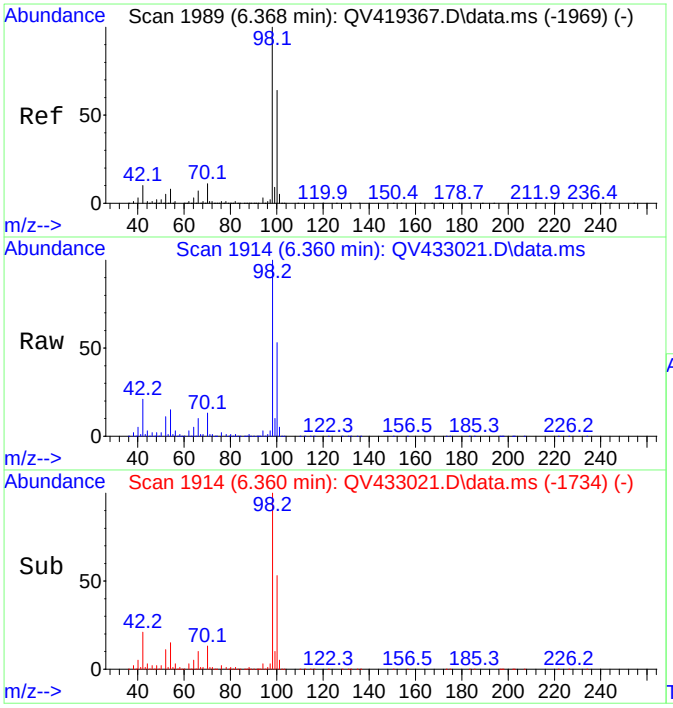


#53
4-Methyl-2-Pentanone
Concen: 1.91 ppb
RT: 6.354 min Scan# 1912
Delta R.T. 0.066 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion: 43 Resp: 8427

Ion	Ratio	Lower	Upper
43	100		
58	141.5	25.7	53.5#
100	6323.8	8.1	24.3#
85	1.0	8.7	26.1#

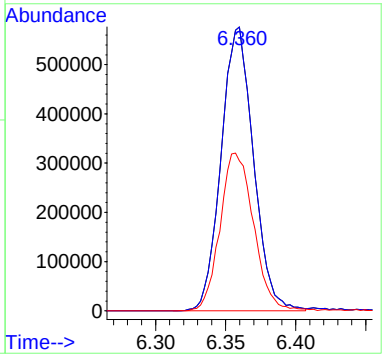


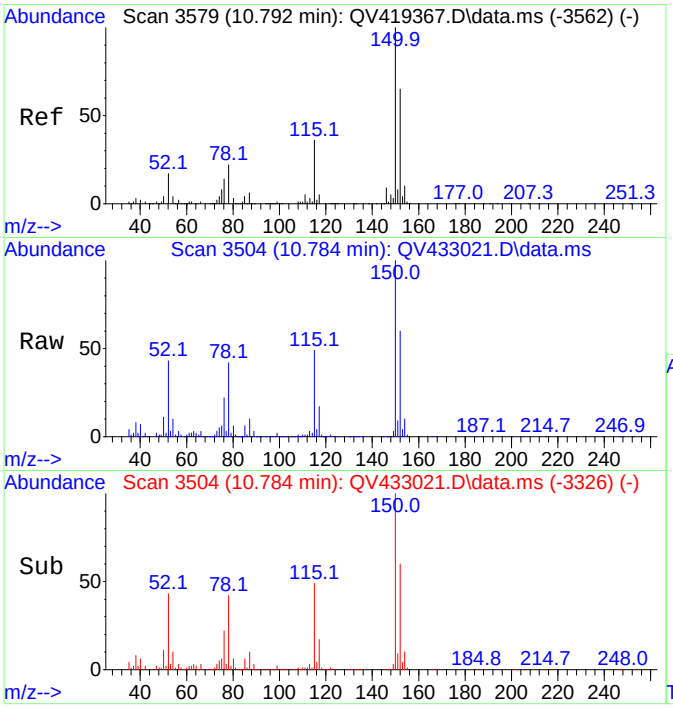


#54
Toluene-d8 (SURR)
Concen: 49.44 ppb
RT: 6.360 min Scan# 1914
Delta R.T. -0.000 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion: 98 Resp: 923688

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	57.7	37.1	77.1

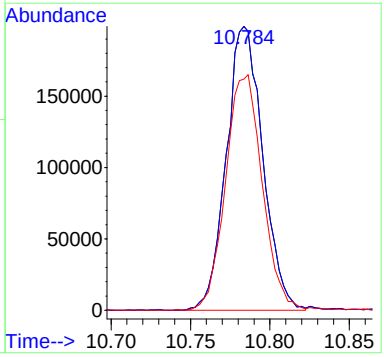


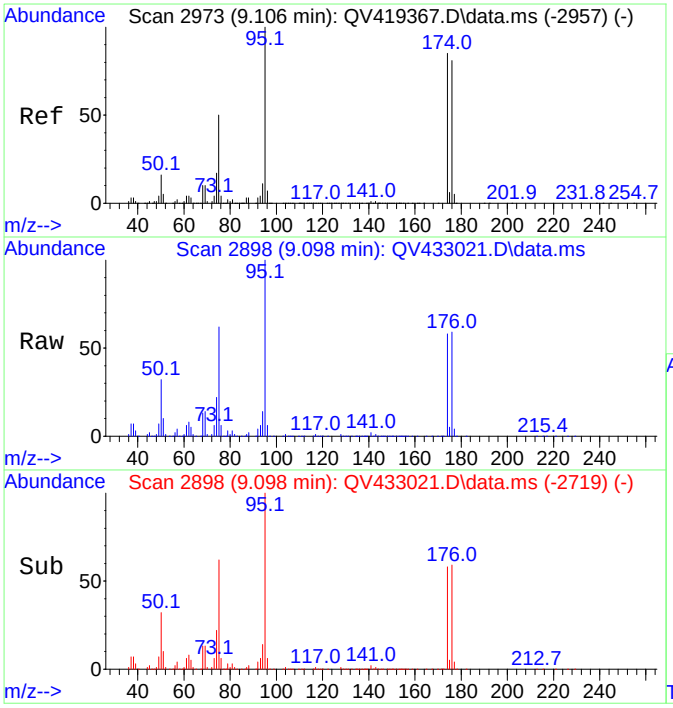


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.784 min Scan# 3504
Delta R.T. -0.005 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion:152 Resp: 317712

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	83.3	28.6	85.9

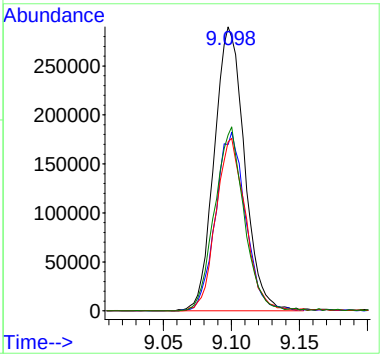




#73
p-Bromofluorobenzene (SURR)
Concen: 49.62 ppb
RT: 9.098 min Scan# 2898
Delta R.T. -0.002 min
Lab File: QV433021.D
Acq: 10 May 2023 6:35 pm

Tgt Ion: 95 Resp: 447772

Ion	Ratio	Lower	Upper
95	100		
174	62.3	62.9	130.5#
176	59.4	60.4	125.4#
75	62.9	34.3	71.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB07_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-10	File ID:	QV130964.D
Sampled:	05/05/23 12:40	Prepared:	05/12/23 10:04	Analyzed:	05/12/23 13:35
Solids:	91.80	Preparation:	EPA 5035A	Initial/Final:	5.25 g / 5 ml
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018
Instrument:	QVOA1				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
630-20-6	1,1,1,2-Tetrachloroethane	1	0.0052	U
71-55-6	1,1,1-Trichloroethane	1	0.0052	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.0052	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1	0.0052	U
79-00-5	1,1,2-Trichloroethane	1	0.0052	U
75-34-3	1,1-Dichloroethane	1	0.0052	U
75-35-4	1,1-Dichloroethylene	1	0.0052	U
87-61-6	1,2,3-Trichlorobenzene	1	0.0052	U
96-18-4	1,2,3-Trichloropropane	1	0.0052	U
120-82-1	1,2,4-Trichlorobenzene	1	0.0052	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0052	U
96-12-8	1,2-Dibromo-3-chloropropane	1	0.0052	U
106-93-4	1,2-Dibromoethane	1	0.0052	U
95-50-1	1,2-Dichlorobenzene	1	0.0052	U
107-06-2	1,2-Dichloroethane	1	0.0052	U
78-87-5	1,2-Dichloropropane	1	0.0052	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0052	U
541-73-1	1,3-Dichlorobenzene	1	0.0052	U
106-46-7	1,4-Dichlorobenzene	1	0.0052	U
123-91-1	1,4-Dioxane	1	0.10	U
78-93-3	2-Butanone	1	0.0052	U
591-78-6	2-Hexanone	1	0.0052	U
108-10-1	4-Methyl-2-pentanone	1	0.0052	U
67-64-1	Acetone	1	0.010	U
107-02-8	Acrolein	1	0.010	U
107-13-1	Acrylonitrile	1	0.0052	U
71-43-2	Benzene	1	0.0052	U
74-97-5	Bromochloromethane	1	0.0052	U
75-27-4	Bromodichloromethane	1	0.0052	U
75-25-2	Bromoform	1	0.0052	U
74-83-9	Bromomethane	1	0.0052	U
75-15-0	Carbon disulfide	1	0.0052	U
56-23-5	Carbon tetrachloride	1	0.0052	U
108-90-7	Chlorobenzene	1	0.0052	U
75-00-3	Chloroethane	1	0.0052	U
67-66-3	Chloroform	1	0.0052	U
74-87-3	Chloromethane	1	0.0052	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0052	U
10061-01-5	cis-1,3-Dichloropropylene	1	0.0052	U
110-82-7	Cyclohexane	1	0.0052	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

EHQ_ITEM304_GRAB07_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-10	File ID:	QV130964.D
Sampled:	05/05/23 12:40	Prepared:	05/12/23 10:04	Analyzed:	05/12/23 13:35
Solids:	91.80	Preparation:	EPA 5035A	Initial/Final:	5.25 g / 5 ml
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018
Instrument:	QVOA1				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
124-48-1	Dibromochloromethane	1	0.0052	U
74-95-3	Dibromomethane	1	0.0052	U
75-71-8	Dichlorodifluoromethane	1	0.0052	U
100-41-4	Ethyl Benzene	1	0.0052	U
87-68-3	Hexachlorobutadiene	1	0.0052	U
98-82-8	Isopropylbenzene	1	0.0052	U
79-20-9	Methyl acetate	1	0.0052	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0052	U
108-87-2	Methylcyclohexane	1	0.0052	U
75-09-2	Methylene chloride	1	0.010	U
104-51-8	n-Butylbenzene	1	0.0052	U
103-65-1	n-Propylbenzene	1	0.0052	U
95-47-6	o-Xylene	1	0.0052	U
179601-23-1	p- & m- Xylenes	1	0.010	U
99-87-6	p-Isopropyltoluene	1	0.0052	U
135-98-8	sec-Butylbenzene	1	0.0052	U
100-42-5	Styrene	1	0.0052	U
75-65-0	tert-Butyl alcohol (TBA)	1	0.0052	U
98-06-6	tert-Butylbenzene	1	0.0052	U
127-18-4	Tetrachloroethylene	1	0.0052	U
108-88-3	Toluene	1	0.0052	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0052	U
10061-02-6	trans-1,3-Dichloropropylene	1	0.0052	U
79-01-6	Trichloroethylene	1	0.0052	U
75-69-4	Trichlorofluoromethane	1	0.0052	U
75-01-4	Vinyl Chloride	1	0.0052	U
1330-20-7	Xylenes, Total	1	0.016	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	50.0	100	77 - 125	
SURR: Toluene-d8	50.0	53.4	107	85 - 120	
SURR: p-Bromofluorobenzene	50.0	56.1	112	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	161221	4.788	164305	4.788	
ISTD: Chlorobenzene-d5	550523	7.743	581506	7.742	
ISTD: 1,2-Dichlorobenzene-d4	222175	10.678	266835	10.678	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130964.D
Acq On : 12 May 2023 1:35 pm
Operator : BMC
Sample : 23E0419-10
Misc : QBQV1051223A
ALS Vial : 9 Sample Multiplier: 1

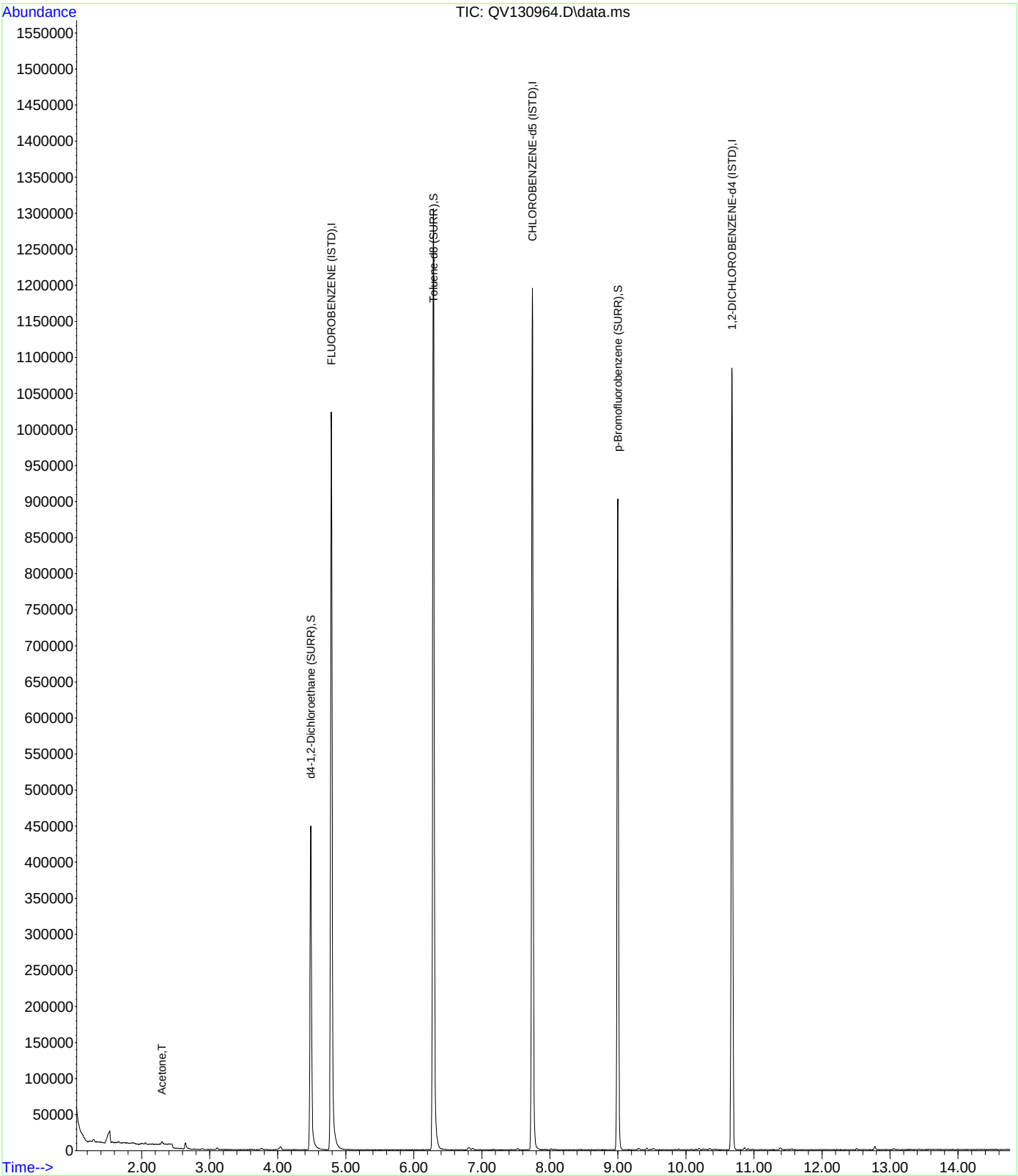
Quant Time: May 15 08:05:58 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

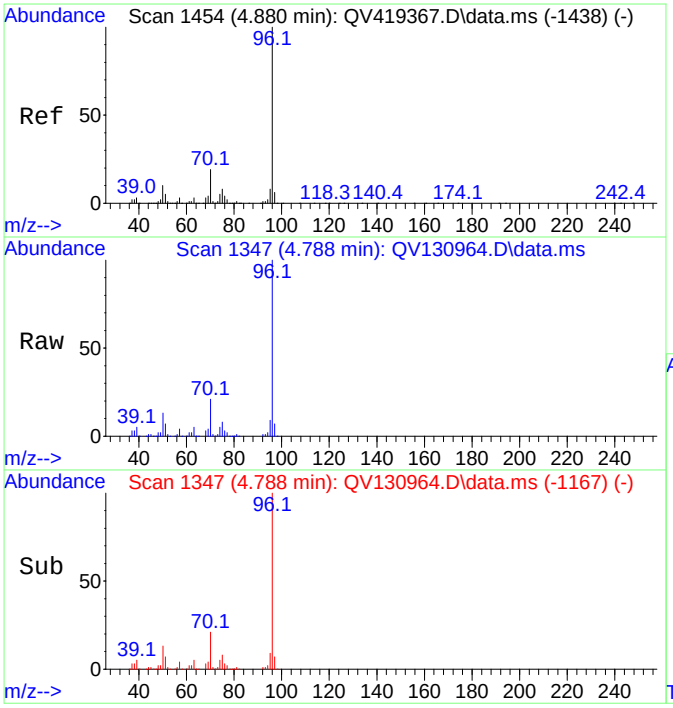
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.788	70	161221	50.00	ppb	# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.743	117	550523	50.00	ppb	# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	222175	50.00	ppb	0.00
System Monitoring Compounds						
38) d4-1,2-Dichloroethane ...	4.485	65	254682	49.99	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.98%			
57) Toluene-d8 (SURR)	6.287	98	747134	53.41	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 106.82%			
80) p-Bromofluorobenzene (...	8.997	95	285205	56.13	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 112.26%			
Target Compounds						Qvalue
15) Acetone	2.298	43	3662	2.08	ppb	# 43

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051223\
Data File : QV130964.D
Acq On : 12 May 2023 1:35 pm
Operator : BMC
Sample : 23E0419-10
Misc : QBQV1051223A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 15 08:05:58 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

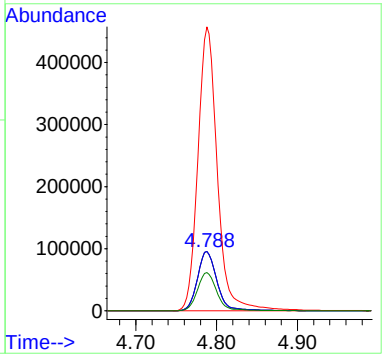


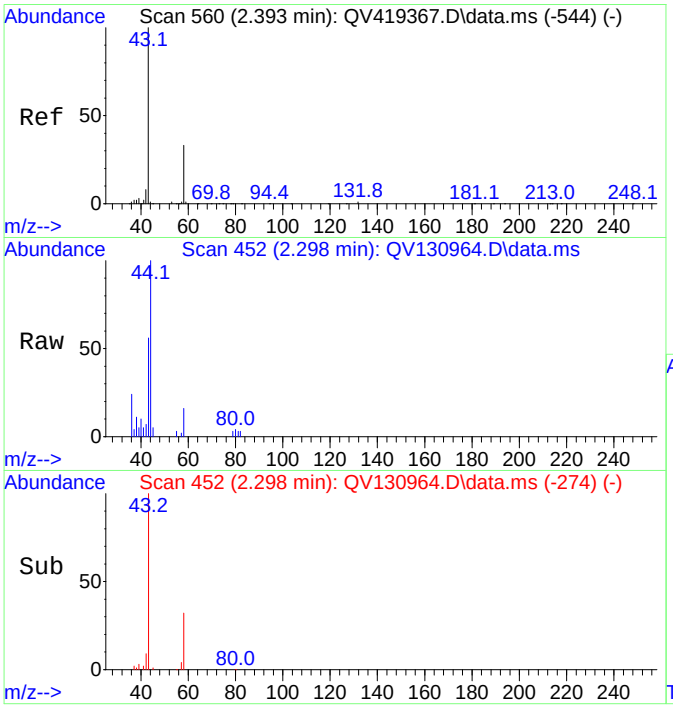


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.788 min Scan# 1347
Delta R.T. -0.000 min
Lab File: QV130964.D
Acq: 12 May 2023 1:35 pm

Tgt Ion: 70 Resp: 161221

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	475.0	362.2	752.2
50	0.0	0.0	0.0

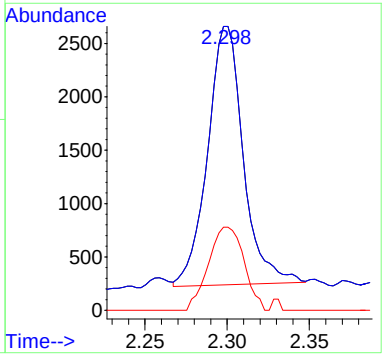


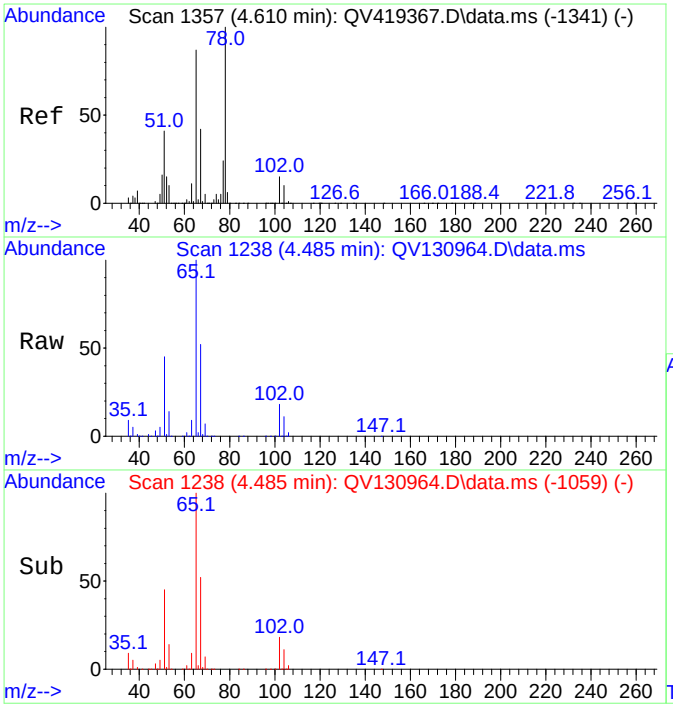


#15
Acetone
Concen: 2.08 ppb
RT: 2.298 min Scan# 452
Delta R.T. -0.006 min
Lab File: QV130964.D
Acq: 12 May 2023 1:35 pm

Tgt Ion: 43 Resp: 3662

Ion	Ratio	Lower	Upper
43	100		
43	100.0	32.2	48.2#
58	31.9	15.1	45.3

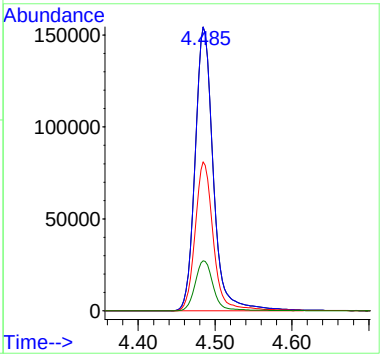


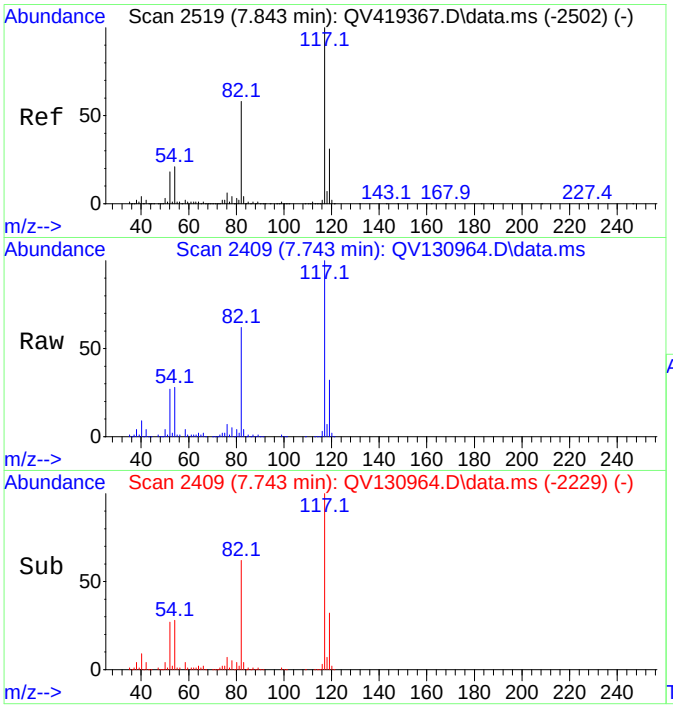


#38
d4-1,2-Dichloroethane (SURR)
Concen: 49.99 ppb
RT: 4.485 min Scan# 1238
Delta R.T. -0.003 min
Lab File: QV130964.D
Acq: 12 May 2023 1:35 pm

Tgt Ion: 65 Resp: 254682

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	51.9	34.1	70.7
102	17.6	11.6	34.7

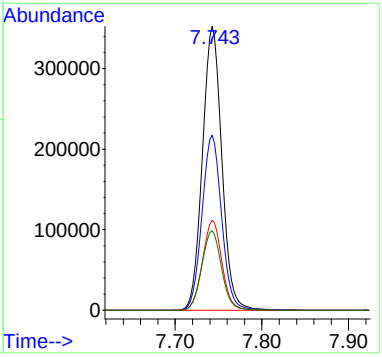


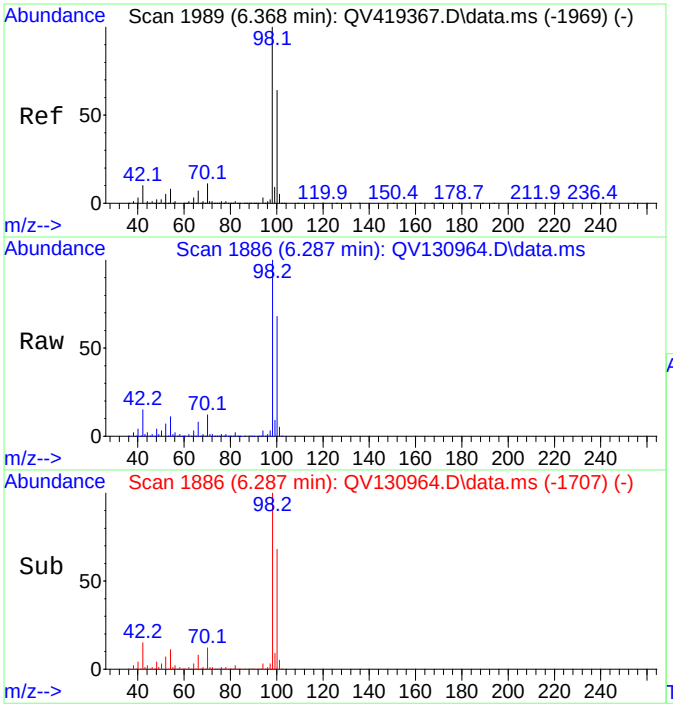


#44
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.743 min Scan# 2409
Delta R.T. -0.000 min
Lab File: QV130964.D
Acq: 12 May 2023 1:35 pm

Tgt Ion:117 Resp: 550523

Ion	Ratio	Lower	Upper
117	100		
82	62.5	31.7	65.9
119	31.8	14.0	29.2#
54	28.6	13.3	27.7#

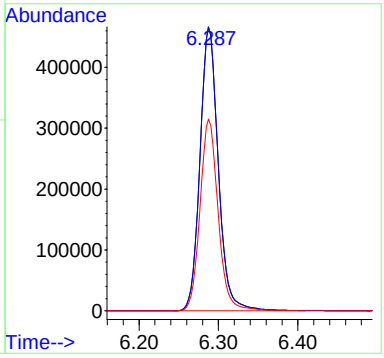


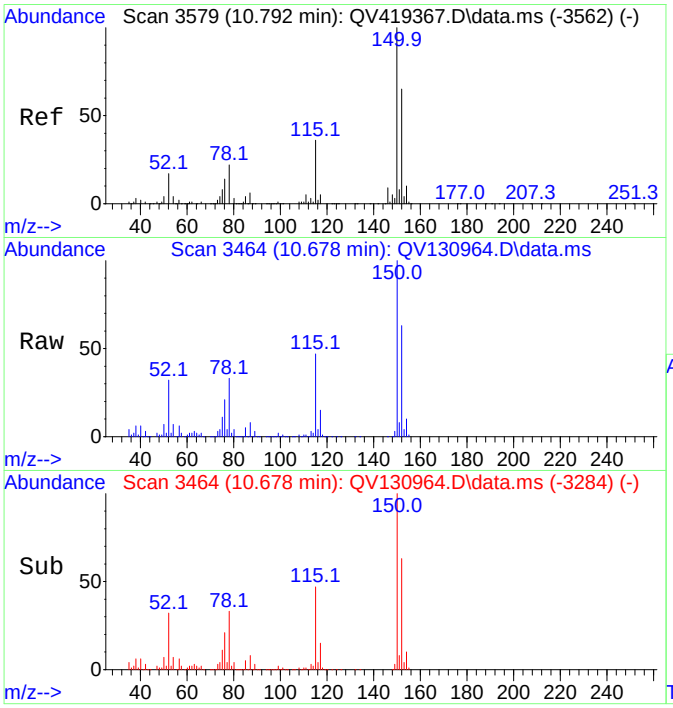


#57
Toluene-d8 (SURR)
Concen: 53.41 ppb
RT: 6.287 min Scan# 1886
Delta R.T. -0.003 min
Lab File: QV130964.D
Acq: 12 May 2023 1:35 pm

Tgt Ion: 98 Resp: 747134

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	66.9	37.1	77.1

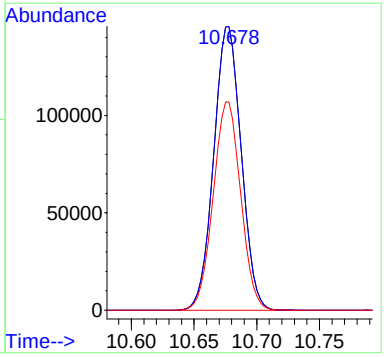


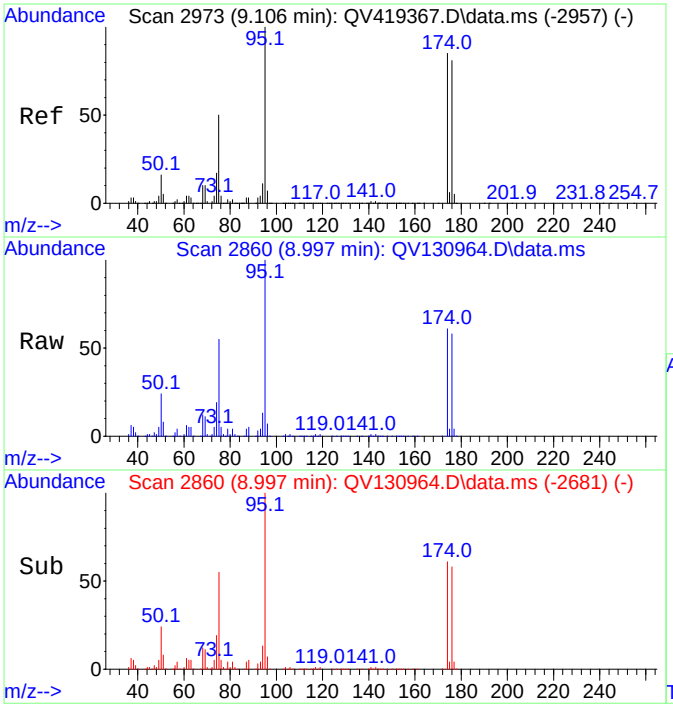


#76
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.678 min Scan# 3464
Delta R.T. -0.000 min
Lab File: QV130964.D
Acq: 12 May 2023 1:35 pm

Tgt Ion:152 Resp: 222175

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	73.5	28.6	85.9

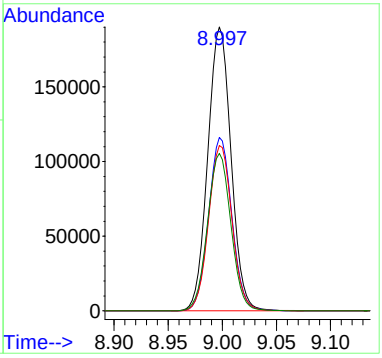




#80
p-Bromofluorobenzene (SURR)
Concen: 56.13 ppb
RT: 8.997 min Scan# 2860
Delta R.T. -0.003 min
Lab File: QV130964.D
Acq: 12 May 2023 1:35 pm

Tgt Ion: 95 Resp: 285205

Ion	Ratio	Lower	Upper
95	100		
174	61.0	62.9	130.5#
176	58.5	60.4	125.4#
75	56.0	34.3	71.3



FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30046
Instrument: QVOA4
Calibration Date: 04/28/23 12:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,1,2-Tetrachloroethane	5	0.2289768	10	0.2403213	20	0.2133031	50	0.2542711	100	0.2502312	200	0.2539298
1,1,1-Trichloroethane	5	2.051278	10	1.839729	20	1.711362	50	1.923816	100	1.984968	200	1.944839
1,1,2,2-Tetrachloroethane	5	0.5685299	10	0.5015355	20	0.4625911	50	0.5511975	100	0.5768901	200	0.5858213
1,1,2-Trichloro-1,2,2-trifluoro ethane (Freon 113)	5	0.8330656	10	0.8636134	20	0.8397485	50	0.8055887	100	0.7910267	200	0.7593273
1,1,2-Trichloroethane	5	0.2346329	10	0.2226165	20	0.1913573	50	0.2027421	100	0.2059746	200	0.2070458
1,1-Dichloroethane	5	2.042508	10	1.87072	20	1.624233	50	1.802022	100	1.82826	200	1.841399
1,1-Dichloroethylene	5	1.687273	10	1.600078	20	1.434303	50	1.499637	100	1.503366	200	1.49455
1,1-Dichloropropylene	5	1.487927	10	1.440113	20	1.258492	50	1.348524	100	1.339025	200	1.348198
1,2,3-Trichlorobenzene	5	0.7929417	10	0.7223713	20	0.641645	50	0.6888838	100	0.7015996	200	0.70767
1,2,3-Trichloropropane	5	0.2264611	10	0.2230762	20	0.1942478	50	0.2114436	100	0.2213871	200	0.2201642
1,2,3-Trimethylbenzene	5	1.794584	10	1.968382	20	1.993749	50	1.866577	100	1.959572	200	1.984258
1,2,4,5-Tetramethylbenzene	5	2.182338	10	2.45918	20	2.342501	50	2.358125	100	2.458374	200	2.437978
1,2,4-Trichlorobenzene	5	0.8488192	10	0.7876999	20	0.682033	50	0.7411477	100	0.7604902	200	0.7801726
1,2,4-Trimethylbenzene	5	2.556704	10	2.410067	20	2.132808	50	2.354344	100	2.401665	200	2.466583
1,2-Dibromo-3-chloropropane	5	0.129379	10	0.1243046	20	0.1316597	50	0.1585299	100	0.1732177	200	0.1810564
1,2-Dibromoethane	5	0.2169335	10	0.2214566	20	0.1877244	50	0.2106661	100	0.206864	200	0.2064383
1,2-Dichlorobenzene	5	1.097686	10	0.9861583	20	0.8437477	50	0.9083024	100	0.9204159	200	0.921943
1,2-Dichloroethane	5	2.271157	10	1.992965	20	1.792857	50	1.980428	100	1.970436	200	1.950436
1,2-Dichloropropane	5	0.2671075	10	0.2598246	20	0.2227292	50	0.242537	100	0.2435666	200	0.2479947
1,3,5-Trimethylbenzene	5	2.597881	10	2.416201	20	2.177331	50	2.407113	100	2.444069	200	2.495626
1,3-Dichlorobenzene	5	1.111785	10	1.026213	20	0.9292148	50	0.982682	100	1.000584	200	1.026525
1,3-Dichloropropane	5	0.4415624	10	0.4037828	20	0.354601	50	0.379048	100	0.3888251	200	0.3882374
1,4-Dichlorobenzene	5	1.125529	10	1.032402	20	0.9125749	50	0.9822844	100	0.9987482	200	0.9988011
1,4-Dioxane	100	2.483051E-03	200	3.109581E-03	400	2.922608E-03	1000	2.999317E-03	2000	3.018376E-03	4000	3.003523E-03
2,2-Dichloropropane	5	1.555172	10	1.426358	20	1.262741	50	1.55019	100	1.631053	200	1.645962
2-Butanone	5	0.0936819	10	8.293321E-02	20	7.645415E-02	50	7.970882E-02	100	7.814241E-02	200	7.691457E-02
2-Chloroethylvinyl ether	5	0.1525101	10	0.1545472	20	0.1689433	50	0.1677668	100	0.1738787	200	0.1751491
2-Chlorotoluene	5	2.719828	10	2.529946	20	2.300599	50	2.544437	100	2.575839	200	2.647182
2-Hexanone	5	0.2413023	10	0.2237048	20	0.2180468	50	0.2516336	100	0.2621118	200	0.2619302
4-Chlorotoluene	5	2.491755	10	2.327184	20	2.322351	50	2.294423	100	2.364876	200	2.394219
4-Methyl-2-pentanone	5	0.3370844	10	0.3182759	20	0.3089172	50	0.3423411	100	0.3542481	200	0.3483149

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30046
Instrument: QVOA4
Calibration Date: 04/28/23 12:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	5	1.188953	10	0.7885766	20	0.6906873	50	0.5226972	100	0.5542952	200	0.4900495
Acrolein	5	0.1409136	10	0.1698358	20	0.1533522	50	0.142875	100	0.1397987	200	0.1457791
Acrylonitrile	5	0.3824548	10	0.3088079	20	0.2934618	50	0.3139183	100	0.3329542	200	0.3352051
Allyl chloride	5	0.4332462	10	0.3876867	20	0.3422153	50	0.3713342	100	0.3998831	200	0.3768431
Benzene	5	3.406149	10	3.081392	20	2.714788	50	2.937476	100	2.985026	200	3.001991
Bromobenzene	5	1.241738	10	1.164425	20	1.000479	50	1.102938	100	1.156488	200	1.188811
Bromochloromethane	5	1.038445	10	0.9924602	20	0.8425281	50	0.8835557	100	0.8808518	200	0.8650915
Bromodichloromethane	5	0.40061	10	0.3793532	20	0.3630454	50	0.4350021	100	0.4401012	200	0.4487749
Bromoform	5	8.979256E-02	10	9.951701E-02	20	0.1009165	50	0.1365391	100	0.149361	200	0.1596444
Bromomethane	5	0.3461629	10	0.3327729	20	0.3012192	50	0.2975215	100	0.3324409	200	0.3121899
Carbon disulfide	5	1.670472	10	1.580889	20	1.475246	50	1.829319	100	2.000647	200	2.059075
Carbon tetrachloride	5	1.383436	10	1.413791	20	1.293834	50	1.50693	100	1.573109	200	1.531754
Chlorobenzene	5	0.6615355	10	0.6230044	20	0.5413663	50	0.5814826	100	0.5850137	200	0.585956
Chloroethane	5	0.5204598	10	0.6470998	20	0.63183	50	0.5927554	100	0.5962331	200	0.5600807
Chloroform	5	2.173915	10	1.993008	20	1.782024	50	1.918874	100	1.918638	200	1.90016
Chloromethane	5	1.42663	10	1.424638	20	1.272939	50	1.215663	100	1.236401	200	1.228201
cis-1,2-Dichloroethylene	5	1.918786	10	1.723066	20	1.62585	50	1.732259	100	1.76701	200	1.781605
cis-1,3-Dichloropropylene	5	0.3351093	10	0.3610163	20	0.3479004	50	0.4131008	100	0.4247166	200	0.4373603
Cyclohexane	5	1.94327	10	1.956901	20	1.866881	50	1.82009	100	1.844256	200	1.809456
Dibromochloromethane	5	0.1940781	10	0.205622	20	0.1854317	50	0.2459133	100	0.25319	200	0.2635743
Dibromomethane	5	0.1742368	10	0.1551597	20	0.1488414	50	0.162183	100	0.1596486	200	0.1611956
Dichlorodifluoromethane	5	1.223942	10	1.374034	20	1.369548	50	1.293275	100	1.330086	200	1.202962
Diisopropyl ether (DIPE)	5	3.824635	10	3.582897	20	3.595047	50	3.372151	100	3.603261	200	3.599688
Ethanol	250	9.552254E-03	500	1.146291E-02	1000	1.125252E-02	2500	1.271666E-02	5000	1.324418E-02	10000	1.287553E-02
Ethyl Benzene	5	1.482033	10	1.407972	20	1.262084	50	1.370022	100	1.368409	200	1.398483
Ethyl Methacrylate	5	0.301801	10	0.314112	20	0.2802707	50	0.3200225	100	0.326745	200	0.3310745
Ethyl tert-butyl ether (ETBE)	5	3.609618	10	3.408434	20	3.426201	50	3.226901	100	3.495366	200	3.539938
Hexachlorobutadiene	5	0.6187787	10	0.5587083	20	0.4960814	50	0.5298769	100	0.5202286	200	0.5143743
Hexachloroethane	5	0.2735403	10	0.2900715	20	0.275947	50	0.3740967	100	0.4091206	200	0.4341005
Iodomethane	5	0.3103484	10	0.4357018	20	0.4247253	50	0.519697	100	0.5056413	200	0.4318181
Isopropylbenzene	5	2.763847	10	2.708459	20	2.379522	50	2.707773	100	2.780276	200	2.796039

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30046
Instrument: QVOA4
Calibration Date: 04/28/23 12:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Methyl acetate	5	0.8246438	10	0.881168	20	0.9162133	50	0.8228022	100	0.8609491	200	0.8247685
Methyl Methacrylate	5	0.1489061	10	0.1596169	20	0.1481923	50	0.166219	100	0.1743178	200	0.1751547
Methyl tert-butyl ether (MTBE)	5	2.898582	10	2.686658	20	2.414129	50	2.635362	100	2.728539	200	2.764632
Methylcyclohexane	5	0.4120761	10	0.4589955	20	0.4644753	50	0.4502772	100	0.4518325	200	0.43995
Methylene chloride	5	1.603358	10	1.52969	20	1.332959	50	1.44783	100	1.478214	200	1.482259
Naphthalene	5	1.846363	10	1.786263	20	1.601811	50	1.749507	100	1.81056	200	1.835803
n-Butylbenzene	5	3.643788	10	3.495475	20	3.194559	50	3.384383	100	3.456563	200	3.477211
Nitrobenzene	5	6.994937E-03	10	0.0135384	20	8.615282E-03	50	2.541643E-02	100	2.949924E-02	200	4.026899E-02
n-Propylbenzene	5	3.718875	10	3.468808	20	3.084305	50	3.45184	100	3.612525	200	3.708526
o-Xylene	5	1.221915	10	1.144387	20	1.039807	50	1.137805	100	1.143729	200	1.132437
p- & m- Xylenes	10	1.231739	20	1.181364	40	1.031235	100	1.127171	200	1.145809	400	1.161097
p-Diethylbenzene	5	1.496069	10	1.574443	20	1.474795	50	1.484894	100	1.538413	200	1.527569
p-Ethyltoluene	5	2.471207	10	2.643144	20	2.57861	50	2.588402	100	2.725351	200	2.73402
p-Isopropyltoluene	5	2.723626	10	2.555369	20	2.238215	50	2.491449	100	2.507575	200	2.563393
sec-Butylbenzene	5	3.084631	10	2.883365	20	2.559302	50	2.858045	100	2.907974	200	2.97193
Styrene	5	0.7082338	10	0.6981439	20	0.6200754	50	0.6995553	100	0.7105364	200	0.7219232
SURR: 1,2-Dichloroethane-d4	50	2.357867	50	2.311678	50	2.334885	50	2.290042	50	2.341436	50	2.316873
SURR: p-Bromofluorobenzene	50	1.386519	50	1.389802	50	1.397864	50	1.433173	50	1.460881	50	1.453085
SURR: Toluene-d8	50	1.409063	50	1.432101	50	1.415906	50	1.420453	50	1.41434	50	1.403373
tert-Amyl alcohol (TAA)	50	7.520599E-02	100	0.0774015	200	0.0870493	500	8.530498E-02	1000	9.922995E-02	2000	0.1047939
tert-Amyl methyl ether (TAME)	5	2.645797	10	2.634589	20	2.65312	50	2.571037	100	2.840441	200	2.881614
tert-Butyl alcohol (TBA)	5	0.0716723	10	7.567363E-02	20	0.1098936	50	0.1136358	100	0.1233797	200	0.1240554
tert-Butylbenzene	5	2.11258	10	1.91427	20	1.697862	50	1.934366	100	1.946501	200	1.96045
Tetrachloroethylene	5	0.3102403	10	0.3050804	20	0.2686165	50	0.2932735	100	0.2803052	200	0.275901
Tetrahydrofuran	5	0.3485505	10	0.3609197	20	0.3190486	50	0.3349737	100	0.3530559	200	0.3566996
Toluene	5	1.187555	10	1.110984	20	0.9818647	50	1.055835	100	1.040956	200	1.062223
trans-1,2-Dichloroethylene	5	1.797842	10	1.603878	20	1.41845	50	1.561087	100	1.556023	200	1.552911
trans-1,3-Dichloropropylene	5	0.2921176	10	0.3401772	20	0.3378316	50	0.4218274	100	0.4457695	200	0.4692701
trans-1,4-dichloro-2-butene	5	0.6922255	10	0.6323293	20	0.6053373	50	0.6988217	100	0.7437481	200	0.7952568
Trichloroethylene	5	0.3339678	10	0.2940418	20	0.276231	50	0.3011631	100	0.2981248	200	0.2942736

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30046
Instrument: QVOA4
Calibration Date: 04/28/23 12:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Trichlorofluoromethane	5	1.330691	10	1.546141	20	1.508833	50	1.423179	100	1.445843	200	1.371459
Vinyl acetate	5	1.714795	10	2.350234	20	2.278279	50	2.344845	100	2.378763	200	2.466322
Vinyl Chloride	5	1.011443	10	1.176943	20	1.127672	50	1.088784	100	1.09878	200	1.04432

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30046
Instrument: QVOA4
Calibration Date: 04/28/23 12:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,1,2-Tetrachloroethane	0.2401722	6.807427	7.9645	0.014756			20	
1,1,1-Trichloroethane	1.909332	6.257647	4.2505	7.094652E-02			SPCC (0.1)	
1,1,2,2-Tetrachloroethane	0.5410942	9.002486	9.3155	2.122588E-02			SPCC (0.3)	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.815395	4.609666	2.2075	0.14313			SPCC (0.1)	
1,1,2-Trichloroethane	0.2107282	7.314545	6.890167	4.195049E-02			SPCC (0.1)	
1,1-Dichloroethane	1.834857	7.3092	3.304	4.298218E-02			SPCC (0.2)	
1,1-Dichloroethylene	1.536535	5.924603	2.2325	7.476637E-02			SPCC (0.1)	
1,1-Dichloropropylene	1.37038	5.941918	4.397833	4.144907E-02			20	
1,2,3-Trichlorobenzene	0.7091852	6.971696	13.165	2.076728E-02			20	
1,2,3-Trichloropropane	0.21613	5.473352	9.3465	0.0349628			20	
1,2,3-Trimethylbenzene	1.927854	4.129405	10.427	1.186087E-02			20	
1,2,4,5-Tetramethylbenzene	2.373083	4.477137	11.6125	2.657747E-02			20	
1,2,4-Trichlorobenzene	0.7667271	7.197272	12.60833	2.489228E-02			SPCC (0.2)	
1,2,4-Trimethylbenzene	2.387028	5.970606	9.957667	1.805839E-02			20	
1,2-Dibromo-3-chloropropane	0.1496912	16.35705	11.71833	2.473061E-02			SPCC (0.05)	
1,2-Dibromoethane	0.2083472	5.605975	7.386833	1.762035E-02			SPCC (0.1)	
1,2-Dichlorobenzene	0.9463756	9.179042	10.805	1.361985E-02			SPCC (0.4)	
1,2-Dichloroethane	1.993047	7.769991	4.6605	4.965789E-02			SPCC (0.1)	
1,2-Dichloropropane	0.2472933	6.238518	5.430333	0.023959			SPCC (0.1)	
1,3,5-Trimethylbenzene	2.423037	5.746949	9.544833	2.287503E-02			20	
1,3-Dichlorobenzene	1.012834	5.958287	10.286	1.454238E-02			SPCC (0.6)	
1,3-Dichloropropane	0.3926761	7.366069	7.0485	2.831649E-02			20	
1,4-Dichlorobenzene	1.00839	6.919773	10.38867	2.161223E-02			SPCC (0.5)	
1,4-Dioxane	2.922743E-03	7.647099	5.594667	0.110619			20	
2,2-Dichloropropane	1.511913	9.580516	3.802	8.096027E-02			20	
2-Butanone	8.130584E-02	7.993463	3.883	0.1013655			SPCC (0.1)	
2-Chloroethylvinyl ether	0.1654659	5.853168	6	4.244272E-02			20	
2-Chlorotoluene	2.552972	5.581817	9.455167	0.0167644			20	
2-Hexanone	0.2431216	7.795307	7.1295	0.0445339			SPCC (0.1)	
4-Chlorotoluene	2.365801	2.997634	9.5775	1.913432E-02			20	
4-Methyl-2-pentanone	0.3348636	5.284819	6.286167	3.568774E-02			SPCC (0.1)	
Acetone	0.7058765	37.13459	2.349333	9.334519E-02		0.9963651	SPCC (0.1)	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Calibration: SD30046 Instrument: QVOA4

Calibration Date: 04/28/23 12:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acrolein	0.1487591	7.668511	2.2055	0.1038753			20	
Acrylonitrile	0.3278004	9.453117	2.969833	0.2064558			20	
Allyl chloride	0.3852014	7.908362	2.569167	8.102768E-02			20	
Benzene	3.021137	7.466042	4.5975	3.828257E-02			SPCC (0.5)	
Bromobenzene	1.14248	7.260607	9.251167	9.938485E-03			20	
Bromochloromethane	0.9171554	8.600299	4.061333	4.433491E-02			20	
Bromodichloromethane	0.4111478	8.605307	5.719	3.402939E-02			SPCC (0.2)	
Bromoform	0.1226284	24.08628	8.7825	1.904662E-02		0.9990015	SPCC (0.1)	
Bromomethane	0.3203846	6.117218	1.5245	0.0780276			SPCC (0.1)	
Carbon disulfide	1.769275	13.20271	2.4215	0.1040937			SPCC (0.1)	
Carbon tetrachloride	1.450476	7.244507	4.386	5.326998E-02			SPCC (0.1)	
Chlorobenzene	0.5963931	6.889125	7.8665	0.0271594			SPCC (0.5)	
Chloroethane	0.5914098	7.849618	1.598	6.829156E-02			SPCC (0.1)	
Chloroform	1.94777	6.678631	4.1355	3.561435E-02			SPCC (0.2)	
Chloromethane	1.300745	7.580401	1.2075	0.1877397			SPCC (0.1)	
cis-1,2-Dichloroethylene	1.758096	5.446028	3.833667	0.0452834			SPCC (0.1)	
cis-1,3-Dichloropropylene	0.3865339	11.29778	6.135833	2.263796E-02			SPCC (0.2)	
Cyclohexane	1.873476	3.348489	4.259167	6.923965E-02			SPCC (0.1)	
Dibromochloromethane	0.2246349	14.92012	7.285	0.0368329			SPCC (0.1)	
Dibromomethane	0.1602109	5.271851	5.5665	1.780788E-02			20	
Dichlorodifluoromethane	1.298975	5.600623	1.0705	0.1147527			SPCC (0.1)	
Diisopropyl ether (DIPE)	3.59628	3.98365	3.3245	0.034952			20	
Ethanol	1.185068E-02	11.65164	2.0585	0.2400845			20	
Ethyl Benzene	1.381501	5.185445	7.9625	2.235375E-02			SPCC (0.1)	
Ethyl Methacrylate	0.3123376	6.007128	6.757	2.562748E-02			20	
Ethyl tert-butyl ether (ETBE)	3.451076	3.837316	3.649	3.918606E-02			20	
Hexachlorobutadiene	0.5396747	8.133815	12.7705	0.0185775			20	
Hexachloroethane	0.3428128	20.93789	11.0455	3.191093E-02			20	*
Iodomethane	0.4379886	17.01361	2.3825	0.1320751			20	
Isopropylbenzene	2.689319	5.805929	8.8995	2.332242E-02			SPCC (0.1)	
Methyl acetate	0.8550908	4.480559	2.619333	0.1442518			SPCC (0.1)	
Methyl Methacrylate	0.1620678	7.354421	5.54	6.559205E-02			20	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30046
Instrument: QVOA4
Calibration Date: 04/28/23 12:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methyl tert-butyl ether (MTBE)	2.687984	5.99038	2.9055	5.479635E-02			SPCC (0.1)	
Methylcyclohexane	0.4462678	4.191631	5.318666	7.034506E-03			SPCC (0.1)	
Methylene chloride	1.479052	6.073337	2.698167	6.087256E-02			SPCC (0.1)	
Naphthalene	1.771718	5.096152	12.88983	2.166944E-02			20	
n-Butylbenzene	3.441997	4.300947	10.76067	1.528887E-02			20	
Nitrobenzene	2.072221E-02	63.5743	11.96967	5.872982E-02			20	*
n-Propylbenzene	3.50748	6.744522	9.3485	2.449849E-02			20	
o-Xylene	1.13668	5.096157	8.511333	2.612568E-02			SPCC (0.3)	
p- & m- Xylenes	1.146403	5.832546	8.085333	2.354505E-02			SPCC (0.1)	
p-Diethylbenzene	1.516031	2.488147	10.73383	1.803786E-02			20	
p-Ethyltoluene	2.623456	3.78938	9.4725	2.989157E-02			20	
p-Isopropyltoluene	2.513271	6.283557	10.30083	2.189564E-02			20	
sec-Butylbenzene	2.877541	6.107078	10.1355	1.883257E-02			20	
Styrene	0.693078	5.306643	8.5405	0.0224976			SPCC (0.3)	
SURR: 1,2-Dichloroethane-d4	2.325463	1.037836	4.5885	2.390272E-02			20	
SURR: p-Bromofluorobenzene	1.420221	2.327237	9.098333	1.082349E-02			20	
SURR: Toluene-d8	1.415873	0.6986563	6.357	2.300227E-02			20	
tert-Amyl alcohol (TAA)	8.816427E-02	13.34528	4.680333	8.830466E-02			20	
tert-Amyl methyl ether (TAME)	2.704433	4.637105	4.6815	7.445479E-02			20	
tert-Butyl alcohol (TBA)	0.1030517	22.747	2.876167	0.2087518		0.9991336	0.99	
tert-Butylbenzene	1.927672	6.907786	9.8945	3.001058E-02			20	
Tetrachloroethylene	0.2889028	5.772514	6.954167	4.097246E-02			SPCC (0.2)	
Tetrahydrofuran	0.3455413	4.557624	4.102	0.1915822			20	
Toluene	1.073236	6.496793	6.423333	2.688626E-02			SPCC (0.4)	
trans-1,2-Dichloroethylene	1.581699	7.783006	2.912333	6.944906E-02			SPCC (0.1)	
trans-1,3-Dichloropropylene	0.3844989	18.39411	6.701833	6.229884E-02			SPCC (0.1)	
trans-1,4-dichloro-2-butene	0.6946198	10.06021	9.3475	0.0353788			20	
Trichloroethylene	0.2996337	6.316679	5.196833	5.939364E-02			SPCC (0.2)	
Trichlorofluoromethane	1.437691	5.645218	1.785833	0.1956899			SPCC (0.1)	
Vinyl acetate	2.25554	12.05198	3.356833	6.401315E-02			20	
Vinyl Chloride	1.091324	5.39057	1.2825	9.431194E-02			SPCC (0.1)	

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Instrument: QVOA1
Calibration Date: 05/10/23 14:46

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,1,2-Tetrachloroethane	5	0.1714945	10	0.1782553	20	0.1640491	50	0.1839079	100	0.2084908	200	0.2142101
1,1,1-Trichloroethane	5	1.416779	10	1.403964	20	1.243701	50	1.33033	100	1.456287	200	1.475669
1,1,2,2-Tetrachloroethane	5	0.8053842	10	0.7709721	20	0.6851812	50	0.7023369	100	0.7231451	200	0.6875692
1,1,2-Trichloro-1,2,2-trifluoro ethane (Freon 113)	5	0.6938071	10	0.7977918	20	0.697421	50	0.771508	100	0.7647676	200	0.7484405
1,1,2-Trichloroethane	5	0.2480329	10	0.2369012	20	0.2088128	50	0.2154886	100	0.2284948	200	0.2255749
1,1-Dichloroethane	5	1.934252	10	1.94992	20	1.669798	50	1.735562	100	1.875625	200	1.845079
1,1-Dichloroethylene	5	1.494376	10	1.50498	20	1.298277	50	1.324946	100	1.401504	200	1.35204
1,1-Dichloropropylene	5	1.425428	10	1.402845	20	1.232853	50	1.278707	100	1.395622	200	1.396363
1,2,3-Trichlorobenzene	5	0.7081872	10	0.6720654	20	0.603564	50	0.620769	100	0.6593228	200	0.6725038
1,2,3-Trichloropropane	5	0.2507981	10	0.235047	20	0.2093021	50	0.2132054	100	0.2158119	200	0.2062243
1,2,3-Trimethylbenzene	5	2.28715	10	2.364848	20	2.385853	50	2.36317	100	2.321909	200	2.277067
1,2,4,5-Tetramethylbenzene	5	1.889345	10	2.167922	20	1.91199	50	2.100317	100	2.071269	200	2.103238
1,2,4-Trichlorobenzene	5	0.7288755	10	0.7235469	20	0.6233178	50	0.6379954	100	0.6803159	200	0.706854
1,2,4-Trimethylbenzene	5	2.413468	10	2.332107	20	2.034485	50	2.013602	100	2.083463	200	2.046604
1,2-Dibromo-3-chloropropane	5	0.1619756	10	0.1692885	20	0.1550177	50	0.1741604	100	0.1888914	200	0.1897364
1,2-Dibromoethane	5	0.2427652	10	0.2428167	20	0.2172729	50	0.2266652	100	0.243311	200	0.2364622
1,2-Dichlorobenzene	5	1.101294	10	1.066616	20	0.9466494	50	0.9750102	100	1.044679	200	1.010062
1,2-Dichloroethane	5	1.452959	10	1.508167	20	1.308202	50	1.368631	100	1.476067	200	1.446865
1,2-Dichloropropane	5	0.2771374	10	0.2971134	20	0.2592036	50	0.2653383	100	0.2857503	200	0.2822102
1,3,5-Trimethylbenzene	5	2.358144	10	2.665276	20	2.329319	50	2.442281	100	2.332493	200	2.292675
1,3-Dichlorobenzene	5	1.159011	10	1.124204	20	0.9829538	50	0.9990742	100	1.053979	200	1.049952
1,3-Dichloropropane	5	0.4391451	10	0.4296683	20	0.3717748	50	0.3882574	100	0.4137543	200	0.4015448
1,4-Dichlorobenzene	5	1.180575	10	1.139819	20	0.9911119	50	0.9872504	100	1.040094	200	1.040399
1,4-Dioxane	100	5.47226E-03	200	6.163544E-03	400	5.096031E-03	1000	5.379756E-03	2000	5.667109E-03	4000	5.652354E-03
2,2-Dichloropropane	5	1.405488	10	1.363747	20	1.245549	50	1.296427	100	1.442029	200	1.468081
2-Butanone	5	0.1893075	10	0.1920578	20	0.1846589	50	0.1807856	100	0.2013893	200	0.186961
2-Chloroethylvinyl ether	5	8.411769E-02	10	9.473754E-02	20	0.064147	50	3.123579E-02	100	1.708477E-02	200	0.0154772
2-Chlorotoluene	5	2.025468	10	1.946483	20	1.697982	50	1.67045	100	1.712054	200	1.666083
2-Hexanone	5	0.2997743	10	0.2974573	20	0.268277	50	0.2931228	100	0.3029746	200	0.287271
4-Chlorotoluene	5	2.448075	10	2.322904	20	2.017539	50	2.009483	100	2.092216	200	2.001328
4-Methyl-2-pentanone	5	0.4654074	10	0.4506305	20	0.4082244	50	0.4539155	100	0.5092777	200	0.5103045

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Instrument: QVOA1
Calibration Date: 05/10/23 14:46

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	5	0.6846781	10	0.5633275	20	0.5059772	50	0.5526843	100	0.5348901	200	0.4343535
Acrolein	5	0.1775358	10	0.1984079	20	0.1683061	50	0.1820102	100	0.1959495	200	0.188432
Acrylonitrile	5	0.5776761	10	0.6049555	20	0.5292258	50	0.5640035	100	0.616042	200	0.6026105
Allyl chloride	5	0.5762347	10	0.5763438	20	0.5054846	50	0.5283055	100	0.5990505	200	0.6091704
Benzene	5	4.162843	10	4.077592	20	3.584052	50	3.684122	100	3.956212	200	3.914485
Bromobenzene	5	1.164788	10	1.11961	20	0.9721204	50	0.9677617	100	0.9847989	200	0.950629
Bromochloromethane	5	1.001312	10	0.9832564	20	0.8538072	50	0.8799407	100	0.9368041	200	0.9079704
Bromodichloromethane	5	0.326605	10	0.3173943	20	0.2858366	50	0.3087788	100	0.3391995	200	0.3400992
Bromoform	5	9.394552E-02	10	9.509413E-02	20	9.400892E-02	50	0.1168291	100	0.1419228	200	0.1500937
Bromomethane	5	0.4265665	10	0.3726565	20	0.3795629	50	0.3616802	100	0.3895827	200	0.4042963
Carbon disulfide	5	3.032668	10	3.020325	20	2.591788	50	2.432556	100	2.441064	200	2.331585
Carbon tetrachloride	5	0.9266457	10	0.9197318	20	0.8480197	50	0.9667364	100	1.127581	200	1.211936
Chlorobenzene	5	0.679346	10	0.6521531	20	0.5750319	50	0.5900236	100	0.6318491	200	0.6293521
Chlorodifluoromethane (Freon 22)	5	1.073575	10	1.069164	20	1.106586	50	1.065446	100	1.086742	200	1.048115
Chloroethane	5	0.5456764	10	0.5165174	20	0.5237953	50	0.5336255	100	0.5248701	200	0.5156387
Chloroform	5	1.897784	10	1.811047	20	1.549997	50	1.606682	100	1.709945	200	1.689897
Chloromethane	5	1.245634	10	1.258108	20	1.203841	50	1.178564	100	1.148703	200	1.097938
cis-1,2-Dichloroethylene	5	1.806926	10	1.772022	20	1.59541	50	1.644274	100	1.786677	200	1.775899
cis-1,3-Dichloropropylene	5	0.4180367	10	0.4094957	20	0.3737706	50	0.3993126	100	0.4314619	200	0.4283112
cis-decahydronaphthalene	5	0.5512013	10	0.5542002	20	0.5728742	50	0.5515483	100	0.5532662	200	0.5686895
Cyclohexane	5	1.696464	10	1.955029	20	1.695214	50	1.876163	100	1.897461	200	1.911042
Dibromochloromethane	5	0.1851499	10	0.1883862	20	0.1762087	50	0.2056527	100	0.2341257	200	0.2410308
Dibromomethane	5	0.1761431	10	0.1738298	20	0.1535024	50	0.1598666	100	0.1707683	200	0.1675952
Dichlorodifluoromethane	5	0.9523993	10	0.9351081	20	0.9217059	50	0.9113054	100	0.8999225	200	0.8923093
Diisopropyl ether (DIPE)	5	3.962004	10	3.343763	20	3.193123	50	3.187112	100	3.416744	200	3.378396
Ethanol	250	1.205898E-02	500	1.270978E-02	1000	1.288622E-02	2500	1.212869E-02	5000	1.270175E-02	10000	1.187283E-02
Ethyl Benzene	5	1.312231	10	1.282013	20	1.115724	50	1.148707	100	1.215846	200	1.201113
Ethyl Ether	5	0.7053386	10	0.6912769	20	0.7256198	50	0.7452403	100	0.7516642	200	0.7193688
Ethyl Methacrylate	5	0.3738494	10	0.3770271	20	0.3468909	50	0.3794252	100	0.4105101	200	0.4032944
Ethyl tert-butyl ether (ETBE)	5	3.932455	10	3.268876	20	3.089096	50	3.070231	100	3.300967	200	3.251704
Hexachlorobutadiene	5	0.3762117	10	0.3568957	20	0.3144112	50	0.3290263	100	0.353962	200	0.3717465

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Instrument: QVOA1
Calibration Date: 05/10/23 14:46

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Hexachloroethane	5	0.1897837	10	0.210273	20	0.2031964	50	0.2648339	100	0.3262749	200	0.3589201
Iodomethane	5	0.7469958	10	0.760081	20	0.7251641	50	0.7571743	100	0.7925537	200	0.7695986
Isopropylbenzene	5	2.77153	10	2.672909	20	2.341955	50	2.332499	100	2.372579	200	2.283823
Limonene	5	0.7706606	10	0.7950772	20	0.7989542	50	0.7848418	100	0.7858418	200	0.7917139
Methyl acetate	5	0.960183	10	1.095221	20	0.9476266	50	1.086568	100	1.131314	200	1.109838
Methyl Methacrylate	5	0.2253076	10	0.2273561	20	0.2085564	50	0.2238688	100	0.241423	200	0.2364112
Methyl tert-butyl ether (MTBE)	5	2.91966	10	2.832476	20	2.520416	50	2.709919	100	2.910245	200	2.865381
Methylcyclohexane	5	0.4395493	10	0.5039467	20	0.4435641	50	0.4865889	100	0.4832842	200	0.4869144
Methylene chloride	5	1.513163	10	1.510844	20	1.281825	50	1.355096	100	1.414948	200	1.401278
Naphthalene	5	2.520119	10	2.39727	20	2.130264	50	2.202766	100	2.305047	200	2.241132
n-butyl acetate	5	0.4602408	10	0.4735221	20	0.5159344	50	0.5441638	100	0.5609248	200	0.5495913
n-Butylbenzene	5	3.184887	10	3.158457	20	2.731072	50	2.770308	100	2.868106	200	2.793368
n-Decane	5	1.356206	10	1.370344	20	1.383761	50	1.326556	100	1.314235	200	1.109129
n-Hexane	5	1.683924	10	1.651323	20	1.701433	50	1.700643	100	1.7344	200	1.767521
Nitrobenzene	5	1.531925E-02	10	1.526562E-02	20	0.01378	50	1.561405E-02	100	1.790816E-02	200	2.253442E-02
n-Nonane	5	0.5707724	10	0.5910812	20	0.5914491	50	0.5835757	100	0.5942169	200	0.5805757
n-octane	5	0.6211875	10	0.6204678	20	0.6343501	50	0.627033	100	0.6349634	200	0.6372169
n-Propylbenzene	5	3.516338	10	3.413815	20	2.936833	50	2.9055	100	2.952325	200	2.848083
n-undecane	5	1.303275	10	1.328385	20	1.341754	50	1.33919	100	1.256012	200	0.7962372
o-Xylene	5	1.011497	10	0.993114	20	0.8748616	50	0.9008031	100	0.9712152	200	0.9692899
p- & m- Xylenes	10	1.009431	20	0.9879435	40	0.8688402	100	0.8987417	200	0.9680528	400	0.9378143
p-Diethylbenzene	5	1.38629	10	1.538295	20	1.363172	50	1.44539	100	1.43289	200	1.410989
p-Ethyltoluene	5	2.358144	10	2.665276	20	2.329319	50	2.442281	100	2.332493	200	2.292675
p-Isopropyltoluene	5	2.534826	10	2.454029	20	2.146543	50	2.139376	100	2.223528	200	2.195746
sec-Butylbenzene	5	3.059153	10	2.971242	20	2.599883	50	2.581758	100	2.646219	200	2.586964
Styrene	5	0.7976464	10	0.7877772	20	0.6967415	50	0.7308243	100	0.7992523	200	0.804053
SURR: 1,2-Dichloroethane-d4	50	1.611271	50	1.626001	50	1.558336	50	1.562863	50	1.57027	50	1.550663
SURR: p-Bromofluorobenzene	50	1.208928	50	1.1977	50	1.18389	50	1.144556	50	1.08233	50	1.043348
SURR: Toluene-d8	50	1.27282	50	1.272704	50	1.279368	50	1.268531	50	1.266878	50	1.262554
tert-Amyl alcohol (TAA)	50	0.151052	100	0.1341266	200	0.1324776	500	0.1472622	1000	0.1688366	2000	0.1730193

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Instrument: QVOA1
Calibration Date: 05/10/23 14:46

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
tert-Amyl methyl ether (TAME)	5	3.322635	10	2.8062	20	2.637952	50	2.632063	100	2.863706	200	2.811378
tert-Butyl alcohol (TBA)	5	0.1483709	10	0.1614999	20	0.1396763	50	0.1658717	100	0.1801874	200	0.1904082
tert-Butylbenzene	5	2.081843	10	2.037088	20	1.787574	50	1.816827	100	1.908592	200	1.889692
Tetrachloroethylene	5	0.2582018	10	0.2610727	20	0.2326387	50	0.2449626	100	0.2640651	200	0.2748783
Tetrahydrofuran	5	0.5263133	10	0.5098997	20	0.4386326	50	0.4591655	100	0.5117466	200	0.4973563
Toluene	5	1.174869	10	1.144231	20	1.000933	50	1.014324	100	1.086954	200	1.072618
trans-1,2-Dichloroethylene	5	1.590423	10	1.58539	20	1.41101	50	1.433602	100	1.573413	200	1.560166
trans-1,3-Dichloropropylene	5	0.3603456	10	0.3596945	20	0.3326674	50	0.3653101	100	0.4030622	200	0.4035152
trans-1,4-dichloro-2-butene	5	0.8603293	10	0.8626239	20	0.78008	50	0.8220381	100	0.8629221	200	0.8331795
trans-decahydronaphthalene	5	0.7277083	10	0.7132099	20	0.7233254	50	0.6917034	100	0.678957	200	0.6774021
Trichloroethylene	5	0.2808513	10	0.2779596	20	0.2365329	50	0.244743	100	0.2628187	200	0.2606037
Trichlorofluoromethane	5	1.359891	10	1.388806	20	1.420098	50	1.475071	100	1.45007	200	1.444629
Vinyl acetate	5	3.853224	10	3.966649	20	3.483115	50	3.685823	100	4.02931	200	3.984366
Vinyl Chloride	5	1.045515	10	1.09926	20	1.084188	50	1.099493	100	1.067626	200	1.027107

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Instrument: QVOA1
Calibration Date: 05/10/23 14:46

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,1,2-Tetrachloroethane	0.1867346	10.8567	7.8655	2.334291E-02			20	
1,1,1-Trichloroethane	1.387788	6.246977	4.1955	2.683497E-02			SPCC (0.1)	
1,1,2,2-Tetrachloroethane	0.7290981	6.713051	9.1775	2.574141E-02			SPCC (0.3)	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.7456227	5.618299	2.2285	5.233062E-02			SPCC (0.1)	
1,1,2-Trichloroethane	0.2272175	6.24793	6.7655	3.157129E-03			SPCC (0.1)	
1,1-Dichloroethane	1.835039	6.067745	3.244	8.946397E-04			SPCC (0.2)	
1,1-Dichloroethylene	1.396021	6.254275	2.225	1.630458E-02			SPCC (0.1)	
1,1-Dichloropropylene	1.355303	5.842511	4.345167	1.280885E-02			20	
1,2,3-Trichlorobenzene	0.6560687	5.806392	13.05733	1.926833E-02			20	
1,2,3-Trichloropropane	0.2217315	7.875961	9.214	1.229719E-02			20	
1,2,3-Trimethylbenzene	2.333333	1.923373	10.35933	2.422555E-02			20	
1,2,4,5-Tetramethylbenzene	2.04068	5.546681	11.5585	1.124131E-02			20	
1,2,4-Trichlorobenzene	0.6834843	6.513902	12.51017	2.056765E-02			SPCC (0.2)	
1,2,4-Trimethylbenzene	2.153955	8.029208	9.8965	1.987687E-02			20	
1,2-Dibromo-3-chloropropane	0.1731783	8.135447	11.576	1.279278E-02			SPCC (0.05)	
1,2-Dibromoethane	0.2348822	4.57057	7.2615	4.987038E-03			SPCC (0.1)	
1,2-Dichlorobenzene	1.024052	5.659625	10.6995	1.960354E-02			SPCC (0.4)	
1,2-Dichloroethane	1.426815	5.205642	4.5555	3.419365E-02			SPCC (0.1)	
1,2-Dichloropropane	0.2777922	4.980826	5.339	1.502774E-02			SPCC (0.1)	
1,3,5-Trimethylbenzene	2.403365	5.732736	9.4175	2.355415E-02			20	
1,3-Dichlorobenzene	1.061529	6.485232	10.19	2.928288E-02			SPCC (0.6)	
1,3-Dichloropropane	0.4073575	6.223768	6.9305	2.235276E-02			20	
1,4-Dichlorobenzene	1.063208	7.485047	10.2905	2.158026E-02			SPCC (0.5)	
1,4-Dioxane	5.571842E-03	6.415427	5.4845	0.0342172			20	
2,2-Dichloropropane	1.37022	6.278672	3.7495	3.200928E-02			20	
2-Butanone	0.1891933	3.761267	3.789	1.701284E-02			SPCC (0.1)	
2-Chloroethylvinyl ether	5.113333E-02	67.663	5.9055	1.448609E-02			20	*
2-Chlorotoluene	1.78642	8.817029	9.3685	3.167424E-02			20	
2-Hexanone	0.2914795	4.327237	7.033	2.530624E-02			SPCC (0.1)	
4-Chlorotoluene	2.148591	8.866647	9.491166	2.480765E-02			20	
4-Methyl-2-pentanone	0.4662933	8.336824	6.2	3.962248E-02			SPCC (0.1)	
Acetone	0.5459851	15.05146	2.3035	4.987712E-02			SPCC (0.1)	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Instrument: QVOA1
Calibration Date: 05/10/23 14:46

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acrolein	0.1851069	6.18186	2.1635	5.587616E-02			20	
Acrylonitrile	0.5824189	5.556867	2.872667	4.746365E-02			20	
Allyl chloride	0.5657649	7.179874	2.537	2.091216E-02			20	
Benzene	3.896551	5.742596	4.5315	2.417931E-02			SPCC (0.5)	
Bromobenzene	1.026618	8.895109	9.148333	2.063384E-02			20	
Bromochloromethane	0.9271818	6.236291	3.965	3.965835E-02			20	
Bromodichloromethane	0.3196522	6.434686	5.603	1.789249E-02			SPCC (0.2)	
Bromoform	0.1153157	22.07258	8.6415	1.354678E-02		0.9982513	SPCC (0.1)	
Bromomethane	0.3890575	6.025802	1.53	1.277828E-02			SPCC (0.1)	
Carbon disulfide	2.641664	11.71513	2.398	1.634832E-02			SPCC (0.1)	
Carbon tetrachloride	1.000108	13.94281	4.3415	0.0403095			SPCC (0.1)	
Chlorobenzene	0.6262926	6.170274	7.7735	1.329581E-02			SPCC (0.5)	
Chlorodifluoromethane (Freon 22)	1.074938	1.853851	1.1555	0.3578784			20	
Chloroethane	0.5266872	2.157902	1.6015	7.882134E-02			SPCC (0.1)	
Chloroform	1.710892	7.4919	4.044	4.285488E-02			SPCC (0.2)	
Chloromethane	1.188798	5.079017	1.280833	0.2485655			SPCC (0.1)	
cis-1,2-Dichloroethylene	1.730201	5.069381	3.753667	3.272768E-02			SPCC (0.1)	
cis-1,3-Dichloropropylene	0.4100648	5.216087	6.0345	2.859448E-02			SPCC (0.2)	
cis-decahydronaphthalene	0.5586299	1.712912	11.27933	1.772514E-02			20	
Cyclohexane	1.838562	6.17476	4.238	3.993515E-02			SPCC (0.1)	
Dibromochloromethane	0.2050923	13.1664	7.154167	2.335086E-02			SPCC (0.1)	
Dibromomethane	0.1669509	5.207003	5.4455	2.747051E-02			20	
Dichlorodifluoromethane	0.9187918	2.442244	1.101	1.127851E-02			SPCC (0.1)	
Diisopropyl ether (DIPE)	3.413524	8.355884	3.3235	3.300305E-02			20	
Ethanol	1.239304E-02	3.406113	2.016333	9.707279E-02			20	
Ethyl Benzene	1.212606	6.210185	7.896333	9.53089E-03			SPCC (0.1)	
Ethyl Ether	0.7230848	3.186573	2.055833	2.814484E-02			20	
Ethyl Methacrylate	0.3818328	5.968172	6.692333	0.0341216			20	
Ethyl tert-butyl ether (ETBE)	3.318888	9.513209	3.641333	2.609826E-03			20	
Hexachlorobutadiene	0.3503756	6.90762	12.7205	1.355321E-02			20	
Hexachloroethane	0.2588803	27.21726	10.97583	0.0023872		0.9984587	0.99	
Iodomethane	0.7585946	2.965661	2.349	4.907882E-02			20	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Instrument: QVOA1
Calibration Date: 05/10/23 14:46

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Isopropylbenzene	2.462549	8.346254	8.8415	1.568381E-02			SPCC (0.1)	
Limonene	0.7878482	1.268127	10.19783	2.145664E-02			20	
Methyl acetate	1.055125	7.577821	2.579	1.670488E-02			SPCC (0.1)	
Methyl Methacrylate	0.2271539	5.017111	5.4685	2.225121E-02			20	
Methyl tert-butyl ether (MTBE)	2.793016	5.495371	2.896	2.388207E-02			SPCC (0.1)	
Methylcyclohexane	0.4739746	5.519068	5.2975	2.461887E-02			SPCC (0.1)	
Methylene chloride	1.412859	6.354858	2.643667	3.977232E-02			SPCC (0.1)	
Naphthalene	2.299433	6.140034	12.7785	1.122817E-02			20	
n-butyl acetate	0.5173962	8.127504	7.175	1.693416E-02			20	
n-Butylbenzene	2.9177	6.919965	10.712	2.604663E-02			20	
n-Decane	1.310039	7.773926	9.527	1.553981E-02			20	
n-Hexane	1.706541	2.360844	3.1105	3.549343E-02			20	
Nitrobenzene	1.673692E-02	18.73494	11.80783	1.725177E-02			20	
n-Nonane	0.5852785	1.503305	8.073834	2.578954E-02			20	
n-octane	0.6292031	1.16607	6.487833	2.443726E-02			20	
n-Propylbenzene	3.095482	9.378721	9.29	2.945965E-02			20	
n-undecane	1.227476	17.40629	10.8635	2.058632E-02			20	
o-Xylene	0.9534635	5.639639	8.439	6.008041E-03			SPCC (0.3)	
p- & m- Xylenes	0.9451373	5.701421	8.023167	2.137074E-02			SPCC (0.1)	
p-Diethylbenzene	1.429504	4.279186	10.687	7.990411E-03			20	
p-Ethyltoluene	2.403365	5.732736	9.4175	2.355415E-02			20	
p-Isopropyltoluene	2.282341	7.411375	10.25633	8.652184E-03			20	
sec-Butylbenzene	2.74087	7.862707	10.087	2.117216E-02			20	
Styrene	0.7693824	5.811153	8.456667	2.067221E-02			SPCC (0.3)	
SURR: 1,2-Dichloroethane-d4	1.579901	1.9636	4.4865	3.060733E-02			20	
SURR: p-Bromofluorobenzene	1.143459	5.882613	8.9985	2.268239E-02			20	
SURR: Toluene-d8	1.270476	0.4577301	6.2885	2.163562E-02			20	
tert-Amyl alcohol (TAA)	0.151129	11.24734	4.5825	2.853151E-02			20	
tert-Amyl methyl ether (TAME)	2.845656	8.880796	4.649667	0.0273222			20	
tert-Butyl alcohol (TBA)	0.1643357	11.55981	2.8045	0.124912			20	
tert-Butylbenzene	1.920269	6.123416	9.8425	2.217955E-02			20	
Tetrachloroethylene	0.2559699	5.845949	6.894	7.143676E-03			SPCC (0.2)	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Calibration:	SE30018	Instrument:	QVOA1
		Calibration Date:	05/10/23 14:46

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Tetrahydrofuran	0.490519	6.961012	4.0185	4.703276E-02			20	
Toluene	1.082321	6.3693	6.354	2.903618E-02			SPCC (0.4)	
trans-1,2-Dichloroethylene	1.525667	5.312978	2.874667	3.414431E-02			SPCC (0.1)	
trans-1,3-Dichloropropylene	0.3707658	7.46279	6.5855	1.023463E-02			SPCC (0.1)	
trans-1,4-dichloro-2-butene	0.8368621	3.909137	9.214	1.229719E-02			20	
trans-decahydronaphthalene	0.702051	3.174472	10.6505	0.0139596			20	
Trichloroethylene	0.2605849	6.750244	5.1265	2.037701E-02			SPCC (0.2)	
Trichlorofluoromethane	1.423094	2.99327	1.800333	4.264986E-02			SPCC (0.1)	
Vinyl acetate	3.833748	5.518462	3.3095	3.561503E-02			20	
Vinyl Chloride	1.070531	2.761738	1.304333	4.169512E-02			SPCC (0.1)	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432523.D
Acq On : 25 Apr 2023 3:01 pm
Operator : BMC
Sample : SEQ-CAL1
Misc : QBQV40042523A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 27 07:06:51 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.857	70	230354	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	779686	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	365979	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.587	65	543144	58.28	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery =	116.56%			
54) Toluene-d8 (SURR)	6.357	98	1098627	55.07	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery =	110.14%			
73) p-Bromofluorobenzene (...	9.097	95	507437	54.26	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery =	108.52%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.068	85	28194m	4.24	ppb		
3) Chloromethane	1.204	50	32863m	3.89	ppb		
4) Vinyl Chloride	1.285	62	23299	4.13	ppb		100
5) Bromomethane	1.524	94	7974	6.11	ppb		96
6) Allyl Chloride	2.568	76	9980	4.37	ppb	#	100
7) Chloroethane	1.599	64	11989	4.36	ppb		100
8) Trichlorofluoromethane	1.783	101	30653	4.31	ppb		98
9) Ethanol	2.050	45	11002m	140.16	ppb		
10) Freon-113	2.206	101	19190	5.42	ppb	#	90
11) 1,1-Dichloroethylene	2.231	61	38867	4.74	ppb		87
12) Acrolein	2.206	56	3246	4.09	ppb		81
13) Acetone	2.348	43	27388m	11.52	ppb		
14) Iodomethane	2.378	142	7149m	3.26	ppb		
15) Methyl Acetate	2.626	43	18996m	3.63	ppb		
16) Carbon disulfide	2.426	76	38480	3.33	ppb		99
17) tert-Butyl Alcohol (TBA)	2.879	59	1651m	2.92	ppb		
18) Methylene Chloride	2.698	49	36934	4.13	ppb	#	71
19) Acrylonitrile	2.977	53	8810m	4.12	ppb		
20) trans-1,2-Dichloroethy...	2.913	61	41414	4.76	ppb	#	66
21) tert-Butyl Methyl Ethe...	2.904	73	66770	4.94	ppb		94
22) 1,1-Dichloroethane	3.305	63	47050	4.68	ppb	#	99
23) Vinyl Acetate	3.360	43	39501m	4.70	ppb		
24) Diisopropyl ether (DIPE)	3.324	45	88102	4.27	ppb	#	89
25) Ethyl-tert-Butyl ether...	3.650	59	83149	4.59	ppb	#	79
26) cis-1,2-Dichloroethylene	3.833	61	44200m	4.62	ppb		
27) 2-Butanone	3.886	72	2158m	4.28	ppb		
28) 2,2-Dichloropropane	3.797	77	35824m	5.18	ppb		
29) Tetrahydrofuran	4.114	42	8029	3.67	ppb	#	71
30) Bromochloromethane	4.064	49	23921	4.56	ppb	#	59
31) Chloroform	4.137	83	50077	5.44	ppb	#	70
32) 1,1,1-Trichloroethane	4.251	97	47252	5.74	ppb	#	73
33) Cyclohexane	4.262	56	44764	4.27	ppb	#	70
34) 1,1-Dichloropropylene	4.398	75	34275	4.71	ppb	#	81
36) Carbon Tetrachloride	4.390	117	31868	4.86	ppb	#	89
37) tert-Amyl alcohol (TAA)	4.688	59	17324	34.28	ppb	#	100
38) 1,2-Dichloroethane	4.663	62	52317	5.69	ppb	#	85
39) Benzene	4.599	78	78462	4.37	ppb	#	1
40) tert-Amyl methyl ether...	4.682	73	60947	4.26	ppb	#	77
42) Trichloroethylene	5.194	95	26039	5.92	ppb		73
43) Methyl Cyclohexane	5.319	83	32129	4.22	ppb	#	45
44) Methyl Methacrylate	5.545	69	11610	4.15	ppb	#	81
45) Dibromomethane	5.564	93	13585	5.51	ppb		92
46) Bromodichloromethane	5.720	83	31235	5.52	ppb		91
47) 1,2-Dichloropropane	5.428	63	20826m	4.69	ppb		
48) 1,4-Dioxane	5.603	88	3872m	74.89	ppb		
49) 2-Chloroethyl vinyl ether	6.004	63	11891m	4.16	ppb		
50) 2-nitropropane	6.006	43	10267m	4.13	ppb		
51) cis-1,3-Dichloropropene	6.137	75	26128	4.16	ppb	#	62

Data Path : C:\msdchem\1\data\042523\
Data File : QV432523.D
Acq On : 25 Apr 2023 3:01 pm
Operator : BMC
Sample : SEQ-CAL1
Misc : QBQV40042523A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 27 07:06:51 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

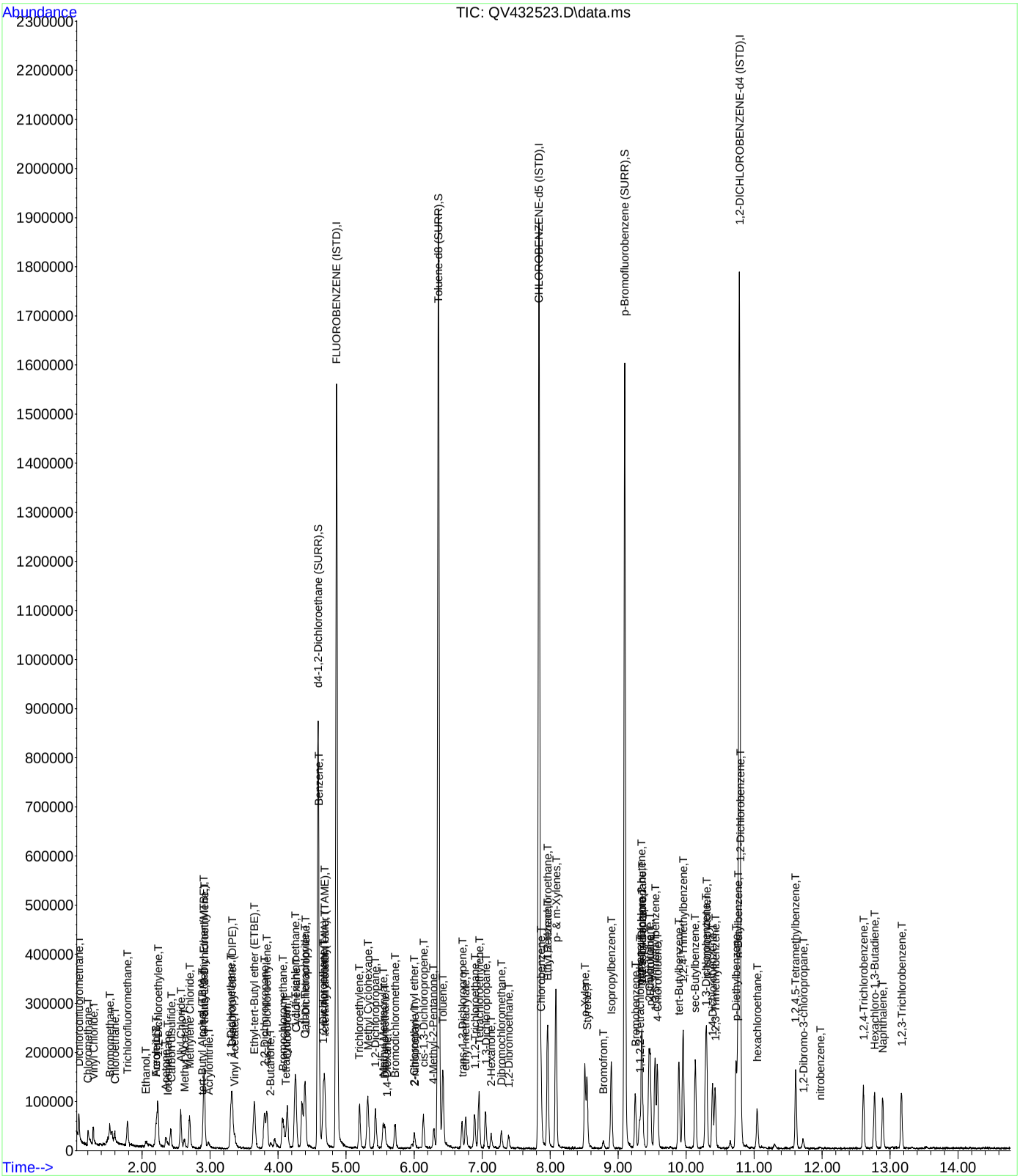
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.758	69	23531	4.58	ppb	#	100
53) 4-Methyl-2-Pentanone	6.285	43	26282	4.62	ppb	#	83
55) Toluene	6.424	91	92592	5.45	ppb		99
56) trans-1,3-Dichloropropene	6.710	75	22776	3.92	ppb		97
57) 1,1,2-Trichloroethane	6.891	97	18294	5.56	ppb		92
58) 1,3-Dichloropropane	7.050	76	34428	5.55	ppb	#	84
59) Tetrachloroethylene	6.955	166	24189	5.67	ppb	#	70
60) 2-Hexanone	7.133	43	18814	4.59	ppb	#	78
61) Dibromochloromethane	7.286	129	15132	4.67	ppb	#	91
62) 1,2-Dibromoethane	7.386	107	16914	5.09	ppb		99
63) Chlorobenzene	7.868	112	51579	5.17	ppb	#	30
64) 1,1,1,2-tetrachloroethane	7.965	131	17853	5.34	ppb	#	32
65) Ethyl Benzene	7.962	91	115552	5.76	ppb		89
66) p- & m-Xylenes	8.085	91	192074	11.91	ppb		84
67) o-Xylene	8.510	91	95271	5.87	ppb		93
68) Styrene	8.541	104	55220	4.86	ppb	#	100
69) Bromofrom	8.783	173	7001	3.76	ppb		98
71) p-Ethyltoluene	9.473	105	90441	4.95	ppb	#	97
72) Isopropylbenzene	8.900	105	101151	5.38	ppb	#	89
74) 1,1,2,2-Tetrachloroethane	9.317	83	20807	4.85	ppb	#	100
75) Bromobenzene	9.250	77	45445	5.77	ppb	#	69
76) trans-1,4-Dichloro-2-b...	9.345	75	25334	5.01	ppb	#	19
77) 1,2,3-Trichloropropane	9.348	110	8288	5.96	ppb		96
78) n-Propylbenzene	9.351	91	136103	5.75	ppb	#	92
79) 2-Chlorotoluene	9.456	91	99540	6.09	ppb		95
80) 4-Chlorotoluene	9.579	91	91193m	6.15	ppb		
81) 1,3,5-Trimethylbenzene	9.543	105	95077	5.88	ppb	#	82
82) tert-Butylbenzene	9.893	119	77316	5.94	ppb	#	74
83) 1,2,4-Trimethylbenzene	9.957	105	93570	5.80	ppb		81
84) sec-Butylbenzene	10.135	105	112891	5.48	ppb	#	90
85) hexachloroethane	11.042	117	10011	4.21	ppb	#	100
86) 1,3-Dichlorobenzene	10.285	146	40689	5.81	ppb	#	82
87) p-Isopropyltoluene	10.299	119	99679	5.97	ppb	#	87
88) 1,4-Dichlorobenzene	10.391	146	41192	5.75	ppb	#	81
89) 1,2,3-Trimethylbenzene	10.425	105	65678	4.63	ppb	#	87
90) nitrobenzene	11.977	77	256	2.15	ppb	#	100
91) p-Diethylbenzene	10.731	105	54753	5.33	ppb	#	75
92) 1,2-Dichlorobenzene	10.803	146	40173m	6.16	ppb		
93) n-Butylbenzene	10.758	91	133355	6.03	ppb	#	89
94) 1,2-Dibromo-3-chloropr...	11.721	75	4735	4.74	ppb	#	54
95) 1,2,4,5-Tetramethylben...	11.610	119	79869	5.09	ppb	#	85
96) 1,2,4-Trichlorobenzene	12.609	180	31065	5.93	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.767	225	22646	6.69	ppb		91
98) Naphthalene	12.892	128	67573	5.07	ppb		99
99) 1,2,3-Trichlorobenzene	13.165	180	29020	6.02	ppb	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432523.D
Acq On : 25 Apr 2023 3:01 pm
Operator : BMC
Sample : SEQ-CAL1
Misc : QBQV40042523A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 27 07:06:51 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432524.D
Acq On : 25 Apr 2023 3:30 pm
Operator : BMC
Sample : SEQ-CAL2
Misc : QBQV40042523A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 27 07:06:55 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.860	70	235551	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	767306	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.783	152	365996	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.590	65	544518	57.14	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 114.28%				
54) Toluene-d8 (SURR)	6.357	98	1098860	55.97	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 111.94%				
73) p-Bromofluorobenzene (...	9.097	95	508662	54.39	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 108.78%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	64731	9.52	ppb		99
3) Chloromethane	1.210	50	67115m	7.76	ppb		
4) Vinyl Chloride	1.282	62	55446m	9.62	ppb		
5) Bromomethane	1.524	94	15677m	11.75	ppb		
6) Allyl Chloride	2.573	76	18264	7.82	ppb	#	100
7) Chloroethane	1.599	64	30485	10.84	ppb		100
8) Trichlorofluoromethane	1.786	101	72839	10.02	ppb		98
9) Ethanol	2.056	45	27001m	336.39	ppb		
10) Freon-113	2.203	101	40685	11.24	ppb	#	91
11) 1,1-Dichloroethylene	2.231	61	75380	8.98	ppb		87
12) Acrolein	2.209	56	8001	9.86	ppb		91
13) Acetone	2.348	43	37150m	15.28	ppb		
14) Iodomethane	2.387	142	20526m	9.15	ppb		
15) Methyl Acetate	2.618	43	41512	7.76	ppb		93
16) Carbon disulfide	2.423	76	74476	6.31	ppb		100
17) tert-Butyl Alcohol (TBA)	2.885	59	3565m	6.17	ppb		
18) Methylene Chloride	2.701	49	72064	7.87	ppb	#	74
19) Acrylonitrile	2.977	53	14548	6.65	ppb		97
20) trans-1,2-Dichloroethy...	2.915	61	75559	8.49	ppb	#	79
21) tert-Butyl Methyl Ethe...	2.907	73	126569	9.17	ppb		97
22) 1,1-Dichloroethane	3.305	63	88130	8.57	ppb	#	96
23) Vinyl Acetate	3.358	43	110720m	12.88	ppb		
24) Diisopropyl ether (DIPE)	3.324	45	168791	8.00	ppb	#	91
25) Ethyl-tert-Butyl ether...	3.650	59	160572	8.66	ppb	#	95
26) cis-1,2-Dichloroethylene	3.836	61	81174m	8.30	ppb		
27) 2-Butanone	3.886	72	3907m	7.58	ppb		
28) 2,2-Dichloropropane	3.806	77	67196	9.50	ppb	#	86
29) Tetrahydrofuran	4.109	42	17003	7.59	ppb	#	49
30) Bromochloromethane	4.062	49	46755	8.71	ppb	#	47
31) Chloroform	4.137	83	93891	9.97	ppb	#	92
32) 1,1,1-Trichloroethane	4.254	97	86670	10.29	ppb		97
33) Cyclohexane	4.259	56	92190	8.60	ppb	#	72
34) 1,1-Dichloropropylene	4.401	75	67844	9.12	ppb	#	86
36) Carbon Tetrachloride	4.387	117	66604	9.94	ppb	#	58
37) tert-Amyl alcohol (TAA)	4.679	59	36464m	70.56	ppb		
38) 1,2-Dichloroethane	4.660	62	93889	9.99	ppb	#	97
39) Benzene	4.599	78	145165	7.92	ppb	#	1
40) tert-Amyl methyl ether...	4.688	73	124116	8.49	ppb	#	82
42) Trichloroethylene	5.202	95	45124	10.42	ppb		77
43) Methyl Cyclohexane	5.319	83	70438	9.40	ppb	#	44
44) Methyl Methacrylate	5.542	69	24495	8.91	ppb	#	81
45) Dibromomethane	5.567	93	23811	9.82	ppb		95
46) Bromodichloromethane	5.720	83	58216	10.45	ppb		98
47) 1,2-Dichloropropane	5.430	63	39873	9.13	ppb	#	89
48) 1,4-Dioxane	5.597	88	9544m	187.58	ppb		
49) 2-Chloroethyl vinyl ether	6.001	63	23717	8.43	ppb		98
50) 2-nitropropane	6.004	43	23794	9.72	ppb	#	100
51) cis-1,3-Dichloropropene	6.137	75	55402	8.95	ppb	#	74

Data Path : C:\msdchem\1\data\042523\
Data File : QV432524.D
Acq On : 25 Apr 2023 3:30 pm
Operator : BMC
Sample : SEQ-CAL2
Misc : QBQV40042523A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 27 07:06:55 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

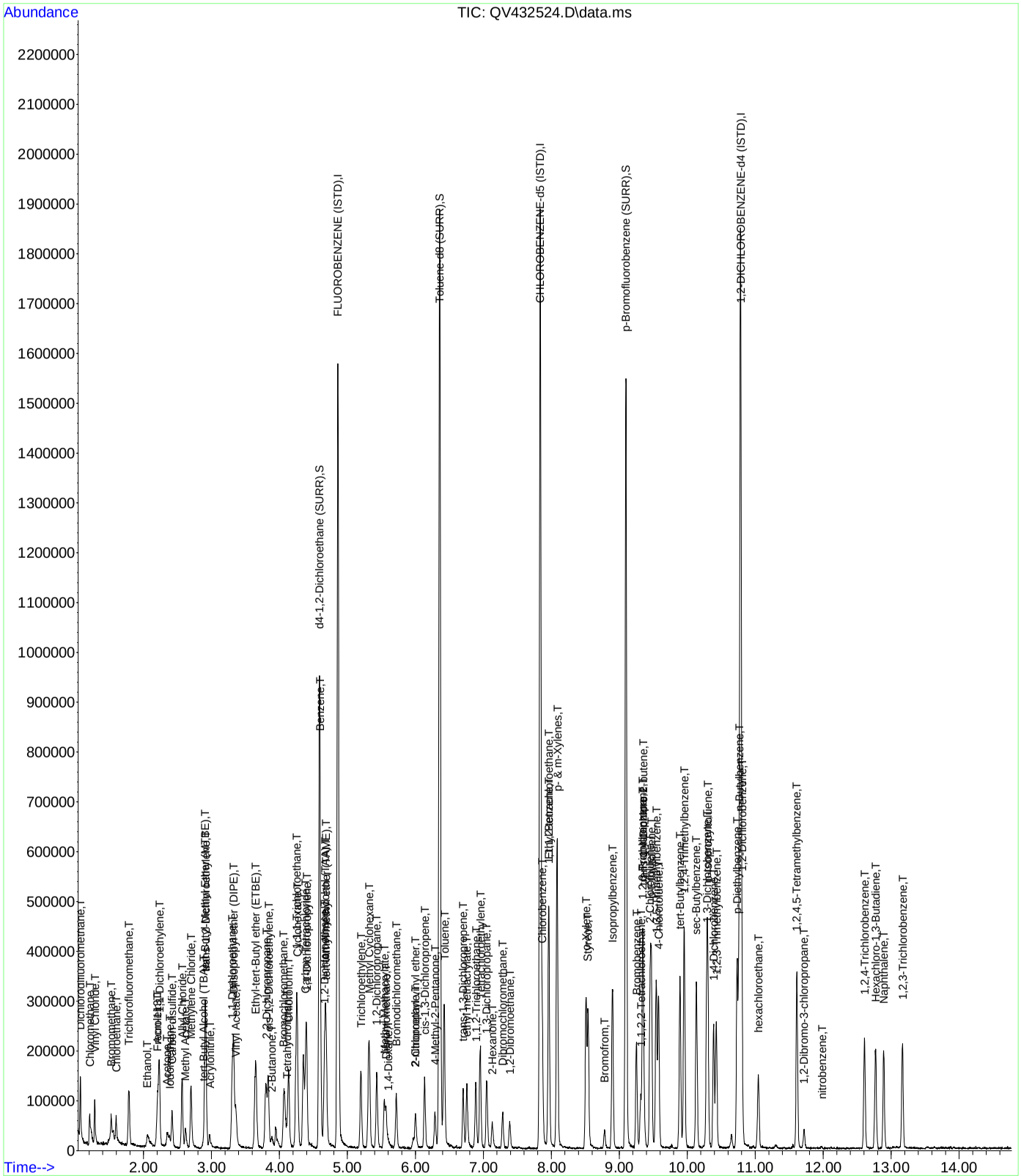
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.758	69	48204	9.54	ppb	#	100
53) 4-Methyl-2-Pentanone	6.287	43	48843	8.72	ppb	#	85
55) Toluene	6.426	91	170493	10.20	ppb		99
56) trans-1,3-Dichloropropene	6.702	75	52204	9.13	ppb		97
57) 1,1,2-Trichloroethane	6.894	97	34163	10.55	ppb		96
58) 1,3-Dichloropropane	7.047	76	61965	10.16	ppb	#	82
59) Tetrachloroethylene	6.958	166	46818	11.16	ppb	#	81
60) 2-Hexanone	7.130	43	34330	8.51	ppb	#	88
61) Dibromochloromethane	7.286	129	31555	9.90	ppb	#	93
62) 1,2-Dibromoethane	7.386	107	33985	10.39	ppb		95
63) Chlorobenzene	7.865	112	95607	9.74	ppb	#	72
64) 1,1,1,2-tetrachloroethane	7.965	131	36880	11.22	ppb	#	30
65) Ethyl Benzene	7.962	91	216069m	10.94	ppb		
66) p- & m-Xylenes	8.087	91	362587	22.84	ppb		83
67) o-Xylene	8.513	91	175619	11.00	ppb		93
68) Styrene	8.538	104	107138	9.59	ppb	#	100
69) Bromofrom	8.783	173	15272	8.30	ppb		97
71) p-Ethyltoluene	9.470	105	193476	10.60	ppb	#	97
72) Isopropylbenzene	8.903	105	198257	10.55	ppb	#	88
74) 1,1,2,2-Tetrachloroethane	9.317	83	36712	8.56	ppb	#	100
75) Bromobenzene	9.253	77	85235	10.81	ppb	#	72
76) trans-1,4-Dichloro-2-b...	9.351	75	46286	9.16	ppb	#	38
77) 1,2,3-Trichloropropane	9.342	110	16329m	11.74	ppb		
78) n-Propylbenzene	9.345	91	253914	10.72	ppb		91
79) 2-Chlorotoluene	9.454	91	185190	11.34	ppb		96
80) 4-Chlorotoluene	9.576	91	170348	11.49	ppb		81
81) 1,3,5-Trimethylbenzene	9.543	105	176864	10.94	ppb		86
82) tert-Butylbenzene	9.893	119	140123	10.76	ppb	#	71
83) 1,2,4-Trimethylbenzene	9.960	105	176415m	10.93	ppb		
84) sec-Butylbenzene	10.135	105	211060	10.24	ppb	#	89
85) hexachloroethane	11.051	117	21233	8.88	ppb	#	100
86) 1,3-Dichlorobenzene	10.285	146	75118	10.73	ppb	#	82
87) p-Isopropyltoluene	10.299	119	187051	11.20	ppb	#	86
88) 1,4-Dichlorobenzene	10.386	146	75571	10.55	ppb	#	82
89) 1,2,3-Trimethylbenzene	10.427	105	144084	10.15	ppb	#	86
90) nitrobenzene	11.980	77	991m	7.94	ppb		
91) p-Diethylbenzene	10.733	105	115248	11.22	ppb	#	21
92) 1,2-Dichlorobenzene	10.806	146	72186m	11.06	ppb		
93) n-Butylbenzene	10.761	91	255866	11.58	ppb	#	90
94) 1,2-Dibromo-3-chloropr...	11.716	75	9099	9.10	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.610	119	180010	11.47	ppb	#	88
96) 1,2,4-Trichlorobenzene	12.611	180	57659	11.00	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.773	225	40897	12.08	ppb		88
98) Naphthalene	12.890	128	130753	9.80	ppb		99
99) 1,2,3-Trichlorobenzene	13.165	180	52877	10.97	ppb		79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432524.D
Acq On : 25 Apr 2023 3:30 pm
Operator : BMC
Sample : SEQ-CAL2
Misc : QBQV40042523A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 27 07:06:55 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432525.D
Acq On : 25 Apr 2023 3:59 pm
Operator : BMC
Sample : SEQ-CAL3
Misc : QBQV40042523A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 27 07:06:58 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.860	70	236547	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	774180	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	368241	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.588	65	552310	57.71	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 115.42%				
54) Toluene-d8 (SURR)	6.357	98	1096166	55.34	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.68%				
73) p-Bromofluorobenzene (...	9.098	95	514751	54.70	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 109.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	129585	18.98	ppb		99
3) Chloromethane	1.207	50	120444	13.87	ppb		98
4) Vinyl Chloride	1.282	62	106699	18.43	ppb		100
5) Bromomethane	1.524	94	28501	21.27	ppb		96
6) Allyl Chloride	2.568	76	32380	13.81	ppb	#	100
7) Chloroethane	1.597	64	59783	21.18	ppb		99
8) Trichlorofluoromethane	1.783	101	142764	19.56	ppb		98
9) Ethanol	2.064	45	53235m	660.43	ppb		
10) Freon-113	2.209	101	79456	21.87	ppb	#	93
11) 1,1-Dichloroethylene	2.231	61	135712	16.10	ppb		90
12) Acrolein	2.203	56	14510	17.81	ppb		89
13) Acetone	2.351	43	65352m	26.77	ppb		
14) Iodomethane	2.381	142	40187	17.83	ppb	#	20
15) Methyl Acetate	2.621	43	86691	16.14	ppb		94
16) Carbon disulfide	2.420	76	139586	11.77	ppb		100
17) tert-Butyl Alcohol (TBA)	2.868	59	10398	17.93	ppb	#	1
18) Methylene Chloride	2.698	49	126123	13.72	ppb	#	75
19) Acrylonitrile	2.971	53	27767	12.63	ppb		96
20) trans-1,2-Dichloroethy...	2.910	61	134212	15.02	ppb		88
21) tert-Butyl Methyl Ethe...	2.904	73	228422	16.47	ppb		96
22) 1,1-Dichloroethane	3.302	63	153683	14.88	ppb	#	98
23) Vinyl Acetate	3.358	43	215568m	24.96	ppb		
24) Diisopropyl ether (DIPE)	3.324	45	340159	16.05	ppb	#	93
25) Ethyl-tert-Butyl ether...	3.647	59	324183	17.41	ppb	#	86
26) cis-1,2-Dichloroethylene	3.831	61	153836	15.66	ppb	#	84
27) 2-Butanone	3.886	72	7234m	13.97	ppb		
28) 2,2-Dichloropropane	3.803	77	119479	16.81	ppb	#	84
29) Tetrahydrofuran	4.101	42	30188	13.42	ppb	#	70
30) Bromochloromethane	4.059	49	79719	14.79	ppb	#	47
31) Chloroform	4.134	83	168613	17.84	ppb		99
32) 1,1,1-Trichloroethane	4.245	97	161927	19.15	ppb		98
33) Cyclohexane	4.254	56	176642	16.41	ppb		80
34) 1,1-Dichloropropylene	4.398	75	119077	15.94	ppb	#	89
36) Carbon Tetrachloride	4.384	117	122421	18.20	ppb	#	92
37) tert-Amyl alcohol (TAA)	4.682	59	82365	158.72	ppb	#	100
38) 1,2-Dichloroethane	4.660	62	169638	17.98	ppb	#	97
39) Benzene	4.596	78	256870	13.95	ppb	#	21
40) tert-Amyl methyl ether...	4.679	73	251035	17.09	ppb	#	83
42) Trichloroethylene	5.194	95	85541	19.59	ppb		74
43) Methyl Cyclohexane	5.317	83	143835	19.03	ppb	#	49
44) Methyl Methacrylate	5.542	69	45891	16.54	ppb	#	81
45) Dibromomethane	5.567	93	46092	18.84	ppb		94
46) Bromodichloromethane	5.720	83	112425	20.01	ppb		97
47) 1,2-Dichloropropane	5.431	63	68973	15.65	ppb	#	81
48) 1,4-Dioxane	5.598	88	18101m	352.60	ppb		
49) 2-Chloroethyl vinyl ether	6.001	63	52317	18.42	ppb		97
50) 2-nitropropane	6.001	43	49264	19.94	ppb	#	100
51) cis-1,3-Dichloropropene	6.137	75	107735	17.26	ppb	#	75

Data Path : C:\msdchem\1\data\042523\
Data File : QV432525.D
Acq On : 25 Apr 2023 3:59 pm
Operator : BMC
Sample : SEQ-CAL3
Misc : QBQV40042523A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 27 07:06:58 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

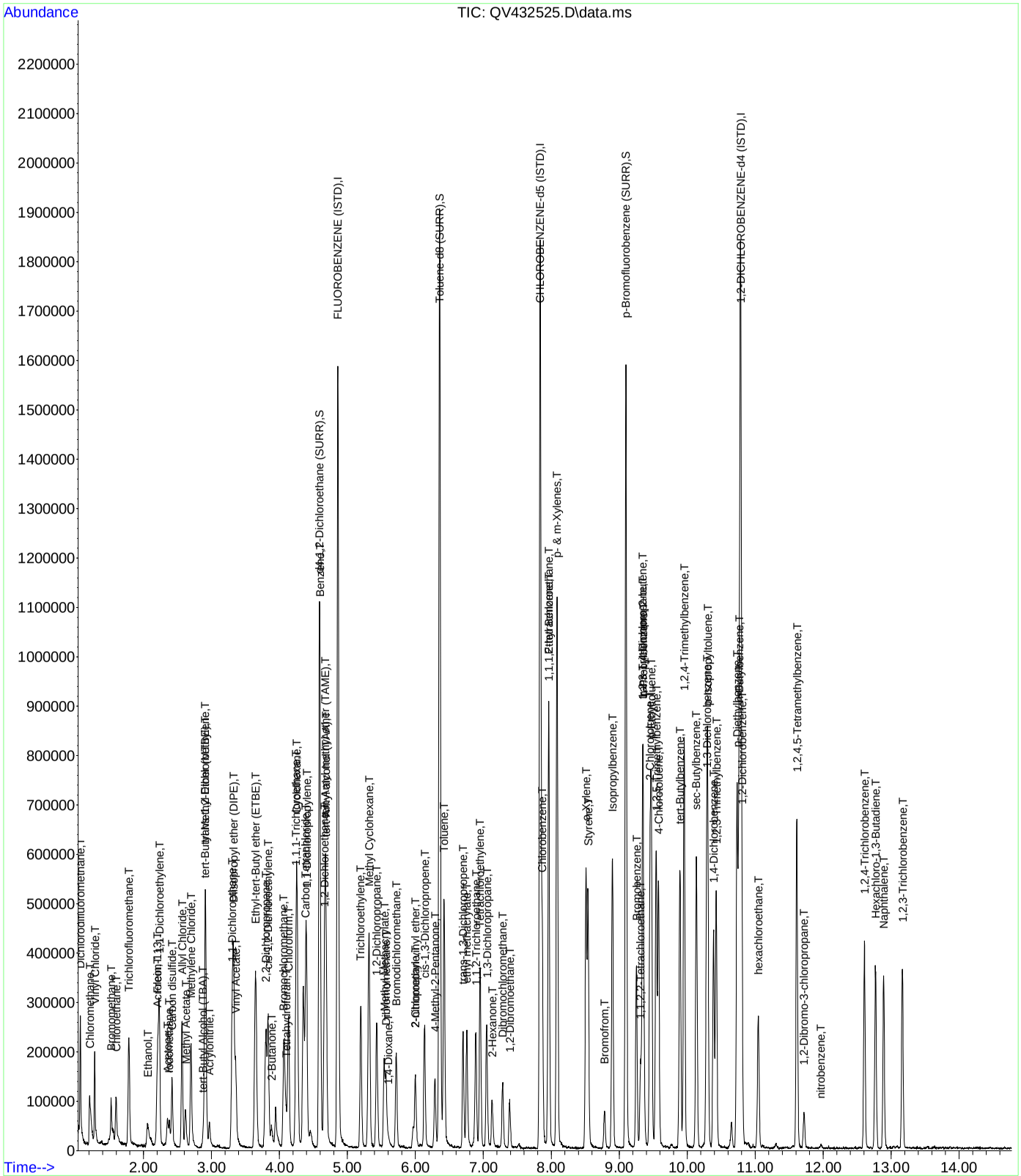
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.758	69	86792	17.03	ppb	#	100
53) 4-Methyl-2-Pentanone	6.290	43	95663	16.93	ppb	#	85
55) Toluene	6.421	91	304056	18.03	ppb		98
56) trans-1,3-Dichloropropene	6.702	75	104617	18.14	ppb	#	80
57) 1,1,2-Trichloroethane	6.891	97	59258	18.14	ppb	#	84
58) 1,3-Dichloropropane	7.050	76	109810	17.84	ppb	#	81
59) Tetrachloroethylene	6.950	166	83183	19.65	ppb	#	65
60) 2-Hexanone	7.133	43	67523	16.59	ppb		88
61) Dibromochloromethane	7.289	129	57423	17.85	ppb		94
62) 1,2-Dibromoethane	7.389	107	58133	17.62	ppb		99
63) Chlorobenzene	7.868	112	167646	16.93	ppb	#	75
64) 1,1,1,2-tetrachloroethane	7.965	131	66054	19.91	ppb	#	49
65) Ethyl Benzene	7.962	91	390832	19.61	ppb		87
66) p- & m-Xylenes	8.082	91	638689	39.87	ppb		83
67) o-Xylene	8.511	91	321999	19.99	ppb		92
68) Styrene	8.541	104	192020	17.03	ppb	#	100
69) Bromofrom	8.783	173	31251	16.72	ppb	#	80
71) p-Ethyltoluene	9.473	105	379820	20.68	ppb	#	97
72) Isopropylbenzene	8.900	105	350495	18.53	ppb	#	88
74) 1,1,2,2-Tetrachloroethane	9.312	83	68138	15.79	ppb	#	100
75) Bromobenzene	9.251	77	147367	18.58	ppb	#	71
76) trans-1,4-Dichloro-2-b...	9.345	75	89164	17.54	ppb	#	35
77) 1,2,3-Trichloropropane	9.345	110	28612	20.45	ppb		98
78) n-Propylbenzene	9.348	91	454307	19.06	ppb	#	91
79) 2-Chlorotoluene	9.454	91	338870	20.62	ppb		96
80) 4-Chlorotoluene	9.576	91	342074	22.93	ppb		79
81) 1,3,5-Trimethylbenzene	9.546	105	320713	19.71	ppb	#	50
82) tert-Butylbenzene	9.893	119	250089	19.08	ppb	#	71
83) 1,2,4-Trimethylbenzene	9.955	105	314155	19.34	ppb		82
84) sec-Butylbenzene	10.135	105	376976	18.18	ppb	#	88
85) hexachloroethane	11.042	117	40646	16.72	ppb	#	100
86) 1,3-Dichlorobenzene	10.286	146	136870	19.43	ppb	#	83
87) p-Isopropyltoluene	10.300	119	329681	19.62	ppb	#	88
88) 1,4-Dichlorobenzene	10.389	146	134419	18.64	ppb	#	83
89) 1,2,3-Trimethylbenzene	10.425	105	293672	20.56	ppb	#	85
90) nitrobenzene	11.963	77	1269	9.94	ppb	#	100
91) p-Diethylbenzene	10.736	105	217232	21.03	ppb		88
92) 1,2-Dichlorobenzene	10.806	146	124281	18.93	ppb	#	88
93) n-Butylbenzene	10.759	91	470547	21.16	ppb		91
94) 1,2-Dibromo-3-chloropr...	11.718	75	19393	19.28	ppb	#	71
95) 1,2,4,5-Tetramethylben...	11.613	119	345042	21.84	ppb	#	85
96) 1,2,4-Trichlorobenzene	12.606	180	100461	19.05	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.767	225	73071	21.45	ppb		89
98) Naphthalene	12.890	128	235941	17.58	ppb		98
99) 1,2,3-Trichlorobenzene	13.165	180	94512	19.49	ppb		78

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432525.D
Acq On : 25 Apr 2023 3:59 pm
Operator : BMC
Sample : SEQ-CAL3
Misc : QBQV40042523A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 27 07:06:58 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4



Page 272 of 1860

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432526.D
Acq On : 25 Apr 2023 4:28 pm
Operator : BMC
Sample : SEQ-CAL4
Misc : QBQV40042523A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 27 07:07:01 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.857	70	239986	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	783695	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.781	152	364764	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.588	65	549578	56.60	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery =	113.20%			
54) Toluene-d8 (SURR)	6.357	98	1113202	55.52	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery =	111.04%			
73) p-Bromofluorobenzene (...	9.098	95	522770	56.08	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery =	112.16%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	310368	44.80	ppb		99
3) Chloromethane	1.210	50	291742m	33.12	ppb		
4) Vinyl Chloride	1.282	62	261293	44.49	ppb		99
5) Bromomethane	1.524	94	71401	52.51	ppb		98
6) Allyl Chloride	2.568	76	89115	37.47	ppb	#	100
7) Chloroethane	1.597	64	142253	49.67	ppb		99
8) Trichlorofluoromethane	1.783	101	341543	46.12	ppb		98
9) Ethanol	2.059	45	152591	1865.90	ppb		82
10) Freon-113	2.209	101	193330	52.45	ppb	#	60
11) 1,1-Dichloroethylene	2.234	61	359892	42.10	ppb		88
12) Acrolein	2.206	56	34288	41.49	ppb		95
13) Acetone	2.348	43	125440m	50.64	ppb		
14) Iodomethane	2.384	142	124720m	54.55	ppb		
15) Methyl Acetate	2.618	43	197461	36.23	ppb	#	91
16) Carbon disulfide	2.420	76	439011	36.49	ppb		100
17) tert-Butyl Alcohol (TBA)	2.877	59	27271	46.35	ppb	#	1
18) Methylene Chloride	2.696	49	347459	37.27	ppb	#	74
19) Acrylonitrile	2.963	53	75336	33.78	ppb		94
20) trans-1,2-Dichloroethy...	2.910	61	374639	41.32	ppb	#	58
21) tert-Butyl Methyl Ethe...	2.907	73	632450	44.95	ppb	#	90
22) 1,1-Dichloroethane	3.302	63	432460	41.26	ppb	#	96
23) Vinyl Acetate	3.355	43	562730	64.23	ppb		100
24) Diisopropyl ether (DIPE)	3.327	45	809269	37.64	ppb		95
25) Ethyl-tert-Butyl ether...	3.647	59	774411	40.99	ppb	#	79
26) cis-1,2-Dichloroethylene	3.834	61	415718	41.72	ppb		85
27) 2-Butanone	3.884	72	19129	36.42	ppb	#	1
28) 2,2-Dichloropropane	3.803	77	372024	51.60	ppb	#	80
29) Tetrahydrofuran	4.098	42	80389	35.24	ppb	#	57
30) Bromochloromethane	4.062	49	212041	38.77	ppb	#	75
31) Chloroform	4.134	83	460503	48.01	ppb	#	71
32) 1,1,1-Trichloroethane	4.251	97	461689	53.81	ppb		98
33) Cyclohexane	4.262	56	436796	40.00	ppb		80
34) 1,1-Dichloropropylene	4.396	75	323627	42.71	ppb	#	87
36) Carbon Tetrachloride	4.387	117	361642	52.98	ppb	#	91
37) tert-Amyl alcohol (TAA)	4.677	59	204720	388.84	ppb	#	100
38) 1,2-Dichloroethane	4.657	62	475275	49.65	ppb	#	98
39) Benzene	4.596	78	704953	37.73	ppb	#	68
40) tert-Amyl methyl ether...	4.679	73	617013	41.41	ppb	#	80
42) Trichloroethylene	5.197	95	236020	53.38	ppb		74
43) Methyl Cyclohexane	5.319	83	352880	46.13	ppb	#	48
44) Methyl Methacrylate	5.536	69	130265	46.37	ppb	#	98
45) Dibromomethane	5.567	93	127102	51.32	ppb	#	64
46) Bromodichloromethane	5.717	83	340909	59.94	ppb		97
47) 1,2-Dichloropropane	5.431	63	190075	42.60	ppb	#	81
48) 1,4-Dioxane	5.595	88	47011m	904.63	ppb		
49) 2-Chloroethyl vinyl ether	5.998	63	131478	45.74	ppb		97
50) 2-nitropropane	5.998	43	124910	49.95	ppb	#	100
51) cis-1,3-Dichloropropene	6.135	75	323745	51.23	ppb	#	75

Data Path : C:\msdchem\1\data\042523\
Data File : QV432526.D
Acq On : 25 Apr 2023 4:28 pm
Operator : BMC
Sample : SEQ-CAL4
Misc : QBQV40042523A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 27 07:07:01 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

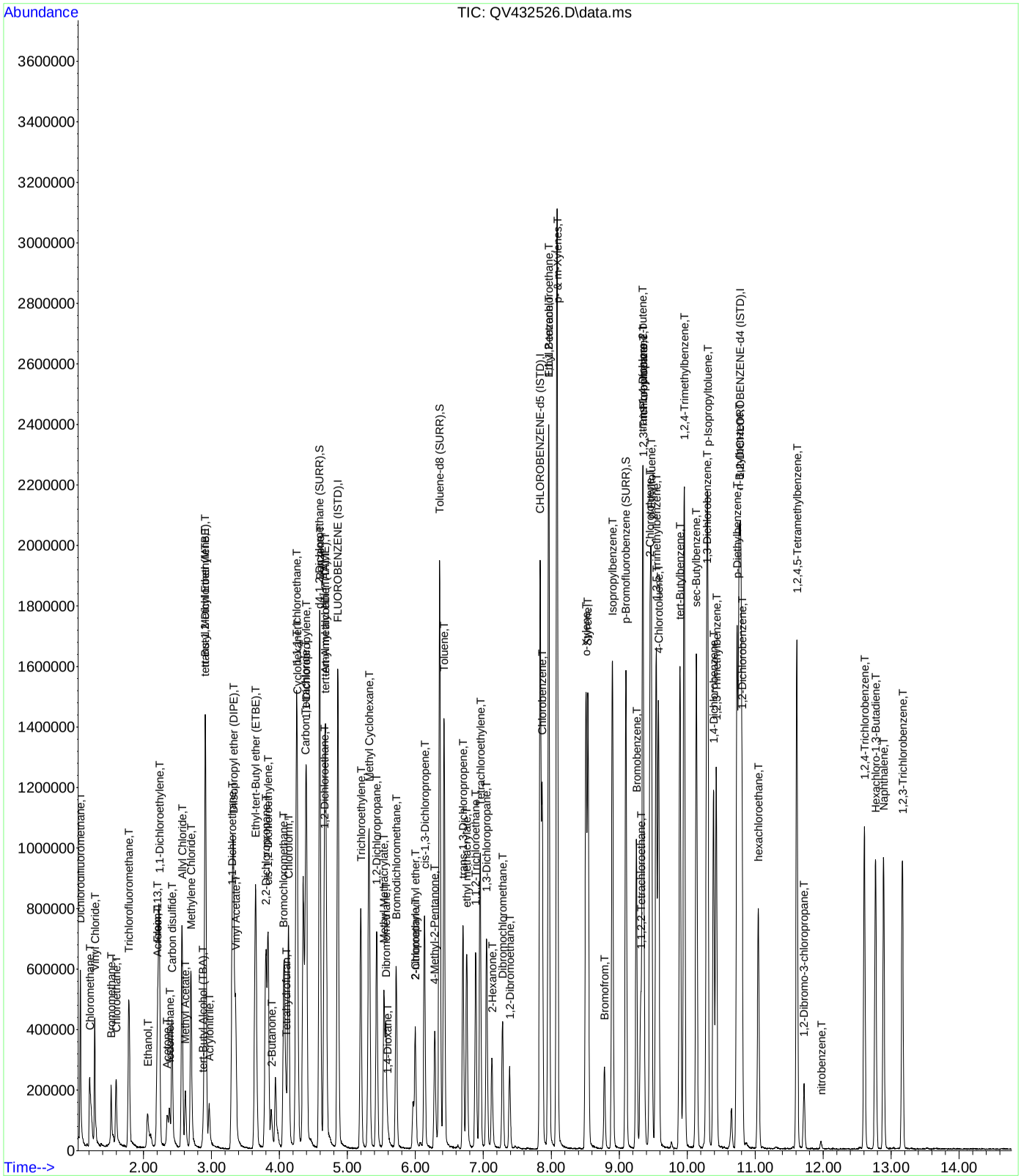
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.755	69	250800	48.60	ppb	#	100
53) 4-Methyl-2-Pentanone	6.285	43	268291	46.91	ppb		89
55) Toluene	6.421	91	827453	48.46	ppb		99
56) trans-1,3-Dichloropropene	6.699	75	330584	56.63	ppb	#	97
57) 1,1,2-Trichloroethane	6.886	97	158888	48.04	ppb	#	86
58) 1,3-Dichloropropane	7.047	76	297058	47.68	ppb	#	73
59) Tetrachloroethylene	6.955	166	229837	53.62	ppb	#	71
60) 2-Hexanone	7.128	43	197204	47.87	ppb		88
61) Dibromochloromethane	7.281	129	192721	59.17	ppb		98
62) 1,2-Dibromoethane	7.387	107	165098	49.43	ppb		98
63) Chlorobenzene	7.865	112	455705	45.47	ppb	#	69
64) 1,1,1,2-tetrachloroethane	7.962	131	199271	59.33	ppb	#	46
65) Ethyl Benzene	7.962	91	1073679	53.23	ppb		87
66) p- & m-Xylenes	8.085	91	1766717	108.95	ppb		83
67) o-Xylene	8.508	91	891692	54.67	ppb		93
68) Styrene	8.538	104	548238	48.03	ppb	#	100
69) Bromofrom	8.783	173	107005	54.82	ppb	#	81
71) p-Ethyltoluene	9.470	105	944156	51.90	ppb	#	97
72) Isopropylbenzene	8.897	105	987698	52.72	ppb	#	88
74) 1,1,2,2-Tetrachloroethane	9.315	83	201057	47.02	ppb	#	100
75) Bromobenzene	9.251	77	402312	51.21	ppb	#	71
76) trans-1,4-Dichloro-2-b...	9.345	75	254905	50.62	ppb	#	38
77) 1,2,3-Trichloropropane	9.351	110	77127	55.64	ppb		97
78) n-Propylbenzene	9.348	91	1259107	53.34	ppb	#	91
79) 2-Chlorotoluene	9.454	91	928119	57.00	ppb		95
80) 4-Chlorotoluene	9.576	91	836923	56.64	ppb		80
81) 1,3,5-Trimethylbenzene	9.546	105	878028	54.48	ppb		85
82) tert-Butylbenzene	9.893	119	705587	54.35	ppb	#	72
83) 1,2,4-Trimethylbenzene	9.957	105	858780	53.38	ppb		82
84) sec-Butylbenzene	10.135	105	1042512	50.77	ppb	#	89
85) hexachloroethane	11.045	117	136457	54.01	ppb	#	100
86) 1,3-Dichlorobenzene	10.286	146	358447	51.36	ppb	#	82
87) p-Isopropyltoluene	10.300	119	908791	54.60	ppb	#	88
88) 1,4-Dichlorobenzene	10.386	146	358302	50.17	ppb	#	83
89) 1,2,3-Trimethylbenzene	10.428	105	680860	48.11	ppb	#	86
90) nitrobenzene	11.966	77	9271	54.35	ppb	#	100
91) p-Diethylbenzene	10.734	105	541636	52.93	ppb	#	22
92) 1,2-Dichlorobenzene	10.806	146	331316	50.96	ppb	#	67
93) n-Butylbenzene	10.761	91	1234501	56.04	ppb	#	88
94) 1,2-Dibromo-3-chloropr...	11.718	75	57826	58.03	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.613	119	860159	54.97	ppb	#	86
96) 1,2,4-Trichlorobenzene	12.606	180	270344	51.75	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.770	225	193280	57.29	ppb		88
98) Naphthalene	12.887	128	638157	48.00	ppb		98
99) 1,2,3-Trichlorobenzene	13.165	180	251280	52.32	ppb		77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432526.D
Acq On : 25 Apr 2023 4:28 pm
Operator : BMC
Sample : SEQ-CAL4
Misc : QBQV40042523A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 27 07:07:01 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432527.D
Acq On : 25 Apr 2023 4:56 pm
Operator : BMC
Sample : SEQ-CAL5
Misc : QBQV40042523A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 27 07:07:04 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.860	70	238686	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	790367	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	357094	50.00	ppb		# 0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.590	65	558868	57.87	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 115.74%				
54) Toluene-d8 (SURR)	6.357	98	1117848	55.28	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.56%				
73) p-Bromofluorobenzene (...	9.100	95	521672	57.17	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 114.34%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	634946	92.14	ppb		100
3) Chloromethane	1.207	50	590223m	67.37	ppb		
4) Vinyl Chloride	1.282	62	524527	89.79	ppb		99
5) Bromomethane	1.524	94	158698	117.35	ppb		97
6) Allyl Chloride	2.570	76	190893	80.69	ppb	#	100
7) Chloroethane	1.597	64	284625m	99.92	ppb		
8) Trichlorofluoromethane	1.789	101	690205	93.71	ppb		98
9) Ethanol	2.061	45	316120	3886.60	ppb		82
10) Freon-113	2.206	101	377614	103.00	ppb	#	92
11) 1,1-Dichloroethylene	2.234	61	717665	84.40	ppb		87
12) Acrolein	2.203	56	66736	81.19	ppb		95
13) Acetone	2.348	43	264605m	107.41	ppb		
14) Iodomethane	2.381	142	241379	106.16	ppb	#	20
15) Methyl Acetate	2.615	43	410993	75.81	ppb		94
16) Carbon disulfide	2.420	76	955053	79.81	ppb		100
17) tert-Butyl Alcohol (TBA)	2.871	59	58898	100.66	ppb	#	1
18) Methylene Chloride	2.698	49	705658	76.10	ppb	#	73
19) Acrylonitrile	2.965	53	158943	71.66	ppb		96
20) trans-1,2-Dichloroethy...	2.913	61	742802	82.37	ppb		88
21) tert-Butyl Methyl Ethe...	2.904	73	1302528	93.09	ppb		96
22) 1,1-Dichloroethane	3.305	63	872760	83.73	ppb	#	99
23) Vinyl Acetate	3.355	43	1135555	130.33	ppb		100
24) Diisopropyl ether (DIPE)	3.324	45	1720096	80.44	ppb		95
25) Ethyl-tert-Butyl ether...	3.650	59	1668590	88.80	ppb	#	95
26) cis-1,2-Dichloroethylene	3.834	61	843521	85.11	ppb	#	75
27) 2-Butanone	3.878	72	37303	71.41	ppb	#	1
28) 2,2-Dichloropropane	3.803	77	778619	108.58	ppb	#	77
29) Tetrahydrofuran	4.095	42	168539	74.27	ppb	#	71
30) Bromochloromethane	4.059	49	420494	77.30	ppb	#	47
31) Chloroform	4.137	83	915904	96.01	ppb		99
32) 1,1,1-Trichloroethane	4.251	97	947568	111.04	ppb		99
33) Cyclohexane	4.259	56	880396	81.06	ppb		80
34) 1,1-Dichloropropylene	4.396	75	639213	84.82	ppb	#	83
36) Carbon Tetrachloride	4.384	117	750958	110.61	ppb		99
37) tert-Amyl alcohol (TAA)	4.679	59	473696	904.62	ppb	#	100
38) 1,2-Dichloroethane	4.660	62	940631	98.80	ppb	#	97
39) Benzene	4.596	78	1424968	76.68	ppb	#	79
40) tert-Amyl methyl ether...	4.679	73	1355947	91.51	ppb	#	89
42) Trichloroethylene	5.197	95	471256	105.69	ppb		73
43) Methyl Cyclohexane	5.319	83	714227	92.58	ppb	#	48
44) Methyl Methacrylate	5.539	69	275550	97.26	ppb	#	81
45) Dibromomethane	5.567	93	252362	101.04	ppb		95
46) Bromodichloromethane	5.717	83	695683	121.28	ppb		98
47) 1,2-Dichloropropane	5.431	63	385014	85.55	ppb	#	81
48) 1,4-Dioxane	5.589	88	95425m	1820.75	ppb		
49) 2-Chloroethyl vinyl ether	5.998	63	274856	94.81	ppb		96
50) 2-nitropropane	6.001	43	251385	99.68	ppb	#	100
51) cis-1,3-Dichloropropene	6.134	75	671364	105.33	ppb	#	76

Data Path : C:\msdchem\1\data\042523\
Data File : QV432527.D
Acq On : 25 Apr 2023 4:56 pm
Operator : BMC
Sample : SEQ-CAL5
Misc : QBQV40042523A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 27 07:07:04 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

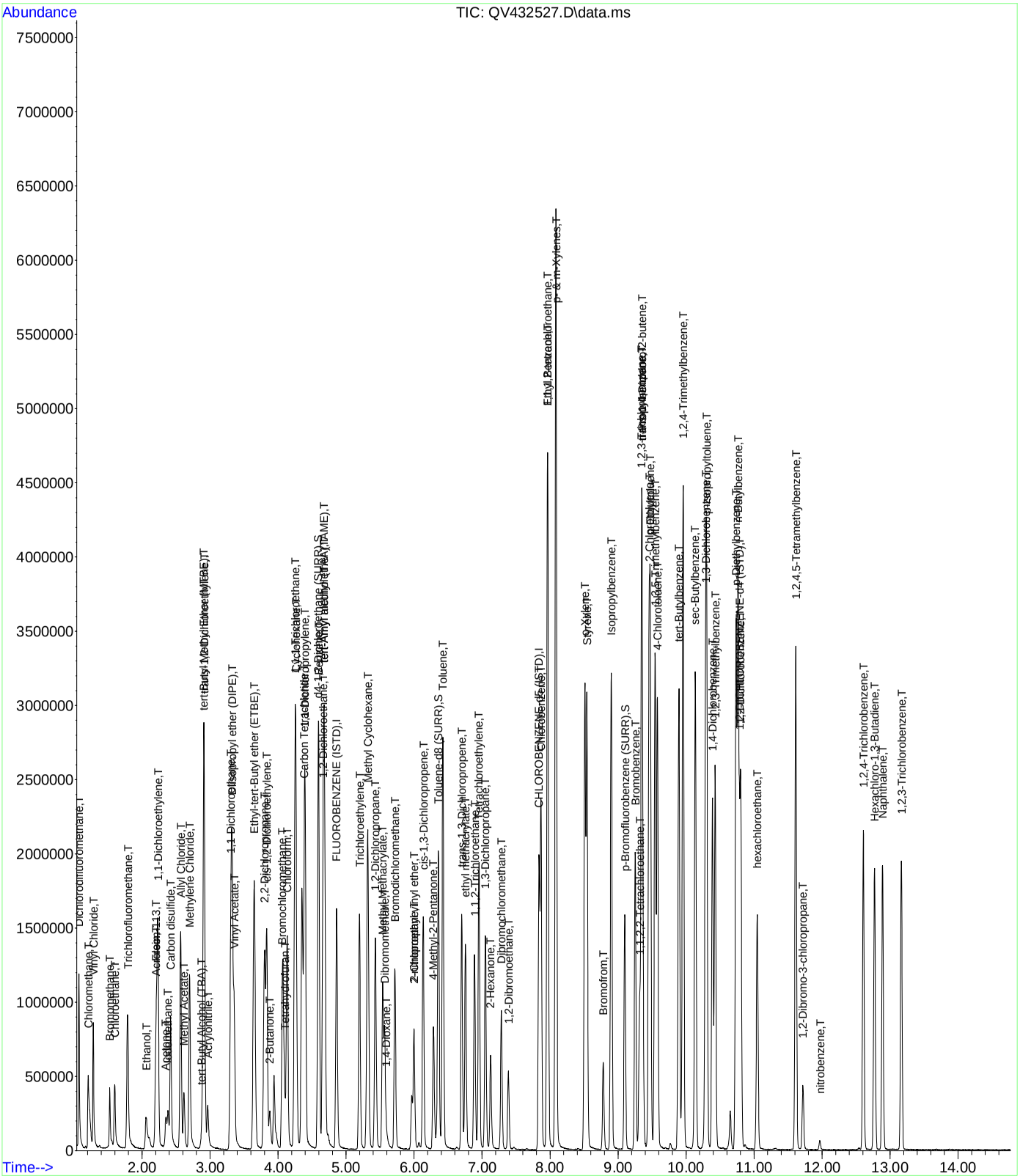
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.755	69	516497	99.24	ppb	#	100
53) 4-Methyl-2-Pentanone	6.285	43	559972	97.08	ppb		89
55) Toluene	6.424	91	1645475	95.56	ppb		99
56) trans-1,3-Dichloropropene	6.699	75	704643	119.69	ppb	#	96
57) 1,1,2-Trichloroethane	6.891	97	325591	97.61	ppb	#	86
58) 1,3-Dichloropropane	7.047	76	614629	97.81	ppb	#	81
59) Tetrachloroethylene	6.952	166	443088	102.50	ppb		94
60) 2-Hexanone	7.125	43	414329	99.74	ppb		87
61) Dibromochloromethane	7.284	129	400226	121.84	ppb		96
62) 1,2-Dibromoethane	7.386	107	326997	97.07	ppb		99
63) Chlorobenzene	7.865	112	924751	91.48	ppb	#	73
64) 1,1,1,2-tetrachloroethane	7.965	131	395549	116.78	ppb	#	48
65) Ethyl Benzene	7.962	91	2163091	106.34	ppb		87
66) p- & m-Xylenes	8.085	91	3622439	221.50	ppb		83
67) o-Xylene	8.513	91	1807932	109.92	ppb		93
68) Styrene	8.541	104	1123169	97.56	ppb	#	100
69) Bromofrom	8.780	173	236100	114.47	ppb	#	81
71) p-Ethyltoluene	9.473	105	1946413	109.29	ppb	#	97
72) Isopropylbenzene	8.897	105	1985640	108.26	ppb	#	88
74) 1,1,2,2-Tetrachloroethane	9.315	83	412008	98.43	ppb	#	100
75) Bromobenzene	9.251	77	825950	107.39	ppb	#	70
76) trans-1,4-Dichloro-2-b...	9.348	75	531176	107.75	ppb	#	32
77) 1,2,3-Trichloropropane	9.345	110	158112	116.51	ppb		97
78) n-Propylbenzene	9.348	91	2580022	111.65	ppb	#	91
79) 2-Chlorotoluene	9.456	91	1839633	115.41	ppb		95
80) 4-Chlorotoluene	9.579	91	1688966	116.75	ppb		80
81) 1,3,5-Trimethylbenzene	9.543	105	1745525	110.62	ppb		86
82) tert-Butylbenzene	9.896	119	1390168	109.38	ppb	#	71
83) 1,2,4-Trimethylbenzene	9.957	105	1715240	108.91	ppb		82
84) sec-Butylbenzene	10.135	105	2076840	103.31	ppb	#	88
85) hexachloroethane	11.045	117	292189	110.34	ppb	#	100
86) 1,3-Dichlorobenzene	10.286	146	714605	104.59	ppb	#	81
87) p-Isopropyltoluene	10.302	119	1790880	109.91	ppb	#	87
88) 1,4-Dichlorobenzene	10.389	146	713294	102.03	ppb	#	82
89) 1,2,3-Trimethylbenzene	10.427	105	1399503	101.02	ppb	#	87
90) nitrobenzene	11.966	77	21068	99.75	ppb	#	100
91) p-Diethylbenzene	10.733	105	1098716	109.68	ppb		86
92) 1,2-Dichlorobenzene	10.803	146	657350	103.27	ppb	#	68
93) n-Butylbenzene	10.761	91	2468636	114.47	ppb		93
94) 1,2-Dibromo-3-chloropr...	11.716	75	123710	126.81	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.613	119	1755741	114.61	ppb	#	85
96) 1,2,4-Trichlorobenzene	12.609	180	543133	106.20	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.773	225	371541	112.49	ppb		86
98) Naphthalene	12.890	128	1293080	99.35	ppb		99
99) 1,2,3-Trichlorobenzene	13.165	180	501074	106.57	ppb		77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432527.D
Acq On : 25 Apr 2023 4:56 pm
Operator : BMC
Sample : SEQ-CAL5
Misc : QBQV40042523A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 27 07:07:04 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432528.D
Acq On : 25 Apr 2023 5:25 pm
Operator : BMC
Sample : SEQ-CAL6
Misc : QBQV40042523A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 27 07:07:07 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.860	70	244284	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.840	117	807739	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.789	152	357825	50.00	ppb		# 0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.588	65	565975	57.26	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 114.52%				
54) Toluene-d8 (SURR)	6.357	98	1133559	54.85	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.70%				
73) p-Bromofluorobenzene (...	9.100	95	519950	56.86	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 113.72%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	1175457	166.68	ppb		100
3) Chloromethane	1.207	50	1200119	133.85	ppb		97
4) Vinyl Chloride	1.282	62	1020443	170.68	ppb		99
5) Bromomethane	1.527	94	305052	220.40	ppb		99
6) Allyl Chloride	2.568	76	368227m	152.09	ppb		
7) Chloroethane	1.599	64	547275	187.72	ppb		99
8) Trichlorofluoromethane	1.791	101	1340102	177.77	ppb		98
9) Ethanol	2.061	45	629057	7556.83	ppb		82
10) Freon-113	2.212	101	741966	197.74	ppb	#	92
11) 1,1-Dichloroethylene	2.234	61	1460379	167.81	ppb		86
12) Acrolein	2.206	56	142446	169.32	ppb		94
13) Acetone	2.353	43	478845m	189.92	ppb		
14) Iodomethane	2.384	142	421945	181.32	ppb	#	20
15) Methyl Acetate	2.618	43	805911	145.25	ppb		94
16) Carbon disulfide	2.420	76	2011996	164.29	ppb		100
17) tert-Butyl Alcohol (TBA)	2.877	59	121219	202.42	ppb	#	1
18) Methylene Chloride	2.698	49	1448369	152.61	ppb	#	74
19) Acrylonitrile	2.966	53	327541	144.29	ppb		95
20) trans-1,2-Dichloroethy...	2.913	61	1517405	164.41	ppb		88
21) tert-Butyl Methyl Ethe...	2.907	73	2701421	188.63	ppb		96
22) 1,1-Dichloroethane	3.305	63	1799297	168.65	ppb	#	96
23) Vinyl Acetate	3.355	43	2409932	270.25	ppb		100
24) Diisopropyl ether (DIPE)	3.324	45	3517385	160.72	ppb	#	93
25) Ethyl-tert-Butyl ether...	3.650	59	3459001	179.86	ppb	#	79
26) cis-1,2-Dichloroethylene	3.834	61	1740870	171.62	ppb	#	75
27) 2-Butanone	3.878	72	75156	140.57	ppb	#	1
28) 2,2-Dichloropropane	3.800	77	1608329	219.15	ppb	#	82
29) Tetrahydrofuran	4.095	42	348544	150.08	ppb	#	70
30) Bromochloromethane	4.062	49	845312	151.83	ppb	#	58
31) Chloroform	4.134	83	1856715	190.18	ppb	#	92
32) 1,1,1-Trichloroethane	4.251	97	1900372	217.60	ppb	#	85
33) Cyclohexane	4.259	56	1768085	159.06	ppb		81
34) 1,1-Dichloropropylene	4.398	75	1317373	170.81	ppb	#	85
36) Carbon Tetrachloride	4.384	117	1496732	215.41	ppb		99
37) tert-Amyl alcohol (TAA)	4.677	59	1023979	1910.70	ppb	#	100
38) 1,2-Dichloroethane	4.663	62	1905841	195.60	ppb	#	97
39) Benzene	4.599	78	2933353	154.23	ppb	#	86
40) tert-Amyl methyl ether...	4.682	73	2815729	185.67	ppb	#	82
42) Trichloroethylene	5.197	95	950785	208.65	ppb		74
43) Methyl Cyclohexane	5.319	83	1421459	180.29	ppb	#	47
44) Methyl Methacrylate	5.536	69	565917	195.45	ppb	#	98
45) Dibromomethane	5.567	93	520816	204.03	ppb	#	65
46) Bromodichloromethane	5.720	83	1449972	247.34	ppb		98
47) 1,2-Dichloropropane	5.431	63	801260	174.21	ppb	#	90
48) 1,4-Dioxane	5.586	88	194085m	3623.58	ppb		
49) 2-Chloroethyl vinyl ether	5.998	63	565899	191.01	ppb		96
50) 2-nitropropane	6.001	43	484151	187.85	ppb	#	100
51) cis-1,3-Dichloropropene	6.135	75	1413092	216.94	ppb	#	76

Data Path : C:\msdchem\1\data\042523\
Data File : QV432528.D
Acq On : 25 Apr 2023 5:25 pm
Operator : BMC
Sample : SEQ-CAL6
Misc : QBQV40042523A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 27 07:07:07 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4

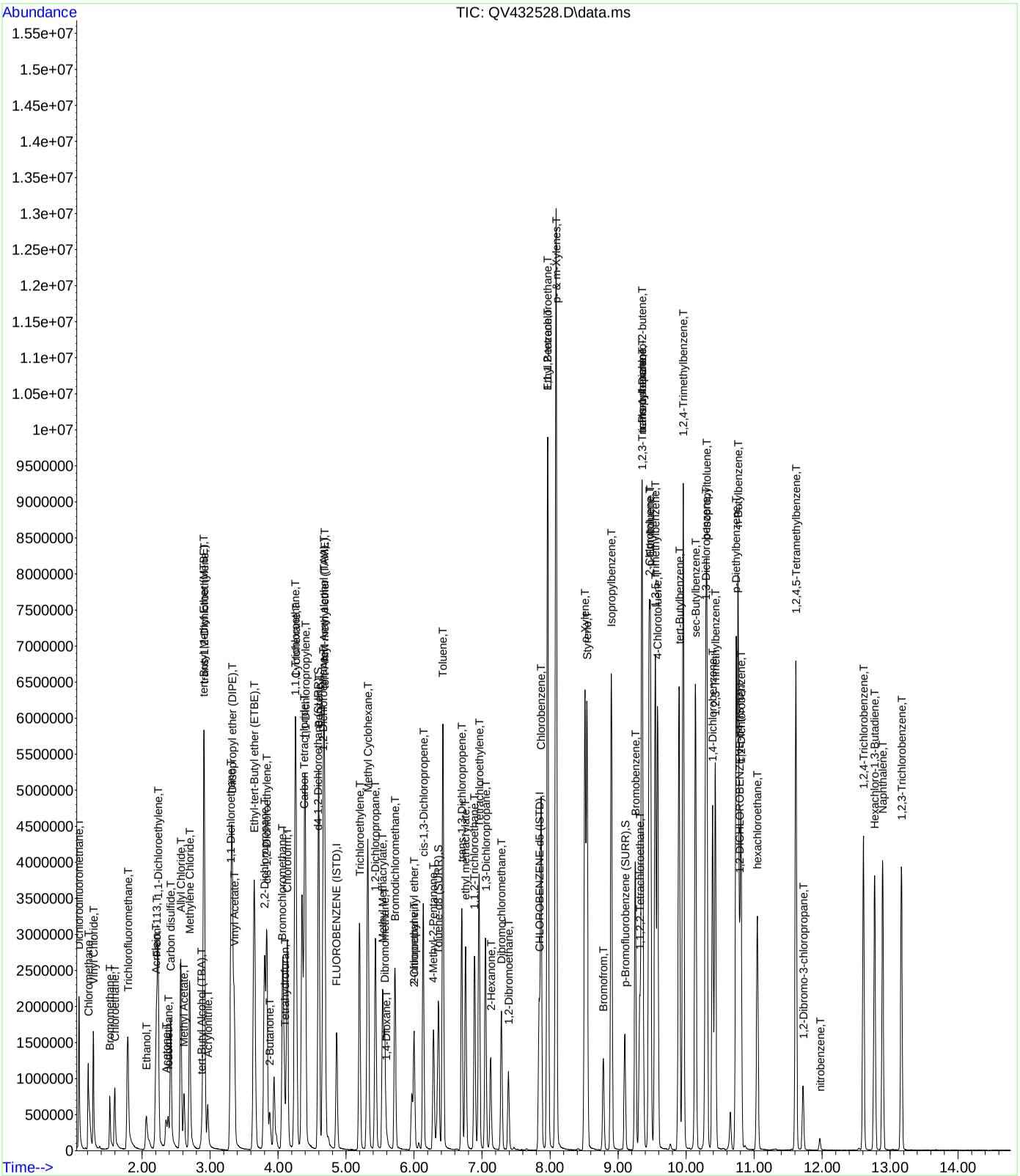
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
52) ethyl methacrylate	6.758	69	1069687	201.12 ppb	#	100
53) 4-Methyl-2-Pentanone	6.285	43	1125390	190.90 ppb		90
55) Toluene	6.424	91	3431995	195.02 ppb		99
56) trans-1,3-Dichloropropene	6.699	75	1516191	252.00 ppb	#	96
57) 1,1,2-Trichloroethane	6.888	97	668956	196.23 ppb	#	86
58) 1,3-Dichloropropane	7.050	76	1254378	195.33 ppb	#	81
59) Tetrachloroethylene	6.955	166	891424	201.78 ppb	#	71
60) 2-Hexanone	7.128	43	846285	199.33 ppb		89
61) Dibromochloromethane	7.284	129	851597	253.68 ppb		97
62) 1,2-Dibromoethane	7.387	107	666993	193.75 ppb		98
63) Chlorobenzene	7.868	112	1893198	183.26 ppb	#	74
64) 1,1,1,2-tetrachloroethane	7.965	131	820436	237.01 ppb	#	49
65) Ethyl Benzene	7.965	91	4518437	217.35 ppb		87
66) p- & m-Xylenes	8.088	91	7502906	448.90 ppb		84
67) o-Xylene	8.513	91	3658854	217.66 ppb		93
68) Styrene	8.544	104	2332502	198.25 ppb	#	100
69) Bromofrom	8.783	173	515804	225.55 ppb	#	80
71) p-Ethyltoluene	9.476	105	3913203	219.27 ppb	#	97
72) Isopropylbenzene	8.900	105	4001971	217.75 ppb	#	88
74) 1,1,2,2-Tetrachloroethane	9.317	83	838486	199.91 ppb	#	100
75) Bromobenzene	9.251	77	1701545	220.77 ppb	#	69
76) trans-1,4-Dichloro-2-b...	9.351	75	1138251	230.42 ppb	#	36
77) 1,2,3-Trichloropropane	9.348	110	315121	231.74 ppb		97
78) n-Propylbenzene	9.351	91	5308013	229.23 ppb		91
79) 2-Chlorotoluene	9.457	91	3788911	237.22 ppb		95
80) 4-Chlorotoluene	9.579	91	3426846	236.40 ppb		80
81) 1,3,5-Trimethylbenzene	9.548	105	3571990	225.91 ppb		85
82) tert-Butylbenzene	9.899	119	2805992	220.33 ppb	#	70
83) 1,2,4-Trimethylbenzene	9.960	105	3530420	223.71 ppb		82
84) sec-Butylbenzene	10.138	105	4253723	211.16 ppb	#	88
85) hexachloroethane	11.048	117	621328	209.72 ppb	#	100
86) 1,3-Dichlorobenzene	10.288	146	1469265	214.60 ppb	#	82
87) p-Isopropyltoluene	10.305	119	3668985	224.71 ppb	#	88
88) 1,4-Dichlorobenzene	10.391	146	1429584	204.07 ppb	#	81
89) 1,2,3-Trimethylbenzene	10.430	105	2840068	204.58 ppb	#	86
90) nitrobenzene	11.966	77	57637	191.45 ppb	#	100
91) p-Diethylbenzene	10.736	105	2186410	217.80 ppb	#	22
92) 1,2-Dichlorobenzene	10.806	146	1319577m	206.88 ppb		
93) n-Butylbenzene	10.764	91	4976932	230.31 ppb	#	88
94) 1,2-Dibromo-3-chloropr...	11.721	75	259146	265.09 ppb	#	69
95) 1,2,4,5-Tetramethylben...	11.616	119	3489478	227.33 ppb	#	86
96) 1,2,4-Trichlorobenzene	12.609	180	1116661	217.89 ppb	#	100
97) Hexachloro-1,3-Butadiene	12.773	225	736224	222.44 ppb		86
98) Naphthalene	12.890	128	2627585	201.47 ppb		99
99) 1,2,3-Trichlorobenzene	13.165	180	1012888	214.99 ppb		77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432528.D
Acq On : 25 Apr 2023 5:25 pm
Operator : BMC
Sample : SEQ-CAL6
Misc : QBQV40042523A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 27 07:07:07 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Thu Feb 02 08:06:08 2023
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130858.D
Acq On : 8 May 2023 3:24 pm
Operator : BMC
Sample : SEQ-CAL1
Misc : QBQV1050823A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 09 12:20:16 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:18:50 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	208127	50.00	ppb	#	0.00
44) CHLOROBENZENE-d5 (ISTD)	7.742	117	791629	50.00	ppb	#	0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	342706	50.00	ppb		0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.484	65	335349	50.99	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 101.98%				
57) Toluene-d8 (SURR)	6.287	98	1007601	50.09	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.18%				
80) p-Bromofluorobenzene (...	8.997	95	414307	52.86	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 105.72%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	19822m	5.18	ppb		
3) Freon-22	1.151	51	22344m	4.89	ppb		
4) Chloromethane	1.277	50	25925m	5.24	ppb		
5) Vinyl Chloride	1.304	62	21760m	4.90	ppb		
6) Bromomethane	1.530	94	8878m	5.54	ppb		
7) Ethyl Ether	2.056	59	14680	48.77	ppb	#	86
8) Allyl Chloride	2.537	76	11993	5.09	ppb	#	100
9) Chloroethane	1.602	64	11357m	5.16	ppb		
10) Trichlorofluoromethane	1.802	101	28303	4.78	ppb		98
11) Ethanol	2.014	45	12549	243.26	ppb		82
12) Freon-113	2.231	101	14440	4.65	ppb	#	93
13) 1,1-Dichloroethylene	2.225	61	31102	5.35	ppb		85
14) Acrolein	2.164	56	3695	4.80	ppb		95
15) Acetone	2.303	43	14250	6.27	ppb	#	44
16) Iodomethane	2.350	142	15547	4.95	ppb	#	52
17) Methyl Acetate	2.579	43	19984	4.50	ppb		97
18) Carbon disulfide	2.398	76	63118	5.74	ppb		100
19) tert-Butyl Alcohol (TBA)	2.798	59	3088	4.51	ppb	#	1
20) Methylene Chloride	2.645	49	31493	5.35	ppb		88
21) Acrylonitrile	2.874	53	12023	4.96	ppb		98
22) trans-1,2-Dichloroethy...	2.874	61	33101	5.21	ppb		93
23) tert-Butyl Methyl Ethe...	2.896	73	60766	5.23	ppb		99
24) n-Hexane	3.110	57	35047	4.93	ppb		98
25) 1,1-Dichloroethane	3.244	63	40257	5.27	ppb	#	96
26) Vinyl Acetate	3.310	43	80196	5.03	ppb		100
27) Diisopropyl ether (DIPE)	3.321	45	82460	5.80	ppb		97
28) Ethyl-tert-Butyl ether...	3.641	59	81845	5.92	ppb	#	79
29) cis-1,2-Dichloroethylene	3.753	61	37607	5.22	ppb		92
30) 2-Butanone	3.789	72	3940	5.00	ppb		89
31) 2,2-Dichloropropane	3.750	77	29252	5.13	ppb		95
32) Tetrahydrofuran	4.020	42	10954m	5.47	ppb		
33) Bromochloromethane	3.964	49	20840	5.40	ppb		83
34) Chloroform	4.042	83	39498	5.55	ppb	#	93
35) 1,1,1-Trichloroethane	4.195	97	29487	5.10	ppb	#	85
36) Cyclohexane	4.237	56	35308	4.61	ppb		93
37) 1,1-Dichloropropylene	4.345	75	29667	5.26	ppb	#	65
39) Carbon Tetrachloride	4.340	117	19286	4.63	ppb		98
40) tert-Amyl alcohol (TAA)	4.582	59	31438	49.97	ppb	#	100
41) 1,2-Dichloroethane	4.554	62	30240	5.09	ppb		99
42) Benzene	4.529	78	86640	5.34	ppb	#	94
43) tert-Amyl methyl ether...	4.649	73	69153	10.61	ppb		98
45) Trichloroethylene	5.124	95	22233	5.39	ppb		83
46) Methyl Cyclohexane	5.297	83	34796	4.64	ppb	#	81
47) Methyl Methacrylate	5.467	69	17836	4.96	ppb	#	98
48) Dibromomethane	5.447	93	13944	5.28	ppb		93
49) Bromodichloromethane	5.603	83	25855	5.11	ppb		97
50) 1,2-Dichloropropane	5.339	63	21939	4.99	ppb	#	99
51) 1,4-Dioxane	5.486	88	8664m	98.76	ppb		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130858.D
Acq On : 8 May 2023 3:24 pm
Operator : BMC
Sample : SEQ-CAL1
Misc : QBQV1050823A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 09 12:20:16 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:18:50 2023
Response via : Initial Calibration
InstName : QVOA1

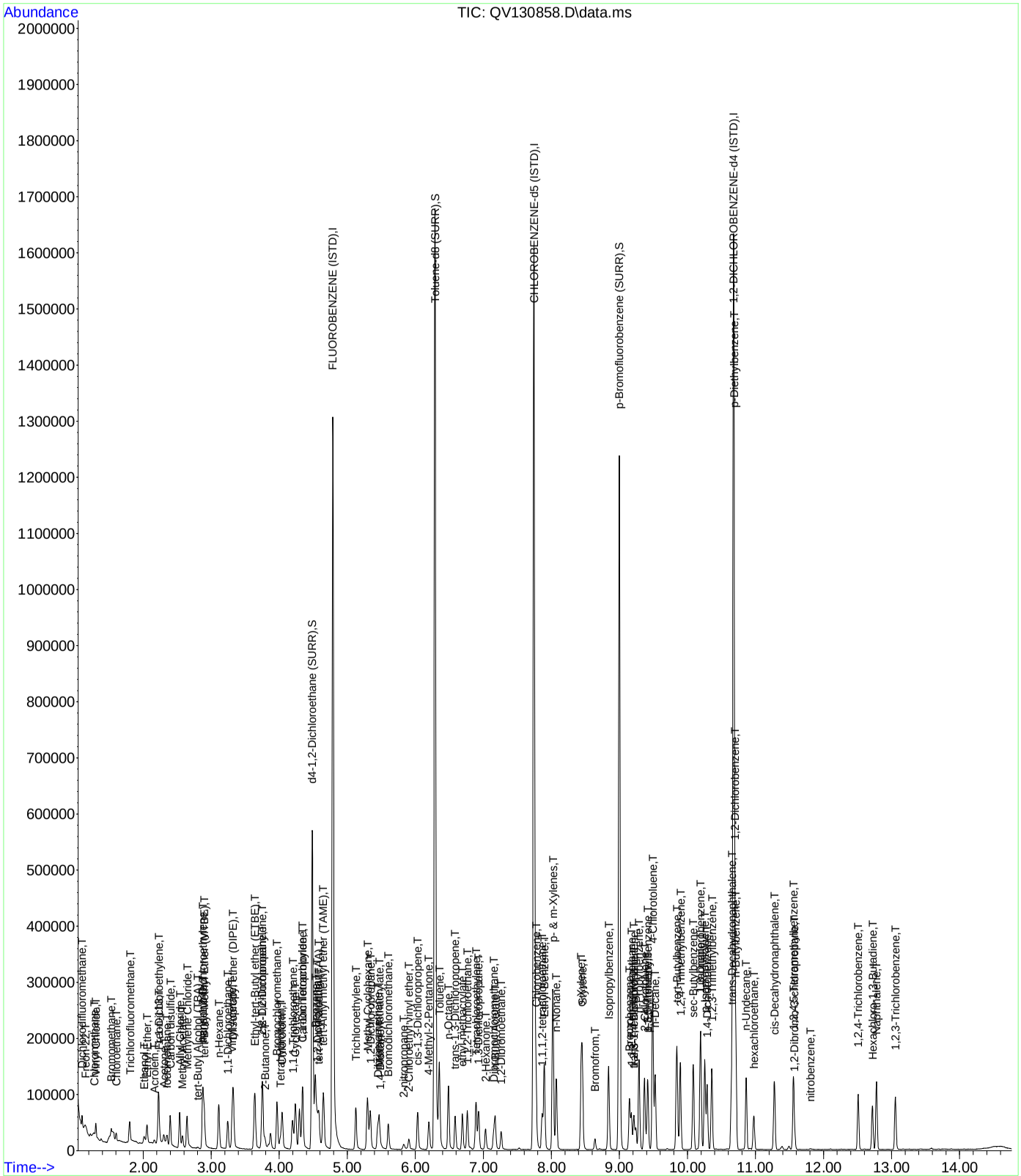
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52)	2-Chloroethyl vinyl ether	5.903	63	6659	8.23	ppb		97
53)	2-nitropropane	5.828	43	3594m	3.62	ppb		
54)	cis-1,3-Dichloropropene	6.034	75	33093	5.10	ppb		95
55)	ethyl methacrylate	6.691	69	29595	4.90	ppb	#	100
56)	4-Methyl-2-Pentanone	6.198	43	36843	4.99	ppb	#	84
58)	Toluene	6.351	91	93006	5.43	ppb		100
59)	n-Octane	6.485	43	49175	4.94	ppb		91
60)	trans-1,3-Dichloropropene	6.585	75	28526	4.86	ppb		99
61)	1,1,2-Trichloroethane	6.763	97	19635	5.46	ppb		96
62)	1,3-Dichloropropane	6.930	76	34764	5.39	ppb	#	73
63)	Tetrachloroethylene	6.894	166	20440	5.04	ppb	#	71
64)	2-Hexanone	7.033	43	23731	5.14	ppb		98
65)	n-Butyl Acetate	7.175	43	36434	4.45	ppb		95
66)	Dibromochloromethane	7.153	129	14657	4.51	ppb		99
67)	1,2-Dibromoethane	7.261	107	19218	5.17	ppb		100
68)	Chlorobenzene	7.773	112	53779	5.42	ppb	#	56
69)	1,1,1,2-tetrachloroethane	7.865	131	13576	4.59	ppb	#	37
70)	Ethyl Benzene	7.895	91	103880	5.41	ppb		96
71)	p- & m-Xylenes	8.021	91	159819	10.68	ppb		95
72)	o-Xylene	8.438	91	80073	5.30	ppb		98
73)	Styrene	8.455	104	63144	5.18	ppb	#	100
74)	n-Nonane	8.071	43	45184	4.88	ppb		94
75)	Bromofrom	8.641	173	7437	4.07	ppb	#	80
77)	p-Ethyltoluene	9.415	105	80815	4.91	ppb	#	97
78)	n-Decane	9.526	57	46478	5.18	ppb		94
79)	Isopropylbenzene	8.839	105	94982	5.63	ppb		95
81)	1,1,2,2-Tetrachloroethane	9.175	83	27601	5.52	ppb	#	100
82)	Bromobenzene	9.147	77	39918	5.67	ppb		76
83)	trans-1,4-Dichloro-2-b...	9.211	75	29484	5.14	ppb		95
84)	1,2,3-Trichloropropane	9.211	110	8595	5.66	ppb		69
85)	n-Propylbenzene	9.287	91	120507	5.68	ppb		96
86)	2-Chlorotoluene	9.367	91	69414	5.67	ppb		100
87)	4-Chlorotoluene	9.490	91	83897	5.70	ppb		81
88)	1,3,5-Trimethylbenzene	9.415	105	80815	4.91	ppb	#	77
89)	tert-Butylbenzene	9.840	119	71346	5.42	ppb		93
90)	1,2,4-Trimethylbenzene	9.896	105	82711	5.61	ppb		91
91)	sec-Butylbenzene	10.085	105	104839	5.58	ppb		95
92)	Limonene	10.196	68	26411	4.89	ppb	#	95
93)	trans-Decahydronaphtha...	10.650	67	24939	5.18	ppb	#	87
94)	hexachloroethane	10.975	117	6504	3.67	ppb	#	100
95)	1,3-Dichlorobenzene	10.188	146	39720	5.46	ppb	#	92
96)	p-Isopropyltoluene	10.255	119	86870	5.55	ppb		95
97)	1,4-Dichlorobenzene	10.288	146	40459m	5.54	ppb		
98)	1,2,3-Trimethylbenzene	10.358	105	78382	4.90	ppb		96
99)	n-Undecane	10.861	57	44664	5.31	ppb		96
100)	nitrobenzene	11.807	77	525	4.58	ppb	#	100
101)	p-Diethylbenzene	10.686	105	47509	4.85	ppb		85
102)	1,2-Dichlorobenzene	10.697	146	37742	5.38	ppb	#	88
103)	n-Butylbenzene	10.711	91	109148	5.46	ppb		95
104)	cis-Decahydronaphthalene	11.279	96	18890	4.93	ppb		88
105)	1,2-Dibromo-3-chloropr...	11.574	75	5551	4.68	ppb	#	75
106)	1,2,4,5-Tetramethylben...	11.557	119	64749	4.63	ppb		93
107)	1,2,4-Trichlorobenzene	12.508	180	24979	5.33	ppb	#	100
108)	Hexachloro-1,3-Butadiene	12.720	225	12893	5.37	ppb		88
109)	Naphthalene	12.778	128	86366	5.48	ppb		99
110)	1,2,3-Trichlorobenzene	13.057	180	24270	5.40	ppb		78

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130858.D
Acq On : 8 May 2023 3:24 pm
Operator : BMC
Sample : SEQ-CAL1
Misc : QBQV1050823A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 09 12:20:16 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:18:50 2023
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130859.D
Acq On : 8 May 2023 3:50 pm
Operator : BMC
Sample : SEQ-CAL2
Misc : QBQV1050823A
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 09 12:22:41 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	205511	50.00	ppb	#	0.00
44) CHLOROBENZENE-d5 (ISTD)	7.742	117	785222	50.00	ppb	#	0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	343910	50.00	ppb		0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.487	65	334161	51.46	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 102.92%				
57) Toluene-d8 (SURR)	6.287	98	999355	50.09	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.18%				
80) p-Bromofluorobenzene (...	8.997	95	411901	52.37	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 104.74%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	38435m	10.18	ppb		
3) Freon-22	1.151	51	43945m	9.79	ppb		
4) Chloromethane	1.277	50	51711m	10.58	ppb		
5) Vinyl Chloride	1.304	62	45182m	10.32	ppb		
6) Bromomethane	1.530	94	15317m	9.74	ppb		
7) Ethyl Ether	2.056	59	28413	95.60	ppb	#	76
8) Allyl Chloride	2.537	76	23689	10.19	ppb	#	100
9) Chloroethane	1.599	64	21230m	9.76	ppb		
10) Trichlorofluoromethane	1.800	101	57083	9.76	ppb		98
11) Ethanol	2.019	45	26120	512.78	ppb		82
12) Freon-113	2.228	101	32791	10.70	ppb	#	92
13) 1,1-Dichloroethylene	2.225	61	61858	10.78	ppb		86
14) Acrolein	2.164	56	8155	10.72	ppb		96
15) Acetone	2.306	43	23154	10.32	ppb	#	43
16) Iodomethane	2.350	142	31241m	10.08	ppb		
17) Methyl Acetate	2.579	43	45016	10.27	ppb		96
18) Carbon disulfide	2.398	76	124142	11.43	ppb		100
19) tert-Butyl Alcohol (TBA)	2.804	59	6638	9.83	ppb	#	1
20) Methylene Chloride	2.643	49	62099	10.69	ppb		88
21) Acrylonitrile	2.874	53	24865	10.39	ppb		96
22) trans-1,2-Dichloroethy...	2.874	61	65163	10.39	ppb		92
23) tert-Butyl Methyl Ethe...	2.896	73	116421	10.14	ppb		99
24) n-Hexane	3.110	57	67873	9.68	ppb		96
25) 1,1-Dichloroethane	3.244	63	80146	10.63	ppb	#	99
26) Vinyl Acetate	3.308	43	163038	10.35	ppb		100
27) Diisopropyl ether (DIPE)	3.324	45	137436	9.80	ppb		97
28) Ethyl-tert-Butyl ether...	3.641	59	134358	9.85	ppb	#	97
29) cis-1,2-Dichloroethylene	3.753	61	72834	10.24	ppb		92
30) 2-Butanone	3.789	72	7894	10.15	ppb		92
31) 2,2-Dichloropropane	3.747	77	56053	9.95	ppb	#	77
32) Tetrahydrofuran	4.020	42	20958m	10.56	ppb		
33) Bromochloromethane	3.964	49	40414	10.60	ppb		84
34) Chloroform	4.045	83	74438	10.59	ppb	#	92
35) 1,1,1-Trichloroethane	4.195	97	57706	10.12	ppb	#	73
36) Cyclohexane	4.237	56	80356	10.63	ppb		92
37) 1,1-Dichloropropylene	4.345	75	57660	10.35	ppb	#	66
39) Carbon Tetrachloride	4.343	117	37803	9.20	ppb	#	91
40) tert-Amyl alcohol (TAA)	4.582	59	55129	88.75	ppb	#	100
41) 1,2-Dichloroethane	4.554	62	61989	10.57	ppb		99
42) Benzene	4.532	78	167598	10.46	ppb	#	96
43) tert-Amyl methyl ether...	4.649	73	115341m	18.10	ppb		
45) Trichloroethylene	5.127	95	43652	10.67	ppb		82
46) Methyl Cyclohexane	5.297	83	79142	10.63	ppb	#	82
47) Methyl Methacrylate	5.469	69	35705	10.01	ppb	#	81
48) Dibromomethane	5.444	93	27299	10.41	ppb		93
49) Bromodichloromethane	5.603	83	49845	9.93	ppb		97
50) 1,2-Dichloropropane	5.339	63	46660	10.70	ppb	#	99
51) 1,4-Dioxane	5.483	88	19359m	222.54	ppb		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130859.D
Acq On : 8 May 2023 3:50 pm
Operator : BMC
Sample : SEQ-CAL2
Misc : QBQV1050823A
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 09 12:22:41 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

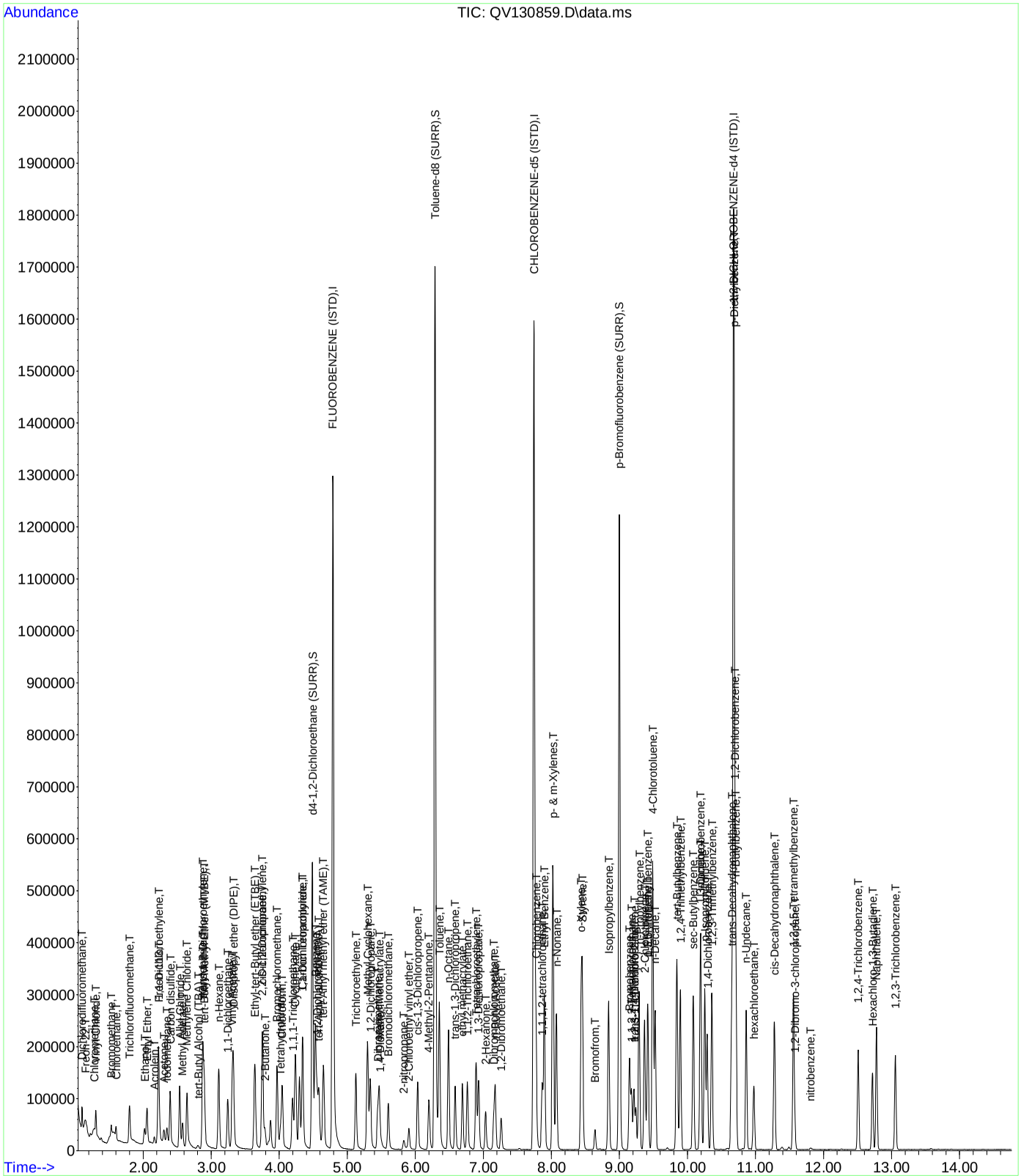
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 2-Chloroethyl vinyl ether	5.906	63	14878	18.53	ppb		97
53) 2-nitropropane	5.831	43	7102m	7.22	ppb		
54) cis-1,3-Dichloropropene	6.034	75	64309	9.99	ppb		95
55) ethyl methacrylate	6.691	69	59210	9.87	ppb	#	100
56) 4-Methyl-2-Pentanone	6.198	43	70769	9.66	ppb	#	84
58) Toluene	6.354	91	179695	10.57	ppb		100
59) n-Octane	6.488	43	97441	9.86	ppb		93
60) trans-1,3-Dichloropropene	6.585	75	56488	9.70	ppb		99
61) 1,1,2-Trichloroethane	6.766	97	37204	10.43	ppb		95
62) 1,3-Dichloropropane	6.930	76	67477	10.55	ppb	#	73
63) Tetrachloroethylene	6.894	166	41000	10.20	ppb	#	72
64) 2-Hexanone	7.033	43	46714	10.21	ppb		97
65) n-Butyl Acetate	7.175	43	74364	9.15	ppb		99
66) Dibromochloromethane	7.153	129	29585	9.19	ppb		99
67) 1,2-Dibromoethane	7.261	107	38133	10.34	ppb		98
68) Chlorobenzene	7.773	112	102417	10.41	ppb	#	83
69) 1,1,1,2-tetrachloroethane	7.865	131	27994	9.55	ppb	#	35
70) Ethyl Benzene	7.895	91	201333	10.57	ppb		97
71) p- & m-Xylenes	8.021	91	310302	20.91	ppb		95
72) o-Xylene	8.438	91	155963	10.42	ppb		97
73) Styrene	8.455	104	123716	10.24	ppb	#	100
74) n-Nonane	8.074	43	92826	10.10	ppb		93
75) Bromofrom	8.641	173	14934	8.25	ppb	#	80
77) p-Ethyltoluene	9.417	105	183323	11.09	ppb	#	97
78) n-Decane	9.526	57	94255	10.46	ppb		94
79) Isopropylbenzene	8.841	105	183848	10.85	ppb		95
81) 1,1,2,2-Tetrachloroethane	9.178	83	53029	10.57	ppb	#	100
82) Bromobenzene	9.147	77	77009	10.91	ppb		76
83) trans-1,4-Dichloro-2-b...	9.214	75	59333m	10.29	ppb		
84) 1,2,3-Trichloropropane	9.214	110	16167	10.60	ppb	#	54
85) n-Propylbenzene	9.289	91	234809	11.03	ppb		96
86) 2-Chlorotoluene	9.367	91	133883	10.90	ppb		100
87) 4-Chlorotoluene	9.490	91	159774	10.81	ppb		81
88) 1,3,5-Trimethylbenzene	9.417	105	183323	11.09	ppb	#	77
89) tert-Butylbenzene	9.840	119	140115	10.61	ppb		93
90) 1,2,4-Trimethylbenzene	9.896	105	160407	10.83	ppb		91
91) sec-Butylbenzene	10.085	105	204368	10.84	ppb		95
92) Limonene	10.196	68	54687	10.09	ppb	#	94
93) trans-Decahydronaphtha...	10.650	67	49056	10.16	ppb	#	88
94) hexachloroethane	10.975	117	14463	8.12	ppb	#	100
95) 1,3-Dichlorobenzene	10.188	146	77325	10.59	ppb		92
96) p-Isopropyltoluene	10.255	119	168793	10.75	ppb		95
97) 1,4-Dichlorobenzene	10.291	146	78399m	10.71	ppb		
98) 1,2,3-Trimethylbenzene	10.358	105	162659	10.14	ppb		96
99) n-Undecane	10.864	57	91369	10.82	ppb		96
100) nitrobenzene	11.805	77	1050	9.12	ppb	#	100
101) p-Diethylbenzene	10.686	105	105807	10.76	ppb		94
102) 1,2-Dichlorobenzene	10.700	146	73364	10.42	ppb		95
103) n-Butylbenzene	10.711	91	217245	10.83	ppb		96
104) cis-Decahydronaphthalene	11.279	96	38119	9.92	ppb		89
105) 1,2-Dibromo-3-chloropr...	11.576	75	11644	9.78	ppb	#	36
106) 1,2,4,5-Tetramethylben...	11.557	119	149114	10.62	ppb		94
107) 1,2,4-Trichlorobenzene	12.508	180	49767	10.59	ppb	#	100
108) Hexachloro-1,3-Butadiene	12.720	225	24548	10.19	ppb		86
109) Naphthalene	12.778	128	164889	10.43	ppb		100
110) 1,2,3-Trichlorobenzene	13.057	180	46226	10.24	ppb		80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130859.D
Acq On : 8 May 2023 3:50 pm
Operator : BMC
Sample : SEQ-CAL2
Misc : QBQV1050823A
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 09 12:22:41 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130860.D
Acq On : 8 May 2023 4:17 pm
Operator : BMC
Sample : SEQ-CAL3
Misc : QBQV1050823A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 09 12:22:45 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	203023	50.00	ppb	#	0.00
44) CHLOROBENZENE-d5 (ISTD)	7.743	117	770379	50.00	ppb	#	0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	341074	50.00	ppb		0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.487	65	316378	49.32	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.64%				
57) Toluene-d8 (SURR)	6.287	98	985598	50.35	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.70%				
80) p-Bromofluorobenzene (...	8.997	95	403794	51.77	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 103.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	74851m	20.07	ppb		
3) Freon-22	1.160	51	89865m	20.27	ppb		
4) Chloromethane	1.282	50	97763m	20.24	ppb		
5) Vinyl Chloride	1.305	62	88046	20.36	ppb		96
6) Bromomethane	1.530	94	30824m	19.83	ppb		
7) Ethyl Ether	2.056	59	58927	200.70	ppb	#	81
8) Allyl Chloride	2.537	76	41050	17.87	ppb	#	100
9) Chloroethane	1.602	64	42537m	19.80	ppb		
10) Trichlorofluoromethane	1.800	101	115325	19.96	ppb		98
11) Ethanol	2.014	45	52324	1039.80	ppb		82
12) Freon-113	2.228	101	56637	18.71	ppb	#	92
13) 1,1-Dichloroethylene	2.225	61	105432	18.60	ppb		88
14) Acrolein	2.161	56	13668	18.18	ppb		97
15) Acetone	2.303	43	41090	18.53	ppb	#	42
16) Iodomethane	2.348	142	58890	19.24	ppb	#	20
17) Methyl Acetate	2.579	43	76956	17.77	ppb		97
18) Carbon disulfide	2.398	76	210477	19.62	ppb		100
19) tert-Butyl Alcohol (TBA)	2.804	59	11343	17.00	ppb	#	1
20) Methylene Chloride	2.643	49	104096	18.15	ppb		90
21) Acrylonitrile	2.871	53	42978	18.17	ppb		96
22) trans-1,2-Dichloroethy...	2.874	61	114587	18.50	ppb		92
23) tert-Butyl Methyl Ethe...	2.896	73	204681	18.05	ppb		99
24) n-Hexane	3.110	57	138172	19.94	ppb		97
25) 1,1-Dichloroethane	3.244	63	135603	18.20	ppb	#	99
26) Vinyl Acetate	3.311	43	282861	18.17	ppb		100
27) Diisopropyl ether (DIPE)	3.324	45	259311	18.71	ppb	#	95
28) Ethyl-tert-Butyl ether...	3.642	59	250863	18.62	ppb	#	97
29) cis-1,2-Dichloroethylene	3.753	61	129562	18.44	ppb		92
30) 2-Butanone	3.789	72	14996	19.52	ppb		88
31) 2,2-Dichloropropane	3.750	77	101150	18.18	ppb	#	77
32) Tetrahydrofuran	4.017	42	35621	18.18	ppb		87
33) Bromochloromethane	3.964	49	69337	18.42	ppb		83
34) Chloroform	4.042	83	125874	18.12	ppb	#	93
35) 1,1,1-Trichloroethane	4.195	97	101000	17.92	ppb	#	85
36) Cyclohexane	4.237	56	137667	18.44	ppb		93
37) 1,1-Dichloropropylene	4.346	75	100119	18.19	ppb	#	69
39) Carbon Tetrachloride	4.340	117	68867	16.96	ppb		99
40) tert-Amyl alcohol (TAA)	4.582	59	107584	175.32	ppb	#	100
41) 1,2-Dichloroethane	4.554	62	106238	18.34	ppb		99
42) Benzene	4.532	78	291058	18.40	ppb	#	97
43) tert-Amyl methyl ether...	4.649	73	214226	34.04	ppb	#	89
45) Trichloroethylene	5.127	95	72888	18.15	ppb		84
46) Methyl Cyclohexane	5.297	83	136685	18.72	ppb	#	81
47) Methyl Methacrylate	5.467	69	64267	18.36	ppb	#	98
48) Dibromomethane	5.444	93	47302	18.39	ppb		93
49) Bromodichloromethane	5.603	83	88081	17.88	ppb		99
50) 1,2-Dichloropropane	5.339	63	79874	18.66	ppb	#	99
51) 1,4-Dioxane	5.483	88	31407m	367.99	ppb		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130860.D
Acq On : 8 May 2023 4:17 pm
Operator : BMC
Sample : SEQ-CAL3
Misc : QBQV1050823A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 09 12:22:45 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

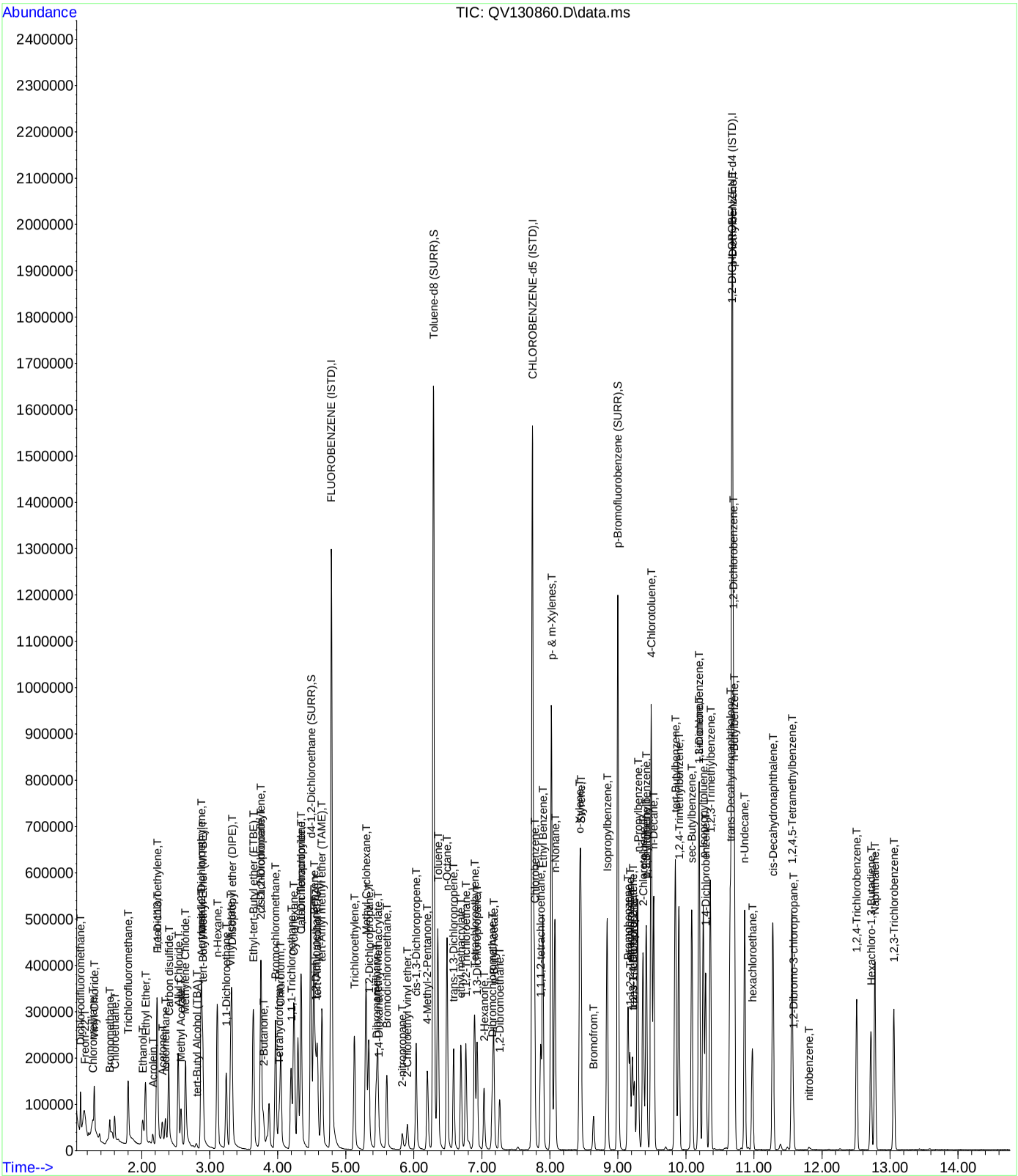
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52)	2-Chloroethyl vinyl ether	5.906	63	19767	25.09	ppb		98
53)	2-nitropropane	5.828	43	14772m	15.31	ppb		
54)	cis-1,3-Dichloropropene	6.034	75	115178	18.23	ppb		95
55)	ethyl methacrylate	6.691	69	106895	18.17	ppb	#	100
56)	4-Methyl-2-Pentanone	6.198	43	125795	17.51	ppb	#	84
58)	Toluene	6.354	91	308439	18.50	ppb		100
59)	n-Octane	6.488	43	195476	20.16	ppb		92
60)	trans-1,3-Dichloropropene	6.585	75	102512	17.94	ppb		98
61)	1,1,2-Trichloroethane	6.766	97	64346	18.38	ppb		95
62)	1,3-Dichloropropane	6.930	76	114563	18.25	ppb	#	73
63)	Tetrachloroethylene	6.894	166	71688	18.18	ppb	#	72
64)	2-Hexanone	7.030	43	82670	18.41	ppb		97
65)	n-Butyl Acetate	7.175	43	158986	19.94	ppb		96
66)	Dibromochloromethane	7.153	129	54299	17.18	ppb		98
67)	1,2-Dibromoethane	7.261	107	66953	18.50	ppb		98
68)	Chlorobenzene	7.773	112	177197	18.36	ppb		88
69)	1,1,1,2-tetrachloroethane	7.865	131	50552	17.57	ppb	#	55
70)	Ethyl Benzene	7.896	91	343812	18.40	ppb		97
71)	p- & m-Xylenes	8.024	91	535469	36.77	ppb		95
72)	o-Xylene	8.438	91	269590	18.35	ppb		98
73)	Styrene	8.455	104	214702	18.11	ppb	#	100
74)	n-Nonane	8.074	43	182256	20.21	ppb		94
75)	Bromofrom	8.641	173	28969	16.30	ppb	#	80
77)	p-Ethyltoluene	9.418	105	317788	19.38	ppb	#	97
78)	n-Decane	9.526	57	188786	21.13	ppb		96
79)	Isopropylbenzene	8.842	105	319512	19.02	ppb		96
81)	1,1,2,2-Tetrachloroethane	9.175	83	93479	18.80	ppb	#	100
82)	Bromobenzene	9.148	77	132626	18.94	ppb		77
83)	trans-1,4-Dichloro-2-b...	9.214	75	106426m	18.62	ppb		
84)	1,2,3-Trichloropropane	9.214	110	28555	18.88	ppb	#	51
85)	n-Propylbenzene	9.290	91	400671	18.97	ppb		96
86)	2-Chlorotoluene	9.367	91	231655	19.01	ppb		99
87)	4-Chlorotoluene	9.490	91	275252	18.78	ppb		81
88)	1,3,5-Trimethylbenzene	9.418	105	317788	19.38	ppb	#	77
89)	tert-Butylbenzene	9.843	119	243878	18.62	ppb		93
90)	1,2,4-Trimethylbenzene	9.896	105	277564	18.90	ppb		91
91)	sec-Butylbenzene	10.085	105	354701	18.97	ppb		95
92)	Limonene	10.197	68	109001	20.28	ppb	#	94
93)	trans-Decahydronaphtha...	10.650	67	98683	20.61	ppb	#	88
94)	hexachloroethane	10.976	117	27722	15.70	ppb	#	100
95)	1,3-Dichlorobenzene	10.188	146	134104	18.52	ppb		92
96)	p-Isopropyltoluene	10.255	119	292852	18.81	ppb		95
97)	1,4-Dichlorobenzene	10.288	146	135217m	18.62	ppb		
98)	1,2,3-Trimethylbenzene	10.358	105	325501	20.45	ppb		96
99)	n-Undecane	10.861	57	183055	21.86	ppb		96
100)	nitrobenzene	11.805	77	1880	16.47	ppb	#	100
101)	p-Diethylbenzene	10.686	105	185977	19.07	ppb		96
102)	1,2-Dichlorobenzene	10.697	146	129151	18.49	ppb	#	87
103)	n-Butylbenzene	10.711	91	372599	18.72	ppb		98
104)	cis-Decahydronaphthalene	11.279	96	78157	20.51	ppb		90
105)	1,2-Dibromo-3-chloropr...	11.577	75	21149	17.90	ppb	#	36
106)	1,2,4,5-Tetramethylben...	11.557	119	260852	18.74	ppb		94
107)	1,2,4-Trichlorobenzene	12.509	180	85039	18.24	ppb	#	100
108)	Hexachloro-1,3-Butadiene	12.720	225	42895	17.95	ppb		84
109)	Naphthalene	12.778	128	290631	18.53	ppb		99
110)	1,2,3-Trichlorobenzene	13.057	180	82344	18.40	ppb		79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130860.D
Acq On : 8 May 2023 4:17 pm
Operator : BMC
Sample : SEQ-CAL3
Misc : QBQV1050823A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 09 12:22:45 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130861.D
Acq On : 8 May 2023 4:46 pm
Operator : BMC
Sample : SEQ-CAL4
Misc : QBQV1050823A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 09 12:22:49 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	201692	50.00	ppb		# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.743	117	774208	50.00	ppb		# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	355385	50.00	ppb		# 0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.487	65	315217	49.46	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.92%				
57) Toluene-d8 (SURR)	6.290	98	982107	49.92	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.84%				
80) p-Bromofluorobenzene (...	9.000	95	406758	50.05	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 100.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	183803m	49.60	ppb		
3) Freon-22	1.154	51	214892m	48.80	ppb		
4) Chloromethane	1.282	50	237707m	49.53	ppb		
5) Vinyl Chloride	1.305	62	221759	51.61	ppb		100
6) Bromomethane	1.530	94	72948m	47.25	ppb		
7) Ethyl Ether	2.056	59	150309	515.32	ppb	#	80
8) Allyl Chloride	2.537	76	106555	46.69	ppb	#	100
9) Chloroethane	1.602	64	107628m	50.42	ppb		
10) Trichlorofluoromethane	1.800	101	297510	51.83	ppb		98
11) Ethanol	2.017	45	122313	2446.67	ppb		82
12) Freon-113	2.228	101	155607	51.74	ppb	#	92
13) 1,1-Dichloroethylene	2.225	61	267231	47.45	ppb		90
14) Acrolein	2.164	56	36710	49.16	ppb		96
15) Acetone	2.303	43	111472	50.61	ppb	#	43
16) Iodomethane	2.348	142	152716m	50.22	ppb		
17) Methyl Acetate	2.579	43	219152	50.94	ppb		97
18) Carbon disulfide	2.398	76	490627	46.04	ppb		100
19) tert-Butyl Alcohol (TBA)	2.807	59	33455	50.47	ppb	#	1
20) Methylene Chloride	2.643	49	273312	47.96	ppb		89
21) Acrylonitrile	2.871	53	113755	48.42	ppb	#	88
22) trans-1,2-Dichloroethy...	2.874	61	289146	46.98	ppb		93
23) tert-Butyl Methyl Ethe...	2.896	73	546569	48.51	ppb		99
24) n-Hexane	3.110	57	343006	49.83	ppb		97
25) 1,1-Dichloroethane	3.244	63	350049	47.29	ppb	#	99
26) Vinyl Acetate	3.308	43	743401	48.07	ppb		100
27) Diisopropyl ether (DIPE)	3.324	45	642815	46.68	ppb		97
28) Ethyl-tert-Butyl ether...	3.642	59	619241	46.25	ppb	#	97
29) cis-1,2-Dichloroethylene	3.753	61	331637	47.52	ppb		93
30) 2-Butanone	3.789	72	36463	47.78	ppb		80
31) 2,2-Dichloropropane	3.750	77	261479	47.31	ppb	#	77
32) Tetrahydrofuran	4.017	42	92610	47.57	ppb		88
33) Bromochloromethane	3.964	49	177477	47.45	ppb		84
34) Chloroform	4.045	83	324055	46.95	ppb	#	93
35) 1,1,1-Trichloroethane	4.195	97	268317	47.93	ppb	#	85
36) Cyclohexane	4.237	56	378407	51.02	ppb		92
37) 1,1-Dichloropropylene	4.345	75	257905	47.17	ppb		75
39) Carbon Tetrachloride	4.340	117	194983	48.33	ppb		99
40) tert-Amyl alcohol (TAA)	4.582	59	297016	487.21	ppb	#	100
41) 1,2-Dichloroethane	4.557	62	276042	47.96	ppb	#	86
42) Benzene	4.532	78	743058	47.27	ppb	#	98
43) tert-Amyl methyl ether...	4.649	73	530866	84.90	ppb	#	93
45) Trichloroethylene	5.127	95	189482	46.96	ppb		84
46) Methyl Cyclohexane	5.297	83	376721	51.33	ppb	#	81
47) Methyl Methacrylate	5.470	69	173321	49.28	ppb	#	98
48) Dibromomethane	5.444	93	123770	47.88	ppb		93
49) Bromodichloromethane	5.603	83	239059	48.30	ppb		99
50) 1,2-Dichloropropane	5.339	63	205427	47.76	ppb	#	99
51) 1,4-Dioxane	5.486	88	83301	971.19	ppb		84

Data Path : C:\msdchem\1\data\050823\
Data File : QV130861.D
Acq On : 8 May 2023 4:46 pm
Operator : BMC
Sample : SEQ-CAL4
Misc : QBQV1050823A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 09 12:22:49 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

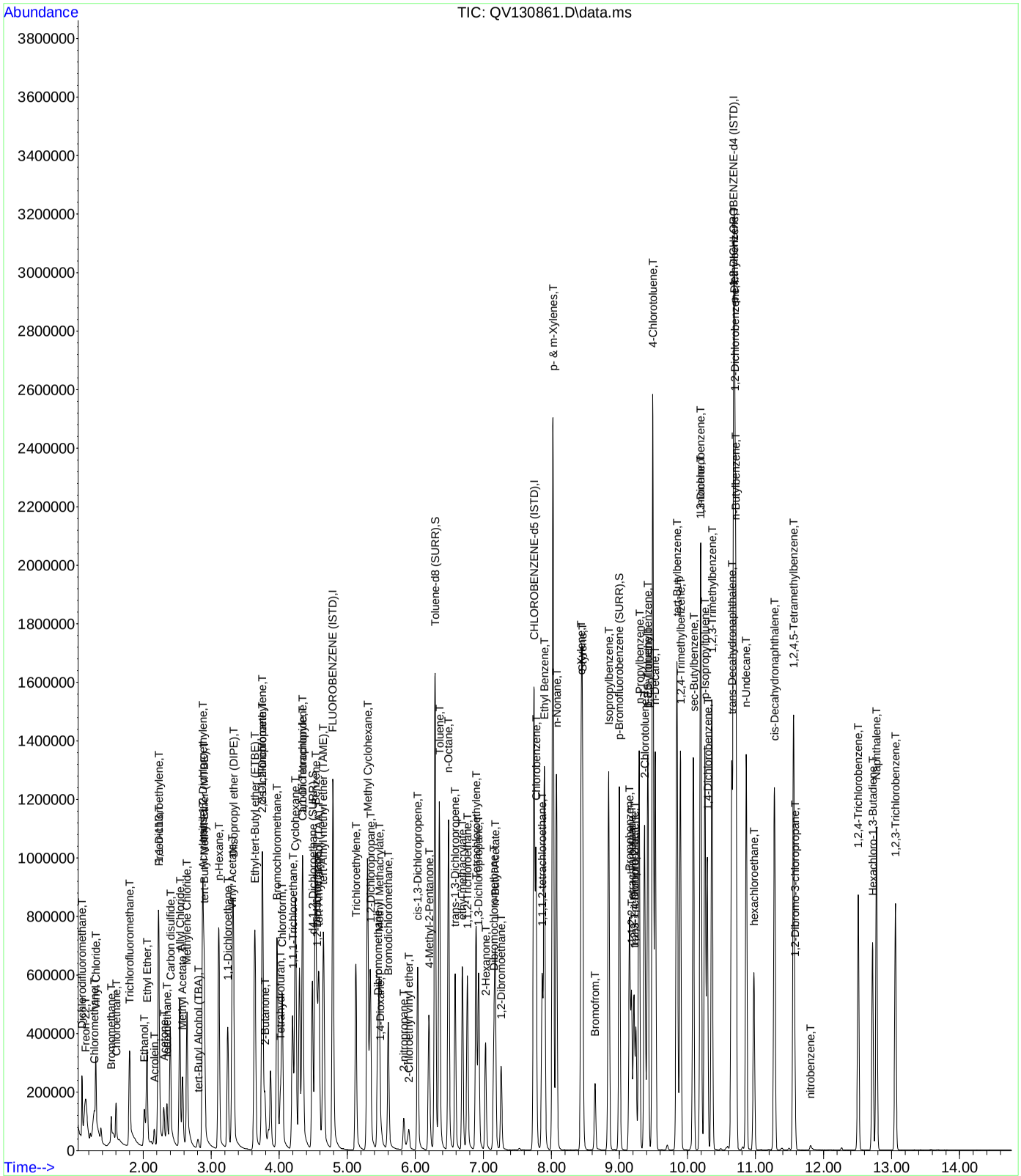
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 2-Chloroethyl vinyl ether	5.906	63	24183	30.54	ppb		97
53) 2-nitropropane	5.831	43	49358m	50.90	ppb		
54) cis-1,3-Dichloropropene	6.034	75	309151	48.69	ppb		96
55) ethyl methacrylate	6.691	69	293754	49.68	ppb	#	100
56) 4-Methyl-2-Pentanone	6.201	43	351425	48.67	ppb		88
58) Toluene	6.354	91	785298	46.86	ppb		100
59) n-Octane	6.488	43	485454	49.83	ppb		92
60) trans-1,3-Dichloropropene	6.585	75	282826	49.26	ppb		99
61) 1,1,2-Trichloroethane	6.766	97	166833	47.42	ppb		95
62) 1,3-Dichloropropane	6.930	76	300592	47.66	ppb	#	73
63) Tetrachloroethylene	6.894	166	189652	47.85	ppb	#	72
64) 2-Hexanone	7.033	43	226938	50.28	ppb		97
65) n-Butyl Acetate	7.175	43	421296	52.59	ppb		96
66) Dibromochloromethane	7.156	129	159218	50.14	ppb		99
67) 1,2-Dibromoethane	7.261	107	175486	48.25	ppb		99
68) Chlorobenzene	7.773	112	456801	47.10	ppb	#	87
69) 1,1,1,2-tetrachloroethane	7.865	131	142383	49.24	ppb	#	56
70) Ethyl Benzene	7.896	91	889338	47.37	ppb		97
71) p- & m-Xylenes	8.024	91	1391626	95.09	ppb		95
72) o-Xylene	8.438	91	697409	47.24	ppb		98
73) Styrene	8.458	104	565810	47.49	ppb	#	100
74) n-Nonane	8.074	43	451809	49.85	ppb		95
75) Bromofrom	8.641	173	90450	50.66	ppb	#	80
77) p-Ethyltoluene	9.418	105	867950	50.81	ppb	#	97
78) n-Decane	9.526	57	471438	50.63	ppb		95
79) Isopropylbenzene	8.842	105	828935	47.36	ppb		95
81) 1,1,2,2-Tetrachloroethane	9.178	83	249600	48.16	ppb	#	100
82) Bromobenzene	9.148	77	343928	47.13	ppb		77
83) trans-1,4-Dichloro-2-b...	9.214	75	292140m	49.04	ppb		
84) 1,2,3-Trichloropropane	9.214	110	75770	48.08	ppb	#	53
85) n-Propylbenzene	9.290	91	1032571	46.93	ppb		96
86) 2-Chlorotoluene	9.367	91	593653	46.75	ppb		100
87) 4-Chlorotoluene	9.490	91	714140	46.76	ppb		82
88) 1,3,5-Trimethylbenzene	9.418	105	867950	50.81	ppb	#	77
89) tert-Butylbenzene	9.843	119	645673	47.31	ppb		94
90) 1,2,4-Trimethylbenzene	9.896	105	715604	46.77	ppb		92
91) sec-Butylbenzene	10.088	105	917518	47.10	ppb		95
92) Limonene	10.197	68	278921	49.81	ppb	#	95
93) trans-Decahydronaphtha...	10.650	67	245821	49.26	ppb	#	88
94) hexachloroethane	10.976	117	94118	51.15	ppb	#	100
95) 1,3-Dichlorobenzene	10.191	146	355056	47.06	ppb		93
96) p-Isopropyltoluene	10.255	119	760302	46.87	ppb		95
97) 1,4-Dichlorobenzene	10.291	146	350854m	46.38	ppb		
98) 1,2,3-Trimethylbenzene	10.358	105	839835	50.64	ppb		97
99) n-Undecane	10.864	57	475928	54.55	ppb		96
100) nitrobenzene	11.810	77	5549	46.65	ppb	#	100
101) p-Diethylbenzene	10.686	105	513670	50.56	ppb		95
102) 1,2-Dichlorobenzene	10.700	146	346504	47.61	ppb	#	87
103) n-Butylbenzene	10.711	91	984526	47.47	ppb		98
104) cis-Decahydronaphthalene	11.279	96	196012	49.37	ppb		90
105) 1,2-Dibromo-3-chloropr...	11.577	75	61894	50.28	ppb	#	36
106) 1,2,4,5-Tetramethylben...	11.560	119	746421	51.46	ppb		94
107) 1,2,4-Trichlorobenzene	12.511	180	226734	46.67	ppb	#	100
108) Hexachloro-1,3-Butadiene	12.720	225	116931	46.95	ppb		86
109) Naphthalene	12.778	128	782830	47.90	ppb		100
110) 1,2,3-Trichlorobenzene	13.057	180	220612	47.31	ppb		80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130861.D
Acq On : 8 May 2023 4:46 pm
Operator : BMC
Sample : SEQ-CAL4
Misc : QBQV1050823A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 09 12:22:49 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130862.D
Acq On : 8 May 2023 5:13 pm
Operator : BMC
Sample : SEQ-CAL5
Misc : QBQV1050823A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 09 12:22:53 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.790	70	200100	50.00	ppb		# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.742	117	773847	50.00	ppb		# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.680	152	373098	50.00	ppb		# 0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.487	65	314211	49.70	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.40%				
57) Toluene-d8 (SURR)	6.290	98	980370	49.86	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.72%				
80) p-Bromofluorobenzene (...	9.000	95	403815	47.33	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 94.66%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	360149m	97.97	ppb		
3) Freon-22	1.157	51	434914m	99.54	ppb		
4) Chloromethane	1.282	50	459711m	96.55	ppb		
5) Vinyl Chloride	1.304	62	427264	100.22	ppb		100
6) Bromomethane	1.530	94	155911m	101.78	ppb		
7) Ethyl Ether	2.056	59	300816	1039.52	ppb	#	82
8) Allyl Chloride	2.537	76	239740	105.88	ppb	#	100
9) Chloroethane	1.602	64	210053m	99.18	ppb		
10) Trichlorofluoromethane	1.800	101	580318	101.90	ppb		97
11) Ethanol	2.017	45	254162	5124.55	ppb		82
12) Freon-113	2.228	101	306060	102.57	ppb	#	92
13) 1,1-Dichloroethylene	2.225	61	560882	100.39	ppb		88
14) Acrolein	2.164	56	78419	105.86	ppb		95
15) Acetone	2.303	43	214063	97.97	ppb	#	44
16) Iodomethane	2.350	142	317180	105.13	ppb	#	20
17) Methyl Acetate	2.579	43	452752	106.07	ppb		96
18) Carbon disulfide	2.398	76	976914	92.41	ppb		100
19) tert-Butyl Alcohol (TBA)	2.807	59	72111	109.65	ppb	#	1
20) Methylene Chloride	2.645	49	566262	100.15	ppb		91
21) Acrylonitrile	2.873	53	246540	105.77	ppb		97
22) trans-1,2-Dichloroethy...	2.876	61	629680	103.13	ppb		93
23) tert-Butyl Methyl Ethe...	2.896	73	1164680	104.20	ppb		99
24) n-Hexane	3.113	57	694107	101.63	ppb		97
25) 1,1-Dichloroethane	3.244	63	750625	102.21	ppb	#	99
26) Vinyl Acetate	3.310	43	1612530	105.10	ppb		100
27) Diisopropyl ether (DIPE)	3.324	45	1367381	100.09	ppb		97
28) Ethyl-tert-Butyl ether...	3.641	59	1321047	99.46	ppb	#	97
29) cis-1,2-Dichloroethylene	3.755	61	715028	103.26	ppb		92
30) 2-Butanone	3.789	72	80596	106.45	ppb		92
31) 2,2-Dichloropropane	3.750	77	577100	105.24	ppb	#	77
32) Tetrahydrofuran	4.017	42	204801	106.03	ppb		86
33) Bromochloromethane	3.967	49	374909	101.04	ppb		85
34) Chloroform	4.045	83	684320	99.94	ppb	#	92
35) 1,1,1-Trichloroethane	4.195	97	582806	104.94	ppb	#	85
36) Cyclohexane	4.240	56	759364	103.20	ppb		91
37) 1,1-Dichloropropylene	4.345	75	558528	102.97	ppb		79
39) Carbon Tetrachloride	4.343	117	451258	112.75	ppb		99
40) tert-Amyl alcohol (TAA)	4.582	59	675684	1117.17	ppb	#	100
41) 1,2-Dichloroethane	4.557	62	590722	103.45	ppb		100
42) Benzene	4.532	78	1583276	101.53	ppb	#	98
43) tert-Amyl methyl ether...	4.651	73	1146055	184.75	ppb	#	89
45) Trichloroethylene	5.127	95	406763	100.86	ppb		84
46) Methyl Cyclohexane	5.297	83	747976	101.96	ppb	#	81
47) Methyl Methacrylate	5.469	69	373649	106.28	ppb	#	98
48) Dibromomethane	5.447	93	264297	102.29	ppb		93
49) Bromodichloromethane	5.603	83	524977	106.12	ppb		99
50) 1,2-Dichloropropane	5.339	63	442254	102.86	ppb	#	99
51) 1,4-Dioxane	5.483	88	175419	2046.12	ppb		83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130862.D
Acq On : 8 May 2023 5:13 pm
Operator : BMC
Sample : SEQ-CAL5
Misc : QBQV1050823A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 09 12:22:53 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

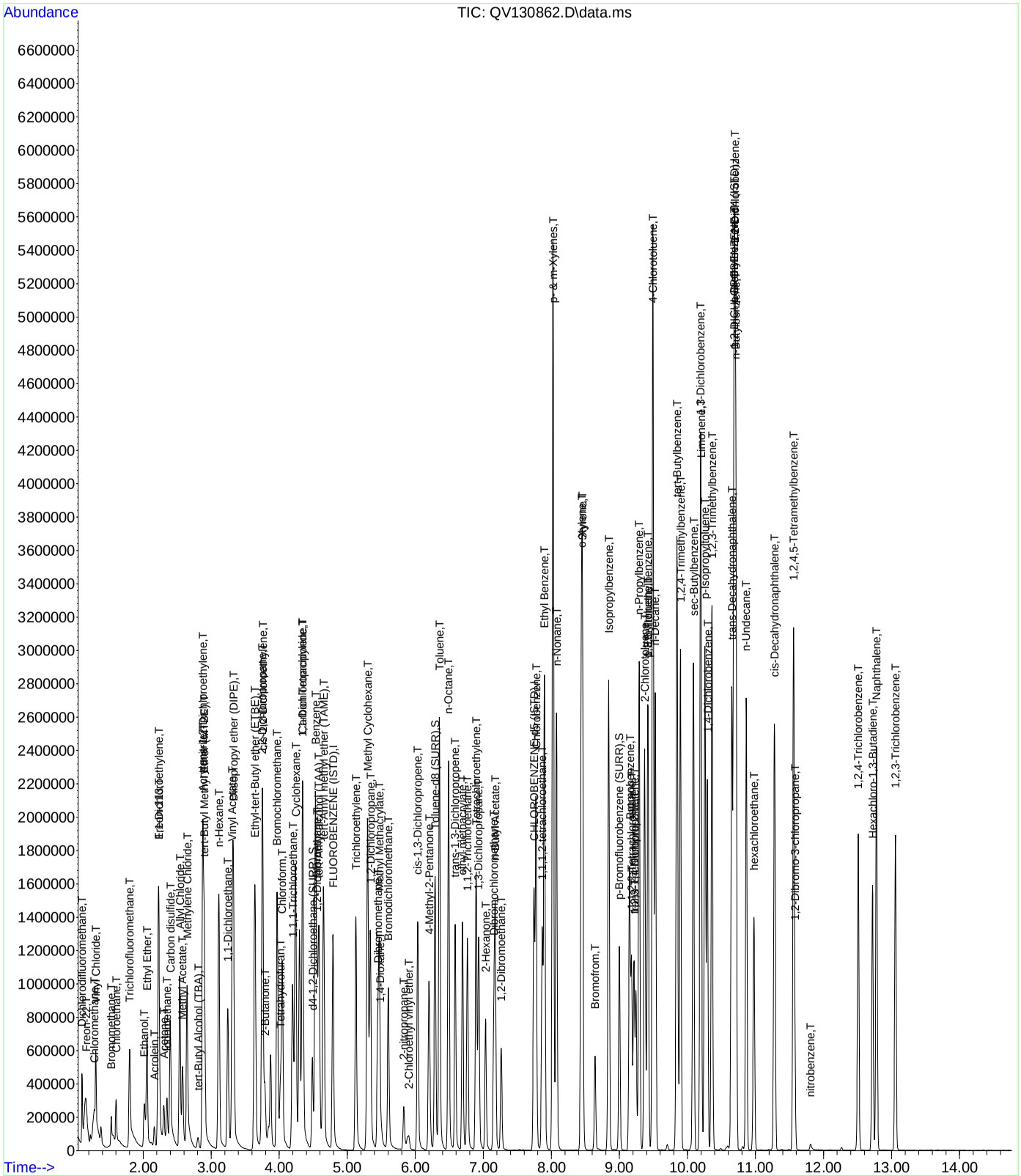
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52)	2-Chloroethyl vinyl ether	5.906	63	26442	33.41	ppb		97
53)	2-nitropropane	5.831	43	131378m	135.54	ppb		
54)	cis-1,3-Dichloropropene	6.034	75	667771	105.22	ppb		96
55)	ethyl methacrylate	6.694	69	635344	107.51	ppb	#	100
56)	4-Methyl-2-Pentanone	6.201	43	788206	109.22	ppb		86
58)	Toluene	6.354	91	1682272	100.43	ppb		100
59)	n-Octane	6.488	43	982729	100.92	ppb		92
60)	trans-1,3-Dichloropropene	6.585	75	623817	108.71	ppb		99
61)	1,1,2-Trichloroethane	6.766	97	353640	100.56	ppb		95
62)	1,3-Dichloropropane	6.930	76	640365	101.57	ppb	#	73
63)	Tetrachloroethylene	6.894	166	408692	103.16	ppb	#	72
64)	2-Hexanone	7.033	43	468912	103.94	ppb		97
65)	n-Butyl Acetate	7.175	43	868140	108.41	ppb		96
66)	Dibromochloromethane	7.155	129	362355	114.16	ppb		98
67)	1,2-Dibromoethane	7.261	107	376571	103.59	ppb		99
68)	Chlorobenzene	7.773	112	977909	100.89	ppb		90
69)	1,1,1,2-tetrachloroethane	7.865	131	322680	111.65	ppb	#	55
70)	Ethyl Benzene	7.898	91	1881757	100.27	ppb		98
71)	p- & m-Xylenes	8.023	91	2996499	204.85	ppb		95
72)	o-Xylene	8.441	91	1503144	101.86	ppb		98
73)	Styrene	8.457	104	1236998	103.88	ppb	#	100
74)	n-Nonane	8.074	43	919666	101.53	ppb		95
75)	Bromofrom	8.641	173	219653	123.07	ppb	#	80
77)	p-Ethyltoluene	9.417	105	1740497	97.05	ppb	#	97
78)	n-Decane	9.529	57	980677	100.32	ppb		96
79)	Isopropylbenzene	8.841	105	1770409	96.35	ppb		95
81)	1,1,2,2-Tetrachloroethane	9.178	83	539608	99.18	ppb	#	100
82)	Bromobenzene	9.150	77	734853	95.93	ppb		78
83)	trans-1,4-Dichloro-2-b...	9.214	75	643909m	102.97	ppb		
84)	1,2,3-Trichloropropane	9.214	110	161038	97.33	ppb	#	52
85)	n-Propylbenzene	9.289	91	2203013	95.38	ppb		97
86)	2-Chlorotoluene	9.370	91	1277528	95.84	ppb		100
87)	4-Chlorotoluene	9.492	91	1561203	97.38	ppb		82
88)	1,3,5-Trimethylbenzene	9.417	105	1740497	97.05	ppb	#	77
89)	tert-Butylbenzene	9.843	119	1424184	99.39	ppb		95
90)	1,2,4-Trimethylbenzene	9.896	105	1554672	96.78	ppb		91
91)	sec-Butylbenzene	10.088	105	1974598	96.55	ppb		95
92)	Limonene	10.199	68	586392	99.75	ppb	#	94
93)	trans-Decahydronaphtha...	10.650	67	506635	96.71	ppb	#	88
94)	hexachloroethane	10.975	117	243465	126.03	ppb	#	100
95)	1,3-Dichlorobenzene	10.191	146	786475	99.29	ppb		93
96)	p-Isopropyltoluene	10.258	119	1659188	97.42	ppb		95
97)	1,4-Dichlorobenzene	10.291	146	776114	97.72	ppb		93
98)	1,2,3-Trimethylbenzene	10.361	105	1732599	99.51	ppb		97
99)	n-Undecane	10.864	57	937231	102.32	ppb		97
100)	nitrobenzene	11.810	77	13363	107.00	ppb	#	100
101)	p-Diethylbenzene	10.689	105	1069217	100.24	ppb		96
102)	1,2-Dichlorobenzene	10.700	146	779535	102.01	ppb	#	88
103)	n-Butylbenzene	10.711	91	2140169	98.30	ppb		98
104)	cis-Decahydronaphthalene	11.279	96	412845	99.04	ppb		91
105)	1,2-Dibromo-3-chloropr...	11.576	75	140950	109.07	ppb	#	77
106)	1,2,4,5-Tetramethylben...	11.560	119	1545573	101.50	ppb		95
107)	1,2,4-Trichlorobenzene	12.511	180	507649	99.54	ppb	#	100
108)	Hexachloro-1,3-Butadiene	12.720	225	264125	101.02	ppb		86
109)	Naphthalene	12.778	128	1720017	100.24	ppb		100
110)	1,2,3-Trichlorobenzene	13.057	180	491984	100.50	ppb		80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130862.D
Acq On : 8 May 2023 5:13 pm
Operator : BMC
Sample : SEQ-CAL5
Misc : QBQV1050823A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 09 12:22:53 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130863.D
Acq On : 8 May 2023 5:40 pm
Operator : BMC
Sample : SEQ-CAL6
Misc : QBQV1050823A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 09 12:22:57 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.790	70	200384	50.00	ppb		# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.745	117	774591	50.00	ppb		# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.680	152	386664	50.00	ppb		# 0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.487	65	310728	49.07	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.14%				
57) Toluene-d8 (SURR)	6.290	98	977963	49.69	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.38%				
80) p-Bromofluorobenzene (...	9.000	95	403425	45.62	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 91.24%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	715218m	194.28	ppb		
3) Freon-22	1.160	51	840102m	192.01	ppb		
4) Chloromethane	1.285	50	880037m	184.57	ppb		
5) Vinyl Chloride	1.304	62	823263m	192.83	ppb		
6) Bromomethane	1.530	94	324058m	211.26	ppb		
7) Ethyl Ether	2.055	59	576600	1989.72	ppb	#	78
8) Allyl Chloride	2.537	76	488272	215.34	ppb	#	100
9) Chloroethane	1.602	64	413303m	194.88	ppb		
10) Trichlorofluoromethane	1.800	101	1157922	203.03	ppb		98
11) Ethanol	2.017	45	475825	9580.24	ppb		82
12) Freon-113	2.228	101	599902	200.76	ppb	#	93
13) 1,1-Dichloroethylene	2.225	61	1083709	193.70	ppb		88
14) Acrolein	2.164	56	151035	203.59	ppb		94
15) Acetone	2.303	43	348150	159.11	ppb	#	44
16) Iodomethane	2.348	142	616861	204.17	ppb	#	20
17) Methyl Acetate	2.579	43	889575	208.12	ppb		96
18) Carbon disulfide	2.398	76	1868849	176.52	ppb		100
19) tert-Butyl Alcohol (TBA)	2.807	59	152619	231.73	ppb	#	1
20) Methylene Chloride	2.643	49	1123175	198.36	ppb		89
21) Acrylonitrile	2.873	53	483014	206.93	ppb		97
22) trans-1,2-Dichloroethy...	2.876	61	1250529	204.52	ppb		93
23) tert-Butyl Methyl Ethe...	2.896	73	2296706	205.18	ppb		99
24) n-Hexane	3.110	57	1416732	207.15	ppb		97
25) 1,1-Dichloroethane	3.244	63	1478897	201.09	ppb	#	99
26) Vinyl Acetate	3.310	43	3193613	207.86	ppb		100
27) Diisopropyl ether (DIPE)	3.324	45	2707906	197.94	ppb		97
28) Ethyl-tert-Butyl ether...	3.641	59	2606358	195.95	ppb	#	97
29) cis-1,2-Dichloroethylene	3.755	61	1423447	205.28	ppb		93
30) 2-Butanone	3.789	72	149856	197.64	ppb		91
31) 2,2-Dichloropropane	3.750	77	1176720	214.28	ppb	#	77
32) Tetrahydrofuran	4.020	42	398649	206.09	ppb		87
33) Bromochloromethane	3.967	49	727771	195.86	ppb		85
34) Chloroform	4.045	83	1354513	197.55	ppb	#	92
35) 1,1,1-Trichloroethane	4.198	97	1182802	212.66	ppb	#	85
36) Cyclohexane	4.240	56	1531769	207.88	ppb		91
37) 1,1-Dichloropropylene	4.345	75	1119235	206.06	ppb		85
39) Carbon Tetrachloride	4.343	117	971410	242.36	ppb		100
40) tert-Amyl alcohol (TAA)	4.585	59	1386812	2289.69	ppb	#	100
41) 1,2-Dichloroethane	4.557	62	1159714	202.81	ppb		100
42) Benzene	4.532	78	3137601	200.92	ppb	#	98
43) tert-Amyl methyl ether...	4.651	73	2253421	362.74	ppb	#	89
45) Trichloroethylene	5.127	95	807445	200.01	ppb		85
46) Methyl Cyclohexane	5.300	83	1508638	205.46	ppb	#	81
47) Methyl Methacrylate	5.469	69	732488	208.15	ppb	#	98
48) Dibromomethane	5.447	93	519271	200.77	ppb		94
49) Bromodichloromethane	5.603	83	1053751	212.79	ppb		99
50) 1,2-Dichloropropane	5.339	63	874390	203.18	ppb	#	99
51) 1,4-Dioxane	5.486	88	350261	4081.59	ppb		83

Data Path : C:\msdchem\1\data\050823\
Data File : QV130863.D
Acq On : 8 May 2023 5:40 pm
Operator : BMC
Sample : SEQ-CAL6
Misc : QBQV1050823A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 09 12:22:57 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1

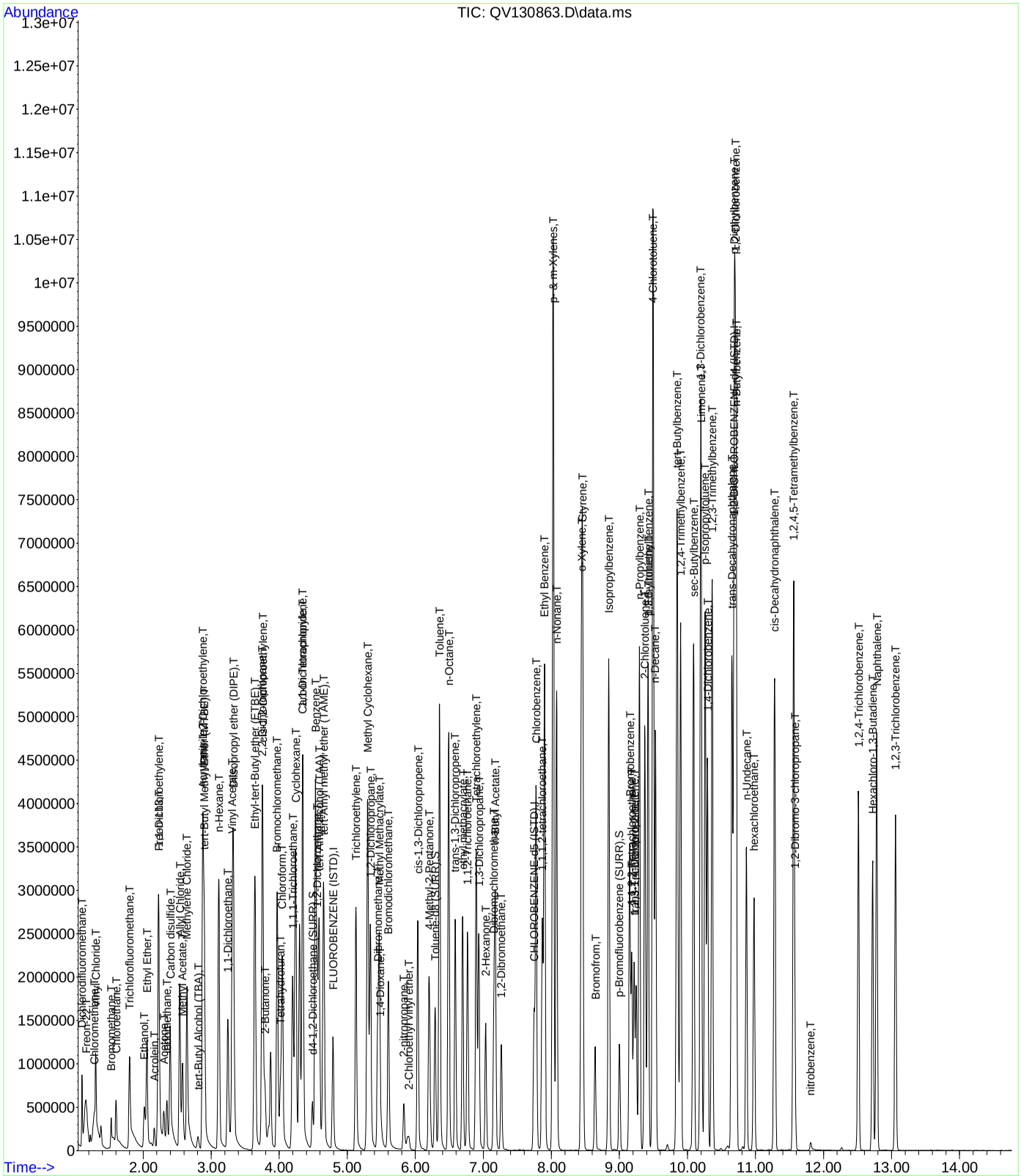
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 2-Chloroethyl vinyl ether	5.906	63	47954	60.54	ppb		97
53) 2-nitropropane	5.831	43	293508m	302.52	ppb		
54) cis-1,3-Dichloropropene	6.037	75	1327064	208.90	ppb		97
55) ethyl methacrylate	6.696	69	1249553	211.24	ppb	#	100
56) 4-Methyl-2-Pentanone	6.204	43	1581109	218.88	ppb		85
58) Toluene	6.357	91	3323362	198.21	ppb		100
59) n-Octane	6.490	43	1974330	202.55	ppb		93
60) trans-1,3-Dichloropropene	6.588	75	1250237	217.67	ppb		99
61) 1,1,2-Trichloroethane	6.766	97	698913	198.55	ppb		95
62) 1,3-Dichloropropane	6.933	76	1244132	197.15	ppb	#	73
63) Tetrachloroethylene	6.894	166	851673	214.77	ppb	#	72
64) 2-Hexanone	7.036	43	890070	197.11	ppb		98
65) n-Butyl Acetate	7.175	43	1702834	212.45	ppb		98
66) Dibromochloromethane	7.155	129	746801	235.05	ppb		98
67) 1,2-Dibromoethane	7.264	107	732646	201.35	ppb		99
68) Chlorobenzene	7.776	112	1949962	200.98	ppb		91
69) 1,1,1,2-tetrachloroethane	7.868	131	663701	229.43	ppb	#	55
70) Ethyl Benzene	7.898	91	3721484	198.10	ppb		99
71) p- & m-Xylenes	8.026	91	5811380	396.90	ppb		97
72) o-Xylene	8.441	91	3003213	203.32	ppb		98
73) Styrene	8.460	104	2491249	209.01	ppb	#	100
74) n-Nonane	8.076	43	1798835	198.39	ppb		97
75) Bromofrom	8.644	173	465045	260.32	ppb	#	80
77) p-Ethyltoluene	9.420	105	3545980	190.79	ppb	#	97
78) n-Decane	9.529	57	1715441	169.33	ppb		98
79) Isopropylbenzene	8.844	105	3532288	185.48	ppb		96
81) 1,1,2,2-Tetrachloroethane	9.181	83	1063433	188.61	ppb	#	100
82) Bromobenzene	9.150	77	1470296	185.20	ppb		79
83) trans-1,4-Dichloro-2-b...	9.217	75	1288642m	198.84	ppb		
84) 1,2,3-Trichloropropane	9.217	110	318958	186.01	ppb	#	52
85) n-Propylbenzene	9.295	91	4405005	184.02	ppb		97
86) 2-Chlorotoluene	9.373	91	2576857	186.53	ppb		100
87) 4-Chlorotoluene	9.495	91	3095366	186.29	ppb		82
88) 1,3,5-Trimethylbenzene	9.420	105	3545980	190.79	ppb	#	78
89) tert-Butylbenzene	9.846	119	2922704	196.82	ppb		96
90) 1,2,4-Trimethylbenzene	9.899	105	3165393	190.13	ppb		92
91) sec-Butylbenzene	10.091	105	4001144	188.77	ppb		96
92) Limonene	10.202	68	1224509	200.98	ppb		95
93) trans-Decahydronaphtha...	10.653	67	1047708	192.98	ppb		89
94) hexachloroethane	10.978	117	555126	277.29	ppb	#	100
95) 1,3-Dichlorobenzene	10.194	146	1623914	197.82	ppb		93
96) p-Isopropyltoluene	10.260	119	3396064	192.41	ppb		96
97) 1,4-Dichlorobenzene	10.294	146	1609140	195.50	ppb		93
98) 1,2,3-Trimethylbenzene	10.363	105	3521840	195.18	ppb		97
99) n-Undecane	10.867	57	1231505	129.74	ppb		98
100) nitrobenzene	11.810	77	34853	269.28	ppb	#	100
101) p-Diethylbenzene	10.689	105	2182314	197.41	ppb		98
102) 1,2-Dichlorobenzene	10.703	146	1562218	197.27	ppb	#	88
103) n-Butylbenzene	10.717	91	4320379	191.48	ppb		99
104) cis-Decahydronaphthalene	11.281	96	879567	203.60	ppb		92
105) 1,2-Dibromo-3-chloropr...	11.576	75	293457	219.12	ppb	#	77
106) 1,2,4,5-Tetramethylben...	11.560	119	3252986	206.13	ppb		96
107) 1,2,4-Trichlorobenzene	12.514	180	1093260	206.84	ppb	#	100
108) Hexachloro-1,3-Butadiene	12.723	225	574964	212.20	ppb		87
109) Naphthalene	12.781	128	3466260	194.93	ppb		100
110) 1,2,3-Trichlorobenzene	13.059	180	1040132	205.01	ppb		80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130863.D
Acq On : 8 May 2023 5:40 pm
Operator : BMC
Sample : SEQ-CAL6
Misc : QBQV1050823A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 09 12:22:57 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:21:42 2023
Response via : Initial Calibration
InstName : QVOA1



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Calibration: SD30046 **Laboratory ID:** S3D2816-SCV1

Sequence: S3D2816 **Standard ID:** S23D300

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
1,1,1,2-Tetrachloroethane	50.0	51.2	2.4	30.00
1,1,1-Trichloroethane	50.0	50.6	1.2	30.00
1,1,2,2-Tetrachloroethane	50.0	48.3	-3.4	30.00
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	50.0	51.8	3.6	30.00
1,1,2-Trichloroethane	50.0	48.4	-3.1	30.00
1,1-Dichloroethane	50.0	48.4	-3.1	30.00
1,1-Dichloroethylene	50.0	58.6	17.1	30.00
1,2,3-Trichlorobenzene	50.0	47.7	-4.5	30.00
1,2,3-Trichloropropane	50.0	49.7	-0.6	30.00
1,2,4-Trichlorobenzene	50.0	49.4	-1.3	30.00
1,2,4-Trimethylbenzene	50.0	50.0	-0.04	30.00
1,2-Dibromo-3-chloropropane	50.0	50.8	1.6	30.00
1,2-Dibromoethane	50.0	49.4	-1.3	30.00
1,2-Dichlorobenzene	50.0	49.2	-1.6	30.00
1,2-Dichloroethane	50.0	50.7	1.4	30.00
1,2-Dichloropropane	50.0	49.0	-2.1	30.00
1,3,5-Trimethylbenzene	50.0	49.7	-0.6	30.00
1,3-Dichlorobenzene	50.0	49.8	-0.4	30.00
1,4-Dichlorobenzene	50.0	48.7	-2.7	30.00
1,4-Dioxane	1050	1090	3.5	30.00
2-Butanone	50.0	46.1	-7.7	30.00
2-Hexanone	50.0	49.5	-1.1	30.00
4-Methyl-2-pentanone	50.0	49.4	-1.2	30.00
Acetone	50.0	125	151 *	30.00
Acrolein	50.0	55.6	11.1	30.00
Acrylonitrile	50.0	47.9	-4.2	30.00
Benzene	50.0	48.0	-4.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Calibration: SD30046 **Laboratory ID:** S3D2816-SCV1

Sequence: S3D2816 **Standard ID:** S23D300

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
Bromochloromethane	50.0	50.5	0.9	30.00
Bromodichloromethane	50.0	51.1	2.2	30.00
Bromoform	50.0	48.1	-3.7	30.00
Bromomethane	50.0	54.6	9.1	30.00
Carbon disulfide	50.0	55.8	11.5	30.00
Carbon tetrachloride	50.0	53.5	7.0	30.00
Chlorobenzene	50.0	52.1	4.2	30.00
Chloroethane	50.0	52.5	4.9	30.00
Chloroform	50.0	49.0	-2.1	30.00
Chloromethane	50.0	46.1	-7.9	30.00
cis-1,2-Dichloroethylene	50.0	50.1	0.3	30.00
cis-1,3-Dichloropropylene	50.0	51.5	3.1	30.00
Cyclohexane	50.0	47.1	-5.9	30.00
Dibromochloromethane	50.0	52.2	4.4	30.00
Dibromomethane	50.0	49.4	-1.2	30.00
Dichlorodifluoromethane	50.0	57.1	14.2	30.00
Ethyl Benzene	50.0	50.3	0.7	30.00
Hexachlorobutadiene	50.0	48.5	-2.9	30.00
Isopropylbenzene	50.0	50.7	1.4	30.00
Methyl acetate	50.0	44.9	-10.2	30.00
Methyl tert-butyl ether (MTBE)	50.0	49.9	-0.2	30.00
Methylcyclohexane	50.0	49.3	-1.4	30.00
Methylene chloride	50.0	49.8	-0.5	30.00
n-Butylbenzene	50.0	48.8	-2.4	30.00
n-Propylbenzene	50.0	49.6	-0.7	30.00
o-Xylene	50.0	50.4	0.7	30.00
p- & m- Xylenes	100	98.7	-1.3	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30046
Laboratory ID: S3D2816-SCV1
Sequence: S3D2816
Standard ID: S23D300

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
p-Isopropyltoluene	50.0	49.4	-1.2	30.00
sec-Butylbenzene	50.0	49.8	-0.4	30.00
Styrene	50.0	50.4	0.7	30.00
tert-Butyl alcohol (TBA)	250	251	0.4	30.00
tert-Butylbenzene	50.0	49.7	-0.6	30.00
Tetrachloroethylene	50.0	44.3	-11.4	30.00
Toluene	50.0	49.4	-1.1	30.00
trans-1,2-Dichloroethylene	50.0	49.1	-1.8	30.00
trans-1,3-Dichloropropylene	50.0	50.7	1.4	30.00
Trichloroethylene	50.0	52.4	4.9	30.00
Trichlorofluoromethane	50.0	52.6	5.3	30.00
Vinyl Chloride	50.0	52.7	5.3	30.00

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432551.D
Acq On : 28 Apr 2023 9:37 am
Operator : BMC
Sample : SEQ-SCV1
Misc : QBQV40042523A
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Apr 28 11:17:44 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.857	70	232880	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.840	117	749919	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	350456	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.590	65	560161	51.72	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 103.44%				
54) Toluene-d8 (SURR)	6.357	98	1089077	51.28	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.56%				
73) p-Bromofluorobenzene (...	9.097	95	504722	50.70	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 101.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	345380	57.09	ppb		100
3) Chloromethane	1.210	50	279045	46.06	ppb		96
4) Vinyl Chloride	1.285	62	267664	52.66	ppb		100
5) Bromomethane	1.527	94	81396	54.55	ppb		99
6) Allyl Chloride	2.568	76	89378	49.82	ppb	#	100
7) Chloroethane	1.602	64	144498m	52.46	ppb		
8) Trichlorofluoromethane	1.786	101	352443	52.63	ppb		97
10) Freon-113	2.211	101	196743	51.80	ppb	#	60
11) 1,1-Dichloroethylene	2.234	61	419156	58.57	ppb	#	79
12) Acrolein	2.203	56	38487	55.55	ppb		94
13) Acetone	2.351	43	311419	125.44	ppb	#	21
14) Iodomethane	2.384	142	142564	69.89	ppb	#	20
15) Methyl Acetate	2.618	43	178838	44.90	ppb		94
16) Carbon disulfide	2.423	76	459536	55.77	ppb		100
17) tert-Butyl Alcohol (TBA)	2.868	59	147833	250.93	ppb	#	1
18) Methylene Chloride	2.701	49	342888	49.77	ppb	#	73
19) Acrylonitrile	2.965	53	73157	47.92	ppb		93
20) trans-1,2-Dichloroethy...	2.915	61	361587	49.08	ppb		88
21) tert-Butyl Methyl Ethe...	2.907	73	624875	49.91	ppb	#	95
22) 1,1-Dichloroethane	3.305	63	413910	48.43	ppb	#	99
23) Vinyl Acetate	3.358	43	453605m	43.18	ppb		
24) Diisopropyl ether (DIPE)	3.324	45	848785	50.67	ppb		95
25) Ethyl-tert-Butyl ether...	3.647	59	736843	45.84	ppb	#	79
26) cis-1,2-Dichloroethylene	3.836	61	410578	50.14	ppb	#	84
27) 2-Butanone	3.878	72	17471	46.14	ppb	#	1
28) 2,2-Dichloropropane	3.803	77	363811	51.66	ppb	#	77
29) Tetrahydrofuran	4.098	42	78432	48.73	ppb	#	56
30) Bromochloromethane	4.064	49	215608	50.47	ppb	#	75
31) Chloroform	4.134	83	444205	48.96	ppb		98
32) 1,1,1-Trichloroethane	4.251	97	450202	50.62	ppb		98
33) Cyclohexane	4.259	56	410762	47.07	ppb		79
34) 1,1-Dichloropropylene	4.398	75	307987	48.25	ppb	#	82
36) Carbon Tetrachloride	4.387	117	361352	53.49	ppb	#	91
37) tert-Amyl alcohol (TAA)	4.676	59	195205	475.37	ppb	#	100
38) 1,2-Dichloroethane	4.660	62	470698	50.71	ppb	#	98
39) Benzene	4.599	78	675303	47.99	ppb	#	66
40) tert-Amyl methyl ether...	4.679	73	582630	46.25	ppb	#	78
42) Trichloroethylene	5.197	95	235662	52.44	ppb		74
43) Methyl Cyclohexane	5.319	83	329984	49.30	ppb	#	46
44) Methyl Methacrylate	5.542	69	115524	47.53	ppb	#	81
45) Dibromomethane	5.564	93	118696	49.40	ppb		95
46) Bromodichloromethane	5.717	83	315038	51.09	ppb		99
47) 1,2-Dichloropropane	5.433	63	181563	48.95	ppb	#	88
48) 1,4-Dioxane	5.595	88	47621m	1086.33	ppb		
49) 2-Chloroethyl vinyl ether	5.995	63	126314	50.90	ppb		96
50) 2-nitropropane	6.001	43	110139	48.20	ppb	#	100
51) cis-1,3-Dichloropropene	6.134	75	298722	51.53	ppb	#	76
52) ethyl methacrylate	6.755	69	220848	47.14	ppb	#	100

Data Path : C:\msdchem\1\data\042523\
Data File : QV432551.D
Acq On : 28 Apr 2023 9:37 am
Operator : BMC
Sample : SEQ-SCV1
Misc : QBQV40042523A
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Apr 28 11:17:44 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

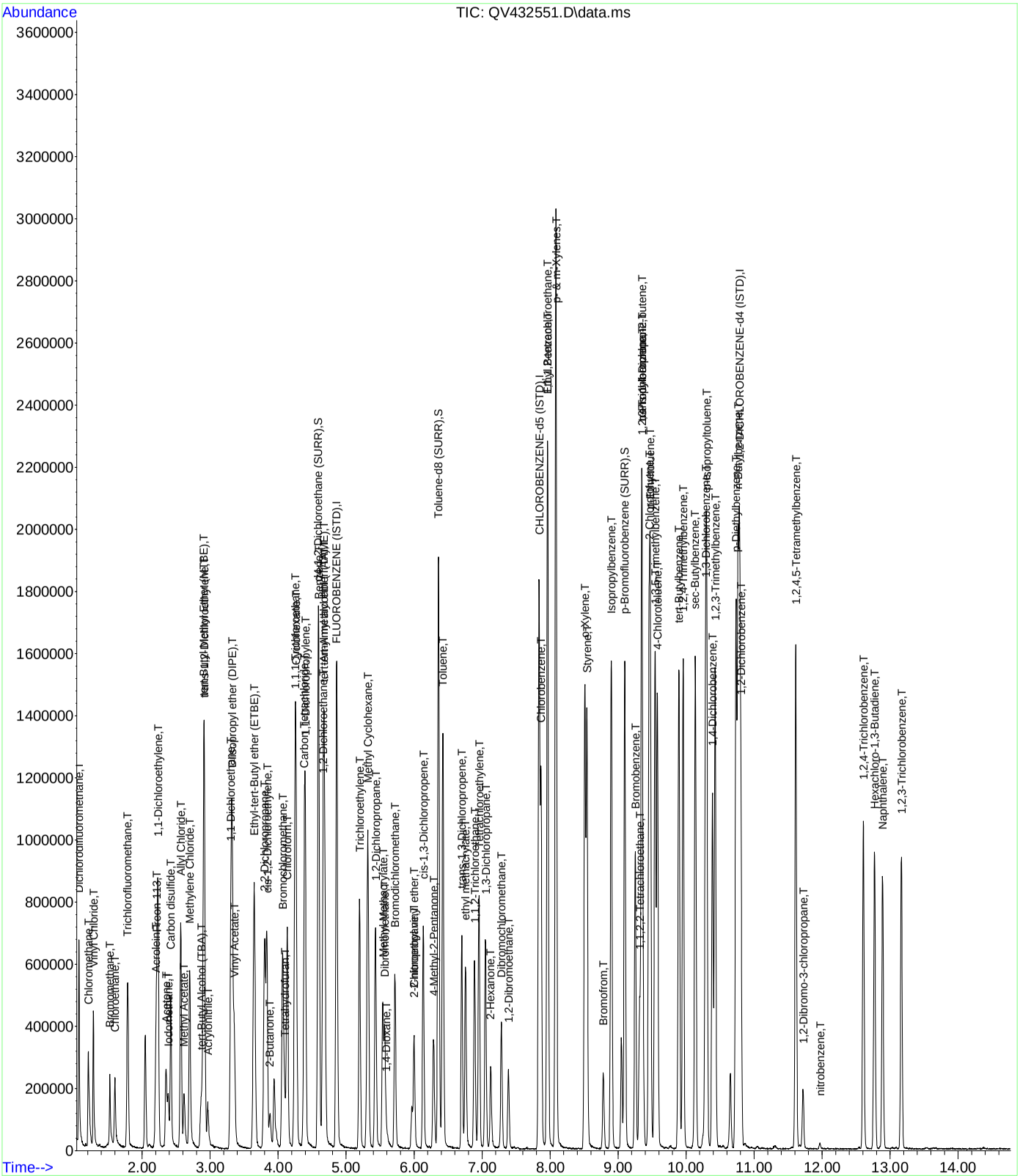
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.287	43	248103	49.40	ppb		89
55) Toluene	6.424	91	795670	49.43	ppb		99
56) trans-1,3-Dichloropropene	6.702	75	292346	50.69	ppb	#	91
57) 1,1,2-Trichloroethane	6.891	97	153130	48.45	ppb	#	85
58) 1,3-Dichloropropane	7.050	76	281664	47.82	ppb	#	79
59) Tetrachloroethylene	6.955	166	191889	44.28	ppb	#	71
60) 2-Hexanone	7.125	43	180378	49.47	ppb		87
61) Dibromochloromethane	7.286	129	175829	52.19	ppb		96
62) 1,2-Dibromoethane	7.386	107	154250	49.36	ppb		97
63) Chlorobenzene	7.868	112	466188	52.12	ppb	#	69
64) 1,1,1,2-tetrachloroethane	7.962	131	184351	51.18	ppb	#	48
65) Ethyl Benzene	7.962	91	1042975	50.34	ppb		86
66) p- & m-Xylenes	8.085	91	1696676	98.68	ppb		83
67) o-Xylene	8.513	91	858369	50.35	ppb		92
68) Styrene	8.544	104	523574	50.37	ppb	#	100
69) Bromofrom	8.780	173	99601	48.13	ppb		99
71) p-Ethyltoluene	9.473	105	932777	50.73	ppb	#	97
72) Isopropylbenzene	8.900	105	955394	50.68	ppb	#	88
74) 1,1,2,2-Tetrachloroethane	9.317	83	183109	48.28	ppb	#	100
75) Bromobenzene	9.250	77	390965	48.82	ppb	#	71
76) trans-1,4-Dichloro-2-b...	9.348	75	250000	51.35	ppb	#	34
77) 1,2,3-Trichloropropane	9.351	110	75280	49.69	ppb		98
78) n-Propylbenzene	9.348	91	1220693	49.65	ppb	#	90
79) 2-Chlorotoluene	9.456	91	888920	49.68	ppb		95
80) 4-Chlorotoluene	9.579	91	807652	48.71	ppb		80
81) 1,3,5-Trimethylbenzene	9.545	105	844346	49.72	ppb		84
82) tert-Butylbenzene	9.893	119	671216	49.68	ppb	#	70
83) 1,2,4-Trimethylbenzene	9.957	105	836165	49.98	ppb		82
84) sec-Butylbenzene	10.135	105	1004090	49.78	ppb	#	88
86) 1,3-Dichlorobenzene	10.285	146	353668	49.82	ppb	#	81
87) p-Isopropyltoluene	10.302	119	870348	49.41	ppb	#	86
88) 1,4-Dichlorobenzene	10.388	146	344001	48.67	ppb	#	81
89) 1,2,3-Trimethylbenzene	10.427	105	832908	61.64	ppb	#	87
90) nitrobenzene	11.969	77	7361	45.47	ppb	#	100
91) p-Diethylbenzene	10.736	105	525930	49.49	ppb		86
92) 1,2-Dichlorobenzene	10.806	146	326354	49.20	ppb	#	68
93) n-Butylbenzene	10.761	91	1177212	48.80	ppb		93
94) 1,2-Dibromo-3-chloropr...	11.721	75	53283	50.78	ppb	#	70
95) 1,2,4,5-Tetramethylben...	11.615	119	824097	49.55	ppb	#	85
96) 1,2,4-Trichlorobenzene	12.609	180	265286	49.36	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.773	225	183599	48.54	ppb		86
98) Naphthalene	12.887	128	593307	47.78	ppb		99
99) 1,2,3-Trichlorobenzene	13.165	180	237252	47.73	ppb		78

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042523\
Data File : QV432551.D
Acq On : 28 Apr 2023 9:37 am
Operator : BMC
Sample : SEQ-SCV1
Misc : QBQV40042523A
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Apr 28 11:17:44 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Calibration: SE30018 **Laboratory ID:** S3E1015-SCV1

Sequence: S3E1015 **Standard ID:** S23E203

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
1,1,1,2-Tetrachloroethane	50.0	48.7	-2.6	30.00
1,1,1-Trichloroethane	50.0	48.8	-2.5	30.00
1,1,2,2-Tetrachloroethane	50.0	50.0	-0.06	30.00
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	50.0	54.3	8.5	30.00
1,1,2-Trichloroethane	50.0	47.0	-6.0	30.00
1,1-Dichloroethane	50.0	48.6	-2.8	30.00
1,1-Dichloroethylene	50.0	51.8	3.6	30.00
1,2,3-Trichlorobenzene	50.0	46.6	-6.9	30.00
1,2,3-Trichloropropane	50.0	48.6	-2.9	30.00
1,2,4-Trichlorobenzene	50.0	47.6	-4.7	30.00
1,2,4-Trimethylbenzene	50.0	45.6	-8.9	30.00
1,2-Dibromo-3-chloropropane	50.0	50.2	0.5	30.00
1,2-Dibromoethane	50.0	49.2	-1.5	30.00
1,2-Dichlorobenzene	50.0	47.9	-4.1	30.00
1,2-Dichloroethane	50.0	49.7	-0.6	30.00
1,2-Dichloropropane	50.0	49.0	-1.9	30.00
1,3,5-Trimethylbenzene	50.0	49.0	-2.0	30.00
1,3-Dichlorobenzene	50.0	46.8	-6.4	30.00
1,4-Dichlorobenzene	50.0	46.3	-7.4	30.00
1,4-Dioxane	1050	1040	-0.5	30.00
2-Butanone	50.0	57.2	14.4	30.00
2-Hexanone	50.0	51.2	2.5	30.00
4-Methyl-2-pentanone	50.0	39.5	-21.0	30.00
Acetone	50.0	247	395 *	30.00
Acrolein	50.0	45.4	-9.1	30.00
Acrylonitrile	50.0	49.2	-1.5	30.00
Benzene	50.0	49.3	-1.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Calibration: SE30018 **Laboratory ID:** S3E1015-SCV1

Sequence: S3E1015 **Standard ID:** S23E203

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
Bromochloromethane	50.0	49.1	-1.7	30.00
Bromodichloromethane	50.0	48.1	-3.8	30.00
Bromoform	50.0	41.3	-17.3	30.00
Bromomethane	50.0	53.7	7.3	30.00
Carbon disulfide	50.0	55.0	10.1	30.00
Carbon tetrachloride	50.0	50.3	0.6	30.00
Chlorobenzene	50.0	50.4	0.9	30.00
Chloroethane	50.0	58.0	16.0	30.00
Chloroform	50.0	48.2	-3.6	30.00
Chloromethane	50.0	56.5	13.0	30.00
cis-1,2-Dichloroethylene	50.0	48.3	-3.5	30.00
cis-1,3-Dichloropropylene	50.0	47.1	-5.8	30.00
Cyclohexane	50.0	52.0	4.1	30.00
Dibromochloromethane	50.0	49.8	-0.3	30.00
Dibromomethane	50.0	48.0	-4.0	30.00
Dichlorodifluoromethane	50.0	72.8	45.5 *	30.00
Ethyl Benzene	50.0	47.6	-4.9	30.00
Hexachlorobutadiene	50.0	46.0	-8.0	30.00
Isopropylbenzene	50.0	47.3	-5.5	30.00
Methyl acetate	50.0	52.7	5.4	30.00
Methyl tert-butyl ether (MTBE)	50.0	49.9	-0.2	30.00
Methylcyclohexane	50.0	48.0	-4.0	30.00
Methylene chloride	50.0	49.0	-2.0	30.00
n-Butylbenzene	50.0	46.5	-7.1	30.00
n-Propylbenzene	50.0	46.6	-6.9	30.00
o-Xylene	50.0	48.0	-3.9	30.00
p- & m- Xylenes	100	95.5	-4.5	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30018
Laboratory ID: S3E1015-SCV1
Sequence: S3E1015
Standard ID: S23E203

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
p-Isopropyltoluene	50.0	46.7	-6.6	30.00
sec-Butylbenzene	50.0	46.6	-6.8	30.00
Styrene	50.0	48.0	-4.0	30.00
tert-Butyl alcohol (TBA)	250	262	4.9	30.00
tert-Butylbenzene	50.0	41.8	-16.5	30.00
Tetrachloroethylene	50.0	43.3	-13.4	30.00
Toluene	50.0	47.5	-5.0	30.00
trans-1,2-Dichloroethylene	50.0	49.0	-2.1	30.00
trans-1,3-Dichloropropylene	50.0	47.8	-4.5	30.00
Trichloroethylene	50.0	47.6	-4.7	30.00
Trichlorofluoromethane	50.0	57.3	14.5	30.00
Vinyl Chloride	50.0	61.0	21.9	30.00

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130870.D
Acq On : 9 May 2023 10:28 am
Operator : BMC
Sample : SEQ-SCV1
Misc : QBQV1050823A
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 09 12:50:29 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	199612	50.00	ppb		# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.742	117	786096	50.00	ppb		# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	367081	50.00	ppb		# 0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.484	65	320706	50.85	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 101.70%				
57) Toluene-d8 (SURR)	6.287	98	991715	49.65	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.30%				
80) p-Bromofluorobenzene (...	8.997	95	408522	48.66	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 97.32%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	266907m	72.77	ppb		
3) Freon-22	1.149	51	381052m	88.79	ppb		
4) Chloromethane	1.274	50	268059m	56.48	ppb		
5) Vinyl Chloride	1.304	62	260568m	60.97	ppb		
6) Bromomethane	1.530	94	83358m	53.67	ppb		
7) Ethyl Ether	2.056	59	1559819	5403.42	ppb		96
8) Allyl Chloride	2.537	76	120327	53.27	ppb	#	100
9) Chloroethane	1.602	64	121972m	58.01	ppb		
10) Trichlorofluoromethane	1.800	101	325365	57.27	ppb		98
12) Freon-113	2.228	101	161558	54.27	ppb	#	93
13) 1,1-Dichloroethylene	2.222	61	288587	51.78	ppb		89
14) Acrolein	2.161	56	33579	45.44	ppb		97
15) Acetone	2.300	43	539265	247.40	ppb	#	43
16) Iodomethane	2.348	142	176495	58.28	ppb	#	20
17) Methyl Acetate	2.576	43	221990m	52.70	ppb		
18) Carbon disulfide	2.398	76	580487	55.04	ppb		100
19) tert-Butyl Alcohol (TBA)	2.798	59	172075	262.28	ppb	#	1
20) Methylene Chloride	2.643	49	276351	48.99	ppb		89
21) Acrylonitrile	2.871	53	114518	49.25	ppb		98
22) trans-1,2-Dichloroethy...	2.874	61	298281	48.97	ppb		93
23) tert-Butyl Methyl Ethe...	2.893	73	556471	49.91	ppb		99
24) n-Hexane	3.110	57	326377	47.91	ppb		98
25) 1,1-Dichloroethane	3.241	63	355984	48.59	ppb	#	99
26) Vinyl Acetate	3.308	43	641586	41.92	ppb		100
27) Diisopropyl ether (DIPE)	3.321	45	669965	49.16	ppb		97
28) Ethyl-tert-Butyl ether...	3.639	59	601694	45.41	ppb	#	97
29) cis-1,2-Dichloroethylene	3.753	61	333438	48.27	ppb		93
30) 2-Butanone	3.786	72	43196	57.19	ppb		95
31) 2,2-Dichloropropane	3.747	77	278108	50.84	ppb	#	77
32) Tetrahydrofuran	4.014	42	97620m	49.85	ppb		
33) Bromochloromethane	3.964	49	181881	49.14	ppb		85
34) Chloroform	4.042	83	329148	48.19	ppb	#	93
35) 1,1,1-Trichloroethane	4.195	97	270124	48.76	ppb	#	85
36) Cyclohexane	4.237	56	381870	52.03	ppb		89
37) 1,1-Dichloropropylene	4.343	75	259749	48.01	ppb		77
39) Carbon Tetrachloride	4.340	117	200749	50.28	ppb		100
40) tert-Amyl alcohol (TAA)	4.579	59	314494	521.25	ppb	#	100
41) 1,2-Dichloroethane	4.554	62	283021	49.69	ppb		99
42) Benzene	4.529	78	766979	49.30	ppb	#	98
43) tert-Amyl methyl ether...	4.649	73	530386	46.69	ppb	#	89
45) Trichloroethylene	5.124	95	195222	47.65	ppb		84
46) Methyl Cyclohexane	5.297	83	357814	48.02	ppb	#	81
47) Methyl Methacrylate	5.467	69	174108	48.75	ppb	#	98
48) Dibromomethane	5.444	93	125970	47.99	ppb		93
49) Bromodichloromethane	5.603	83	241854	48.12	ppb		99
50) 1,2-Dichloropropane	5.336	63	214128	49.03	ppb	#	99
51) 1,4-Dioxane	5.483	88	91542m	1045.00	ppb		
52) 2-Chloroethyl vinyl ether	5.903	63	12329	15.34	ppb		96

Data Path : C:\msdchem\1\data\050823\
Data File : QV130870.D
Acq On : 9 May 2023 10:28 am
Operator : BMC
Sample : SEQ-SCV1
Misc : QBQV1050823A
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 09 12:50:29 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

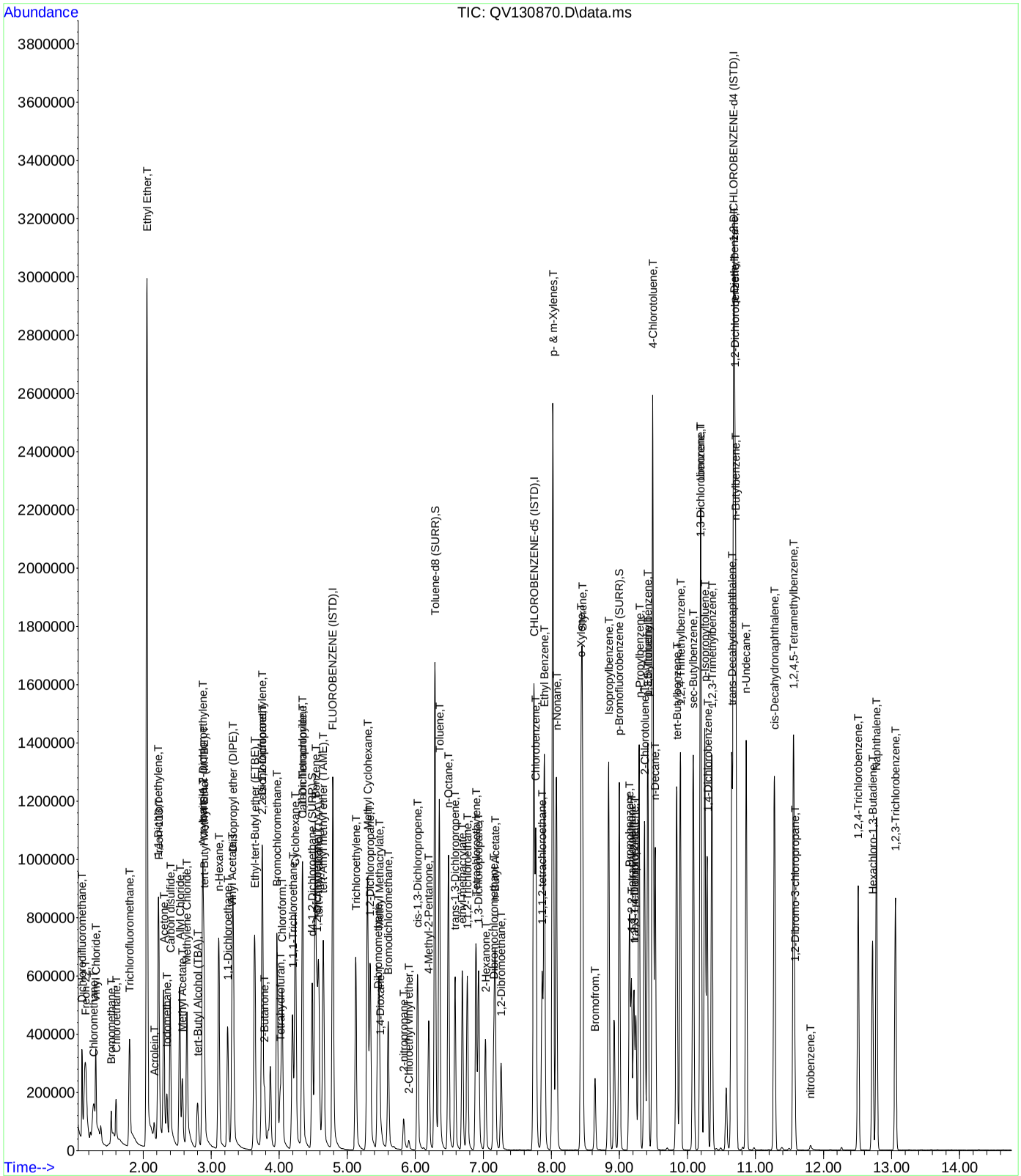
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 2-nitropropane	5.828	43	54982m	48.61	ppb		
54) cis-1,3-Dichloropropene	6.031	75	303588	47.09	ppb		97
55) ethyl methacrylate	6.691	69	287216	47.84	ppb	#	100
56) 4-Methyl-2-Pentanone	6.198	43	289671	39.51	ppb		98
58) Toluene	6.354	91	808126	47.49	ppb		100
59) n-Octane	6.488	43	429713	43.44	ppb		93
60) trans-1,3-Dichloropropene	6.585	75	278481	47.77	ppb		99
61) 1,1,2-Trichloroethane	6.763	97	167943	47.01	ppb		94
62) 1,3-Dichloropropane	6.930	76	310097	48.42	ppb	#	73
63) Tetrachloroethylene	6.891	166	174345	43.32	ppb	#	72
64) 2-Hexanone	7.030	43	234746	51.23	ppb		97
65) n-Butyl Acetate	7.172	43	414981	51.02	ppb		97
66) Dibromochloromethane	7.153	129	160713	49.84	ppb		98
67) 1,2-Dibromoethane	7.261	107	181845	49.24	ppb		99
68) Chlorobenzene	7.770	112	496571	50.43	ppb		88
69) 1,1,1,2-tetrachloroethane	7.865	131	143003	48.71	ppb	#	56
70) Ethyl Benzene	7.895	91	906542	47.55	ppb		97
71) p- & m-Xylenes	8.021	91	1419682	95.54	ppb		95
72) o-Xylene	8.438	91	720234	48.05	ppb		98
73) Styrene	8.455	104	580474	47.99	ppb	#	100
74) n-Nonane	8.074	43	454810	49.43	ppb		95
75) Bromofrom	8.641	173	95179	41.34	ppb	#	80
77) p-Ethyltoluene	9.417	105	864220	48.98	ppb	#	97
78) n-Decane	9.526	57	355736	36.99	ppb		95
79) Isopropylbenzene	8.841	105	854533	47.27	ppb		95
81) 1,1,2,2-Tetrachloroethane	9.175	83	267474	49.97	ppb	#	100
82) Bromobenzene	9.147	77	346393	45.96	ppb		78
83) trans-1,4-Dichloro-2-b...	9.214	75	314124m	51.13	ppb		
84) 1,2,3-Trichloropropane	9.214	110	79037	48.55	ppb	#	53
85) n-Propylbenzene	9.289	91	1058209	46.56	ppb		96
86) 2-Chlorotoluene	9.367	91	605633	46.18	ppb		100
87) 4-Chlorotoluene	9.490	91	740217	46.93	ppb		82
88) 1,3,5-Trimethylbenzene	9.417	105	864220	48.98	ppb	#	77
89) tert-Butylbenzene	9.840	119	588917	41.77	ppb		89
90) 1,2,4-Trimethylbenzene	9.896	105	720623	45.57	ppb		92
91) sec-Butylbenzene	10.085	105	937933	46.61	ppb		96
92) Limonene	10.196	68	320781	55.46	ppb	#	94
93) trans-Decahydronaphtha...	10.650	67	249673	48.44	ppb	#	88
95) 1,3-Dichlorobenzene	10.188	146	364741	46.80	ppb		93
96) p-Isopropyltoluene	10.255	119	782208	46.68	ppb		96
97) 1,4-Dichlorobenzene	10.291	146	361424m	46.30	ppb		
98) 1,2,3-Trimethylbenzene	10.358	105	735403	42.93	ppb		96
99) n-Undecane	10.864	57	490323	54.41	ppb		97
100) nitrobenzene	11.807	77	5511	44.85	ppb	#	100
101) p-Diethylbenzene	10.686	105	503093	47.94	ppb		97
102) 1,2-Dichlorobenzene	10.697	146	360346	47.93	ppb	#	88
103) n-Butylbenzene	10.711	91	995294	46.46	ppb		98
104) cis-Decahydronaphthalene	11.279	96	206548	50.36	ppb		91
105) 1,2-Dibromo-3-chloropr...	11.576	75	63876	50.24	ppb	#	36
106) 1,2,4,5-Tetramethylben...	11.557	119	718806	47.98	ppb		94
107) 1,2,4-Trichlorobenzene	12.508	180	239123	47.65	ppb	#	100
108) Hexachloro-1,3-Butadiene	12.720	225	118270	45.98	ppb		84
109) Naphthalene	12.778	128	820814	48.62	ppb		99
110) 1,2,3-Trichlorobenzene	13.057	180	224284	46.56	ppb		80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050823\
Data File : QV130870.D
Acq On : 9 May 2023 10:28 am
Operator : BMC
Sample : SEQ-SCV1
Misc : QBQV1050823A
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 09 12:50:29 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QVOA4	Calibration:	SD30046
Lab File ID:	QV433008.D	Calibration Date:	04/28/23 12:19
Sequence:	S3E1504	Injection Date:	05/10/23
Lab Sample ID:	S3E1504-CCV1	Injection Time:	08:59

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
1,1,1,2-Tetrachloroethane	A	50.0	55.8	0.2401722	0.2678409		11.5	20	
1,1,1-Trichloroethane	A	50.0	54.9	1.909332	2.094739	0.1	9.7	20	
1,1,2,2-Tetrachloroethane	A	50.0	48.6	0.5410942	0.5262922	0.3	-2.7	20	
1,1,2-Trichloro-1,2,2-trifluoroeth ane (Freon 113)	A	50.0	53.1	0.815395	0.8658259	0.1	6.2	20	
1,1,2-Trichloroethane	A	50.0	50.1	0.2107282	0.2109881	0.1	0.1	20	
1,1-Dichloroethane	A	50.0	51.1	1.834857	1.875556	0.2	2.2	20	
1,1-Dichloroethylene	A	50.0	54.2	1.536535	1.665981	0.1	8.4	20	
1,2,3-Trichlorobenzene	A	50.0	49.8	0.7091852	0.7069601		-0.3	20	
1,2,3-Trichloropropane	A	50.0	52.6	0.21613	0.227553		5.3	20	
1,2,4-Trichlorobenzene	A	50.0	51.2	0.7667271	0.7852563	0.2	2.4	20	
1,2,4-Trimethylbenzene	A	50.0	53.7	2.387028	2.565756		7.5	20	
1,2-Dibromo-3-chloropropane	A	50.0	54.6	0.1496912	0.1635701	0.05	9.3	20	
1,2-Dibromoethane	A	50.0	50.5	0.2083472	0.210394	0.1	1.0	20	
1,2-Dichlorobenzene	A	50.0	49.8	0.9463756	0.9428356	0.4	-0.4	20	
1,2-Dichloroethane	A	50.0	55.6	1.993047	2.216339	0.1	11.2	20	
1,2-Dichloropropane	A	50.0	50.3	0.2472933	0.2486165	0.1	0.5	20	
1,3,5-Trimethylbenzene	A	50.0	53.1	2.423037	2.573043		6.2	20	
1,3-Dichlorobenzene	A	50.0	51.3	1.012834	1.039317	0.6	2.6	20	
1,4-Dichlorobenzene	A	50.0	50.3	1.00839	1.013696	0.5	0.5	20	
1,4-Dioxane	A	1000	968	2.922743E-03	2.828078E-03		-3.2	20	
2-Butanone	A	50.0	58.9	8.130584E-02	9.571979E-02	0.1	17.7	20	
2-Hexanone	A	50.0	57.5	0.2431216	0.2793893	0.1	14.9	20	
4-Methyl-2-pentanone	A	50.0	50.2	0.3348636	0.3363895	0.1	0.5	20	
Acetone	A	50.0	62.7	0.7058765	0.7134208	0.1	25.4	20	*
Acrolein	A	50.0	18.5	0.1487591	5.497895E-02		-63.0	20	*
Acrylonitrile	A	50.0	47.6	0.3278004	0.31212		-4.8	20	
Benzene	A	50.0	48.7	3.021137	2.940608	0.5	-2.7	20	
Bromochloromethane	A	50.0	52.2	0.9171554	0.9584194		4.5	20	
Bromodichloromethane	A	50.0	54.7	0.4111478	0.4499883	0.2	9.4	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QVOA4	Calibration:	SD30046
Lab File ID:	QV433008.D	Calibration Date:	04/28/23 12:19
Sequence:	S3E1504	Injection Date:	05/10/23
Lab Sample ID:	S3E1504-CCV1	Injection Time:	08:59

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Bromoform	A	50.0	49.2	0.1226284	0.1359784	0.1	-1.6	20	
Bromomethane	A	50.0	53.7	0.3203846	0.3440469	0.1	7.4	20	
Carbon disulfide	A	50.0	47.0	1.769275	1.664366	0.1	-5.9	20	
Carbon tetrachloride	A	50.0	58.0	1.450476	1.681815	0.1	15.9	20	
Chlorobenzene	A	50.0	50.9	0.5963931	0.6073205	0.5	1.8	20	
Chloroethane	A	50.0	55.3	0.5914098	0.6537391	0.1	10.5	20	
Chloroform	A	50.0	53.9	1.94777	2.099392	0.2	7.8	20	
Chloromethane	A	50.0	38.6	1.300745	1.00455	0.1	-22.8	20	*
cis-1,2-Dichloroethylene	A	50.0	53.7	1.758096	1.888618	0.1	7.4	20	
cis-1,3-Dichloropropylene	A	50.0	54.0	0.3865339	0.4171327	0.2	7.9	20	
Cyclohexane	A	50.0	47.5	1.873476	1.779176	0.1	-5.0	20	
Dibromochloromethane	A	50.0	57.1	0.2246349	0.2564376	0.1	14.2	20	
Dibromomethane	A	50.0	53.5	0.1602109	0.1713522		7.0	20	
Dichlorodifluoromethane	A	50.0	35.0	1.298975	0.9089868	0.1	-30.0	20	*
Ethyl Benzene	A	50.0	52.8	1.381501	1.459241	0.1	5.6	20	
Hexachlorobutadiene	A	50.0	53.0	0.5396747	0.5721731		6.0	20	
Isopropylbenzene	A	50.0	52.1	2.689319	2.800615	0.1	4.1	20	
Methyl acetate	A	50.0	46.8	0.8550908	0.8010215	0.1	-6.3	20	
Methyl tert-butyl ether (MTBE)	A	50.0	46.2	2.687984	2.485989	0.1	-7.5	20	
Methylcyclohexane	A	50.0	50.6	0.4462678	0.4513773	0.1	1.1	20	
Methylene chloride	A	50.0	50.1	1.479052	1.481176	0.1	0.1	20	
n-Butylbenzene	A	50.0	52.9	3.441997	3.638757		5.7	20	
n-Propylbenzene	A	50.0	51.6	3.50748	3.616523		3.1	20	
o-Xylene	A	50.0	53.9	1.13668	1.226347	0.3	7.9	20	
p- & m- Xylenes	A	100	107	1.146403	1.227846	0.1	7.1	20	
p-Isopropyltoluene	A	50.0	51.8	2.513271	2.603023		3.6	20	
sec-Butylbenzene	A	50.0	51.6	2.877541	2.969566		3.2	20	
Styrene	A	50.0	51.3	0.693078	0.7111407	0.3	2.6	20	
tert-Butyl alcohol (TBA)	A	50.0	45.6	0.1030517	0.107534		-8.8	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QVOA4	Calibration:	SD30046
Lab File ID:	QV433008.D	Calibration Date:	04/28/23 12:19
Sequence:	S3E1504	Injection Date:	05/10/23
Lab Sample ID:	S3E1504-CCV1	Injection Time:	08:59

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
tert-Butylbenzene	A	50.0	51.9	1.927672	2.001543		3.8	20
Tetrachloroethylene	A	50.0	52.3	0.2889028	0.3020369	0.2	4.5	20
Toluene	A	50.0	51.0	1.073236	1.095769	0.4	2.1	20
trans-1,2-Dichloroethylene	A	50.0	52.1	1.581699	1.648941	0.1	4.3	20
trans-1,3-Dichloropropylene	A	50.0	55.1	0.3844989	0.4234023	0.1	10.1	20
Trichloroethylene	A	50.0	53.6	0.2996337	0.3211069	0.2	7.2	20
Trichlorofluoromethane	A	50.0	55.5	1.437691	1.596374	0.1	11.0	20
Vinyl Chloride	A	50.0	48.6	1.091324	1.061151	0.1	-2.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433008.D
Acq On : 10 May 2023 8:59 am
Operator : BMC
Sample : SEQ-CCV1
Misc : QBQV40051023A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 09:20:12 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.863	70	261973	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	861769	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.786	152	408296	50.00	ppb		# 0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.588	65	662623	54.38	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 108.76%				
54) Toluene-d8 (SURR)	6.357	98	1226535	50.26	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.52%				
73) p-Bromofluorobenzene (...	9.098	95	588299	50.73	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 101.46%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	238130	34.99	ppb		100
3) Chloromethane	1.210	50	263165m	38.61	ppb		
4) Vinyl Chloride	1.282	62	277993	48.62	ppb		100
5) Bromomethane	1.524	94	90131	53.69	ppb		98
6) Allyl Chloride	2.570	76	96551	47.84	ppb	#	100
7) Chloroethane	1.599	64	171262m	55.27	ppb		
8) Trichlorofluoromethane	1.789	101	418207	55.52	ppb		97
9) Ethanol	2.053	45	258139	4157.42	ppb		82
10) Freon-113	2.214	101	226823	53.09	ppb	#	90
11) 1,1-Dichloroethylene	2.231	61	436442	54.21	ppb		86
12) Acrolein	2.206	56	14403	18.48	ppb		93
13) Acetone	2.351	43	186897	62.68	ppb	#	21
14) Iodomethane	2.384	142	140115	61.06	ppb	#	20
15) Methyl Acetate	2.618	43	209846	46.84	ppb		94
16) Carbon disulfide	2.420	76	436019	47.04	ppb		100
17) tert-Butyl Alcohol (TBA)	2.871	59	28171	45.59	ppb	#	1
18) Methylene Chloride	2.698	49	388028	50.07	ppb	#	73
19) Acrylonitrile	2.966	53	81767	47.61	ppb		94
20) trans-1,2-Dichloroethy...	2.913	61	431978	52.13	ppb	#	86
21) tert-Butyl Methyl Ethe...	2.910	73	651262	46.24	ppb	#	96
22) 1,1-Dichloroethane	3.305	63	491345	51.11	ppb	#	99
23) Vinyl Acetate	3.355	43	613275m	51.89	ppb		
24) Diisopropyl ether (DIPE)	3.324	45	854763	45.36	ppb	#	87
25) Ethyl-tert-Butyl ether...	3.653	59	755081	41.76	ppb	#	95
26) cis-1,2-Dichloroethylene	3.836	61	494767	53.71	ppb	#	74
27) 2-Butanone	3.878	72	25076m	58.86	ppb		
28) 2,2-Dichloropropane	3.803	77	406700	51.34	ppb	#	74
29) Tetrahydrofuran	4.098	42	84605	46.73	ppb	#	55
30) Bromochloromethane	4.062	49	251080	52.25	ppb	#	47
31) Chloroform	4.137	83	549984	53.89	ppb		99
32) 1,1,1-Trichloroethane	4.254	97	548765	54.86	ppb		97
33) Cyclohexane	4.259	56	466096	47.48	ppb		79
34) 1,1-Dichloropropylene	4.396	75	364188	50.72	ppb	#	77
36) Carbon Tetrachloride	4.387	117	440590	57.97	ppb		100
37) tert-Amyl alcohol (TAA)	4.677	59	177759	384.82	ppb	#	100
38) 1,2-Dichloroethane	4.660	62	580621	55.60	ppb	#	86
39) Benzene	4.596	78	770360	48.67	ppb	#	64
40) tert-Amyl methyl ether...	4.679	73	591130	41.72	ppb	#	89
42) Trichloroethylene	5.200	95	276720	53.58	ppb		72
43) Methyl Cyclohexane	5.317	83	388983	50.57	ppb	#	45
44) Methyl Methacrylate	5.534	69	141325	50.59	ppb	#	89
45) Dibromomethane	5.567	93	147666	53.48	ppb	#	67
46) Bromodichloromethane	5.717	83	387786	54.72	ppb		98
47) 1,2-Dichloropropane	5.431	63	214250	50.27	ppb	#	87
48) 1,4-Dioxane	5.598	88	48743m	967.61	ppb		
49) 2-Chloroethyl vinyl ether	6.001	63	142795	50.07	ppb		96
50) 2-nitropropane	5.998	43	133328	50.78	ppb	#	100
51) cis-1,3-Dichloropropene	6.137	75	359472	53.96	ppb	#	71

Data Path : C:\msdchem\1\data\051023\
Data File : QV433008.D
Acq On : 10 May 2023 8:59 am
Operator : BMC
Sample : SEQ-CCV1
Misc : QBQV40051023A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 09:20:12 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

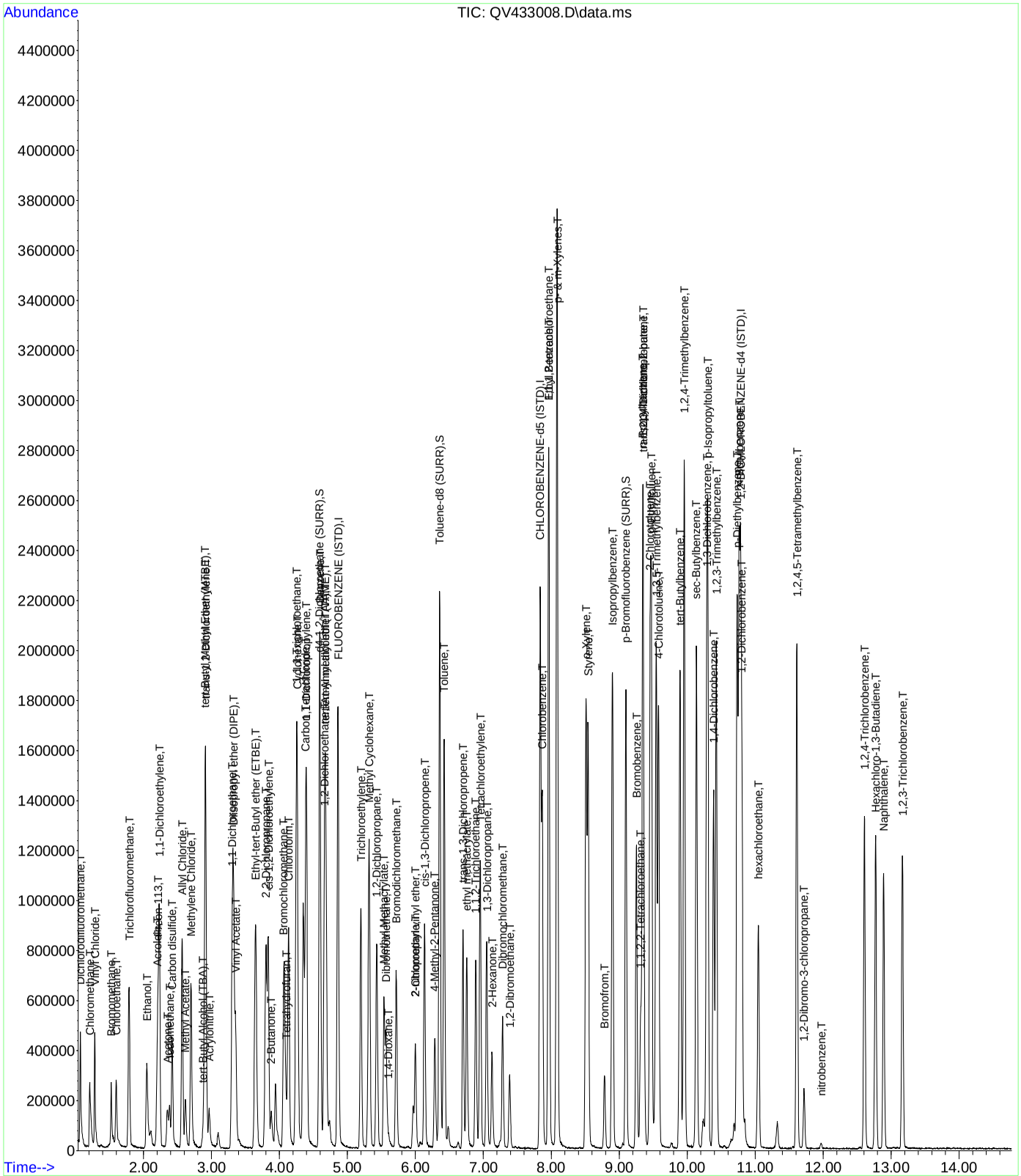
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.755	69	275141	51.11	ppb	#	100
53) 4-Methyl-2-Pentanone	6.285	43	289890	50.23	ppb		88
55) Toluene	6.424	91	944300	51.05	ppb		99
56) trans-1,3-Dichloropropene	6.699	75	364875	55.06	ppb	#	96
57) 1,1,2-Trichloroethane	6.889	97	181823	50.06	ppb	#	82
58) 1,3-Dichloropropane	7.053	76	348927	51.56	ppb	#	80
59) Tetrachloroethylene	6.958	166	260286	52.27	ppb		94
60) 2-Hexanone	7.128	43	240769	57.46	ppb		86
61) Dibromochloromethane	7.284	129	220990	57.08	ppb		96
62) 1,2-Dibromoethane	7.387	107	181311	50.49	ppb		99
63) Chlorobenzene	7.865	112	523370	50.92	ppb	#	66
64) 1,1,1,2-tetrachloroethane	7.962	131	230817	55.76	ppb	#	46
65) Ethyl Benzene	7.962	91	1257529	52.81	ppb		85
66) p- & m-Xylenes	8.085	91	2116239	107.10	ppb		82
67) o-Xylene	8.513	91	1056828	53.94	ppb		92
68) Styrene	8.541	104	612839	51.30	ppb	#	100
69) Bromofrom	8.783	173	117182	49.22	ppb	#	80
71) p-Ethyltoluene	9.473	105	1112943	51.95	ppb	#	97
72) Isopropylbenzene	8.900	105	1143480	52.07	ppb	#	87
74) 1,1,2,2-Tetrachloroethane	9.312	83	214883	48.63	ppb	#	100
75) Bromobenzene	9.253	77	476047	51.03	ppb	#	69
76) trans-1,4-Dichloro-2-b...	9.351	75	286271	50.47	ppb	#	27
77) 1,2,3-Trichloropropane	9.348	110	92909	52.64	ppb		95
78) n-Propylbenzene	9.345	91	1476612	51.55	ppb	#	90
79) 2-Chlorotoluene	9.454	91	1098327m	52.68	ppb		
80) 4-Chlorotoluene	9.576	91	983169	50.89	ppb		80
81) 1,3,5-Trimethylbenzene	9.543	105	1050563	53.10	ppb		83
82) tert-Butylbenzene	9.896	119	817222	51.92	ppb	#	67
83) 1,2,4-Trimethylbenzene	9.955	105	1047588	53.74	ppb		80
84) sec-Butylbenzene	10.135	105	1212462	51.60	ppb	#	87
85) hexachloroethane	11.048	117	150696	48.64	ppb	#	100
86) 1,3-Dichlorobenzene	10.286	146	424349	51.31	ppb	#	78
87) p-Isopropyltoluene	10.300	119	1062804	51.79	ppb	#	85
88) 1,4-Dichlorobenzene	10.389	146	413888	50.26	ppb	#	79
89) 1,2,3-Trimethylbenzene	10.428	105	1071445	68.06	ppb	#	85
90) nitrobenzene	11.969	77	8265m	44.11	ppb		
91) p-Diethylbenzene	10.734	105	647736	52.32	ppb	#	22
92) 1,2-Dichlorobenzene	10.803	146	384956	49.81	ppb	#	94
93) n-Butylbenzene	10.761	91	1485690	52.86	ppb	#	87
94) 1,2-Dibromo-3-chloropr...	11.719	75	66785	54.64	ppb	#	68
95) 1,2,4,5-Tetramethylben...	11.613	119	1023228	52.80	ppb	#	84
96) 1,2,4-Trichlorobenzene	12.606	180	320617	51.21	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.776	225	233616	53.01	ppb		84
98) Naphthalene	12.887	128	699544	48.35	ppb		99
99) 1,2,3-Trichlorobenzene	13.168	180	288649	49.84	ppb	#	78

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433008.D
Acq On : 10 May 2023 8:59 am
Operator : BMC
Sample : SEQ-CCV1
Misc : QBQV40051023A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 09:20:12 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QVOA1	Calibration:	SE30018
Lab File ID:	QV130958.D	Calibration Date:	05/10/23 14:46
Sequence:	S3E1513	Injection Date:	05/12/23
Lab Sample ID:	S3E1513-CCV1	Injection Time:	10:39

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
1,1,1,2-Tetrachloroethane	A	50.0	46.6	0.1867346	0.1738417		-6.9	20	
1,1,1-Trichloroethane	A	50.0	42.1	1.387788	1.167926	0.1	-15.8	20	
1,1,2,2-Tetrachloroethane	A	50.0	51.7	0.7290981	0.7536455	0.3	3.4	20	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	50.0	65.0	0.7456227	0.9694836	0.1	30.0	20	*
1,1,2-Trichloroethane	A	50.0	49.2	0.2272175	0.2236555	0.1	-1.6	20	
1,1-Dichloroethane	A	50.0	48.1	1.835039	1.765698	0.2	-3.8	20	
1,1-Dichloroethylene	A	50.0	59.6	1.396021	1.663236	0.1	19.1	20	
1,2,3-Trichlorobenzene	A	50.0	45.3	0.6560687	0.5944123		-9.4	20	
1,2,3-Trichloropropane	A	50.0	48.2	0.2217315	0.2138438		-3.6	20	
1,2,4-Trichlorobenzene	A	50.0	46.0	0.6834843	0.6284858	0.2	-8.0	20	
1,2,4-Trimethylbenzene	A	50.0	49.2	2.153955	2.121011		-1.5	20	
1,2-Dibromo-3-chloropropane	A	50.0	48.8	0.1731783	0.169037	0.05	-2.4	20	
1,2-Dibromoethane	A	50.0	49.0	0.2348822	0.2302349	0.1	-2.0	20	
1,2-Dichlorobenzene	A	50.0	49.7	1.024052	1.018566	0.4	-0.5	20	
1,2-Dichloroethane	A	50.0	46.5	1.426815	1.325918	0.1	-7.1	20	
1,2-Dichloropropane	A	50.0	52.8	0.2777922	0.2934879	0.1	5.7	20	
1,3,5-Trimethylbenzene	A	50.0	54.5	2.403365	2.618551		9.0	20	
1,3-Dichlorobenzene	A	50.0	47.6	1.061529	1.009879	0.6	-4.9	20	
1,4-Dichlorobenzene	A	50.0	47.2	1.063208	1.003598	0.5	-5.6	20	
1,4-Dioxane	A	1000	989	5.571842E-03	5.510433E-03		-1.1	20	
2-Butanone	A	50.0	60.4	0.1891933	0.2286297	0.1	20.8	20	*
2-Hexanone	A	50.0	58.8	0.2914795	0.3430971	0.1	17.7	20	
4-Methyl-2-pentanone	A	50.0	49.6	0.4662933	0.4628379	0.1	-0.7	20	
Acetone	A	50.0	87.7	0.5459851	0.9572989	0.1	75.3	20	*
Acrolein	A	50.0	68.6	0.1851069	0.2539484		37.2	20	*
Acrylonitrile	A	50.0	49.8	0.5824189	0.580524		-0.3	20	
Benzene	A	50.0	48.0	3.896551	3.743465	0.5	-3.9	20	
Bromochloromethane	A	50.0	49.9	0.9271818	0.9257113		-0.2	20	
Bromodichloromethane	A	50.0	51.5	0.3196522	0.3291368	0.2	3.0	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QVOA1	Calibration:	SE30018
Lab File ID:	QV130958.D	Calibration Date:	05/10/23 14:46
Sequence:	S3E1513	Injection Date:	05/12/23
Lab Sample ID:	S3E1513-CCV1	Injection Time:	10:39

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Bromoform	A	50.0	37.7	0.1153157	0.1103153	0.1	-24.7	20	*
Bromomethane	A	50.0	64.6	0.3890575	0.5028514	0.1	29.2	20	*
Carbon disulfide	A	50.0	50.1	2.641664	2.645769	0.1	0.2	20	
Carbon tetrachloride	A	50.0	40.4	1.000108	0.8077904	0.1	-19.2	20	
Chlorobenzene	A	50.0	49.0	0.6262926	0.6144047	0.5	-1.9	20	
Chloroethane	A	50.0	61.3	0.5266872	0.6457564	0.1	22.6	20	*
Chloroform	A	50.0	47.1	1.710892	1.611034	0.2	-5.8	20	
Chloromethane	A	50.0	55.0	1.188798	1.307106	0.1	10.0	20	
cis-1,2-Dichloroethylene	A	50.0	47.4	1.730201	1.6409	0.1	-5.2	20	
cis-1,3-Dichloropropylene	A	50.0	48.4	0.4100648	0.3966133	0.2	-3.3	20	
Cyclohexane	A	50.0	52.2	1.838562	1.918304	0.1	4.3	20	
Dibromochloromethane	A	50.0	50.0	0.2050923	0.2049042	0.1	-0.09	20	
Dibromomethane	A	50.0	50.3	0.1669509	0.1678349		0.5	20	
Dichlorodifluoromethane	A	50.0	37.8	0.9187918	0.6940568	0.1	-24.5	20	*
Ethyl Benzene	A	50.0	51.1	1.212606	1.239676	0.1	2.2	20	
Hexachlorobutadiene	A	50.0	43.3	0.3503756	0.3037083		-13.3	20	
Isopropylbenzene	A	50.0	50.0	2.462549	2.463249	0.1	0.03	20	
Methyl acetate	A	50.0	50.0	1.055125	1.055707	0.1	0.06	20	
Methyl tert-butyl ether (MTBE)	A	50.0	42.0	2.793016	2.347737	0.1	-15.9	20	
Methylcyclohexane	A	50.0	55.0	0.4739746	0.5216902	0.1	10.1	20	
Methylene chloride	A	50.0	49.9	1.412859	1.409373	0.1	-0.2	20	
n-Butylbenzene	A	50.0	53.4	2.9177	3.116252		6.8	20	
n-Propylbenzene	A	50.0	51.2	3.095482	3.16852		2.4	20	
o-Xylene	A	50.0	50.6	0.9534635	0.9643409	0.3	1.1	20	
p- & m- Xylenes	A	100	103	0.9451373	0.973192	0.1	3.0	20	
p-Isopropyltoluene	A	50.0	49.2	2.282341	2.246793		-1.6	20	
sec-Butylbenzene	A	50.0	50.4	2.74087	2.764945		0.9	20	
Styrene	A	50.0	50.8	0.7693824	0.7821553	0.3	1.7	20	
tert-Butyl alcohol (TBA)	A	50.0	39.0	0.1643357	0.1282858		-21.9	20	*

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QVOA1	Calibration:	SE30018
Lab File ID:	QV130958.D	Calibration Date:	05/10/23 14:46
Sequence:	S3E1513	Injection Date:	05/12/23
Lab Sample ID:	S3E1513-CCV1	Injection Time:	10:39

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
tert-Butylbenzene	A	50.0	48.8	1.920269	1.876234		-2.3	20	
Tetrachloroethylene	A	50.0	43.0	0.2559699	0.2203623	0.2	-13.9	20	
Toluene	A	50.0	51.0	1.082321	1.104797	0.4	2.1	20	
trans-1,2-Dichloroethylene	A	50.0	47.2	1.525667	1.441606	0.1	-5.5	20	
trans-1,3-Dichloropropylene	A	50.0	44.5	0.3707658	0.3297111	0.1	-11.1	20	
Trichloroethylene	A	50.0	49.3	0.2605849	0.2568469	0.2	-1.4	20	
Trichlorofluoromethane	A	50.0	63.9	1.423094	1.81992	0.1	27.9	20	*
Vinyl Chloride	A	50.0	57.1	1.070531	1.223067	0.1	14.2	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130958.D
Acq On : 12 May 2023 10:39 am
Operator : BMC
Sample : SEQ-CCV1
Misc : QBQV1051223A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 12 10:55:04 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	164305	50.00	ppb		# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.742	117	581506	50.00	ppb		# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	266835	50.00	ppb		# 0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.484	65	253423	48.81	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.62%				
57) Toluene-d8 (SURR)	6.287	98	777490	52.62	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.24%				
80) p-Bromofluorobenzene (...	8.997	95	302648	49.60	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	114037m	37.77	ppb		
3) Freon-22	1.151	51	179974	50.95	ppb	#	93
4) Chloromethane	1.276	50	214764m	54.98	ppb		
5) Vinyl Chloride	1.304	62	200956m	57.12	ppb		
6) Bromomethane	1.530	94	82621m	64.62	ppb		
7) Ethyl Ether	2.055	59	142561	599.97	ppb	#	74
8) Allyl Chloride	2.537	76	86638	46.60	ppb	#	100
9) Chloroethane	1.599	64	106101m	61.30	ppb		
10) Trichlorofluoromethane	1.800	101	299022	63.94	ppb		97
11) Ethanol	2.019	45	101597	2494.72	ppb		82
12) Freon-113	2.225	101	159291	65.01	ppb	#	93
13) 1,1-Dichloroethylene	2.222	61	273278	59.57	ppb		89
14) Acrolein	2.161	56	41725	68.60	ppb		97
15) Acetone	2.303	43	157289	87.67	ppb	#	44
16) Iodomethane	2.348	142	125873	50.49	ppb	#	20
17) Methyl Acetate	2.576	43	173458	50.03	ppb		96
18) Carbon disulfide	2.395	76	434713	50.08	ppb		100
19) tert-Butyl Alcohol (TBA)	2.804	59	21078m	39.03	ppb		
20) Methylene Chloride	2.643	49	231567	49.88	ppb		87
21) Acrylonitrile	2.871	53	95383	49.84	ppb		96
22) trans-1,2-Dichloroethy...	2.873	61	236863	47.25	ppb		92
23) tert-Butyl Methyl Ethe...	2.893	73	385745	42.03	ppb		99
24) n-Hexane	3.110	57	271566	48.43	ppb		95
25) 1,1-Dichloroethane	3.241	63	290113	48.11	ppb	#	99
26) Vinyl Acetate	3.307	43	589469	46.79	ppb		100
27) Diisopropyl ether (DIPE)	3.321	45	538347	47.99	ppb		97
28) Ethyl-tert-Butyl ether...	3.639	59	357295	32.76	ppb	#	97
29) cis-1,2-Dichloroethylene	3.753	61	269608	47.42	ppb		92
30) 2-Butanone	3.786	72	37565	60.42	ppb		80
31) 2,2-Dichloropropane	3.750	77	129519	28.76	ppb	#	68
32) Tetrahydrofuran	4.017	42	72865	45.20	ppb		88
33) Bromochloromethane	3.964	49	152099	49.92	ppb	#	80
34) Chloroform	4.042	83	264701	47.08	ppb	#	92
35) 1,1,1-Trichloroethane	4.195	97	191896	42.08	ppb	#	84
36) Cyclohexane	4.237	56	315187	52.17	ppb		91
37) 1,1-Dichloropropylene	4.342	75	211286	47.44	ppb	#	65
39) Carbon Tetrachloride	4.340	117	132724	40.39	ppb		99
40) tert-Amyl alcohol (TAA)	4.579	59	169804	341.92	ppb	#	100
41) 1,2-Dichloroethane	4.554	62	217855	46.46	ppb		99
42) Benzene	4.529	78	615070	48.04	ppb	#	97
43) tert-Amyl methyl ether...	4.649	73	346443	37.05	ppb	#	89
45) Trichloroethylene	5.124	95	149358	49.28	ppb		81
46) Methyl Cyclohexane	5.297	83	303366	55.03	ppb	#	80
47) Methyl Methacrylate	5.466	69	133500	50.53	ppb	#	97
48) Dibromomethane	5.444	93	97597	50.26	ppb		89
49) Bromodichloromethane	5.600	83	191395	51.48	ppb		98
50) 1,2-Dichloropropane	5.336	63	170665	52.83	ppb	#	98
51) 1,4-Dioxane	5.483	88	64087m	988.98	ppb		

Data Path : C:\msdchem\1\data\051223\
Data File : QV130958.D
Acq On : 12 May 2023 10:39 am
Operator : BMC
Sample : SEQ-CCV1
Misc : QBQV1051223A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 12 10:55:04 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

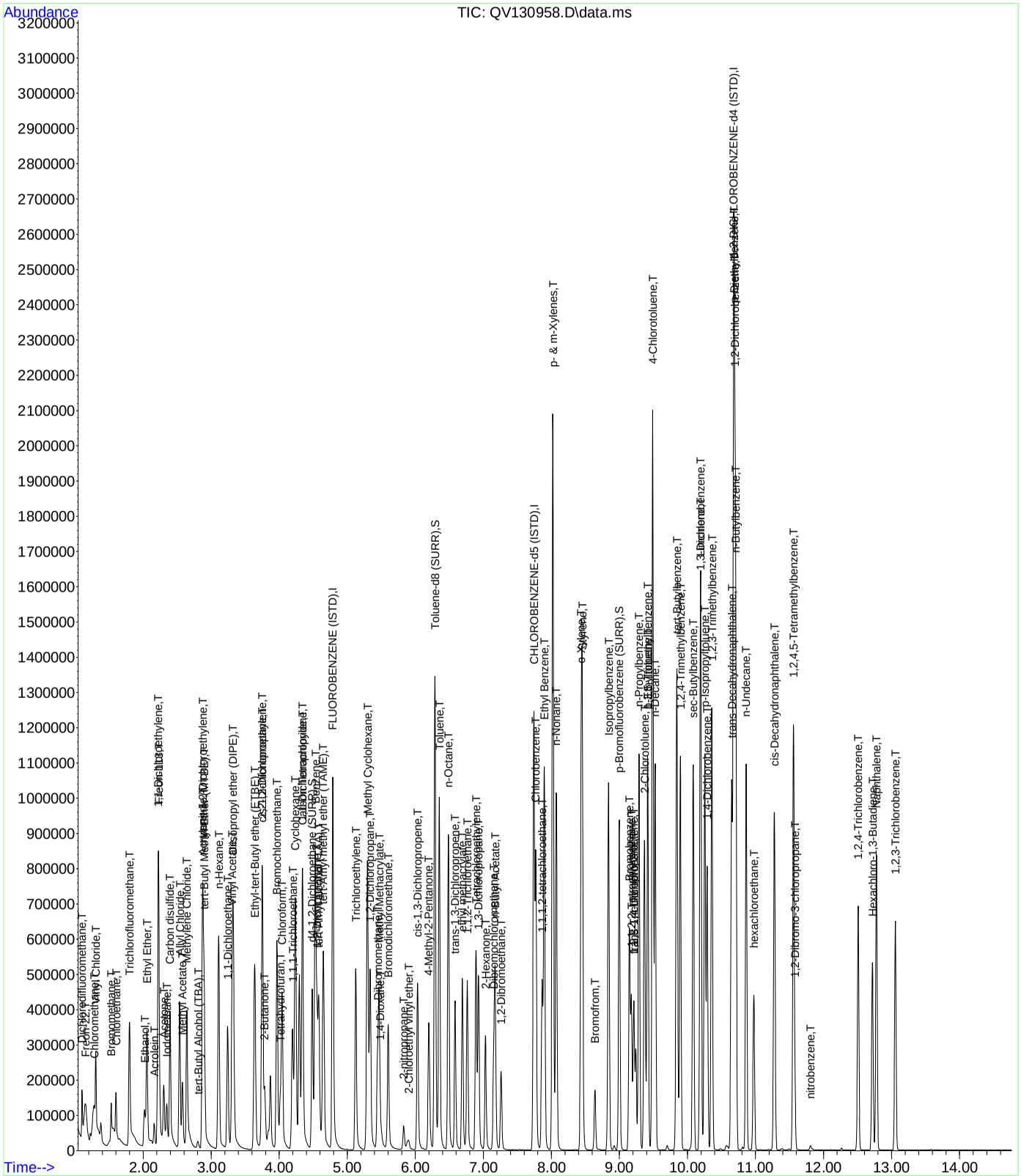
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 2-Chloroethyl vinyl ether	5.903	63	7576	12.74	ppb		96
53) 2-nitropropane	5.828	43	39210	47.03	ppb	#	100
54) cis-1,3-Dichloropropene	6.034	75	230633	48.36	ppb		95
55) ethyl methacrylate	6.691	69	227896	51.32	ppb	#	100
56) 4-Methyl-2-Pentanone	6.198	43	269143	49.63	ppb		89
58) Toluene	6.351	91	642446	51.04	ppb		100
59) n-Octane	6.485	43	390998	53.43	ppb		90
60) trans-1,3-Dichloropropene	6.585	75	191729	44.46	ppb		98
61) 1,1,2-Trichloroethane	6.763	97	130057	49.22	ppb		92
62) 1,3-Dichloropropane	6.930	76	243797	51.46	ppb	#	73
63) Tetrachloroethylene	6.891	166	128142	43.04	ppb	#	72
64) 2-Hexanone	7.030	43	199513	58.85	ppb		97
65) n-Butyl Acetate	7.172	43	317263	52.72	ppb		95
66) Dibromochloromethane	7.153	129	119153	49.95	ppb		99
67) 1,2-Dibromoethane	7.261	107	133883	49.01	ppb		98
68) Chlorobenzene	7.770	112	357280	49.05	ppb	#	85
69) 1,1,1,2-tetrachloroethane	7.865	131	101090	46.55	ppb	#	57
70) Ethyl Benzene	7.895	91	720879	51.12	ppb		95
71) p- & m-Xylenes	8.021	91	1131834	102.97	ppb		94
72) o-Xylene	8.438	91	560770	50.57	ppb		98
73) Styrene	8.455	104	454828	50.83	ppb	#	100
74) n-Nonane	8.071	43	366687	53.87	ppb		92
75) Bromofrom	8.641	173	64149	37.67	ppb	#	80
77) p-Ethyltoluene	9.415	105	698721	54.48	ppb	#	97
78) n-Decane	9.526	57	376450	53.85	ppb		93
79) Isopropylbenzene	8.839	105	657281	50.01	ppb		94
81) 1,1,2,2-Tetrachloroethane	9.175	83	201099	51.68	ppb	#	100
82) Bromobenzene	9.147	77	274929	50.18	ppb	#	73
83) trans-1,4-Dichloro-2-b...	9.211	75	211682m	47.40	ppb		
84) 1,2,3-Trichloropropane	9.211	110	57061	48.22	ppb	#	53
85) n-Propylbenzene	9.287	91	845472	51.18	ppb		95
86) 2-Chlorotoluene	9.367	91	477747	50.11	ppb		99
87) 4-Chlorotoluene	9.490	91	587372	51.23	ppb		81
88) 1,3,5-Trimethylbenzene	9.415	105	698721	54.48	ppb	#	76
89) tert-Butylbenzene	9.840	119	500645	48.85	ppb		92
90) 1,2,4-Trimethylbenzene	9.896	105	565960	49.24	ppb		90
91) sec-Butylbenzene	10.085	105	737784	50.44	ppb		94
92) Limonene	10.196	68	222731	52.97	ppb	#	93
93) trans-Decahydronaphtha...	10.647	67	193549	51.66	ppb	#	84
94) hexachloroethane	10.975	117	60132	39.93	ppb	#	100
95) 1,3-Dichlorobenzene	10.188	146	269471	47.57	ppb	#	91
96) p-Isopropyltoluene	10.255	119	599523	49.22	ppb		95
97) 1,4-Dichlorobenzene	10.288	146	267795	47.20	ppb	#	90
98) 1,2,3-Trimethylbenzene	10.358	105	668695	53.70	ppb		95
99) n-Undecane	10.861	57	383996	58.62	ppb		95
100) nitrobenzene	11.810	77	5438	60.88	ppb	#	100
101) p-Diethylbenzene	10.686	105	428834	56.21	ppb		96
102) 1,2-Dichlorobenzene	10.697	146	271789	49.73	ppb	#	87
103) n-Butylbenzene	10.711	91	831525	53.40	ppb		98
104) cis-Decahydronaphthalene	11.279	96	148971	49.97	ppb	#	86
105) 1,2-Dibromo-3-chloropr...	11.576	75	45105	48.80	ppb	#	72
106) 1,2,4,5-Tetramethylben...	11.557	119	580392	53.29	ppb		94
107) 1,2,4-Trichlorobenzene	12.508	180	167702	45.98	ppb	#	100
108) Hexachloro-1,3-Butadiene	12.720	225	81040	43.34	ppb		82
109) Naphthalene	12.778	128	577375	47.05	ppb		99
110) 1,2,3-Trichlorobenzene	13.056	180	158610	45.30	ppb		79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130958.D
Acq On : 12 May 2023 10:39 am
Operator : BMC
Sample : SEQ-CCV1
Misc : QBQV1051223A
ALS Vial : 3 Sample Multiplier: 1

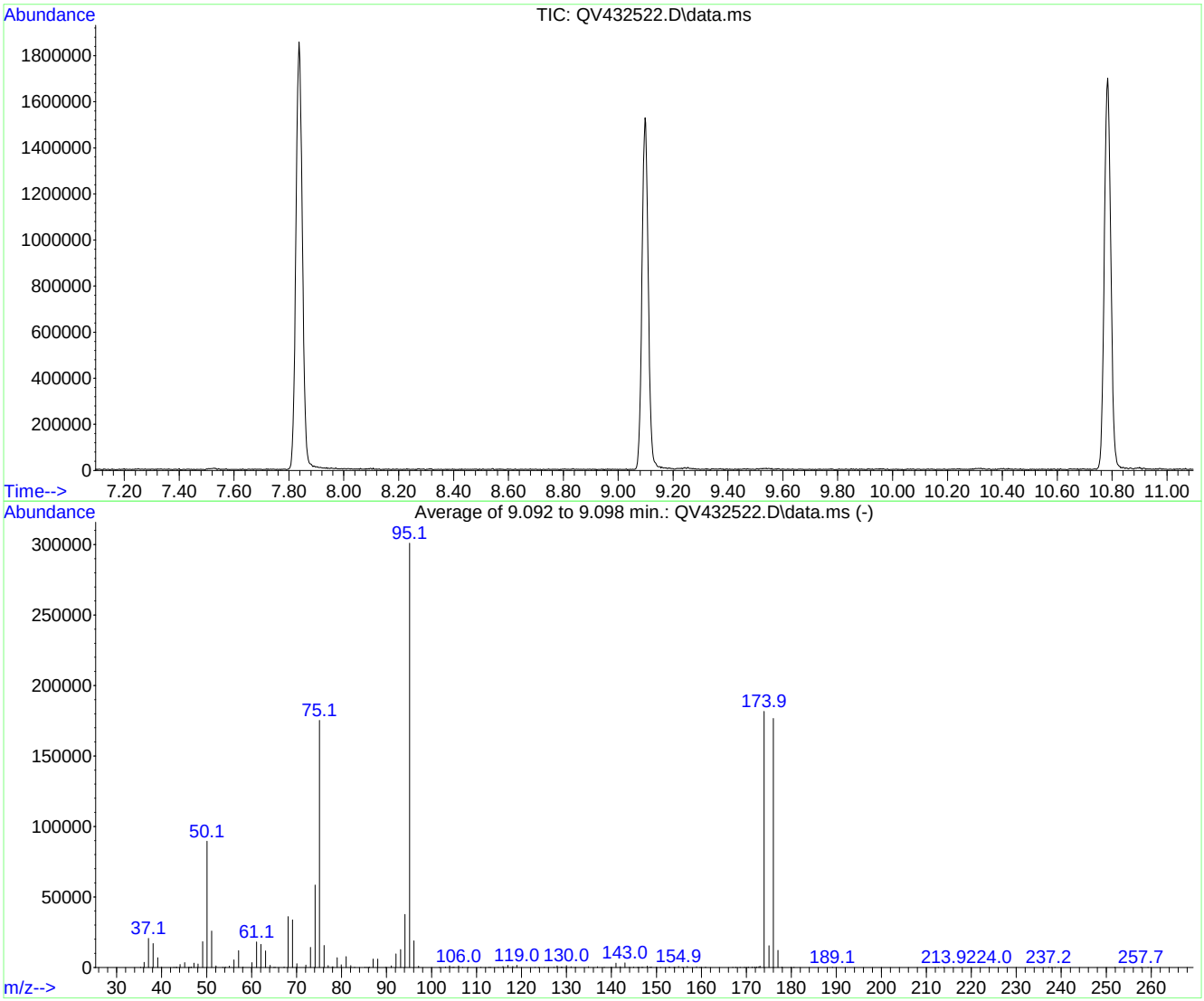
Quant Time: May 12 10:55:04 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1



Data Path : C:\msdchem\1\data\042523\
Data File : QV432522.D
Acq On : 25 Apr 2023 2:33 pm
Operator : BMC
Sample : SEQ-TUN1
Misc : QBQV40042523A
ALS Vial : 8 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ4C0052.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Fri Apr 28 11:15:27 2023
InstName : QVOA4



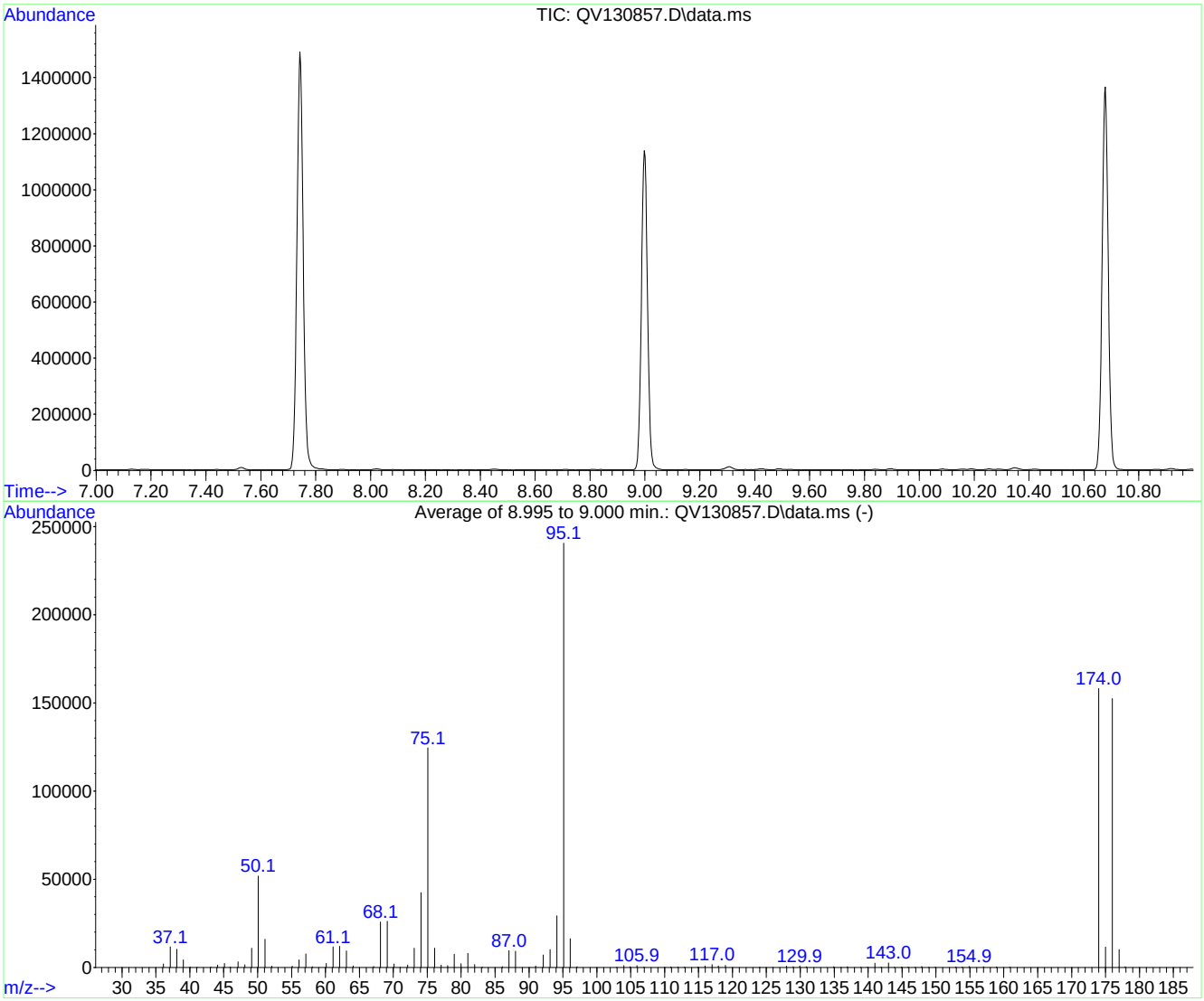
Spectrum Information: Average of 9.092 to 9.098 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.7	89451	PASS
75	95	30	60	58.3	175360	PASS
95	95	100	100	100.0	300928	PASS
96	95	5	9	6.3	18891	PASS
173	174	0.00	2	0.5	939	PASS
174	95	50	100	60.4	181693	PASS
175	174	5	9	8.5	15426	PASS
176	174	95	101	97.3	176725	PASS
177	176	5	9	6.8	12086	PASS

Data Path : C:\msdchem\1\data\050823\
Data File : QV130857.D
Acq On : 8 May 2023 2:55 pm
Operator : BMC
Sample : SEQ-TUN1
Misc : QBQV1050823A
ALS Vial : 6 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ1SC001.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Tue May 09 12:50:09 2023
InstName : QVOA1



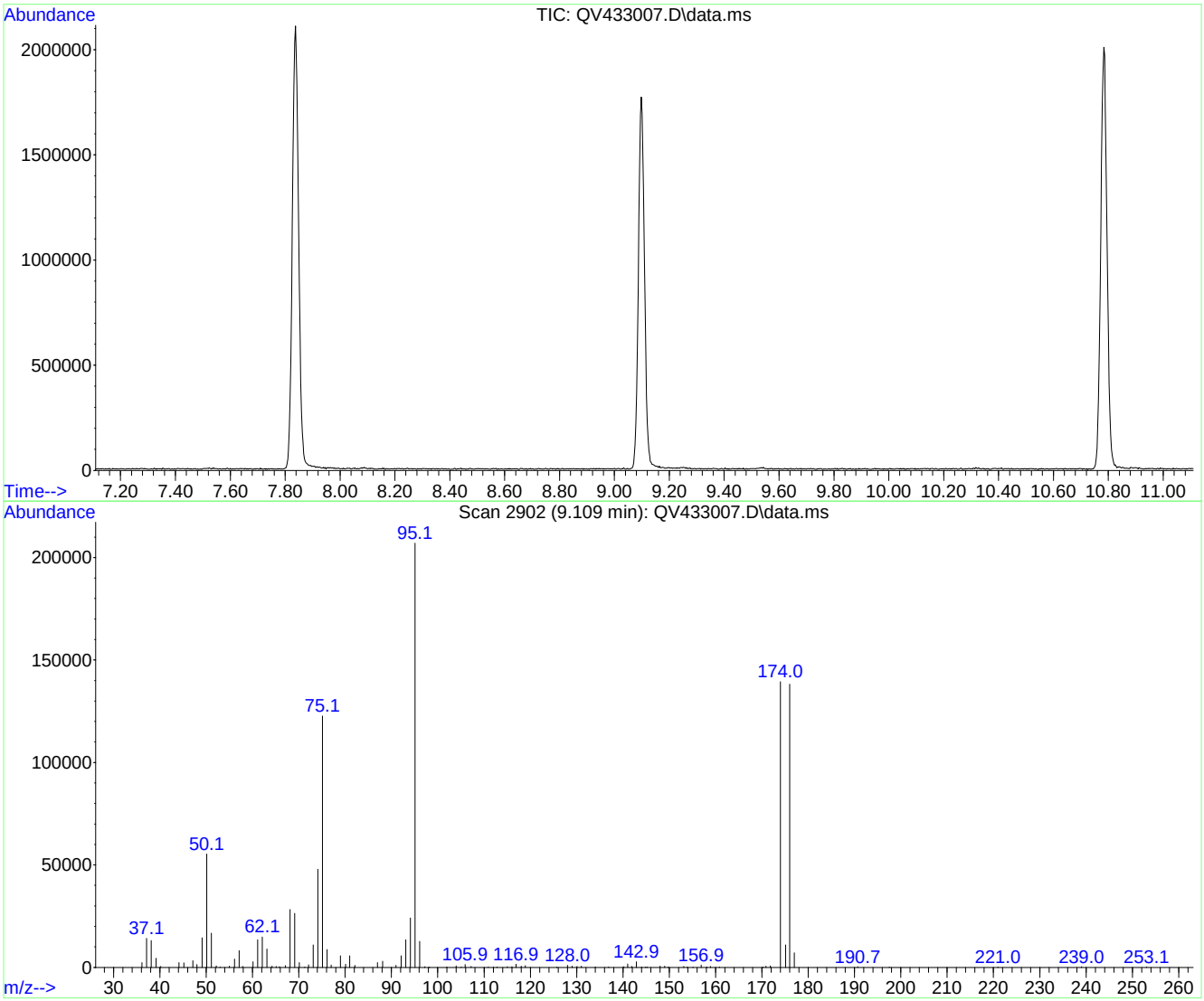
Spectrum Information: Average of 8.995 to 9.000 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	51859	PASS
75	95	30	60	51.8	124552	PASS
95	95	100	100	100.0	240533	PASS
96	95	5	9	6.8	16357	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	65.7	158144	PASS
175	174	5	9	7.3	11564	PASS
176	174	95	101	96.4	152491	PASS
177	176	5	9	6.6	10122	PASS

Data Path : C:\msdchem\1\data\051023\
Data File : QV433007.D
Acq On : 10 May 2023 8:30 am
Operator : BMC
Sample : SEQ-TUN1
Misc : QBQV40051023A
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ4ML018.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Thu May 04 01:34:40 2023
InstName : QVOA4



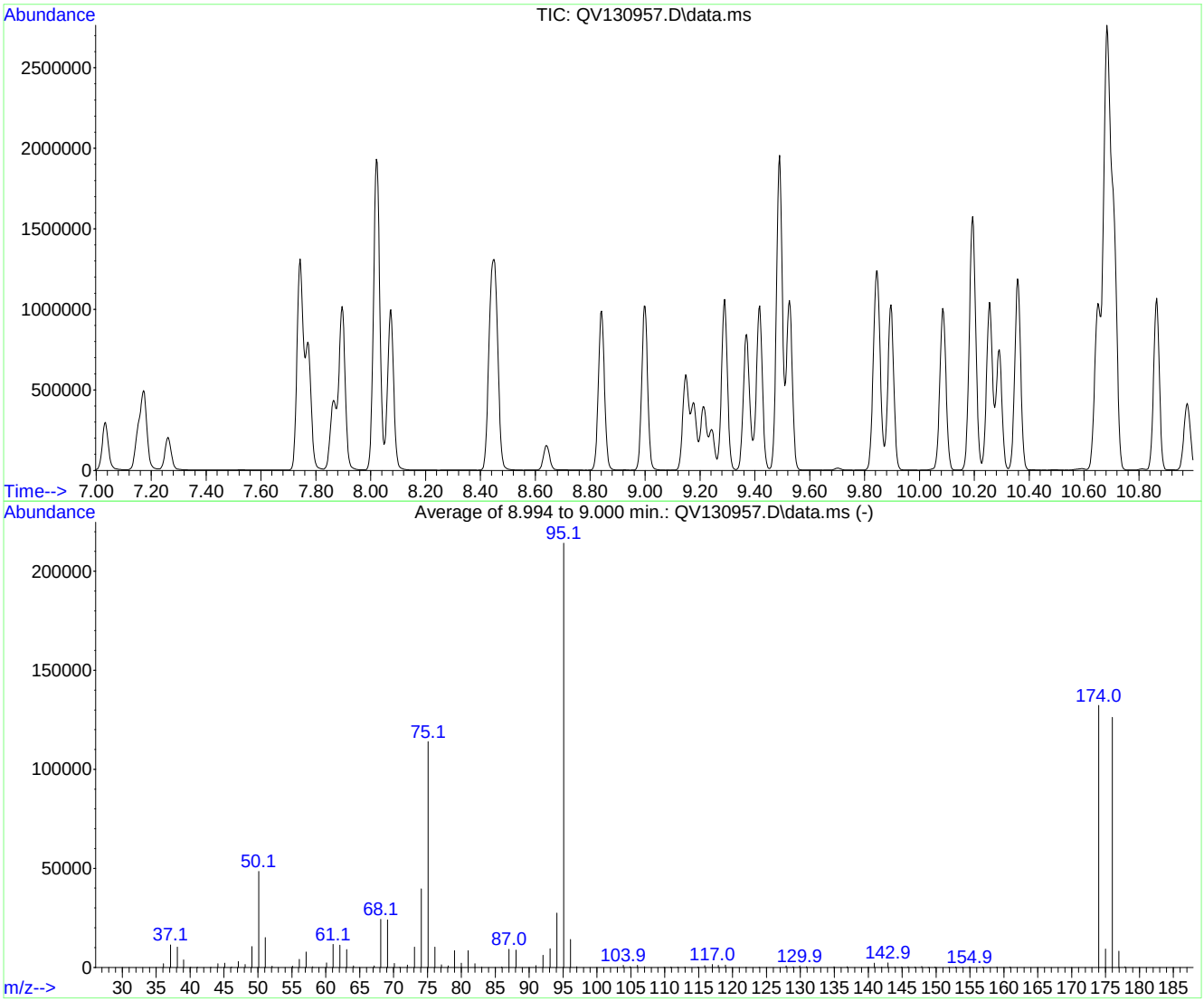
Spectrum Information: Scan 2902

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.8	55368	PASS
75	95	30	60	59.2	122624	PASS
95	95	100	100	100.0	206976	PASS
96	95	5	9	6.1	12638	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	67.4	139456	PASS
175	174	5	9	7.9	11006	PASS
176	174	95	101	99.1	138176	PASS
177	176	5	9	5.1	7058	PASS

```
Data Path : C:\msdchem\1\data\051223\
Data File : QV130957.D
Acq On    : 12 May 2023  10:04 am
Operator  : BMC
Sample    : SEQ-TUN1
Misc      : QBQV1051223A
ALS Vial  : 2   Sample Multiplier: 1

Integration File: rteint.p

Method    : C:\msdchem\1\methods\VQ1SC001.M
Title     : Volatile Organics EPA 8260C-SOIL
Last Update  : Tue May 09 12:50:09 2023
InstName  : QVOA1
```



Spectrum Information: Average of 8.994 to 9.000 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.6	48435	PASS
75	95	30	60	53.2	113987	PASS
95	95	100	100	100.0	214123	PASS
96	95	5	9	6.6	14118	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	61.8	132277	PASS
175	174	5	9	7.0	9271	PASS
176	174	95	101	95.4	126208	PASS
177	176	5	9	6.5	8205	PASS

METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: VOA
METHOD: EPA 8260C

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31853-BLK1	File ID:	QV433011.D
Prepared:	05/10/23 08:30	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/10/23 10:36	Instrument:	QVOA4		
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
630-20-6	1,1,1,2-Tetrachloroethane	0.0050	U
71-55-6	1,1,1-Trichloroethane	0.0050	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0050	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0050	U
79-00-5	1,1,2-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
87-61-6	1,2,3-Trichlorobenzene	0.0050	U
96-18-4	1,2,3-Trichloropropane	0.0050	U
120-82-1	1,2,4-Trichlorobenzene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
96-12-8	1,2-Dibromo-3-chloropropane	0.0050	U
106-93-4	1,2-Dibromoethane	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
78-87-5	1,2-Dichloropropane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
591-78-6	2-Hexanone	0.0050	U
108-10-1	4-Methyl-2-pentanone	0.0050	U
67-64-1	Acetone	0.010	U
107-02-8	Acrolein	0.010	U
107-13-1	Acrylonitrile	0.0050	U
71-43-2	Benzene	0.0050	U
74-97-5	Bromochloromethane	0.0050	U
75-27-4	Bromodichloromethane	0.0050	U
75-25-2	Bromoform	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31853-BLK1	File ID:	QV433011.D
Prepared:	05/10/23 08:30	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/10/23 10:36	Instrument:	QVOA4		
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
74-83-9	Bromomethane	0.0050	U
75-15-0	Carbon disulfide	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
75-00-3	Chloroethane	0.0050	U
67-66-3	Chloroform	0.0050	U
74-87-3	Chloromethane	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
10061-01-5	cis-1,3-Dichloropropylene	0.0050	U
110-82-7	Cyclohexane	0.0050	U
124-48-1	Dibromochloromethane	0.0050	U
74-95-3	Dibromomethane	0.0050	U
75-71-8	Dichlorodifluoromethane	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
87-68-3	Hexachlorobutadiene	0.0050	U
98-82-8	Isopropylbenzene	0.0050	U
79-20-9	Methyl acetate	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
108-87-2	Methylcyclohexane	0.0050	U
75-09-2	Methylene chloride	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.010	U
99-87-6	p-Isopropyltoluene	0.0050	U
135-98-8	sec-Butylbenzene	0.0050	U
100-42-5	Styrene	0.0050	U
75-65-0	tert-Butyl alcohol (TBA)	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31853-BLK1	File ID:	QV433011.D
Prepared:	05/10/23 08:30	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/10/23 10:36	Instrument:	QVOA4		
Batch:	BD31853	Sequence:	S3E1504	Calibration:	SD30046

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U
10061-02-6	trans-1,3-Dichloropropylene	0.0050	U
79-01-6	Trichloroethylene	0.0050	U
75-69-4	Trichlorofluoromethane	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	53.5	107	77 - 125	
SURR: Toluene-d8	50.0	50.6	101	85 - 120	
SURR: p-Bromofluorobenzene	50.0	49.1	98.1	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	256249	4.86	261973	4.863	
ISTD: Chlorobenzene-d5	821583	7.837	861769	7.837	
ISTD: 1,2-Dichlorobenzene-d4	399472	10.784	408296	10.786	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433011.D
Acq On : 10 May 2023 10:36 am
Operator : BMC
Sample : BD31853-BLK1
Misc : QBQV40051023A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 10:56:29 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

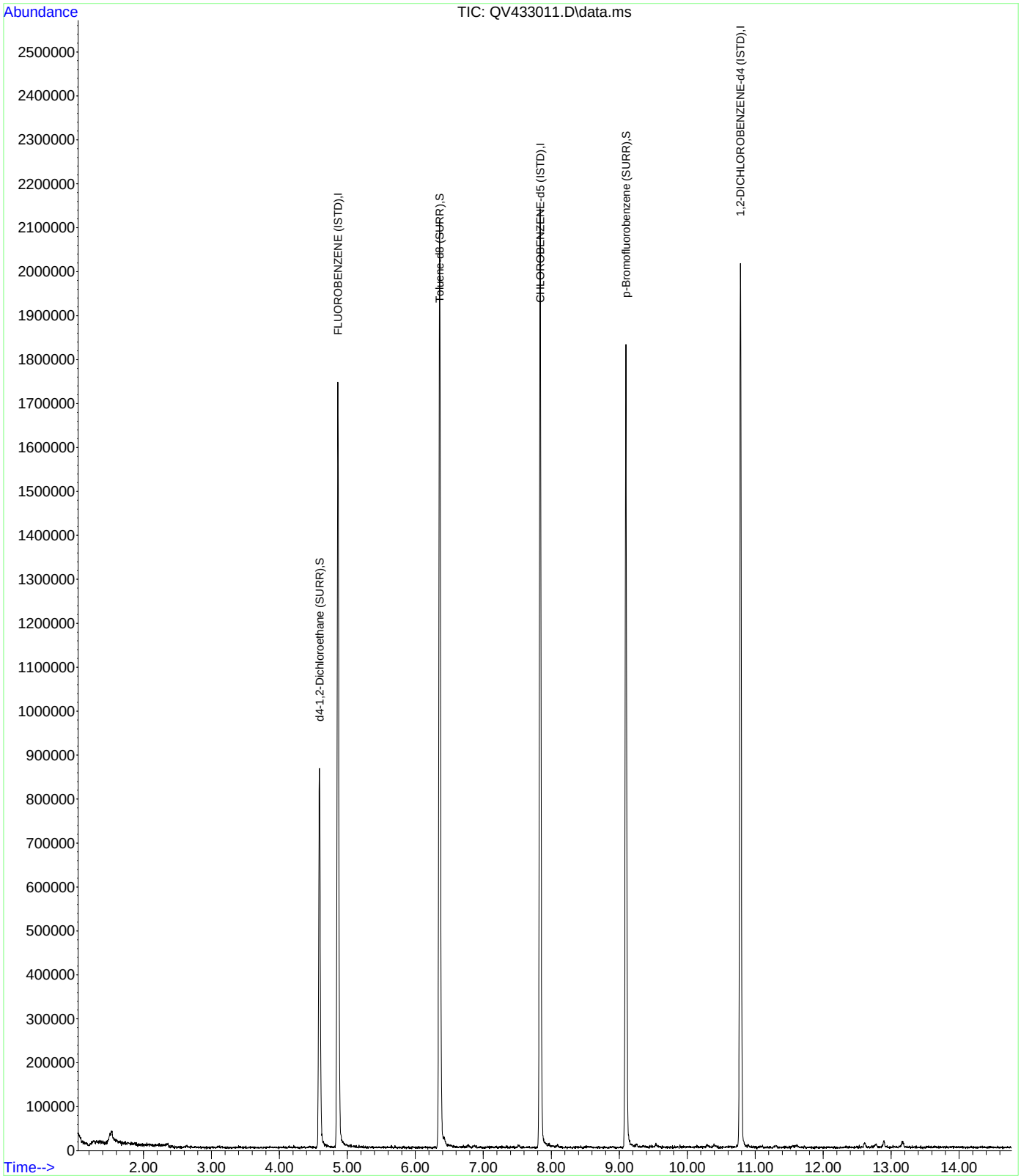
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.860	70	256249	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	821583	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	399472	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.590	65	637825	53.52	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 107.04%			
54) Toluene-d8 (SURR)	6.357	98	1176847	50.58	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.16%			
73) p-Bromofluorobenzene (...	9.098	95	556777	49.07	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 98.14%			
Target Compounds						Qvalue

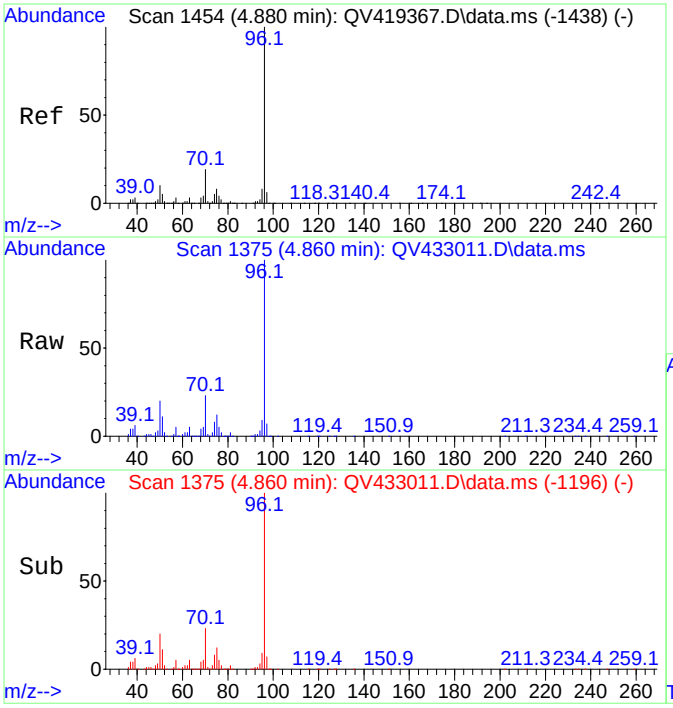
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433011.D
Acq On : 10 May 2023 10:36 am
Operator : BMC
Sample : BD31853-BLK1
Misc : QBQV40051023A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 10 10:56:29 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

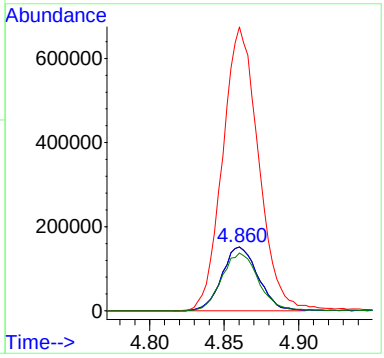


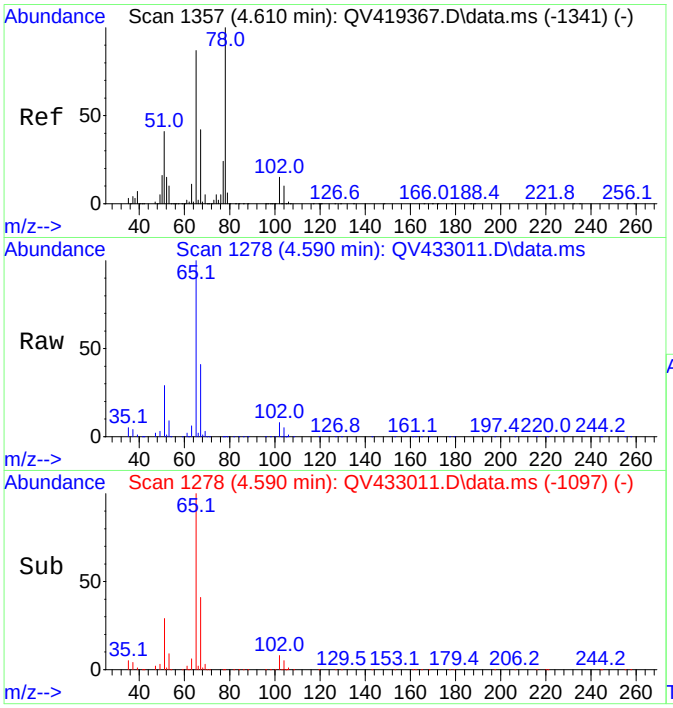


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.860 min Scan# 1375
Delta R.T. -0.003 min
Lab File: QV433011.D
Acq: 10 May 2023 10:36 am

Tgt Ion: 70 Resp: 256249

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	446.2	362.2	752.2
50	0.0	0.0	0.0

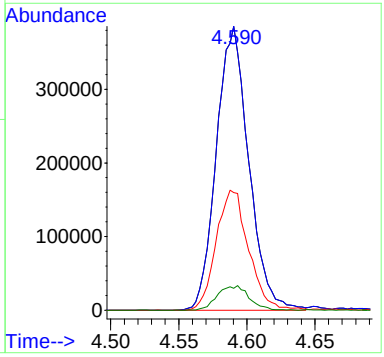


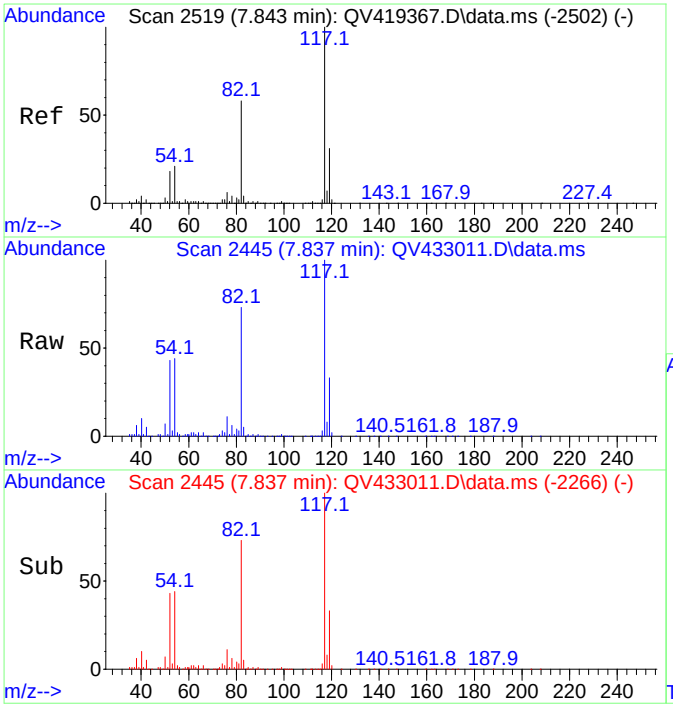


#35
d4-1,2-Dichloroethane (SURR)
Concen: 53.52 ppb
RT: 4.590 min Scan# 1278
Delta R.T. 0.002 min
Lab File: QV433011.D
Acq: 10 May 2023 10:36 am

Tgt Ion: 65 Resp: 637825

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	42.4	34.1	70.7
102	0.0	11.6	34.7#

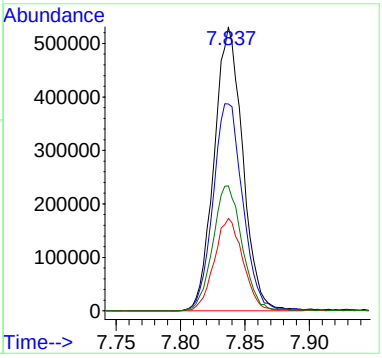


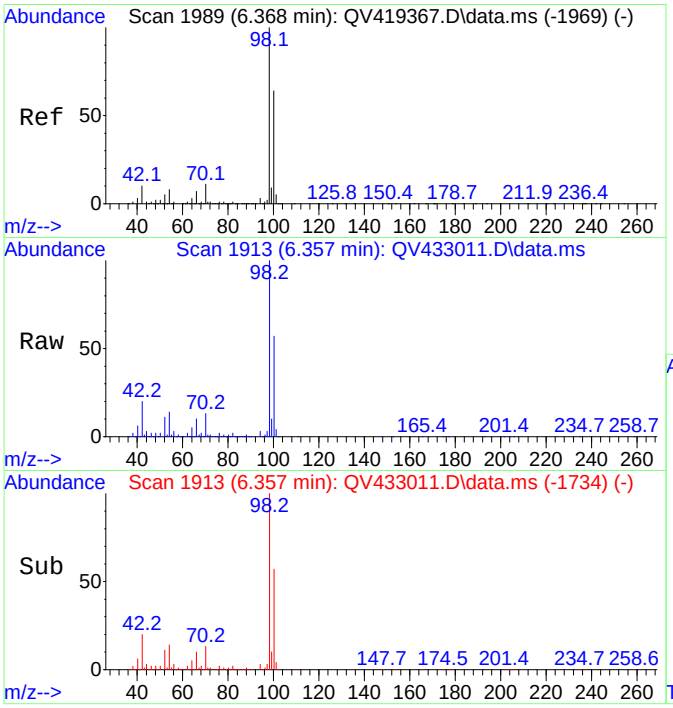


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.837 min Scan# 2445
Delta R.T. -0.003 min
Lab File: QV433011.D
Acq: 10 May 2023 10:36 am

Tgt Ion:117 Resp: 821583

Ion	Ratio	Lower	Upper
117	100		
82	75.4	31.7	65.9#
119	32.6	14.0	29.2#
54	45.1	13.3	27.7#

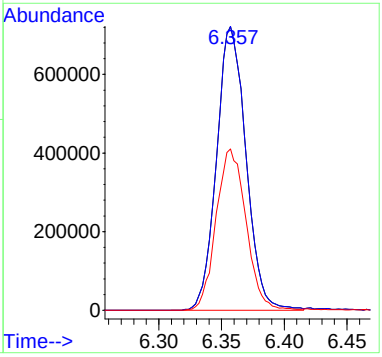


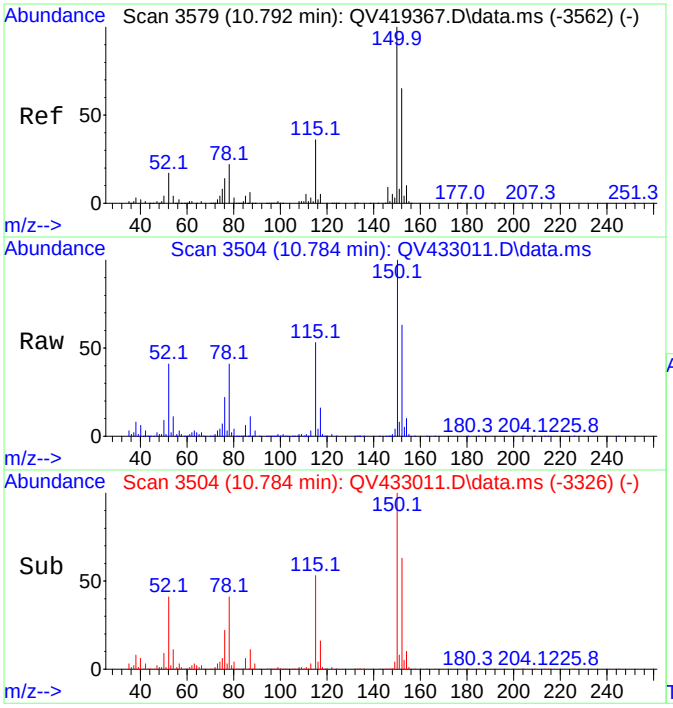


#54
Toluene-d8 (SURR)
Concen: 50.58 ppb
RT: 6.357 min Scan# 1913
Delta R.T. -0.003 min
Lab File: QV433011.D
Acq: 10 May 2023 10:36 am

Tgt Ion: 98 Resp: 1176847

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	57.8	37.1	77.1

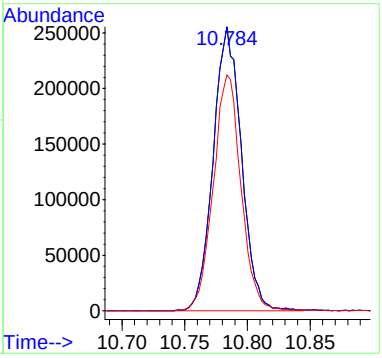


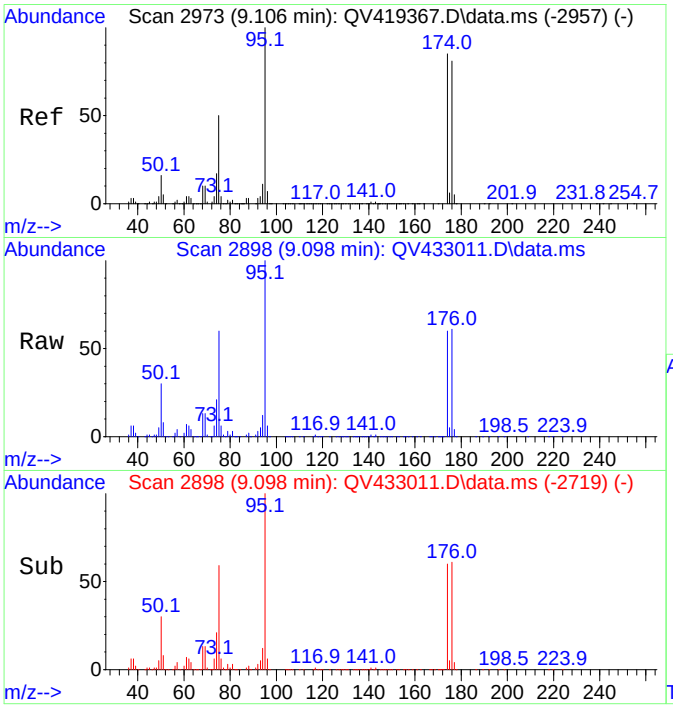


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.784 min Scan# 3504
Delta R.T. -0.005 min
Lab File: QV433011.D
Acq: 10 May 2023 10:36 am

Tgt Ion:152 Resp: 399472

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	81.5	28.6	85.9

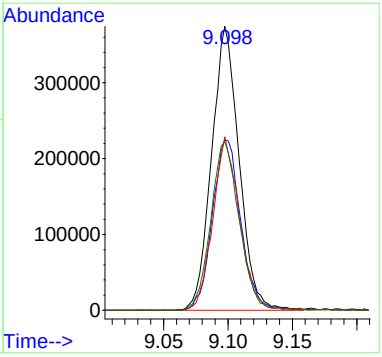




#73
p-Bromofluorobenzene (SURR)
Concen: 49.07 ppb
RT: 9.098 min Scan# 2898
Delta R.T. -0.002 min
Lab File: QV433011.D
Acq: 10 May 2023 10:36 am

Tgt Ion: 95 Resp: 556777

Ion	Ratio	Lower	Upper
95	100		
174	62.0	62.9	130.5#
176	58.5	60.4	125.4#
75	61.4	34.3	71.3



METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: VOA
METHOD: EPA 8260C

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31857-BLK1	File ID:	QV130963.D
Prepared:	05/12/23 10:04	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/12/23 13:02	Instrument:	QVOA1		
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
630-20-6	1,1,1,2-Tetrachloroethane	0.0050	U
71-55-6	1,1,1-Trichloroethane	0.0050	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0050	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0050	U
79-00-5	1,1,2-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
87-61-6	1,2,3-Trichlorobenzene	0.0050	U
96-18-4	1,2,3-Trichloropropane	0.0050	U
120-82-1	1,2,4-Trichlorobenzene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
96-12-8	1,2-Dibromo-3-chloropropane	0.0050	U
106-93-4	1,2-Dibromoethane	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
78-87-5	1,2-Dichloropropane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
591-78-6	2-Hexanone	0.0050	U
108-10-1	4-Methyl-2-pentanone	0.0050	U
67-64-1	Acetone	0.010	U
107-02-8	Acrolein	0.010	U
107-13-1	Acrylonitrile	0.0050	U
71-43-2	Benzene	0.0050	U
74-97-5	Bromochloromethane	0.0050	U
75-27-4	Bromodichloromethane	0.0050	U
75-25-2	Bromoform	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31857-BLK1	File ID:	QV130963.D
Prepared:	05/12/23 10:04	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/12/23 13:02	Instrument:	QVOA1		
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
74-83-9	Bromomethane	0.0050	U
75-15-0	Carbon disulfide	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
75-00-3	Chloroethane	0.0050	U
67-66-3	Chloroform	0.0050	U
74-87-3	Chloromethane	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
10061-01-5	cis-1,3-Dichloropropylene	0.0050	U
110-82-7	Cyclohexane	0.0050	U
124-48-1	Dibromochloromethane	0.0050	U
74-95-3	Dibromomethane	0.0050	U
75-71-8	Dichlorodifluoromethane	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
87-68-3	Hexachlorobutadiene	0.0050	U
98-82-8	Isopropylbenzene	0.0050	U
79-20-9	Methyl acetate	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
108-87-2	Methylcyclohexane	0.0050	U
75-09-2	Methylene chloride	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.010	U
99-87-6	p-Isopropyltoluene	0.0050	U
135-98-8	sec-Butylbenzene	0.0050	U
100-42-5	Styrene	0.0050	U
75-65-0	tert-Butyl alcohol (TBA)	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BD31857-BLK1	File ID:	QV130963.D
Prepared:	05/12/23 10:04	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	05/12/23 13:02	Instrument:	QVOA1		
Batch:	BD31857	Sequence:	S3E1513	Calibration:	SE30018

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U
10061-02-6	trans-1,3-Dichloropropylene	0.0050	U
79-01-6	Trichloroethylene	0.0050	U
75-69-4	Trichlorofluoromethane	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	50.5	101	77 - 125	
SURR: Toluene-d8	50.0	53.4	107	85 - 120	
SURR: p-Bromofluorobenzene	50.0	56.6	113	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	162411	4.788	164305	4.788	
ISTD: Chlorobenzene-d5	556748	7.742	581506	7.742	
ISTD: 1,2-Dichlorobenzene-d4	222365	10.678	266835	10.678	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130963.D
Acq On : 12 May 2023 1:02 pm
Operator : BMC
Sample : BD31857-BLK1
Misc : QBQV1051223A
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 12 13:17:29 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

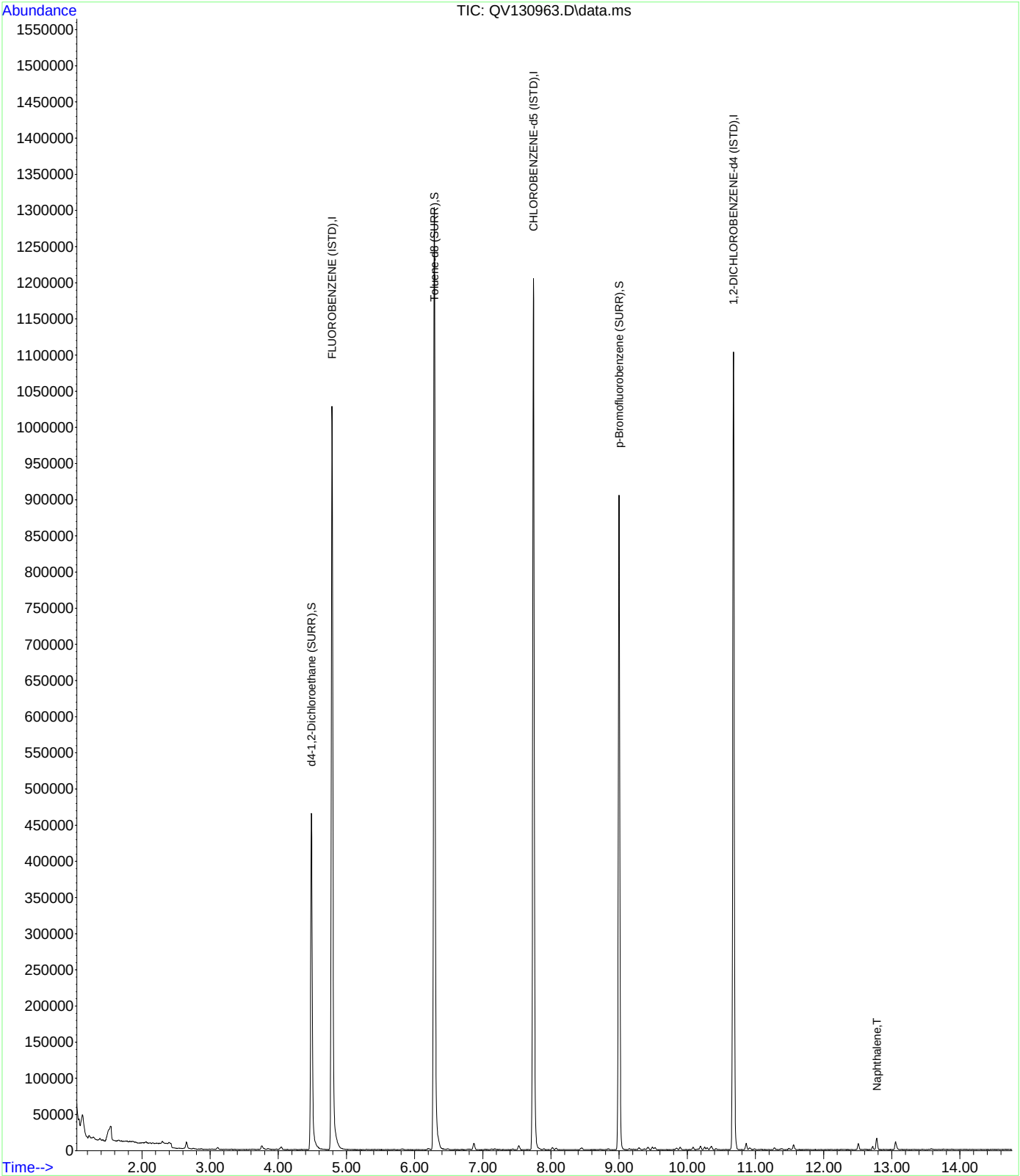
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.788	70	162411	50.00	ppb	# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.742	117	556748	50.00	ppb	# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	222365	50.00	ppb	0.00
System Monitoring Compounds						
38) d4-1,2-Dichloroethane ...	4.484	65	258988	50.47	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 100.94%			
57) Toluene-d8 (SURR)	6.287	98	755369	53.40	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 106.80%			
80) p-Bromofluorobenzene (...	8.997	95	287943	56.62	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 113.24%			
Target Compounds						Qvalue
109) Naphthalene	12.778	128	11115	1.09	ppb	99

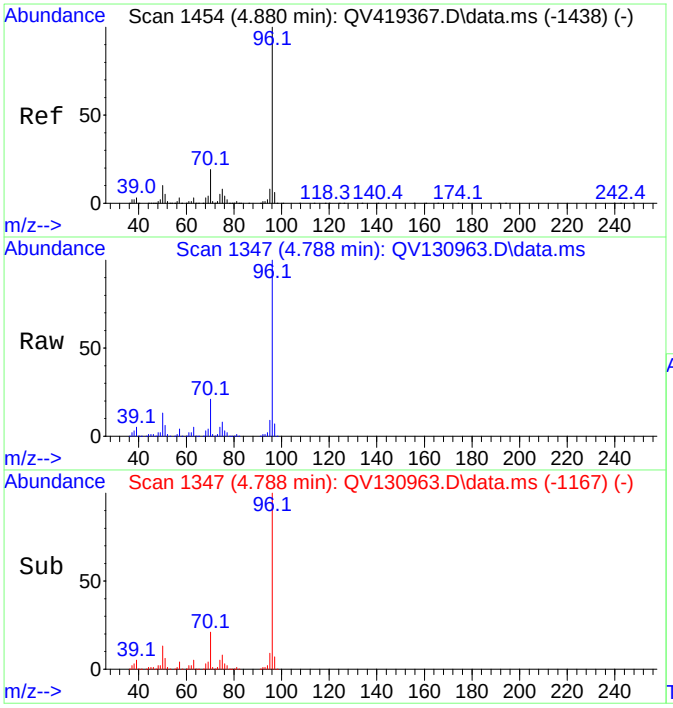
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130963.D
Acq On : 12 May 2023 1:02 pm
Operator : BMC
Sample : BD31857-BLK1
Misc : QBQV1051223A
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 12 13:17:29 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

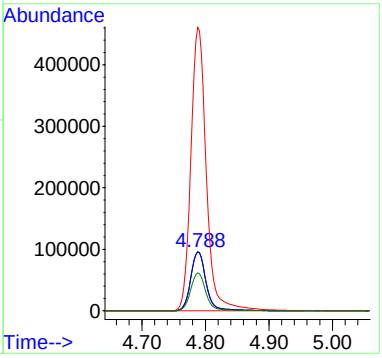


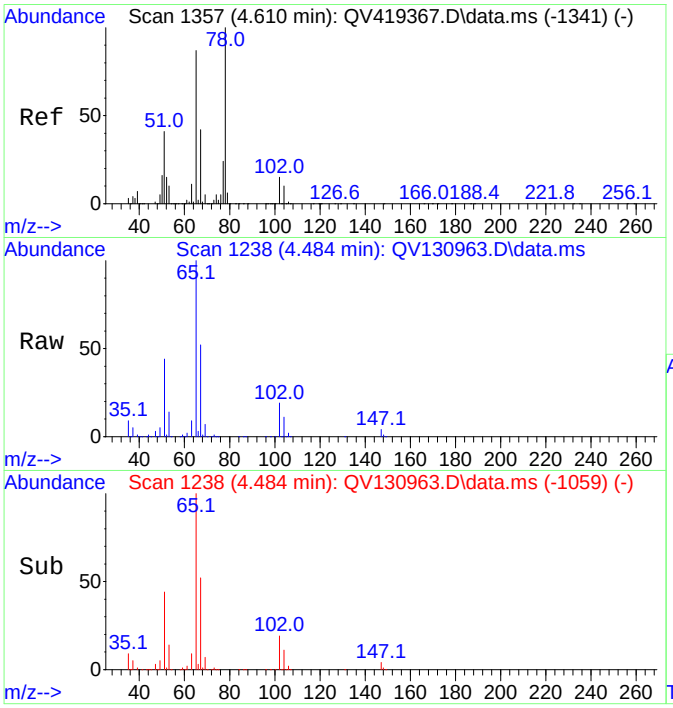


#1
FLUOROBENZENE (ISTD)
Concen: 50.00 ppb
RT: 4.788 min Scan# 1347
Delta R.T. -0.000 min
Lab File: QV130963.D
Acq: 12 May 2023 1:02 pm

Tgt Ion: 70 Resp: 162411

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	479.7	362.2	752.2
50	0.0	0.0	0.0

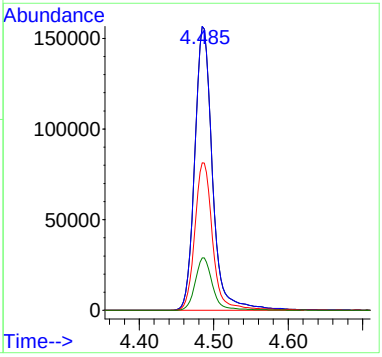


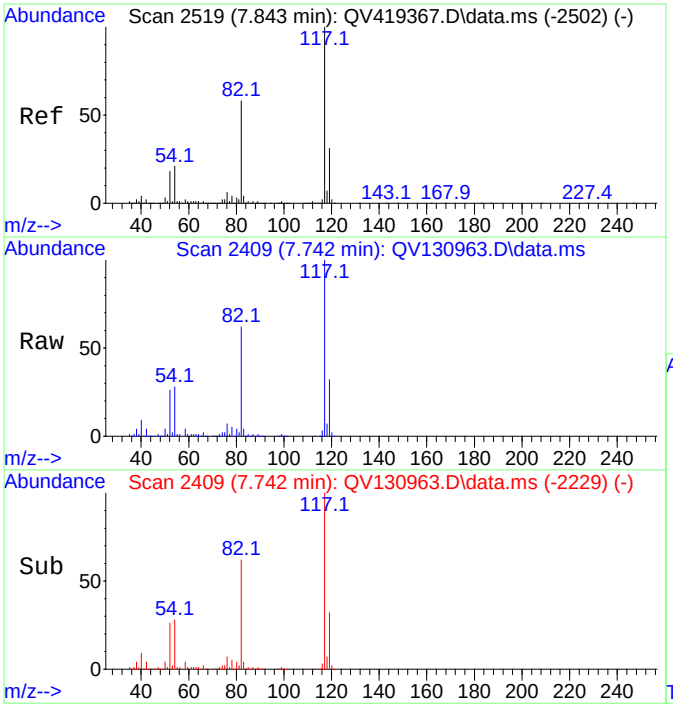


#38
d4-1,2-Dichloroethane (SURR)
Concen: 50.47 ppb
RT: 4.484 min Scan# 1238
Delta R.T. -0.003 min
Lab File: QV130963.D
Acq: 12 May 2023 1:02 pm

Tgt Ion: 65 Resp: 258988

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	52.3	34.1	70.7
102	18.2	11.6	34.7

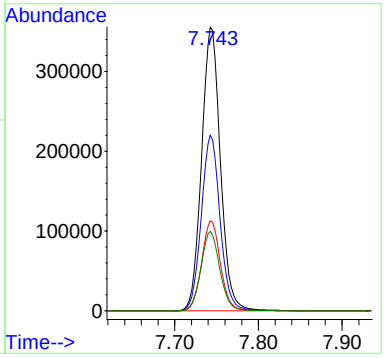


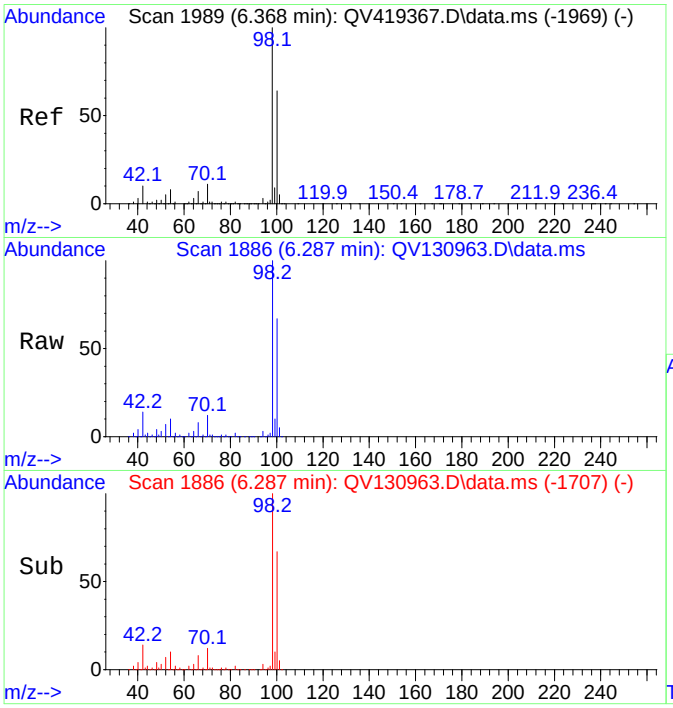


#44
CHLOROBENZENE-d5 (ISTD)
Concen: 50.00 ppb
RT: 7.742 min Scan# 2409
Delta R.T. -0.000 min
Lab File: QV130963.D
Acq: 12 May 2023 1:02 pm

Tgt Ion:117 Resp: 556748

Ion	Ratio	Lower	Upper
117	100		
82	61.9	31.7	65.9
119	31.8	14.0	29.2#
54	28.1	13.3	27.7#

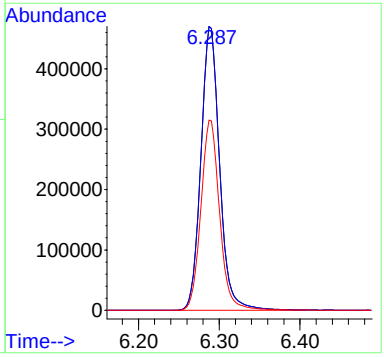


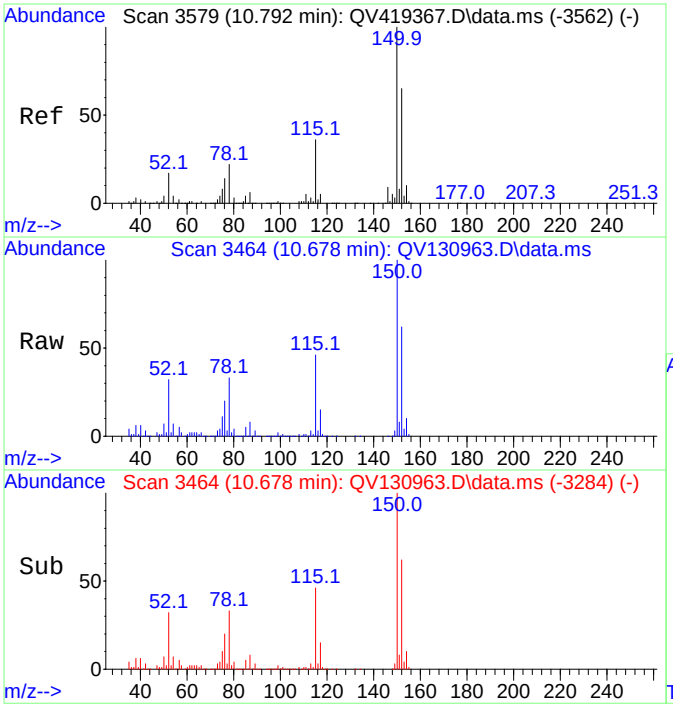


#57
Toluene-d8 (SURR)
Concen: 53.40 ppb
RT: 6.287 min Scan# 1886
Delta R.T. -0.003 min
Lab File: QV130963.D
Acq: 12 May 2023 1:02 pm

Tgt Ion: 98 Resp: 755369

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	67.1	37.1	77.1

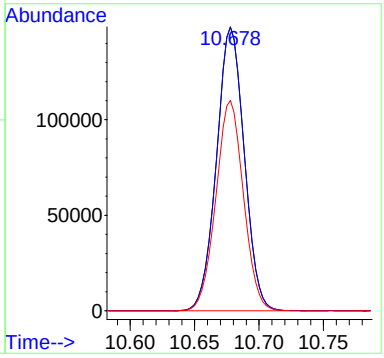


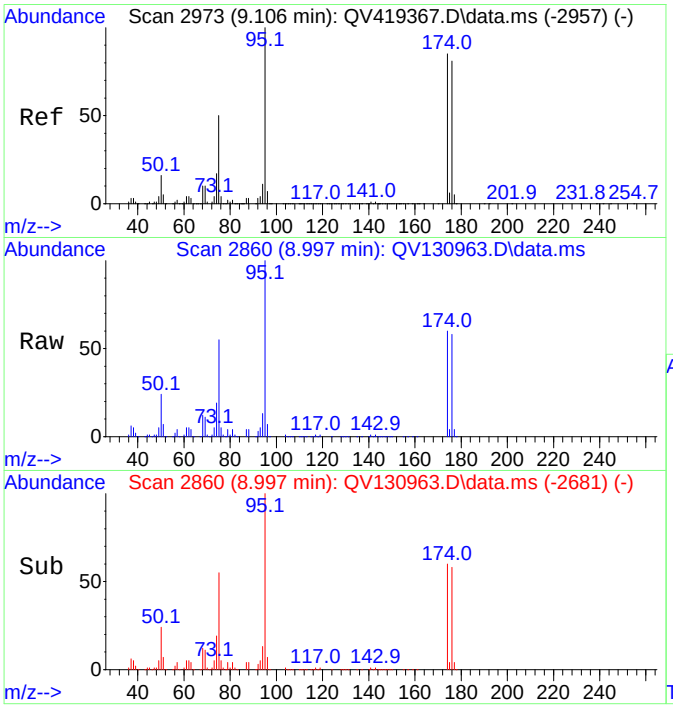


#76
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 50.00 ppb
RT: 10.678 min Scan# 3464
Delta R.T. -0.000 min
Lab File: QV130963.D
Acq: 12 May 2023 1:02 pm

Tgt Ion:152 Resp: 222365

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	73.9	28.6	85.9

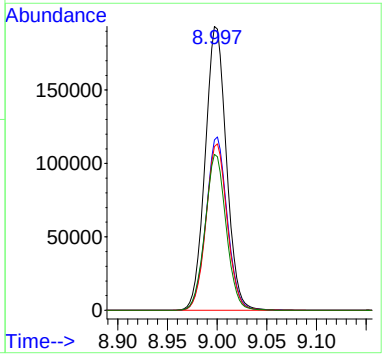


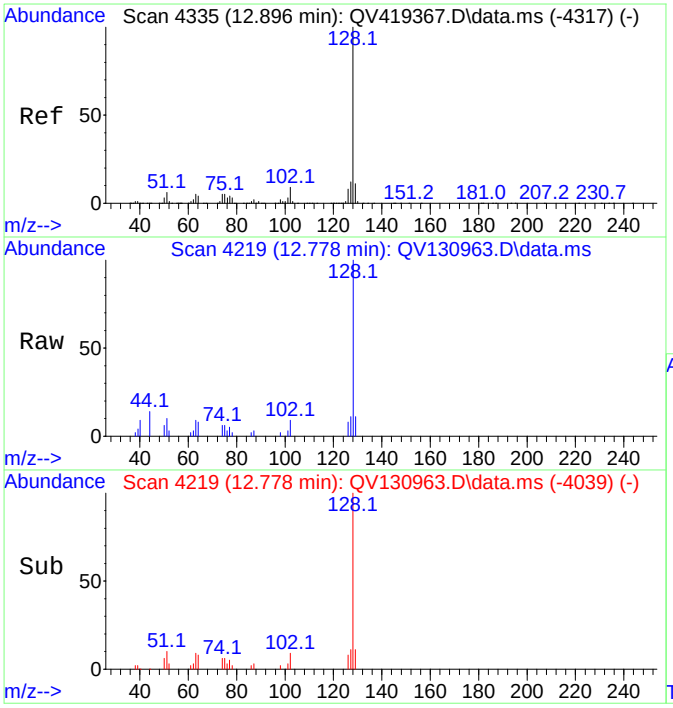


#80
p-Bromofluorobenzene (SURR)
Concen: 56.62 ppb
RT: 8.997 min Scan# 2860
Delta R.T. -0.003 min
Lab File: QV130963.D
Acq: 12 May 2023 1:02 pm

Tgt Ion: 95 Resp: 287943

Ion	Ratio	Lower	Upper
95	100		
174	61.1	62.9	130.5#
176	58.5	60.4	125.4#
75	54.7	34.3	71.3

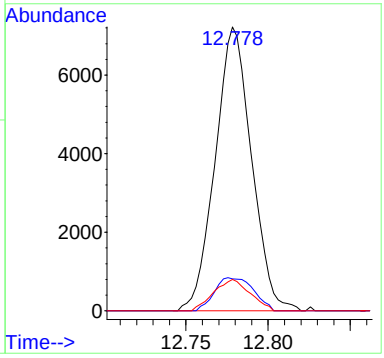




#109
Naphthalene
Concen: 1.09 ppb
RT: 12.778 min Scan# 4219
Delta R.T. -0.000 min
Lab File: QV130963.D
Acq: 12 May 2023 1:02 pm

Tgt Ion:128 Resp: 11115

Ion	Ratio	Lower	Upper
128	100		
127	12.5	8.5	17.6
129	11.0	7.3	15.1



LCS RAW DATA

SDG: 23E0419
CLASS: VOA
METHOD: EPA 8260C

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433009.D
Acq On : 10 May 2023 9:39 am
Operator : BMC
Sample : BD31853-BS1
Misc : QBQV40051023A
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 10 10:00:06 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.857	70	265323	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.840	117	864556	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	416734	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.588	65	674214	54.64	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 109.28%				
54) Toluene-d8 (SURR)	6.357	98	1239930	50.65	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.30%				
73) p-Bromofluorobenzene (...	9.098	95	595338	50.29	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 100.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	336633	48.84	ppb		100
3) Chloromethane	1.210	50	302757	43.86	ppb		98
4) Vinyl Chloride	1.282	62	321898	55.59	ppb		99
5) Bromomethane	1.527	94	113723	66.89	ppb		98
6) Allyl Chloride	2.568	76	106692	52.20	ppb	#	100
7) Chloroethane	1.597	64	189159m	60.27	ppb		
8) Trichlorofluoromethane	1.786	101	453961	59.50	ppb		98
10) Freon-113	2.211	101	256574	59.30	ppb	#	60
11) 1,1-Dichloroethylene	2.234	61	483237	59.27	ppb		87
12) Acrolein	2.206	56	36098	45.73	ppb		92
13) Acetone	2.353	43	536148	208.10	ppb	#	36
14) Iodomethane	2.384	142	163881	70.51	ppb	#	66
15) Methyl Acetate	2.618	43	212716	46.88	ppb		94
16) Carbon disulfide	2.420	76	523801	55.79	ppb		100
17) tert-Butyl Alcohol (TBA)	2.874	59	153788m	230.66	ppb		
18) Methylene Chloride	2.698	49	420139	53.53	ppb	#	72
19) Acrylonitrile	2.968	53	89328	51.35	ppb		94
20) trans-1,2-Dichloroethy...	2.913	61	462086	55.05	ppb	#	86
21) tert-Butyl Methyl Ethe...	2.910	73	707665	49.61	ppb	#	94
22) 1,1-Dichloroethane	3.305	63	508211	52.20	ppb	#	96
23) Vinyl Acetate	3.355	43	465623	38.90	ppb		100
24) Diisopropyl ether (DIPE)	3.324	45	979034	51.30	ppb	#	87
25) Ethyl-tert-Butyl ether...	3.650	59	827727	45.20	ppb	#	95
26) cis-1,2-Dichloroethylene	3.836	61	464404	49.78	ppb		87
27) 2-Butanone	3.881	72	19113	44.30	ppb	#	1
28) 2,2-Dichloropropane	3.806	77	429420	53.52	ppb	#	84
29) Tetrahydrofuran	4.103	42	93047	50.75	ppb	#	67
30) Bromochloromethane	4.059	49	253532	52.09	ppb	#	47
31) Chloroform	4.134	83	565640	54.73	ppb	#	92
32) 1,1,1-Trichloroethane	4.248	97	581100	57.35	ppb		98
33) Cyclohexane	4.262	56	502065	50.50	ppb		77
34) 1,1-Dichloropropylene	4.398	75	380911	52.38	ppb	#	77
36) Carbon Tetrachloride	4.384	117	471973	61.32	ppb		99
37) tert-Amyl alcohol (TAA)	4.679	59	227486	486.25	ppb	#	100
38) 1,2-Dichloroethane	4.663	62	593025	56.07	ppb	#	86
39) Benzene	4.599	78	823095	51.34	ppb	#	66
40) tert-Amyl methyl ether...	4.682	73	637324	44.41	ppb	#	73
42) Trichloroethylene	5.197	95	288269	55.64	ppb		73
43) Methyl Cyclohexane	5.316	83	401778	52.07	ppb	#	43
44) Methyl Methacrylate	5.542	69	149082	53.20	ppb	#	98
45) Dibromomethane	5.567	93	150431	54.30	ppb		93
46) Bromodichloromethane	5.717	83	402764	56.65	ppb		97
47) 1,2-Dichloropropane	5.431	63	218062	51.00	ppb	#	85
48) 1,4-Dioxane	5.595	88	59434m	1176.04	ppb		
49) 2-Chloroethyl vinyl ether	5.998	63	153880	53.78	ppb		97
50) 2-nitropropane	5.995	43	141950	53.89	ppb	#	100
51) cis-1,3-Dichloropropene	6.134	75	364958	54.60	ppb	#	73
52) ethyl methacrylate	6.758	69	275199	50.96	ppb	#	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433009.D
Acq On : 10 May 2023 9:39 am
Operator : BMC
Sample : BD31853-BS1
Misc : QBQV40051023A
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 10 10:00:06 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

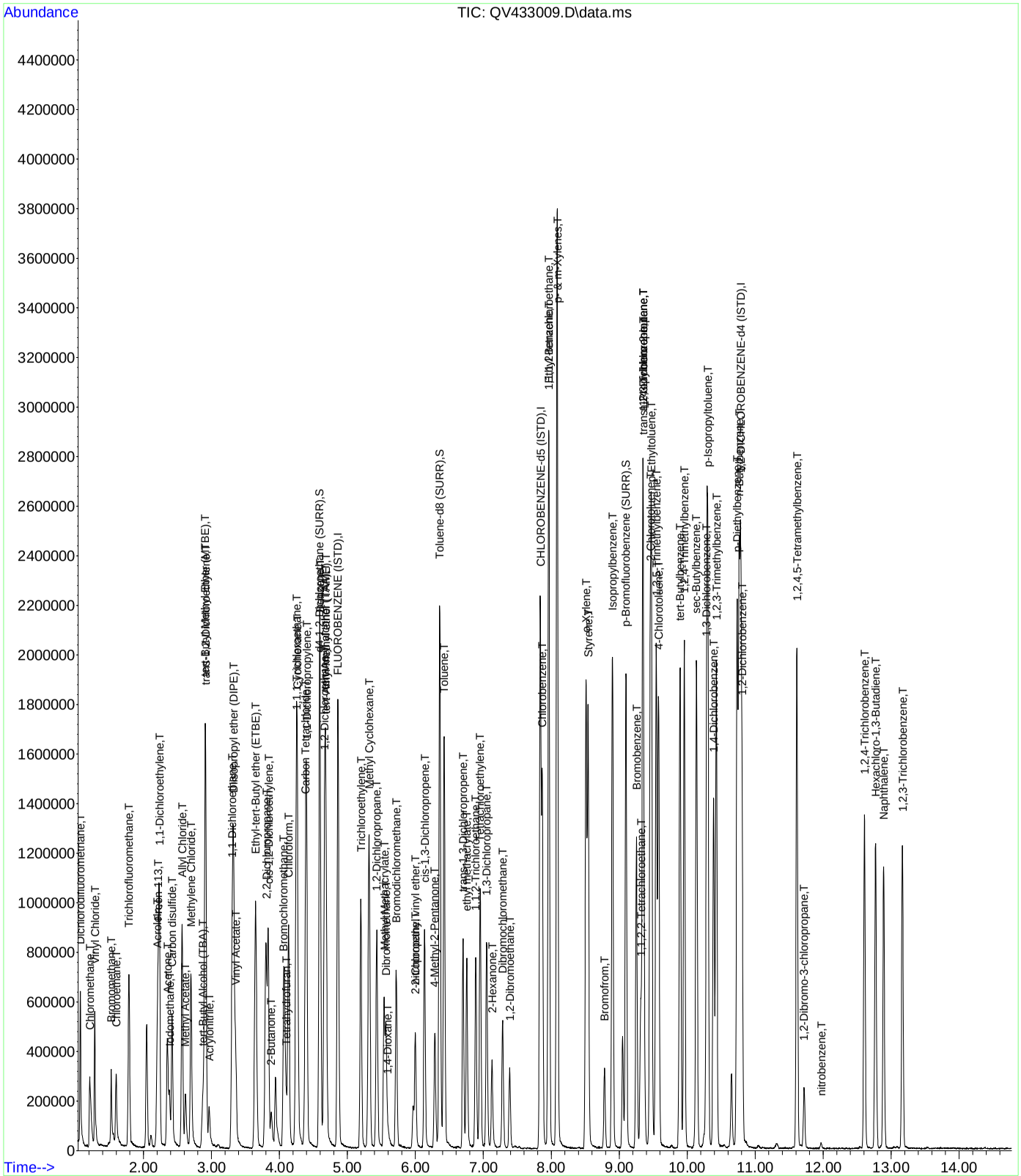
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.285	43	308855	53.34 ppb		89
55) Toluene	6.421	91	967119	52.11 ppb		99
56) trans-1,3-Dichloropropene	6.702	75	363337	54.65 ppb	#	96
57) 1,1,2-Trichloroethane	6.888	97	184724	50.70 ppb	#	82
58) 1,3-Dichloropropane	7.047	76	353842	52.11 ppb	#	80
59) Tetrachloroethylene	6.952	166	236565	47.36 ppb	#	71
60) 2-Hexanone	7.128	43	225480	53.64 ppb		87
61) Dibromochloromethane	7.284	129	227611	58.60 ppb		98
62) 1,2-Dibromoethane	7.386	107	193995	53.85 ppb		97
63) Chlorobenzene	7.868	112	561111	54.41 ppb	#	65
64) 1,1,1,2-tetrachloroethane	7.965	131	235994	56.83 ppb	#	46
65) Ethyl Benzene	7.962	91	1292630	54.11 ppb		86
66) p- & m-Xylenes	8.085	91	2150097	108.47 ppb		82
67) o-Xylene	8.510	91	1077739	54.83 ppb		92
68) Styrene	8.541	104	621700	51.88 ppb	#	100
69) Bromofrom	8.783	173	125252	52.27 ppb	#	80
71) p-Ethyltoluene	9.473	105	1180365	53.98 ppb	#	97
72) Isopropylbenzene	8.900	105	1182306	52.75 ppb	#	87
74) 1,1,2,2-Tetrachloroethane	9.315	83	226990	50.33 ppb	#	100
75) Bromobenzene	9.253	77	486647	51.11 ppb	#	69
76) trans-1,4-Dichloro-2-b...	9.351	75	309311	53.43 ppb	#	31
77) 1,2,3-Trichloropropane	9.348	110	95361	52.94 ppb		99
78) n-Propylbenzene	9.348	91	1513988	51.79 ppb	#	90
79) 2-Chlorotoluene	9.456	91	1131267m	53.17 ppb		
80) 4-Chlorotoluene	9.576	91	1029107	52.19 ppb		80
81) 1,3,5-Trimethylbenzene	9.543	105	1031981	51.10 ppb		84
82) tert-Butylbenzene	9.896	119	835749	52.02 ppb	#	67
83) 1,2,4-Trimethylbenzene	9.957	105	1053174	52.94 ppb		80
84) sec-Butylbenzene	10.135	105	1221717	50.94 ppb	#	87
86) 1,3-Dichlorobenzene	10.283	146	433242	51.32 ppb	#	78
87) p-Isopropyltoluene	10.302	119	1091324	52.10 ppb	#	85
88) 1,4-Dichlorobenzene	10.388	146	417961	49.73 ppb	#	79
89) 1,2,3-Trimethylbenzene	10.430	105	1056184	65.73 ppb	#	85
90) nitrobenzene	11.966	77	7748	41.11 ppb	#	100
91) p-Diethylbenzene	10.733	105	656046	51.92 ppb		84
92) 1,2-Dichlorobenzene	10.806	146	393745	49.92 ppb	#	87
93) n-Butylbenzene	10.761	91	1491116	51.98 ppb		91
94) 1,2-Dibromo-3-chloropr...	11.718	75	66775	53.52 ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.613	119	1040986	52.63 ppb	#	84
96) 1,2,4-Trichlorobenzene	12.609	180	332013	51.95 ppb	#	100
97) Hexachloro-1,3-Butadiene	12.773	225	234061	52.04 ppb		83
98) Naphthalene	12.890	128	736796	49.90 ppb		99
99) 1,2,3-Trichlorobenzene	13.168	180	293429	49.64 ppb	#	79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433009.D
Acq On : 10 May 2023 9:39 am
Operator : BMC
Sample : BD31853-BS1
Misc : QBQV40051023A
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 10 10:00:06 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433010.D
Acq On : 10 May 2023 10:07 am
Operator : BMC
Sample : BD31853-BSD1
Misc : QBQV40051023A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 10:27:38 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.860	70	267675	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.837	117	863760	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.784	152	412891	50.00	ppb		# 0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.590	65	658266	52.88	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.76%				
54) Toluene-d8 (SURR)	6.357	98	1251291	51.16	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.32%				
73) p-Bromofluorobenzene (...	9.098	95	607241	51.78	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 103.56%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.071	85	312198	44.89	ppb		99
3) Chloromethane	1.207	50	307616	44.18	ppb		97
4) Vinyl Chloride	1.282	62	309094	52.91	ppb		99
5) Bromomethane	1.524	94	103104	60.11	ppb		99
6) Allyl Chloride	2.565	76	102388	49.65	ppb	#	100
7) Chloroethane	1.597	64	180917	57.14	ppb		98
8) Trichlorofluoromethane	1.786	101	442579	57.50	ppb		98
10) Freon-113	2.212	101	249425	57.14	ppb	#	60
11) 1,1-Dichloroethylene	2.234	61	470140	57.15	ppb		88
12) Acrolein	2.209	56	35292	44.32	ppb		95
13) Acetone	2.348	43	506748	191.12	ppb	#	37
14) Iodomethane	2.381	142	152948	65.23	ppb	#	20
15) Methyl Acetate	2.618	43	208106	45.46	ppb		94
16) Carbon disulfide	2.420	76	524285	55.35	ppb		100
17) tert-Butyl Alcohol (TBA)	2.871	59	156962m	233.16	ppb		
18) Methylene Chloride	2.698	49	406456	51.33	ppb	#	73
19) Acrylonitrile	2.966	53	83617	47.65	ppb	#	61
20) trans-1,2-Dichloroethy...	2.910	61	439499	51.90	ppb	#	88
21) tert-Butyl Methyl Ethe...	2.907	73	702739	48.83	ppb	#	89
22) 1,1-Dichloroethane	3.305	63	500144	50.92	ppb	#	100
23) Vinyl Acetate	3.358	43	463907	38.42	ppb		100
24) Diisopropyl ether (DIPE)	3.324	45	959397	49.83	ppb		95
25) Ethyl-tert-Butyl ether...	3.650	59	824855	44.65	ppb	#	95
26) cis-1,2-Dichloroethylene	3.834	61	499847	53.11	ppb	#	56
27) 2-Butanone	3.878	72	20108	46.20	ppb	#	1
28) 2,2-Dichloropropane	3.803	77	427313	52.79	ppb	#	85
29) Tetrahydrofuran	4.104	42	88168	47.66	ppb	#	70
30) Bromochloromethane	4.059	49	244108	49.72	ppb	#	47
31) Chloroform	4.134	83	556146	53.34	ppb	#	92
32) 1,1,1-Trichloroethane	4.251	97	567749	55.54	ppb		98
33) Cyclohexane	4.265	56	488965	48.75	ppb		77
34) 1,1-Dichloropropylene	4.396	75	380937	51.92	ppb	#	79
36) Carbon Tetrachloride	4.385	117	459277	59.15	ppb		99
37) tert-Amyl alcohol (TAA)	4.679	59	222133	470.63	ppb	#	100
38) 1,2-Dichloroethane	4.660	62	584446	54.78	ppb	#	97
39) Benzene	4.593	78	804192	49.72	ppb	#	66
40) tert-Amyl methyl ether...	4.679	73	639987	44.20	ppb	#	83
42) Trichloroethylene	5.200	95	280046	54.10	ppb		74
43) Methyl Cyclohexane	5.322	83	394829	51.21	ppb	#	44
44) Methyl Methacrylate	5.539	69	140583	50.21	ppb	#	98
45) Dibromomethane	5.564	93	145844	52.70	ppb		95
46) Bromodichloromethane	5.720	83	393987	55.47	ppb		98
47) 1,2-Dichloropropane	5.433	63	220630	51.65	ppb	#	85
48) 1,4-Dioxane	5.589	88	57293m	1134.72	ppb		
49) 2-Chloroethyl vinyl ether	5.998	63	149883	52.43	ppb		97
50) 2-nitropropane	6.001	43	147582	56.08	ppb	#	100
51) cis-1,3-Dichloropropene	6.137	75	362702	54.32	ppb	#	74
52) ethyl methacrylate	6.755	69	274274	50.83	ppb	#	100

Data Path : C:\msdchem\1\data\051023\
Data File : QV433010.D
Acq On : 10 May 2023 10:07 am
Operator : BMC
Sample : BD31853-BSD1
Misc : QBQV40051023A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 10:27:38 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4

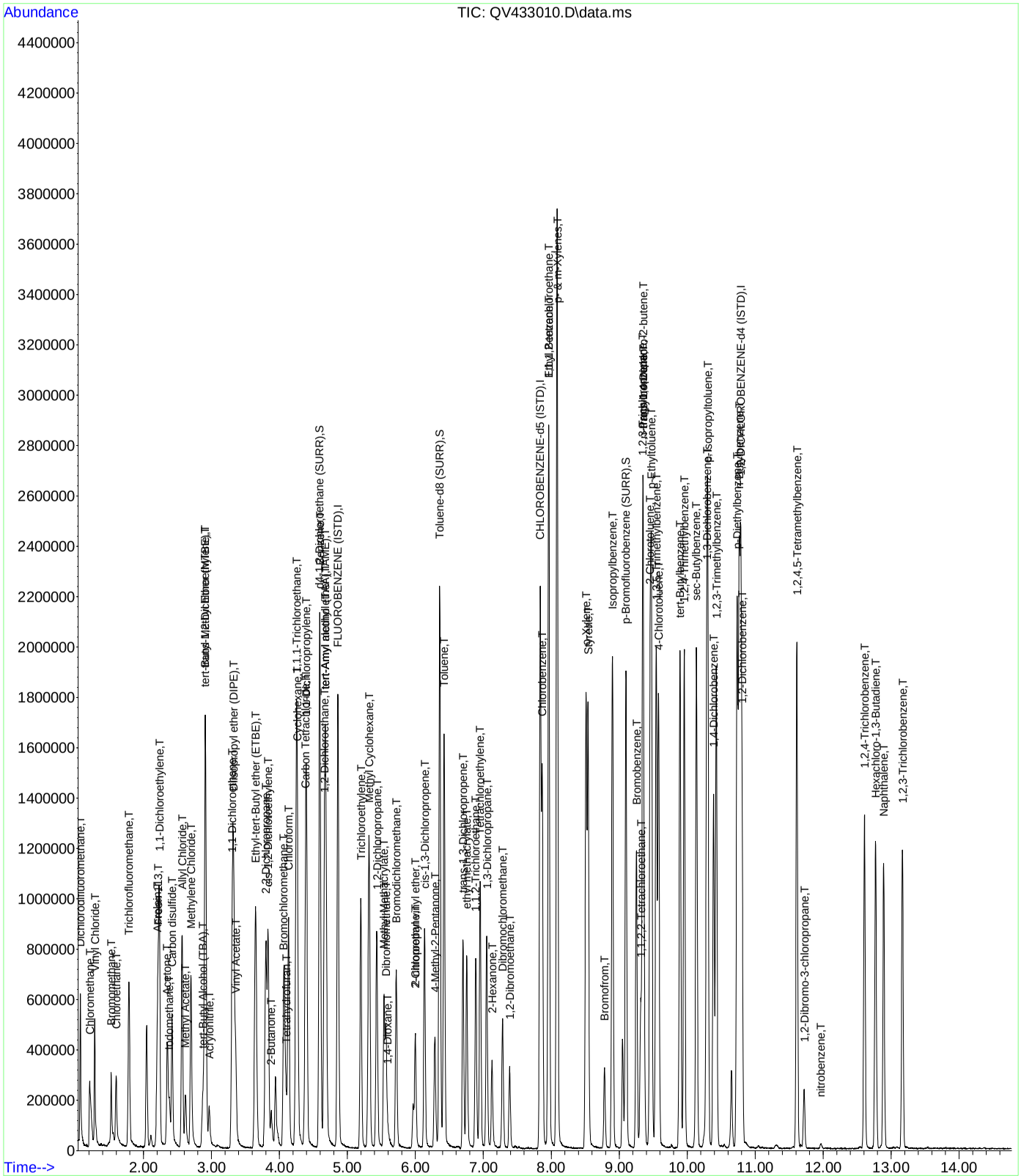
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.290	43	303318	52.43	ppb		89
55) Toluene	6.421	91	962969	51.94	ppb		98
56) trans-1,3-Dichloropropene	6.699	75	367445	55.32	ppb	#	96
57) 1,1,2-Trichloroethane	6.889	97	183400	50.38	ppb	#	84
58) 1,3-Dichloropropane	7.050	76	351556	51.82	ppb	#	79
59) Tetrachloroethylene	6.953	166	236323	47.35	ppb	#	72
60) 2-Hexanone	7.128	43	221957	52.85	ppb		88
61) Dibromochloromethane	7.284	129	224699	57.90	ppb		97
62) 1,2-Dibromoethane	7.387	107	191420	53.18	ppb		98
63) Chlorobenzene	7.865	112	554858	53.86	ppb	#	66
64) 1,1,1,2-tetrachloroethane	7.962	131	233640	56.31	ppb	#	45
65) Ethyl Benzene	7.962	91	1274523	53.40	ppb		86
66) p- & m-Xylenes	8.085	91	2113037	106.70	ppb		82
67) o-Xylene	8.511	91	1059361	53.95	ppb		92
68) Styrene	8.541	104	630072	52.62	ppb	#	100
69) Bromofrom	8.783	173	121225	50.72	ppb		99
71) p-Ethyltoluene	9.473	105	1156922	53.40	ppb	#	97
72) Isopropylbenzene	8.900	105	1174252	52.88	ppb	#	87
74) 1,1,2,2-Tetrachloroethane	9.315	83	221931	49.67	ppb	#	100
75) Bromobenzene	9.251	77	478748	50.74	ppb	#	69
76) trans-1,4-Dichloro-2-b...	9.348	75	300881	52.45	ppb	#	31
77) 1,2,3-Trichloropropane	9.345	110	93949	52.64	ppb		95
78) n-Propylbenzene	9.351	91	1490942	51.48	ppb	#	90
79) 2-Chlorotoluene	9.454	91	1122945m	53.27	ppb		
80) 4-Chlorotoluene	9.579	91	1009774	51.69	ppb		80
81) 1,3,5-Trimethylbenzene	9.543	105	1040903	52.02	ppb		83
82) tert-Butylbenzene	9.896	119	831332	52.22	ppb	#	68
83) 1,2,4-Trimethylbenzene	9.957	105	1025656	52.03	ppb		80
84) sec-Butylbenzene	10.135	105	1221268	51.40	ppb	#	87
86) 1,3-Dichlorobenzene	10.286	146	426040	50.94	ppb	#	80
87) p-Isopropyltoluene	10.302	119	1070799	51.59	ppb	#	86
88) 1,4-Dichlorobenzene	10.386	146	406491	48.82	ppb	#	80
89) 1,2,3-Trimethylbenzene	10.428	105	1039676	65.31	ppb	#	84
90) nitrobenzene	11.963	77	3662	21.69	ppb	#	100
91) p-Diethylbenzene	10.734	105	647822	51.75	ppb		84
92) 1,2-Dichlorobenzene	10.806	146	395264	50.58	ppb		93
93) n-Butylbenzene	10.764	91	1471544	51.77	ppb		91
94) 1,2-Dibromo-3-chloropr...	11.721	75	64809	52.43	ppb	#	69
95) 1,2,4,5-Tetramethylben...	11.613	119	1005893	51.33	ppb	#	85
96) 1,2,4-Trichlorobenzene	12.609	180	320200	50.57	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.773	225	230233	51.66	ppb		84
98) Naphthalene	12.890	128	725097	49.56	ppb		99
99) 1,2,3-Trichlorobenzene	13.165	180	289756	49.48	ppb	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051023\
Data File : QV433010.D
Acq On : 10 May 2023 10:07 am
Operator : BMC
Sample : BD31853-BSD1
Misc : QBQV40051023A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 10 10:27:38 2023
Quant Method : C:\msdchem\1\methods\VQ4C0052.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 28 11:15:27 2023
Response via : Initial Calibration
InstName : QVOA4



LCS RAW DATA

SDG: 23E0419
CLASS: VOA
METHOD: EPA 8260C

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130961.D
Acq On : 12 May 2023 12:07 pm
Operator : BMC
Sample : BD31857-BS1
Misc : QBQV1051223A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 12 12:23:28 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	164177	50.00	ppb		# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.742	117	579984	50.00	ppb		# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	253290	50.00	ppb		# 0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.487	65	248299	47.86	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 95.72%				
57) Toluene-d8 (SURR)	6.290	98	779611	52.90	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.80%				
80) p-Bromofluorobenzene (...	9.000	95	297267	51.32	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 102.64%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	133955m	44.40	ppb		
3) Freon-22	1.154	51	287461	81.44	ppb	#	95
4) Chloromethane	1.279	50	221111m	56.64	ppb		
5) Vinyl Chloride	1.304	62	222067	63.17	ppb		100
6) Bromomethane	1.530	94	88030m	68.91	ppb		
7) Ethyl Ether	2.056	59	1355361	5708.52	ppb		98
8) Allyl Chloride	2.537	76	82901	44.63	ppb	#	100
9) Chloroethane	1.599	64	112817m	65.23	ppb		
10) Trichlorofluoromethane	1.800	101	298040	63.78	ppb		100
12) Freon-113	2.228	101	144352	58.96	ppb	#	91
13) 1,1-Dichloroethylene	2.225	61	260814	56.90	ppb		88
14) Acrolein	2.164	56	28902	47.55	ppb		97
15) Acetone	2.303	43	386960	215.85	ppb	#	43
16) Iodomethane	2.348	142	144140	57.87	ppb	#	20
17) Methyl Acetate	2.579	43	169837m	49.02	ppb		
18) Carbon disulfide	2.398	76	443625	51.14	ppb		100
19) tert-Butyl Alcohol (TBA)	2.807	59	99446	184.29	ppb	#	1
20) Methylene Chloride	2.643	49	218372	47.07	ppb		87
21) Acrylonitrile	2.873	53	92988	48.62	ppb		96
22) trans-1,2-Dichloroethy...	2.873	61	234815	46.87	ppb		92
23) tert-Butyl Methyl Ethe...	2.896	73	377013	41.11	ppb		99
24) n-Hexane	3.110	57	238571	42.58	ppb		96
25) 1,1-Dichloroethane	3.244	63	275609	45.74	ppb	#	99
26) Vinyl Acetate	3.310	43	479867	38.12	ppb		100
27) Diisopropyl ether (DIPE)	3.324	45	528305	47.13	ppb		97
28) Ethyl-tert-Butyl ether...	3.641	59	347236	31.86	ppb	#	97
29) cis-1,2-Dichloroethylene	3.755	61	254417	44.78	ppb		93
30) 2-Butanone	3.789	72	32652	52.56	ppb		77
31) 2,2-Dichloropropane	3.750	77	133041	29.57	ppb	#	77
32) Tetrahydrofuran	4.017	42	75302	46.75	ppb		87
33) Bromochloromethane	3.964	49	146786	48.21	ppb	#	47
34) Chloroform	4.045	83	255072	45.40	ppb	#	92
35) 1,1,1-Trichloroethane	4.195	97	184238	40.43	ppb	#	85
36) Cyclohexane	4.237	56	286836	47.51	ppb		90
37) 1,1-Dichloropropylene	4.345	75	204135	45.87	ppb	#	67
39) Carbon Tetrachloride	4.343	117	130497	39.74	ppb		99
40) tert-Amyl alcohol (TAA)	4.582	59	188403	379.66	ppb	#	100
41) 1,2-Dichloroethane	4.557	62	213771m	45.63	ppb		
42) Benzene	4.532	78	599632	46.87	ppb	#	97
43) tert-Amyl methyl ether...	4.649	73	336185	35.98	ppb	#	90
45) Trichloroethylene	5.124	95	149458	49.45	ppb		80
46) Methyl Cyclohexane	5.297	83	272690	49.60	ppb	#	80
47) Methyl Methacrylate	5.469	69	127915	48.55	ppb	#	97
48) Dibromomethane	5.444	93	94302	48.70	ppb		89
49) Bromodichloromethane	5.603	83	180892	48.79	ppb		98
50) 1,2-Dichloropropane	5.339	63	169730	52.67	ppb	#	98
51) 1,4-Dioxane	5.486	88	68640m	1062.02	ppb		
52) 2-Chloroethyl vinyl ether	5.906	63	9140	15.41	ppb		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130961.D
Acq On : 12 May 2023 12:07 pm
Operator : BMC
Sample : BD31857-BS1
Misc : QBQV1051223A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 12 12:23:28 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

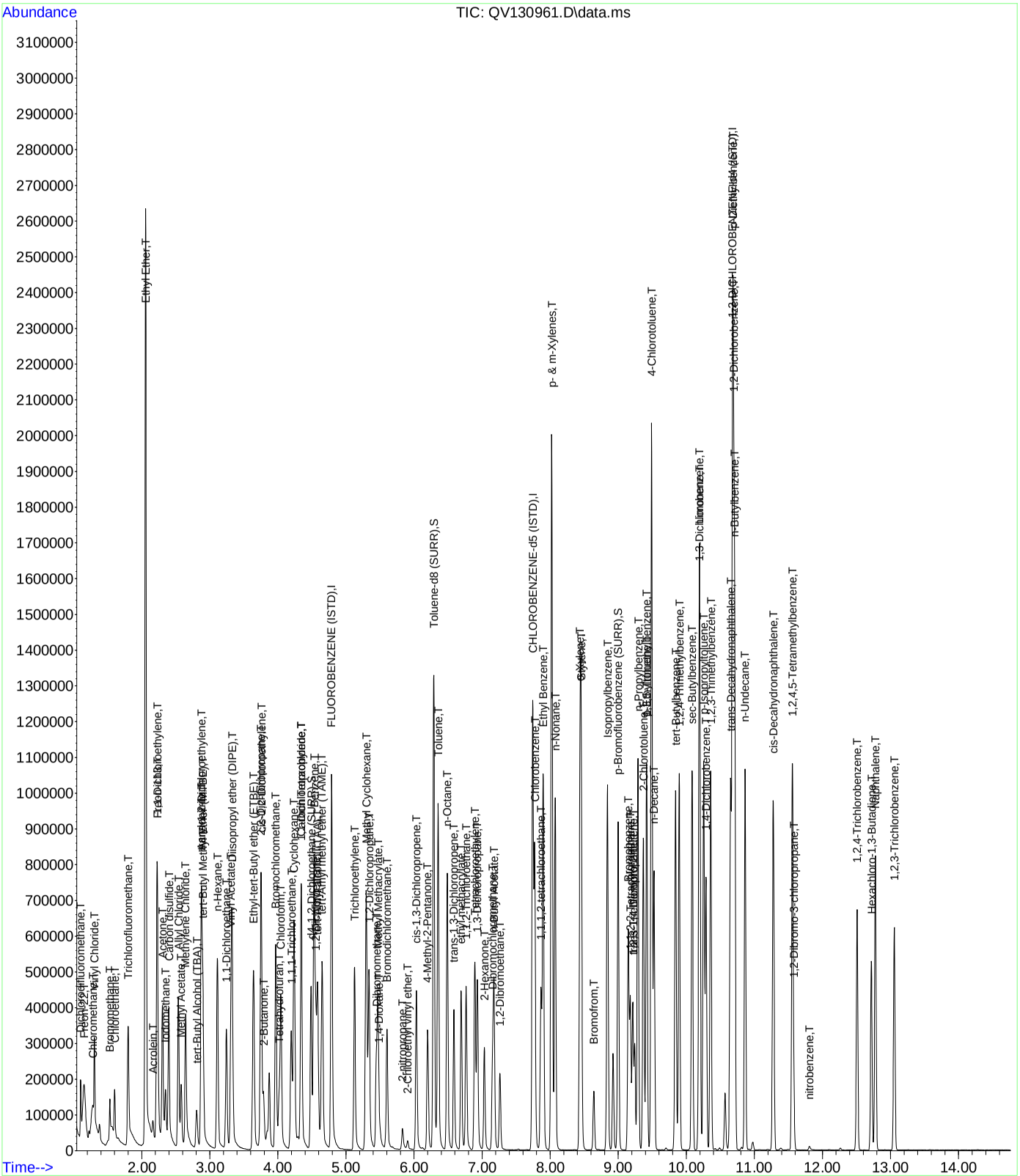
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53)	2-nitropropane	5.831	43	35363m	42.90	ppb		
54)	cis-1,3-Dichloropropene	6.034	75	217011	45.62	ppb		95
55)	ethyl methacrylate	6.691	69	212346	47.94	ppb	#	100
56)	4-Methyl-2-Pentanone	6.198	43	223876	41.39	ppb		96
58)	Toluene	6.354	91	632795	50.40	ppb		99
59)	n-Octane	6.488	43	332225	45.52	ppb		91
60)	trans-1,3-Dichloropropene	6.585	75	175656	40.84	ppb		98
61)	1,1,2-Trichloroethane	6.766	97	126783	48.10	ppb		93
62)	1,3-Dichloropropane	6.930	76	232857	49.28	ppb	#	73
63)	Tetrachloroethylene	6.894	166	120900	40.72	ppb	#	72
64)	2-Hexanone	7.033	43	179068	52.96	ppb		97
65)	n-Butyl Acetate	7.175	43	293610	48.92	ppb		97
66)	Dibromochloromethane	7.155	129	112504	47.29	ppb		99
67)	1,2-Dibromoethane	7.261	107	128210	47.06	ppb		98
68)	Chlorobenzene	7.773	112	367925	50.64	ppb	#	85
69)	1,1,1,2-tetrachloroethane	7.865	131	95989	44.31	ppb	#	57
70)	Ethyl Benzene	7.895	91	705769	50.18	ppb		95
71)	p- & m-Xylenes	8.021	91	1107761	101.04	ppb		94
72)	o-Xylene	8.438	91	556559	50.32	ppb		98
73)	Styrene	8.457	104	443233	49.66	ppb	#	100
74)	n-Nonane	8.073	43	354183	52.17	ppb		92
75)	Bromofrom	8.641	173	60729	35.75	ppb	#	80
77)	p-Ethyltoluene	9.417	105	657884	54.04	ppb	#	97
78)	n-Decane	9.526	57	268100	40.40	ppb		93
79)	Isopropylbenzene	8.841	105	651997	52.27	ppb		95
81)	1,1,2,2-Tetrachloroethane	9.178	83	201989	54.69	ppb	#	100
82)	Bromobenzene	9.147	77	265023	50.96	ppb	#	73
83)	trans-1,4-Dichloro-2-b...	9.214	75	210846m	49.74	ppb		
84)	1,2,3-Trichloropropane	9.214	110	54794	48.78	ppb	#	54
85)	n-Propylbenzene	9.289	91	827813	52.79	ppb		95
86)	2-Chlorotoluene	9.367	91	468126m	51.73	ppb		
87)	4-Chlorotoluene	9.490	91	572476	52.60	ppb		81
88)	1,3,5-Trimethylbenzene	9.417	105	657884	54.04	ppb	#	76
89)	tert-Butylbenzene	9.843	119	437772	45.00	ppb		86
90)	1,2,4-Trimethylbenzene	9.896	105	547841	50.21	ppb		90
91)	sec-Butylbenzene	10.085	105	723979	52.14	ppb		94
92)	Limonene	10.196	68	241613	60.54	ppb	#	94
93)	trans-Decahydronaphtha...	10.650	67	191356	53.81	ppb	#	84
95)	1,3-Dichlorobenzene	10.188	146	263933	49.08	ppb	#	91
96)	p-Isopropyltoluene	10.255	119	588731	50.92	ppb		95
97)	1,4-Dichlorobenzene	10.288	146	257957	47.89	ppb	#	90
98)	1,2,3-Trimethylbenzene	10.358	105	555894	47.03	ppb		95
99)	n-Undecane	10.864	57	366707	58.97	ppb		95
100)	nitrobenzene	11.807	77	4212	49.68	ppb	#	100
101)	p-Diethylbenzene	10.686	105	393876	54.39	ppb		95
102)	1,2-Dichlorobenzene	10.697	146	262844	50.67	ppb	#	87
103)	n-Butylbenzene	10.711	91	795916	53.85	ppb		97
104)	cis-Decahydronaphthalene	11.276	96	149765	52.92	ppb		86
105)	1,2-Dibromo-3-chloropr...	11.576	75	42799	48.79	ppb	#	73
106)	1,2,4,5-Tetramethylben...	11.557	119	527843	51.06	ppb		93
107)	1,2,4-Trichlorobenzene	12.508	180	163924	47.34	ppb	#	100
108)	Hexachloro-1,3-Butadiene	12.717	225	80522	45.37	ppb		83
109)	Naphthalene	12.778	128	564201	48.44	ppb		100
110)	1,2,3-Trichlorobenzene	13.056	180	154482	46.48	ppb		78

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130961.D
Acq On : 12 May 2023 12:07 pm
Operator : BMC
Sample : BD31857-BS1
Misc : QBQV1051223A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 12 12:23:28 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130962.D
Acq On : 12 May 2023 12:34 pm
Operator : BMC
Sample : BD31857-BSD1
Misc : QBQV1051223A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 12 12:54:10 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.788	70	167458	50.00	ppb		# 0.00
44) CHLOROBENZENE-d5 (ISTD)	7.743	117	589157	50.00	ppb		# 0.00
76) 1,2-DICHLOROBENZENE-d4...	10.678	152	266630	50.00	ppb		# 0.00
System Monitoring Compounds							
38) d4-1,2-Dichloroethane ...	4.487	65	259027	48.95	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.90%				
57) Toluene-d8 (SURR)	6.287	98	788897	52.70	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.40%				
80) p-Bromofluorobenzene (...	8.997	95	304777	49.98	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 99.96%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.101	85	126689m	41.17	ppb		
3) Freon-22	1.160	51	284045m	78.90	ppb		
4) Chloromethane	1.288	50	216845m	54.46	ppb		
5) Vinyl Chloride	1.304	62	222522m	62.06	ppb		
6) Bromomethane	1.530	94	86354m	66.27	ppb		
7) Ethyl Ether	2.056	59	1467865	6061.23	ppb		97
8) Allyl Chloride	2.537	76	85861	45.31	ppb	#	100
9) Chloroethane	1.599	64	114108m	64.69	ppb		
10) Trichlorofluoromethane	1.797	101	302287	63.42	ppb		98
12) Freon-113	2.228	101	151788	60.78	ppb	#	93
13) 1,1-Dichloroethylene	2.223	61	268168	57.36	ppb		89
14) Acrolein	2.161	56	29513	47.61	ppb		94
15) Acetone	2.303	43	413615	226.19	ppb	#	43
16) Iodomethane	2.348	142	150856	59.38	ppb	#	20
17) Methyl Acetate	2.579	43	177240m	50.16	ppb		
18) Carbon disulfide	2.395	76	429466	48.54	ppb		100
19) tert-Butyl Alcohol (TBA)	2.807	59	107806	195.87	ppb	#	1
20) Methylene Chloride	2.643	49	224564	47.46	ppb		89
21) Acrylonitrile	2.874	53	94686	48.54	ppb		98
22) trans-1,2-Dichloroethy...	2.874	61	238496	46.68	ppb		92
23) tert-Butyl Methyl Ethe...	2.896	73	400492	42.81	ppb		99
24) n-Hexane	3.110	57	253574	44.37	ppb		96
25) 1,1-Dichloroethane	3.244	63	284699	46.32	ppb	#	99
26) Vinyl Acetate	3.310	43	503851	39.24	ppb		100
27) Diisopropyl ether (DIPE)	3.324	45	552790	48.35	ppb		96
28) Ethyl-tert-Butyl ether...	3.642	59	368438	33.15	ppb	#	97
29) cis-1,2-Dichloroethylene	3.753	61	266383	45.97	ppb		91
30) 2-Butanone	3.789	72	30190	47.65	ppb	#	1
31) 2,2-Dichloropropane	3.750	77	139235	30.34	ppb	#	77
32) Tetrahydrofuran	4.017	42	78900	48.03	ppb		87
33) Bromochloromethane	3.964	49	153091	49.30	ppb	#	47
34) Chloroform	4.042	83	266029	46.43	ppb	#	93
35) 1,1,1-Trichloroethane	4.195	97	190137	40.91	ppb	#	85
36) Cyclohexane	4.237	56	305155	49.56	ppb		88
37) 1,1-Dichloropropylene	4.345	75	208882	46.02	ppb	#	67
39) Carbon Tetrachloride	4.340	117	133190	39.76	ppb		99
40) tert-Amyl alcohol (TAA)	4.582	59	196710	388.64	ppb	#	100
41) 1,2-Dichloroethane	4.554	62	218474	45.72	ppb		99
42) Benzene	4.529	78	622284	47.68	ppb	#	97
43) tert-Amyl methyl ether...	4.651	73	356344	37.39	ppb	#	90
45) Trichloroethylene	5.124	95	152784	49.76	ppb		80
46) Methyl Cyclohexane	5.297	83	279055	49.97	ppb	#	80
47) Methyl Methacrylate	5.469	69	136655	51.06	ppb	#	97
48) Dibromomethane	5.444	93	98815	50.23	ppb		90
49) Bromodichloromethane	5.603	83	189210	50.23	ppb		98
50) 1,2-Dichloropropane	5.339	63	174660	53.36	ppb	#	98
51) 1,4-Dioxane	5.483	88	72026m	1097.06	ppb		
52) 2-Chloroethyl vinyl ether	5.903	63	10909	18.11	ppb		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130962.D
Acq On : 12 May 2023 12:34 pm
Operator : BMC
Sample : BD31857-BSD1
Misc : QBQV1051223A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 12 12:54:10 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1

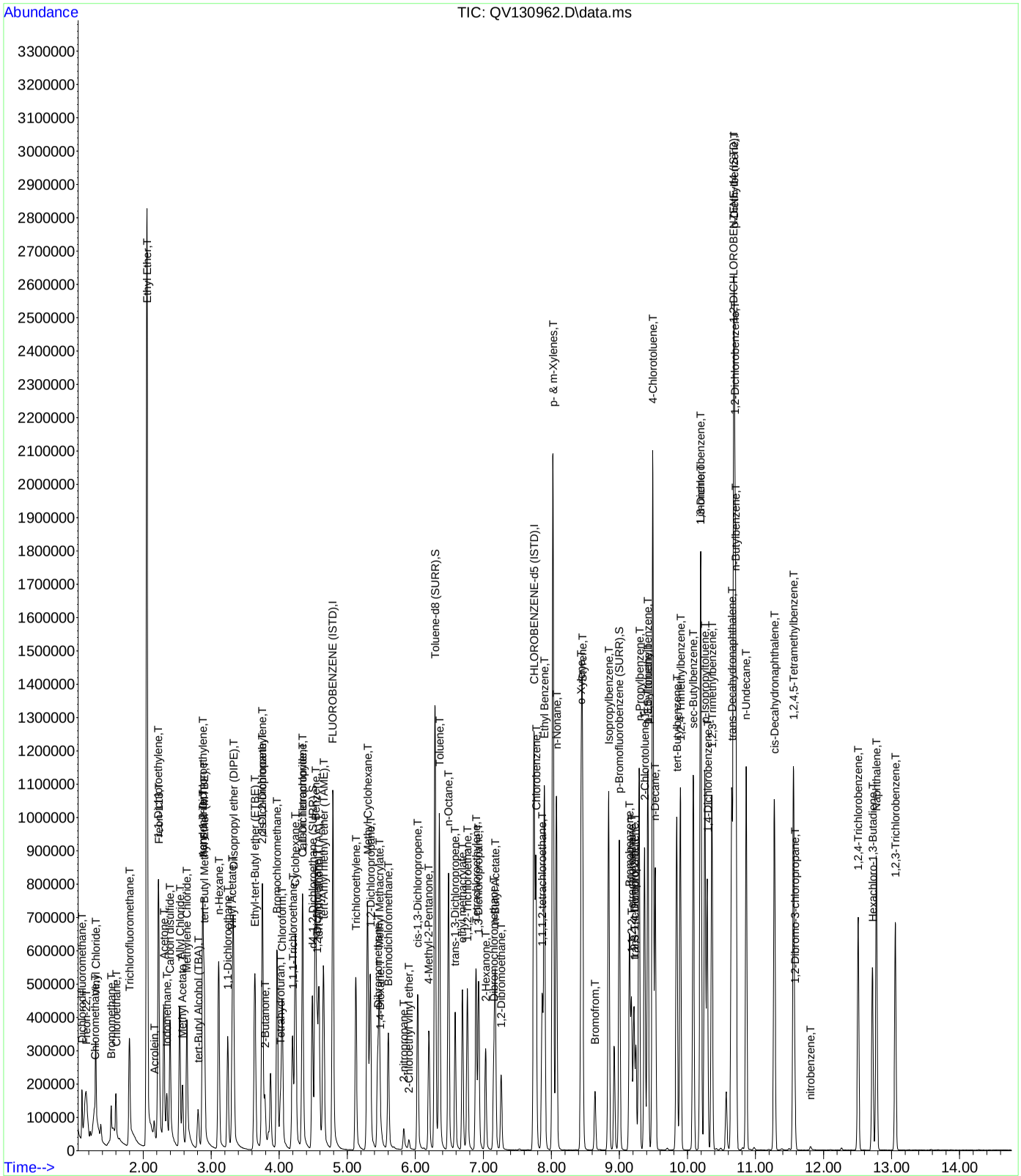
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53)	2-nitropropane	5.831	43	37564m	44.69	ppb		
54)	cis-1,3-Dichloropropene	6.034	75	225766	46.72	ppb		94
55)	ethyl methacrylate	6.694	69	227907	50.66	ppb	#	100
56)	4-Methyl-2-Pentanone	6.198	43	237681	43.26	ppb		96
58)	Toluene	6.354	91	654363	51.31	ppb		100
59)	n-Octane	6.488	43	354704	47.84	ppb		91
60)	trans-1,3-Dichloropropene	6.588	75	186172	42.61	ppb	#	91
61)	1,1,2-Trichloroethane	6.766	97	134764	50.34	ppb		94
62)	1,3-Dichloropropane	6.930	76	245303	51.11	ppb	#	73
63)	Tetrachloroethylene	6.894	166	124503	41.28	ppb	#	72
64)	2-Hexanone	7.033	43	190540	55.48	ppb		96
65)	n-Butyl Acetate	7.175	43	333719	54.74	ppb		95
66)	Dibromochloromethane	7.153	129	118628	49.09	ppb		98
67)	1,2-Dibromoethane	7.261	107	136382	49.28	ppb		98
68)	Chlorobenzene	7.773	112	383185	51.92	ppb	#	85
69)	1,1,1,2-tetrachloroethane	7.865	131	100120	45.50	ppb	#	57
70)	Ethyl Benzene	7.896	91	729961	51.09	ppb		95
71)	p- & m-Xylenes	8.024	91	1147400	103.03	ppb		94
72)	o-Xylene	8.438	91	577540	51.41	ppb		98
73)	Styrene	8.458	104	462027	50.96	ppb	#	100
74)	n-Nonane	8.074	43	379507	55.03	ppb		93
75)	Bromofrom	8.641	173	65640	38.04	ppb	#	80
77)	p-Ethyltoluene	9.417	105	678867	52.97	ppb	#	97
78)	n-Decane	9.526	57	290461	41.58	ppb		92
79)	Isopropylbenzene	8.841	105	673461	51.28	ppb		95
81)	1,1,2,2-Tetrachloroethane	9.178	83	215007	55.30	ppb	#	100
82)	Bromobenzene	9.148	77	277312	50.65	ppb	#	73
83)	trans-1,4-Dichloro-2-b...	9.214	75	225149m	50.45	ppb		
84)	1,2,3-Trichloropropane	9.214	110	60008	50.75	ppb	#	53
85)	n-Propylbenzene	9.289	91	855784	51.84	ppb		95
86)	2-Chlorotoluene	9.367	91	479914	50.38	ppb		99
87)	4-Chlorotoluene	9.490	91	594058	51.85	ppb		81
88)	1,3,5-Trimethylbenzene	9.417	105	678867	52.97	ppb	#	76
89)	tert-Butylbenzene	9.843	119	451856	44.13	ppb		86
90)	1,2,4-Trimethylbenzene	9.896	105	564353	49.13	ppb		90
91)	sec-Butylbenzene	10.085	105	747359	51.13	ppb		94
92)	Limonene	10.196	68	258703	61.58	ppb	#	94
93)	trans-Decahydronaphtha...	10.650	67	208400	55.67	ppb	#	83
95)	1,3-Dichlorobenzene	10.191	146	275666	48.70	ppb	#	91
96)	p-Isopropyltoluene	10.255	119	613909	50.44	ppb		95
97)	1,4-Dichlorobenzene	10.291	146	269692	47.57	ppb	#	90
98)	1,2,3-Trimethylbenzene	10.358	105	577500	46.41	ppb		95
99)	n-Undecane	10.864	57	400231	61.14	ppb		95
100)	nitrobenzene	11.807	77	4139	46.37	ppb	#	100
101)	p-Diethylbenzene	10.683	105	408699	53.61	ppb		95
102)	1,2-Dichlorobenzene	10.697	146	276278	50.59	ppb	#	87
103)	n-Butylbenzene	10.711	91	827785	53.20	ppb		96
104)	cis-Decahydronaphthalene	11.279	96	161873	54.34	ppb		86
105)	1,2-Dibromo-3-chloropr...	11.576	75	46742	50.61	ppb	#	36
106)	1,2,4,5-Tetramethylben...	11.557	119	553448	50.86	ppb		93
107)	1,2,4-Trichlorobenzene	12.509	180	174739	47.94	ppb	#	100
108)	Hexachloro-1,3-Butadiene	12.720	225	84057	44.99	ppb		83
109)	Naphthalene	12.778	128	605577	49.39	ppb		100
110)	1,2,3-Trichlorobenzene	13.057	180	163189	46.64	ppb		78

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223\
Data File : QV130962.D
Acq On : 12 May 2023 12:34 pm
Operator : BMC
Sample : BD31857-BSD1
Misc : QBQV1051223A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 12 12:54:10 2023
Quant Method : C:\msdchem\1\methods\VQ1SC001.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Tue May 09 12:50:09 2023
Response via : Initial Calibration
InstName : QVOA1



BENCHSHEETS

SDG: 23E0419

CLASS: VOA

METHOD: EPA 8260C

PREPARATION BENCH SHEET-SOILS/SOLIDS: BD31853

Preparation Date: 05/10/2023 08:30

York Analytical Laboratories, Inc. - Stratford **Printed: 5/15/2023 9:52:34AM**

Matrix: Soil **Preparation: EPA 5035A** **Surrogate used: Y22H071 1 ul**

Lab Number	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	ul Spike	Comments
23E0419-04 B	VOA, 8260 MASTER	5.34	5				
23E0419-05 B	VOA, 8260 MASTER	5.77	5				
23E0419-06 B	VOA, 8260 MASTER	5.61	5				
23E0419-07 B	VOA, 8260 MASTER	5.51	5				
23E0419-08 B	VOA, 8260 MASTER	5.78	5				
23E0419-09 B	VOA, 8260 MASTER	5.2	5				
23E0428-01 B	Volatile Organics, 8260 - Comprehensive	6.38	5				
23E0428-02 B	Volatile Organics, 8260 - Comprehensive	6.69	5				
23E0428-03 B	Volatile Organics, 8260 - Comprehensive	6.39	5				
23E0435-01 B	Volatile Organics, CP-51 (formerly STARS) Lis	5.63	5				
BD31853-BLK1	QC	5	5				
BD31853-BS1	QC	5	5	S23D300		5	
BD31853-BSD1	QC	5	5	S23D300		5	

From BL12271 on 12/20/2021 by BMC

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y21K078	Ottawa Sand	814140-AI	Y22G394	Q_VOA_Methanol - OmniSolv	62126

Preparations Performed by **BMC** **Date:** **05/10/2023 08:30**

BENCHSHEETS

SDG: 23E0419

CLASS: VOA

METHOD: EPA 8260C

PREPARATION BENCH SHEET-SOILS/SOLIDS: BD31857

Preparation Date: 05/12/2023 10:04

York Analytical Laboratories, Inc. - Stratford **Printed: 5/16/2023 12:46:46PM**

Matrix: Soil **Preparation: EPA 5035A** **Surrogate used: Y22H071 1 ul**

Lab Number	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	ul Spike	Comments
23E0419-10 C	VOA, 8260 MASTER	5.25	5				
23E0435-03 C	Volatile Organics, CP-51 (formerly STARS) Lis	5.42	5				
23E0435-04 C	Volatile Organics, CP-51 (formerly STARS) Lis	6.17	5				
23E0435-05 C	Volatile Organics, CP-51 (formerly STARS) Lis	5.68	5				
23E0798-01 B	VOA, 8260 MASTER	4.56	5				
23E0798-03 B	VOA, 8260 MASTER	5.49	5				
23E0798-06 B	VOA, 8260 MASTER	6.83	5				
23E0798-07 B	VOA, 8260 MASTER	4.36	5				
23E0798-08 B	VOA, 8260 MASTER	6.62	5				
BD31857-BLK1	QC	5	5				
BD31857-BS1	QC	5	5	S23E203		5	
BD31857-BSD1	QC	5	5	S23E203		5	

From BL12271 on 12/20/2021 by BMC

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y21K078	Ottawa Sand	814140-AI	Y22G394	Q_VOA_Methanol - OmniSolv	62126

Preparations Performed by **BMC** **Date:** **05/12/2023 10:04**

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: SVOA

METHOD: EPA 8270D

DATA PACKAGE COVER PAGE

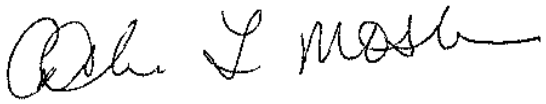
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1642 Instrument: MSBNA9

Calibration: SE30006

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1642-CCV1)				Lab File ID: E90026067.D		Analyzed: 05/15/23 09:33		
SURR: 2-Fluorophenol	30.0	88.5	0 - 200	4.069	4.09075	-0.0217	+/-1.00	
SURR: Phenol-d6	30.0	95.1	0 - 200	4.842	4.857	-0.0150	+/-1.00	
SURR: Nitrobenzene-d5	30.0	87.9	0 - 200	5.621	5.65075	-0.0297	+/-1.00	
SURR: 2-Fluorobiphenyl	30.0	99.6	0 - 200	7.208	7.2495	-0.0415	+/-1.00	
SURR: 2,4,6-Tribromophenol	30.0	134	0 - 200	9.108	9.14975	-0.0417	+/-1.00	
SURR: Terphenyl-d14	30.0	110	0 - 200	12.618	12.668	-0.0500	+/-1.00	
Blank (BE30878-BLK1)				Lab File ID: E90026069.D		Analyzed: 05/15/23 10:53		
SURR: 2-Fluorophenol	1.67	71.9	20 - 108	4.069	4.09075	-0.0217	+/-1.00	
SURR: Phenol-d6	1.67	73.5	23 - 114	4.842	4.857	-0.0150	+/-1.00	
SURR: Nitrobenzene-d5	0.833	73.3	22 - 108	5.621	5.65075	-0.0297	+/-1.00	
SURR: 2-Fluorobiphenyl	0.833	75.4	21 - 113	7.208	7.2495	-0.0415	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.67	99.6	19 - 110	9.102	9.14975	-0.0477	+/-1.00	
SURR: Terphenyl-d14	0.833	89.8	24 - 116	12.618	12.668	-0.0500	+/-1.00	
LCS (BE30878-BS1)				Lab File ID: E90026070.D		Analyzed: 05/15/23 11:22		
SURR: 2-Fluorophenol	1.67	70.9	20 - 108	4.075	4.09075	-0.0157	+/-1.00	
SURR: Phenol-d6	1.67	70.9	23 - 114	4.848	4.857	-0.0090	+/-1.00	
SURR: Nitrobenzene-d5	0.833	71.4	22 - 108	5.621	5.65075	-0.0297	+/-1.00	
SURR: 2-Fluorobiphenyl	0.833	74.0	21 - 113	7.208	7.2495	-0.0415	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.67	104	19 - 110	9.108	9.14975	-0.0417	+/-1.00	
SURR: Terphenyl-d14	0.833	89.2	24 - 116	12.618	12.668	-0.0500	+/-1.00	
EHQ_ITEM304_COMP01_230505 (23E0419-11)				Lab File ID: E90026072.D		Analyzed: 05/15/23 12:21		
SURR: 2-Fluorophenol	1.80	81.0	20 - 108	4.069	4.09075	-0.0217	+/-1.00	
SURR: Phenol-d6	1.80	79.6	23 - 114	4.842	4.857	-0.0150	+/-1.00	
SURR: Nitrobenzene-d5	0.898	76.4	22 - 108	5.621	5.65075	-0.0297	+/-1.00	
SURR: 2-Fluorobiphenyl	0.898	84.7	21 - 113	7.208	7.2495	-0.0415	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.80	134	19 - 110	9.102	9.14975	-0.0477	+/-1.00	*
SURR: Terphenyl-d14	0.898	99.6	24 - 116	12.618	12.668	-0.0500	+/-1.00	
EHQ_ITEM304_COMP02_230505 (23E0419-12)				Lab File ID: E90026073.D		Analyzed: 05/15/23 12:51		
SURR: 2-Fluorophenol	1.82	75.5	20 - 108	4.07	4.09075	-0.0207	+/-1.00	
SURR: Phenol-d6	1.82	78.1	23 - 114	4.842	4.857	-0.0150	+/-1.00	
SURR: Nitrobenzene-d5	0.910	71.4	22 - 108	5.621	5.65075	-0.0297	+/-1.00	
SURR: 2-Fluorobiphenyl	0.910	80.6	21 - 113	7.208	7.2495	-0.0415	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.82	114	19 - 110	9.102	9.14975	-0.0477	+/-1.00	*
SURR: Terphenyl-d14	0.910	91.8	24 - 116	12.618	12.668	-0.0500	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30878	Laboratory ID:	BE30878-BS1
Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
1,1-Biphenyl	0.833	0.635	76.2	18 - 111
1,2,4,5-Tetrachlorobenzene	0.833	0.941	113	21 - 131
1,2-Diphenylhydrazine (as Azobenzene)	0.833	0.479	57.5	17 - 137
2,3,4,6-Tetrachlorophenol	0.833	0.644	77.3	30 - 130
2,4,5-Trichlorophenol	0.833	0.762	91.4	27 - 118
2,4,6-Trichlorophenol	0.833	0.728	87.4	31 - 120
2,4-Dichlorophenol	0.833	0.756	90.7	20 - 127
2,4-Dimethylphenol	0.833	0.525	63.0	14 - 132
2,4-Dinitrophenol	0.833	0.840	101	10 - 171
2,4-Dinitrotoluene	0.833	0.753	90.4	34 - 131
2,6-Dinitrotoluene	0.833	0.726	87.2	31 - 128
2-Chloronaphthalene	0.833	0.590	70.8	31 - 117
2-Chlorophenol	0.833	0.609	73.1	33 - 113
2-Methylnaphthalene	0.833	0.644	77.3	12 - 138
2-Methylphenol	0.833	0.602	72.2	10 - 136
2-Nitroaniline	0.833	0.685	82.2	27 - 132
2-Nitrophenol	0.833	0.784	94.1	17 - 129
3- & 4-Methylphenols	0.833	0.554	66.5	29 - 103
3,3-Dichlorobenzidine	0.833	0.675	81.0	22 - 149
3-Nitroaniline	0.833	0.522	62.6	20 - 133
4,6-Dinitro-2-methylphenol	0.833	0.836	100	10 - 143
4-Bromophenyl phenyl ether	0.833	0.691	83.0	29 - 120
4-Chloro-3-methylphenol	0.833	0.704	84.5	24 - 129
4-Chloroaniline	0.833	0.453	54.3	10 - 132
4-Chlorophenyl phenyl ether	0.833	0.705	84.6	27 - 124
4-Nitroaniline	0.833	0.615	73.8	16 - 128
4-Nitrophenol	0.833	0.523	62.7	10 - 141
Acenaphthene	0.833	0.584	70.1	30 - 121
Acenaphthylene	0.833	0.589	70.7	30 - 115
Acetophenone	0.833	0.632	75.9	20 - 112

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30878	Laboratory ID:	BE30878-BS1
Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
Aniline	0.833	0.451	54.1	10 - 119
Anthracene	0.833	0.660	79.2	34 - 118
Atrazine	0.833	0.574	68.8	26 - 112
Benzaldehyde	0.833	0.689	82.6	21 - 100
Benzo(a)anthracene	0.833	0.664	79.7	32 - 122
Benzo(a)pyrene	0.833	0.622	74.6	29 - 133
Benzo(b)fluoranthene	0.833	0.670	80.4	25 - 133
Benzo(g,h,i)perylene	0.833	0.682	81.8	10 - 143
Benzo(k)fluoranthene	0.833	0.684	82.0	25 - 128
Benzoic acid	0.833	0.773	92.8	10 - 140
Benzyl alcohol	0.833	0.586	70.3	30 - 115
Benzyl butyl phthalate	0.833	0.554	66.5	26 - 126
Bis(2-chloroethoxy)methane	0.833	0.581	69.7	19 - 132
Bis(2-chloroethyl)ether	0.833	0.526	63.1	19 - 125
Bis(2-chloroisopropyl)ether	0.833	0.197	23.6	20 - 135
Bis(2-ethylhexyl)phthalate	0.833	0.638	76.5	10 - 155
Caprolactam	0.833	0.781	93.7	10 - 127
Carbazole	0.833	0.622	74.7	35 - 123
Chrysene	0.833	0.682	81.8	32 - 123
Dibenzo(a,h)anthracene	0.833	0.695	83.4	10 - 136
Dibenzofuran	0.833	0.628	75.4	29 - 121
Diethyl phthalate	0.833	0.609	73.1	34 - 116
Dimethyl phthalate	0.833	0.614	73.7	35 - 124
Di-n-butyl phthalate	0.833	0.579	69.4	31 - 116
Di-n-octyl phthalate	0.833	0.580	69.6	26 - 136
Diphenylamine	0.833	0.733	87.9	40 - 140
Fluoranthene	0.833	0.623	74.7	33 - 122
Fluorene	0.833	0.629	75.4	29 - 123
Hexachlorobenzene	0.833	0.538	64.6	21 - 124
Hexachlorobutadiene	0.833	0.731	87.8	10 - 149

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30878	Laboratory ID:	BE30878-BS1
Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
Hexachlorocyclopentadiene	0.833	0.424	50.9	10 - 129
Hexachloroethane	0.833	0.565	67.8	28 - 108
Indeno(1,2,3-cd)pyrene	0.833	0.652	78.3	10 - 135
Isophorone	0.833	0.632	75.9	20 - 132
Naphthalene	0.833	0.615	73.8	23 - 124
Nitrobenzene	0.833	0.563	67.6	13 - 132
N-Nitrosodimethylamine	0.833	0.409	49.0	11 - 129
N-nitroso-di-n-propylamine	0.833	0.521	62.5	24 - 119
N-Nitrosodiphenylamine	0.833	0.678	81.4	22 - 152
Pentachlorophenol	0.833	0.678	81.4	10 - 139
Phenanthrene	0.833	0.631	75.8	33 - 123
Phenol	0.833	0.582	69.8	23 - 115
Pyrene	0.833	0.666	79.9	24 - 130
Pyridine	0.833	0.343	41.2	10 - 91

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30878 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11	E90026072.D	05/14/23 08:28	Rocky
EHQ_ITEM304_COMP02_230505	23E0419-12	E90026073.D	05/14/23 08:28	Rocky
Blank	BE30878-BLK1	E90026069.D	05/14/23 08:28	
LCS	BE30878-BS1	E90026070.D	05/14/23 08:28	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30878-BLK1	File ID:	E90026069.D
Prepared:	05/14/23 08:28	Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL
Analyzed:	05/15/23 10:53	Instrument:	MSBNA9		
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
92-52-4	1,1-Biphenyl	0.0417	U
95-94-3	1,2,4,5-Tetrachlorobenzene	0.0833	U
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	0.0417	U
58-90-2	2,3,4,6-Tetrachlorophenol	0.0833	U
95-95-4	2,4,5-Trichlorophenol	0.0417	U
88-06-2	2,4,6-Trichlorophenol	0.0417	U
120-83-2	2,4-Dichlorophenol	0.0417	U
105-67-9	2,4-Dimethylphenol	0.0417	U
51-28-5	2,4-Dinitrophenol	0.0833	U
121-14-2	2,4-Dinitrotoluene	0.0417	U
606-20-2	2,6-Dinitrotoluene	0.0417	U
91-58-7	2-Chloronaphthalene	0.0417	U
95-57-8	2-Chlorophenol	0.0417	U
91-57-6	2-Methylnaphthalene	0.0417	U
95-48-7	2-Methylphenol	0.0417	U
88-74-4	2-Nitroaniline	0.0833	U
88-75-5	2-Nitrophenol	0.0417	U
65794-96-9	3- & 4-Methylphenols	0.0417	U
91-94-1	3,3-Dichlorobenzidine	0.0417	U
99-09-2	3-Nitroaniline	0.0833	U
534-52-1	4,6-Dinitro-2-methylphenol	0.0833	U
101-55-3	4-Bromophenyl phenyl ether	0.0417	U
59-50-7	4-Chloro-3-methylphenol	0.0417	U
106-47-8	4-Chloroaniline	0.0417	U
7005-72-3	4-Chlorophenyl phenyl ether	0.0417	U
100-01-6	4-Nitroaniline	0.0833	U
100-02-7	4-Nitrophenol	0.0833	U
83-32-9	Acenaphthene	0.0417	U
208-96-8	Acenaphthylene	0.0417	U
98-86-2	Acetophenone	0.0417	U

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30878-BLK1	File ID:	E90026069.D
Prepared:	05/14/23 08:28	Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL
Analyzed:	05/15/23 10:53	Instrument:	MSBNA9		
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
62-53-3	Aniline	0.167	U
120-12-7	Anthracene	0.0417	U
1912-24-9	Atrazine	0.0417	U
100-52-7	Benzaldehyde	0.0417	U
92-87-5	Benzidine	0.167	U
56-55-3	Benzo(a)anthracene	0.0417	U
50-32-8	Benzo(a)pyrene	0.0417	U
205-99-2	Benzo(b)fluoranthene	0.0417	U
191-24-2	Benzo(g,h,i)perylene	0.0417	U
207-08-9	Benzo(k)fluoranthene	0.0417	U
65-85-0	Benzoic acid	0.0417	U
100-51-6	Benzyl alcohol	0.0417	U
85-68-7	Benzyl butyl phthalate	0.0417	U
111-91-1	Bis(2-chloroethoxy)methane	0.0417	U
111-44-4	Bis(2-chloroethyl)ether	0.0417	U
108-60-1	Bis(2-chloroisopropyl)ether	0.0417	U
117-81-7	Bis(2-ethylhexyl)phthalate	0.0417	U
105-60-2	Caprolactam	0.0833	U
86-74-8	Carbazole	0.0417	U
218-01-9	Chrysene	0.0417	U
53-70-3	Dibenzo(a,h)anthracene	0.0417	U
132-64-9	Dibenzofuran	0.0417	U
84-66-2	Diethyl phthalate	0.0417	U
131-11-3	Dimethyl phthalate	0.0417	U
84-74-2	Di-n-butyl phthalate	0.0417	U
117-84-0	Di-n-octyl phthalate	0.0417	U
122-39-4	Diphenylamine	0.0833	U
206-44-0	Fluoranthene	0.0417	U
86-73-7	Fluorene	0.0417	U
118-74-1	Hexachlorobenzene	0.0417	U

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30878-BLK1	File ID:	E90026069.D
Prepared:	05/14/23 08:28	Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL
Analyzed:	05/15/23 10:53	Instrument:	MSBNA9		
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
87-68-3	Hexachlorobutadiene	0.0417	U
77-47-4	Hexachlorocyclopentadiene	0.0417	U
67-72-1	Hexachloroethane	0.0417	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.0417	U
78-59-1	Isophorone	0.0417	U
91-20-3	Naphthalene	0.0417	U
98-95-3	Nitrobenzene	0.0417	U
62-75-9	N-Nitrosodimethylamine	0.0417	U
621-64-7	N-nitroso-di-n-propylamine	0.0417	U
86-30-6	N-Nitrosodiphenylamine	0.0417	U
87-86-5	Pentachlorophenol	0.0417	U
85-01-8	Phenanthrene	0.0417	U
108-95-2	Phenol	0.0417	U
129-00-0	Pyrene	0.0417	U
110-86-1	Pyridine	0.167	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
SURR: 2,4,6-Tribromophenol	1.67	1.66	99.6	19 - 110	
SURR: 2-Fluorobiphenyl	0.833	0.629	75.4	21 - 113	
SURR: 2-Fluorophenol	1.67	1.20	71.9	20 - 108	
SURR: Nitrobenzene-d5	0.833	0.611	73.3	22 - 108	
SURR: Phenol-d6	1.67	1.22	73.5	23 - 114	
SURR: Terphenyl-d14	0.833	0.749	89.8	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	337456	5.162	439227	5.162	
ISTD: Acenaphthene-d10	870668	7.998	1258845	7.998	
ISTD: Chrysene-d12	1240166	14.768	1667473	14.774	
ISTD: Naphthalene-d8	1427441	6.214	2116043	6.22	
ISTD: Perylene-d12	1324607	17.779	1789188	17.785	
ISTD: Phenanthrene-d10	1578033	9.991	2108981	9.997	

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	E90025813.D	Injection Date:	05/02/23
Instrument ID:	MSBNA9	Injection Time:	12:41
Sequence:	S3E0304	Lab Sample ID:	S3E0304-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	39.8	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	47.8	PASS
70	Less than 2% of 69	0.692	PASS
127	10 - 80% of 198	58.9	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.38	PASS
275	10 - 60% of 198	22.6	PASS
365	1 - 100% of 198	3.08	PASS
441	0.01 - 24% of 442	14.6	PASS
442	50 - 100% of 198	88.2	PASS
443	15 - 24% of 442	18.8	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	E90026066.D	Injection Date:	05/15/23
Instrument ID:	MSBNA9	Injection Time:	09:03
Sequence:	S3E1642	Lab Sample ID:	S3E1642-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	24.7	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	39.4	PASS
70	Less than 2% of 69	0	PASS
127	10 - 80% of 198	48.5	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.31	PASS
275	10 - 60% of 198	25.5	PASS
365	1 - 100% of 198	3.68	PASS
441	0.01 - 24% of 442	15	PASS
442	50 - 100% of 198	91	PASS
443	15 - 24% of 442	19.1	PASS

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E0304	Instrument:	MSBNA9
		Calibration:	SE30006

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3E0304-TUN1	E90025813.D	05/02/23 12:41
Cal Standard	S3E0304-CAL1	E90025815.D	05/02/23 13:56
Cal Standard	S3E0304-CAL2	E90025816.D	05/02/23 14:26
Cal Standard	S3E0304-CAL3	E90025817.D	05/02/23 14:56
Cal Standard	S3E0304-CAL4	E90025818.D	05/02/23 15:26
Cal Standard	S3E0304-CAL5	E90025819.D	05/02/23 15:56
Cal Standard	S3E0304-CAL6	E90025820.D	05/02/23 16:26
Cal Standard	S3E0304-CAL7	E90025821.D	05/02/23 16:57
Cal Standard	S3E0304-CAL8	E90025822.D	05/02/23 17:27
Secondary Cal Check	S3E0304-SCV1	E90025823.D	05/02/23 17:57

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1642	Instrument:	MSBNA9
		Calibration:	SE30006

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3E1642-TUN1	E90026066.D	05/15/23 09:03
Calibration Check	S3E1642-CCV1	E90026067.D	05/15/23 09:33
Blank	BE30878-BLK1	E90026069.D	05/15/23 10:53
LCS	BE30878-BS1	E90026070.D	05/15/23 11:22
EHQ_ITEM304_COMP01_230505	23E0419-11	E90026072.D	05/15/23 12:21
EHQ_ITEM304_COMP02_230505	23E0419-12	E90026073.D	05/15/23 12:51

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC) Project: 170446801
Sequence: S3E0304 Instrument: MSBNA9
Calibration: SE30006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (S3E0304-CAL1)			Lab File ID: E90025815.D			Analyzed: 05/02/23 13:56			
ISTD: 1,4-Dichlorobenzene-d4	422096	5.191	425906	5.191	99	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1848244	6.249	1910942	6.255	97	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	1024475	8.045	996176	8.045	103	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1503800	10.032	1742635	10.032	86	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	1125088	14.815	1232538	14.821	91	50 - 200	-0.0060	+/-0.50	
ISTD: Perylene-d12	1220912	17.825	1053287	17.825	116	50 - 200	0.0000	+/-0.50	
Cal Standard (S3E0304-CAL2)			Lab File ID: E90025816.D			Analyzed: 05/02/23 14:26			
ISTD: 1,4-Dichlorobenzene-d4	417193	5.191	425906	5.191	98	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1817480	6.249	1910942	6.255	95	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	1011811	8.039	996176	8.045	102	50 - 200	-0.0060	+/-0.50	
ISTD: Phenanthrene-d10	1533253	10.026	1742635	10.032	88	50 - 200	-0.0060	+/-0.50	
ISTD: Chrysene-d12	1199380	14.815	1232538	14.821	97	50 - 200	-0.0060	+/-0.50	
ISTD: Perylene-d12	1314110	17.825	1053287	17.825	125	50 - 200	0.0000	+/-0.50	
Cal Standard (S3E0304-CAL3)			Lab File ID: E90025817.D			Analyzed: 05/02/23 14:56			
ISTD: 1,4-Dichlorobenzene-d4	396710	5.191	425906	5.191	93	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1696428	6.249	1910942	6.255	89	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	930928	8.039	996176	8.045	93	50 - 200	-0.0060	+/-0.50	
ISTD: Phenanthrene-d10	1424021	10.026	1742635	10.032	82	50 - 200	-0.0060	+/-0.50	
ISTD: Chrysene-d12	1091321	14.815	1232538	14.821	89	50 - 200	-0.0060	+/-0.50	
ISTD: Perylene-d12	1145879	17.82	1053287	17.825	109	50 - 200	-0.0050	+/-0.50	
Cal Standard (S3E0304-CAL4)			Lab File ID: E90025818.D			Analyzed: 05/02/23 15:26			
ISTD: 1,4-Dichlorobenzene-d4	415226	5.191	425906	5.191	97	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1882114	6.249	1910942	6.255	98	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	1039393	8.044	996176	8.045	104	50 - 200	-0.0010	+/-0.50	
ISTD: Phenanthrene-d10	1638824	10.026	1742635	10.032	94	50 - 200	-0.0060	+/-0.50	
ISTD: Chrysene-d12	1247610	14.815	1232538	14.821	101	50 - 200	-0.0060	+/-0.50	
ISTD: Perylene-d12	1267172	17.825	1053287	17.825	120	50 - 200	0.0000	+/-0.50	
Cal Standard (S3E0304-CAL5)			Lab File ID: E90025819.D			Analyzed: 05/02/23 15:56			
ISTD: 1,4-Dichlorobenzene-d4	383867	5.191	425906	5.191	90	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1746037	6.249	1910942	6.255	91	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	938719	8.045	996176	8.045	94	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1504818	10.032	1742635	10.032	86	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	1132745	14.815	1232538	14.821	92	50 - 200	-0.0060	+/-0.50	
ISTD: Perylene-d12	1116700	17.825	1053287	17.825	106	50 - 200	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC) Project: 170446801
Sequence: S3E0304 Instrument: MSBNA9
Calibration: SE30006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (S3E0304-CAL6)			Lab File ID: E90025820.D			Analyzed: 05/02/23 16:26			
ISTD: 1,4-Dichlorobenzene-d4	419711	5.191	425906	5.191	99	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1887682	6.249	1910942	6.255	99	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	985505	8.045	996176	8.045	99	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1593848	10.032	1742635	10.032	91	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	1153330	14.821	1232538	14.821	94	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	1042384	17.825	1053287	17.825	99	50 - 200	0.0000	+/-0.50	
Cal Standard (S3E0304-CAL7)			Lab File ID: E90025821.D			Analyzed: 05/02/23 16:57			
ISTD: 1,4-Dichlorobenzene-d4	425906	5.191	425906	5.191	100	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1910942	6.255	1910942	6.255	100	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	996176	8.045	996176	8.045	100	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1742635	10.032	1742635	10.032	100	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	1232538	14.821	1232538	14.821	100	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	1053287	17.825	1053287	17.825	100	50 - 200	0.0000	+/-0.50	
Cal Standard (S3E0304-CAL8)			Lab File ID: E90025822.D			Analyzed: 05/02/23 17:27			
ISTD: 1,4-Dichlorobenzene-d4	414560	5.191	425906	5.191	97	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1904591	6.255	1910942	6.255	100	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	927027	8.045	996176	8.045	93	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1607295	10.032	1742635	10.032	92	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	1175071	14.821	1232538	14.821	95	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	972367	17.826	1053287	17.825	92	50 - 200	0.0010	+/-0.50	
Secondary Cal Check (S3E0304-SCV1)			Lab File ID: E90025823.D			Analyzed: 05/02/23 17:57			
ISTD: 1,4-Dichlorobenzene-d4	386012	5.191	425906	5.191	91	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1601612	6.249	1910942	6.255	84	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	872087	8.044	996176	8.045	88	50 - 200	-0.0010	+/-0.50	
ISTD: Phenanthrene-d10	1433426	10.026	1742635	10.032	82	50 - 200	-0.0060	+/-0.50	
ISTD: Chrysene-d12	993016	14.815	1232538	14.821	81	50 - 200	-0.0060	+/-0.50	
ISTD: Perylene-d12	915660	17.825	1053287	17.825	87	50 - 200	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1642 Instrument: MSBNA9

Calibration: SE30006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1642-CCV1)			Lab File ID: E90026067.D			Analyzed: 05/15/23 09:33			
ISTD: 1,4-Dichlorobenzene-d4	439227	5.162				50 - 200		+/-0.50	
ISTD: Naphthalene-d8	2116043	6.22				50 - 200		+/-0.50	
ISTD: Acenaphthene-d10	1258845	7.998				50 - 200		+/-0.50	
ISTD: Phenanthrene-d10	2108981	9.997				50 - 200		+/-0.50	
ISTD: Chrysene-d12	1667473	14.774				50 - 200		+/-0.50	
ISTD: Perylene-d12	1789188	17.785				50 - 200		+/-0.50	
Blank (BE30878-BLK1)			Lab File ID: E90026069.D			Analyzed: 05/15/23 10:53			
ISTD: 1,4-Dichlorobenzene-d4	337456	5.162	439227	5.162	77	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1427441	6.214	2116043	6.22	67	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	870668	7.998	1258845	7.998	69	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1578033	9.991	2108981	9.997	75	50 - 200	-0.0060	+/-0.50	
ISTD: Chrysene-d12	1240166	14.768	1667473	14.774	74	50 - 200	-0.0060	+/-0.50	
ISTD: Perylene-d12	1324607	17.779	1789188	17.785	74	50 - 200	-0.0060	+/-0.50	
LCS (BE30878-BS1)			Lab File ID: E90026070.D			Analyzed: 05/15/23 11:22			
ISTD: 1,4-Dichlorobenzene-d4	408076	5.162	439227	5.162	93	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1724991	6.22	2116043	6.22	82	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	1033297	7.998	1258845	7.998	82	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1789599	9.997	2108981	9.997	85	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	1303458	14.769	1667473	14.774	78	50 - 200	-0.0050	+/-0.50	
ISTD: Perylene-d12	1331473	17.779	1789188	17.785	74	50 - 200	-0.0060	+/-0.50	
EHQ_ITEM304_COMP01_230505 (23E0419-11)			Lab File ID: E90026072.D			Analyzed: 05/15/23 12:21			
ISTD: 1,4-Dichlorobenzene-d4	318731	5.162	439227	5.162	73	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1381446	6.214	2116043	6.22	65	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	884666	7.998	1258845	7.998	70	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1520097	9.991	2108981	9.997	72	50 - 200	-0.0060	+/-0.50	
ISTD: Chrysene-d12	1262374	14.769	1667473	14.774	76	50 - 200	-0.0050	+/-0.50	
ISTD: Perylene-d12	1451527	17.779	1789188	17.785	81	50 - 200	-0.0060	+/-0.50	
EHQ_ITEM304_COMP02_230505 (23E0419-12)			Lab File ID: E90026073.D			Analyzed: 05/15/23 12:51			
ISTD: 1,4-Dichlorobenzene-d4	356139	5.162	439227	5.162	81	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	1581432	6.214	2116043	6.22	75	50 - 200	-0.0060	+/-0.50	
ISTD: Acenaphthene-d10	1032177	7.998	1258845	7.998	82	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	1743050	9.992	2108981	9.997	83	50 - 200	-0.0050	+/-0.50	
ISTD: Chrysene-d12	1418006	14.769	1667473	14.774	85	50 - 200	-0.0050	+/-0.50	
ISTD: Perylene-d12	1531133	17.779	1789188	17.785	86	50 - 200	-0.0060	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/14/23 08:28	8.81	14.00	05/15/23 12:21	1.16	40.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/14/23 08:28	8.80	14.00	05/15/23 12:51	1.18	40.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: SOIL **Instrument:** MSBNA9

Analyte	LOD	LOQ	Units
1,1-Biphenyl	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
1,2,4,5-Tetrachlorobenzene	2.50	5.00	ug/L
	0.0417	0.0833	mg/kg
1,2,4-Trichlorobenzene	2.50	5.00	ug/L
1,2-Dichlorobenzene	2.50	5.00	ug/L
1,2-Diphenylhydrazine (as Azobenzene)	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
1,3-Dichlorobenzene	2.50	5.00	ug/L
1,4-Dichlorobenzene	2.50	5.00	ug/L
1-Methylnaphthalene	2.50	5.00	ug/L
2,3,4,6-Tetrachlorophenol	0.0417	0.0833	mg/kg
	2.50	5.00	ug/L
2,4,5-Trichlorophenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2,4,6-Trichlorophenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2,4-Dichlorophenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2,4-Dimethylphenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2,4-Dinitrophenol	0.0417	0.0833	mg/kg
	2.50	5.00	ug/L
2,4-Dinitrotoluene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2,6-Dinitrotoluene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2-Chloronaphthalene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2-Chlorophenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2-Methylnaphthalene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2-Methylphenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
2-Nitroaniline	0.0417	0.0833	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Water **Instrument:** MSBNA9

Analyte	LOD	LOQ	Units
2-Nitroaniline	2.50	5.00	ug/L
2-Nitrophenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
3- & 4-Methylphenols	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
3,3-Dichlorobenzidine	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
3-Nitroaniline	0.0417	0.0833	mg/kg
	2.50	5.00	ug/L
4,6-Dinitro-2-methylphenol	0.0417	0.0833	mg/kg
	2.50	5.00	ug/L
4-Bromophenyl phenyl ether	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
4-Chloro-3-methylphenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
4-Chloroaniline	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
4-Chlorophenyl phenyl ether	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
4-Nitroaniline	0.0417	0.0833	mg/kg
	2.50	5.00	ug/L
4-Nitrophenol	0.0417	0.0833	mg/kg
	5.00	5.00	ug/L
Acenaphthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Acenaphthylene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Acetophenone	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Alpha Terpineol	5.00	10.0	ug/L
Aniline	0.0835	0.167	mg/kg
	2.50	5.00	ug/L
Anthracene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Atrazine	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzaldehyde	0.0209	0.0417	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Water **Instrument:** MSBNA9

Analyte	LOD	LOQ	Units
Benzaldehyde	2.50	5.00	ug/L
Benzidine	0.0835	0.167	mg/kg
	5.00	5.00	ug/L
Benzo(a)anthracene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(a)pyrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(b)fluoranthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(g,h,i)perylene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(k)fluoranthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzoic acid	0.0209	0.0417	mg/kg
	25.0	50.0	ug/L
Benzyl alcohol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzyl butyl phthalate	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Bis(2-chloroethoxy)methane	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Bis(2-chloroethyl)ether	0.0209	0.0417	mg/kg
	1.00	5.00	ug/L
Bis(2-chloroisopropyl)ether	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Bis(2-ethylhexyl)phthalate	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Caprolactam	0.0417	0.0833	mg/kg
	2.50	5.00	ug/L
Carbazole	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Chrysene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Cresols, total	10.0	15.0	ug/L
Dibenzo(a,h)anthracene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Dibenzofuran	0.0209	0.0417	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Water **Instrument:** MSBNA9

Analyte	LOD	LOQ	Units
Dibenzofuran	2.50	5.00	ug/L
Diethyl phthalate	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Dimethyl phthalate	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Di-n-butyl phthalate	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Di-n-octyl phthalate	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Diphenylamine	0.0417	0.0833	mg/kg
	2.50	5.00	ug/L
Fluoranthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Fluorene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Hexachlorobenzene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Hexachlorobutadiene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Hexachlorocyclopentadiene	0.0209	0.0417	mg/kg
	5.00	10.0	ug/L
Hexachloroethane	0.0209	0.0417	mg/kg
	1.25	2.50	ug/L
Indeno(1,2,3-cd)pyrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Isophorone	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Naphthalene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Nitrobenzene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
N-Nitrosodimethylamine	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
N-nitroso-di-n-propylamine	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
N-Nitrosodiphenylamine	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Water **Instrument:** MSBNA9

Analyte	LOD	LOQ	Units
Parathion	1.75	1.75	ug/L
Pentachloronitrobenzene	2.50	5.00	ug/L
Pentachlorophenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Phenanthrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Phenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Pyrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Pyridine	0.0835	0.167	mg/kg
	2.50	5.00	ug/L

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	E90026072.D
Sampled:	05/05/23 13:00	Prepared:	05/14/23 08:28	Analyzed:	05/15/23 12:21
Solids:	90.64	Preparation:	EPA 3550C	Initial/Final:	30.7 g / 1 mL
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006
Instrument:	MSBNA9				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
92-52-4	1,1-Biphenyl	2	0.0899	U
95-94-3	1,2,4,5-Tetrachlorobenzene	2	0.180	U
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	2	0.0899	U
58-90-2	2,3,4,6-Tetrachlorophenol	2	0.180	U
95-95-4	2,4,5-Trichlorophenol	2	0.0899	U
88-06-2	2,4,6-Trichlorophenol	2	0.0899	U
120-83-2	2,4-Dichlorophenol	2	0.0899	U
105-67-9	2,4-Dimethylphenol	2	0.0899	U
51-28-5	2,4-Dinitrophenol	2	0.180	U
121-14-2	2,4-Dinitrotoluene	2	0.0899	U
606-20-2	2,6-Dinitrotoluene	2	0.0899	U
91-58-7	2-Chloronaphthalene	2	0.0899	U
95-57-8	2-Chlorophenol	2	0.0899	U
91-57-6	2-Methylnaphthalene	2	0.0899	U
95-48-7	2-Methylphenol	2	0.0899	U
88-74-4	2-Nitroaniline	2	0.180	U
88-75-5	2-Nitrophenol	2	0.0899	U
65794-96-9	3- & 4-Methylphenols	2	0.0899	U
91-94-1	3,3-Dichlorobenzidine	2	0.0899	U
99-09-2	3-Nitroaniline	2	0.180	U
534-52-1	4,6-Dinitro-2-methylphenol	2	0.180	U
101-55-3	4-Bromophenyl phenyl ether	2	0.0899	U
59-50-7	4-Chloro-3-methylphenol	2	0.0899	U
106-47-8	4-Chloroaniline	2	0.0899	U
7005-72-3	4-Chlorophenyl phenyl ether	2	0.0899	U
100-01-6	4-Nitroaniline	2	0.180	U
100-02-7	4-Nitrophenol	2	0.180	U
83-32-9	Acenaphthene	2	0.0899	U
208-96-8	Acenaphthylene	2	0.0899	U
98-86-2	Acetophenone	2	0.0899	U
62-53-3	Aniline	2	0.360	U
120-12-7	Anthracene	2	0.0899	U
1912-24-9	Atrazine	2	0.0899	U
100-52-7	Benzaldehyde	2	0.0899	U
92-87-5	Benzidine	2	0.360	U
56-55-3	Benzo(a)anthracene	2	0.0899	U
50-32-8	Benzo(a)pyrene	2	0.0899	U
205-99-2	Benzo(b)fluoranthene	2	0.0899	U
191-24-2	Benzo(g,h,i)perylene	2	0.0899	U
207-08-9	Benzo(k)fluoranthene	2	0.0899	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	E90026072.D
Sampled:	05/05/23 13:00	Prepared:	05/14/23 08:28	Analyzed:	05/15/23 12:21
Solids:	90.64	Preparation:	EPA 3550C	Initial/Final:	30.7 g / 1 mL
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006
Instrument:	MSBNA9				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
65-85-0	Benzoic acid	2	0.0899	U
100-51-6	Benzyl alcohol	2	0.0899	U
85-68-7	Benzyl butyl phthalate	2	0.0899	U
111-91-1	Bis(2-chloroethoxy)methane	2	0.0899	U
111-44-4	Bis(2-chloroethyl)ether	2	0.0899	U
108-60-1	Bis(2-chloroisopropyl)ether	2	0.0899	U
117-81-7	Bis(2-ethylhexyl)phthalate	2	0.0899	U
105-60-2	Caprolactam	2	0.180	U
86-74-8	Carbazole	2	0.0899	U
218-01-9	Chrysene	2	0.0899	U
53-70-3	Dibenzo(a,h)anthracene	2	0.0899	U
132-64-9	Dibenzofuran	2	0.0899	U
84-66-2	Diethyl phthalate	2	0.0899	U
131-11-3	Dimethyl phthalate	2	0.0899	U
84-74-2	Di-n-butyl phthalate	2	0.0899	U
117-84-0	Di-n-octyl phthalate	2	0.0899	U
122-39-4	Diphenylamine	2	0.180	U
206-44-0	Fluoranthene	2	0.0899	U
86-73-7	Fluorene	2	0.0899	U
118-74-1	Hexachlorobenzene	2	0.0899	U
87-68-3	Hexachlorobutadiene	2	0.0899	U
77-47-4	Hexachlorocyclopentadiene	2	0.0899	U
67-72-1	Hexachloroethane	2	0.0899	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.0899	U
78-59-1	Isophorone	2	0.0899	U
91-20-3	Naphthalene	2	0.0899	U
98-95-3	Nitrobenzene	2	0.0899	U
62-75-9	N-Nitrosodimethylamine	2	0.0899	U
621-64-7	N-nitroso-di-n-propylamine	2	0.0899	U
86-30-6	N-Nitrosodiphenylamine	2	0.0899	U
87-86-5	Pentachlorophenol	2	0.0899	U
85-01-8	Phenanthrene	2	0.0899	U
108-95-2	Phenol	2	0.0899	U
129-00-0	Pyrene	2	0.0899	U
110-86-1	Pyridine	2	0.360	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.80	1.45	81.0	20 - 108	
SURR: Phenol-d6	1.80	1.43	79.6	23 - 114	
SURR: Nitrobenzene-d5	0.898	0.686	76.4	22 - 108	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	E90026072.D
Sampled:	05/05/23 13:00	Prepared:	05/14/23 08:28	Analyzed:	05/15/23 12:21
Solids:	90.64	Preparation:	EPA 3550C	Initial/Final:	30.7 g / 1 mL
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006
Instrument:	MSBNA9				

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorobiphenyl	0.898	0.761	84.7	21 - 113	
SURR: 2,4,6-Tribromophenol	1.80	2.40	134	19 - 110	*
SURR: Terphenyl-d14	0.898	0.895	99.6	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	318731	5.162	439227	5.162	
ISTD: Naphthalene-d8	1381446	6.214	2116043	6.22	
ISTD: Acenaphthene-d10	884666	7.998	1258845	7.998	
ISTD: Phenanthrene-d10	1520097	9.991	2108981	9.997	
ISTD: Chrysene-d12	1262374	14.769	1667473	14.774	
ISTD: Perylene-d12	1451527	17.779	1789188	17.785	

* Values outside of QC limits

Data Path : C:\msdchem\1\data\051523\
Data File : E90026072.D
Acq On : 15 May 2023 12:21 pm
Operator : KH
Sample : 23E0419-11
Misc : QBSV9051523A 2X 8270 MASTER (COMP)
InstName : MSBNA9
ALS Vial : 7 Sample Multiplier: 2

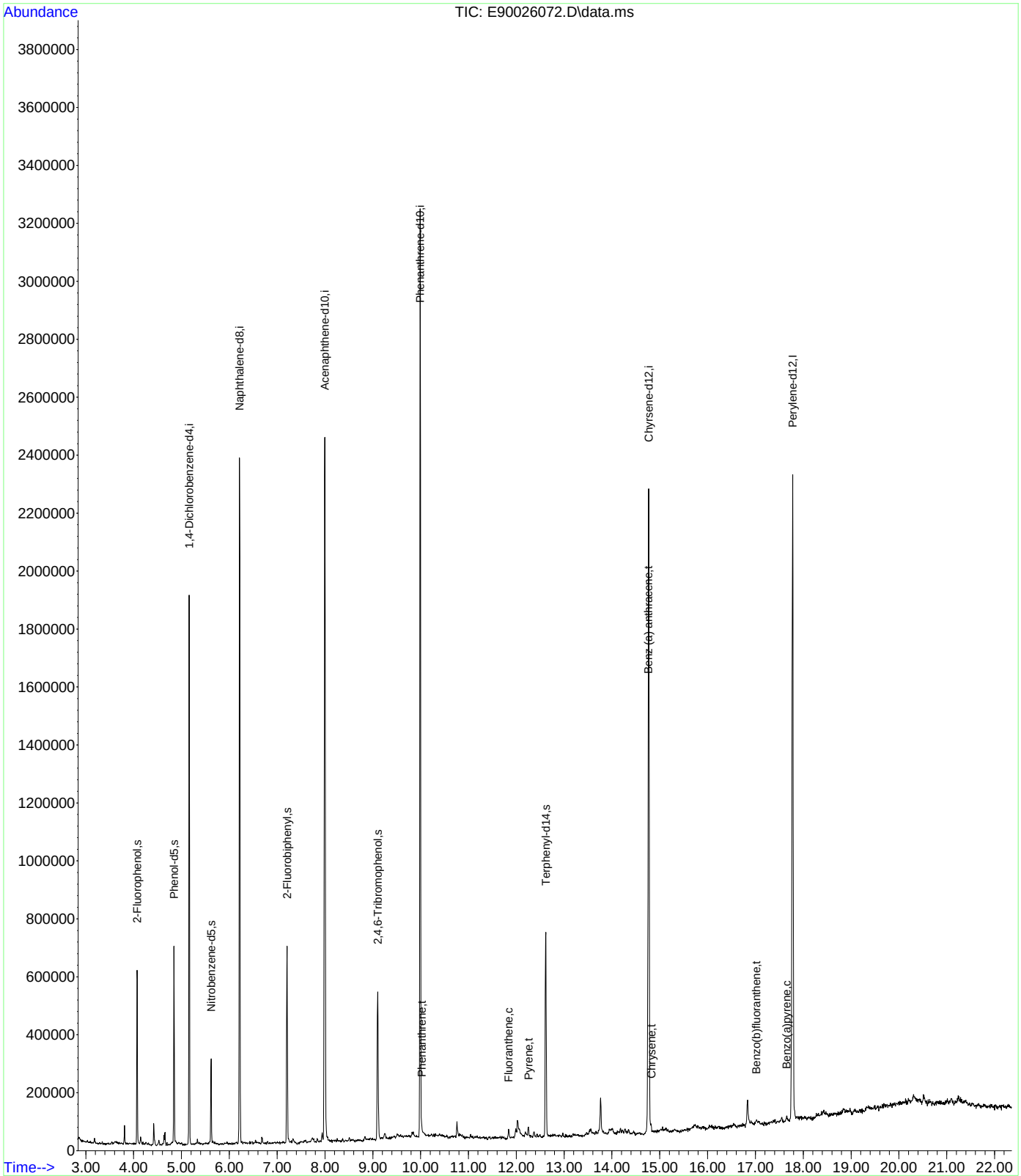
Quant Time: May 16 12:40:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

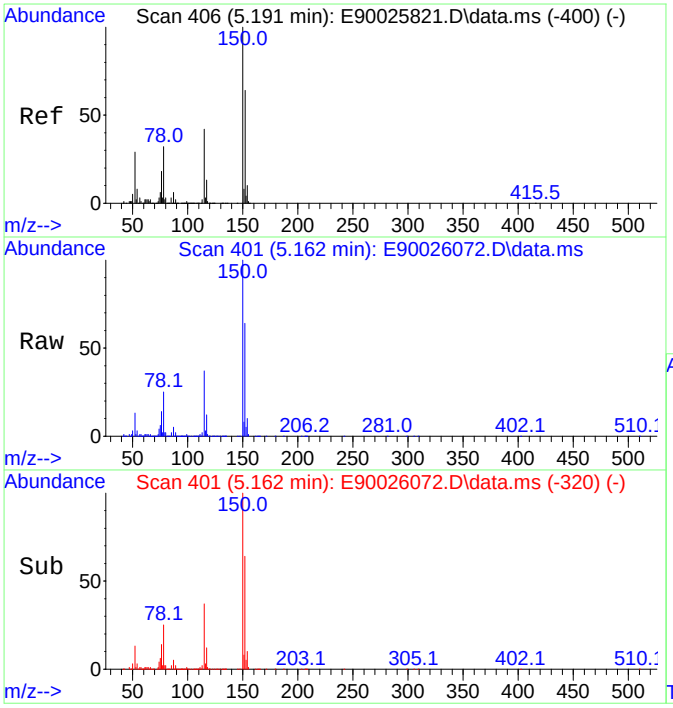
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.162	152	318731	40.00	ug/mL	-0.03
21) Naphthalene-d8	6.214	136	1381446	40.00	ug/mL	-0.03
40) Acenaphthene-d10	7.998	164	884666	40.00	ug/mL	-0.04
63) Phenanthrene-d10	9.991	188	1520097	40.00	ug/mL	#-0.03
81) Chyrsene-d12	14.769	240	1262374	40.00	ug/mL	-0.05
93) Perylene-d12	17.779	264	1451527	40.00	ug/mL	-0.04
System Monitoring Compounds						
4) 2-Fluorophenol	4.069	112	201768	20.24	ug/mL	-0.02
Spiked Amount 75.000	Range 15 - 87		Recovery = 26.99%			
5) Phenol-d5	4.842	99	264814	19.90	ug/mL	-0.01
Spiked Amount 75.000	Range 10 - 100		Recovery = 26.53%			
22) Nitrobenzene-d5	5.621	82	118148	9.55	ug/mL	-0.03
Spiked Amount 50.000	Range 26 - 120		Recovery = 19.10%#			
46) 2-Fluorobiphenyl	7.208	172	296526	10.59	ug/mL	-0.04
Spiked Amount 50.000	Range 29 - 120		Recovery = 21.18%#			
68) 2,4,6-Tribromophenol	9.102	330	107129	33.43	ug/mL	-0.05
Spiked Amount 75.000	Range 35 - 126		Recovery = 44.57%			
83) Terphenyl-d14	12.618	244	367154	12.45	ug/mL	-0.05
Spiked Amount 50.000	Range 35 - 127		Recovery = 24.90%#			
Target Compounds						Qvalue
74) Phenanthrene	10.020	178	10305	0.27	ug/mL	96
79) Fluoranthene	11.839	202	18202	0.46	ug/mL	98
82) Pyrene	12.252	202	19737m	0.45	ug/mL	
86) Benz (a) anthracene	14.757	228	11839m	0.29	ug/mL	
88) Chrysene	14.821	228	7825	0.22	ug/mL#	89
90) Benzo(b)fluoranthene	17.012	252	11268	0.32	ug/mL#	74
92) Benzo(a)pyrene	17.651	252	8519	0.25	ug/mL#	81

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051523\
Data File : E90026072.D
Acq On : 15 May 2023 12:21 pm
Operator : KH
Sample : 23E0419-11
Misc : QBSV9051523A 2X 8270 MASTER (COMP)
InstName : MSBNA9
ALS Vial : 7 Sample Multiplier: 2

Quant Time: May 16 12:40:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

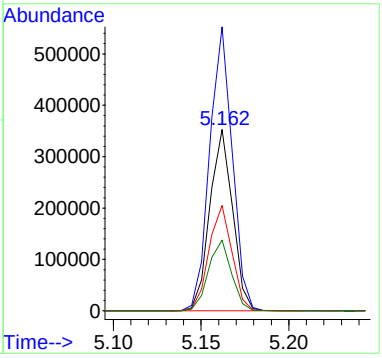


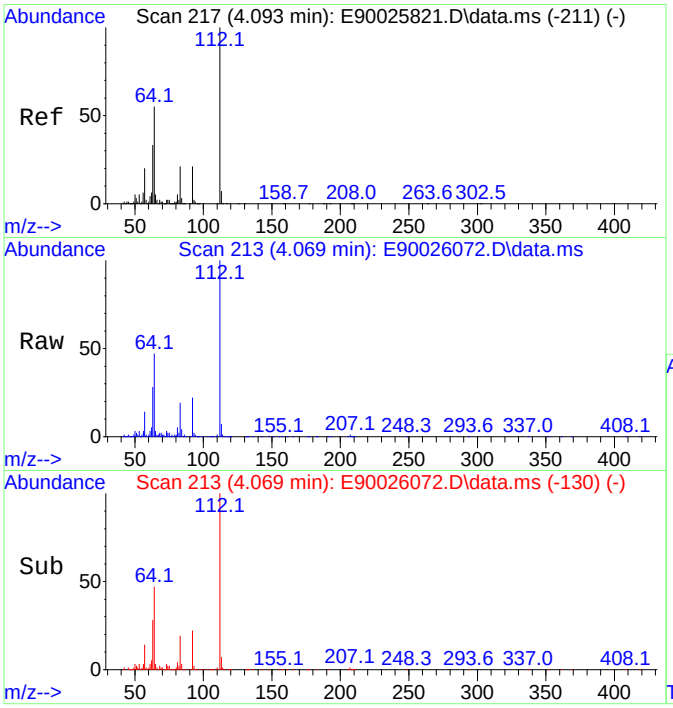


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 5.162 min Scan# 401
Delta R.T. -0.029 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:152 Resp: 318731

Ion	Ratio	Lower	Upper
152	100		
150	155.2	91.0	272.8
115	58.8	31.9	95.5
78	39.3	21.9	65.5

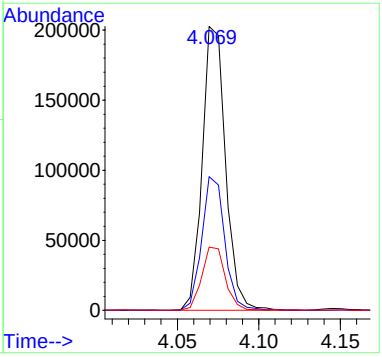


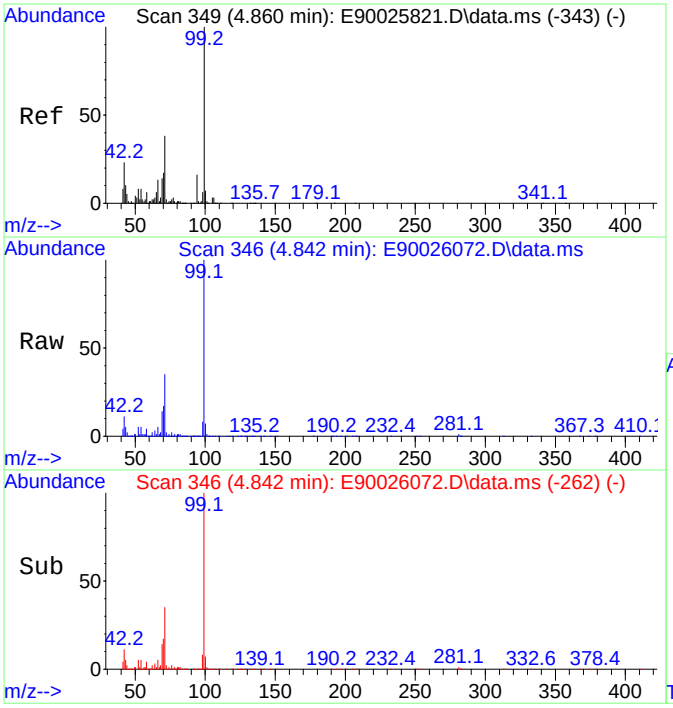


#4
2-Fluorophenol
Concen: 20.24 ug/mL
RT: 4.069 min Scan# 213
Delta R.T. -0.017 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:112 Resp: 201768

Ion	Ratio	Lower	Upper
112	100		
64	46.4	46.2	69.2
92	22.6	18.6	27.8

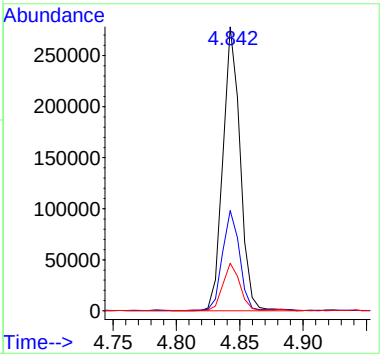


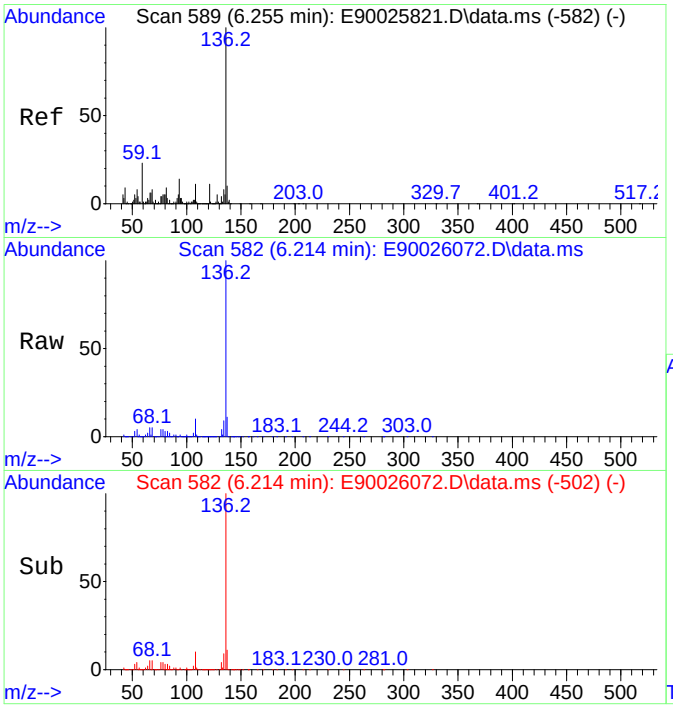


#5
Phenol-d5
Concen: 19.90 ug/mL
RT: 4.842 min Scan# 346
Delta R.T. -0.012 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion: 99 Resp: 264814

Ion	Ratio	Lower	Upper
99	100		
71	34.7	26.6	40.0
70	16.6	12.5	18.7

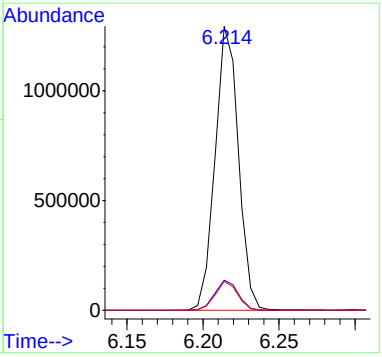


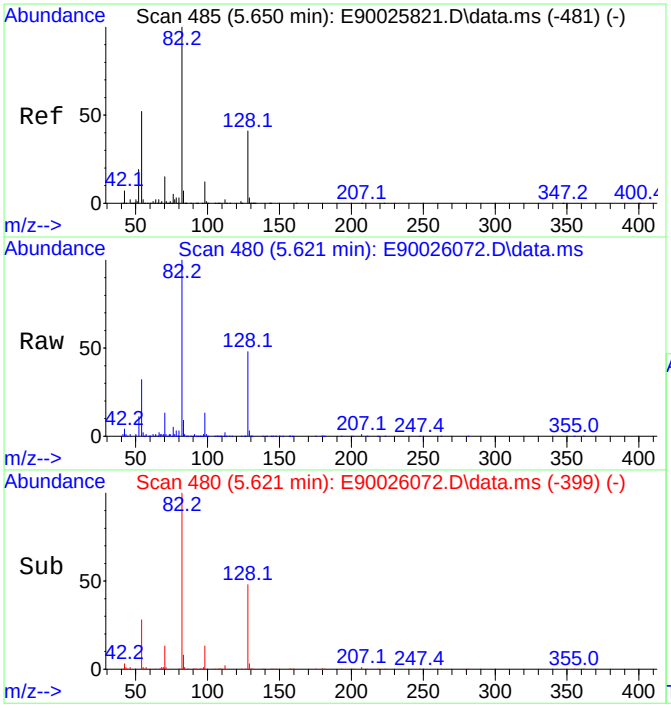


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 6.214 min Scan# 582
Delta R.T. -0.035 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:136 Resp: 1381446

Ion	Ratio	Lower	Upper
136	100		
137	10.7	5.5	16.4
108	9.8	4.9	14.6

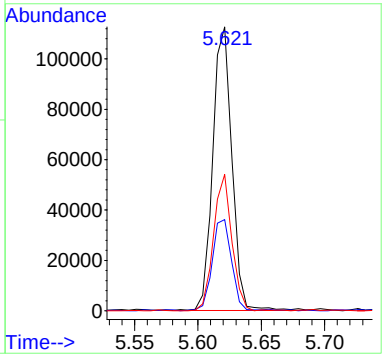


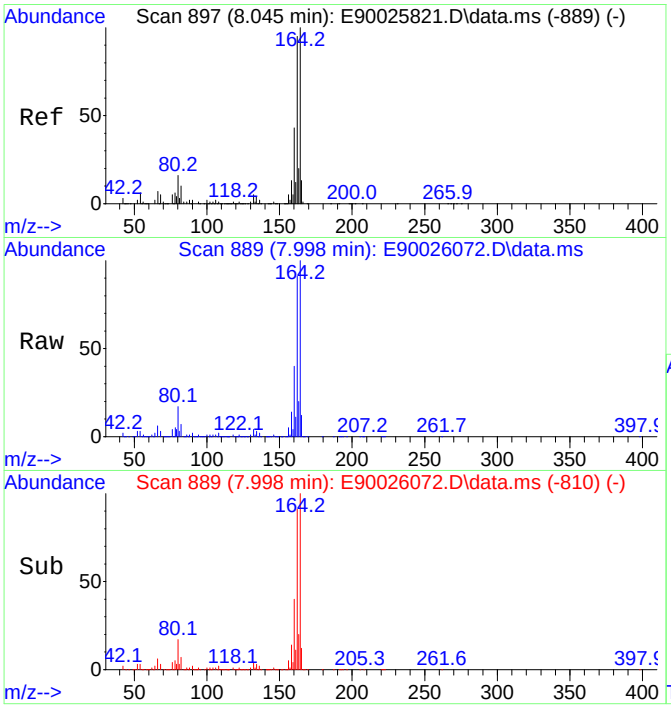


#22
Nitrobenzene-d5
Concen: 9.55 ug/mL
RT: 5.621 min Scan# 480
Delta R.T. -0.029 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion: 82 Resp: 118148

Ion	Ratio	Lower	Upper
82	100		
54	32.6	41.8	62.6#
128	46.1	33.1	49.7

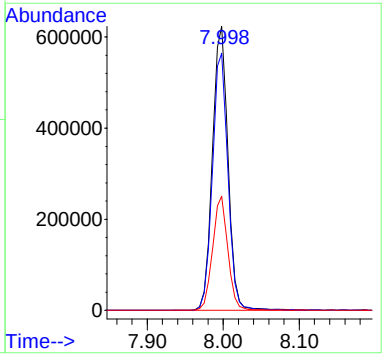


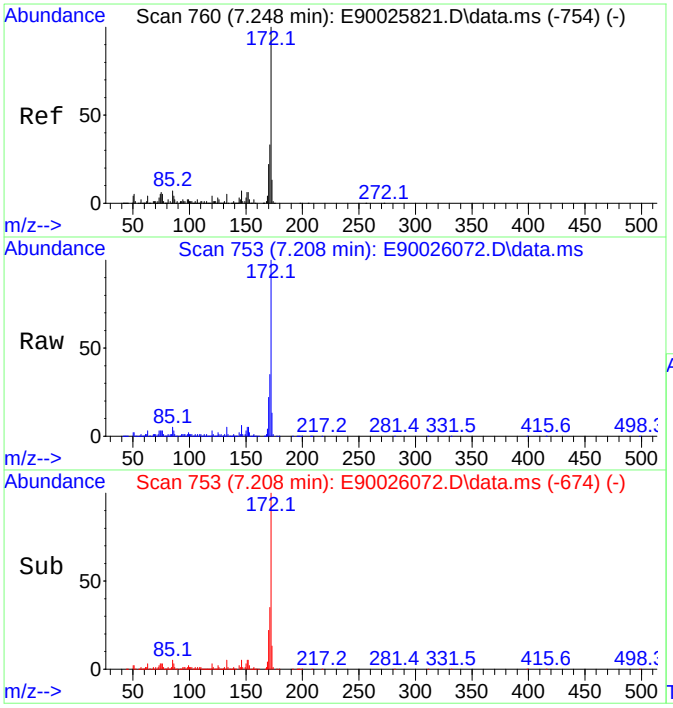


#40
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.998 min Scan# 889
Delta R.T. -0.041 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:164 Resp: 884666

Ion	Ratio	Lower	Upper
164	100		
162	90.4	47.6	142.9
160	39.6	21.5	64.5

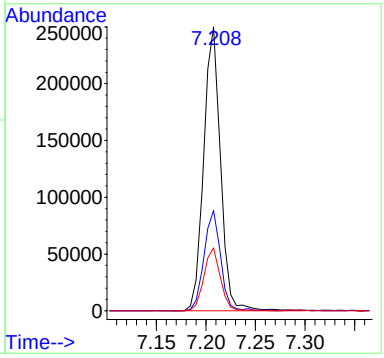


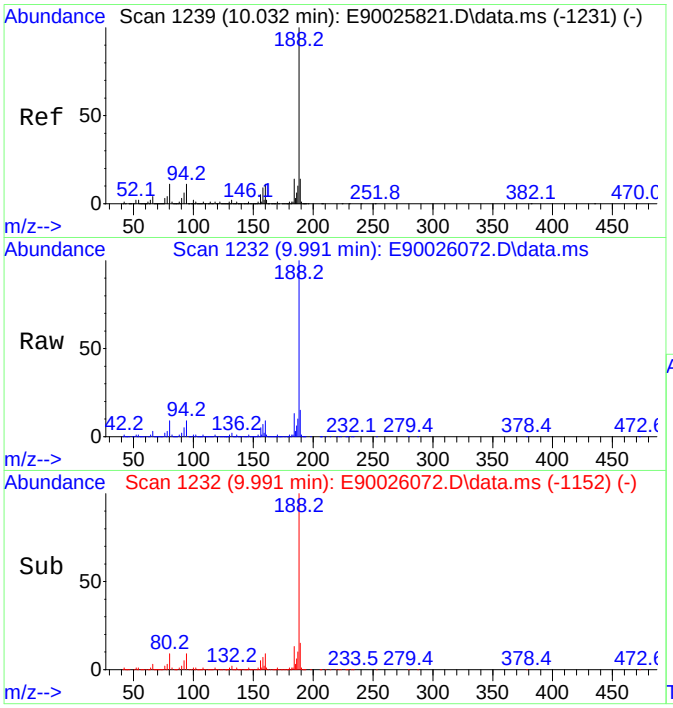


#46
2-Fluorobiphenyl
Concen: 10.59 ug/mL
RT: 7.208 min Scan# 753
Delta R.T. -0.041 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:172 Resp: 296526

Ion	Ratio	Lower	Upper
172	100		
171	34.6	28.1	42.1
170	21.8	18.6	27.8

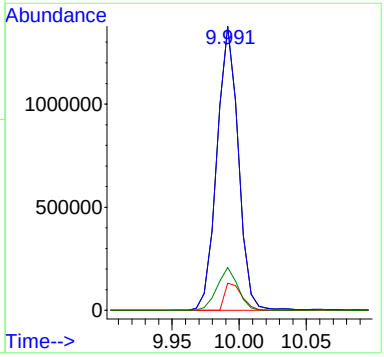


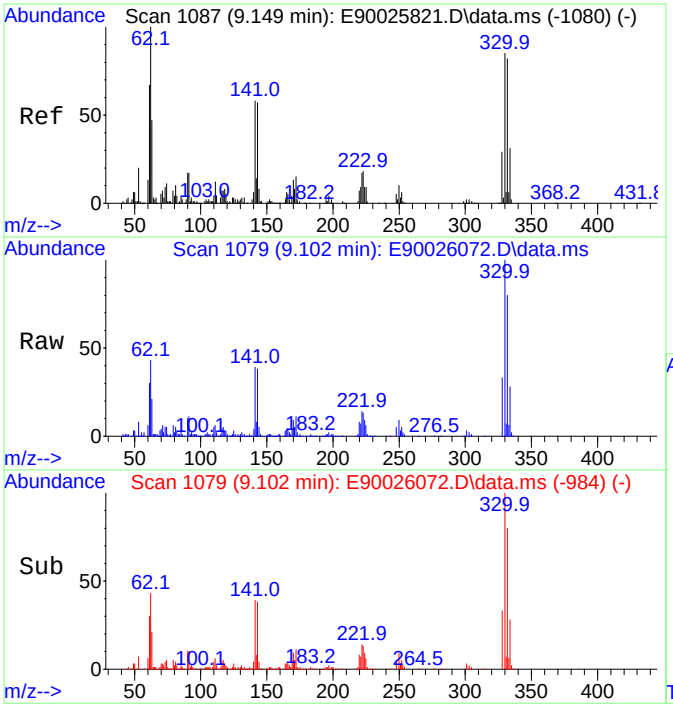


#63
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.991 min Scan# 1232
Delta R.T. -0.035 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:188 Resp: 1520097

Ion	Ratio	Lower	Upper
188	100		
188	100.0	80.0	120.0
187	0.0	0.0	0.0
189	14.7	7.2	21.7

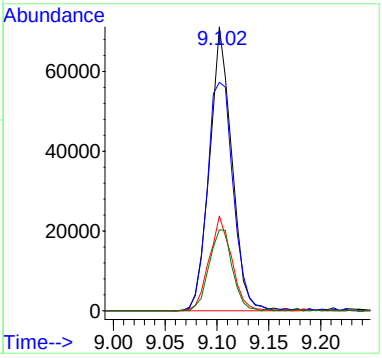


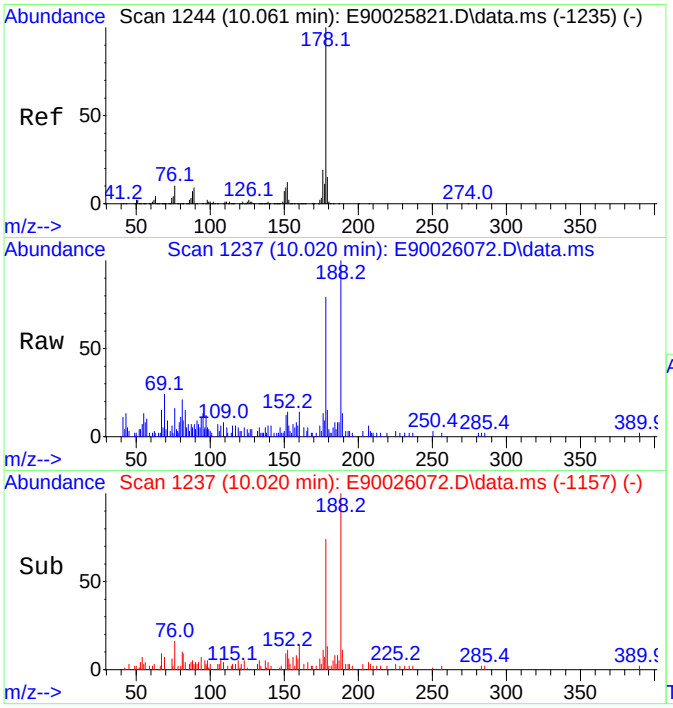


#68
2,4,6-Tribromophenol
Concen: 33.43 ug/mL
RT: 9.102 min Scan# 1079
Delta R.T. -0.046 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:330 Resp: 107129

Ion	Ratio	Lower	Upper
330	100		
332	93.5	77.1	115.7
328	33.5	27.5	41.3
334	29.9	24.6	36.8

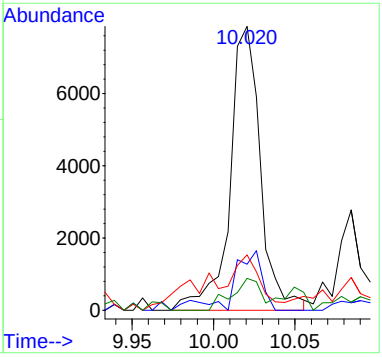


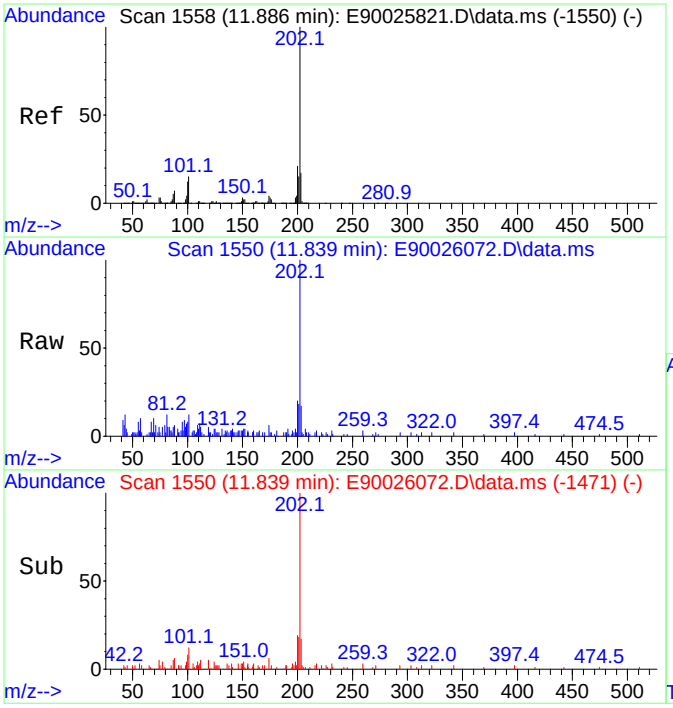


#74
Phenanthrene
Concen: 0.27 ug/mL
RT: 10.020 min Scan# 1237
Delta R.T. -0.035 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:178 Resp: 10305

Ion	Ratio	Lower	Upper
178	100		
176	17.2	14.9	22.3
179	13.1	12.3	18.5
178	12.8	8.9	13.3

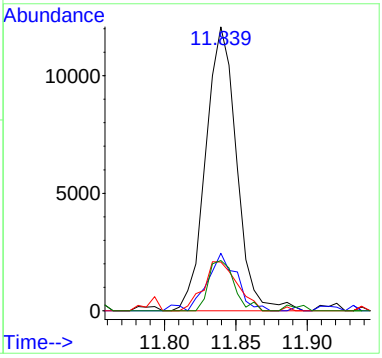


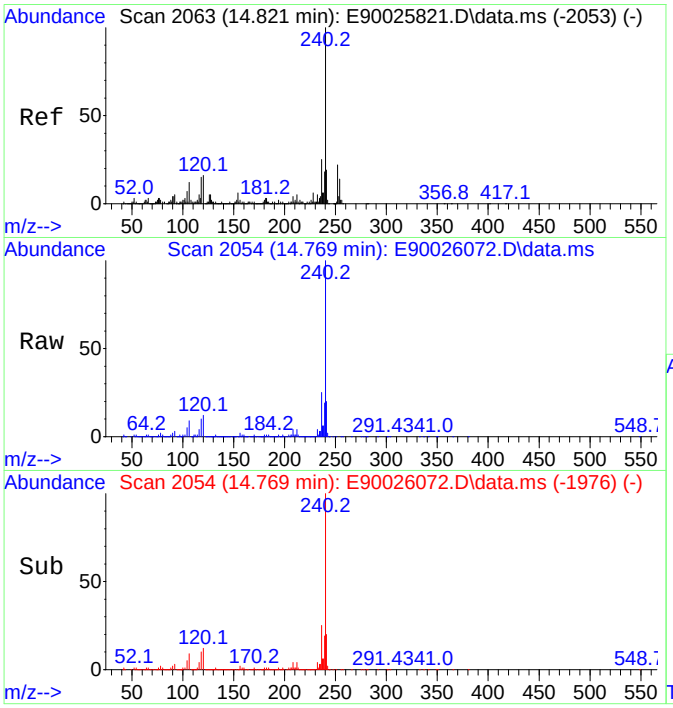


#79
Fluoranthene
Concen: 0.46 ug/mL
RT: 11.839 min Scan# 1550
Delta R.T. -0.041 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:202 Resp: 18202

Ion	Ratio	Lower	Upper
202	100		
200	19.7	16.2	24.4
203	18.9	13.8	20.6
202	14.8	11.9	17.9

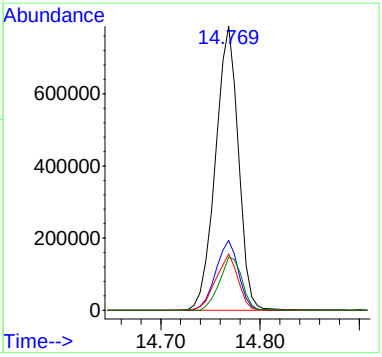


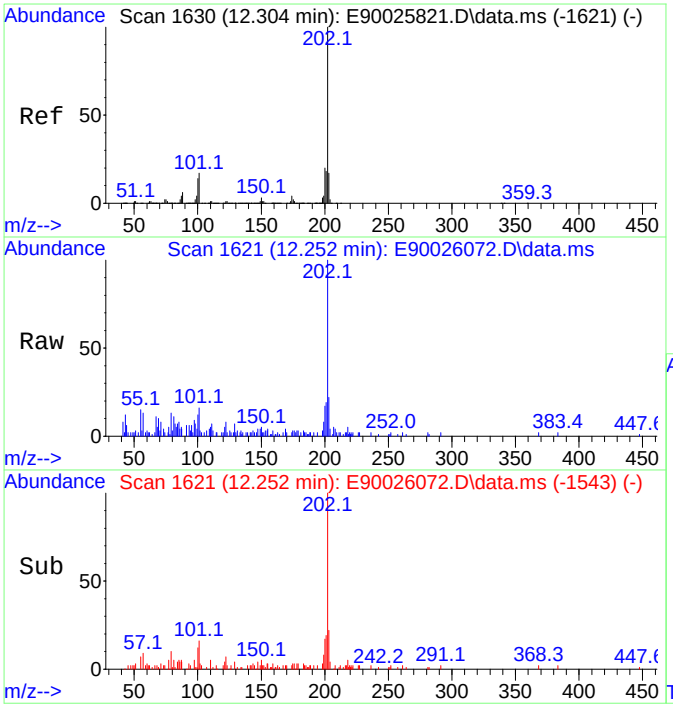


#81
Chyrsene-d12
Concen: 40.00 ug/mL
RT: 14.769 min Scan# 2054
Delta R.T. -0.046 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:240 Resp: 1262374

Ion	Ratio	Lower	Upper
240	100		
236	24.6	12.6	37.8
241	19.3	9.4	28.2
240	18.5	8.8	26.4

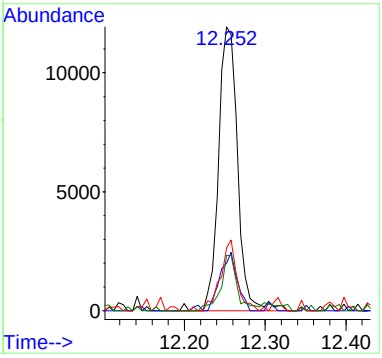


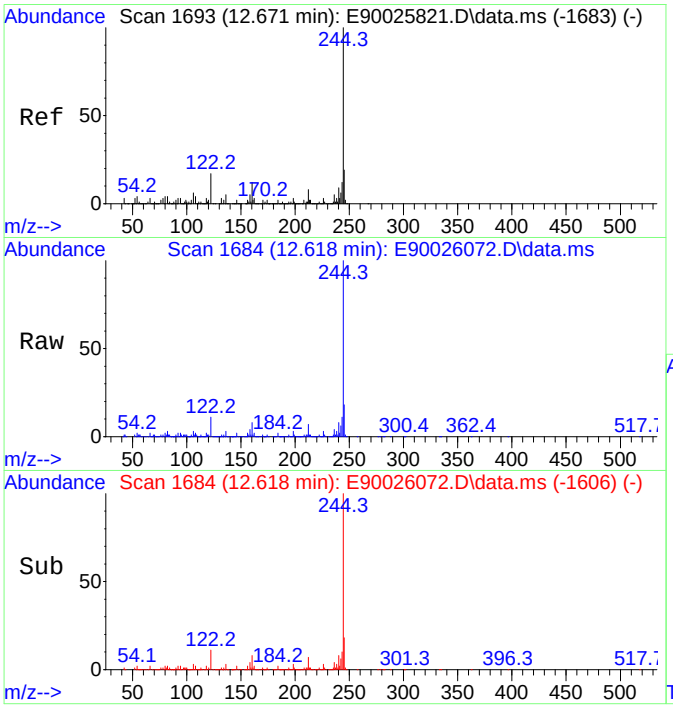


#82
Pyrene
Concen: 0.45 ug/mL m
RT: 12.252 min Scan# 1621
Delta R.T. -0.046 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:202 Resp: 19737

Ion	Ratio	Lower	Upper
202	100		
200	18.1	16.0	24.0
203	17.4	13.8	20.6
202	13.7	13.9	20.9#

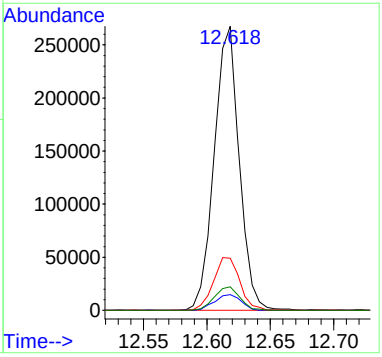


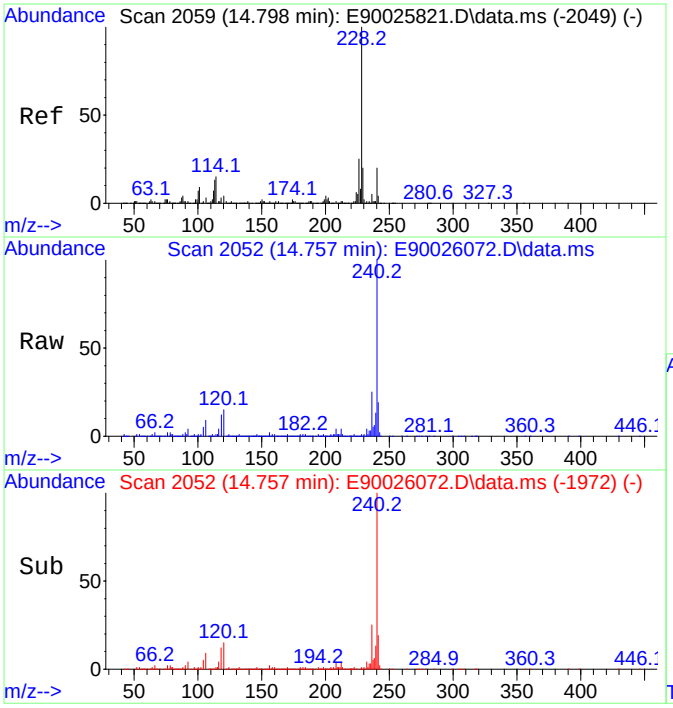


#83
Terphenyl-d14
Concen: 12.45 ug/mL
RT: 12.618 min Scan# 1684
Delta R.T. -0.046 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:244 Resp: 367154

Ion	Ratio	Lower	Upper
244	100		
243	5.9	4.4	6.6
245	19.6	15.2	22.8
240	8.5	7.4	11.0

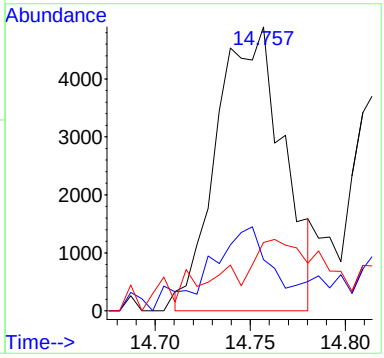


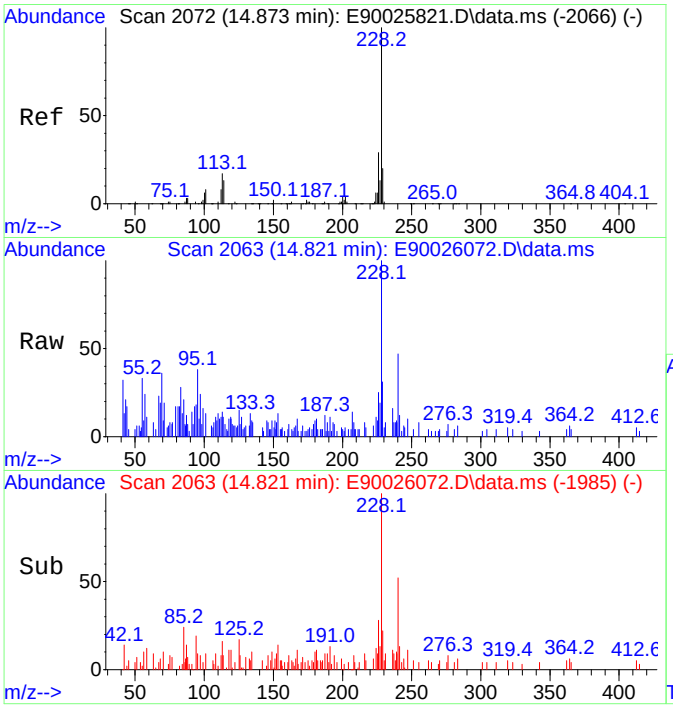


#86
Benz (a) anthracene
Concen: 0.29 ug/mL m
RT: 14.757 min Scan# 2052
Delta R.T. -0.035 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:228 Resp: 11839

Ion	Ratio	Lower	Upper
228	100		
226	15.0	21.3	31.9#
229	14.9	15.1	22.7#

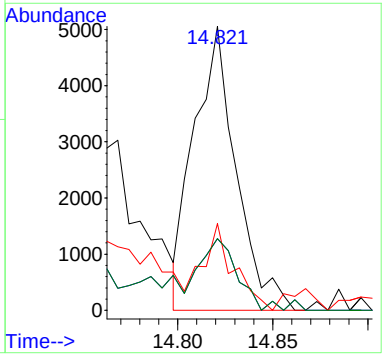


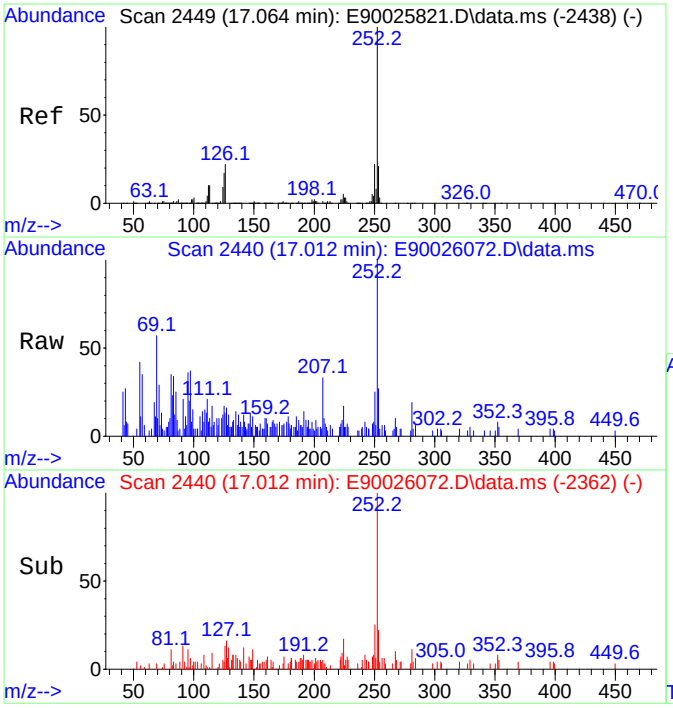


#88
Chrysene
Concen: 0.22 ug/mL
RT: 14.821 min Scan# 2063
Delta R.T. -0.046 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:228 Resp: 7825

Ion	Ratio	Lower	Upper
228	100		
226	22.6	23.0	34.6#
229	22.5	15.3	22.9
226	22.6	23.0	34.6#

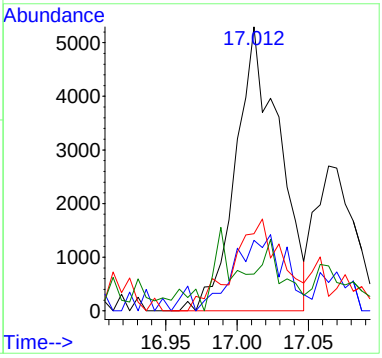


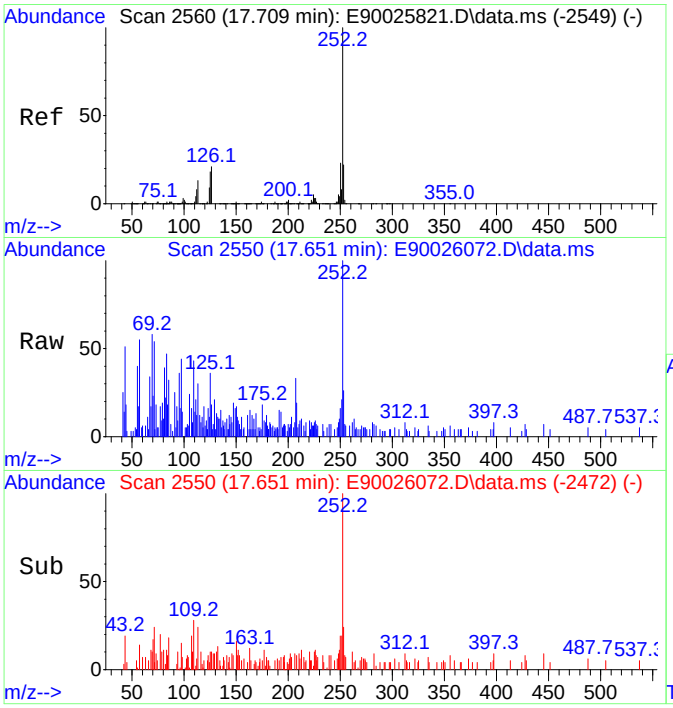


#90
Benzo(b)fluoranthene
Concen: 0.32 ug/mL
RT: 17.012 min Scan# 2440
Delta R.T. -0.046 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:252 Resp: 11268

Ion	Ratio	Lower	Upper
252	100		
250	31.3	17.9	26.9#
253	36.7	17.0	25.6#
126	11.9	20.3	30.5#

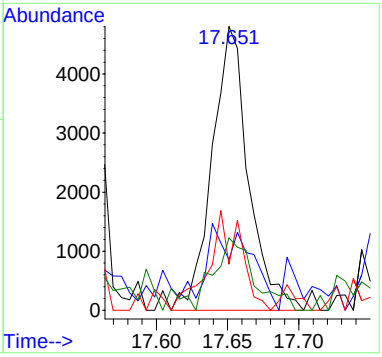


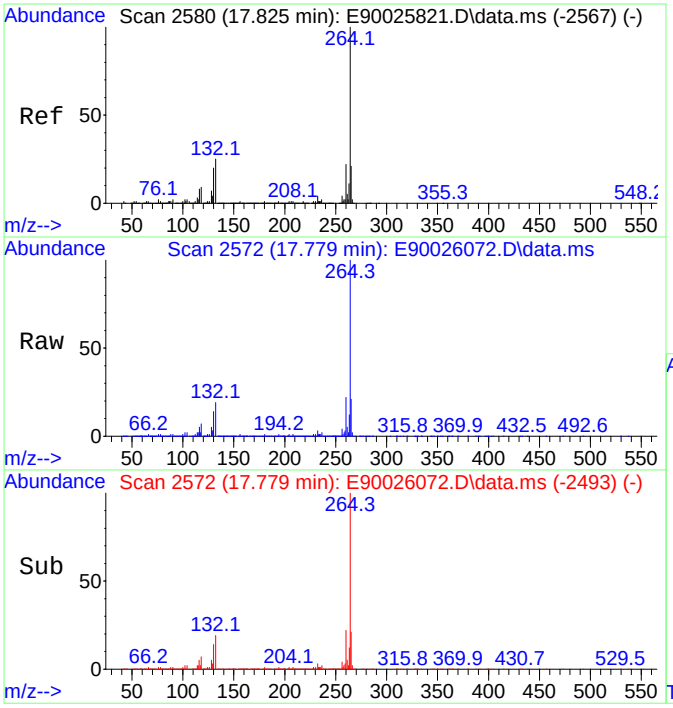


#92
Benzo(a)pyrene
Concen: 0.25 ug/mL
RT: 17.651 min Scan# 2550
Delta R.T. -0.046 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:252 Resp: 8519

Ion	Ratio	Lower	Upper
252	100		
126	13.8	21.0	31.4#
250	30.8	18.1	27.1#
253	28.0	16.7	25.1#

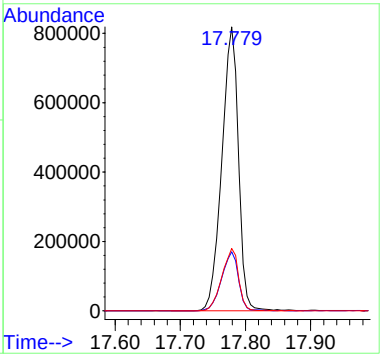




#93
Perylene-d12
Concen: 40.00 ug/mL
RT: 17.779 min Scan# 2572
Delta R.T. -0.041 min
Lab File: E90026072.D
Acq: 15 May 2023 12:21 pm

Tgt Ion:264 Resp: 1451527

Ion	Ratio	Lower	Upper
264	100		
265	21.0	17.3	25.9
260	21.9	18.6	27.8



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	E90026073.D
Sampled:	05/05/23 13:15	Prepared:	05/14/23 08:28	Analyzed:	05/15/23 12:51
Solids:	91.31	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006
Instrument:	MSBNA9				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
92-52-4	1,1-Biphenyl	2	0.0910	U
95-94-3	1,2,4,5-Tetrachlorobenzene	2	0.182	U
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	2	0.0910	U
58-90-2	2,3,4,6-Tetrachlorophenol	2	0.182	U
95-95-4	2,4,5-Trichlorophenol	2	0.0910	U
88-06-2	2,4,6-Trichlorophenol	2	0.0910	U
120-83-2	2,4-Dichlorophenol	2	0.0910	U
105-67-9	2,4-Dimethylphenol	2	0.0910	U
51-28-5	2,4-Dinitrophenol	2	0.182	U
121-14-2	2,4-Dinitrotoluene	2	0.0910	U
606-20-2	2,6-Dinitrotoluene	2	0.0910	U
91-58-7	2-Chloronaphthalene	2	0.0910	U
95-57-8	2-Chlorophenol	2	0.0910	U
91-57-6	2-Methylnaphthalene	2	0.0910	U
95-48-7	2-Methylphenol	2	0.0910	U
88-74-4	2-Nitroaniline	2	0.182	U
88-75-5	2-Nitrophenol	2	0.0910	U
65794-96-9	3- & 4-Methylphenols	2	0.0910	U
91-94-1	3,3-Dichlorobenzidine	2	0.0910	U
99-09-2	3-Nitroaniline	2	0.182	U
534-52-1	4,6-Dinitro-2-methylphenol	2	0.182	U
101-55-3	4-Bromophenyl phenyl ether	2	0.0910	U
59-50-7	4-Chloro-3-methylphenol	2	0.0910	U
106-47-8	4-Chloroaniline	2	0.0910	U
7005-72-3	4-Chlorophenyl phenyl ether	2	0.0910	U
100-01-6	4-Nitroaniline	2	0.182	U
100-02-7	4-Nitrophenol	2	0.182	U
83-32-9	Acenaphthene	2	0.0910	U
208-96-8	Acenaphthylene	2	0.0910	U
98-86-2	Acetophenone	2	0.0910	U
62-53-3	Aniline	2	0.365	U
120-12-7	Anthracene	2	0.0910	U
1912-24-9	Atrazine	2	0.0910	U
100-52-7	Benzaldehyde	2	0.0910	U
92-87-5	Benzidine	2	0.365	U
56-55-3	Benzo(a)anthracene	2	0.0910	U
50-32-8	Benzo(a)pyrene	2	0.0910	U
205-99-2	Benzo(b)fluoranthene	2	0.0910	U
191-24-2	Benzo(g,h,i)perylene	2	0.0910	U
207-08-9	Benzo(k)fluoranthene	2	0.0910	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-12 File ID: E90026073.D

Sampled: 05/05/23 13:15 Prepared: 05/14/23 08:28 Analyzed: 05/15/23 12:51

Solids: 91.31 Preparation: EPA 3550C Initial/Final: 30.1 g / 1 mL

Batch: BE30878 Sequence: S3E1642 Calibration: SE30006 Instrument: MSBNA9

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
65-85-0	Benzoic acid	2	0.0910	U
100-51-6	Benzyl alcohol	2	0.0910	U
85-68-7	Benzyl butyl phthalate	2	0.0910	U
111-91-1	Bis(2-chloroethoxy)methane	2	0.0910	U
111-44-4	Bis(2-chloroethyl)ether	2	0.0910	U
108-60-1	Bis(2-chloroisopropyl)ether	2	0.0910	U
117-81-7	Bis(2-ethylhexyl)phthalate	2	0.0910	U
105-60-2	Caprolactam	2	0.182	U
86-74-8	Carbazole	2	0.0910	U
218-01-9	Chrysene	2	0.0910	U
53-70-3	Dibenzo(a,h)anthracene	2	0.0910	U
132-64-9	Dibenzofuran	2	0.0910	U
84-66-2	Diethyl phthalate	2	0.0910	U
131-11-3	Dimethyl phthalate	2	0.0910	U
84-74-2	Di-n-butyl phthalate	2	0.0910	U
117-84-0	Di-n-octyl phthalate	2	0.0910	U
122-39-4	Diphenylamine	2	0.182	U
206-44-0	Fluoranthene	2	0.0910	U
86-73-7	Fluorene	2	0.0910	U
118-74-1	Hexachlorobenzene	2	0.0910	U
87-68-3	Hexachlorobutadiene	2	0.0910	U
77-47-4	Hexachlorocyclopentadiene	2	0.0910	U
67-72-1	Hexachloroethane	2	0.0910	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.0910	U
78-59-1	Isophorone	2	0.0910	U
91-20-3	Naphthalene	2	0.0910	U
98-95-3	Nitrobenzene	2	0.0910	U
62-75-9	N-Nitrosodimethylamine	2	0.0910	U
621-64-7	N-nitroso-di-n-propylamine	2	0.0910	U
86-30-6	N-Nitrosodiphenylamine	2	0.0910	U
87-86-5	Pentachlorophenol	2	0.0910	U
85-01-8	Phenanthrene	2	0.0910	U
108-95-2	Phenol	2	0.0910	U
129-00-0	Pyrene	2	0.0910	U
110-86-1	Pyridine	2	0.365	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.82	1.37	75.5	20 - 108	
SURR: Phenol-d6	1.82	1.42	78.1	23 - 114	
SURR: Nitrobenzene-d5	0.910	0.650	71.4	22 - 108	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	E90026073.D
Sampled:	05/05/23 13:15	Prepared:	05/14/23 08:28	Analyzed:	05/15/23 12:51
Solids:	91.31	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006
Instrument:	MSBNA9				

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorobiphenyl	0.910	0.734	80.6	21 - 113	
SURR: 2,4,6-Tribromophenol	1.82	2.08	114	19 - 110	*
SURR: Terphenyl-d14	0.910	0.835	91.8	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	356139	5.162	439227	5.162	
ISTD: Naphthalene-d8	1581432	6.214	2116043	6.22	
ISTD: Acenaphthene-d10	1032177	7.998	1258845	7.998	
ISTD: Phenanthrene-d10	1743050	9.992	2108981	9.997	
ISTD: Chrysene-d12	1418006	14.769	1667473	14.774	
ISTD: Perylene-d12	1531133	17.779	1789188	17.785	

* Values outside of QC limits

Data Path : C:\msdchem\1\data\051523\
Data File : E90026073.D
Acq On : 15 May 2023 12:51 pm
Operator : KH
Sample : 23E0419-12
Misc : QBSV9051523A 2X 8270 MASTER (COMP)
InstName : MSBNA9
ALS Vial : 8 Sample Multiplier: 2

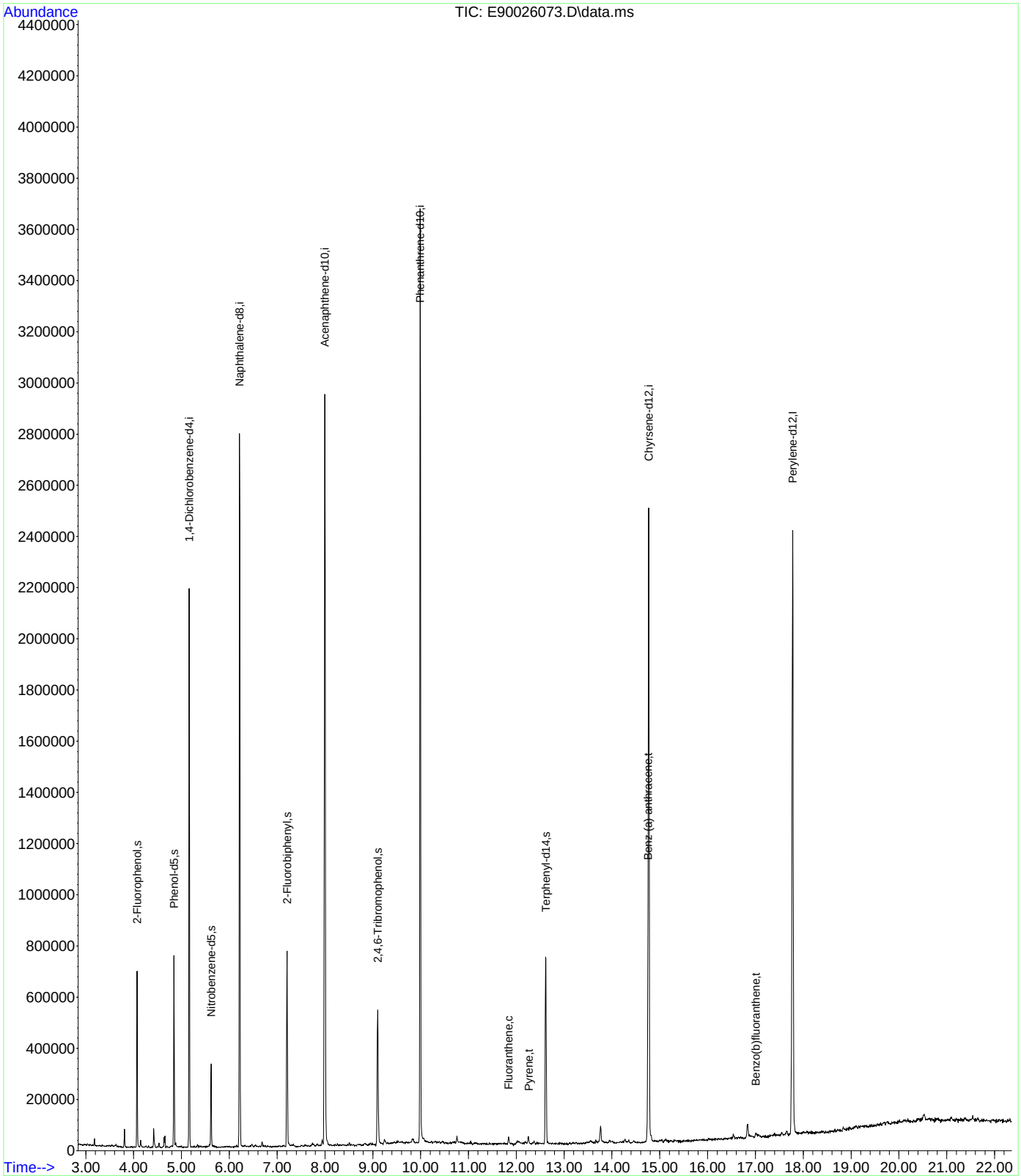
Quant Time: May 16 12:41:16 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

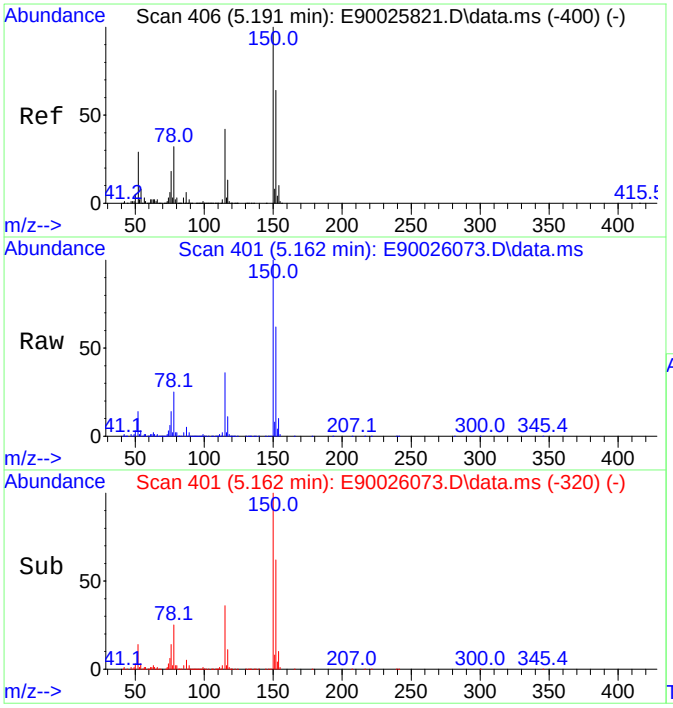
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.162	152	356139	40.00	ug/mL	-0.03
21) Naphthalene-d8	6.214	136	1581432	40.00	ug/mL	-0.03
40) Acenaphthene-d10	7.998	164	1032177	40.00	ug/mL	-0.04
63) Phenanthrene-d10	9.992	188	1743050	40.00	ug/mL	#-0.03
81) Chyrsene-d12	14.769	240	1418006	40.00	ug/mL	-0.05
93) Perylene-d12	17.779	264	1531133	40.00	ug/mL	-0.04
System Monitoring Compounds						
4) 2-Fluorophenol	4.070	112	210237	18.88	ug/mL	-0.02
Spiked Amount 75.000	Range 15 - 87		Recovery = 25.17%			
5) Phenol-d5	4.842	99	290186	19.52	ug/mL	-0.01
Spiked Amount 75.000	Range 10 - 100		Recovery = 26.03%			
22) Nitrobenzene-d5	5.621	82	126409	8.93	ug/mL	-0.03
Spiked Amount 50.000	Range 26 - 120		Recovery = 17.86%#			
46) 2-Fluorobiphenyl	7.208	172	329239	10.08	ug/mL	-0.04
Spiked Amount 50.000	Range 29 - 120		Recovery = 20.16%#			
68) 2,4,6-Tribromophenol	9.102	330	105098	28.60	ug/mL	-0.05
Spiked Amount 75.000	Range 35 - 126		Recovery = 38.13%			
83) Terphenyl-d14	12.618	244	380288	11.48	ug/mL	-0.05
Spiked Amount 50.000	Range 35 - 127		Recovery = 22.96%#			
Target Compounds						Qvalue
79) Fluoranthene	11.840	202	16475	0.36	ug/mL	97
82) Pyrene	12.258	202	15267m	0.31	ug/mL	
86) Benz (a) anthracene	14.751	228	12127	0.27	ug/mL#	75
90) Benzo(b)fluoranthene	17.006	252	9906	0.25	ug/mL#	80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051523\
Data File : E90026073.D
Acq On : 15 May 2023 12:51 pm
Operator : KH
Sample : 23E0419-12
Misc : QBSV9051523A 2X 8270 MASTER (COMP)
InstName : MSBNA9
ALS Vial : 8 Sample Multiplier: 2

Quant Time: May 16 12:41:16 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

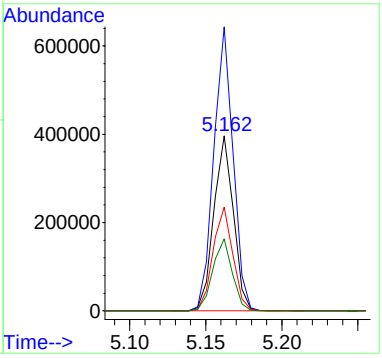


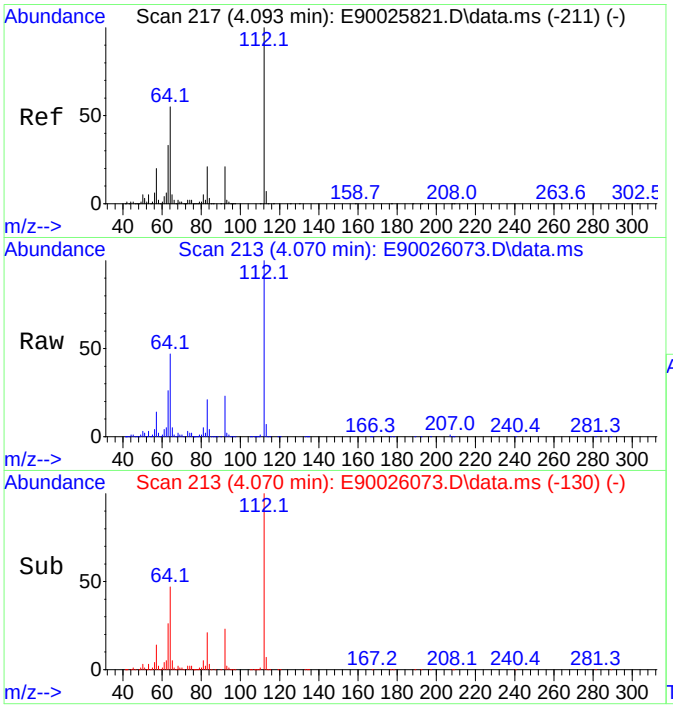


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 5.162 min Scan# 401
Delta R.T. -0.029 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:152 Resp: 356139

Ion	Ratio	Lower	Upper
152	100		
150	160.0	91.0	272.8
115	59.8	31.9	95.5
78	40.9	21.9	65.5

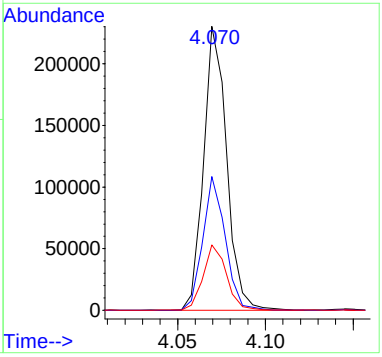


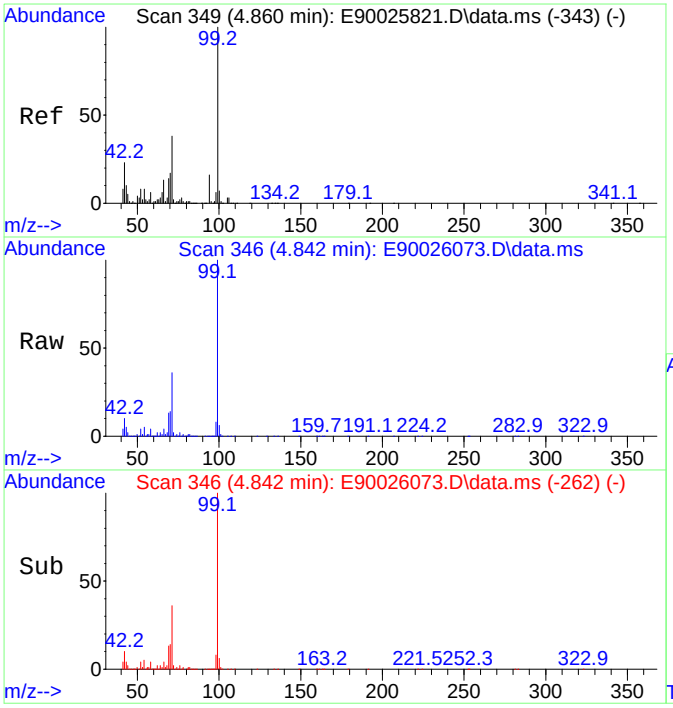


#4
2-Fluorophenol
Concen: 18.88 ug/mL
RT: 4.070 min Scan# 213
Delta R.T. -0.017 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:112 Resp: 210237

Ion	Ratio	Lower	Upper
112	100		
64	45.9	46.2	69.2#
92	23.5	18.6	27.8

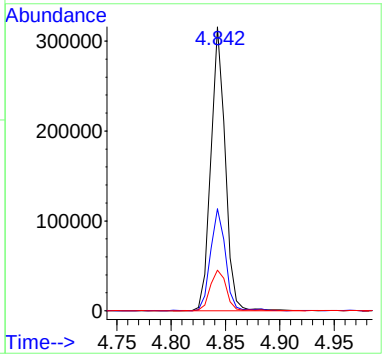


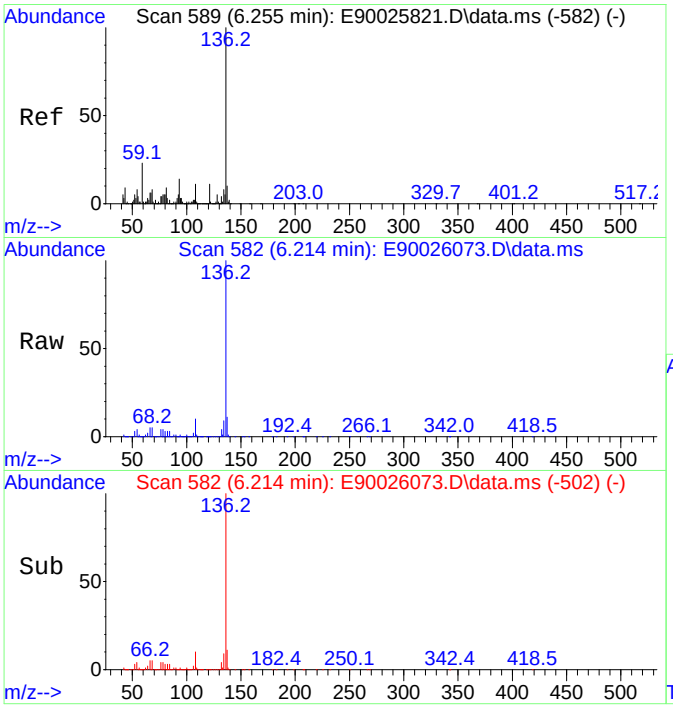


#5
Phenol-d5
Concen: 19.52 ug/mL
RT: 4.842 min Scan# 346
Delta R.T. -0.012 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion: 99 Resp: 290186

Ion	Ratio	Lower	Upper
99	100		
71	37.8	26.6	40.0
70	16.2	12.5	18.7

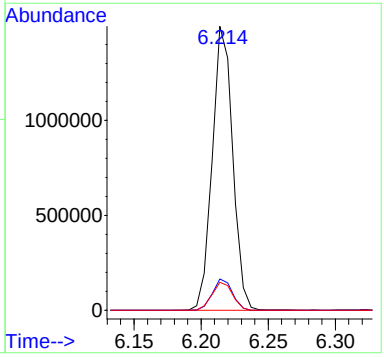


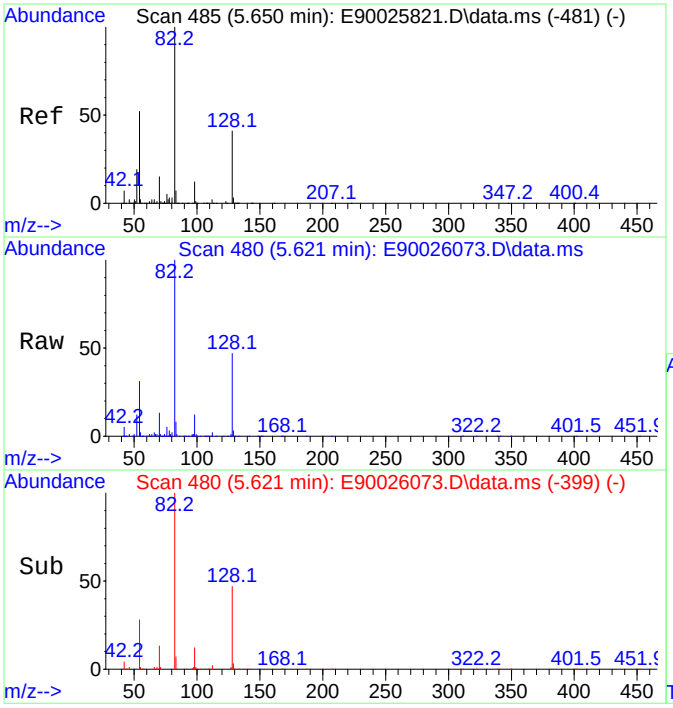


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 6.214 min Scan# 582
Delta R.T. -0.035 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:136 Resp: 1581432

Ion	Ratio	Lower	Upper
136	100		
137	10.9	5.5	16.4
108	10.1	4.9	14.6

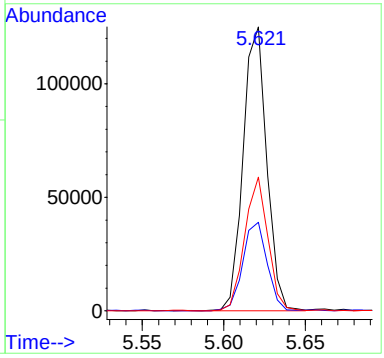


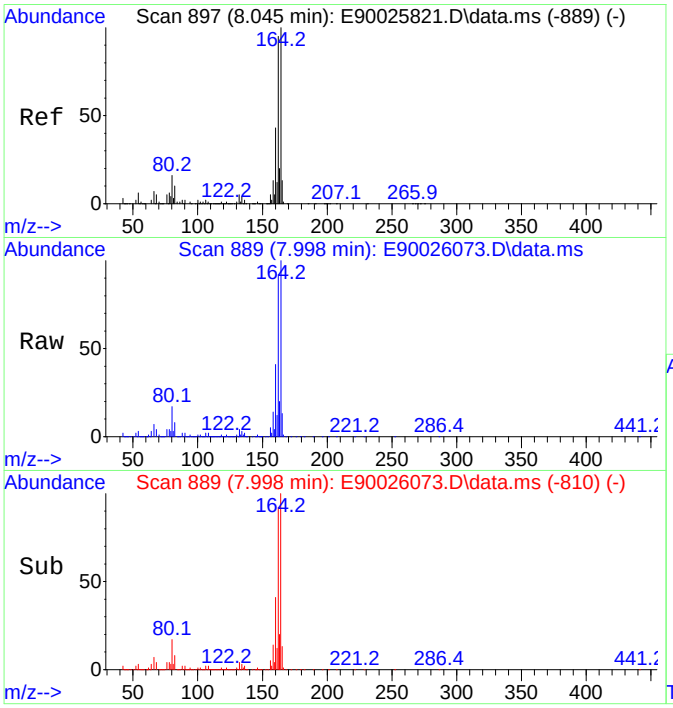


#22
Nitrobenzene-d5
Concen: 8.93 ug/mL
RT: 5.621 min Scan# 480
Delta R.T. -0.029 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion: 82 Resp: 126409

Ion	Ratio	Lower	Upper
82	100		
54	32.5	41.8	62.6#
128	46.2	33.1	49.7

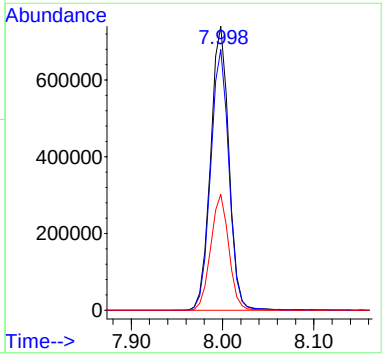


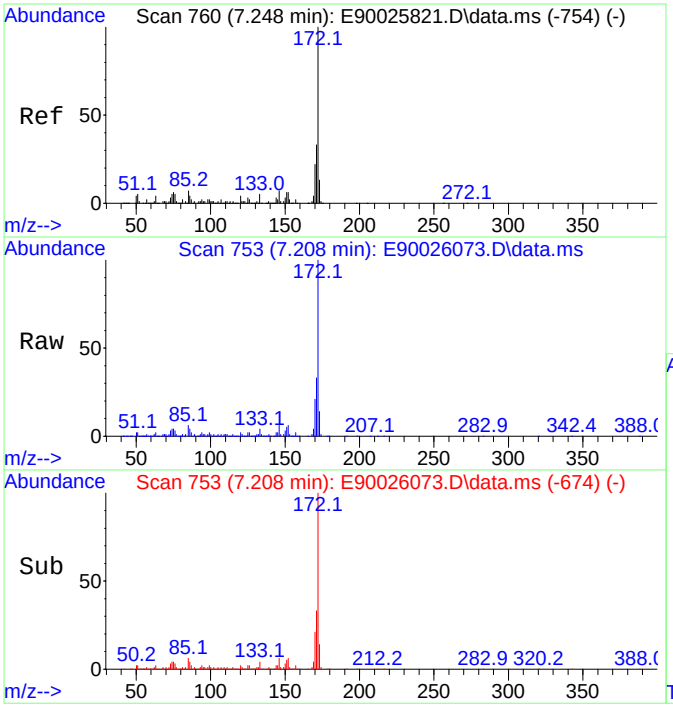


#40
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.998 min Scan# 889
Delta R.T. -0.041 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:164 Resp: 1032177

Ion	Ratio	Lower	Upper
164	100		
162	91.4	47.6	142.9
160	40.3	21.5	64.5

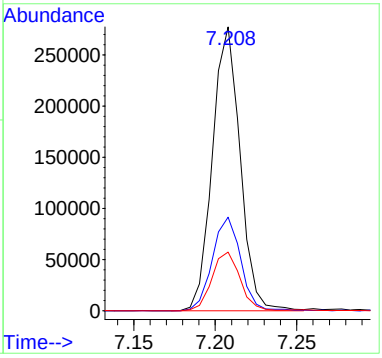


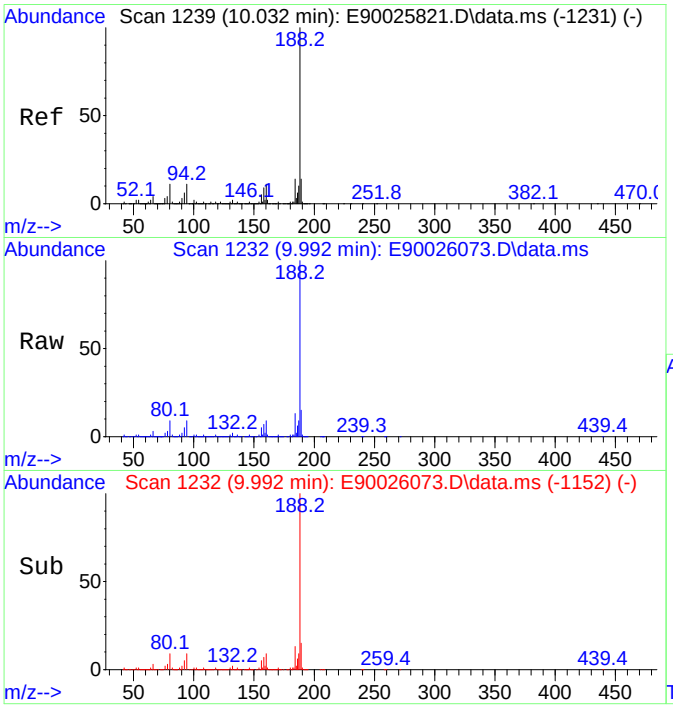


#46
2-Fluorobiphenyl
Concen: 10.08 ug/mL
RT: 7.208 min Scan# 753
Delta R.T. -0.041 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:172 Resp: 329239

Ion	Ratio	Lower	Upper
172	100		
171	34.1	28.1	42.1
170	21.1	18.6	27.8

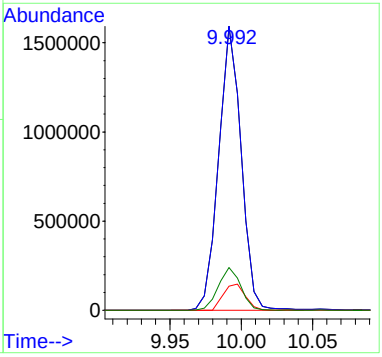


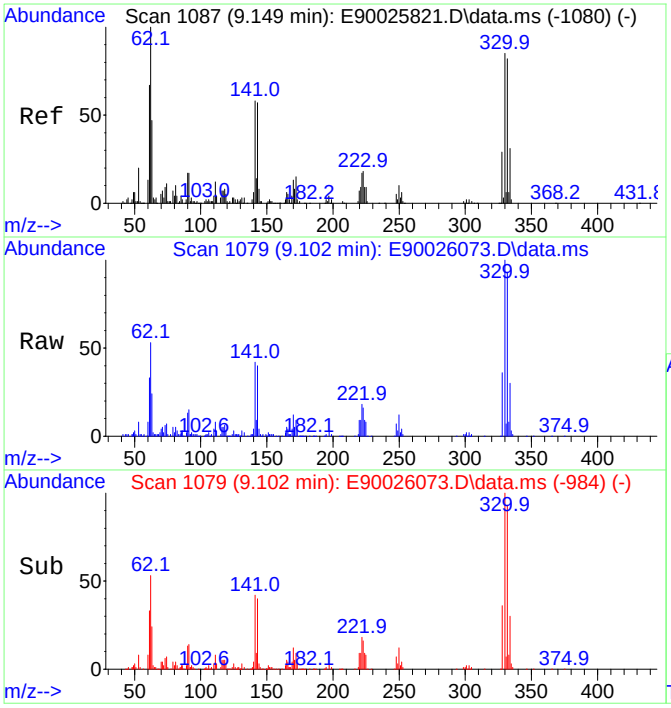


#63
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.992 min Scan# 1232
Delta R.T. -0.035 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:188 Resp: 1743050

Ion	Ratio	Lower	Upper
188	100		
188	100.0	80.0	120.0
187	0.0	0.0	0.0
189	0.0	7.2	21.7#

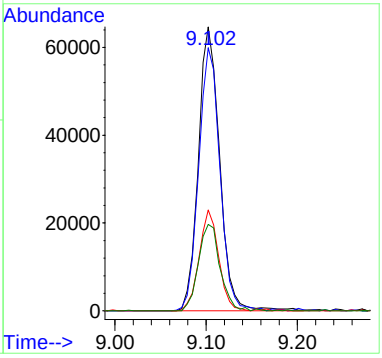


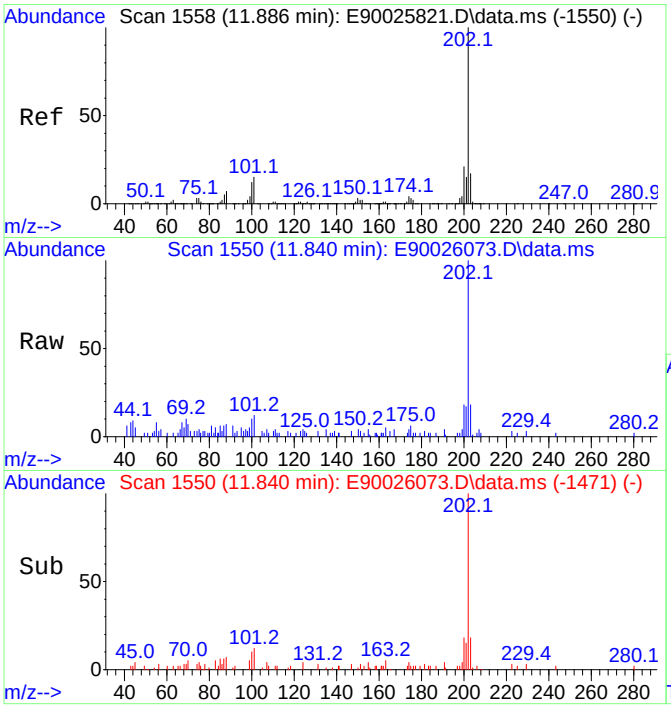


#68
2,4,6-Tribromophenol
Concen: 28.60 ug/mL
RT: 9.102 min Scan# 1079
Delta R.T. -0.046 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:330 Resp: 105098

Ion	Ratio	Lower	Upper
330	100		
332	92.2	77.1	115.7
328	32.5	27.5	41.3
334	31.0	24.6	36.8

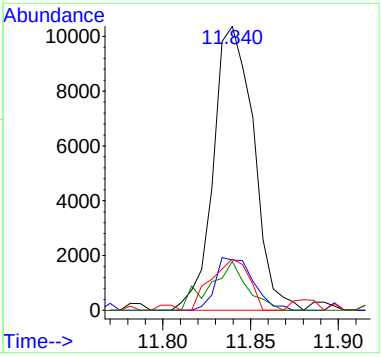


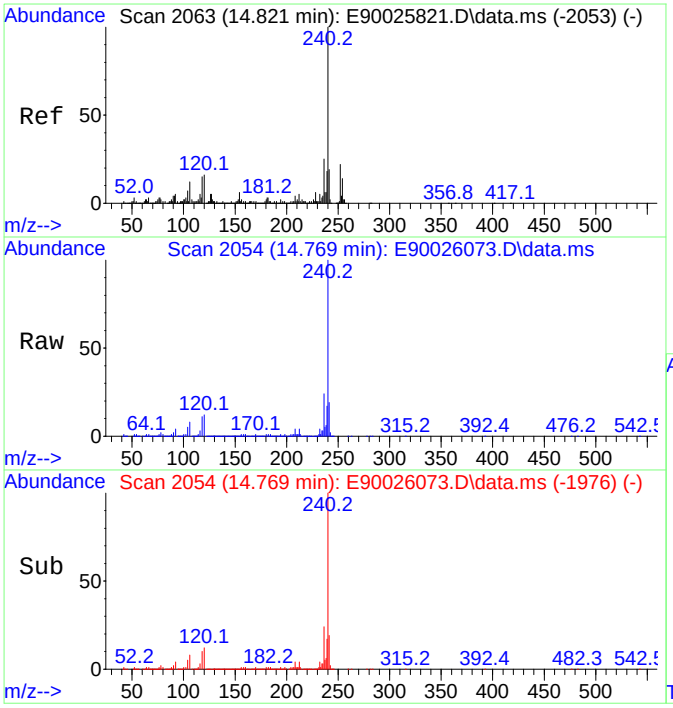


#79
Fluoranthene
Concen: 0.36 ug/mL
RT: 11.840 min Scan# 1550
Delta R.T. -0.041 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:202 Resp: 16475

Ion	Ratio	Lower	Upper
202	100		
200	17.4	16.2	24.4
203	17.0	13.8	20.6
202	15.9	11.9	17.9

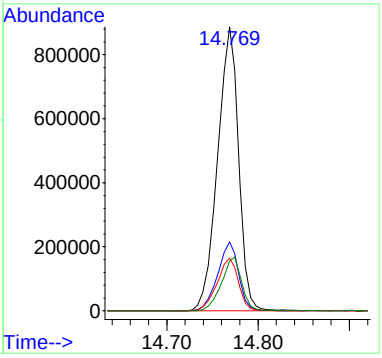


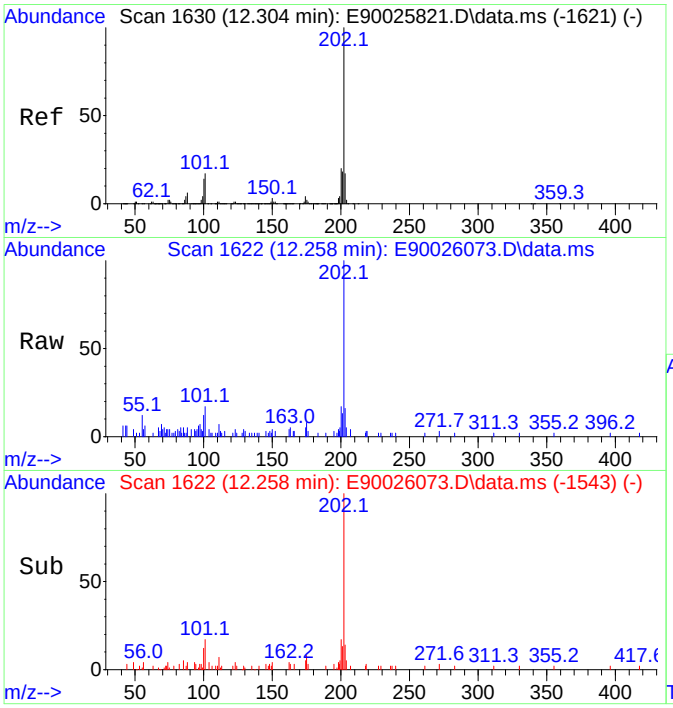


#81
Chyrsene-d12
Concen: 40.00 ug/mL
RT: 14.769 min Scan# 2054
Delta R.T. -0.046 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:240 Resp: 1418006

Ion	Ratio	Lower	Upper
240	100		
236	24.1	12.6	37.8
241	18.9	9.4	28.2
240	18.1	8.8	26.4

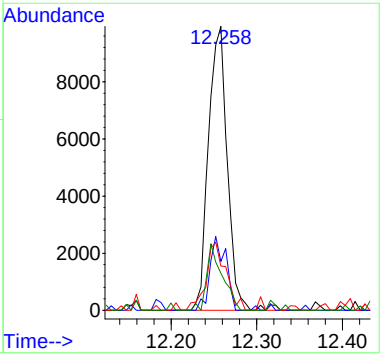


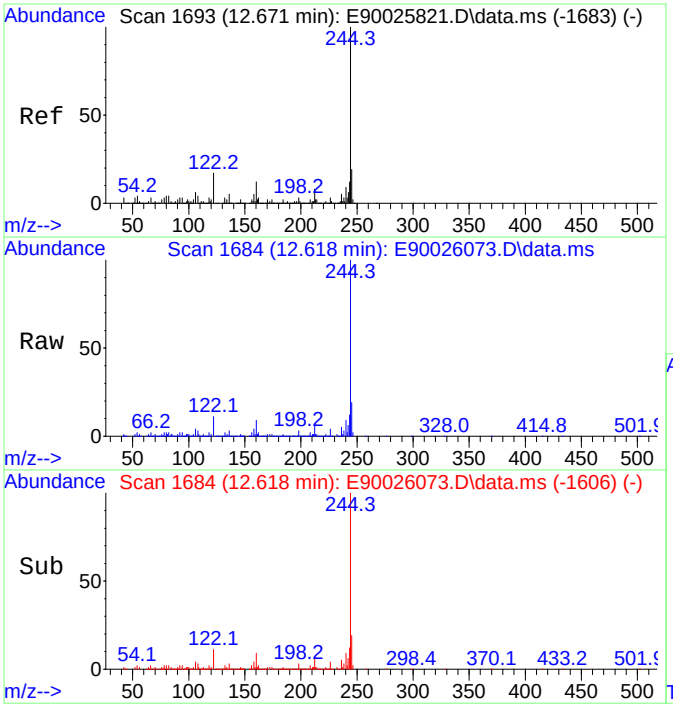


#82
Pyrene
Concen: 0.31 ug/mL m
RT: 12.258 min Scan# 1622
Delta R.T. -0.041 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:202 Resp: 15267

Ion	Ratio	Lower	Upper
202	100		
200	18.7	16.0	24.0
203	18.3	13.8	20.6
202	17.2	13.9	20.9

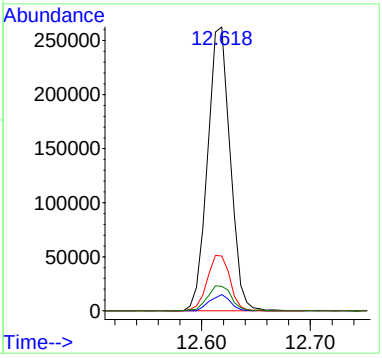


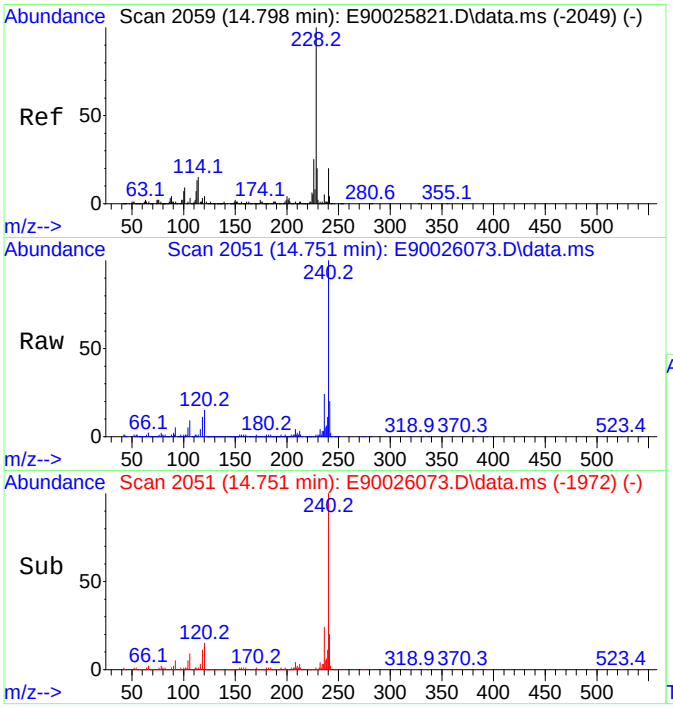


#83
Terphenyl-d14
Concen: 11.48 ug/mL
RT: 12.618 min Scan# 1684
Delta R.T. -0.046 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:244 Resp: 380288

Ion	Ratio	Lower	Upper
244	100		
243	5.2	4.4	6.6
245	19.6	15.2	22.8
240	9.4	7.4	11.0

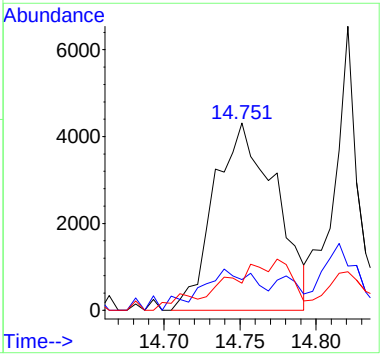


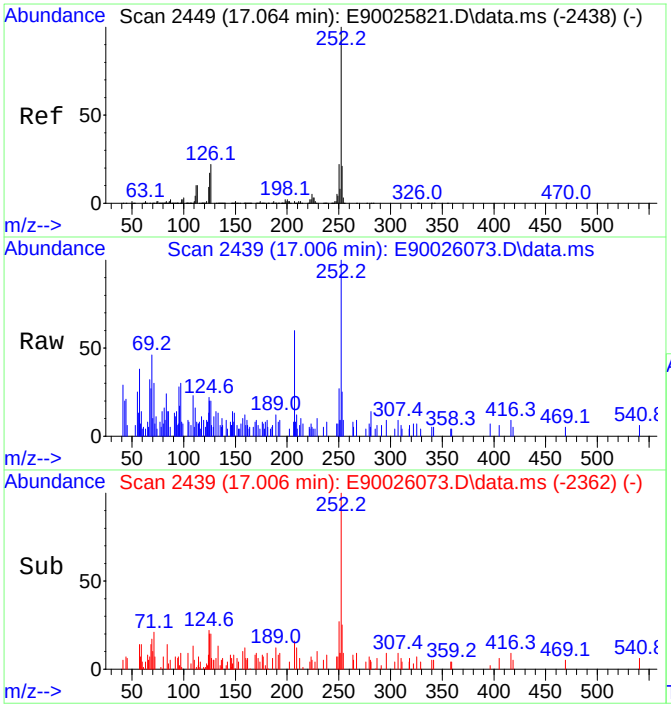


#86
Benz (a) anthracene
Concen: 0.27 ug/mL
RT: 14.751 min Scan# 2051
Delta R.T. -0.041 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:228 Resp: 12127

Ion	Ratio	Lower	Upper
228	100		
226	19.8	21.3	31.9#
229	0.0	15.1	22.7#

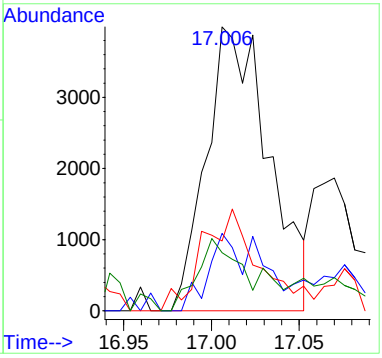


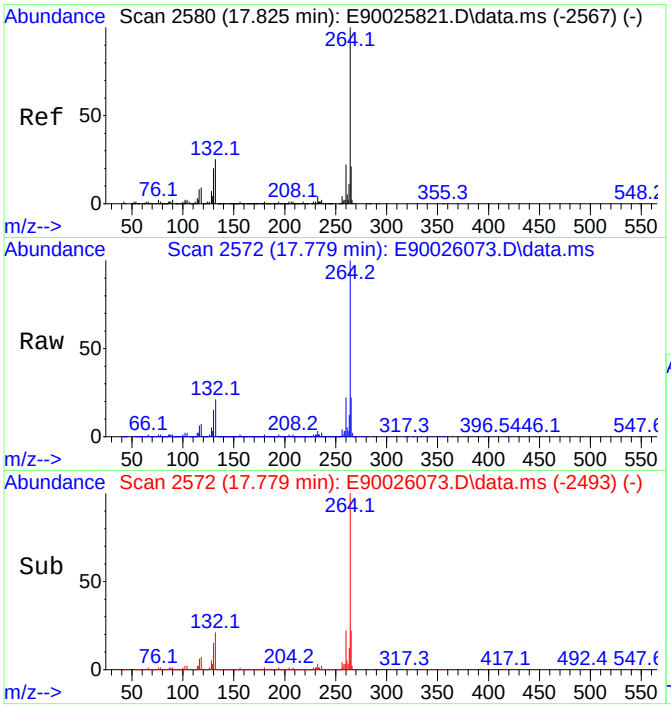


#90
Benzo(b)fluoranthene
Concen: 0.25 ug/mL
RT: 17.006 min Scan# 2439
Delta R.T. -0.052 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:252 Resp: 9906

Ion	Ratio	Lower	Upper
252	100		
250	13.2	17.9	26.9#
253	32.6	17.0	25.6#
126	16.8	20.3	30.5#

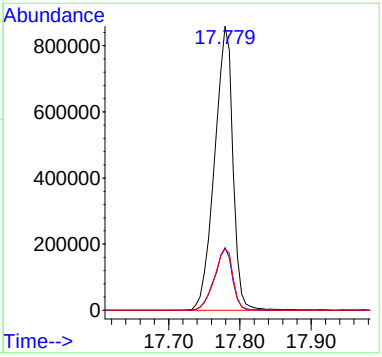




#93
Perylene-d12
Concen: 40.00 ug/mL
RT: 17.779 min Scan# 2572
Delta R.T. -0.041 min
Lab File: E90026073.D
Acq: 15 May 2023 12:51 pm

Tgt Ion:264 Resp: 1531133

Ion	Ratio	Lower	Upper
264	100		
265	21.6	17.3	25.9
260	22.0	18.6	27.8



FORM VI

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Instrument: MSBNA9
Calibration Date: 05/02/23 00:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
1,1-Biphenyl	1.25	~~0.7381576~~	2.5	~~0.5846151~~	5	0.6130313	10	0.5868194	15	0.5431998	20	0.5887743
1,2,4,5-Tetrachlorobenzene	1.25	~~1.132069~~	2.5	~~0.4937365~~	5	0.4225805	10	0.407307	15	0.3875579	20	0.3980903
1,2,4-Trichlorobenzene	1.25	0.3017437	2.5	0.2742963	5	0.2600995	10	0.2574658	15	0.2343104	20	0.2464282
1,2-Dichlorobenzene	1.25	1.785527	2.5	1.389554	5	1.426836	10	1.479955	15	1.298151	20	1.447324
1,2-Diphenylhydrazine (as Azobenzene)	1.25	1.121085	2.5	1.08612	5	1.08449	10	1.068688	15	0.9753826	20	1.050025
1,3-Dichlorobenzene	1.25	1.75687	2.5	1.501847	5	1.445449	10	1.505763	15	1.396115	20	1.542495
1,4-Dichlorobenzene	1.25	1.732686	2.5	1.509402	5	1.506047	10	1.567532	15	1.432274	20	1.588484
1-Methylnaphthalene	1.25	~~0.6953714~~	2.5	~~0.6144243~~	5	0.6038759	10	0.5877391	15	0.5438006	20	0.5696309
2,3,4,6-Tetrachlorophenol	1.25	0.1476503	2.5	0.1377174	5	0.1526133	10	0.1568146	15	0.1508325	20	0.1745684
2,4,5-Trichlorophenol	1.25	0.3426848	2.5	0.2912164	5	0.3058711	10	0.2886569	15	0.307909	20	0.3289927
2,4,6-Trichlorophenol	1.25	0.3214446	2.5	0.2860297	5	0.2817833	10	0.3114856	15	0.2749591	20	0.3053845
2,4-Dichlorophenol	1.25	0.2722411	2.5	0.2500869	5	0.2504934	10	0.2397687	15	0.2311612	20	0.2464271
2,4-Dimethylphenol	1.25	0.4310427	2.5	0.3865044	5	0.3003346	10	0.3118068	15	0.2857213	20	0.2897543
2,4-Dinitrophenol	1.25	7.231021E-02	2.5	6.951496E-02	5	8.725917E-02	10	9.827659E-02	15	0.1022557	20	0.1180248
2,4-Dinitrotoluene	1.25	0.2632529	2.5	0.2693151	5	0.2933589	10	0.3438622	15	0.3482647	20	0.3780661
2,6-Dinitrotoluene	1.25	~~0.2283628~~	2.5	~~0.2023619~~	5	0.2519293	10	0.2710544	15	0.2574345	20	0.290168
2-Chloronaphthalene	1.25	1.256573	2.5	1.140909	5	1.140539	10	1.087096	15	1.022267	20	1.080268
2-Chlorophenol	1.25	1.525189	2.5	1.404089	5	1.336977	10	1.385597	15	1.265661	20	1.397895
2-Methylnaphthalene	1.25	0.7843813	2.5	0.6433259	5	0.6580698	10	0.6539561	15	0.6027654	20	0.6369696
2-Methylphenol	1.25	1.216785	2.5	1.100536	5	1.083956	10	1.171275	15	1.038631	20	1.136067
2-Nitroaniline	1.25	~~0.3414666~~	2.5	~~0.3202337~~	5	0.3349174	10	0.377555	15	0.3583294	20	0.4009416
2-Nitrophenol	1.25	0.1529495	2.5	0.1377732	5	0.1491463	10	0.1560161	15	0.1383934	20	0.1551321
3- & 4-Methylphenols	1.25	1.942838	2.5	1.692953	5	1.617786	10	1.715471	15	1.597602	20	1.696691
3,3-Dichlorobenzidine	1.25	~~0.4692113~~	2.5	~~0.4614384~~	5	0.4582263	10	0.4696692	15	0.4686009	20	0.4726869
3-Nitroaniline	1.25	~~0.3048586~~	2.5	~~0.2974627~~	5	0.3064813	10	0.3333484	15	0.3272914	20	0.347637
4,6-Dinitro-2-methylphenol	1.25	6.219976E-02	2.5	6.980192E-02	5	7.886962E-02	10	9.391613E-02	15	9.781205E-02	20	0.1064531
4-Bromophenyl phenyl ether	1.25	0.2050273	2.5	0.1748857	5	0.1720199	10	0.1708274	15	0.1556334	20	0.1738472
4-Chloro-3-methylphenol	1.25	0.3249614	2.5	0.2925105	5	0.2972269	10	0.2955506	15	0.2813167	20	0.2829015
4-Chloroaniline	1.25	0.4490316	2.5	0.4136981	5	0.4060862	10	0.4086129	15	0.3825272	20	0.3978106
4-Chlorophenyl phenyl ether	1.25	0.6014398	2.5	0.5548388	5	0.5522489	10	0.584368	15	0.5275246	20	0.5794735
4-Nitroaniline	1.25	~~0.3172591~~	2.5	~~0.3098286~~	5	0.3470515	10	0.3794869	15	0.3586845	20	0.3918154

FORM VI

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Instrument: MSBNA9
Calibration Date: 05/02/23 00:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
4-Nitrophenol	1.25	0.2769028	2.5	0.2367399	5	0.2684461	10	0.3059209	15	0.3023354	20	0.3255387
Acenaphthene	1.25	1.260447	2.5	1.157165	5	1.10094	10	1.136991	15	1.060299	20	1.152644
Acenaphthylene	1.25	2.12845	2.5	1.89403	5	1.958906	10	1.975468	15	1.797363	20	1.970019
Acetophenone	1.25	~~5.197528~~	2.5	~~2.505929~~	5	2.035805	10	2.166252	15	2.066903	20	2.125677
Alpha Terpineol	1.25	~~0.3083922~~	2.5	~~0.2830293~~	5	0.3029896	10	0.2954401	15	0.26543	20	0.2911571
Aniline	1.25	2.189379	2.5	2.056717	5	2.003741	10	2.153218	15	1.966139	20	2.105163
Anthracene	1.25	1.100636	2.5	0.9279095	5	0.9486208	10	0.9947133	15	0.9141783	20	1.009653
Atrazine	1.25	0.508557	2.5	0.2206237	5	0.1841153	10	0.185001	15	0.1828669	20	0.195646
Benzaldehyde	1.25	~~2.987908~~	2.5	~~1.414597~~	5	1.138121	10	1.231907	15	1.198644	20	1.208408
Benzidine	1.25	~~0.5120255~~	2.5	~~0.5157766~~	5	0.5107397	10	0.5358306	15	0.4940132	20	0.4953609
Benzo(a)anthracene	1.25	1.441651	2.5	1.216749	5	1.256334	10	1.283064	15	1.195237	20	1.289083
Benzo(a)pyrene	1.25	1.130351	2.5	1.109613	5	1.055821	10	1.117122	15	1.044036	20	1.074246
Benzo(b)fluoranthene	1.25	1.213146	2.5	1.130678	5	1.134522	10	1.189205	15	1.076399	20	1.152418
Benzo(g,h,i)perylene	1.25	0.9576317	2.5	0.9038269	5	0.9396664	10	0.9485247	15	0.8815164	20	0.9624284
Benzo(k)fluoranthene	1.25	1.170796	2.5	1.084013	5	1.084279	10	1.119369	15	1.055993	20	1.062053
Benzoic acid	1.25		2.5		5	0.180313	10	0.2152218	15	0.2171867	20	0.2396813
Benzyl alcohol	1.25	1.051969	2.5	0.9686836	5	0.9570114	10	1.018193	15	0.9597838	20	1.032077
Benzyl butyl phthalate	1.25	0.7684519	2.5	0.8465574	5	0.8713403	10	0.8708362	15	0.8202752	20	0.8994858
Bis(2-chloroethoxy)methane	1.25	0.4634193	2.5	0.4131259	5	0.39557	10	0.4009449	15	0.3574556	20	0.372888
Bis(2-chloroethyl)ether	1.25	1.568174	2.5	1.39895	5	1.31552	10	1.42676	15	1.324625	20	1.428731
Bis(2-chloroisopropyl)ether	1.25	2.26792	2.5	2.030255	5	1.962159	10	2.074051	15	1.956219	20	2.101942
Bis(2-ethylhexyl)phthalate	1.25	0.9902443	2.5	0.978679	5	0.9832267	10	1.060488	15	0.98126	20	1.038587
Caprolactam	1.25	~~0.2790973~~	2.5	~~0.1251755~~	5	0.11731	10	0.1179482	15	0.1085414	20	9.071019E-02
Carbazole	1.25	1.111339	2.5	1.000132	5	0.9897719	10	1.026795	15	0.9488208	20	1.020398
Chrysene	1.25	1.295828	2.5	1.149194	5	1.10421	10	1.158628	15	1.035846	20	1.119641
Dibenzo(a,h)anthracene	1.25	0.8853971	2.5	0.860068	5	0.844152	10	0.9017687	15	0.8422602	20	0.9596751
Dibenzofuran	1.25	1.923483	2.5	1.651597	5	1.650302	10	1.677814	15	1.554908	20	1.655707
Diethyl phthalate	1.25	1.511112	2.5	1.4085	5	1.446445	10	1.462396	15	1.386653	20	1.502227
Dimethyl phthalate	1.25	1.432023	2.5	1.351762	5	1.336275	10	1.372767	15	1.249496	20	1.350938
Di-n-butyl phthalate	1.25	1.362585	2.5	1.238768	5	1.285262	10	1.364535	15	1.285944	20	1.397478
Di-n-octyl phthalate	1.25	~~1.536363~~	2.5	~~1.582738~~	5	1.679257	10	1.855756	15	1.765276	20	1.928002

FORM VI

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Instrument: MSBNA9
Calibration Date: 05/02/23 00:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Diphenylamine	1.25	0.7543131	2.5	0.6254102	5	0.6494455	10	0.6582647	15	0.5826211	20	0.6241938
Fluoranthene	1.25	1.102402	2.5	1.052006	5	1.001637	10	1.070265	15	0.9969666	20	1.063131
Fluorene	1.25	1.572458	2.5	1.406919	5	1.358137	10	1.412875	15	1.283931	20	1.399632
Hexachlorobenzene	1.25	0.1120575	2.5	0.1081413	5	0.1074759	10	0.1041552	15	0.1022511	20	0.1054128
Hexachlorobutadiene	1.25	0.1452103	2.5	0.1307041	5	0.1275621	10	0.1281644	15	0.1167764	20	0.1197204
Hexachlorocyclopentadiene	1.25	0.3198204	2.5	0.2427015	5	0.2430005	10	0.2567152	15	0.2384043	20	0.2722178
Hexachloroethane	1.25	0.635988	2.5	0.6650927	5	0.6018502	10	0.6656616	15	0.6008748	20	0.6549459
Indeno(1,2,3-cd)pyrene	1.25	0.8819374	2.5	0.8354978	5	0.8650337	10	0.9768871	15	0.9189075	20	1.023563
Isophorone	1.25	0.7297911	2.5	0.6796223	5	0.6755465	10	0.7001255	15	0.647047	20	0.6923242
Naphthalene	1.25	1.135521	2.5	1.023325	5	1.021181	10	0.9825271	15	0.9102671	20	0.958261
Nitrobenzene	1.25	0.4083444	2.5	0.3691353	5	0.3924481	10	0.3913217	15	0.3594059	20	0.3787598
N-Nitrosodimethylamine	1.25	0.8031538	2.5	0.745094	5	0.719518	10	0.754105	15	0.6996937	20	0.772441
N-nitroso-di-n-propylamine	1.25	1.298359	2.5	1.197834	5	1.133927	10	1.199491	15	1.120513	20	1.19446
N-Nitrosodiphenylamine	1.25	0.2656736	2.5	0.2261023	5	0.2192889	10	0.2234724	15	0.2056754	20	0.2204501
Parathion	1.25	~~8.054262E-02~~	2.5	~~8.104077E-02~~	5	8.513919E-02	10	0.1178748	15	0.1183239	20	0.14076
Pentachloronitrobenzene	1.25	~~8.409629E-02~~	2.5	~~6.772529E-02~~	5	6.999335E-02	10	8.648153E-02	15	8.092584E-02	20	0.0938634
Pentachlorophenol	1.25	8.577736E-02	2.5	8.707239E-02	5	9.049305E-02	10	0.1065984	15	0.1040197	20	0.1129995
Phenanthrene	1.25	1.201351	2.5	1.023194	5	1.00526	10	0.9843131	15	0.9370772	20	0.9937823
Phenol	1.25	1.877867	2.5	1.724669	5	1.670722	10	1.746432	15	1.63772	20	1.814177
Pyrene	1.25	1.55084	2.5	1.302473	5	1.355084	10	1.419815	15	1.312185	20	1.451233
Pyridine	1.25	~~1.207005~~	2.5	~~1.295631~~	5	1.272244	10	1.308801	15	1.220562	20	1.359683
SURR: 2,4,6-Tribromophenol	1.25	9.156537E-02	2.5	7.920415E-02	5	8.725714E-02	10	8.669143E-02	15	8.217516E-02	20	8.930588E-02
SURR: 2-Fluorobiphenyl	1.25	1.449921	2.5	1.260473	5	1.283648	10	1.253235	15	1.167889	20	1.264901
SURR: 2-Fluorophenol	1.25	1.36386	2.5	1.244891	5	1.195049	10	1.289351	15	1.206175	20	1.271842
SURR: Nitrobenzene-d5	1.25	0.3614068	2.5	0.3505601	5	0.3700717	10	0.3591153	15	0.3430748	20	0.3748968
SURR: Phenol-d6	1.25	1.751412	2.5	1.62507	5	1.607058	10	1.687072	15	1.614142	20	1.752835
SURR: Terphenyl-d14	1.25	1.006542	2.5	0.8981707	5	0.8991525	10	0.9304606	15	0.885688	20	0.9725976

FORM VI INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Instrument: MSBNA9
Calibration Date: 05/02/23 00:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
1,1-Biphenyl	30	0.5703557	40	0.5529688								
1,2,4,5-Tetrachlorobenzene	30	0.3784699	40	0.3786082								
1,2,4-Trichlorobenzene	30	0.2280097	40	0.2177234								
1,2-Dichlorobenzene	30	1.32273	40	1.320837								
1,2-Diphenylhydrazine (as Azobenzene)	30	0.9500417	40	0.9345721								
1,3-Dichlorobenzene	30	1.431258	40	1.400051								
1,4-Dichlorobenzene	30	1.467926	40	1.446401								
1-Methylnaphthalene	30	0.536924	40	0.4962876								
2,3,4,6-Tetrachlorophenol	30	0.175372	40	0.1757123								
2,4,5-Trichlorophenol	30	0.3074102	40	0.3188925								
2,4,6-Trichlorophenol	30	0.3044402	40	0.2909958								
2,4-Dichlorophenol	30	0.2252146	40	0.2148734								
2,4-Dimethylphenol	30	0.2773731	40	0.2594242								
2,4-Dinitrophenol	30	0.1306663	40	0.1331515								
2,4-Dinitrotoluene	30	0.4058854	40	0.3942841								
2,6-Dinitrotoluene	30	0.2933043	40	0.2918577								
2-Chloronaphthalene	30	1.03683	40	1.028036								
2-Chlorophenol	30	1.274184	40	1.285001								
2-Methylnaphthalene	30	0.6018016	40	0.5626457								
2-Methylphenol	30	1.066937	40	1.049144								
2-Nitroaniline	30	0.388515	40	0.3893824								
2-Nitrophenol	30	0.1507452	40	0.1443911								
3- & 4-Methylphenols	30	1.5932	40	1.567375								
3,3-Dichlorobenzidine	30	0.4630078	40	0.4336028								
3-Nitroaniline	30	0.3522952	40	0.3503523								
4,6-Dinitro-2-methylphenol	30	0.1112415	40	0.111613								
4-Bromophenyl phenyl ether	30	0.1596992	40	0.1623541								
4-Chloro-3-methylphenol	30	0.2778769	40	0.264388								
4-Chloroaniline	30	0.3732051	40	0.3579183								
4-Chlorophenyl phenyl ether	30	0.5613613	40	0.5667559								
4-Nitroaniline	30	0.3881817	40	0.3829575								

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Calibration: SE30006 Instrument: MSBNA9

Calibration Date: 05/02/23 00:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
4-Nitrophenol	30	0.3402317	40	0.3321511								
Acenaphthene	30	1.130864	40	1.112834								
Acenaphthylene	30	1.922477	40	1.908878								
Acetophenone	30	2.085978	40	1.956055								
Alpha Terpineol	30	0.2733563	40	0.2577372								
Aniline	30	1.967508	40	1.959089								
Anthracene	30	0.9525307	40	0.9671548								
Atrazine	30	0.1835022	40	0.1830436								
Benzaldehyde	30	1.130594	40	1.113819								
Benzidine	30	0.4550925	40	0.4613105								
Benzo(a)anthracene	30	1.259384	40	1.244067								
Benzo(a)pyrene	30	1.004783	40	0.997281								
Benzo(b)fluoranthene	30	1.071488	40	1.081164								
Benzo(g,h,i)perylene	30	0.8852794	40	0.89918								
Benzo(k)fluoranthene	30	0.9827602	40	0.946216								
Benzoic acid	30	0.2322708	40	0.2254258								
Benzyl alcohol	30	0.982104	40	0.9557941								
Benzyl butyl phthalate	30	0.8952606	40	0.8613871								
Bis(2-chloroethoxy)methane	30	0.3500661	40	0.3255654								
Bis(2-chloroethyl)ether	30	1.329038	40	1.288639								
Bis(2-chloroisopropyl)ether	30	1.922631	40	1.858139								
Bis(2-ethylhexyl)phthalate	30	0.994861	40	0.9616457								
Caprolactam	30	9.228328E-02	40	8.316011E-02								
Carbazole	30	0.9833675	40	0.9680289								
Chrysene	30	1.055564	40	1.041709								
Dibenzo(a,h)anthracene	30	0.8949875	40	0.9235597								
Dibenzofuran	30	1.665643	40	1.630691								
Diethyl phthalate	30	1.519505	40	1.489149								
Dimethyl phthalate	30	1.335214	40	1.308804								
Di-n-butyl phthalate	30	1.35769	40	1.352464								
Di-n-octyl phthalate	30	1.868739	40	1.81898								

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Calibration: SE30006 Instrument: MSBNA9

Calibration Date: 05/02/23 00:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Diphenylamine	30	0.568422	40	0.5604883								
Fluoranthene	30	1.0222	40	1.037239								
Fluorene	30	1.408818	40	1.381469								
Hexachlorobenzene	30	0.1013959	40	0.1036673								
Hexachlorobutadiene	30	0.1097818	40	0.1033713								
Hexachlorocyclopentadiene	30	0.2504752	40	0.255492								
Hexachloroethane	30	0.6000385	40	0.5849841								
Indeno(1,2,3-cd)pyrene	30	1.017897	40	1.07673								
Isophorone	30	0.6666492	40	0.6175762								
Naphthalene	30	0.8849625	40	0.8485743								
Nitrobenzene	30	0.3732135	40	0.3519165								
N-Nitrosodimethylamine	30	0.729942	40	0.7163113								
N-nitroso-di-n-propylamine	30	1.141588	40	1.092947								
N-Nitrosodiphenylamine	30	0.2011169	40	0.1939607								
Parathion	30	0.1505536	40	0.1585129								
Pentachloronitrobenzene	30	8.834361E-02	40	0.0889706								
Pentachlorophenol	30	0.1128498	40	0.1146653								
Phenanthrene	30	0.972707	40	0.9896852								
Phenol	30	1.719844	40	1.664794								
Pyrene	30	1.417339	40	1.362992								
Pyridine	30	1.155654	40	1.15955								
SURR: 2,4,6-Tribromophenol	30	8.048578E-02	40	7.801244E-02								
SURR: 2-Fluorobiphenyl	30	1.224884	40	1.222406								
SURR: 2-Fluorophenol	30	1.22649	40	1.210261								
SURR: Nitrobenzene-d5	30	0.3601414	40	0.3456852								
SURR: Phenol-d6	30	1.667294	40	1.65544								
SURR: Terphenyl-d14	30	0.955269	40	0.9265125								

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Instrument: MSBNA9
Calibration Date: 05/02/23 00:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1-Biphenyl	0.5758582	4.454182	7.361	4.232283E-02			SPCC (0.01)	
1,2,4,5-Tetrachlorobenzene	0.3954356	4.406162	7.046	3.626449E-02			SPCC (0.01)	
1,2,4-Trichlorobenzene	0.2525096	10.75153	6.191	1.764539E-02			20	
1,2-Dichlorobenzene	1.433864	10.91721	5.330875	8.538421E-03			20	
1,2-Diphenylhydrazine (as Azobenzene)	1.033801	6.80853	9.018	3.884095E-02			20	
1,3-Dichlorobenzene	1.497481	7.830789	5.144875	1.828674E-02			20	
1,4-Dichlorobenzene	1.531344	6.402391	5.208375	1.402373E-02			20	
1-Methylnaphthalene	0.5563764	6.990128	6.993	1.204762E-02			20	
2,3,4,6-Tetrachlorophenol	0.1589101	9.161599	8.44775	2.572172E-02			SPCC (0.01)	
2,4,5-Trichlorophenol	0.3114542	5.85486	7.1945	3.926435E-02			SPCC (0.2)	
2,4,6-Trichlorophenol	0.2970653	5.408133	7.1565	3.713864E-02			SPCC (0.2)	
2,4-Dichlorophenol	0.2412833	7.36013	6.11125	0.054622			SPCC (0.2)	
2,4-Dimethylphenol	0.3177452	18.71098	5.93125	4.845362E-02			SPCC (0.2)	
2,4-Dinitrophenol	0.1014324	24.19027	8.109625	4.918037E-02			SPCC (0.01)	*
2,4-Dinitrotoluene	0.3370362	16.56216	8.27325	3.662537E-02			SPCC (0.2)	
2,6-Dinitrotoluene	0.275958	6.682154	7.771167	4.408331E-02			SPCC (0.2)	
2-Chloronaphthalene	1.099065	7.180161	7.396	4.068749E-02			SPCC (0.8)	
2-Chlorophenol	1.359324	6.445685	5.01175	4.345609E-02			SPCC (0.8)	
2-Methylnaphthalene	0.6429894	10.20602	6.894	6.971514E-03			SPCC (0.4)	
2-Methylphenol	1.107916	5.62864	5.371	6.029266E-03			SPCC (0.7)	
2-Nitroaniline	0.3749401	6.482196	7.505	3.735256E-02			SPCC (0.01)	
2-Nitrophenol	0.1480684	4.832048	5.923	1.736055E-02			SPCC (0.1)	
3- & 4-Methylphenols	1.677989	7.18097	5.4945	0.0525739			SPCC (0.6)	
3,3-Dichlorobenzidine	0.4609656	3.116386	14.82883	2.169275E-02			SPCC (0.01)	
3-Nitroaniline	0.3362343	5.25473	7.985333	5.090844E-02			SPCC (0.01)	
4,6-Dinitro-2-methylphenol	9.148839E-02	20.87165	8.841625	6.642499E-02			SPCC (0.01)	*
4-Bromophenyl phenyl ether	0.1717868	8.844053	9.497125	1.917711E-02			SPCC (0.1)	
4-Chloro-3-methylphenol	0.2895916	6.175852	6.7125	6.385874E-02			SPCC (0.2)	
4-Chloroaniline	0.3986113	7.023407	6.3115	4.875042E-02			SPCC (0.01)	
4-Chlorophenyl phenyl ether	0.5660013	4.001681	8.774	3.948454E-02			SPCC (0.4)	
4-Nitroaniline	0.3746962	4.754334	8.822167	0.0976612			SPCC (0.01)	
4-Nitrophenol	0.2985333	11.9164	8.1425	7.946426E-02			SPCC (0.01)	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Instrument: MSBNA9
Calibration Date: 05/02/23 00:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	1.139023	5.104496	8.0835	3.426819E-02			SPCC (0.9)	
Acenaphthylene	1.944449	4.824644	7.87375	0.0401255			SPCC (0.9)	
Acetophenone	2.072778	3.527876	5.522	1.934171E-02			SPCC (0.01)	
Alpha Terpineol	0.2810184	6.439251	6.255833	3.377481E-02			20	
Aniline	2.050119	4.417402	4.924	1.654608E-02			SPCC ()	
Anthracene	0.9769245	6.058711	10.12275	3.257043E-02			SPCC (0.7)	
Atrazine	0.2304195	49.09487	9.679875	3.236633E-02			SPCC (0.01)	*
Benzaldehyde	1.170249	4.160585	4.842	1.779508E-02			SPCC (0.01)	
Benzidine	0.4920579	6.158591	12.2	8.942264E-03			20	
Benzo(a)anthracene	1.273196	5.886134	14.79275	2.467505E-02			SPCC (0.8)	
Benzo(a)pyrene	1.066657	4.724494	17.70125	3.474349E-02			SPCC (0.7)	
Benzo(b)fluoranthene	1.131128	4.679699	17.061	1.701829E-02			SPCC (0.7)	
Benzo(g,h,i)perylene	0.9222567	3.609619	20.19075	3.696706E-02			SPCC (0.5)	
Benzo(k)fluoranthene	1.063185	6.728141	17.1205	0.0276179			SPCC (0.7)	
Benzoic acid	0.2183499	9.511971	5.988167	0.3496974			20	
Benzyl alcohol	0.990702	3.832184	5.297375	5.139995E-02			20	
Benzyl butyl phthalate	0.8541993	5.029677	13.766	1.530253E-02			20	
Bis(2-chloroethoxy)methane	0.3848794	11.18171	6.022	2.125524E-02			SPCC (0.3)	
Bis(2-chloroethyl)ether	1.385055	6.588599	4.97075	3.923702E-02			SPCC (0.7)	
Bis(2-chloroisopropyl)ether	2.021665	6.320058	5.4	1.685423E-02			SPCC (0.01)	
Bis(2-ethylhexyl)phthalate	0.998624	3.345329	15.09625	1.533141E-02			20	
Caprolactam	0.1016589	14.641	6.6315	0.1687657			SPCC (0.01)	
Carbazole	1.006082	4.935177	10.3385	2.817774E-02			SPCC (0.01)	
Chrysene	1.120077	7.611064	14.87	3.040239E-02			SPCC (0.7)	
Dibenzo(a,h)anthracene	0.8889835	4.546317	19.8145	3.878266E-02			SPCC (0.4)	
Dibenzofuran	1.676268	6.367226	8.306	6.949064E-03			SPCC (0.8)	
Diethyl phthalate	1.465748	3.336645	8.58725	3.554365E-02			SPCC (0.01)	
Dimethyl phthalate	1.34216	3.87798	7.68325	5.135914E-02			SPCC (0.01)	
Di-n-butyl phthalate	1.330591	4.051382	10.86975	1.846612E-02			SPCC (0.01)	
Di-n-octyl phthalate	1.819335	4.799319	16.547	2.554173E-02			SPCC (0.01)	
Diphenylamine	0.6278948	9.985674	8.9525	3.431879E-02			20	
Fluoranthene	1.043231	3.447314	11.8845	2.733469E-02			SPCC (0.6)	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Instrument: MSBNA9
Calibration Date: 05/02/23 00:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Fluorene	1.40303	5.748088	8.786875	2.318109E-02			SPCC (0.9)	
Hexachlorobenzene	0.1055696	3.328215	9.544	1.100883E-02			SPCC (0.1)	
Hexachlorobutadiene	0.1226614	10.71284	6.348625	2.419733E-02			SPCC (0.01)	
Hexachlorocyclopentadiene	0.2598534	10.18587	7.02675	2.899448E-02			SPCC (0.05)	
Hexachloroethane	0.6261795	5.265371	5.6055	5.079846E-02			SPCC (0.3)	
Indeno(1,2,3-cd)pyrene	0.9495567	9.140495	19.7505	3.500794E-02			SPCC (0.5)	
Isophorone	0.6760853	5.029665	5.85525	4.250233E-02			SPCC (0.4)	
Naphthalene	0.9705774	9.434622	6.27125	3.423301E-02			SPCC (0.7)	
Nitrobenzene	0.3780681	4.933364	5.668	2.547571E-02			SPCC (0.2)	
N-Nitrosodimethylamine	0.7425324	4.530233	2.98375	7.411547E-02			20	
N-nitroso-di-n-propylamine	1.17239	5.505935	5.512375	4.607047E-02			SPCC (0.5)	
N-Nitrosodiphenylamine	0.2194675	10.00298	8.9525	3.431879E-02			SPCC (0.01)	
Parathion	0.1285274	20.9756	11.152	2.655833E-02			20	*
Pentachloronitrobenzene	8.476306E-02	9.858752	9.788	1.006304E-02			20	
Pentachlorophenol	0.1018094	11.98656	9.77675	0.0180826			SPCC (0.05)	
Phenanthrene	1.013421	7.89073	10.05875	2.598937E-02			SPCC (0.7)	
Phenol	1.732028	4.65993	4.868625	5.665052E-02			SPCC (0.8)	
Pyrene	1.396495	5.841488	12.29962	2.939401E-02			SPCC (0.6)	
Pyridine	1.246082	6.602093	3.007	8.307125E-02			20	
SURR: 2,4,6-Tribromophenol	8.433717E-02	5.960035	9.14975	0.0104077			20	
SURR: 2-Fluorobiphenyl	1.26592	6.510555	7.2495	3.392773E-02			20	
SURR: 2-Fluorophenol	1.25099	4.489496	4.09075	7.720665E-02			20	
SURR: Nitrobenzene-d5	0.358119	3.127855	5.65075	3.542366E-02			20	
SURR: Phenol-d6	1.67004	3.43985	4.857	6.865853E-02			20	
SURR: Terphenyl-d14	0.9342991	4.450803	12.668	2.414113E-02			20	

Data Path : C:\msdchem\1\data\050223\
Data File : E90025815.D
Acq On : 2 May 2023 1:56 pm
Operator : KH
Sample : SEQ-CAL1
Misc : QBSV9050223A 1.25 ppm
InstName : MSBNA9
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 10:16:53 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:16:39 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	422096	40.00	ug/mL		0.00
21) Naphthalene-d8	6.249	136	1848244	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.045	164	1024475	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.032	188	1503800	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.815	240	1125088	40.00	ug/mL		0.00
93) Perylene-d12	17.825	264	1220912	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.087	112	17990	1.38	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 1.84%#				
5) Phenol-d5	4.854	99	23102	1.32	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 1.76%#				
22) Nitrobenzene-d5	5.650	82	20874	1.26	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 2.52%#				
46) 2-Fluorobiphenyl	7.254	172	46419	1.46	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 2.92%#				
68) 2,4,6-Tribromophenol	9.149	330	4303	1.37	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 1.83%#				
83) Terphenyl-d14	12.671	244	35389	1.36	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 2.72%#				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.989	74	10594	1.37	ug/mL	#	77
3) Pyridine	3.012	79	15921	1.21	ug/mL	#	88
6) Benzaldehyde	4.842	105	39412	3.19	ug/mL	#	97
7) Aniline	4.924	93	28879	1.35	ug/mL	#	96
8) Phenol	4.866	94	24770	1.37	ug/mL	#	89
9) Bis(2-chloroethyl)ether	4.970	93	20685	1.44	ug/mL		99
10) 2-Chlorophenol	5.011	128	20118	1.43	ug/mL		96
11) 1,3-Dichlorobenzene	5.145	146	23174	1.50	ug/mL		95
12) 1,4-Dichlorobenzene	5.209	146	22855m	1.44	ug/mL		
13) Benzyl Alcohol	5.296	108	13876	1.34	ug/mL		94
14) 1,2-Dichlorobenzene	5.331	146	23552	1.61	ug/mL		96
15) 2-Methylphenol	5.371	107	16050	1.39	ug/mL		97
16) Acetophenone	5.522	105	68558	3.13	ug/mL	#	90
17) Bis(2-chloroisopropyl)...	5.400	45	29915	1.43	ug/mL		94
18) N-Nitroso-di-n-propyla...	5.511	70	17126	1.41	ug/mL	#	82
19) 4-Methylphenol	5.493	107	25627	1.48	ug/mL	#	33
20) Hexachloroethane	5.610	117	8389	1.27	ug/mL	#	82
23) Nitrobenzene	5.668	77	23585	1.37	ug/mL		96
24) Isophorone	5.854	82	42151	1.36	ug/mL		98
25) 2-Nitrophenol	5.923	139	8834	1.30	ug/mL		89
26) 2,4-Dimethylphenol	5.929	122	24896	1.79	ug/mL	#	80
27) Bis(2-chloroethoxy) me...	6.022	93	26766	1.55	ug/mL		98
29) 2,4-Dichlorophenol	6.109	162	15724	1.44	ug/mL		99
30) 1,2,4-Trichlorobenzene	6.191	180	17428	1.54	ug/mL		95
31) Alpha-Terpineol	6.255	59	17812	1.37	ug/mL	#	1
32) Naphthalene	6.272	128	65585	1.50	ug/mL		96
33) 4-Chloroaniline	6.313	127	25935	1.43	ug/mL		98
34) 2,6 Dichlorophenol	6.313	162	16585	1.60	ug/mL		88
35) Hexachlorobutadiene	6.348	225	8387	1.52	ug/mL		88
36) Caprolactam	6.615	113	16120m	3.43	ug/mL		
37) 4-Chloro-3-methylphenol	6.714	107	18769	1.43	ug/mL		91
38) 1-methylnaphthalene	6.998	141	40163	1.56	ug/mL		95
39) 2-Methylnaphthalene	6.894	142	45304	1.57	ug/mL		96
41) 1,2,4,5-tetrachloroben...	7.051	216	36243	3.58	ug/mL		94
42) Hexachlorocyclopentadiene	7.028	237	10239	1.59	ug/mL		95
43) Biphenyl	7.365	153	23632	1.60	ug/mL	#	93
44) 2,4,6-Trichlorophenol	7.161	196	10291m	1.37	ug/mL		
45) 2,4,5-Trichlorophenol	7.196	196	10971	1.40	ug/mL		94
47) 2-Chloronaphthalene	7.394	162	40229	1.46	ug/mL		97

Data Path : C:\msdchem\1\data\050223\
Data File : E90025815.D
Acq On : 2 May 2023 1:56 pm
Operator : KH
Sample : SEQ-CAL1
Misc : QBSV9050223A 1.25 ppm
InstName : MSBNA9
ALS Vial : 3 Sample Multiplier: 1

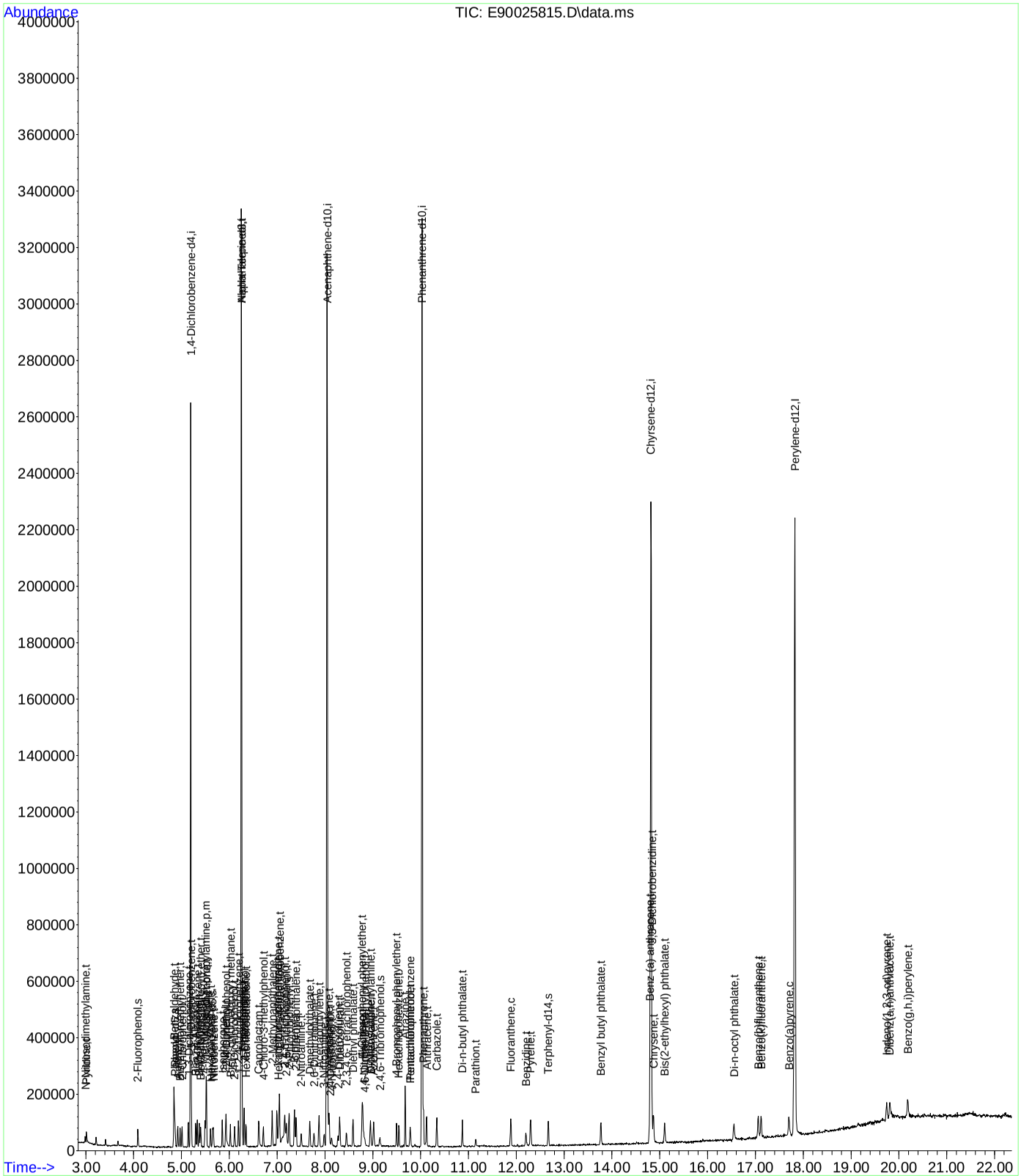
Quant Time: May 03 10:16:53 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:16:39 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
48) 2-Nitroaniline	7.504	138	10932	1.14 ug/mL#	93
49) Dimethylphthalate	7.684	163	45846	1.35 ug/mL#	82
50) 2,6-Dinitrotoluene	7.766	165	7311	1.03 ug/mL	98
51) Acenaphthylene	7.876	152	68142	1.39 ug/mL	99
52) 3-Nitroaniline	7.981	138	9760	1.13 ug/mL#	91
53) Acenaphthene	8.085	154	40353	1.40 ug/mL	98
54) 2,4-Dinitrophenol	8.114	184	2315m	0.86 ug/mL	
55) Dibenzofuran	8.306	168	61580	1.47 ug/mL	99
56) 2,4-Dinitrotoluene	8.271	165	8428	0.91 ug/mL	89
57) 4-Nitrophenol	8.138	65	8865	1.15 ug/mL	93
58) 2,3,4,6-Tetrachlorophenol	8.446	131	4727	1.15 ug/mL#	71
59) Diethyl phthalate	8.585	149	48378	1.29 ug/mL	97
60) Fluorene	8.788	166	50342	1.43 ug/mL	96
61) 4-Chlorophenyl phenyle...	8.777	204	19255	1.34 ug/mL	97
62) 4-Nitroaniline	8.812	138	10157	1.06 ug/mL#	81
64) 4,6-Dinitro-2-methylph...	8.835	198	2923	0.81 ug/mL#	76
65) Diphenylamine	8.951	169	35448	1.55 ug/mL	97
66) N-Nitrosodiphenylamine	8.951	167	12485	1.56 ug/mL	94
67) Azobenzene	9.021	77	52684	1.37 ug/mL	97
69) 4-Bromophenyl phenylether	9.497	248	9635	1.53 ug/mL	90
70) Atrazine	9.678	200	23899	3.33 ug/mL#	99
71) Hexachlorobenzene	9.544	142	5266	1.34 ug/mL	80
72) Pentachlorophenol	9.776	266	4031	1.03 ug/mL	93
73) Pentachloronitrobenzene	9.782	237	3952	1.24 ug/mL#	73
74) Phenanthrene	10.061	178	56456	1.52 ug/mL	97
75) Anthracene	10.125	178	51723	1.43 ug/mL	96
76) Carbazole	10.340	167	52226	1.40 ug/mL#	100
77) Di-n-butyl phthalate	10.875	149	64033	1.28 ug/mL	98
78) Parathion	11.148	97	3785	0.78 ug/mL#	93
79) Fluoranthene	11.886	202	51806	1.33 ug/mL	98
80) Benzidine	12.200	184	24062	1.30 ug/mL	96
82) Pyrene	12.299	202	54526	1.41 ug/mL	99
84) Benzyl butyl phthalate	13.769	149	27018	1.11 ug/mL	95
85) Bis(2-ethylhexyl) phth...	15.100	149	34816	1.24 ug/mL#	98
86) Benz (a) anthracene	14.792	228	50687	1.44 ug/mL	96
87) 3,3-Dichlorobenzidine	14.833	252	16497	1.40 ug/mL#	79
88) Chrysene	14.867	228	45560	1.48 ug/mL	96
89) Di-n-octyl phthalate	16.553	149	54017	1.06 ug/mL	97
90) Benzo(b)fluoranthene	17.058	252	42653	1.35 ug/mL	98
91) Benzo(k)fluoranthene	17.116	252	41164	1.40 ug/mL	97
92) Benzo(a)pyrene	17.698	252	39742	1.34 ug/mL#	94
94) Indeno(1,2,3-cd)pyrene	19.743	276	33649	1.15 ug/mL#	93
95) Dibenz(a,h)anthracene	19.807	278	33781	1.24 ug/mL	92
96) Benzo(g,h,i)perylene	20.185	276	36537	1.31 ug/mL	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025815.D
Acq On : 2 May 2023 1:56 pm
Operator : KH
Sample : SEQ-CAL1
Misc : QBSV9050223A 1.25 ppm
InstName : MSBNA9
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 10:16:53 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:16:39 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025816.D
Acq On : 2 May 2023 2:26 pm
Operator : KH
Sample : SEQ-CAL2
Misc : QBSV9050223A 2.5 ppm
InstName : MSBNA9
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 03 10:13:19 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:12:48 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	417193	40.00	ug/mL		0.00
21) Naphthalene-d8	6.249	136	1817480	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.039	164	1011811	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.026	188	1533253	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.815	240	1199380	40.00	ug/mL		0.00
93) Perylene-d12	17.825	264	1314110	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.087	112	32460	2.52	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 3.36%#				
5) Phenol-d5	4.854	99	42373	2.44	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 3.25%#				
22) Nitrobenzene-d5	5.650	82	39821	2.44	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 4.88%#				
46) 2-Fluorobiphenyl	7.248	172	79710	2.55	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 5.10%#				
68) 2,4,6-Tribromophenol	9.149	330	7590	2.36	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 3.15%#				
83) Terphenyl-d14	12.665	244	67328	2.42	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 4.84%#				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	19428	2.54	ug/mL		89
3) Pyridine	3.012	79	33783	2.60	ug/mL		93
6) Benzaldehyde	4.842	105	36885	3.02	ug/mL		97
7) Aniline	4.924	93	53628	2.54	ug/mL		98
8) Phenol	4.866	94	44970	2.52	ug/mL		94
9) Bis(2-chloroethyl)ether	4.970	93	36477	2.59	ug/mL		96
10) 2-Chlorophenol	5.011	128	36611	2.65	ug/mL		97
11) 1,3-Dichlorobenzene	5.145	146	39160	2.58	ug/mL		98
12) 1,4-Dichlorobenzene	5.209	146	39357m	2.51	ug/mL		
13) Benzyl Alcohol	5.296	108	25258	2.46	ug/mL		96
14) 1,2-Dichlorobenzene	5.331	146	36232	2.51	ug/mL		97
15) 2-Methylphenol	5.371	107	28696	2.52	ug/mL		92
16) Acetophenone	5.522	105	65341	3.02	ug/mL#		77
17) Bis(2-chloroisopropyl)...	5.400	45	52938	2.56	ug/mL#		91
18) N-Nitroso-di-n-propyla...	5.511	70	31233	2.61	ug/mL		93
19) 4-Methylphenol	5.493	107	44143	2.59	ug/mL#		54
20) Hexachloroethane	5.604	117	17342	2.69	ug/mL		96
23) Nitrobenzene	5.668	77	41931	2.46	ug/mL		96
24) Isophorone	5.854	82	77200	2.55	ug/mL		98
25) 2-Nitrophenol	5.923	139	15650	2.31	ug/mL#		90
26) 2,4-Dimethylphenol	5.929	122	43904	3.36	ug/mL#		81
27) Bis(2-chloroethoxy) me...	6.022	93	46928	2.81	ug/mL		99
29) 2,4-Dichlorophenol	6.109	162	28408	2.66	ug/mL		97
30) 1,2,4-Trichlorobenzene	6.191	180	31158	2.85	ug/mL		97
31) Alpha-Terpineol	6.255	59	32150	2.52	ug/mL#		1
32) Naphthalene	6.266	128	116242	2.74	ug/mL#		92
33) 4-Chloroaniline	6.307	127	46993	2.67	ug/mL		98
34) 2,6 Dichlorophenol	6.307	162	26091	2.56	ug/mL		98
35) Hexachlorobutadiene	6.348	225	14847	2.78	ug/mL		97
36) Caprolactam	6.615	113	14219	3.08	ug/mL#		92
37) 4-Chloro-3-methylphenol	6.708	107	33227	2.58	ug/mL		97
38) 1-methylnaphthalene	6.993	141	69794	2.76	ug/mL		96
39) 2-Methylnaphthalene	6.894	142	73077	2.60	ug/mL		97
41) 1,2,4,5-tetrachloroben...	7.045	216	31223	3.12	ug/mL		99
42) Hexachlorocyclopentadiene	7.028	237	15348	2.40	ug/mL		97
43) Biphenyl	7.359	153	36970	2.54	ug/mL#		97
44) 2,4,6-Trichlorophenol	7.155	196	18088	2.43	ug/mL		96
45) 2,4,5-Trichlorophenol	7.190	196	18416	2.35	ug/mL		97
47) 2-Chloronaphthalene	7.394	162	72149	2.68	ug/mL		99

Data Path : C:\msdchem\1\data\050223\
Data File : E90025816.D
Acq On : 2 May 2023 2:26 pm
Operator : KH
Sample : SEQ-CAL2
Misc : QBSV9050223A 2.5 ppm
InstName : MSBNA9
ALS Vial : 4 Sample Multiplier: 1

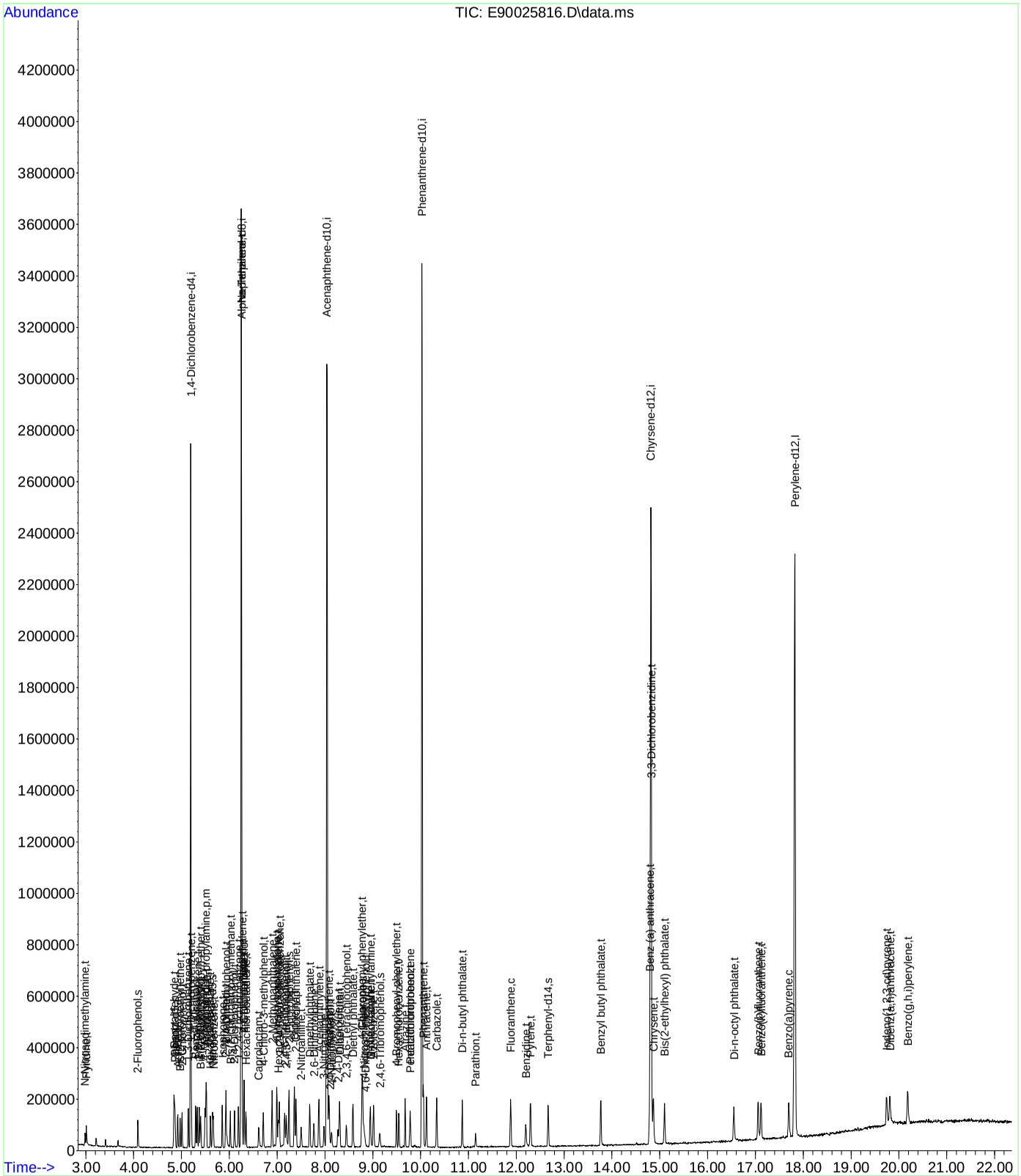
Quant Time: May 03 10:13:19 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:12:48 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) 2-Nitroaniline	7.504	138	20251	2.14	ug/mL#	95
49) Dimethylphthalate	7.678	163	85483	2.55	ug/mL#	81
50) 2,6-Dinitrotoluene	7.766	165	12797	1.83	ug/mL	92
51) Acenaphthylene	7.876	152	119775	2.46	ug/mL	99
52) 3-Nitroaniline	7.981	138	18811	2.21	ug/mL	99
53) Acenaphthene	8.079	154	73177	2.59	ug/mL	96
54) 2,4-Dinitrophenol	8.103	184	4396m	1.56	ug/mL	
55) Dibenzofuran	8.306	168	104444	2.52	ug/mL	98
56) 2,4-Dinitrotoluene	8.271	165	17031	1.87	ug/mL	91
57) 4-Nitrophenol	8.138	65	14971	1.89	ug/mL#	87
58) 2,3,4,6-Tetrachlorophenol	8.446	131	8709	2.10	ug/mL#	85
59) Diethyl phthalate	8.585	149	89071	2.40	ug/mL	97
60) Fluorene	8.783	166	88971	2.56	ug/mL	97
61) 4-Chlorophenyl phenyle...	8.771	204	35087	2.47	ug/mL	96
62) 4-Nitroaniline	8.812	138	19593	2.07	ug/mL	88
64) 4,6-Dinitro-2-methylph...	8.841	198	6689	1.75	ug/mL	96
65) Diphenylamine	8.951	169	59932	2.57	ug/mL	98
66) N-Nitrosodiphenylamine	8.951	167	21667	2.68	ug/mL	93
67) Azobenzene	9.015	77	104081	2.69	ug/mL	98
69) 4-Bromophenyl phenylether	9.497	248	16759	2.64	ug/mL	96
70) Atrazine	9.678	200	21142	2.97	ug/mL#	100
71) Hexachlorobenzene	9.544	142	10363	2.60	ug/mL	94
72) Pentachlorophenol	9.782	266	8344	2.04	ug/mL	96
73) Pentachloronitrobenzene	9.788	237	6490	2.00	ug/mL	89
74) Phenanthrene	10.055	178	98051	2.61	ug/mL	99
75) Anthracene	10.119	178	88920	2.41	ug/mL	98
76) Carbazole	10.334	167	95841	2.53	ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	118709	2.31	ug/mL	99
78) Parathion	11.148	97	7766	1.58	ug/mL#	94
79) Fluoranthene	11.880	202	100812	2.55	ug/mL	99
80) Benzidine	12.200	184	49426	2.62	ug/mL	99
82) Pyrene	12.293	202	97635	2.35	ug/mL	98
84) Benzyl butyl phthalate	13.763	149	63459	2.43	ug/mL	99
85) Bis(2-ethylhexyl) phth...	15.100	149	73363	2.44	ug/mL	99
86) Benz (a) anthracene	14.792	228	91209	2.42	ug/mL	96
87) 3,3-Dichlorobenzidine	14.827	252	34590	2.76	ug/mL#	93
88) Chrysene	14.867	228	86145	2.65	ug/mL	96
89) Di-n-octyl phthalate	16.547	149	118644	2.17	ug/mL	98
90) Benzo(b)fluoranthene	17.058	252	84757	2.53	ug/mL	97
91) Benzo(k)fluoranthene	17.116	252	81259	2.60	ug/mL	97
92) Benzo(a)pyrene	17.692	252	83178	2.64	ug/mL	95
94) Indeno(1,2,3-cd)pyrene	19.743	276	68621	2.13	ug/mL	94
95) Dibenz(a,h)anthracene	19.813	278	70639	2.40	ug/mL	97
96) Benzo(g,h,i)perylene	20.185	276	74233	2.46	ug/mL	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025816.D
Acq On : 2 May 2023 2:26 pm
Operator : KH
Sample : SEQ-CAL2
Misc : QBSV9050223A 2.5 ppm
InstName : MSBNA9
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 03 10:13:19 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:12:48 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025817.D
Acq On : 2 May 2023 2:56 pm
Operator : KH
Sample : SEQ-CAL3
Misc : QBSV9050223A 5 ppm
InstName : MSBNA9
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 03 10:09:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:09:48 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	396710	40.00	ug/mL		0.00
21) Naphthalene-d8	6.249	136	1696428	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.039	164	930928	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.026	188	1424021	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.815	240	1091321	40.00	ug/mL		0.00
93) Perylene-d12	17.820	264	1145879	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.087	112	59261	4.82	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 6.43%#				
5) Phenol-d5	4.854	99	79692	4.80	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 6.40%#				
22) Nitrobenzene-d5	5.650	82	78475	5.19	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 10.38%#				
46) 2-Fluorobiphenyl	7.248	172	149373	5.23	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 10.46%#				
68) 2,4,6-Tribromophenol	9.149	330	15532	5.24	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 6.99%#				
83) Terphenyl-d14	12.665	244	122658	4.81	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 9.62%#				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	35680	4.90	ug/mL	#	80
3) Pyridine	3.012	79	63089	5.13	ug/mL		94
6) Benzaldehyde	4.842	105	56438	4.84	ug/mL		99
7) Aniline	4.924	93	99363	4.93	ug/mL		96
8) Phenol	4.866	94	82849	4.87	ug/mL		91
9) Bis(2-chloroethyl)ether	4.970	93	65235	4.84	ug/mL		95
10) 2-Chlorophenol	5.011	128	66299	5.06	ug/mL		98
11) 1,3-Dichlorobenzene	5.145	146	71678	4.97	ug/mL		95
12) 1,4-Dichlorobenzene	5.208	146	74683	5.02	ug/mL		95
13) Benzyl Alcohol	5.296	108	47457	4.84	ug/mL		98
14) 1,2-Dichlorobenzene	5.331	146	70755	5.19	ug/mL		99
15) 2-Methylphenol	5.371	107	53752	4.96	ug/mL		93
16) Acetophenone	5.522	105	100953	4.89	ug/mL	#	78
17) Bis(2-chloroisopropyl)...	5.400	45	97301	4.95	ug/mL	#	92
18) N-Nitroso-di-n-propyla...	5.511	70	56230	4.93	ug/mL		92
19) 4-Methylphenol	5.493	107	80224	4.95	ug/mL	#	55
20) Hexachloroethane	5.604	117	29845	4.84	ug/mL		92
23) Nitrobenzene	5.668	77	83220	5.29	ug/mL		97
24) Isophorone	5.854	82	143252	5.08	ug/mL		98
25) 2-Nitrophenol	5.923	139	31627	5.01	ug/mL		92
26) 2,4-Dimethylphenol	5.929	122	63687	5.27	ug/mL		99
27) Bis(2-chloroethoxy) me...	6.022	93	83882	5.47	ug/mL		98
28) Benzoic acid	5.958	105	38236	3.99	ug/mL		80
29) 2,4-Dichlorophenol	6.109	162	53118	5.41	ug/mL		98
30) 1,2,4-Trichlorobenzene	6.191	180	55155	5.49	ug/mL		97
31) Alpha-Terpineol	6.255	59	64250	5.48	ug/mL	#	1
32) Naphthalene	6.272	128	216545	5.57	ug/mL		96
33) 4-Chloroaniline	6.313	127	86112	5.29	ug/mL		99
34) 2,6 Dichlorophenol	6.307	162	50976	5.44	ug/mL		94
35) Hexachlorobutadiene	6.348	225	27050	5.52	ug/mL		97
36) Caprolactam	6.621	113	24876	5.95	ug/mL	#	88
37) 4-Chloro-3-methylphenol	6.708	107	63028	5.30	ug/mL		97
38) 1-methylnaphthalene	6.993	141	128054	5.52	ug/mL		97
39) 2-Methylnaphthalene	6.894	142	139546	5.38	ug/mL		96
41) 1,2,4,5-tetrachloroben...	7.045	216	49174	5.42	ug/mL		98
42) Hexachlorocyclopentadiene	7.027	237	28277	4.77	ug/mL		95
43) Biphenyl	7.359	153	71336	5.39	ug/mL	#	96
44) 2,4,6-Trichlorophenol	7.155	196	32790	4.74	ug/mL		92
45) 2,4,5-Trichlorophenol	7.190	196	35593	4.93	ug/mL		98

Data Path : C:\msdchem\1\data\050223\
Data File : E90025817.D
Acq On : 2 May 2023 2:56 pm
Operator : KH
Sample : SEQ-CAL3
Misc : QBSV9050223A 5 ppm
InstName : MSBNA9
ALS Vial : 5 Sample Multiplier: 1

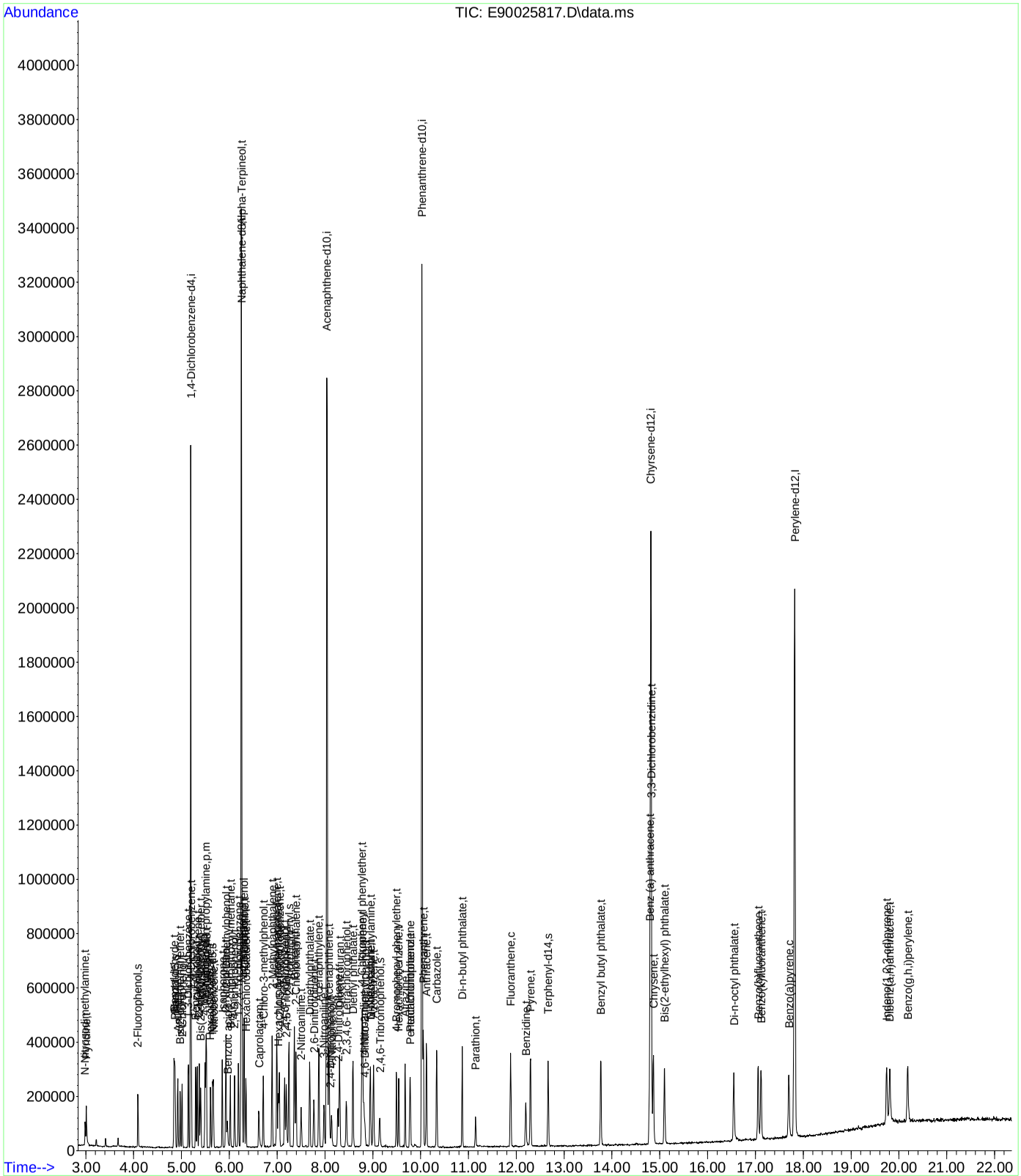
Quant Time: May 03 10:09:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:09:48 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) 2-Chloronaphthalene	7.394	162	132720	5.43	ug/mL	99
48) 2-Nitroaniline	7.504	138	38973	4.37	ug/mL	98
49) Dimethylphthalate	7.678	163	155497	5.05	ug/mL#	82
50) 2,6-Dinitrotoluene	7.766	165	29316	4.49	ug/mL	96
51) Acenaphthylene	7.870	152	227950	5.12	ug/mL	99
52) 3-Nitroaniline	7.981	138	35664	4.48	ug/mL	93
53) Acenaphthene	8.079	154	128112	4.92	ug/mL	96
54) 2,4-Dinitrophenol	8.108	184	10154	3.75	ug/mL#	72
55) Dibenzofuran	8.306	168	192039	5.04	ug/mL	99
56) 2,4-Dinitrotoluene	8.271	165	34137	3.92	ug/mL	90
57) 4-Nitrophenol	8.137	65	31238	4.18	ug/mL	92
58) 2,3,4,6-Tetrachlorophenol	8.446	131	17759	4.58	ug/mL	94
59) Diethyl phthalate	8.585	149	168317	4.91	ug/mL	99
60) Fluorene	8.783	166	158041	4.93	ug/mL	99
61) 4-Chlorophenyl phenyle...	8.771	204	64263	4.90	ug/mL	97
62) 4-Nitroaniline	8.812	138	40385	4.56	ug/mL	87
64) 4,6-Dinitro-2-methylph...	8.835	198	14039	3.78	ug/mL	96
65) Diphenylamine	8.951	169	115603	5.42	ug/mL	98
66) N-Nitrosodiphenylamine	8.951	167	39034	5.25	ug/mL	98
67) Azobenzene	9.015	77	193042	5.45	ug/mL	97
69) 4-Bromophenyl phenylether	9.497	248	30620	5.23	ug/mL	96
70) Atrazine	9.678	200	32773	4.95	ug/mL#	98
71) Hexachlorobenzene	9.544	142	19131	5.20	ug/mL	96
72) Pentachlorophenol	9.776	266	16108	4.10	ug/mL	99
73) Pentachloronitrobenzene	9.788	237	12459	3.99	ug/mL	89
74) Phenanthrene	10.055	178	178939	5.15	ug/mL	100
75) Anthracene	10.119	178	168857	4.90	ug/mL	99
76) Carbazole	10.334	167	176182	5.00	ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	228780	4.75	ug/mL	98
78) Parathion	11.148	97	15155	3.10	ug/mL#	98
79) Fluoranthene	11.880	202	178294	4.83	ug/mL	99
80) Benzidine	12.200	184	90913	5.23	ug/mL	99
82) Pyrene	12.299	202	184854	4.86	ug/mL	100
84) Benzyl butyl phthalate	13.769	149	118864	5.01	ug/mL	98
85) Bis(2-ethylhexyl) phth...	15.094	149	134127	4.88	ug/mL	99
86) Benz (a) anthracene	14.792	228	171383	5.01	ug/mL	98
87) 3,3-Dichlorobenzidine	14.827	252	62509m	5.53	ug/mL	
88) Chrysene	14.867	228	150631	5.10	ug/mL	98
89) Di-n-octyl phthalate	16.547	149	229076	4.55	ug/mL	99
90) Benzo(b)fluoranthene	17.058	252	154766	5.09	ug/mL	97
91) Benzo(k)fluoranthene	17.116	252	147912	5.25	ug/mL	98
92) Benzo(a)pyrene	17.698	252	144030	5.04	ug/mL	99
94) Indeno(1,2,3-cd)pyrene	19.743	276	123903	4.31	ug/mL#	93
95) Dibenz(a,h)anthracene	19.807	278	120912	4.67	ug/mL	97
96) Benzo(g,h,i)perylene	20.185	276	134593	5.13	ug/mL	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025817.D
Acq On : 2 May 2023 2:56 pm
Operator : KH
Sample : SEQ-CAL3
Misc : QBSV9050223A 5 ppm
InstName : MSBNA9
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 03 10:09:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:09:48 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025818.D
Acq On : 2 May 2023 3:26 pm
Operator : KH
Sample : SEQ-CAL4
Misc : QBSV9050223A 10 ppm
InstName : MSBNA9
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 10:02:21 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:01:48 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	415226	40.00	ug/mL		0.00
21) Naphthalene-d8	6.249	136	1882114	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.044	164	1039393	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.026	188	1638824	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.815	240	1247610	40.00	ug/mL		0.00
93) Perylene-d12	17.825	264	1267172	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.093	112	133843	10.49	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 13.99%#				
5) Phenol-d5	4.854	99	175129	10.09	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 13.45%				
22) Nitrobenzene-d5	5.650	82	168974	10.09	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 20.18%#				
46) 2-Fluorobiphenyl	7.248	172	325651	10.27	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 20.54%#				
68) 2,4,6-Tribromophenol	9.149	330	35518	10.51	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 14.01%#				
83) Terphenyl-d14	12.665	244	290213	9.95	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 19.90%#				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	78281	10.34	ug/mL	#	83
3) Pyridine	3.006	79	135862	10.69	ug/mL		96
6) Benzaldehyde	4.842	105	127880	10.59	ug/mL		99
7) Aniline	4.924	93	223518	10.77	ug/mL		98
8) Phenol	4.866	94	181291	10.22	ug/mL		90
9) Bis(2-chloroethyl)ether	4.970	93	148107	10.63	ug/mL		98
10) 2-Chlorophenol	5.011	128	143834	10.61	ug/mL		98
11) 1,3-Dichlorobenzene	5.144	146	156308	10.44	ug/mL		95
12) 1,4-Dichlorobenzene	5.208	146	162720	10.56	ug/mL		97
13) Benzyl Alcohol	5.296	108	105695	10.36	ug/mL		98
14) 1,2-Dichlorobenzene	5.330	146	153629	10.98	ug/mL		99
15) 2-Methylphenol	5.371	107	121586	10.92	ug/mL		95
16) Acetophenone	5.522	105	224871	10.52	ug/mL	#	76
17) Bis(2-chloroisopropyl)...	5.400	45	215300	10.58	ug/mL	#	93
18) N-Nitroso-di-n-propyla...	5.511	70	124515	10.55	ug/mL		91
19) 4-Methylphenol	5.493	107	178077	10.63	ug/mL	#	55
20) Hexachloroethane	5.604	117	69100	10.91	ug/mL		97
23) Nitrobenzene	5.668	77	184128	10.70	ug/mL		98
24) Isophorone	5.854	82	329429	10.67	ug/mL		99
25) 2-Nitrophenol	5.923	139	73410	10.60	ug/mL	#	89
26) 2,4-Dimethylphenol	5.929	122	146714	11.21	ug/mL		97
27) Bis(2-chloroethoxy) me...	6.022	93	188656	11.41	ug/mL		99
28) Benzoic acid	5.976	105	101268	9.41	ug/mL		91
29) 2,4-Dichlorophenol	6.109	162	112818	10.45	ug/mL		94
30) 1,2,4-Trichlorobenzene	6.191	180	121145	11.12	ug/mL		98
31) Alpha-Terpineol	6.255	59	139013	10.86	ug/mL	#	1
32) Naphthalene	6.272	128	462307	10.91	ug/mL		97
33) 4-Chloroaniline	6.307	127	192264	10.81	ug/mL		98
34) 2,6 Dichlorophenol	6.313	162	111855	10.96	ug/mL		95
35) Hexachlorobutadiene	6.348	225	60305	11.40	ug/mL		98
36) Caprolactam	6.621	113	55498	12.59	ug/mL	#	91
37) 4-Chloro-3-methylphenol	6.708	107	139065	10.68	ug/mL		98
38) 1-methylnaphthalene	6.993	141	276548	10.95	ug/mL		98
39) 2-Methylnaphthalene	6.894	142	307705m	10.88	ug/mL		
41) 1,2,4,5-tetrachloroben...	7.045	216	105838	10.56	ug/mL		99
42) Hexachlorocyclopentadiene	7.027	237	66707	10.10	ug/mL		97
43) Biphenyl	7.359	153	152484	10.41	ug/mL	#	100
44) 2,4,6-Trichlorophenol	7.155	196	80939	10.60	ug/mL		97
45) 2,4,5-Trichlorophenol	7.196	196	75007	9.14	ug/mL		91

Data Path : C:\msdchem\1\data\050223\
Data File : E90025818.D
Acq On : 2 May 2023 3:26 pm
Operator : KH
Sample : SEQ-CAL4
Misc : QBSV9050223A 10 ppm
InstName : MSBNA9
ALS Vial : 6 Sample Multiplier: 1

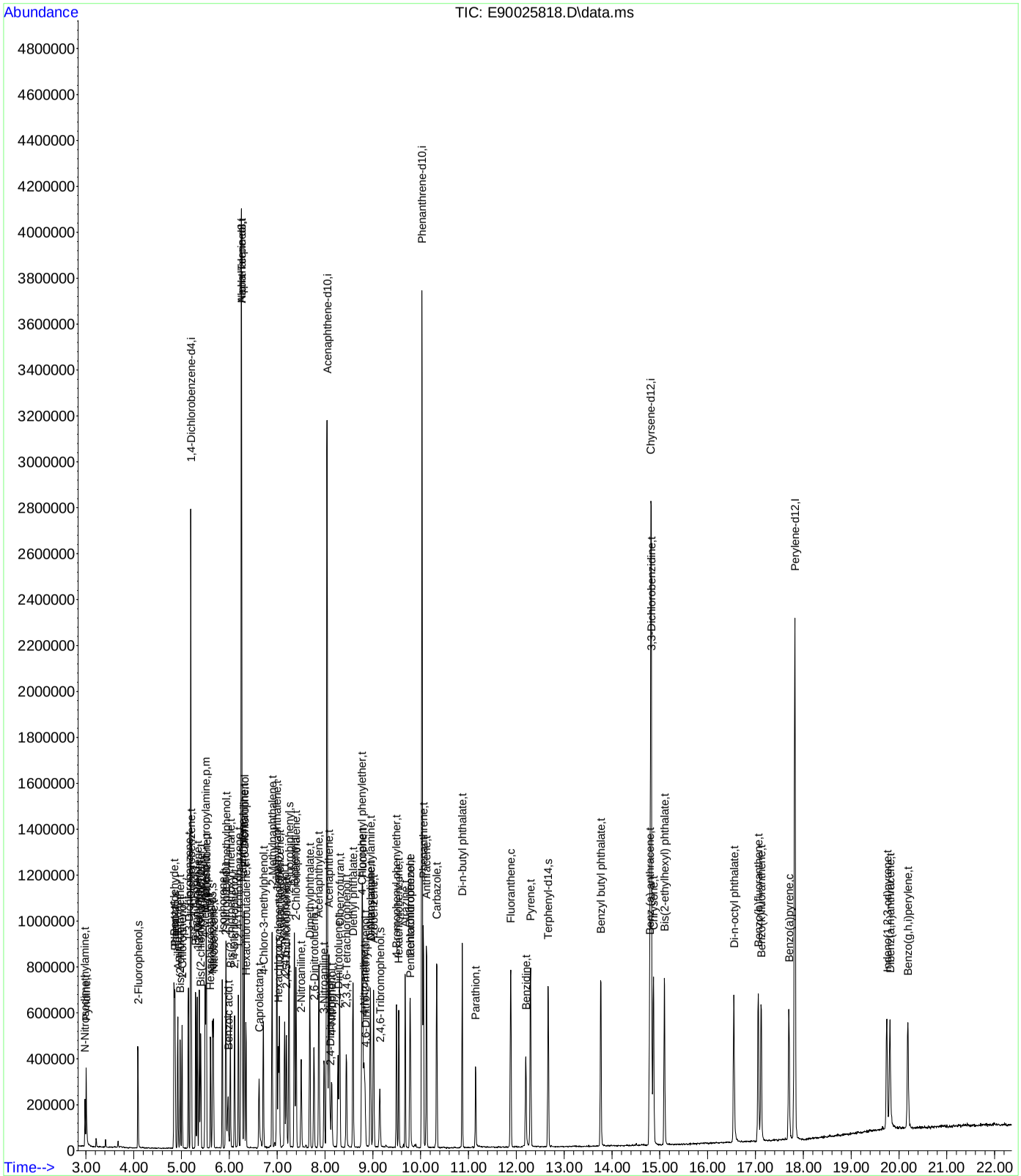
Quant Time: May 03 10:02:21 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:01:48 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) 2-Chloronaphthalene	7.394	162	282480	10.43	ug/mL	97
48) 2-Nitroaniline	7.504	138	98107	9.82	ug/mL	95
49) Dimethylphthalate	7.684	163	356711	10.47	ug/mL	99
50) 2,6-Dinitrotoluene	7.771	165	70433	9.57	ug/mL	97
51) Acenaphthylene	7.870	152	513322	10.40	ug/mL	100
52) 3-Nitroaniline	7.981	138	86620	9.68	ug/mL	91
53) Acenaphthene	8.085	154	295445	10.20	ug/mL	97
54) 2,4-Dinitrophenol	8.108	184	25537	8.12	ug/mL#	26
55) Dibenzofuran	8.306	168	435977	10.31	ug/mL	99
56) 2,4-Dinitrotoluene	8.271	165	89352	9.01	ug/mL	93
57) 4-Nitrophenol	8.137	65	79493	9.41	ug/mL	94
58) 2,3,4,6-Tetrachlorophenol	8.445	131	40748	9.27	ug/mL	87
59) Diethyl phthalate	8.585	149	380001	9.92	ug/mL	100
60) Fluorene	8.788	166	367133	10.32	ug/mL	97
61) 4-Chlorophenyl phenyle...	8.771	204	151847	10.46	ug/mL	97
62) 4-Nitroaniline	8.817	138	98609	9.98	ug/mL	93
64) 4,6-Dinitro-2-methylph...	8.841	198	38478	8.80	ug/mL	94
65) Diphenylamine	8.951	169	269695	11.27	ug/mL	98
66) N-Nitrosodiphenylamine	8.951	167	91558	10.89	ug/mL	98
67) Azobenzene	9.015	77	437848	10.93	ug/mL	97
69) 4-Bromophenyl phenylether	9.497	248	69989	10.49	ug/mL	97
70) Atrazine	9.678	200	75796	9.93	ug/mL#	99
71) Hexachlorobenzene	9.544	142	42673	10.09	ug/mL	93
72) Pentachlorophenol	9.776	266	43674	9.59	ug/mL	98
73) Pentachloronitrobenzene	9.788	237	35432	9.82	ug/mL	86
74) Phenanthrene	10.055	178	403279	10.11	ug/mL	100
75) Anthracene	10.119	178	407540	10.35	ug/mL	99
76) Carbazole	10.340	167	420684	10.48	ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	559058	10.12	ug/mL	99
78) Parathion	11.148	97	48294	8.30	ug/mL#	93
79) Fluoranthene	11.886	202	438494	10.39	ug/mL	99
80) Benzidine	12.200	184	219533	11.25	ug/mL	98
82) Pyrene	12.299	202	442844	10.24	ug/mL	100
84) Benzyl butyl phthalate	13.763	149	271616	10.02	ug/mL	99
85) Bis(2-ethylhexyl) phth...	15.094	149	330769	10.67	ug/mL	99
86) Benz (a) anthracene	14.786	228	400191	10.29	ug/mL	98
87) 3,3-Dichlorobenzidine	14.827	252	146491	11.73	ug/mL	95
88) Chrysene	14.867	228	361379	10.90	ug/mL	99
89) Di-n-octyl phthalate	16.547	149	578815	10.06	ug/mL	99
90) Benzo(b)fluoranthene	17.058	252	370916	10.86	ug/mL	97
91) Benzo(k)fluoranthene	17.116	252	349134	11.06	ug/mL	97
92) Benzo(a)pyrene	17.698	252	348433	10.84	ug/mL	97
94) Indeno(1,2,3-cd)pyrene	19.749	276	309471	9.68	ug/mL	94
95) Dibenz(a,h)anthracene	19.813	278	285674	9.96	ug/mL	96
96) Benzo(g,h,i)perylene	20.185	276	300486	10.46	ug/mL	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025818.D
Acq On : 2 May 2023 3:26 pm
Operator : KH
Sample : SEQ-CAL4
Misc : QBSV9050223A 10 ppm
InstName : MSBNA9
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 10:02:21 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:01:48 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025819.D
Acq On : 2 May 2023 3:56 pm
Operator : KH
Sample : SEQ-CAL5
Misc : QBSV9050223A 15 ppm
InstName : MSBNA9
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 10:00:03 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:59:49 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	383867	40.00	ug/mL		0.00
21) Naphthalene-d8	6.249	136	1746037	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.045	164	938719	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.032	188	1504818	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.815	240	1132745	40.00	ug/mL		0.00
93) Perylene-d12	17.825	264	1116700	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.093	112	173629	14.64	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 19.52%				
5) Phenol-d5	4.860	99	232356	14.31	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 19.08%				
22) Nitrobenzene-d5	5.650	82	224633	14.29	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 28.58%				
46) 2-Fluorobiphenyl	7.248	172	411120	14.16	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 28.32%#				
68) 2,4,6-Tribromophenol	9.149	330	46372	14.92	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 19.89%#				
83) Terphenyl-d14	12.665	244	376222	13.96	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 27.92%#				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	100721	14.19	ug/mL	#	84
3) Pyridine	3.006	79	175700	14.95	ug/mL		96
6) Benzaldehyde	4.842	105	172545	15.62	ug/mL		98
7) Aniline	4.924	93	283026	14.67	ug/mL		99
8) Phenol	4.871	94	235750	14.18	ug/mL		91
9) Bis(2-chloroethyl)ether	4.970	93	190680	14.73	ug/mL		99
10) 2-Chlorophenol	5.011	128	182192	14.39	ug/mL		97
11) 1,3-Dichlorobenzene	5.145	146	200971	14.36	ug/mL		97
12) 1,4-Dichlorobenzene	5.208	146	206176	14.31	ug/mL		98
13) Benzyl Alcohol	5.296	108	138161	14.54	ug/mL		93
14) 1,2-Dichlorobenzene	5.331	146	186869	14.28	ug/mL		98
15) 2-Methylphenol	5.371	107	149511	14.37	ug/mL		93
16) Acetophenone	5.522	105	297531	15.08	ug/mL	#	79
17) Bis(2-chloroisopropyl)...	5.400	45	281598	14.96	ug/mL		94
18) N-Nitroso-di-n-propyla...	5.511	70	161298	14.70	ug/mL		91
19) 4-Methylphenol	5.493	107	229975	14.80	ug/mL	#	55
20) Hexachloroethane	5.604	117	86496	14.70	ug/mL		97
23) Nitrobenzene	5.668	77	235326	14.65	ug/mL		97
24) Isophorone	5.854	82	423663	14.73	ug/mL		97
25) 2-Nitrophenol	5.923	139	90615	13.83	ug/mL	#	84
26) 2,4-Dimethylphenol	5.929	122	187080	15.56	ug/mL		96
27) Bis(2-chloroethoxy) me...	6.022	93	234049	15.34	ug/mL		97
28) Benzoic acid	5.981	105	142206	14.01	ug/mL		91
29) 2,4-Dichlorophenol	6.109	162	151356	15.15	ug/mL		98
30) 1,2,4-Trichlorobenzene	6.191	180	153418	15.23	ug/mL		98
31) Alpha-Terpineol	6.255	59	173794	14.53	ug/mL	#	1
32) Naphthalene	6.272	128	596010	15.22	ug/mL		98
33) 4-Chloroaniline	6.313	127	250465	15.25	ug/mL		99
34) 2,6 Dichlorophenol	6.313	162	141247	14.90	ug/mL		97
35) Hexachlorobutadiene	6.348	225	76461	15.79	ug/mL		98
36) Caprolactam	6.627	113	71069	18.35	ug/mL	#	92
37) 4-Chloro-3-methylphenol	6.714	107	184196	15.34	ug/mL		95
38) 1-methylnaphthalene	6.993	141	356061	15.27	ug/mL		94
39) 2-Methylnaphthalene	6.894	142	394669	15.06	ug/mL		96
41) 1,2,4,5-tetrachloroben...	7.045	216	136428	15.10	ug/mL		98
42) Hexachlorocyclopentadiene	7.022	237	83923	13.79	ug/mL		96
43) Biphenyl	7.359	153	191217	14.28	ug/mL	#	99
44) 2,4,6-Trichlorophenol	7.155	196	96791	13.74	ug/mL		96
45) 2,4,5-Trichlorophenol	7.196	196	108390	14.50	ug/mL		98

Data Path : C:\msdchem\1\data\050223\
Data File : E90025819.D
Acq On : 2 May 2023 3:56 pm
Operator : KH
Sample : SEQ-CAL5
Misc : QBSV9050223A 15 ppm
InstName : MSBNA9
ALS Vial : 7 Sample Multiplier: 1

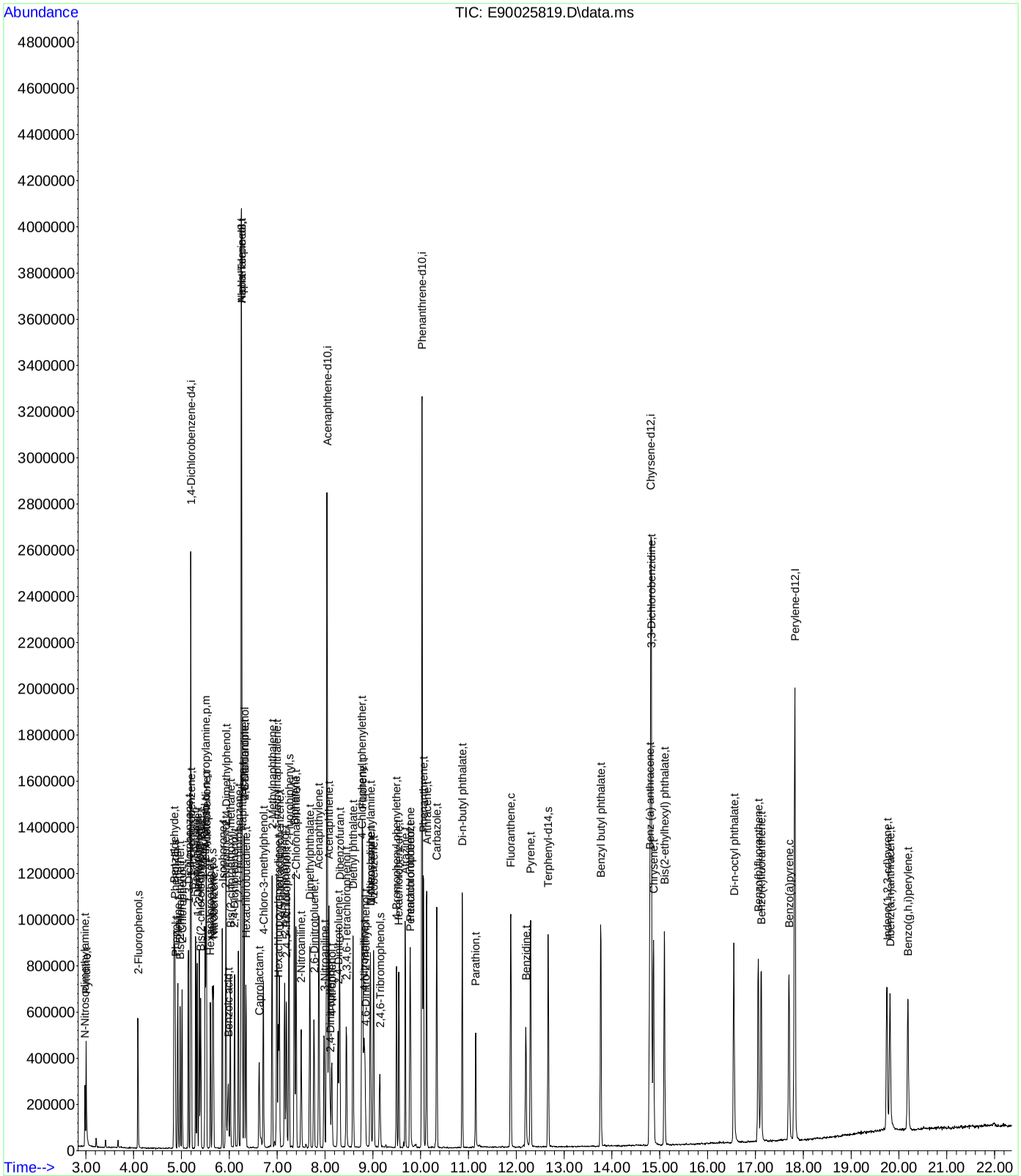
Quant Time: May 03 10:00:03 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:59:49 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) 2-Chloronaphthalene	7.394	162	359858	14.63	ug/mL	99
48) 2-Nitroaniline	7.504	138	126139	13.68	ug/mL	95
49) Dimethylphthalate	7.684	163	439847	14.07	ug/mL	100
50) 2,6-Dinitrotoluene	7.771	165	90622	13.23	ug/mL	97
51) Acenaphthylene	7.870	152	632707	13.94	ug/mL	99
52) 3-Nitroaniline	7.986	138	115213	14.02	ug/mL	93
53) Acenaphthene	8.085	154	373246	14.05	ug/mL	97
54) 2,4-Dinitrophenol	8.108	184	35996m	12.05	ug/mL	
55) Dibenzofuran	8.306	168	547358	14.13	ug/mL	99
56) 2,4-Dinitrotoluene	8.271	165	122596	13.30	ug/mL	100
57) 4-Nitrophenol	8.143	65	106428	13.63	ug/mL	91
58) 2,3,4,6-Tetrachlorophenol	8.446	131	53096	12.91	ug/mL	89
59) Diethyl phthalate	8.585	149	488129	13.83	ug/mL	100
60) Fluorene	8.788	166	451969	13.79	ug/mL	100
61) 4-Chlorophenyl phenyle...	8.771	204	185699	13.90	ug/mL	97
62) 4-Nitroaniline	8.817	138	126264	13.88	ug/mL	91
64) 4,6-Dinitro-2-methylph...	8.841	198	55196	13.37	ug/mL	98
65) Diphenylamine	8.951	169	328777	14.96	ug/mL	99
66) N-Nitrosodiphenylamine	8.951	167	116064	15.04	ug/mL	96
67) Azobenzene	9.015	77	550415	14.96	ug/mL	96
69) 4-Bromophenyl phenylether	9.497	248	87825	14.12	ug/mL	97
70) Atrazine	9.678	200	103193	14.64	ug/mL#	100
71) Hexachlorobenzene	9.544	142	57701	14.82	ug/mL	94
72) Pentachlorophenol	9.776	266	58699	13.75	ug/mL	97
73) Pentachloronitrobenzene	9.788	237	45667	13.43	ug/mL	90
74) Phenanthrene	10.061	178	528799	14.26	ug/mL	100
75) Anthracene	10.125	178	515877	14.04	ug/mL	99
76) Carbazole	10.340	167	535426	14.37	ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	725667	14.09	ug/mL	98
78) Parathion	11.154	97	66771	11.84	ug/mL#	94
79) Fluoranthene	11.886	202	562595	14.37	ug/mL	99
80) Benzidine	12.200	184	278775	15.75	ug/mL	98
82) Pyrene	12.299	202	557389	13.95	ug/mL	99
84) Benzyl butyl phthalate	13.763	149	348436	13.90	ug/mL	99
85) Bis(2-ethylhexyl) phth...	15.094	149	416819	14.74	ug/mL	100
86) Benz (a) anthracene	14.792	228	507712	14.18	ug/mL	98
87) 3,3-Dichlorobenzidine	14.827	252	199052	18.61	ug/mL	98
88) Chrysene	14.867	228	440006	14.49	ug/mL	99
89) Di-n-octyl phthalate	16.547	149	749853	14.15	ug/mL	99
90) Benzo(b)fluoranthene	17.058	252	457232	14.66	ug/mL	97
91) Benzo(k)fluoranthene	17.122	252	448564m	15.89	ug/mL	
92) Benzo(a)pyrene	17.703	252	443485	15.27	ug/mL	97
94) Indeno(1,2,3-cd)pyrene	19.749	276	384804	13.26	ug/mL	95
95) Dibenz(a,h)anthracene	19.813	278	352707	13.64	ug/mL	98
96) Benzo(g,h,i)perylene	20.191	276	369146	14.44	ug/mL	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025819.D
Acq On : 2 May 2023 3:56 pm
Operator : KH
Sample : SEQ-CAL5
Misc : QBSV9050223A 15 ppm
InstName : MSBNA9
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 10:00:03 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:59:49 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025820.D
Acq On : 2 May 2023 4:26 pm
Operator : KH
Sample : SEQ-CAL6
Misc : QBSV9050223A 20 ppm
InstName : MSBNA9
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 03 09:58:15 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:58:00 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	419711	40.00	ug/mL		0.00
21) Naphthalene-d8	6.249	136	1887682	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.045	164	985505	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.032	188	1593848	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.821	240	1153330	40.00	ug/mL		0.00
93) Perylene-d12	17.825	264	1042384	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.093	112	266903	20.88	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 27.84%				
5) Phenol-d5	4.860	99	367842	21.10	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 28.13%				
22) Nitrobenzene-d5	5.650	82	353843	21.25	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 42.50%				
46) 2-Fluorobiphenyl	7.248	172	623283	20.67	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 41.34%				
68) 2,4,6-Tribromophenol	9.149	330	71170	22.54	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 30.05%#				
83) Terphenyl-d14	12.671	244	560863	20.67	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 41.34%				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	162101	21.36	ug/mL	#	81
3) Pyridine	3.006	79	285337	23.49	ug/mL		93
6) Benzaldehyde	4.842	105	253591	21.54	ug/mL		100
7) Aniline	4.924	93	441780	21.45	ug/mL		99
8) Phenol	4.871	94	380715	21.44	ug/mL		92
9) Bis(2-chloroethyl)ether	4.970	93	299827	21.83	ug/mL		97
10) 2-Chlorophenol	5.011	128	293356	21.85	ug/mL		97
11) 1,3-Dichlorobenzene	5.145	146	323701	21.79	ug/mL		98
12) 1,4-Dichlorobenzene	5.208	146	333352	21.80	ug/mL		99
13) Benzyl Alcohol	5.296	108	216587	21.30	ug/mL		95
14) 1,2-Dichlorobenzene	5.331	146	303729	21.90	ug/mL		99
15) 2-Methylphenol	5.371	107	238410	21.47	ug/mL		94
16) Acetophenone	5.522	105	446085	21.04	ug/mL	#	77
17) Bis(2-chloroisopropyl)...	5.400	45	441104	22.24	ug/mL		95
18) N-Nitroso-di-n-propyla...	5.511	70	250664	21.38	ug/mL		95
19) 4-Methylphenol	5.493	107	356060	21.47	ug/mL	#	54
20) Hexachloroethane	5.604	117	137444	22.11	ug/mL		98
23) Nitrobenzene	5.668	77	357489	20.89	ug/mL		99
24) Isophorone	5.854	82	653444	21.56	ug/mL		98
25) 2-Nitrophenol	5.923	139	146420	21.03	ug/mL	#	84
26) 2,4-Dimethylphenol	5.935	122	273482	21.59	ug/mL		99
27) Bis(2-chloroethoxy) me...	6.022	93	351947	22.08	ug/mL		98
28) Benzoic acid	5.993	105	226221	20.95	ug/mL		94
29) 2,4-Dichlorophenol	6.115	162	232588	22.40	ug/mL		98
30) 1,2,4-Trichlorobenzene	6.191	180	232589	22.11	ug/mL		98
31) Alpha-Terpineol	6.255	59	274806	21.93	ug/mL	#	24
32) Naphthalene	6.272	128	904446	22.11	ug/mL		99
33) 4-Chloroaniline	6.313	127	375470	21.76	ug/mL		98
34) 2,6 Dichlorophenol	6.313	162	215997	21.65	ug/mL		95
35) Hexachlorobutadiene	6.348	225	112997	22.47	ug/mL		97
36) Caprolactam	6.632	113	85616	20.68	ug/mL	#	91
37) 4-Chloro-3-methylphenol	6.714	107	267014	20.87	ug/mL		98
38) 1-methylnaphthalene	6.993	141	537641	22.05	ug/mL		96
39) 2-Methylnaphthalene	6.894	142	601198	21.88	ug/mL		96
41) 1,2,4,5-tetrachloroben...	7.045	216	196160	21.03	ug/mL		98
42) Hexachlorocyclopentadiene	7.027	237	134136	21.52	ug/mL		99
43) Biphenyl	7.359	153	290120	20.97	ug/mL	#	99
44) 2,4,6-Trichlorophenol	7.155	196	150479	20.52	ug/mL		94
45) 2,4,5-Trichlorophenol	7.196	196	162112	21.01	ug/mL		98

Data Path : C:\msdchem\1\data\050223\
Data File : E90025820.D
Acq On : 2 May 2023 4:26 pm
Operator : KH
Sample : SEQ-CAL6
Misc : QBSV9050223A 20 ppm
InstName : MSBNA9
ALS Vial : 8 Sample Multiplier: 1

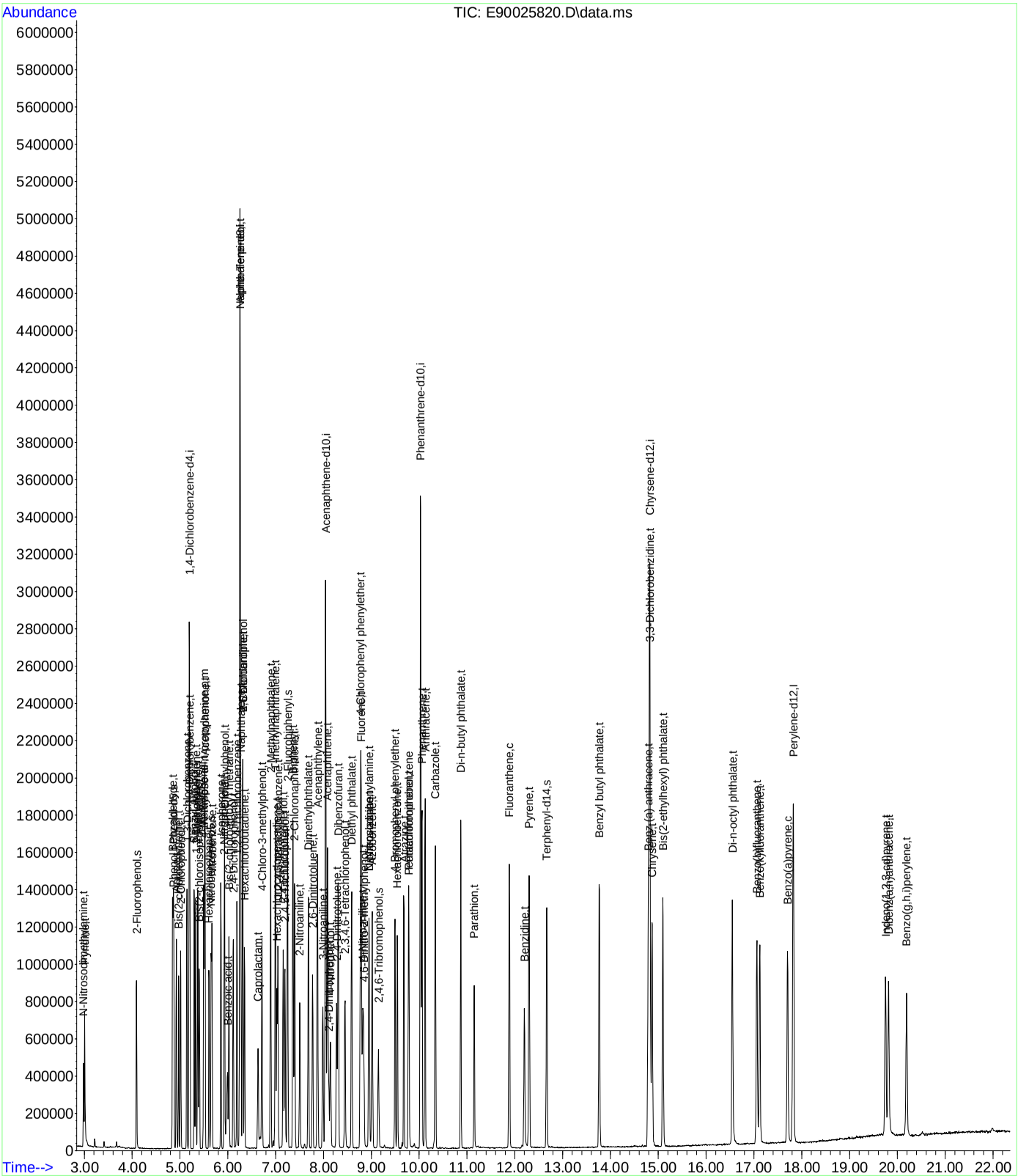
Quant Time: May 03 09:58:15 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:58:00 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
47) 2-Chloronaphthalene	7.399	162	532305	20.93 ug/mL	98
48) 2-Nitroaniline	7.504	138	197565	20.62 ug/mL	97
49) Dimethylphthalate	7.684	163	665678	20.44 ug/mL	99
50) 2,6-Dinitrotoluene	7.771	165	142981	19.84 ug/mL	96
51) Acenaphthylene	7.876	152	970732	20.57 ug/mL	100
52) 3-Nitroaniline	7.986	138	171299	19.79 ug/mL	90
53) Acenaphthene	8.085	154	567968	20.55 ug/mL	95
54) 2,4-Dinitrophenol	8.108	184	58157	17.89 ug/mL#	83
55) Dibenzofuran	8.306	168	815854	20.09 ug/mL	99
56) 2,4-Dinitrotoluene	8.277	165	186293	18.90 ug/mL	98
57) 4-Nitrophenol	8.143	65	160410	19.37 ug/mL	89
58) 2,3,4,6-Tetrachlorophenol	8.451	131	86019	19.89 ug/mL	94
59) Diethyl phthalate	8.591	149	740226	19.97 ug/mL	100
60) Fluorene	8.788	166	689672	20.06 ug/mL	99
61) 4-Chlorophenyl phenyle...	8.777	204	285537	20.55 ug/mL	99
62) 4-Nitroaniline	8.823	138	193068	20.32 ug/mL	91
64) 4,6-Dinitro-2-methylph...	8.841	198	84835	19.11 ug/mL	96
65) Diphenylamine	8.951	169	497435	22.12 ug/mL	98
66) N-Nitrosodiphenylamine	8.951	167	175682	22.32 ug/mL	94
67) Azobenzene	9.021	77	836790	22.29 ug/mL	97
69) 4-Bromophenyl phenylether	9.497	248	138543	21.59 ug/mL	97
70) Atrazine	9.683	200	155915	21.35 ug/mL#	98
71) Hexachlorobenzene	9.544	142	84006	20.56 ug/mL	96
72) Pentachlorophenol	9.776	266	90052	19.87 ug/mL	98
73) Pentachloronitrobenzene	9.788	237	74802	21.17 ug/mL	87
74) Phenanthrene	10.061	178	791969	20.26 ug/mL	99
75) Anthracene	10.125	178	804617	21.04 ug/mL	98
76) Carbazole	10.340	167	813180	20.92 ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	1113684	20.63 ug/mL	99
78) Parathion	11.154	97	112175	18.22 ug/mL#	93
79) Fluoranthene	11.886	202	847235	20.65 ug/mL	99
80) Benzidine	12.200	184	394765	21.62 ug/mL	98
82) Pyrene	12.299	202	836875	20.88 ug/mL	99
84) Benzyl butyl phthalate	13.763	149	518702	20.48 ug/mL	99
85) Bis(2-ethylhexyl) phth...	15.094	149	598917	21.23 ug/mL	100
86) Benz (a) anthracene	14.792	228	743369	20.60 ug/mL	99
87) 3,3-Dichlorobenzidine	14.827	252	272582	21.09 ug/mL	99
88) Chrysene	14.873	228	645658	21.35 ug/mL	99
89) Di-n-octyl phthalate	16.547	149	1111811	20.91 ug/mL	99
90) Benzo(b)fluoranthene	17.064	252	664559	21.41 ug/mL	97
91) Benzo(k)fluoranthene	17.122	252	612449	22.02 ug/mL	96
92) Benzo(a)pyrene	17.703	252	619480	21.46 ug/mL	98
94) Indeno(1,2,3-cd)pyrene	19.755	276	533473	19.55 ug/mL	94
95) Dibenz(a,h)anthracene	19.813	278	500175	21.11 ug/mL	96
96) Benzo(g,h,i)perylene	20.191	276	501610	21.57 ug/mL#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025820.D
Acq On : 2 May 2023 4:26 pm
Operator : KH
Sample : SEQ-CAL6
Misc : QBSV9050223A 20 ppm
InstName : MSBNA9
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 03 09:58:15 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:58:00 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025821.D
Acq On : 2 May 2023 4:57 pm
Operator : KH
Sample : SEQ-CAL7
Misc : QBSV9050223A 30 ppm
InstName : MSBNA9
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 09:32:47 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:32:35 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	425906	40.00	ug/mL		0.00
21) Naphthalene-d8	6.255	136	1910942	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.045	164	996176	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.032	188	1742635	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.821	240	1232538	40.00	ug/mL		0.00
93) Perylene-d12	17.825	264	1053287	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.093	112	391777	30.40	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 40.53%				
5) Phenol-d5	4.860	99	532583	30.21	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 40.28%				
22) Nitrobenzene-d5	5.650	82	516157	31.25	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 62.50%				
46) 2-Fluorobiphenyl	7.248	172	915150	30.06	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 60.12%				
68) 2,4,6-Tribromophenol	9.149	330	105193	30.95	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 41.27%				
83) Terphenyl-d14	12.671	244	883054	30.93	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 61.86%				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	233165	30.57	ug/mL	#	81
3) Pyridine	3.006	79	369150	29.90	ug/mL		95
6) Benzaldehyde	4.842	105	361145	30.45	ug/mL		99
7) Aniline	4.924	93	628480	30.13	ug/mL		98
8) Phenol	4.871	94	549369	30.99	ug/mL		91
9) Bis(2-chloroethyl)ether	4.970	93	424534	30.94	ug/mL		98
10) 2-Chlorophenol	5.011	128	407012	29.75	ug/mL		96
11) 1,3-Dichlorobenzene	5.145	146	457186	30.67	ug/mL		99
12) 1,4-Dichlorobenzene	5.208	146	468899	30.45	ug/mL		99
13) Benzyl Alcohol	5.301	108	313713	30.83	ug/mL		95
14) 1,2-Dichlorobenzene	5.331	146	422519	30.04	ug/mL		99
15) 2-Methylphenol	5.371	107	340811	30.51	ug/mL	#	92
16) Acetophenone	5.522	105	666323	31.99	ug/mL		94
17) Bis(2-chloroisopropyl)...	5.400	45	614145	31.04	ug/mL		94
18) N-Nitroso-di-n-propyla...	5.516	70	364657	31.34	ug/mL		92
19) 4-Methylphenol	5.499	107	508915	30.49	ug/mL		90
20) Hexachloroethane	5.604	117	191670	30.77	ug/mL		98
23) Nitrobenzene	5.668	77	534892	31.82	ug/mL		99
24) Isophorone	5.859	82	955446	32.38	ug/mL		98
25) 2-Nitrophenol	5.923	139	216049	31.32	ug/mL	#	84
26) 2,4-Dimethylphenol	5.935	122	397533	32.08	ug/mL		96
27) Bis(2-chloroethoxy) me...	6.022	93	501717	32.26	ug/mL		97
28) Benzoic acid	6.005	105	332892	30.91	ug/mL		95
29) 2,4-Dichlorophenol	6.115	162	322779	31.44	ug/mL		96
30) 1,2,4-Trichlorobenzene	6.191	180	326785	31.42	ug/mL		98
31) Alpha-Terpineol	6.255	59	391776	31.82	ug/mL		87
32) Naphthalene	6.272	128	1268334	31.29	ug/mL		98
33) 4-Chloroaniline	6.313	127	534880	31.28	ug/mL		98
34) 2,6 Dichlorophenol	6.313	162	312586	31.97	ug/mL		94
35) Hexachlorobutadiene	6.348	225	157340	31.86	ug/mL		97
36) Caprolactam	6.638	113	132261	33.29	ug/mL	#	91
37) 4-Chloro-3-methylphenol	6.714	107	398255	31.53	ug/mL		95
38) 1-methylnaphthalene	6.993	141	769523	32.46	ug/mL		94
39) 2-Methylnaphthalene	6.894	142	862506	32.09	ug/mL	#	95
41) 1,2,4,5-tetrachloroben...	7.045	216	282767	29.99	ug/mL		97
42) Hexachlorocyclopentadiene	7.027	237	187138	29.41	ug/mL		99
43) Biphenyl	7.365	153	426131	30.94	ug/mL	#	99
44) 2,4,6-Trichlorophenol	7.155	196	227457	31.39	ug/mL		97
45) 2,4,5-Trichlorophenol	7.196	196	229676	28.92	ug/mL		99

Data Path : C:\msdchem\1\data\050223\
Data File : E90025821.D
Acq On : 2 May 2023 4:57 pm
Operator : KH
Sample : SEQ-CAL7
Misc : QBSV9050223A 30 ppm
InstName : MSBNA9
ALS Vial : 9 Sample Multiplier: 1

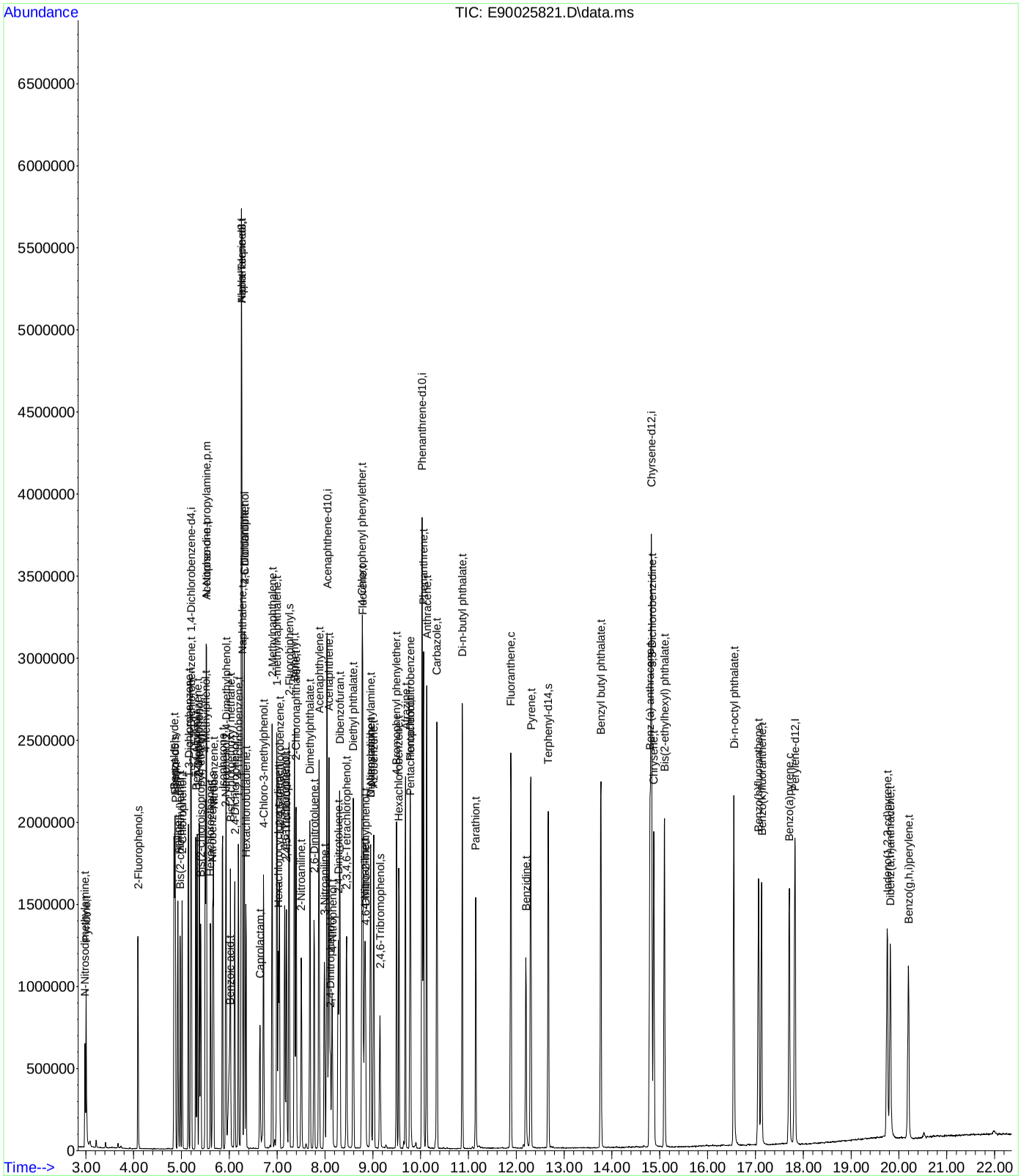
Quant Time: May 03 09:32:47 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:32:35 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
47) 2-Chloronaphthalene	7.399	162	774649	30.26 ug/mL	97
48) 2-Nitroaniline	7.504	138	290272	29.93 ug/mL#	95
49) Dimethylphthalate	7.684	163	997581	30.61 ug/mL	100
50) 2,6-Dinitrotoluene	7.771	165	219137	30.15 ug/mL	95
51) Acenaphthylene	7.876	152	1436344	30.21 ug/mL	99
52) 3-Nitroaniline	7.986	138	263211	30.17 ug/mL	92
53) Acenaphthene	8.085	154	844905	30.49 ug/mL	94
54) 2,4-Dinitrophenol	8.114	184	97625	29.44 ug/mL#	90
55) Dibenzofuran	8.306	168	1244455	30.64 ug/mL	98
56) 2,4-Dinitrotoluene	8.277	165	303250	30.88 ug/mL	99
57) 4-Nitrophenol	8.149	65	254198	30.73 ug/mL	88
58) 2,3,4,6-Tetrachlorophenol	8.451	131	131026	29.94 ug/mL	94
59) Diethyl phthalate	8.591	149	1135271	30.61 ug/mL	99
60) Fluorene	8.788	166	1052573	30.59 ug/mL	98
61) 4-Chlorophenyl phenyle...	8.777	204	419411	29.71 ug/mL	98
62) 4-Nitroaniline	8.829	138	290023	30.41 ug/mL#	88
64) 4,6-Dinitro-2-methylph...	8.847	198	145390	29.90 ug/mL	96
65) Diphenylamine	8.957	169	742914	30.42 ug/mL	98
66) N-Nitrosodiphenylamine	8.957	167	262855	31.11 ug/mL	95
67) Azobenzene	9.021	77	1241682	30.50 ug/mL	97
69) 4-Bromophenyl phenylether	9.497	248	208723	29.51 ug/mL	97
70) Atrazine	9.683	200	239833	30.08 ug/mL#	99
71) Hexachlorobenzene	9.544	142	132522	29.34 ug/mL	96
72) Pentachlorophenol	9.776	266	147492	29.53 ug/mL	97
73) Pentachloronitrobenzene	9.788	237	115463	29.79 ug/mL	91
74) Phenanthrene	10.061	178	1271305	29.49 ug/mL	100
75) Anthracene	10.125	178	1244935	29.55 ug/mL	98
76) Carbazole	10.340	167	1285238	30.48 ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	1774469	30.12 ug/mL	99
78) Parathion	11.154	97	196770	28.49 ug/mL#	95
79) Fluoranthene	11.886	202	1335991	29.57 ug/mL	100
80) Benzidine	12.200	184	594795	29.60 ug/mL	97
82) Pyrene	12.304	202	1310193	31.20 ug/mL	100
84) Benzyl butyl phthalate	13.769	149	827582	31.18 ug/mL	99
85) Bis(2-ethylhexyl) phth...	15.100	149	919653	31.04 ug/mL	99
86) Benz (a) anthracene	14.798	228	1164179	30.37 ug/mL	99
87) 3,3-Dichlorobenzidine	14.832	252	428006	32.03 ug/mL	98
88) Chrysene	14.873	228	975767	30.40 ug/mL	99
89) Di-n-octyl phthalate	16.547	149	1727469	30.82 ug/mL	100
90) Benzo(b)fluoranthene	17.064	252	990487	29.73 ug/mL	97
91) Benzo(k)fluoranthene	17.128	252	908467	31.16 ug/mL	97
92) Benzo(a)pyrene	17.709	252	928825	30.23 ug/mL	96
94) Indeno(1,2,3-cd)pyrene	19.761	276	804103	28.36 ug/mL#	92
95) Dibenz(a,h)anthracene	19.825	278	707009	29.07 ug/mL	97
96) Benzo(g,h,i)perylene	20.202	276	699340	29.54 ug/mL#	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025821.D
Acq On : 2 May 2023 4:57 pm
Operator : KH
Sample : SEQ-CAL7
Misc : QBSV9050223A 30 ppm
InstName : MSBNA9
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 09:32:47 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:32:35 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025822.D
Acq On : 2 May 2023 5:27 pm
Operator : KH
Sample : SEQ-CAL8
Misc : QBSV9050223A 40 ppm
InstName : MSBNA9
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 03 09:31:52 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:26:56 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	414560	40.00	ug/mL		0.00
21) Naphthalene-d8	6.255	136	1904591	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.045	164	927027	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.032	188	1607295	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.821	240	1175071	40.00	ug/mL		0.00
93) Perylene-d12	17.826	264	972367	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	4.093	112	501726	40.00	ug/mL		0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 53.33%				
5) Phenol-d5	4.860	99	686279	40.00	ug/mL		0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 53.33%				
22) Nitrobenzene-d5	5.656	82	658389	40.00	ug/mL		0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 80.00%				
46) 2-Fluorobiphenyl	7.254	172	1133203	40.00	ug/mL		0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 80.00%				
68) 2,4,6-Tribromophenol	9.155	330	125389	40.00	ug/mL		0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 53.33%				
83) Terphenyl-d14	12.671	244	1088718	40.00	ug/mL		0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 80.00%				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	296954	40.00	ug/mL	#	83
3) Pyridine	3.006	79	480703	40.00	ug/mL		97
6) Benzaldehyde	4.842	105	461745	40.00	ug/mL		97
7) Aniline	4.924	93	812160	40.00	ug/mL		99
8) Phenol	4.872	94	690157	40.00	ug/mL	#	89
9) Bis(2-chloroethyl)ether	4.976	93	534218	40.00	ug/mL		98
10) 2-Chlorophenol	5.017	128	532710	40.00	ug/mL		97
11) 1,3-Dichlorobenzene	5.145	146	580405	40.00	ug/mL		98
12) 1,4-Dichlorobenzene	5.209	146	599620	40.00	ug/mL		99
13) Benzyl Alcohol	5.302	108	396234	40.00	ug/mL		94
14) 1,2-Dichlorobenzene	5.331	146	547566	40.00	ug/mL		99
15) 2-Methylphenol	5.371	107	434933	40.00	ug/mL		93
16) Acetophenone	5.522	105	810902	40.00	ug/mL	#	76
17) Bis(2-chloroisopropyl)...	5.400	45	770310	40.00	ug/mL		94
18) N-Nitroso-di-n-propyla...	5.517	70	453092	40.00	ug/mL		92
19) 4-Methylphenol	5.499	107	649771	40.00	ug/mL	#	57
20) Hexachloroethane	5.610	117	242511	40.00	ug/mL		98
23) Nitrobenzene	5.668	77	670257	40.00	ug/mL		99
24) Isophorone	5.859	82	1176230	40.00	ug/mL		98
25) 2-Nitrophenol	5.923	139	275006	40.00	ug/mL	#	84
26) 2,4-Dimethylphenol	5.935	122	494097	40.00	ug/mL		96
27) Bis(2-chloroethoxy) me...	6.022	93	620069	40.00	ug/mL		97
28) Benzoic acid	6.016	105	429344	40.00	ug/mL		97
29) 2,4-Dichlorophenol	6.115	162	409246	40.00	ug/mL		96
30) 1,2,4-Trichlorobenzene	6.191	180	414674	40.00	ug/mL		99
31) Alpha-Terpineol	6.260	59	490884	40.00	ug/mL	#	78
32) Naphthalene	6.272	128	1616187	40.00	ug/mL		99
33) 4-Chloroaniline	6.313	127	681688	40.00	ug/mL		98
34) 2,6 Dichlorophenol	6.313	162	389746	40.00	ug/mL		95
35) Hexachlorobutadiene	6.353	225	196880	40.00	ug/mL		98
36) Caprolactam	6.650	113	158386	40.00	ug/mL	#	90
37) 4-Chloro-3-methylphenol	6.720	107	503551	40.00	ug/mL		95
38) 1-methylnaphthalene	6.993	141	945225	40.00	ug/mL		95
39) 2-Methylnaphthalene	6.894	142	1071610	40.00	ug/mL	#	94
41) 1,2,4,5-tetrachloroben...	7.051	216	350980	40.00	ug/mL		98
42) Hexachlorocyclopentadiene	7.028	237	236848	40.00	ug/mL		98
43) Biphenyl	7.365	153	512617	40.00	ug/mL	#	99
44) 2,4,6-Trichlorophenol	7.161	196	269761	40.00	ug/mL		94
45) 2,4,5-Trichlorophenol	7.196	196	295622	40.00	ug/mL		98

Data Path : C:\msdchem\1\data\050223\
Data File : E90025822.D
Acq On : 2 May 2023 5:27 pm
Operator : KH
Sample : SEQ-CAL8
Misc : QBSV9050223A 40 ppm
InstName : MSBNA9
ALS Vial : 10 Sample Multiplier: 1

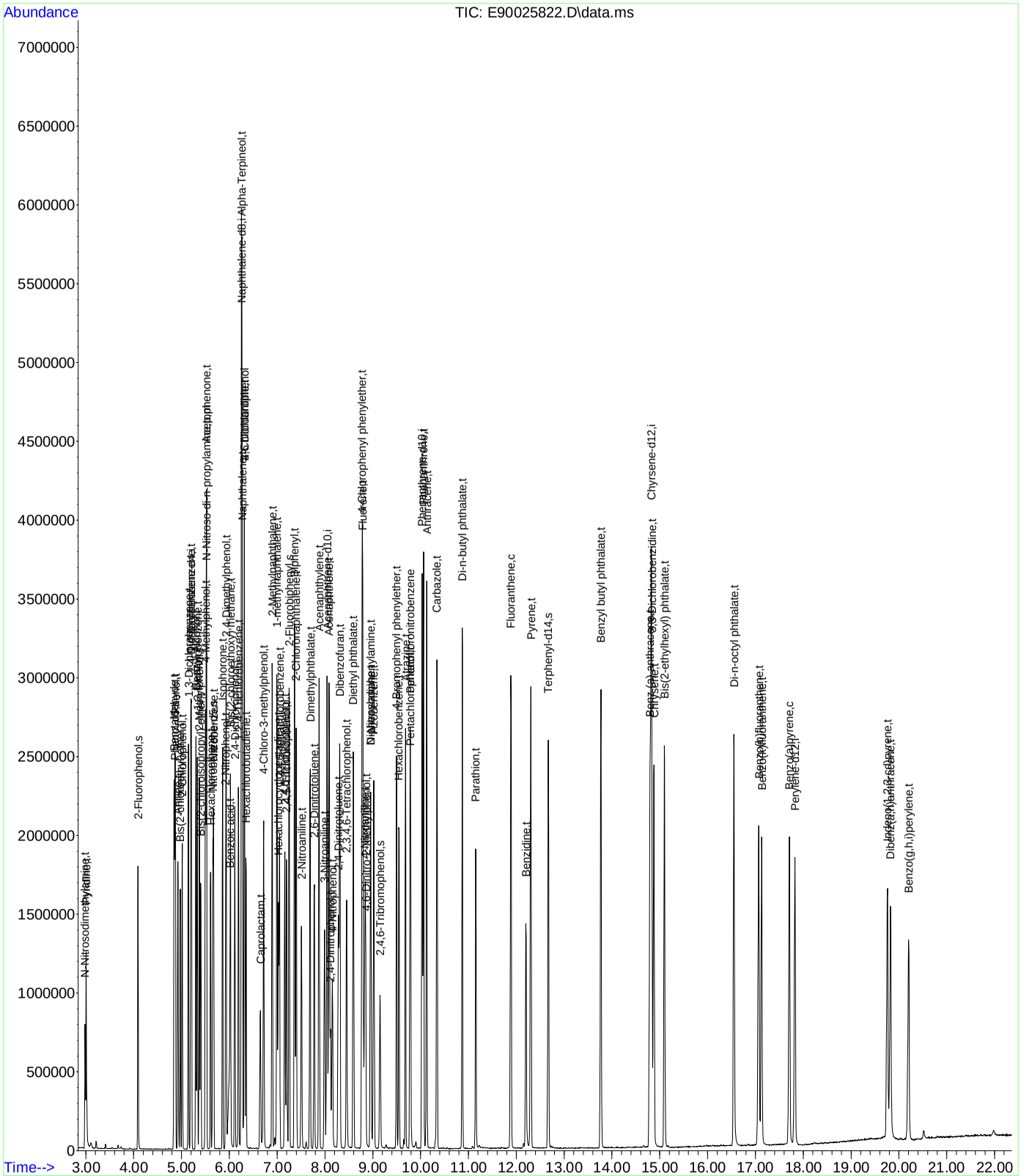
Quant Time: May 03 09:31:52 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:26:56 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) 2-Chloronaphthalene	7.400	162	953017	40.00	ug/mL	97
48) 2-Nitroaniline	7.510	138	360968	40.00	ug/mL#	94
49) Dimethylphthalate	7.690	163	1213297	40.00	ug/mL	100
50) 2,6-Dinitrotoluene	7.777	165	270560	40.00	ug/mL	94
51) Acenaphthylene	7.876	152	1769581	40.00	ug/mL	100
52) 3-Nitroaniline	7.992	138	324786	40.00	ug/mL	92
53) Acenaphthene	8.085	154	1031627	40.00	ug/mL	94
54) 2,4-Dinitrophenol	8.114	184	123435	40.00	ug/mL#	85
55) Dibenzofuran	8.306	168	1511695	40.00	ug/mL	98
56) 2,4-Dinitrotoluene	8.277	165	365512	40.00	ug/mL	98
57) 4-Nitrophenol	8.155	65	307913	40.00	ug/mL	88
58) 2,3,4,6-Tetrachlorophenol	8.451	131	162890	40.00	ug/mL	92
59) Diethyl phthalate	8.591	149	1380481	40.00	ug/mL	100
60) Fluorene	8.789	166	1280659	40.00	ug/mL	99
61) 4-Chlorophenyl phenyle...	8.777	204	525398	40.00	ug/mL	99
62) 4-Nitroaniline	8.835	138	355012	40.00	ug/mL#	87
64) 4,6-Dinitro-2-methylph...	8.852	198	179395	40.00	ug/mL	95
65) Diphenylamine	8.957	169	900870	40.00	ug/mL	99
66) N-Nitrosodiphenylamine	8.957	167	311752	40.00	ug/mL	98
67) Azobenzene	9.021	77	1502133	40.00	ug/mL	97
69) 4-Bromophenyl phenylether	9.498	248	260951	40.00	ug/mL	97
70) Atrazine	9.683	200	294205	40.00	ug/mL#	100
71) Hexachlorobenzene	9.544	142	166624	40.00	ug/mL	97
72) Pentachlorophenol	9.776	266	184301	40.00	ug/mL	98
73) Pentachloronitrobenzene	9.788	237	143002	40.00	ug/mL	92
74) Phenanthrene	10.061	178	1590716	40.00	ug/mL	99
75) Anthracene	10.125	178	1554503	40.00	ug/mL	98
76) Carbazole	10.340	167	1555908	40.00	ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	2173809	40.00	ug/mL	99
78) Parathion	11.154	97	254777	40.00	ug/mL#	91
79) Fluoranthene	11.886	202	1667149	40.00	ug/mL	100
80) Benzidine	12.200	184	741462	40.00	ug/mL	97
82) Pyrene	12.305	202	1601612	40.00	ug/mL	99
84) Benzyl butyl phthalate	13.769	149	1012191	40.00	ug/mL	99
85) Bis(2-ethylhexyl) phth...	15.094	149	1130002	40.00	ug/mL	100
86) Benz (a) anthracene	14.798	228	1461867	40.00	ug/mL	99
87) 3,3-Dichlorobenzidine	14.833	252	509514	40.00	ug/mL	98
88) Chrysene	14.879	228	1224082	40.00	ug/mL	100
89) Di-n-octyl phthalate	16.547	149	2137430	40.00	ug/mL	100
90) Benzo(b)fluoranthene	17.070	252	1270444	40.00	ug/mL	96
91) Benzo(k)fluoranthene	17.128	252	1111871	40.00	ug/mL	97
92) Benzo(a)pyrene	17.709	252	1171876	40.00	ug/mL	97
94) Indeno(1,2,3-cd)pyrene	19.761	276	1046977	40.00	ug/mL	93
95) Dibenz(a,h)anthracene	19.825	278	898039	40.00	ug/mL	96
96) Benzo(g,h,i)perylene	20.202	276	874333	40.00	ug/mL#	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025822.D
Acq On : 2 May 2023 5:27 pm
Operator : KH
Sample : SEQ-CAL8
Misc : QBSV9050223A 40 ppm
InstName : MSBNA9
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 03 09:31:52 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 09:26:56 2023
Response via : Initial Calibration



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Calibration: SE30006 **Laboratory ID:** S3E0304-SCV1

Sequence: S3E0304 **Standard ID:** S23B047

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
1,2,4-Trichlorobenzene	30.0	28.7	-4.3	30.00
1,2-Dichlorobenzene	30.0	27.8	-7.4	30.00
1,2-Diphenylhydrazine (as Azobenzene)	30.0	25.5	-15.0	30.00
1,3-Dichlorobenzene	30.0	29.1	-3.0	30.00
1,4-Dichlorobenzene	30.0	29.5	-1.6	30.00
1-Methylnaphthalene	30.0	27.2	-9.2	30.00
2,3,4,6-Tetrachlorophenol	30.0	33.4	11.2	30.00
2,4,5-Trichlorophenol	30.0	27.0	-9.8	30.00
2,4,6-Trichlorophenol	30.0	28.0	-6.7	30.00
2,4-Dichlorophenol	30.0	29.3	-2.4	30.00
2,4-Dimethylphenol	30.0	26.5	-11.8	30.00
2,4-Dinitrophenol	30.0	35.2	17.4	30.00
2,4-Dinitrotoluene	30.0	30.3	1.0	30.00
2,6-Dinitrotoluene	30.0	30.6	1.9	30.00
2-Chloronaphthalene	30.0	27.8	-7.3	30.00
2-Chlorophenol	30.0	29.2	-2.6	30.00
2-Methylnaphthalene	30.0	28.4	-5.4	30.00
2-Methylphenol	30.0	28.0	-6.6	30.00
2-Nitroaniline	30.0	29.2	-2.8	30.00
2-Nitrophenol	30.0	31.7	5.6	30.00
3- & 4-Methylphenols	30.0	24.1	-19.8	30.00
3-Nitroaniline	30.0	30.2	0.5	30.00
4,6-Dinitro-2-methylphenol	30.0	35.9	19.6	30.00
4-Bromophenyl phenyl ether	30.0	26.8	-10.7	30.00
4-Chloro-3-methylphenol	30.0	30.6	2.2	30.00
4-Chloroaniline	30.0	29.1	-2.9	30.00
4-Chlorophenyl phenyl ether	30.0	26.6	-11.3	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Calibration: SE30006 **Laboratory ID:** S3E0304-SCV1

Sequence: S3E0304 **Standard ID:** S23B047

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
4-Nitroaniline	30.0	28.5	-5.1	30.00
4-Nitrophenol	30.0	31.1	3.6	30.00
Acenaphthene	30.0	27.5	-8.5	30.00
Acenaphthylene	30.0	26.4	-12.0	30.00
Aniline	30.0	29.8	-0.7	30.00
Anthracene	30.0	27.9	-7.0	30.00
Benzo(a)anthracene	30.0	28.3	-5.7	30.00
Benzo(a)pyrene	30.0	26.4	-11.9	30.00
Benzo(b)fluoranthene	30.0	28.8	-4.1	30.00
Benzo(g,h,i)perylene	30.0	28.1	-6.3	30.00
Benzo(k)fluoranthene	30.0	28.2	-6.0	30.00
Benzyl alcohol	30.0	28.8	-4.0	30.00
Benzyl butyl phthalate	30.0	30.1	0.3	30.00
Bis(2-chloroethoxy)methane	30.0	28.4	-5.4	30.00
Bis(2-chloroethyl)ether	30.0	28.8	-4.1	30.00
Bis(2-chloroisopropyl)ether	30.0	28.2	-6.0	30.00
Bis(2-ethylhexyl)phthalate	30.0	28.0	-6.6	30.00
Carbazole	30.0	27.9	-6.9	30.00
Chrysene	30.0	26.7	-11.0	30.00
Cresols, total	60.0	52.1	-13.2	30.00
Dibenzo(a,h)anthracene	30.0	29.1	-3.1	30.00
Dibenzofuran	30.0	26.8	-10.8	30.00
Diethyl phthalate	30.0	27.7	-7.8	30.00
Dimethyl phthalate	30.0	28.0	-6.7	30.00
Di-n-butyl phthalate	30.0	28.2	-6.0	30.00
Di-n-octyl phthalate	30.0	29.4	-2.0	30.00
Diphenylamine	30.0	29.8	-0.6	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30006
Laboratory ID: S3E0304-SCV1
Sequence: S3E0304
Standard ID: S23B047

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
Fluoranthene	30.0	27.1	-9.5	30.00
Fluorene	30.0	26.4	-11.8	30.00
Hexachlorobenzene	30.0	28.5	-5.1	30.00
Hexachlorobutadiene	30.0	29.1	-3.0	30.00
Hexachlorocyclopentadiene	30.0	26.6	-11.5	30.00
Hexachloroethane	30.0	29.1	-2.9	30.00
Indeno(1,2,3-cd)pyrene	30.0	31.2	4.2	30.00
Isophorone	30.0	30.1	0.3	30.00
Naphthalene	30.0	30.4	1.2	30.00
Nitrobenzene	30.0	30.4	1.4	30.00
N-Nitrosodimethylamine	30.0	28.4	-5.4	30.00
N-nitroso-di-n-propylamine	30.0	26.2	-12.8	30.00
N-Nitrosodiphenylamine	30.0	28.8	-4.0	30.00
Pentachlorophenol	30.0	31.3	4.4	30.00
Phenanthrene	30.0	27.6	-7.8	30.00
Phenol	30.0	30.2	0.7	30.00
Pyrene	30.0	29.8	-0.5	30.00
Pyridine	30.0	27.3	-9.1	30.00

* Values outside of QC limits

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\050223\
Data File : E90025823.D
Acq On : 2 May 2023 5:57 pm
Operator : KH
Sample : SEQ-SCV1
Misc : QBSV9050223A 30 ppm SECOND SOURCE
InstName : MSBNA9
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 03 10:24:04 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.191	152	386012	40.00	ug/mL		0.00
21) Naphthalene-d8	6.249	136	1601612	40.00	ug/mL		0.00
40) Acenaphthene-d10	8.044	164	872087	40.00	ug/mL		0.00
63) Phenanthrene-d10	10.026	188	1433426	40.00	ug/mL	#	0.00
81) Chyrsene-d12	14.815	240	993016	40.00	ug/mL		0.00
93) Perylene-d12	17.825	264	915660	40.00	ug/mL		0.00
System Monitoring Compounds							
4) 2-Fluorophenol	0.000	112	0d	0.00	ug/mL		
Spiked Amount 75.000	Range 15 - 87		Recovery =	0.00%#			
5) Phenol-d5	0.000	99	0d	0.00	ug/mL		
Spiked Amount 75.000	Range 10 - 100		Recovery =	0.00%#			
22) Nitrobenzene-d5	0.000	82	0d	0.00	ug/mL		
Spiked Amount 50.000	Range 26 - 120		Recovery =	0.00%#			
46) 2-Fluorobiphenyl	0.000	172	0d	0.00	ug/mL		
Spiked Amount 50.000	Range 29 - 120		Recovery =	0.00%#			
68) 2,4,6-Tribromophenol	0.000	330	0d	0.00	ug/mL		
Spiked Amount 75.000	Range 35 - 126		Recovery =	0.00%#			
83) Terphenyl-d14	0.000	244	0d	0.00	ug/mL		
Spiked Amount 50.000	Range 35 - 127		Recovery =	0.00%#			
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	2.983	74	203377	28.38	ug/mL	#	76
3) Pyridine	3.006	79	327823	27.26	ug/mL		92
7) Aniline	4.924	93	589406	29.79	ug/mL		99
8) Phenol	4.871	94	504890	30.21	ug/mL		96
9) Bis(2-chloroethyl)ether	4.970	93	384483	28.77	ug/mL		97
10) 2-Chlorophenol	5.011	128	383357	29.22	ug/mL		97
11) 1,3-Dichlorobenzene	5.144	146	420391	29.09	ug/mL		97
12) 1,4-Dichlorobenzene	5.208	146	436090	29.51	ug/mL		98
13) Benzyl Alcohol	5.301	108	275235	28.79	ug/mL		94
14) 1,2-Dichlorobenzene	5.330	146	384565	27.79	ug/mL		99
15) 2-Methylphenol	5.371	107	299648	28.03	ug/mL		91
17) Bis(2-chloroisopropyl)...	5.400	45	550210	28.20	ug/mL		93
18) N-Nitroso-di-n-propyla...	5.511	70	295943	26.16	ug/mL		92
19) 4-Methylphenol	5.499	107	389663	24.06	ug/mL	#	50
20) Hexachloroethane	5.604	117	175974	29.12	ug/mL		98
23) Nitrobenzene	5.668	77	460501	30.42	ug/mL		98
24) Isophorone	5.854	82	814224	30.08	ug/mL		98
25) 2-Nitrophenol	5.923	139	187769	31.67	ug/mL	#	83
26) 2,4-Dimethylphenol	5.935	122	336625	26.46	ug/mL		96
27) Bis(2-chloroethoxy) me...	6.022	93	437499	28.39	ug/mL		98
29) 2,4-Dichlorophenol	6.115	162	282875	29.28	ug/mL		97
30) 1,2,4-Trichlorobenzene	6.191	180	290219	28.70	ug/mL		99
32) Naphthalene	6.272	128	1180140	30.37	ug/mL		99
33) 4-Chloroaniline	6.307	127	464930	29.13	ug/mL		99
35) Hexachlorobutadiene	6.347	225	142993	29.11	ug/mL		99
37) 4-Chloro-3-methylphenol	6.708	107	355378	30.65	ug/mL		97
38) 1-methylnaphthalene	6.993	141	607108	27.25	ug/mL		94
39) 2-Methylnaphthalene	6.894	142	730370	28.37	ug/mL	#	96
42) Hexachlorocyclopentadiene	7.022	237	150400	26.55	ug/mL		98
44) 2,4,6-Trichlorophenol	7.155	196	181288	27.99	ug/mL		95
45) 2,4,5-Trichlorophenol	7.190	196	183675	27.05	ug/mL		97
47) 2-Chloronaphthalene	7.394	162	666275	27.81	ug/mL		97
48) 2-Nitroaniline	7.504	138	238476	29.17	ug/mL	#	93
49) Dimethylphthalate	7.690	163	818811	27.98	ug/mL		100
50) 2,6-Dinitrotoluene	7.771	165	183906	30.57	ug/mL	#	76
51) Acenaphthylene	7.876	152	1119726	26.41	ug/mL		99
52) 3-Nitroaniline	7.986	138	221104	30.16	ug/mL		92
53) Acenaphthene	8.085	154	681829	27.46	ug/mL		95
54) 2,4-Dinitrophenol	8.108	184	77893	35.22	ug/mL	#	75

Data Path : C:\msdchem\1\data\050223\
Data File : E90025823.D
Acq On : 2 May 2023 5:57 pm
Operator : KH
Sample : SEQ-SCV1
Misc : QBSV9050223A 30 ppm SECOND SOURCE
InstName : MSBNA9
ALS Vial : 11 Sample Multiplier: 1

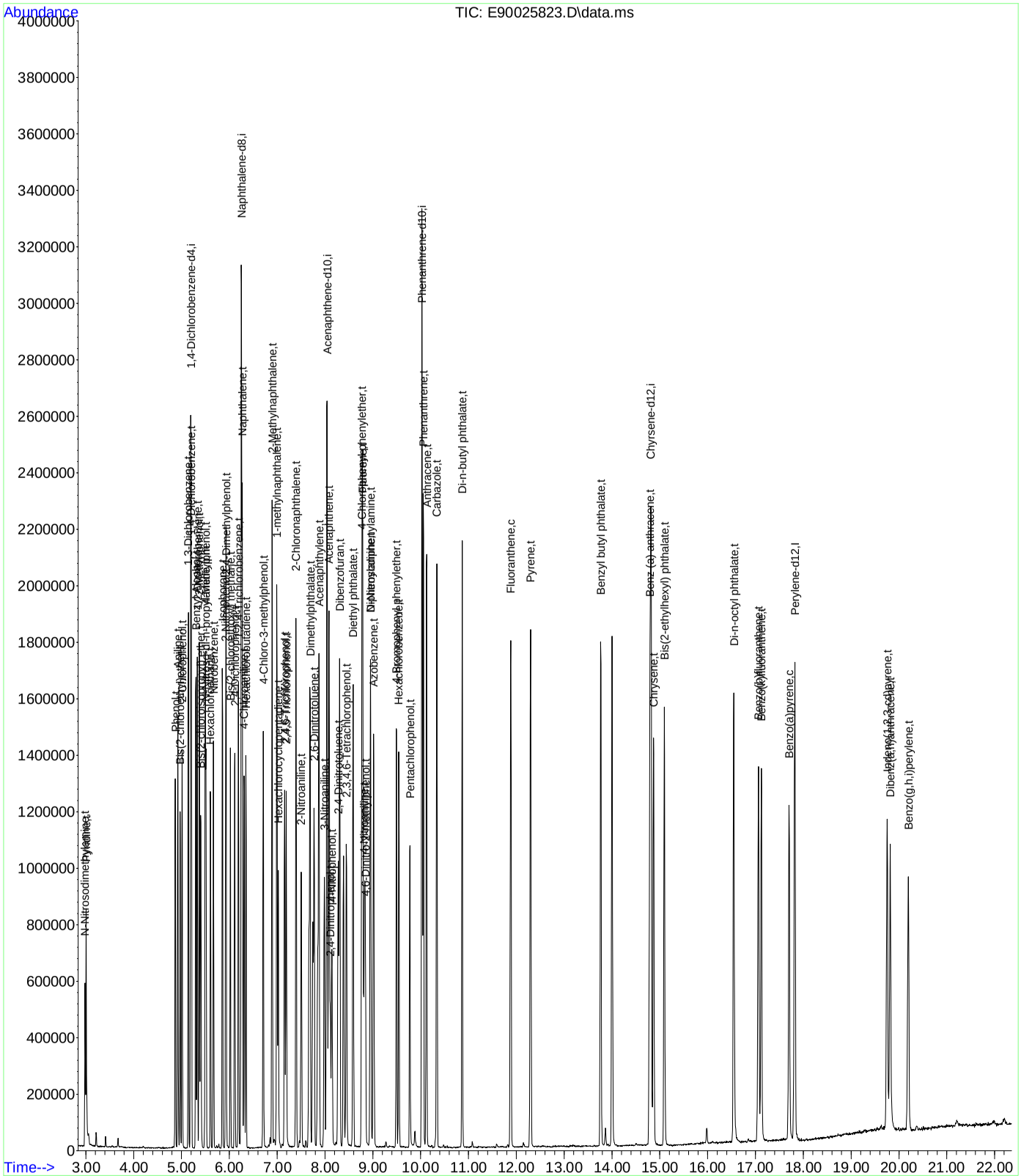
Quant Time: May 03 10:24:04 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Dibenzofuran	8.306	168	978479	26.77 ug/mL	98
56) 2,4-Dinitrotoluene	8.277	165	238313	30.31 ug/mL	98
57) 4-Nitrophenol	8.143	65	202348	31.09 ug/mL	87
58) 2,3,4,6-Tetrachlorophenol	8.445	131	115605	33.37 ug/mL	98
59) Diethyl phthalate	8.591	149	883837	27.66 ug/mL	100
60) Fluorene	8.788	166	809105	26.45 ug/mL	100
61) 4-Chlorophenyl phenyle...	8.771	204	328476	26.62 ug/mL	98
62) 4-Nitroaniline	8.823	138	232502	28.46 ug/mL#	88
64) 4,6-Dinitro-2-methylph...	8.846	198	117644	35.88 ug/mL	97
65) Diphenylamine	8.951	169	671302	29.83 ug/mL	98
66) N-Nitrosodiphenylamine	8.951	167	226468	28.80 ug/mL	98
67) Azobenzene	9.015	77	945191	25.51 ug/mL	96
69) 4-Bromophenyl phenylether	9.497	248	164904	26.79 ug/mL	96
71) Hexachlorobenzene	9.544	142	107683	28.46 ug/mL	94
72) Pentachlorophenol	9.776	266	114314	31.33 ug/mL	98
74) Phenanthrene	10.055	178	1004056	27.65 ug/mL	100
75) Anthracene	10.125	178	976643	27.90 ug/mL	98
76) Carbazole	10.340	167	1006531	27.92 ug/mL#	100
77) Di-n-butyl phthalate	10.869	149	1345325	28.21 ug/mL	98
79) Fluoranthene	11.886	202	1014720	27.14 ug/mL	99
82) Pyrene	12.299	202	1034477	29.84 ug/mL	99
84) Benzyl butyl phthalate	13.763	149	637804	30.08 ug/mL	98
85) Bis(2-ethylhexyl) phth...	15.094	149	694730	28.02 ug/mL	98
86) Benz (a) anthracene	14.798	228	894298	28.29 ug/mL	98
88) Chrysene	14.873	228	742426m	26.70 ug/mL	
89) Di-n-octyl phthalate	16.547	149	1328281	29.41 ug/mL	100
90) Benzo(b)fluoranthene	17.064	252	807754	28.77 ug/mL	97
91) Benzo(k)fluoranthene	17.122	252	744169	28.19 ug/mL	96
92) Benzo(a)pyrene	17.703	252	700003	26.43 ug/mL	96
94) Indeno(1,2,3-cd)pyrene	19.755	276	679233	31.25 ug/mL	93
95) Dibenz(a,h)anthracene	19.819	278	591451	29.06 ug/mL	97
96) Benzo(g,h,i)perylene	20.196	276	593532	28.11 ug/mL#	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\050223\
Data File : E90025823.D
Acq On : 2 May 2023 5:57 pm
Operator : KH
Sample : SEQ-SCV1
Misc : QBSV9050223A 30 ppm SECOND SOURCE
InstName : MSBNA9
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 03 10:24:04 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	MSBNA9	Calibration:	SE30006
Lab File ID:	E90026067.D	Calibration Date:	05/02/23 00:50
Sequence:	S3E1642	Injection Date:	05/15/23
Lab Sample ID:	S3E1642-CCV1	Injection Time:	09:33

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
1,1-Biphenyl	A	30.0	28.9	0.5758582	0.5551957	0.01	-3.6	20	
1,2,4,5-Tetrachlorobenzene	A	30.0	32.3	0.3954356	0.4258867	0.01	7.7	20	
1,2,4-Trichlorobenzene	A	30.0	32.5	0.2525096	0.2739176		8.5	20	
1,2-Dichlorobenzene	A	30.0	30.6	1.433864	1.461343		1.9	20	
1,2-Diphenylhydrazine (as Azobenzene)	A	30.0	23.3	1.033801	0.8041805		-22.2	20	*
1,3-Dichlorobenzene	A	30.0	29.9	1.497481	1.490892		-0.4	20	
1,4-Dichlorobenzene	A	30.0	29.8	1.531344	1.52048		-0.7	20	
1-Methylnaphthalene	A	30.0	31.9	0.5563764	0.5919458		6.4	20	
2,3,4,6-Tetrachlorophenol	A	30.0	27.7	0.1589101	0.1465047	0.01	-7.8	20	
2,4,5-Trichlorophenol	A	30.0	34.4	0.3114542	0.3566836	0.2	14.5	20	
2,4,6-Trichlorophenol	A	30.0	34.6	0.2970653	0.3421983	0.2	15.2	20	
2,4-Dichlorophenol	A	30.0	33.3	0.2412833	0.2681552	0.2	11.1	20	
2,4-Dimethylphenol	A	30.0	24.5	0.3177452	0.2598542	0.2	-18.2	20	
2,4-Dinitrophenol	A	30.0	51.0	0.1014324	0.1725688	0.01	70.1	20	*
2,4-Dinitrotoluene	A	30.0	37.3	0.3370362	0.4484439	0.2	33.1	20	*
2,6-Dinitrotoluene	A	30.0	34.8	0.275958	0.3202544	0.2	16.1	20	
2-Chloronaphthalene	A	30.0	29.1	1.099065	1.064688	0.8	-3.1	20	
2-Chlorophenol	A	30.0	28.1	1.359324	1.274324	0.8	-6.3	20	
2-Methylnaphthalene	A	30.0	30.4	0.6429894	0.6505293	0.4	1.2	20	
2-Methylphenol	A	30.0	28.5	1.107916	1.051195	0.7	-5.1	20	
2-Nitroaniline	A	30.0	33.1	0.3749401	0.4135717	0.01	10.3	20	
2-Nitrophenol	A	30.0	34.5	0.1480684	0.1703179	0.1	15.0	20	
3- & 4-Methylphenols	A	30.0	29.4	1.677989	1.644037	0.6	-2.0	20	
3,3-Dichlorobenzidine	A	30.0	35.7	0.4609656	0.5022594	0.01	9.0	20	
3-Nitroaniline	A	30.0	32.6	0.3362343	0.3656929	0.01	8.8	20	
4,6-Dinitro-2-methylphenol	A	30.0	49.2	9.148839E-02	0.1500617	0.01	64.0	20	*
4-Bromophenyl phenyl ether	A	30.0	34.5	0.1717868	0.1973705	0.1	14.9	20	
4-Chloro-3-methylphenol	A	30.0	30.4	0.2895916	0.2930892	0.2	1.2	20	
4-Chloroaniline	A	30.0	28.9	0.3986113	0.383599	0.01	-3.8	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	MSBNA9	Calibration:	SE30006
Lab File ID:	E90026067.D	Calibration Date:	05/02/23 00:50
Sequence:	S3E1642	Injection Date:	05/15/23
Lab Sample ID:	S3E1642-CCV1	Injection Time:	09:33

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
4-Chlorophenyl phenyl ether	A	30.0	34.4	0.5660013	0.6486507	0.4	14.6	20	
4-Nitroaniline	A	30.0	31.8	0.3746962	0.3972816	0.01	6.0	20	
4-Nitrophenol	A	30.0	24.8	0.2985333	0.246715	0.01	-17.4	20	
Acenaphthene	A	30.0	28.8	1.139023	1.095137	0.9	-3.9	20	
Acenaphthylene	A	30.0	29.3	1.944449	1.89809	0.9	-2.4	20	
Acetophenone	A	30.0	28.2	2.072778	1.945363	0.01	-6.1	20	
Alpha Terpineol	A	30.0	17.6	0.2810184	0.164737		-41.4	20	*
Aniline	A	30.0	26.8	2.050119	1.831345		-10.7	20	
Anthracene	A	30.0	32.1	0.9769245	1.046767	0.7	7.1	20	
Atrazine	A	30.0	25.6	0.2304195	0.1968483	0.01	-14.6	20	
Benzaldehyde	A	30.0	25.5	1.170249	0.9962351	0.01	-14.9	20	
Benzidine	A	30.0	33.0	0.4920579	0.5408792		9.9	20	
Benzo(a)anthracene	A	30.0	30.8	1.273196	1.306489	0.8	2.6	20	
Benzo(a)pyrene	A	30.0	33.8	1.066657	1.202473	0.7	12.7	20	
Benzo(b)fluoranthene	A	30.0	33.0	1.131128	1.243327	0.7	9.9	20	
Benzo(g,h,i)perylene	A	30.0	33.4	0.9222567	1.026921	0.5	11.3	20	
Benzo(k)fluoranthene	A	30.0	34.1	1.063185	1.20943	0.7	13.8	20	
Benzoic acid	A	30.0	35.1	0.2183499	0.2552286		16.9	20	
Benzyl alcohol	A	30.0	29.4	0.990702	0.9695063		-2.1	20	
Benzyl butyl phthalate	A	30.0	25.1	0.8541993	0.715254		-16.3	20	
Bis(2-chloroethoxy)methane	A	30.0	27.1	0.3848794	0.3474126	0.3	-9.7	20	
Bis(2-chloroethyl)ether	A	30.0	26.7	1.385055	1.231715	0.7	-11.1	20	
Bis(2-chloroisopropyl)ether	A	30.0	10.1	2.021665	0.6822289	0.01	-66.3	20	*
Bis(2-ethylhexyl)phthalate	A	30.0	28.4	0.998624	0.9436786		-5.5	20	
Caprolactam	A	30.0	32.4	0.1016589	0.1099707	0.01	8.2	20	
Carbazole	A	30.0	29.8	1.006082	0.9977646	0.01	-0.8	20	
Chrysene	A	30.0	33.1	1.120077	1.236039	0.7	10.4	20	
Dibenzo(a,h)anthracene	A	30.0	33.7	0.8889835	0.9978404	0.4	12.2	20	
Dibenzofuran	A	30.0	30.2	1.676268	1.68613	0.8	0.6	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	MSBNA9	Calibration:	SE30006
Lab File ID:	E90026067.D	Calibration Date:	05/02/23 00:50
Sequence:	S3E1642	Injection Date:	05/15/23
Lab Sample ID:	S3E1642-CCV1	Injection Time:	09:33

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Diethyl phthalate	A	30.0	29.3	1.465748	1.429678	0.01	-2.5	20	
Dimethyl phthalate	A	30.0	30.5	1.34216	1.363422	0.01	1.6	20	
Di-n-butyl phthalate	A	30.0	27.8	1.330591	1.234889	0.01	-7.2	20	
Di-n-octyl phthalate	A	30.0	27.6	1.819335	1.672321	0.01	-8.1	20	
Diphenylamine	A	30.0	30.9	0.6278948	0.645996		2.9	20	
Fluoranthene	A	30.0	31.9	1.043231	1.11039	0.6	6.4	20	
Fluorene	A	30.0	30.6	1.40303	1.431573	0.9	2.0	20	
Hexachlorobenzene	A	30.0	30.0	0.1055696	0.1055435	0.1	-0.02	20	
Hexachlorobutadiene	A	30.0	34.5	0.1226614	0.1410898	0.01	15.0	20	
Hexachlorocyclopentadiene	A	30.0	32.2	0.2598534	0.2790982	0.05	7.4	20	
Hexachloroethane	A	30.0	25.8	0.6261795	0.5392413	0.3	-13.9	20	
Indeno(1,2,3-cd)pyrene	A	30.0	32.3	0.9495567	1.022	0.5	7.6	20	
Isophorone	A	30.0	27.1	0.6760853	0.6105232	0.4	-9.7	20	
Naphthalene	A	30.0	28.0	0.9705774	0.9059854	0.7	-6.7	20	
Nitrobenzene	A	30.0	25.1	0.3780681	0.3167875	0.2	-16.2	20	
N-Nitrosodimethylamine	A	30.0	22.8	0.7425324	0.5646921		-24.0	20	*
N-nitroso-di-n-propylamine	A	30.0	26.1	1.17239	1.020077	0.5	-13.0	20	
N-Nitrosodiphenylamine	A	30.0	29.3	0.2194675	0.2145719	0.01	-2.2	20	
Parathion	A	30.0	32.8	0.1285274	0.1406202		9.4	20	
Pentachloronitrobenzene	A	30.0	30.5	8.476306E-02	8.608897E-02		1.6	20	
Pentachlorophenol	A	30.0	34.3	0.1018094	0.1162919	0.05	14.2	20	
Phenanthrene	A	30.0	30.3	1.013421	1.024963	0.7	1.1	20	
Phenol	A	30.0	28.2	1.732028	1.629378	0.8	-5.9	20	
Pyrene	A	30.0	30.5	1.396495	1.41853	0.6	1.6	20	
Pyridine	A	30.0	24.9	1.246082	1.03575		-16.9	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Data Path : C:\msdchem\1\data\051523\
Data File : E90026067.D
Acq On : 15 May 2023 9:33 am
Operator : KH
Sample : SEQ-CCV1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 10:02:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.162	152	439227	40.00	ug/mL	-0.03
21) Naphthalene-d8	6.220	136	2116043	40.00	ug/mL	-0.03
40) Acenaphthene-d10	7.998	164	1258845	40.00	ug/mL	-0.04
63) Phenanthrene-d10	9.997	188	2108981	40.00	ug/mL	#-0.03
81) Chyrsene-d12	14.774	240	1667473	40.00	ug/mL	-0.04
93) Perylene-d12	17.785	264	1789188	40.00	ug/mL	-0.03
System Monitoring Compounds						
4) 2-Fluorophenol	4.069	112	364654	26.55	ug/mL	-0.02
Spiked Amount 75.000	Range 15 - 87		Recovery = 35.40%			
5) Phenol-d5	4.842	99	522945	28.52	ug/mL	-0.01
Spiked Amount 75.000	Range 10 - 100		Recovery = 38.03%			
22) Nitrobenzene-d5	5.621	82	499533	26.37	ug/mL	-0.03
Spiked Amount 50.000	Range 26 - 120		Recovery = 52.74%			
46) 2-Fluorobiphenyl	7.208	172	1190291	29.88	ug/mL	-0.04
Spiked Amount 50.000	Range 29 - 120		Recovery = 59.76%			
68) 2,4,6-Tribromophenol	9.108	330	179220	40.30	ug/mL	-0.04
Spiked Amount 75.000	Range 35 - 126		Recovery = 53.73%			
83) Terphenyl-d14	12.618	244	1283755	32.96	ug/mL	-0.05
Spiked Amount 50.000	Range 35 - 127		Recovery = 65.92%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.954	74	186021	22.81	ug/mL#	79
3) Pyridine	2.971	79	341197	24.94	ug/mL#	62
6) Benzaldehyde	4.813	105	328180	25.54	ug/mL	99
7) Aniline	4.895	93	603282	26.80	ug/mL	92
8) Phenol	4.854	94	536750	28.22	ug/mL	96
9) Bis(2-chloroethyl)ether	4.941	93	405752	26.68	ug/mL#	86
10) 2-Chlorophenol	4.988	128	419788	28.12	ug/mL#	90
11) 1,3-Dichlorobenzene	5.115	146	491130	29.87	ug/mL	97
12) 1,4-Dichlorobenzene	5.179	146	500877	29.79	ug/mL	97
13) Benzyl Alcohol	5.272	108	319375	29.36	ug/mL	98
14) 1,2-Dichlorobenzene	5.301	146	481396	30.57	ug/mL	98
15) 2-Methylphenol	5.354	107	346285	28.46	ug/mL#	84
16) Acetophenone	5.493	105	640842	28.16	ug/mL	98
17) Bis(2-chloroisopropyl)...	5.371	45	224740	10.12	ug/mL#	1
18) N-Nitroso-di-n-propyla...	5.482	70	336034	26.10	ug/mL#	60
19) 4-Methylphenol	5.476	107	541579	29.39	ug/mL	97
20) Hexachloroethane	5.575	117	177637	25.83	ug/mL#	82
23) Nitrobenzene	5.639	77	502752	25.14	ug/mL#	83
24) Isophorone	5.825	82	968920	27.09	ug/mL#	92
25) 2-Nitrophenol	5.894	139	270300	34.51	ug/mL	88
26) 2,4-Dimethylphenol	5.906	122	412397m	24.53	ug/mL	
27) Bis(2-chloroethoxy) me...	5.987	93	551355	27.08	ug/mL#	88
28) Benzoic acid	5.993	105	405056	35.07	ug/mL	98
29) 2,4-Dichlorophenol	6.086	162	425571	33.34	ug/mL#	86
30) 1,2,4-Trichlorobenzene	6.156	180	434716	32.54	ug/mL	98
31) Alpha-Terpineol	6.220	59	261443	17.59	ug/mL#	1
32) Naphthalene	6.237	128	1437828	28.00	ug/mL	100
33) 4-Chloroaniline	6.278	127	608784	28.87	ug/mL	95
34) 2,6 Dichlorophenol	6.284	162	397257	32.26	ug/mL#	83
35) Hexachlorobutadiene	6.313	225	223914	34.51	ug/mL	97
36) Caprolactam	6.609	113	174527	32.45	ug/mL#	97
37) 4-Chloro-3-methylphenol	6.690	107	465142	30.36	ug/mL	96
38) 1-methylnaphthalene	6.958	141	939437	31.92	ug/mL	99
39) 2-Methylnaphthalene	6.859	142	1032411	30.35	ug/mL	98
41) 1,2,4,5-tetrachloroben...	7.010	216	402094	32.31	ug/mL#	96
42) Hexachlorocyclopentadiene	6.981	237	263506	32.22	ug/mL	97
43) Biphenyl	7.324	153	524179	28.92	ug/mL#	99
44) 2,4,6-Trichlorophenol	7.126	196	323081	34.56	ug/mL#	90
45) 2,4,5-Trichlorophenol	7.167	196	336757m	34.36	ug/mL	

Data Path : C:\msdchem\1\data\051523\
Data File : E90026067.D
Acq On : 15 May 2023 9:33 am
Operator : KH
Sample : SEQ-CCV1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 2 Sample Multiplier: 1

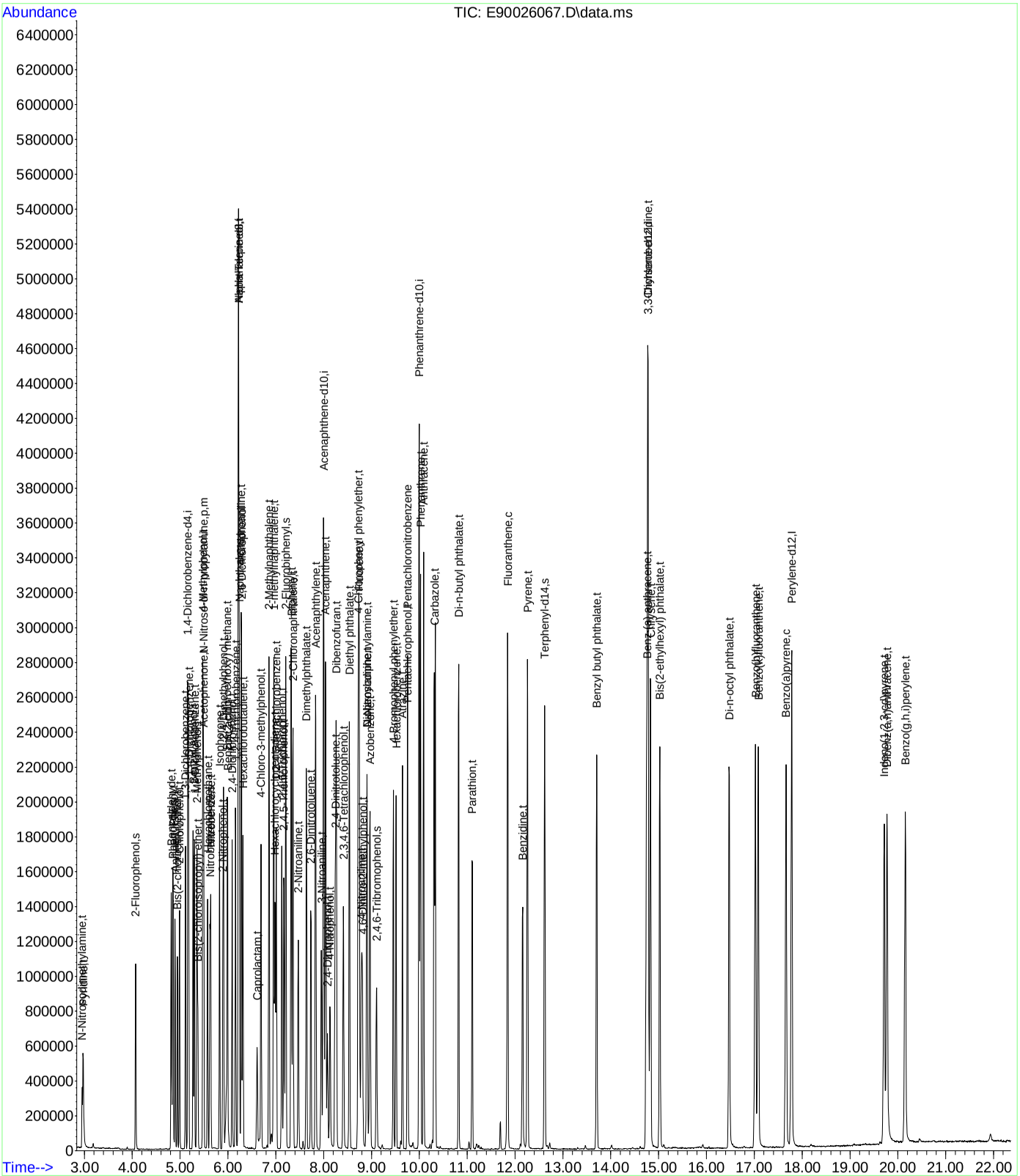
Quant Time: May 15 10:02:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
47) 2-Chloronaphthalene	7.359	162	1005208	29.06 ug/mL	97
48) 2-Nitroaniline	7.469	138	390467	33.09 ug/mL#	84
49) Dimethylphthalate	7.638	163	1287253	30.48 ug/mL	99
50) 2,6-Dinitrotoluene	7.731	165	302363	34.82 ug/mL#	77
51) Acenaphthylene	7.830	152	1792051	29.28 ug/mL	99
52) 3-Nitroaniline	7.952	138	345263	32.63 ug/mL#	82
53) Acenaphthene	8.039	154	1033956	28.84 ug/mL	98
54) 2,4-Dinitrophenol	8.079	184	162928	51.04 ug/mL#	77
55) Dibenzofuran	8.260	168	1591932	30.18 ug/mL	94
56) 2,4-Dinitrotoluene	8.242	165	423391	37.31 ug/mL#	79
57) 4-Nitrophenol	8.132	65	232932m	24.79 ug/mL	
58) 2,3,4,6-Tetrachlorophenol	8.411	131	138320	27.66 ug/mL#	62
59) Diethyl phthalate	8.539	149	1349807	29.26 ug/mL	96
60) Fluorene	8.742	166	1351596	30.61 ug/mL	97
61) 4-Chlorophenyl phenyle...	8.724	204	612413	34.38 ug/mL#	87
62) 4-Nitroaniline	8.788	138	375087	31.81 ug/mL	87
64) 4,6-Dinitro-2-methylph...	8.812	198	237358	49.21 ug/mL	82
65) Diphenylamine	8.905	169	1021795	30.86 ug/mL	95
66) N-Nitrosodiphenylamine	8.905	167	339396	29.33 ug/mL	95
67) Azobenzene	8.969	77	1272001	23.34 ug/mL#	85
69) 4-Bromophenyl phenylether	9.457	248	312188	34.47 ug/mL#	78
70) Atrazine	9.649	200	311362	25.63 ug/mL#	100
71) Hexachlorobenzene	9.515	142	166942m	29.99 ug/mL	
72) Pentachlorophenol	9.747	266	183943	34.27 ug/mL	98
73) Pentachloronitrobenzene	9.753	237	136170	30.47 ug/mL#	84
74) Phenanthrene	10.026	178	1621220	30.34 ug/mL	99
75) Anthracene	10.090	178	1655708	32.14 ug/mL	98
76) Carbazole	10.311	167	1578200	29.75 ug/mL#	100
77) Di-n-butyl phthalate	10.822	149	1953268	27.84 ug/mL	99
78) Parathion	11.101	97	222424	32.82 ug/mL#	85
79) Fluoranthene	11.845	202	1756343	31.93 ug/mL	99
80) Benzidine	12.159	184	855528	32.98 ug/mL#	95
82) Pyrene	12.258	202	1774020	30.47 ug/mL	100
84) Benzyl butyl phthalate	13.705	149	894500	25.12 ug/mL#	91
85) Bis(2-ethylhexyl) phth...	15.024	149	1180169	28.35 ug/mL#	95
86) Benz (a) anthracene	14.751	228	1633901	30.78 ug/mL	99
87) 3,3-Dichlorobenzidine	14.780	252	628128m	35.74 ug/mL	
88) Chrysene	14.832	228	1545796	33.11 ug/mL	98
89) Di-n-octyl phthalate	16.471	149	2091412	27.58 ug/mL#	99
90) Benzo(b)fluoranthene	17.023	252	1554911	32.98 ug/mL#	93
91) Benzo(k)fluoranthene	17.082	252	1512519	34.13 ug/mL#	92
92) Benzo(a)pyrene	17.663	252	1503819	33.82 ug/mL#	92
94) Indeno(1,2,3-cd)pyrene	19.714	276	1371413	32.29 ug/mL#	81
95) Dibenz(a,h)anthracene	19.772	278	1338993	33.67 ug/mL#	92
96) Benzo(g,h,i)perylene	20.156	276	1378016	33.40 ug/mL#	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051523\
Data File : E90026067.D
Acq On : 15 May 2023 9:33 am
Operator : KH
Sample : SEQ-CCV1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 2 Sample Multiplier: 1

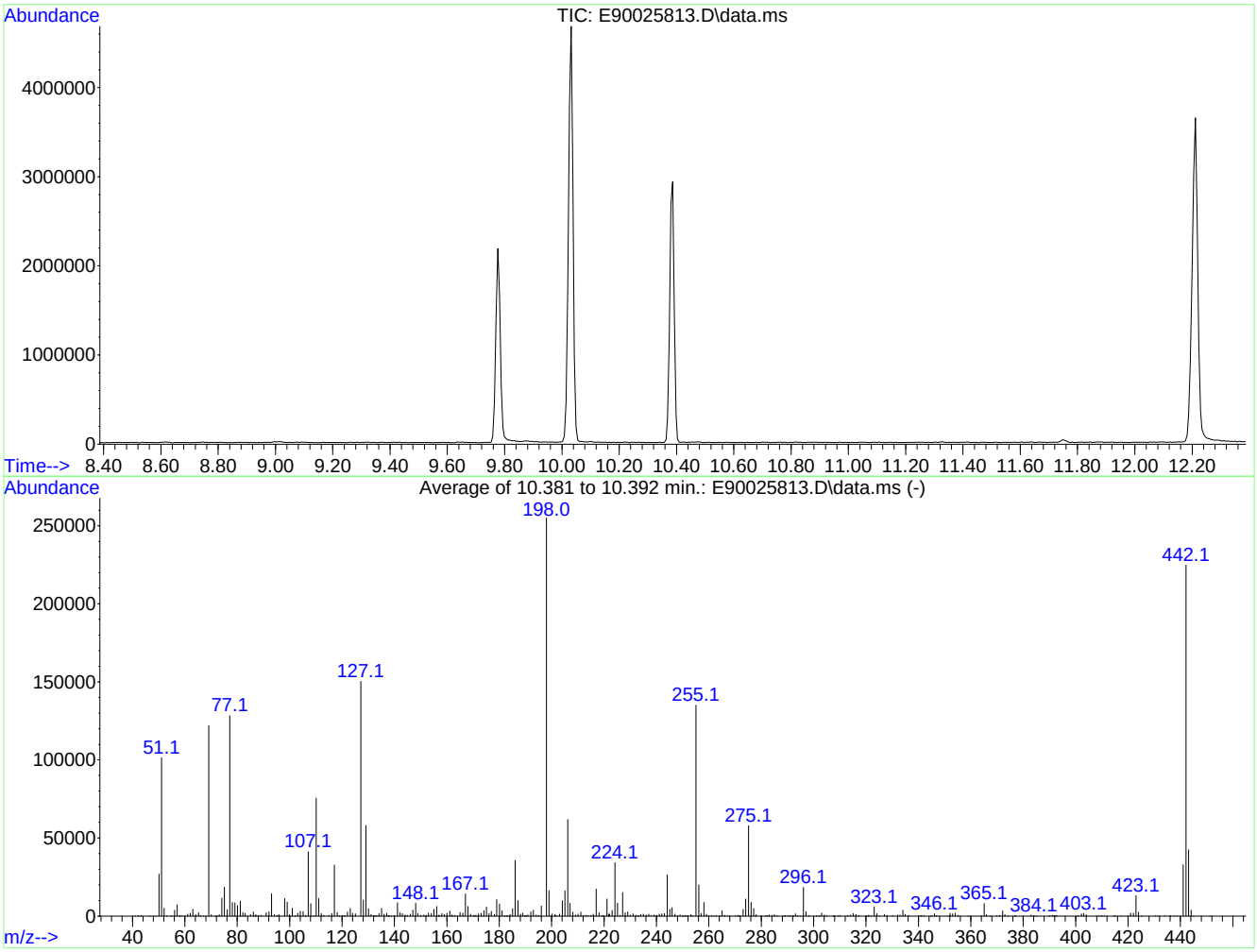
Quant Time: May 15 10:02:57 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\050223\
Data File : E90025813.D
Acq On : 2 May 2023 12:41 pm
Operator : KH
Sample : SEQ-TUN1
Misc : QBSV9050223A
InstName : MSBNA9
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\BNA9M034.M
Title : 8270D Semi Volatiles Calibration BNA_9
Last Update : Mon Mar 13 16:27:50 2023



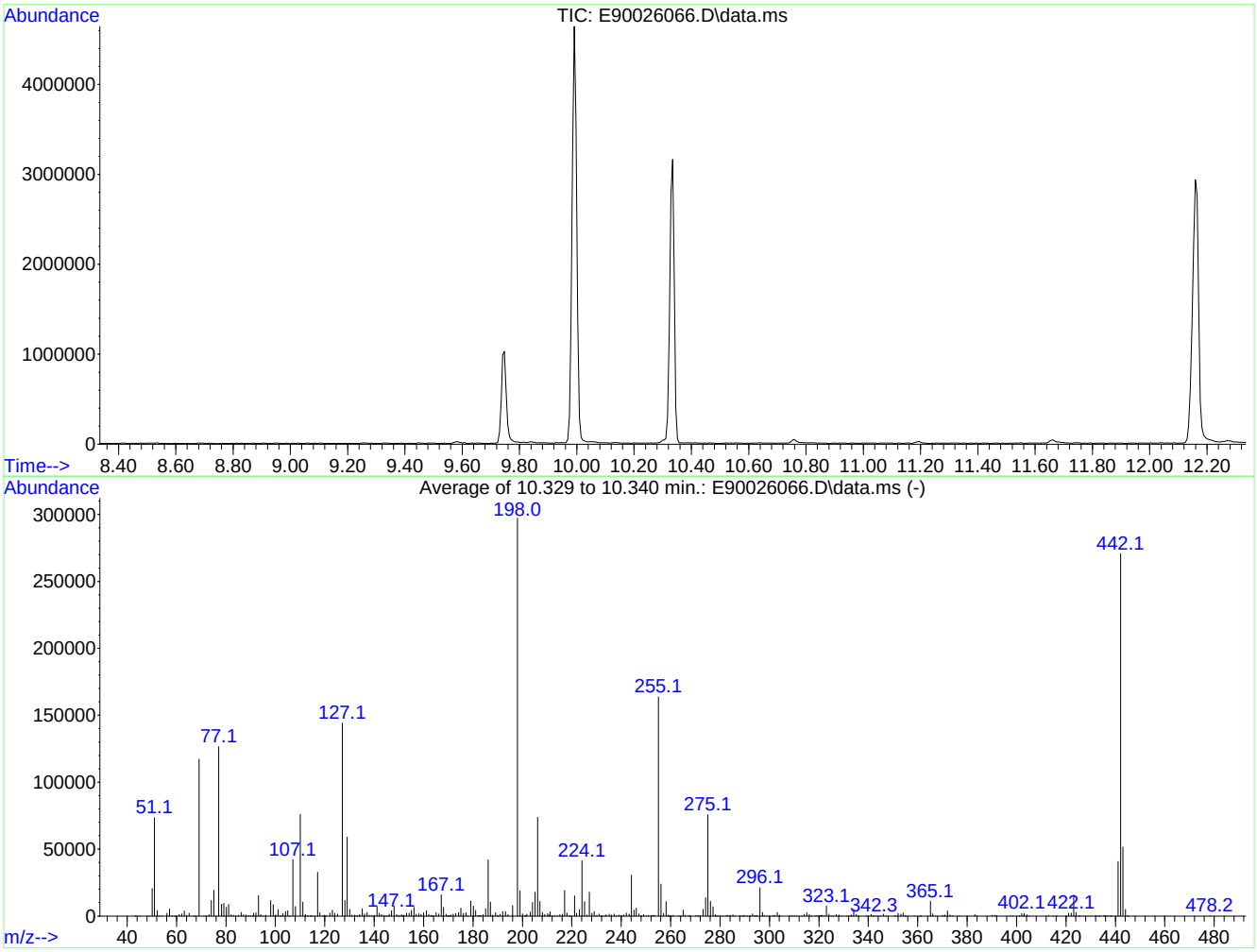
AutoFind: Scans 1299, 1300, 1301; Background Corrected with Scan 1293

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.8	101368	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.8	121888	PASS
70	69	0.00	2	0.7	843	PASS
127	198	10	80	58.9	150267	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	254976	PASS
199	198	5	9	6.4	16261	PASS
275	198	10	60	22.6	57744	PASS
365	198	1	100	3.1	7845	PASS
441	442	0.01	24	14.6	32805	PASS
442	198	50	100	88.2	224875	PASS
443	442	15	24	18.8	42323	PASS

Data Path : C:\msdchem\1\data\051523\
Data File : E90026066.D
Acq On : 15 May 2023 9:03 am
Operator : KH
Sample : SEQ-TUN1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\BNA9M035.M
Title : 8270D Semi Volatiles Calibration BNA_9
Last Update : Wed May 03 10:21:54 2023



Spectrum Information: Average of 10.329 to 10.340 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	24.7	73496	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	39.4	117127	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	48.5	144104	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	297387	PASS
199	198	5	9	6.3	18754	PASS
275	198	10	60	25.5	75717	PASS
365	198	1	100	3.7	10930	PASS
441	442	0.01	24	15.0	40672	PASS
442	198	50	100	91.0	270699	PASS
443	442	15	24	19.1	51587	PASS

METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: SVOA
METHOD: EPA 8270D

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30878-BLK1	File ID:	E90026069.D
Prepared:	05/14/23 08:28	Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL
Analyzed:	05/15/23 10:53	Instrument:	MSBNA9		
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
92-52-4	1,1-Biphenyl	0.0417	U
95-94-3	1,2,4,5-Tetrachlorobenzene	0.0833	U
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	0.0417	U
58-90-2	2,3,4,6-Tetrachlorophenol	0.0833	U
95-95-4	2,4,5-Trichlorophenol	0.0417	U
88-06-2	2,4,6-Trichlorophenol	0.0417	U
120-83-2	2,4-Dichlorophenol	0.0417	U
105-67-9	2,4-Dimethylphenol	0.0417	U
51-28-5	2,4-Dinitrophenol	0.0833	U
121-14-2	2,4-Dinitrotoluene	0.0417	U
606-20-2	2,6-Dinitrotoluene	0.0417	U
91-58-7	2-Chloronaphthalene	0.0417	U
95-57-8	2-Chlorophenol	0.0417	U
91-57-6	2-Methylnaphthalene	0.0417	U
95-48-7	2-Methylphenol	0.0417	U
88-74-4	2-Nitroaniline	0.0833	U
88-75-5	2-Nitrophenol	0.0417	U
65794-96-9	3- & 4-Methylphenols	0.0417	U
91-94-1	3,3-Dichlorobenzidine	0.0417	U
99-09-2	3-Nitroaniline	0.0833	U
534-52-1	4,6-Dinitro-2-methylphenol	0.0833	U
101-55-3	4-Bromophenyl phenyl ether	0.0417	U
59-50-7	4-Chloro-3-methylphenol	0.0417	U
106-47-8	4-Chloroaniline	0.0417	U
7005-72-3	4-Chlorophenyl phenyl ether	0.0417	U
100-01-6	4-Nitroaniline	0.0833	U
100-02-7	4-Nitrophenol	0.0833	U
83-32-9	Acenaphthene	0.0417	U
208-96-8	Acenaphthylene	0.0417	U
98-86-2	Acetophenone	0.0417	U

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30878-BLK1	File ID:	E90026069.D
Prepared:	05/14/23 08:28	Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL
Analyzed:	05/15/23 10:53	Instrument:	MSBNA9		
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
62-53-3	Aniline	0.167	U
120-12-7	Anthracene	0.0417	U
1912-24-9	Atrazine	0.0417	U
100-52-7	Benzaldehyde	0.0417	U
92-87-5	Benzidine	0.167	U
56-55-3	Benzo(a)anthracene	0.0417	U
50-32-8	Benzo(a)pyrene	0.0417	U
205-99-2	Benzo(b)fluoranthene	0.0417	U
191-24-2	Benzo(g,h,i)perylene	0.0417	U
207-08-9	Benzo(k)fluoranthene	0.0417	U
65-85-0	Benzoic acid	0.0417	U
100-51-6	Benzyl alcohol	0.0417	U
85-68-7	Benzyl butyl phthalate	0.0417	U
111-91-1	Bis(2-chloroethoxy)methane	0.0417	U
111-44-4	Bis(2-chloroethyl)ether	0.0417	U
108-60-1	Bis(2-chloroisopropyl)ether	0.0417	U
117-81-7	Bis(2-ethylhexyl)phthalate	0.0417	U
105-60-2	Caprolactam	0.0833	U
86-74-8	Carbazole	0.0417	U
218-01-9	Chrysene	0.0417	U
53-70-3	Dibenzo(a,h)anthracene	0.0417	U
132-64-9	Dibenzofuran	0.0417	U
84-66-2	Diethyl phthalate	0.0417	U
131-11-3	Dimethyl phthalate	0.0417	U
84-74-2	Di-n-butyl phthalate	0.0417	U
117-84-0	Di-n-octyl phthalate	0.0417	U
122-39-4	Diphenylamine	0.0833	U
206-44-0	Fluoranthene	0.0417	U
86-73-7	Fluorene	0.0417	U
118-74-1	Hexachlorobenzene	0.0417	U

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30878-BLK1	File ID:	E90026069.D
Prepared:	05/14/23 08:28	Preparation:	EPA 3550C	Initial/Final:	30 g / 1 mL
Analyzed:	05/15/23 10:53	Instrument:	MSBNA9		
Batch:	BE30878	Sequence:	S3E1642	Calibration:	SE30006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
87-68-3	Hexachlorobutadiene	0.0417	U
77-47-4	Hexachlorocyclopentadiene	0.0417	U
67-72-1	Hexachloroethane	0.0417	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.0417	U
78-59-1	Isophorone	0.0417	U
91-20-3	Naphthalene	0.0417	U
98-95-3	Nitrobenzene	0.0417	U
62-75-9	N-Nitrosodimethylamine	0.0417	U
621-64-7	N-nitroso-di-n-propylamine	0.0417	U
86-30-6	N-Nitrosodiphenylamine	0.0417	U
87-86-5	Pentachlorophenol	0.0417	U
85-01-8	Phenanthrene	0.0417	U
108-95-2	Phenol	0.0417	U
129-00-0	Pyrene	0.0417	U
110-86-1	Pyridine	0.167	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.67	1.20	71.9	20 - 108	
SURR: Phenol-d6	1.67	1.22	73.5	23 - 114	
SURR: Nitrobenzene-d5	0.833	0.611	73.3	22 - 108	
SURR: 2-Fluorobiphenyl	0.833	0.629	75.4	21 - 113	
SURR: 2,4,6-Tribromophenol	1.67	1.66	99.6	19 - 110	
SURR: Terphenyl-d14	0.833	0.749	89.8	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	337456	5.162	439227	5.162	
ISTD: Naphthalene-d8	1427441	6.214	2116043	6.22	
ISTD: Acenaphthene-d10	870668	7.998	1258845	7.998	
ISTD: Phenanthrene-d10	1578033	9.991	2108981	9.997	
ISTD: Chrysene-d12	1240166	14.768	1667473	14.774	
ISTD: Perylene-d12	1324607	17.779	1789188	17.785	

Data Path : C:\msdchem\1\data\051523\
Data File : E90026069.D
Acq On : 15 May 2023 10:53 am
Operator : KH
Sample : BE30878-BLK1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 4 Sample Multiplier: 1

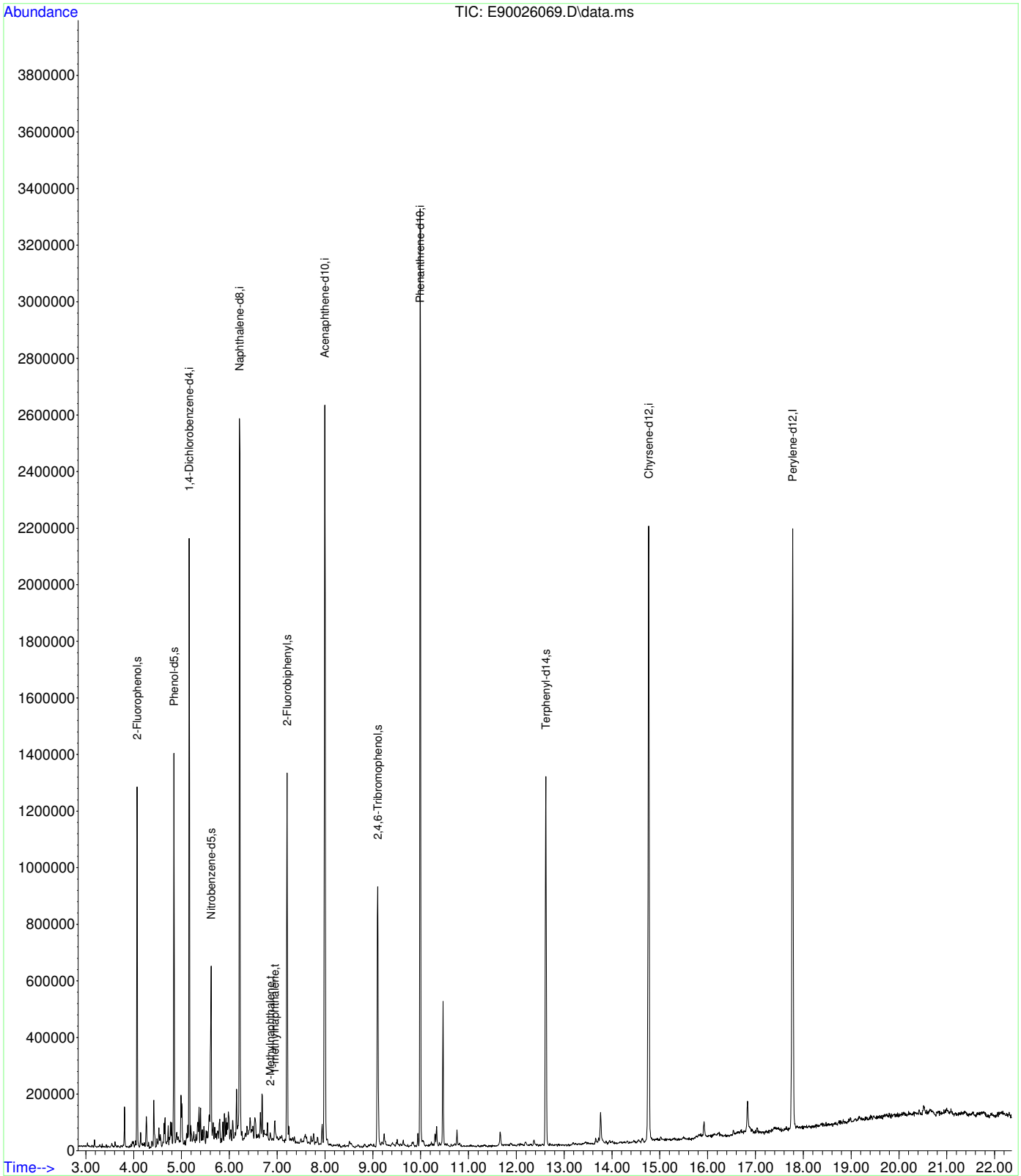
Quant Time: May 16 09:35:14 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

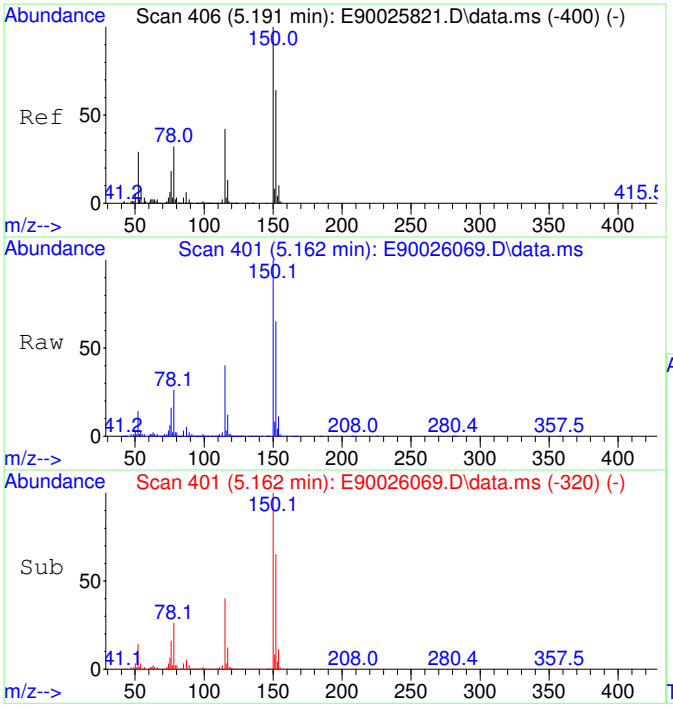
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.162	152	337456	40.00	ug/mL	-0.03
21) Naphthalene-d8	6.214	136	1427441	40.00	ug/mL	-0.03
40) Acenaphthene-d10	7.998	164	870668	40.00	ug/mL	-0.04
63) Phenanthrene-d10	9.991	188	1578033	40.00	ug/mL	#-0.03
81) Chyrsene-d12	14.768	240	1240166	40.00	ug/mL	-0.05
93) Perylene-d12	17.779	264	1324607	40.00	ug/mL	-0.04
System Monitoring Compounds						
4) 2-Fluorophenol	4.069	112	379309	35.94	ug/mL	-0.02
Spiked Amount 75.000	Range 15 - 87		Recovery = 47.92%			
5) Phenol-d5	4.842	99	517469	36.73	ug/mL	-0.01
Spiked Amount 75.000	Range 10 - 100		Recovery = 48.97%			
22) Nitrobenzene-d5	5.621	82	234314	18.33	ug/mL	-0.03
Spiked Amount 50.000	Range 26 - 120		Recovery = 36.66%			
46) 2-Fluorobiphenyl	7.208	172	519729	18.86	ug/mL	-0.04
Spiked Amount 50.000	Range 29 - 120		Recovery = 37.72%			
68) 2,4,6-Tribromophenol	9.102	330	165656	49.79	ug/mL	-0.05
Spiked Amount 75.000	Range 35 - 126		Recovery = 66.39%			
83) Terphenyl-d14	12.618	244	650524	22.46	ug/mL	-0.05
Spiked Amount 50.000	Range 35 - 127		Recovery = 44.92%			
Target Compounds						Qvalue
38) 1-methylnaphthalene	6.952	141	4994m	0.25	ug/mL	
39) 2-Methylnaphthalene	6.859	142	8018	0.35	ug/mL#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051523\
Data File : E90026069.D
Acq On : 15 May 2023 10:53 am
Operator : KH
Sample : BE30878-BLK1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 16 09:35:14 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

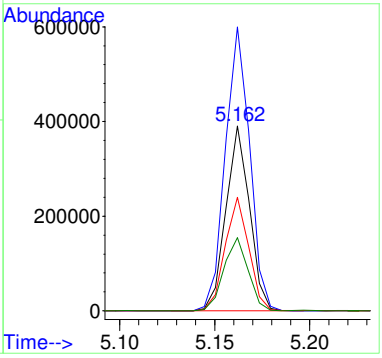


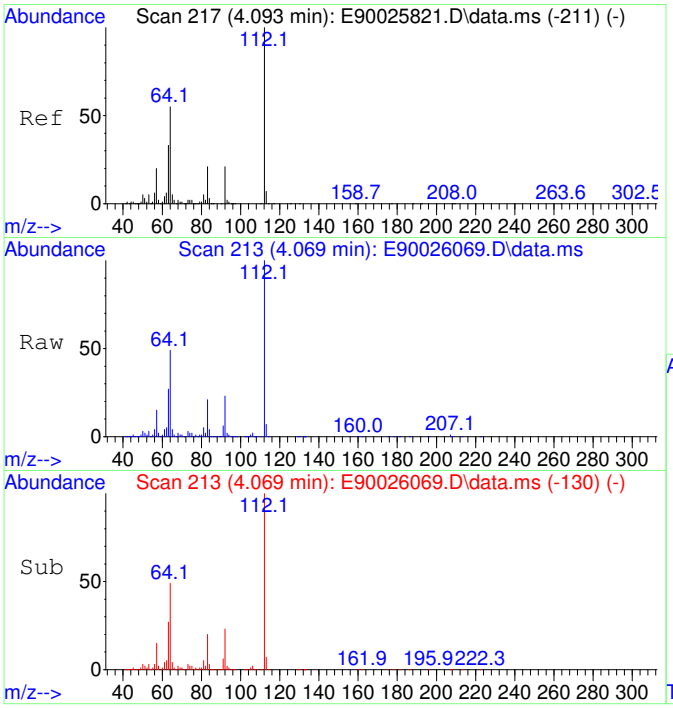


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 5.162 min Scan# 401
Delta R.T. -0.029 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:152 Resp: 337456

Ion	Ratio	Lower	Upper
152	100		
150	158.8	91.0	272.8
115	61.7	31.9	95.5
78	40.9	21.9	65.5

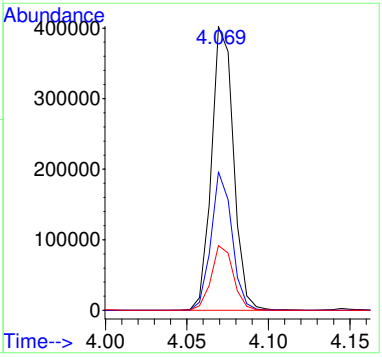


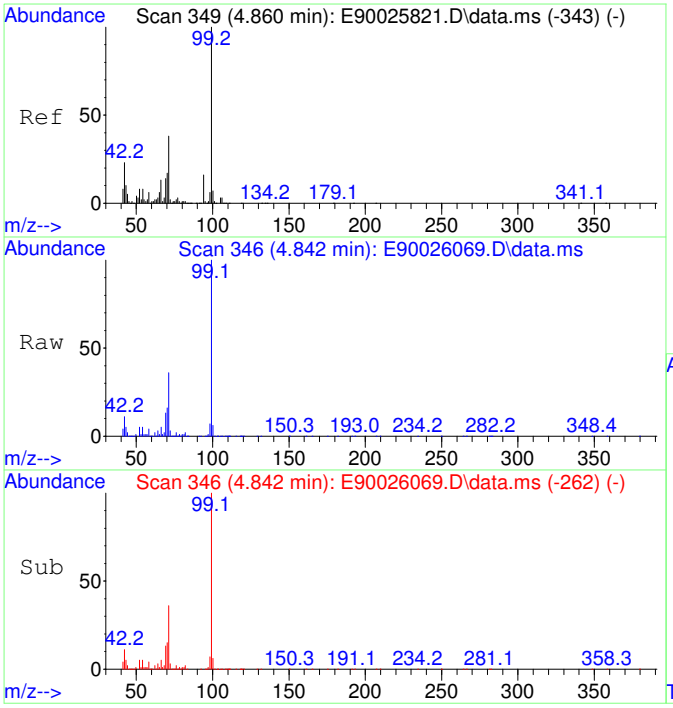


#4
2-Fluorophenol
Concen: 35.94 ug/mL
RT: 4.069 min Scan# 213
Delta R.T. -0.017 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:112 Resp: 379309

Ion	Ratio	Lower	Upper
112	100		
64	46.3	46.2	69.2
92	23.0	18.6	27.8

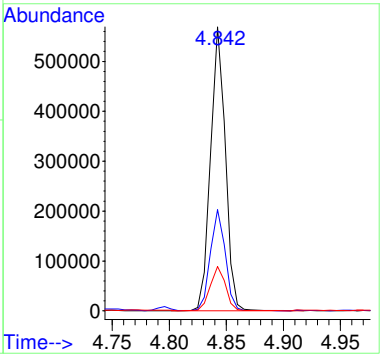


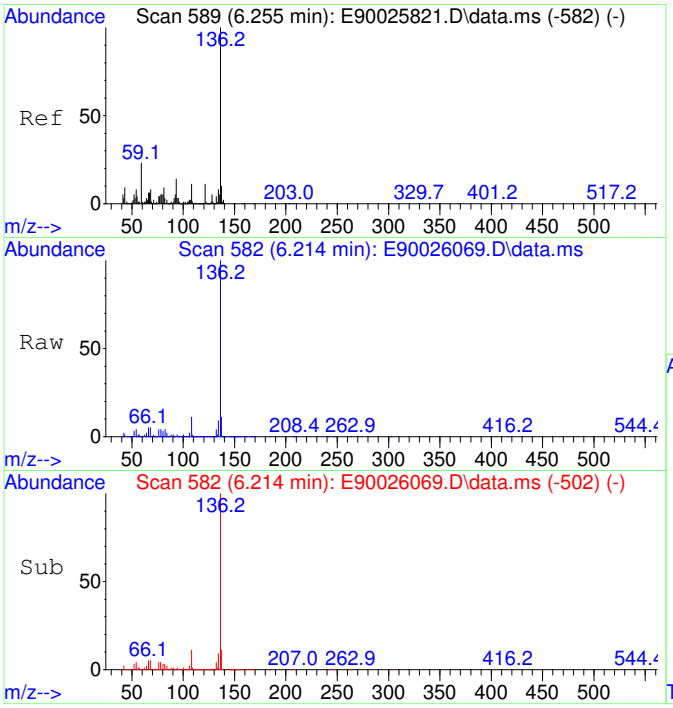


#5
Phenol-d5
Concen: 36.73 ug/mL
RT: 4.842 min Scan# 346
Delta R.T. -0.012 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion: 99 Resp: 517469

Ion	Ratio	Lower	Upper
99	100		
71	35.5	26.6	40.0
70	15.8	12.5	18.7

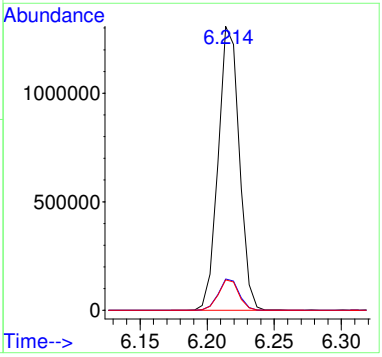


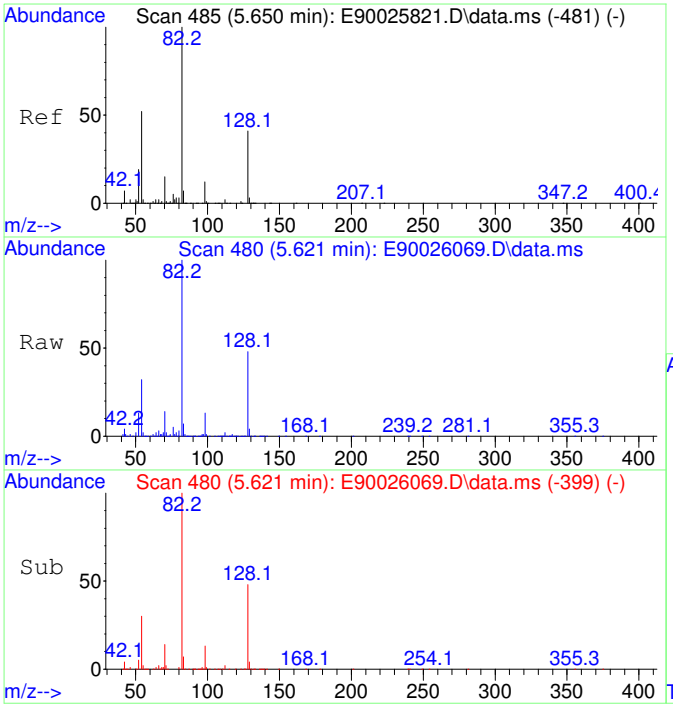


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 6.214 min Scan# 582
Delta R.T. -0.035 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:136 Resp: 1427441

Ion	Ratio	Lower	Upper
136	100		
137	11.0	5.5	16.4
108	10.5	4.9	14.6

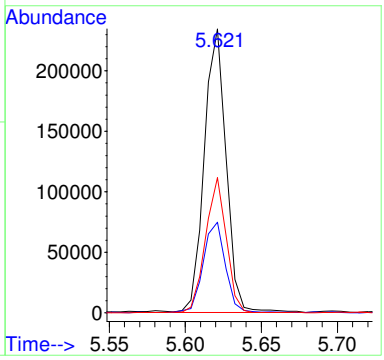


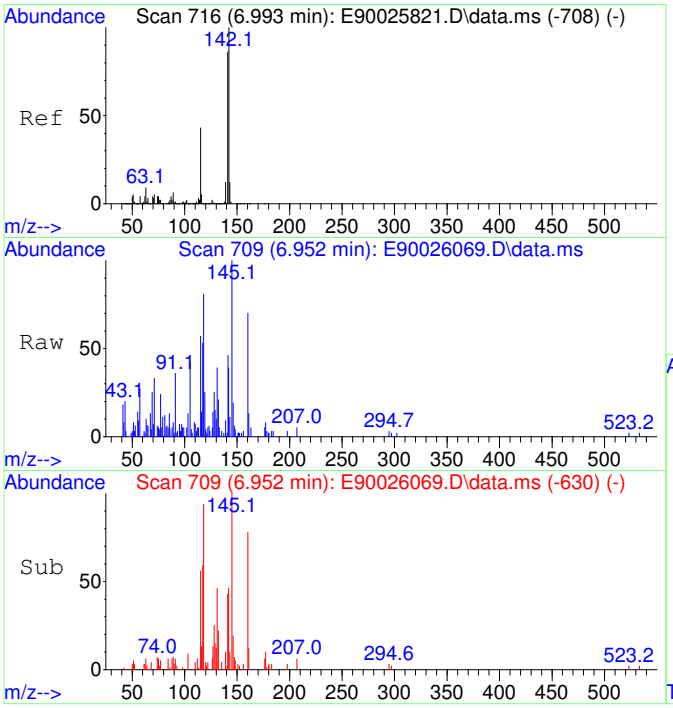


#22
Nitrobenzene-d5
Concen: 18.33 ug/mL
RT: 5.621 min Scan# 480
Delta R.T. -0.029 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion: 82 Resp: 234314

Ion	Ratio	Lower	Upper
82	100		
54	32.5	41.8	62.6#
128	45.7	33.1	49.7

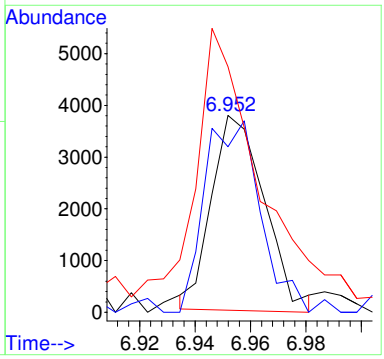


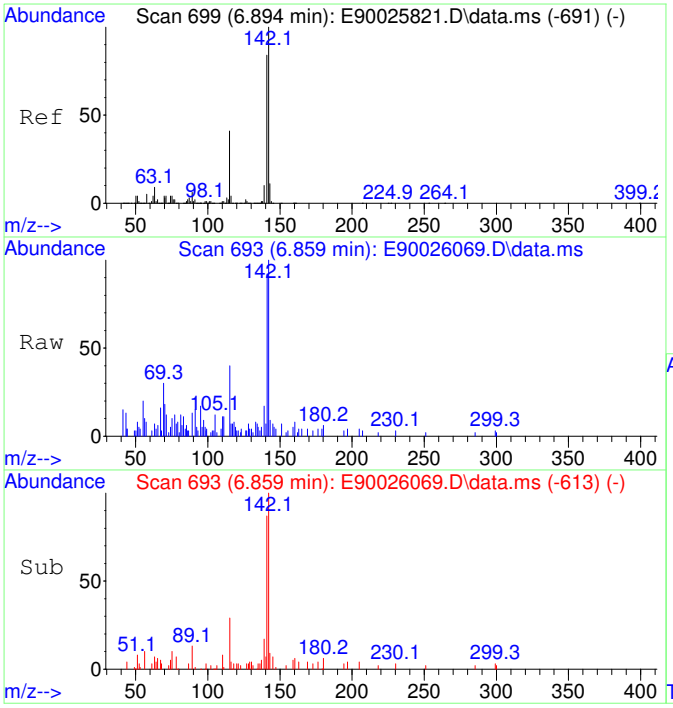


#38
1-methylnaphthalene
Concen: 0.25 ug/mL m
RT: 6.952 min Scan# 709
Delta R.T. -0.041 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:141 Resp: 4994

Ion	Ratio	Lower	Upper
141	100		
142	0.0	89.6	134.4#
115	0.0	31.7	47.5#

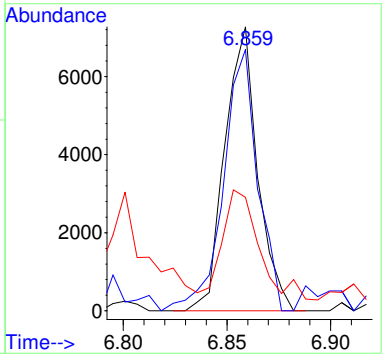


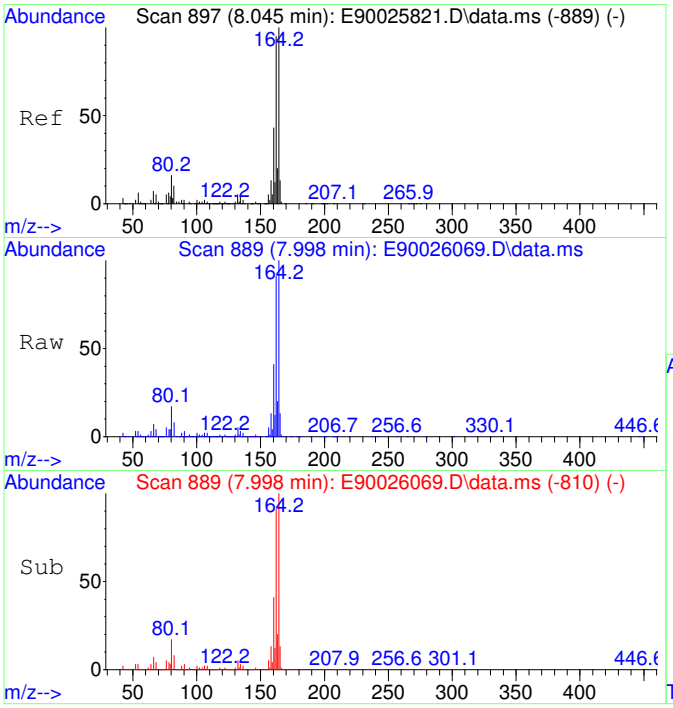


#39
2-Methylnaphthalene
Concen: 0.35 ug/mL
RT: 6.859 min Scan# 693
Delta R.T. -0.035 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:142 Resp: 8018

Ion	Ratio	Lower	Upper
142	100		
141	95.9	68.4	102.6
115	43.1	26.8	40.2#

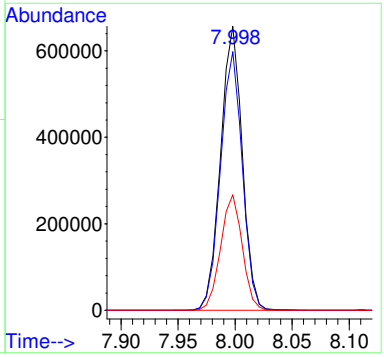


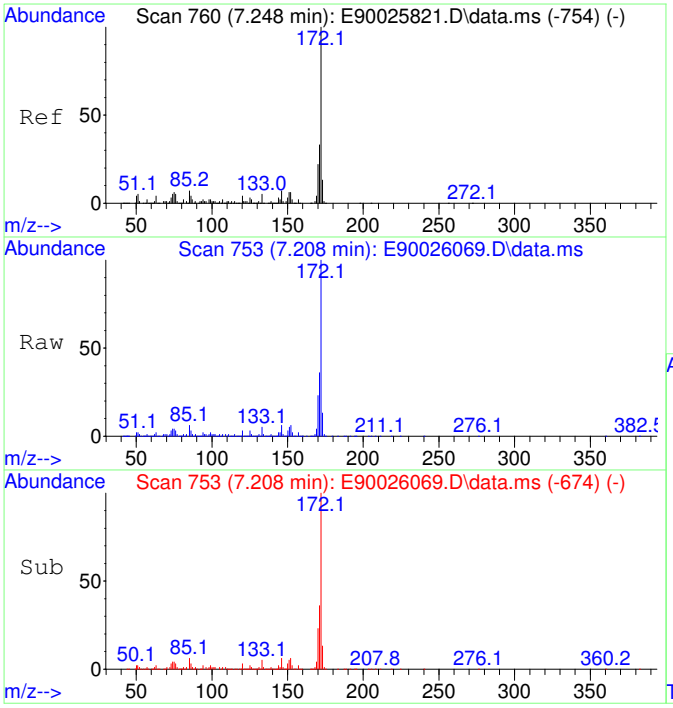


#40
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.998 min Scan# 889
Delta R.T. -0.041 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:164 Resp: 870668

Ion	Ratio	Lower	Upper
164	100		
162	91.5	47.6	142.9
160	40.5	21.5	64.5

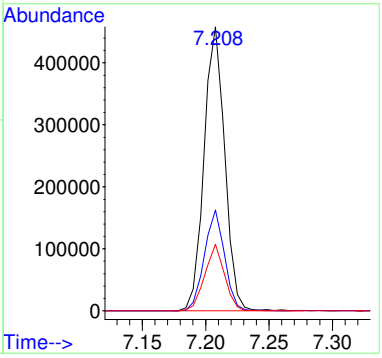


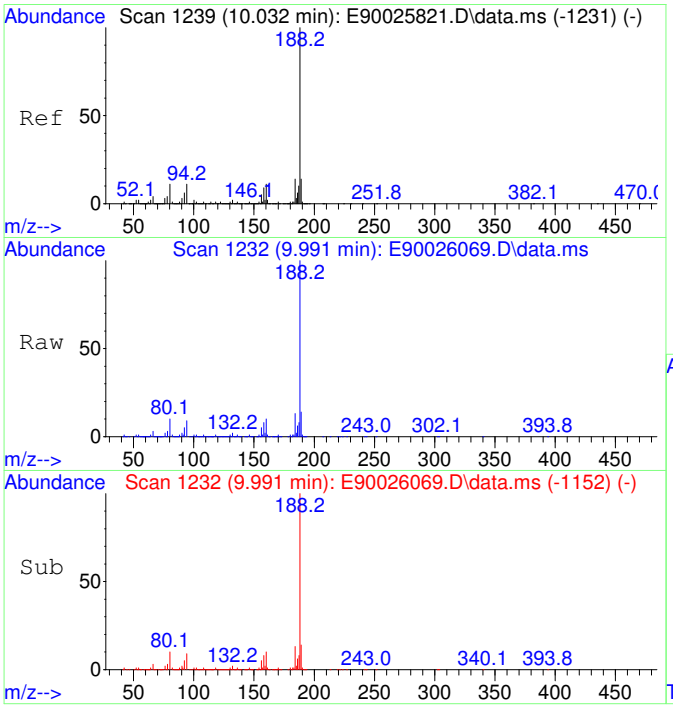


#46
2-Fluorobiphenyl
Concen: 18.86 ug/mL
RT: 7.208 min Scan# 753
Delta R.T. -0.041 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:172 Resp: 519729

Ion	Ratio	Lower	Upper
172	100		
171	34.6	28.1	42.1
170	22.4	18.6	27.8

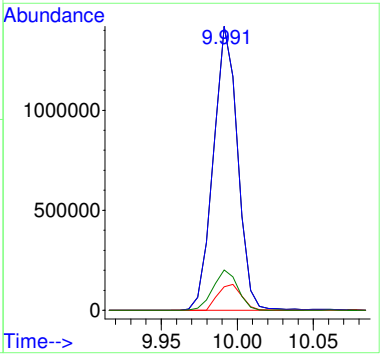


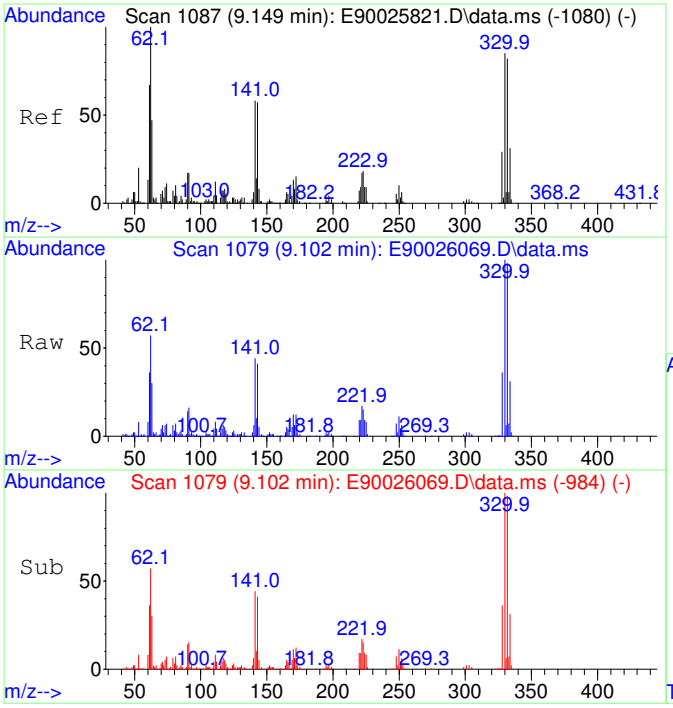


#63
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.991 min Scan# 1232
Delta R.T. -0.035 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:188 Resp: 1578033

Ion	Ratio	Lower	Upper
188	100		
188	100.0	80.0	120.0
187	0.0	0.0	0.0
189	0.0	7.2	21.7#

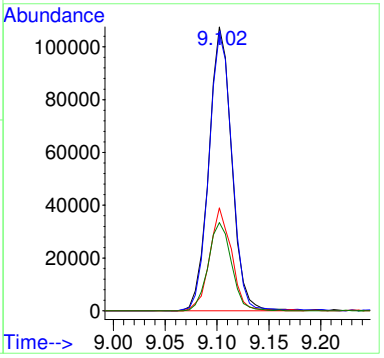


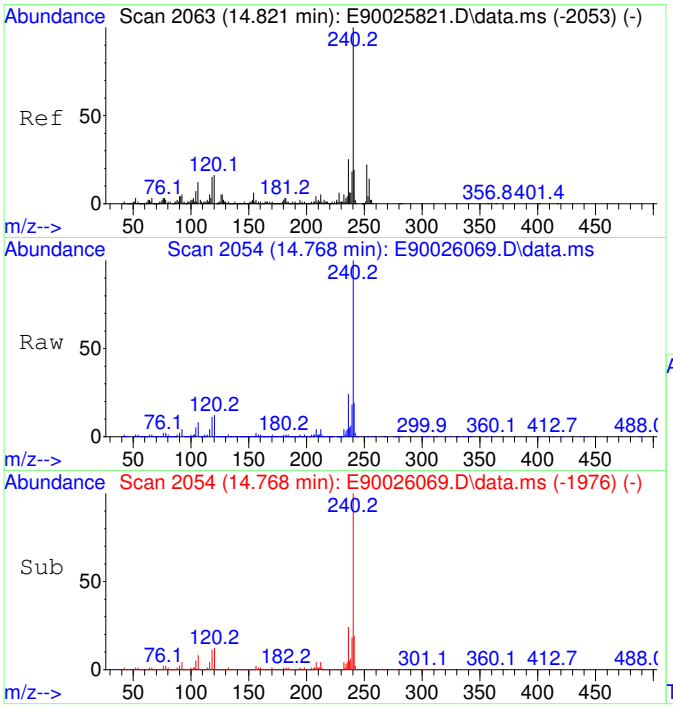


#68
2,4,6-Tribromophenol
Concen: 49.79 ug/mL
RT: 9.102 min Scan# 1079
Delta R.T. -0.047 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:330 Resp: 165656

Ion	Ratio	Lower	Upper
330	100		
332	98.0	77.1	115.7
328	34.5	27.5	41.3
334	31.5	24.6	36.8

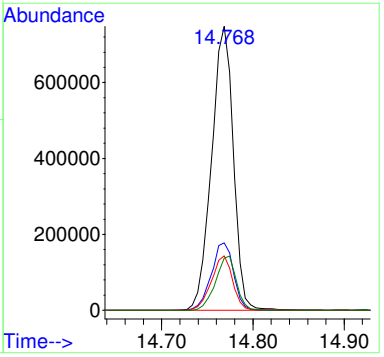


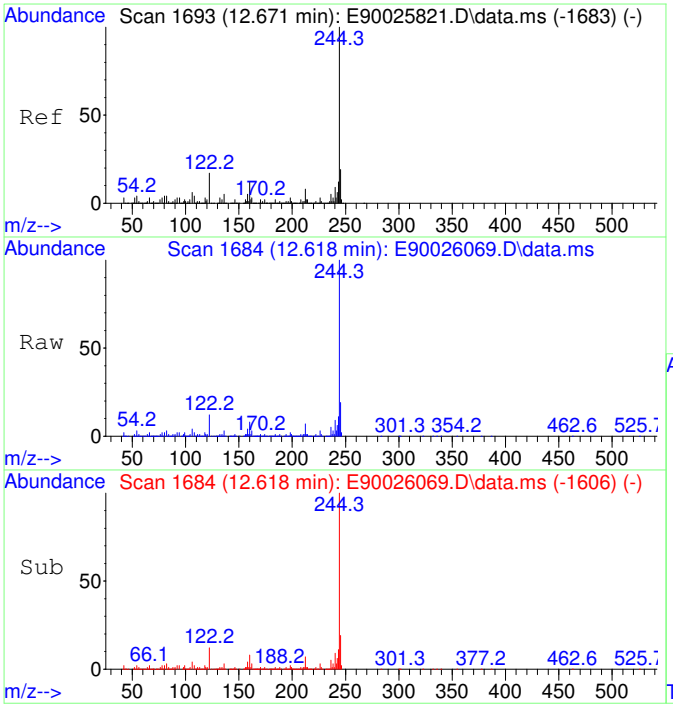


#81
Chyrsene-d12
Concen: 40.00 ug/mL
RT: 14.768 min Scan# 2054
Delta R.T. -0.047 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:240 Resp: 1240166

Ion	Ratio	Lower	Upper
240	100		
236	24.4	12.6	37.8
241	18.8	9.4	28.2
240	18.2	8.8	26.4

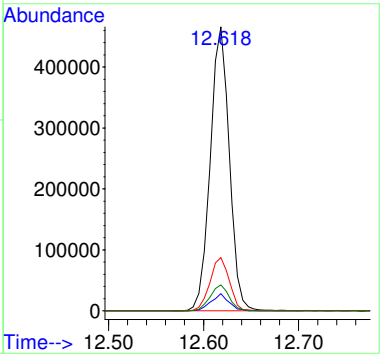


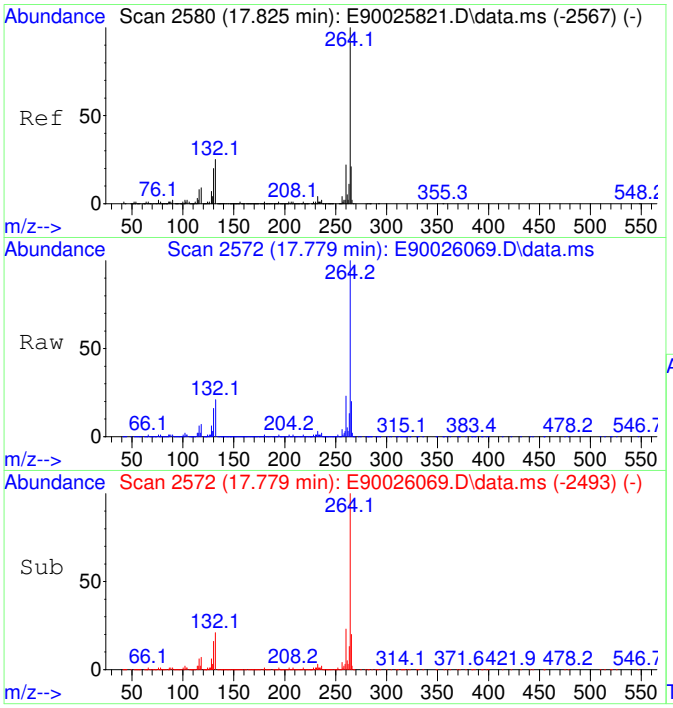


#83
Terphenyl-d14
Concen: 22.46 ug/mL
RT: 12.618 min Scan# 1684
Delta R.T. -0.047 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:244 Resp: 650524

Ion	Ratio	Lower	Upper
244	100		
243	5.6	4.4	6.6
245	19.1	15.2	22.8
240	9.1	7.4	11.0

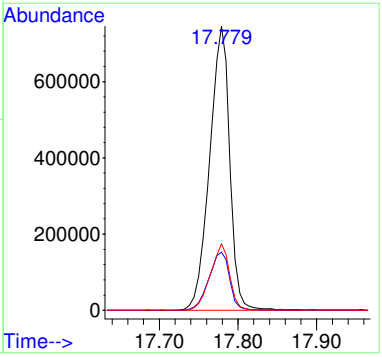




#93
Perylene-d12
Concen: 40.00 ug/mL
RT: 17.779 min Scan# 2572
Delta R.T. -0.041 min
Lab File: E90026069.D
Acq: 15 May 2023 10:53 am

Tgt Ion:264 Resp: 1324607

Ion	Ratio	Lower	Upper
264	100		
265	21.1	17.3	25.9
260	22.5	18.6	27.8



LCS RAW DATA

SDG: 23E0419
CLASS: SVOA
METHOD: EPA 8270D

Data Path : C:\msdchem\1\data\051523\
Data File : E90026070.D
Acq On : 15 May 2023 11:22 am
Operator : KH
Sample : BE30878-BS1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 16 09:35:19 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.162	152	408076	40.00	ug/mL	-0.03
21) Naphthalene-d8	6.220	136	1724991	40.00	ug/mL	-0.03
40) Acenaphthene-d10	7.998	164	1033297	40.00	ug/mL	-0.04
63) Phenanthrene-d10	9.997	188	1789599	40.00	ug/mL	#-0.03
81) Chyrsene-d12	14.769	240	1303458	40.00	ug/mL	-0.05
93) Perylene-d12	17.779	264	1331473	40.00	ug/mL	-0.04
System Monitoring Compounds						
4) 2-Fluorophenol	4.075	112	452296	35.44	ug/mL	-0.01
Spiked Amount 75.000	Range 15 - 87		Recovery = 47.25%			
5) Phenol-d5	4.848	99	604400	35.47	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 47.29%			
22) Nitrobenzene-d5	5.621	82	275599	17.85	ug/mL	-0.03
Spiked Amount 50.000	Range 26 - 120		Recovery = 35.70%			
46) 2-Fluorobiphenyl	7.208	172	605418	18.51	ug/mL	-0.04
Spiked Amount 50.000	Range 29 - 120		Recovery = 37.02%			
68) 2,4,6-Tribromophenol	9.108	330	195450	51.80	ug/mL	-0.04
Spiked Amount 75.000	Range 35 - 126		Recovery = 69.07%			
83) Terphenyl-d14	12.618	244	679234	22.31	ug/mL	-0.05
Spiked Amount 50.000	Range 35 - 127		Recovery = 44.62%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.948	74	92847	12.26	ug/mL#	80
3) Pyridine	2.971	79	130870	10.29	ug/mL#	62
6) Benzaldehyde	4.813	105	246705	20.66	ug/mL#	79
7) Aniline	4.895	93	282867	13.52	ug/mL	95
8) Phenol	4.860	94	308282	17.45	ug/mL#	91
9) Bis(2-chloroethyl)ether	4.941	93	222862	15.77	ug/mL#	86
10) 2-Chlorophenol	4.988	128	253315	18.27	ug/mL#	92
11) 1,3-Dichlorobenzene	5.115	146	258368	16.91	ug/mL	98
12) 1,4-Dichlorobenzene	5.179	146	270877	17.34	ug/mL	99
13) Benzyl Alcohol	5.272	108	177635	17.58	ug/mL	99
14) 1,2-Dichlorobenzene	5.301	146	256071	17.51	ug/mL	99
15) 2-Methylphenol	5.354	107	203979	18.05	ug/mL#	82
16) Acetophenone	5.493	105	401114	18.97	ug/mL#	92
17) Bis(2-chloroisopropyl)...	5.371	45	121993	5.91	ug/mL#	1
18) N-Nitroso-di-n-propyla...	5.482	70	186800	15.62	ug/mL#	61
19) 4-Methylphenol	5.476	107	284484	16.62	ug/mL#	87
20) Hexachloroethane	5.575	117	108260	16.95	ug/mL#	79
23) Nitrobenzene	5.639	77	275432	16.89	ug/mL#	84
24) Isophorone	5.825	82	553202	18.97	ug/mL#	92
25) 2-Nitrophenol	5.894	139	150155	23.52	ug/mL	89
26) 2,4-Dimethylphenol	5.906	122	215840	15.75	ug/mL	97
27) Bis(2-chloroethoxy) me...	5.987	93	289244	17.43	ug/mL	91
28) Benzoic acid	5.976	105	218349	23.19	ug/mL	90
29) 2,4-Dichlorophenol	6.086	162	235896	22.67	ug/mL#	88
30) 1,2,4-Trichlorobenzene	6.156	180	225172	20.68	ug/mL	98
32) Naphthalene	6.237	128	772228	18.45	ug/mL	98
33) 4-Chloroaniline	6.278	127	233429	13.58	ug/mL	96
35) Hexachlorobutadiene	6.313	225	116061	21.94	ug/mL	95
36) Caprolactam	6.603	113	102697	23.43	ug/mL#	96
37) 4-Chloro-3-methylphenol	6.690	107	263715	21.12	ug/mL	98
38) 1-methylnaphthalene	6.958	141	466881	19.46	ug/mL	97
39) 2-Methylnaphthalene	6.859	142	536016	19.33	ug/mL	98
41) 1,2,4,5-tetrachloroben...	7.010	216	288293	28.22	ug/mL#	94
42) Hexachlorocyclopentadiene	6.981	237	85441	12.73	ug/mL	95
43) Biphenyl	7.318	153	283199	19.04	ug/mL#	99
44) 2,4,6-Trichlorophenol	7.126	196	167597	21.84	ug/mL#	91
45) 2,4,5-Trichlorophenol	7.173	196	183857m	22.85	ug/mL	
47) 2-Chloronaphthalene	7.359	162	502828	17.71	ug/mL	98
48) 2-Nitroaniline	7.469	138	199002	20.55	ug/mL#	86

Data Path : C:\msdchem\1\data\051523\
Data File : E90026070.D
Acq On : 15 May 2023 11:22 am
Operator : KH
Sample : BE30878-BS1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 5 Sample Multiplier: 1

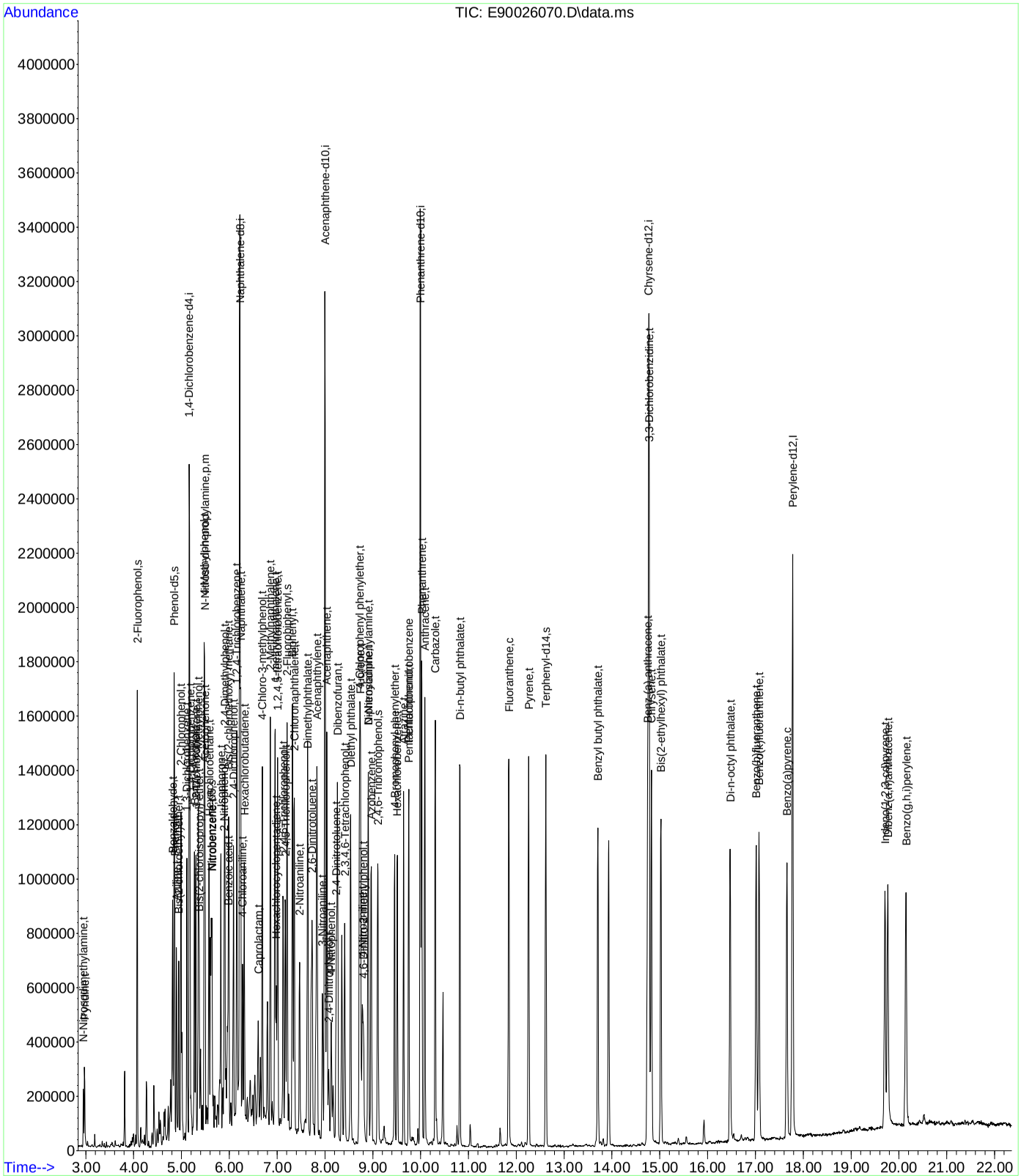
Quant Time: May 16 09:35:19 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Dimethylphthalate	7.644	163	639053	18.43	ug/mL	98
50) 2,6-Dinitrotoluene	7.731	165	155303	21.79	ug/mL	92
51) Acenaphthylene	7.830	152	887339	17.67	ug/mL	99
52) 3-Nitroaniline	7.946	138	136006	15.66	ug/mL	86
53) Acenaphthene	8.039	154	515674	17.53	ug/mL	100
54) 2,4-Dinitrophenol	8.079	184	66057	25.21	ug/mL#	73
55) Dibenzofuran	8.260	168	815824	18.84	ug/mL	96
56) 2,4-Dinitrotoluene	8.236	165	210550	22.60	ug/mL	85
57) 4-Nitrophenol	8.132	65	120947	15.68	ug/mL#	82
58) 2,3,4,6-Tetrachlorophenol	8.411	131	79314	19.32	ug/mL#	69
59) Diethyl phthalate	8.539	149	691591	18.27	ug/mL	95
60) Fluorene	8.742	166	683475	18.86	ug/mL	98
61) 4-Chlorophenyl phenyle...	8.724	204	309287	21.15	ug/mL	88
62) 4-Nitroaniline	8.783	138	178632	18.46	ug/mL	90
64) 4,6-Dinitro-2-methylph...	8.806	198	102702	25.09	ug/mL	85
65) Diphenylamine	8.905	169	617520	21.98	ug/mL	95
66) N-Nitrosodiphenylamine	8.905	167	199768	20.35	ug/mL	93
67) Azobenzene	8.969	77	665054	14.38	ug/mL#	86
69) 4-Bromophenyl phenylether	9.457	248	159395	20.74	ug/mL#	80
70) Atrazine	9.643	200	177454	17.21	ug/mL#	99
71) Hexachlorobenzene	9.509	142	76276	16.15	ug/mL	60
72) Pentachlorophenol	9.747	266	92687	20.35	ug/mL	98
73) Pentachloronitrobenzene	9.753	237	64275	16.95	ug/mL#	81
74) Phenanthrene	10.020	178	858918	18.94	ug/mL	99
75) Anthracene	10.090	178	865376	19.80	ug/mL	99
76) Carbazole	10.305	167	840311	18.67	ug/mL#	100
77) Di-n-butyl phthalate	10.822	149	1033619	17.36	ug/mL	100
79) Fluoranthene	11.845	202	872020	18.68	ug/mL	99
82) Pyrene	12.258	202	909107	19.98	ug/mL	99
84) Benzyl butyl phthalate	13.705	149	462895	16.63	ug/mL	91
85) Bis(2-ethylhexyl) phth...	15.024	149	622612	19.13	ug/mL#	96
86) Benz (a) anthracene	14.745	228	826712	19.93	ug/mL	99
87) 3,3-Dichlorobenzidine	14.780	252	277982	20.24	ug/mL#	94
88) Chrysene	14.827	228	746288	20.45	ug/mL	100
89) Di-n-octyl phthalate	16.471	149	1030853	17.39	ug/mL#	98
90) Benzo(b)fluoranthene	17.018	252	740572	20.09	ug/mL#	93
91) Benzo(k)fluoranthene	17.076	252	710709	20.51	ug/mL#	92
92) Benzo(a)pyrene	17.657	252	648234	18.65	ug/mL#	93
94) Indeno(1,2,3-cd)pyrene	19.708	276	618602	19.57	ug/mL	93
95) Dibenz(a,h)anthracene	19.766	278	616540	20.84	ug/mL#	92
96) Benzo(g,h,i)perylene	20.150	276	627769	20.45	ug/mL#	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051523\
Data File : E90026070.D
Acq On : 15 May 2023 11:22 am
Operator : KH
Sample : BE30878-BS1
Misc : QBSV9051523A
InstName : MSBNA9
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 16 09:35:19 2023
Quant Method : C:\msdchem\1\methods\BNA9M035.M
Quant Title : 8270D Semi Volatiles Calibration BNA_9
QLast Update : Wed May 03 10:21:54 2023
Response via : Initial Calibration



BENCHSHEETS

SDG: 23E0419

CLASS: SVOA

METHOD: EPA 8270D

PREPARATION BENCH SHEET-AQUEOUS: BE30878

Prepared: **05/14/2023 08:28**

York Analytical Laboratories, Inc. - Stratford

Printed: 5/15/2023 9:04:50AM

Matrix: Soil **Preparation EPA 3550C** **Surrogate used: S23E159 1000 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike 1 ID	ul Spike 1	Spike 2 ID	ul Spike 2	Source ID	pH Data Initial	pH Data Acid	pH Data Basic	Decanted Y/N	Comments
23E0172-01 B	Semi-Volatiles, 827	30.3	1										Wet/Oily odor
23E0375-01 E	Semi-Volatiles, Suf	30.1	1.5										Wet/Muddy/Took very long to vap
23E0375-02 E	Semi-Volatiles, Suf	30.8	10										Wet/Muddy
23E0375-03 E	Semi-Volatiles, Suf	30.3	1.5										Wet/Muddy/Took very long to vap
23E0375-04 E	Semi-Volatiles, Suf	30.3	1										Wet/Muddy
23E0375-05 E	Semi-Volatiles, Suf	30.2	1.5										Wet/Muddy/Took very long to vap
23E0375-06 E	Semi-Volatiles, Suf	30.9	1										Wet/Muddy/Odor
23E0375-07 E	Semi-Volatiles, Suf	30.6	1										Rocky/Muddy/Odor
23E0383-01 E	Semi-Volatiles, 827	30.6	1										Clay
23E0383-01 E	Semi-Volatiles, Ter	30.6	1										Clay
23E0383-02 E	Semi-Volatiles, 827	30.8	1										Rocky
23E0383-02 E	Semi-Volatiles, Ter	30.8	1										Rocky
23E0383-03 E	Semi-Volatiles, 827	30.8	1										Rocky
23E0383-03 E	Semi-Volatiles, Ter	30.8	1										Rocky
23E0383-04 E	Semi-Volatiles, Ter	30.6	1										Rocky
23E0383-04 E	Semi-Volatiles, 827	30.6	1										Rocky
23E0390-01 B	Semi-Volatiles, Suf	30.9	1										Wet/Twigs
23E0390-02 B	Semi-Volatiles, Suf	30.9	1										Wet
23E0390-03 B	Semi-Volatiles, Suf	30.3	1										
23E0390-04 B	Semi-Volatiles, Suf	30.2	1										
23E0390-05 B	Semi-Volatiles, Ter	30.5	1										Added for BatchQC in: BE30878
23E0390-05 B	SVOA, 8270 MAS	30.5	1										Added for BatchQC in: BE30878
23E0390-05 B	Semi-Volatiles, Suf	30.5	1										Sandy/Rocky
23E0390-05 B	Semi-Volatiles, 827	30.5	1										Added for BatchQC in: BE30878
23E0390-06 B	Semi-Volatiles, Suf	30.2	1										Rocky
23E0419-11 B	SVOA, 8270 MAS	30.7	1										Rocky
23E0419-12 B	SVOA, 8270 MAS	30.1	1										Rocky
BE30878-BLK1	QC	30	1										
BE30878-BS1	QC	30	1	S23E241	500	S23E240	500						
BE30878-MS1	QC	30.4	1	S23E241	500	S23E240	500	23E0390-05					
BE30878-MSD1	QC	30.7	1	S23E241	500	S23E240	500	23E0390-05					

SW- KAZ

Preparation Performed by **agg** **Date:** **05/14/2023 08:28**

PREPARATION BENCH SHEET-AQUEOUS: BE30878

Prepared: **05/14/2023 08:28**

York Analytical Laboratories, Inc. - Stratford

Printed: 5/15/2023 9:04:50AM

Matrix: Soil **Preparation EPA 3550C** **Surrogate used: S23E159 1000 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike 1 ID	ul Spike 1	Spike 2 ID	ul Spike 2	Source ID	pH Data			Decanted Y/N	Comments
									Initial	Acid	Basic		

Reagents:

ID Number	Description	Lot Number
S23A292	Methylene Chloride HW	ED535-US
Y22H208	ACETONE	22A2062005

ID Number	Description	Lot Number
S23E071	Sodium Sulfate, Anhydrous	208404

Preparation Performed by **agg** **Date:** **05/14/2023 08:28**

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: SVOA

METHOD: EPA 8270D SIM

DATA PACKAGE COVER PAGE

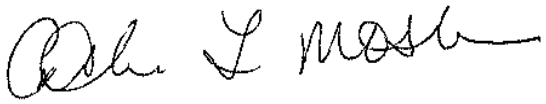
EPA 8270D SIM

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1528	Instrument:	MSBNA8
		Calibration:	SB30015

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1528-CCV1)			Lab File ID: E800070366.D		Analyzed: 05/14/23 17:52			
1,4-Dioxane-d8	0.500	98.4	80 - 120	4.733	4.7745	-0.0415	+/-1.00	
Blank (BE30880-BLK1)			Lab File ID: E800070367.D		Analyzed: 05/14/23 18:15			
1,4-Dioxane-d8	0.495	69.3	39 - 127.5	4.594	4.7745	-0.1805	+/-1.00	
LCS (BE30880-BS1)			Lab File ID: E800070368.D		Analyzed: 05/14/23 18:32			
1,4-Dioxane-d8	0.495	56.1	39 - 127.5	4.597	4.7745	-0.1775	+/-1.00	
EHQ_ITEM304_COMP01_230505 (23E0419-11)			Lab File ID: E800070371.D		Analyzed: 05/14/23 19:23			
1,4-Dioxane-d8	0.485	43.9	39 - 127.5	4.6	4.7745	-0.1745	+/-1.00	
EHQ_ITEM304_COMP02_230505 (23E0419-12)			Lab File ID: E800070372.D		Analyzed: 05/14/23 19:40			
1,4-Dioxane-d8	0.485	43.4	39 - 127.5	4.597	4.7745	-0.1775	+/-1.00	
Calibration Check (S3E1528-CCV2)			Lab File ID: E800070377.D		Analyzed: 05/14/23 21:06			
1,4-Dioxane-d8	0.500	101	80 - 120	4.724	4.7745	-0.0505	+/-1.00	
Calibration Check (S3E1528-CCV3)			Lab File ID: E800070388.D		Analyzed: 05/15/23 00:14			
1,4-Dioxane-d8	0.500	97.6	80 - 120	4.727	4.7745	-0.0475	+/-1.00	
Calibration Check (S3E1528-CCV4)			Lab File ID: E800070393.D		Analyzed: 05/15/23 01:39			
1,4-Dioxane-d8	0.500	98.3	80 - 120	4.727	4.7745	-0.0475	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30880	Laboratory ID:	BE30880-BS1
Preparation:	EPA 3550C	Initial/Final:	10.1 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
1,4-Dioxane	0.495	0.484	97.8	40 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8270D SIM

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30880 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11	E800070371.D	05/14/23 08:00	
EHQ_ITEM304_COMP02_230505	23E0419-12	E800070372.D	05/14/23 08:00	
Blank	BE30880-BLK1	E800070367.D	05/14/23 08:00	
LCS	BE30880-BS1	E800070368.D	05/14/23 08:00	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30880-BLK1	File ID:	E800070367.D
Prepared:	05/14/23 08:00	Preparation:	EPA 3550C	Initial/Final:	10.1 g / 10 mL
Analyzed:	05/14/23 18:15	Instrument:	MSBNA8		
Batch:	BE30880	Sequence:	S3E1528	Calibration:	SB30015

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
123-91-1	1,4-Dioxane	0.0198	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
1,4-Dioxane-d8	0.495	0.343	69.3	39 - 127.5	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,2-Dichlorobenzene-d4	256970	9.152	277786	9.166	

FORM V MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	E800069034.D	Injection Date:	02/09/23
Instrument ID:	MSBNA8	Injection Time:	11:26
Sequence:	S3B0926	Lab Sample ID:	S3B0926-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	47.2	PASS
68	Less than 2% of 69	1.69	PASS
69	Less than 100% of 198	43.6	PASS
70	Less than 2% of 69	0.309	PASS
127	10 - 80% of 198	51.4	PASS
197	Less than 2% of 198	1.05	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.34	PASS
275	10 - 60% of 198	24.8	PASS
365	1 - 100% of 198	2.93	PASS
441	0.01 - 24% of 442	14.5	PASS
442	50 - 100% of 198	62.3	PASS
443	15 - 24% of 442	20.5	PASS

FORM V MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Lab File ID:	E800070365.D	Injection Date:	05/14/23
Instrument ID:	MSBNA8	Injection Time:	17:17
Sequence:	S3E1528	Lab Sample ID:	S3E1528-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	39.4	PASS
68	Less than 2% of 69	1.83	PASS
69	Less than 100% of 198	39.7	PASS
70	Less than 2% of 69	0.547	PASS
127	10 - 80% of 198	45.5	PASS
197	Less than 2% of 198	1.1	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.49	PASS
275	10 - 60% of 198	28	PASS
365	1 - 100% of 198	4.63	PASS
441	0.01 - 24% of 442	16.6	PASS
442	50 - 100% of 198	96.9	PASS
443	15 - 24% of 442	18.8	PASS

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3B0926	Instrument:	MSBNA8
		Calibration:	SB30015

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3B0926-TUN1	E800069034.D	02/09/23 11:26
Cal Standard	S3B0926-CAL1	E800069035.D	02/09/23 12:03
Cal Standard	S3B0926-CAL2	E800069036.D	02/09/23 12:20
Cal Standard	S3B0926-CAL3	E800069037.D	02/09/23 12:37
Cal Standard	S3B0926-CAL4	E800069038.D	02/09/23 12:54
Cal Standard	S3B0926-CAL5	E800069039.D	02/09/23 13:11
Cal Standard	S3B0926-CAL6	E800069040.D	02/09/23 13:27
Cal Standard	S3B0926-CAL7	E800069041.D	02/09/23 13:44
Cal Standard	S3B0926-CAL8	E800069042.D	02/09/23 14:01
Secondary Cal Check	S3B0926-SCV1	E800069043.D	02/09/23 14:19

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1528	Instrument:	MSBNA8
		Calibration:	SB30015

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	S3E1528-TUN1	E800070365.D	05/14/23 17:17
Calibration Check	S3E1528-CCV1	E800070366.D	05/14/23 17:52
Blank	BE30880-BLK1	E800070367.D	05/14/23 18:15
LCS	BE30880-BS1	E800070368.D	05/14/23 18:32
EHQ_ITEM304_COMP01_230505	23E0419-11	E800070371.D	05/14/23 19:23
EHQ_ITEM304_COMP02_230505	23E0419-12	E800070372.D	05/14/23 19:40
Calibration Check	S3E1528-CCV2	E800070377.D	05/14/23 21:06
Calibration Check	S3E1528-CCV3	E800070388.D	05/15/23 00:14
Calibration Check	S3E1528-CCV4	E800070393.D	05/15/23 01:39

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3B0926	Instrument:	MSBNA8
		Calibration:	SB30015

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (S3B0926-CAL1)			Lab File ID: E800069035.D			Analyzed: 02/09/23 12:03			
1,2-Dichlorobenzene-d4	206839	9.173	231799	9.173	89	50 - 200	0.0000	+/-0.33	
Cal Standard (S3B0926-CAL2)			Lab File ID: E800069036.D			Analyzed: 02/09/23 12:20			
1,2-Dichlorobenzene-d4	231484	9.173	231799	9.173	100	50 - 200	0.0000	+/-0.33	
Cal Standard (S3B0926-CAL3)			Lab File ID: E800069037.D			Analyzed: 02/09/23 12:37			
1,2-Dichlorobenzene-d4	242682	9.173	231799	9.173	105	50 - 200	0.0000	+/-0.33	
Cal Standard (S3B0926-CAL4)			Lab File ID: E800069038.D			Analyzed: 02/09/23 12:54			
1,2-Dichlorobenzene-d4	249842	9.173	231799	9.173	108	50 - 200	0.0000	+/-0.33	
Cal Standard (S3B0926-CAL5)			Lab File ID: E800069039.D			Analyzed: 02/09/23 13:11			
1,2-Dichlorobenzene-d4	231799	9.173	231799	9.173	100	50 - 200	0.0000	+/-0.33	
Cal Standard (S3B0926-CAL6)			Lab File ID: E800069040.D			Analyzed: 02/09/23 13:27			
1,2-Dichlorobenzene-d4	247791	9.173	231799	9.173	107	50 - 200	0.0000	+/-0.33	
Cal Standard (S3B0926-CAL7)			Lab File ID: E800069041.D			Analyzed: 02/09/23 13:44			
1,2-Dichlorobenzene-d4	258084	9.173	231799	9.173	111	50 - 200	0.0000	+/-0.33	
Cal Standard (S3B0926-CAL8)			Lab File ID: E800069042.D			Analyzed: 02/09/23 14:01			
1,2-Dichlorobenzene-d4	256224	9.173	231799	9.173	111	50 - 200	0.0000	+/-0.33	
Secondary Cal Check (S3B0926-SCV1)			Lab File ID: E800069043.D			Analyzed: 02/09/23 14:19			
1,2-Dichlorobenzene-d4	233320	9.173	231799	9.173	101	50 - 200	0.0000	+/-0.33	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D SIM

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1528
Instrument: MSBNA8
Calibration: SB30015

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1528-CCV1)			Lab File ID: E800070366.D			Analyzed: 05/14/23 17:52			
1,2-Dichlorobenzene-d4	277786	9.166				50 - 200		+/-0.33	
Blank (BE30880-BLK1)			Lab File ID: E800070367.D			Analyzed: 05/14/23 18:15			
1,2-Dichlorobenzene-d4	256970	9.152	277786	9.166	93	50 - 200	-0.0140	+/-0.33	
LCS (BE30880-BS1)			Lab File ID: E800070368.D			Analyzed: 05/14/23 18:32			
1,2-Dichlorobenzene-d4	270468	9.152	277786	9.166	97	50 - 200	-0.0140	+/-0.33	
Calibration Check (S3E1528-CCV2)			Lab File ID: E800070377.D			Analyzed: 05/14/23 21:06			
1,2-Dichlorobenzene-d4	316032	9.159	277786	9.166	114	50 - 200	-0.0070	+/-0.33	
Calibration Check (S3E1528-CCV3)			Lab File ID: E800070388.D			Analyzed: 05/15/23 00:14			
1,2-Dichlorobenzene-d4	330287	9.159	316032	9.159	105	50 - 200	0.0000	+/-0.33	
Calibration Check (S3E1528-CCV4)			Lab File ID: E800070393.D			Analyzed: 05/15/23 01:39			
1,2-Dichlorobenzene-d4	340391	9.159	330287	9.159	103	50 - 200	0.0000	+/-0.33	

HOLDING TIME SUMMARY

EPA 8270D SIM

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/14/23 08:00	8.79	14.00	05/14/23 19:23	0.47	28.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/14/23 08:00	8.78	14.00	05/14/23 19:40	0.49	28.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D SIM

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:** MSBNA8

Analyte	LOD	LOQ	Units
1,4-Dioxane	0.00370	0.0200	mg/kg

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D SIM

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	E800070371.D
Sampled:	05/05/23 13:00	Prepared:	05/14/23 08:00	Analyzed:	05/14/23 19:23
Solids:	90.64	Preparation:	EPA 3550C	Initial/Final:	10.3 g / 10 mL
Batch:	BE30880	Sequence:	S3E1528	Calibration:	SB30015
Instrument:	MSBNA8				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg)	Q
123-91-1	1,4-Dioxane	1	0.0194	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
1,4-Dioxane-d8	0.485	0.213	43.9	39 - 127.5	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070371.D
Acq On : 14 May 2023 7:23 pm
Operator : KH
Sample : 23E0419-11
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 15 08:57:31 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

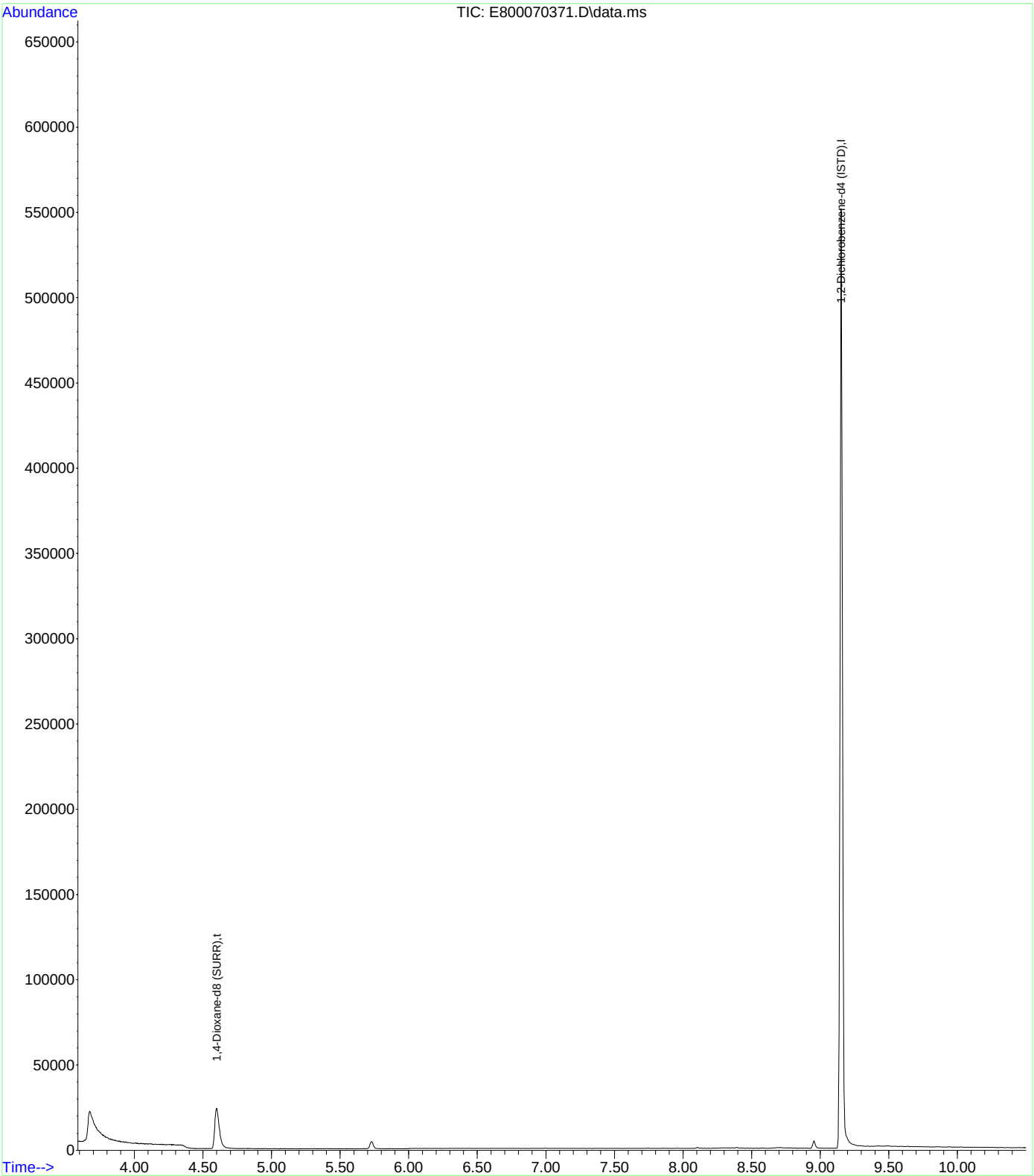
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.152	150	304169	0.50	ug/mL	-0.02
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.600	64	19952	0.2194	ug/mL	99

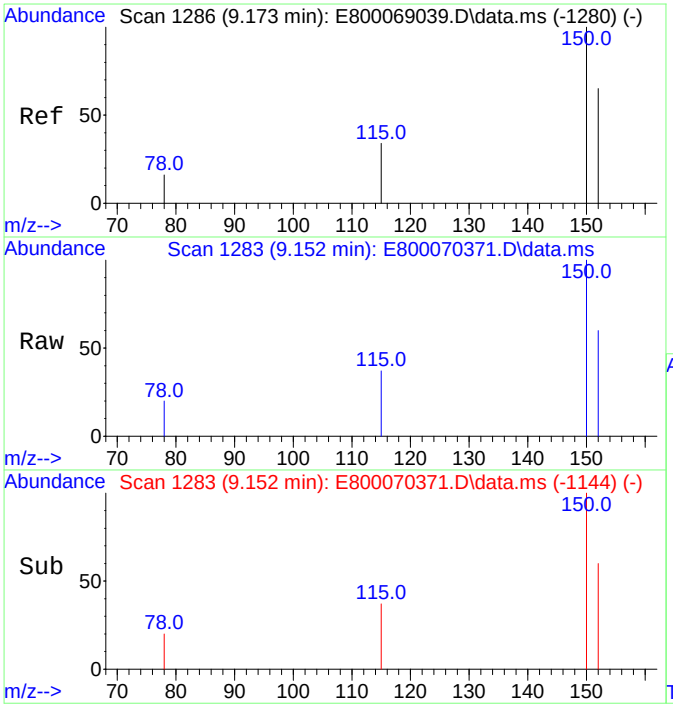
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070371.D
Acq On : 14 May 2023 7:23 pm
Operator : KH
Sample : 23E0419-11
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 15 08:57:31 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

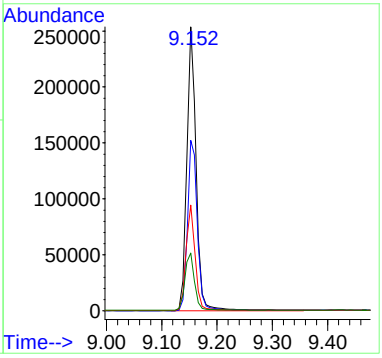


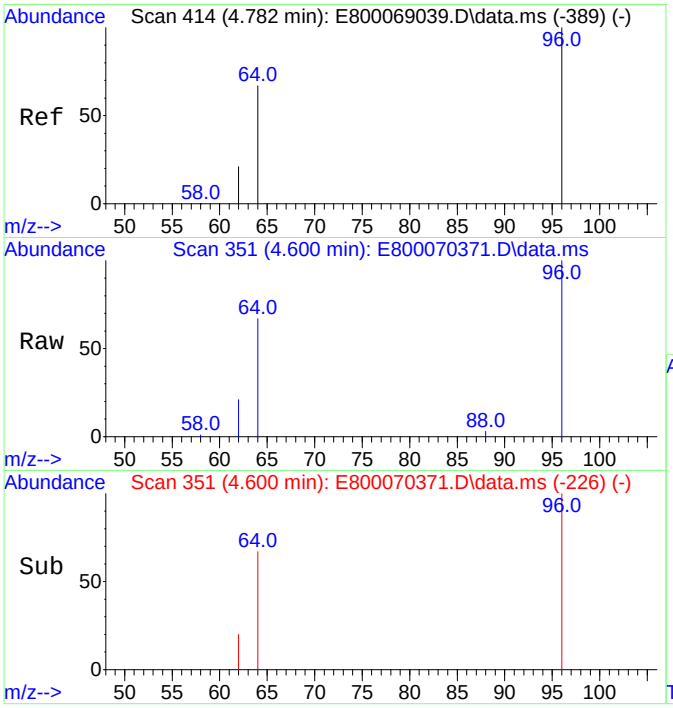


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.152 min Scan# 1283
Delta R.T. -0.021 min
Lab File: E800070371.D
Acq: 14 May 2023 7:23 pm

Tgt Ion:150 Resp: 304169

Ion	Ratio	Lower	Upper
150	100		
152	63.8	31.9	95.9
115	36.5	18.4	55.0
78	20.8	9.7	28.9

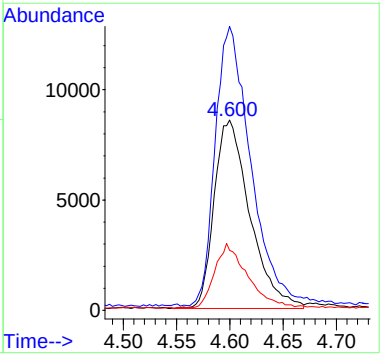




#2
1,4-Dioxane-d8 (SURR)
Concen: 0.2194 ug/mL
RT: 4.600 min Scan# 351
Delta R.T. -0.139 min
Lab File: E800070371.D
Acq: 14 May 2023 7:23 pm

Tgt Ion: 64 Resp: 19952

Ion	Ratio	Lower	Upper
64	100		
96	147.7	0.0	297.0
62	30.6	0.0	62.6



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D SIM

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	E800070372.D
Sampled:	05/05/23 13:15	Prepared:	05/14/23 08:00	Analyzed:	05/14/23 19:40
Solids:	91.31	Preparation:	EPA 3550C	Initial/Final:	10.3 g / 10 mL
Batch:	BE30880	Sequence:	S3E1528	Calibration:	SB30015
Instrument:	MSBNA8				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg)	Q
123-91-1	1,4-Dioxane	1	0.0194	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
1,4-Dioxane-d8	0.485	0.211	43.4	39 - 127.5	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070372.D
Acq On : 14 May 2023 7:40 pm
Operator : KH
Sample : 23E0419-12
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 15 08:57:34 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

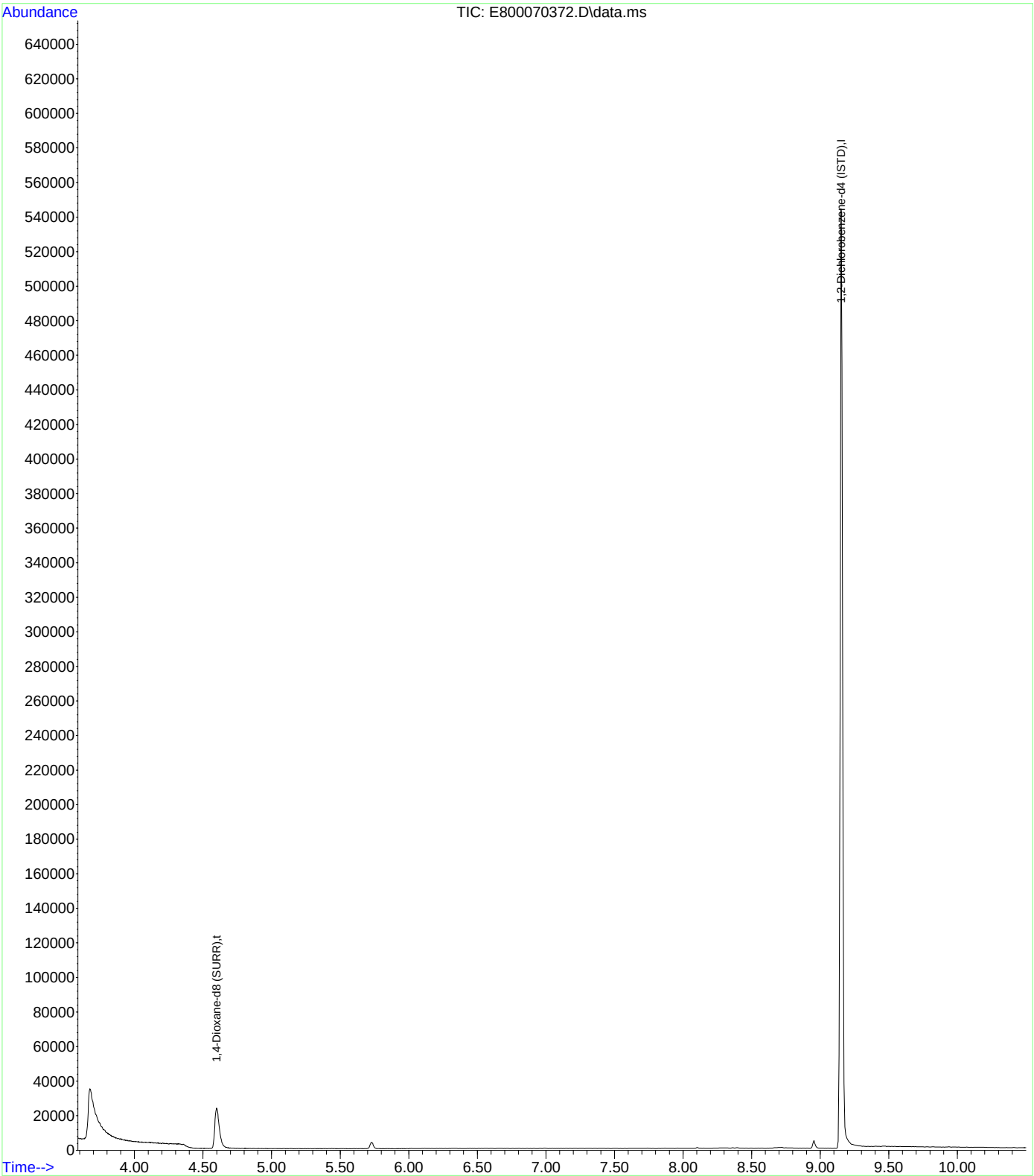
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.152	150	307061	0.50	ug/mL	-0.02
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.597	64	19942	0.2172	ug/mL	99

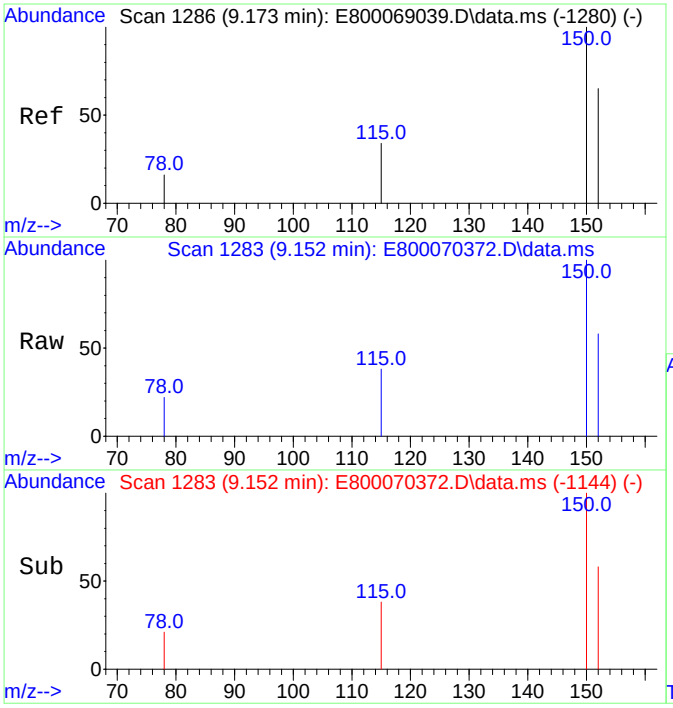
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070372.D
Acq On : 14 May 2023 7:40 pm
Operator : KH
Sample : 23E0419-12
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 15 08:57:34 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

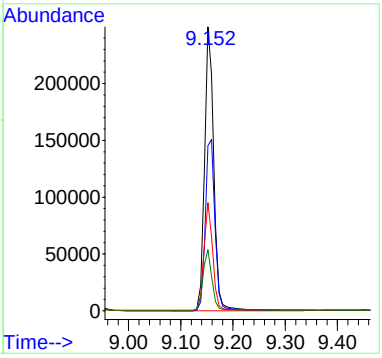


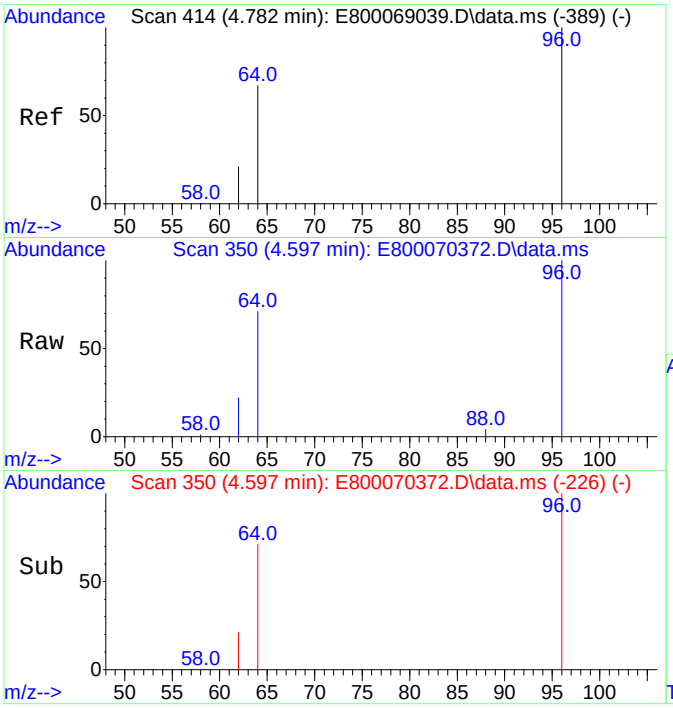


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.152 min Scan# 1283
Delta R.T. -0.021 min
Lab File: E800070372.D
Acq: 14 May 2023 7:40 pm

Tgt Ion:150 Resp: 307061

Ion	Ratio	Lower	Upper
150	100		
152	63.5	31.9	95.9
115	36.6	18.4	55.0
78	20.7	9.7	28.9

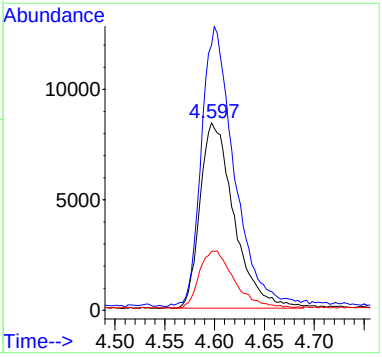




#2
1,4-Dioxane-d8 (SURR)
Concen: 0.2172 ug/mL
RT: 4.597 min Scan# 350
Delta R.T. -0.142 min
Lab File: E800070372.D
Acq: 14 May 2023 7:40 pm

Tgt Ion: 64 Resp: 19942

Ion	Ratio	Lower	Upper
64	100		
96	146.6	0.0	297.0
62	31.8	0.0	62.6



FORM VI

INITIAL CALIBRATION DATA

EPA 8270D SIM

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SB30015
Instrument: MSBNA8
Calibration Date: 02/09/23 14:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
1,4-Dioxane	0.02	0.2902016	0.05	0.273453	0.1	0.2691588	0.25	0.2567062	0.5	0.2248672	1	0.2260796
1,4-Dioxane-d8	0.02	0.1661921	0.05	0.162819	0.1	0.1646805	0.25	0.1620384	0.5	0.138784	1	0.1393715

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Calibration:	SB30015	Instrument:	MSBNA8
		Calibration Date:	02/09/23 14:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
1,4-Dioxane	2	0.2182051	5	0.2106142								
1,4-Dioxane-d8	2	0.1341569	5	0.128118								

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Calibration:	SB30015	Instrument:	MSBNA8
		Calibration Date:	02/09/23 14:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Dioxane	0.2461607	12.1157	4.8585	0.3627847			20	
1,4-Dioxane-d8	0.14952	10.58593	4.7745	0.3829668			20	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069035.D
Acq On : 9 Feb 2023 12:03 pm
Operator : KH
Sample : SEQ-CAL1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 2 Sample Multiplier: 1

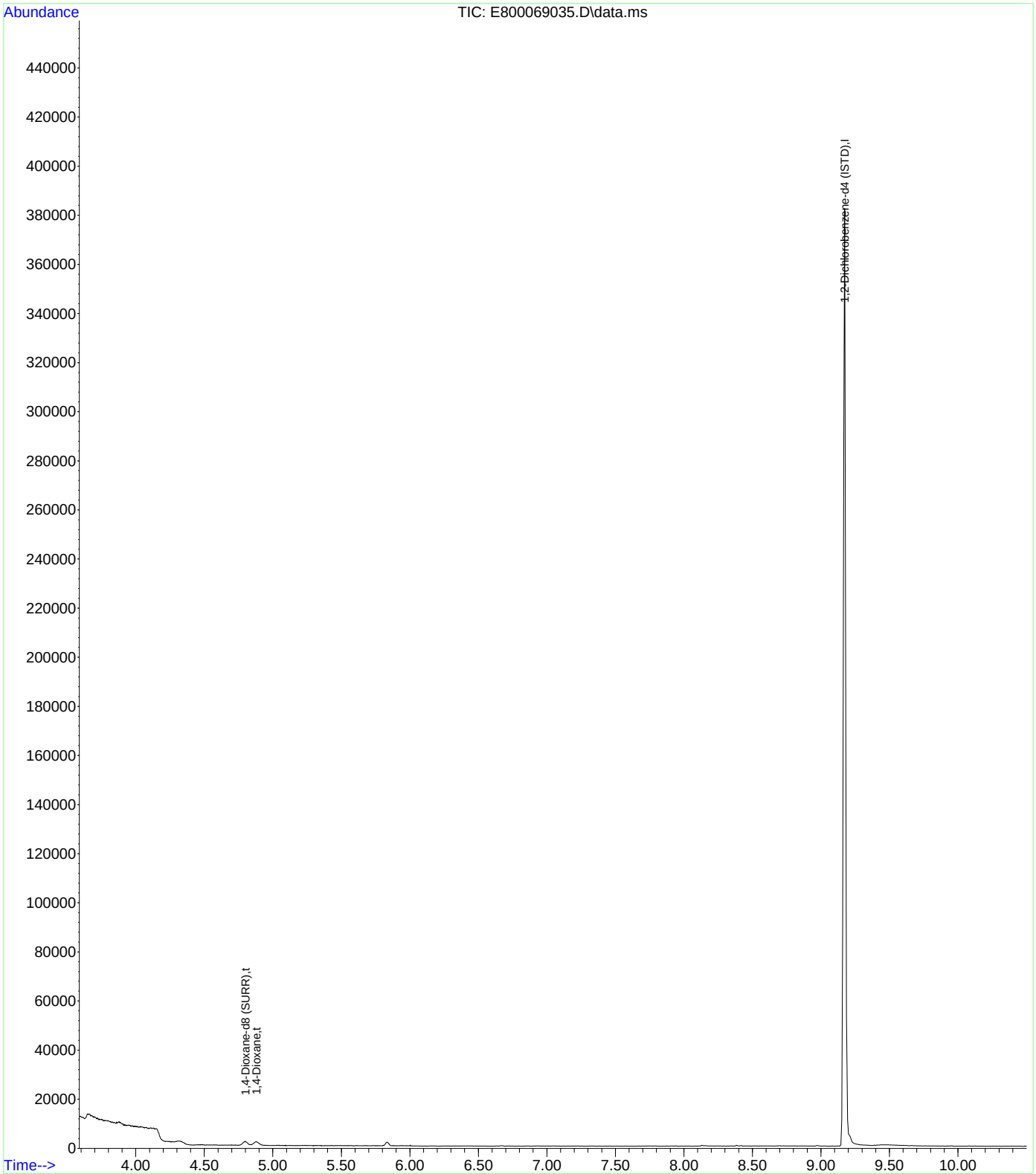
Quant Time: Feb 09 12:56:21 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

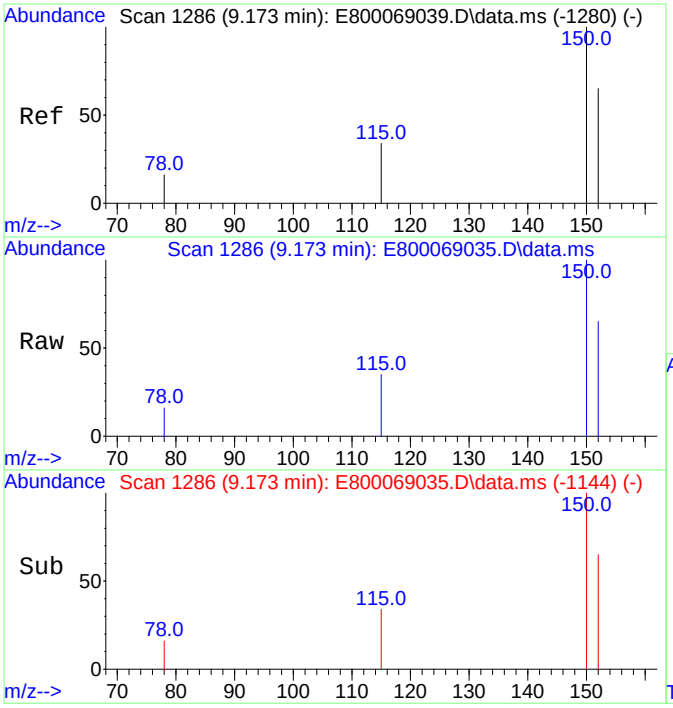
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	206839	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.799	64	1375	0.0253	ug/mL	82
3) 1,4-Dioxane	4.880	88	2401	0.0256	ug/mL	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\020923\
Data File : E800069035.D
Acq On : 9 Feb 2023 12:03 pm
Operator : KH
Sample : SEQ-CAL1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 09 12:56:21 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

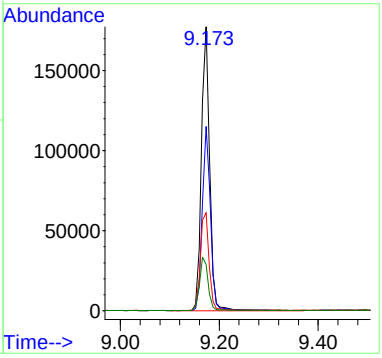


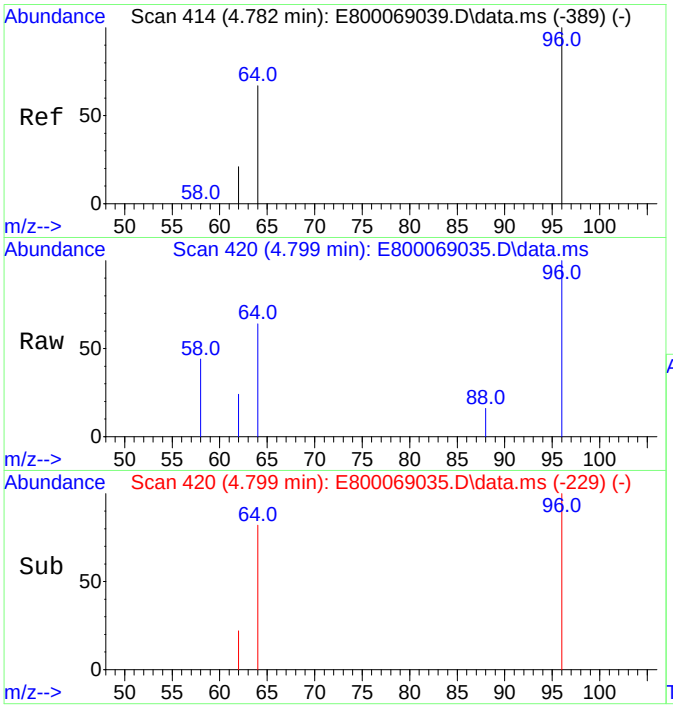


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069035.D
Acq: 9 Feb 2023 12:03 pm

Tgt Ion:150 Resp: 206839

Ion	Ratio	Lower	Upper
150	100		
152	63.8	32.0	96.2
115	36.4	19.6	58.7
78	19.3	10.7	31.9

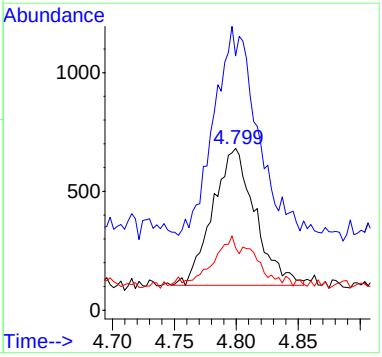


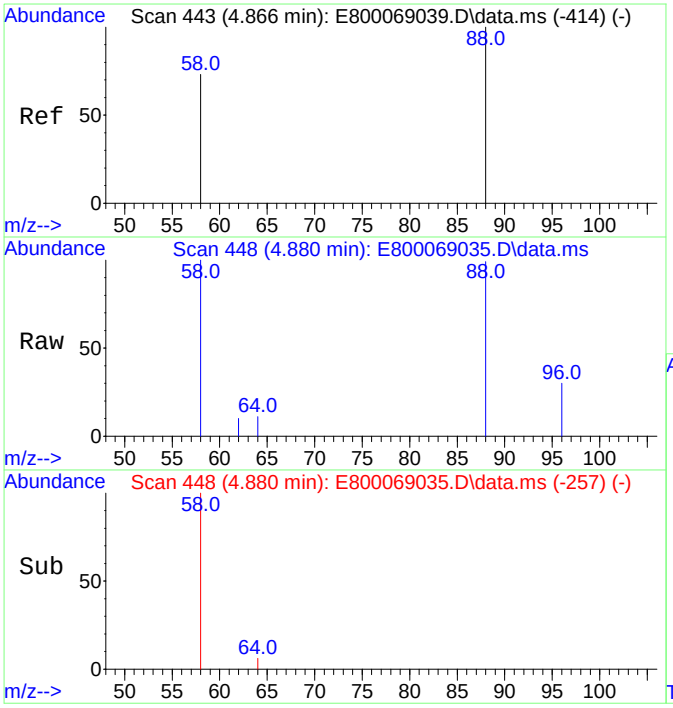


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.0253 ug/mL
RT: 4.799 min Scan# 420
Delta R.T. 0.052 min
Lab File: E800069035.D
Acq: 9 Feb 2023 12:03 pm

Tgt Ion: 64 Resp: 1375

Ion	Ratio	Lower	Upper
64	100		
96	148.0	0.0	339.2
62	15.8	0.0	61.6

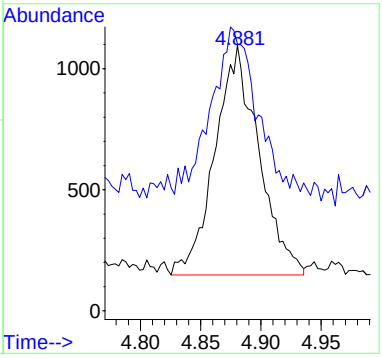




#3
1,4-Dioxane
Concen: 0.0256 ug/mL
RT: 4.880 min Scan# 448
Delta R.T. 0.052 min
Lab File: E800069035.D
Acq: 9 Feb 2023 12:03 pm

Tgt Ion: 88 Resp: 2401

Ion	Ratio	Lower	Upper
88	100		
58	74.1	42.1	78.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069036.D
Acq On : 9 Feb 2023 12:20 pm
Operator : KH
Sample : SEQ-CAL2
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 3 Sample Multiplier: 1

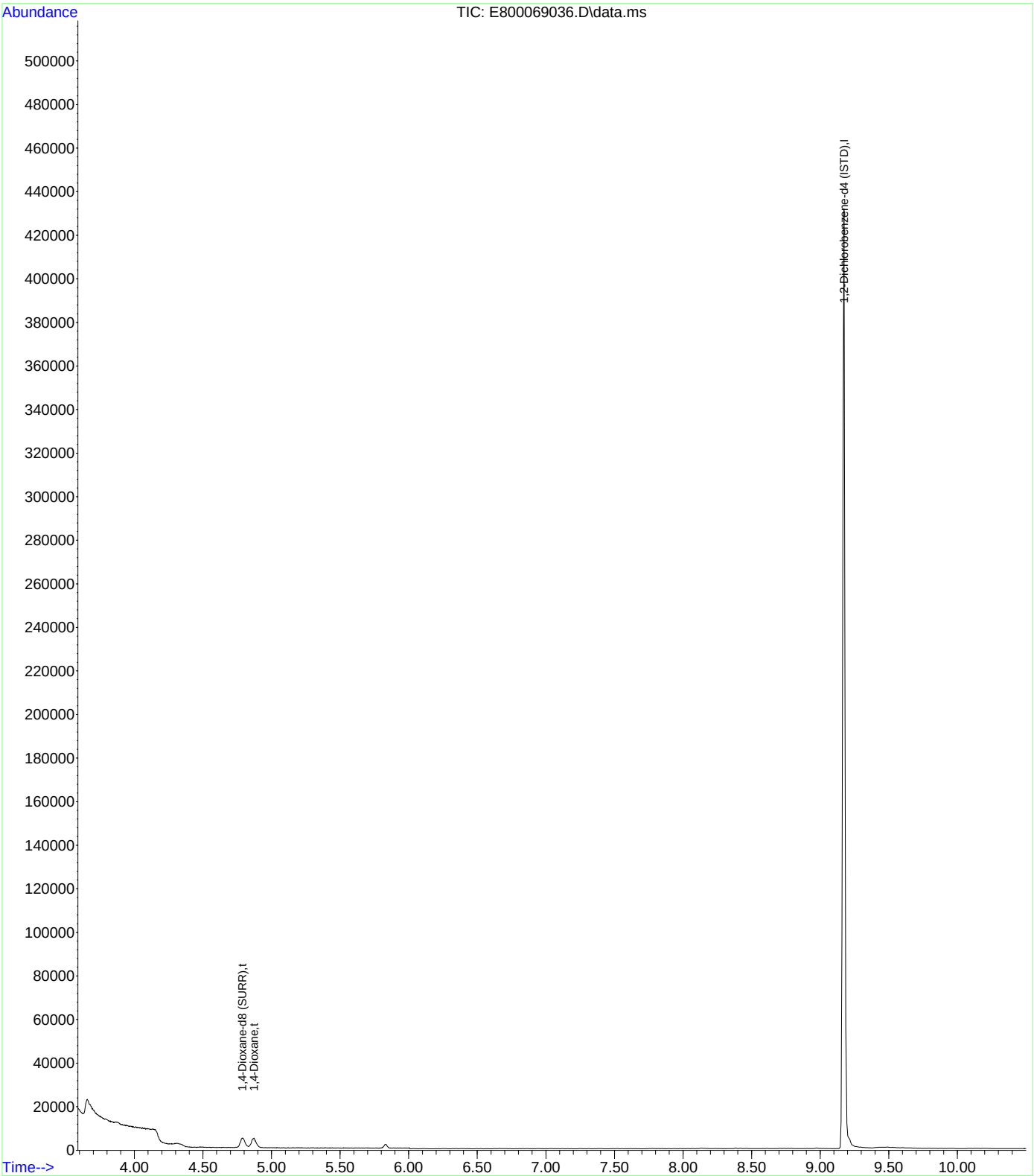
Quant Time: Feb 09 12:56:44 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

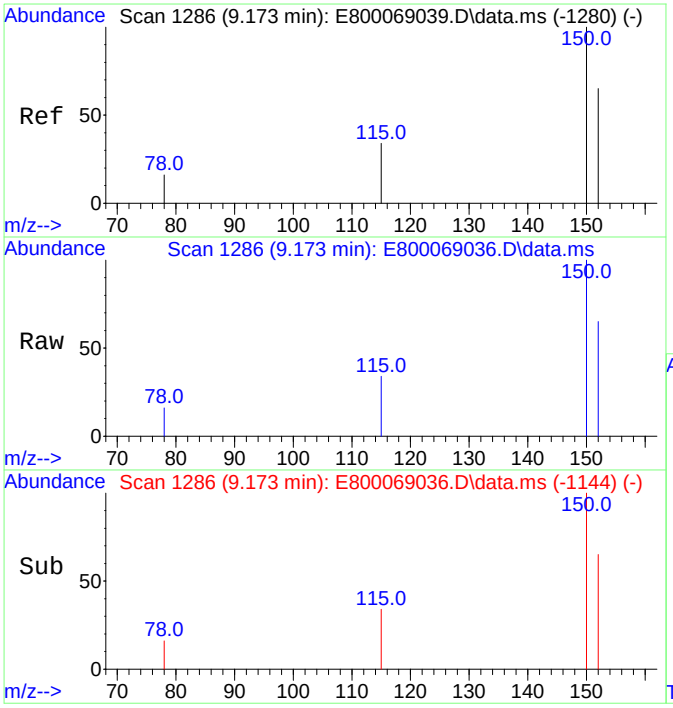
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	231484	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.785	64	3769	0.0620	ug/mL	84
3) 1,4-Dioxane	4.872	88	6330	0.0602	ug/mL	83

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\020923\
Data File : E800069036.D
Acq On : 9 Feb 2023 12:20 pm
Operator : KH
Sample : SEQ-CAL2
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 09 12:56:44 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

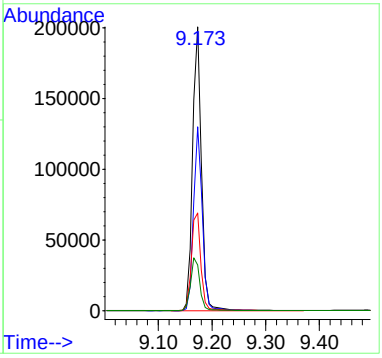


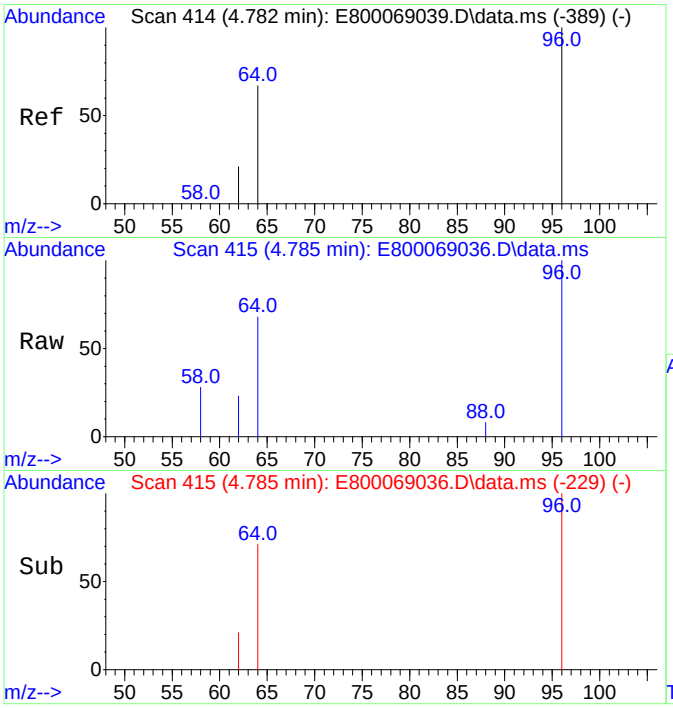


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069036.D
Acq: 9 Feb 2023 12:20 pm

Tgt Ion:150 Resp: 231484

Ion	Ratio	Lower	Upper
150	100		
152	63.7	32.0	96.2
115	36.7	19.6	58.7
78	19.3	10.7	31.9

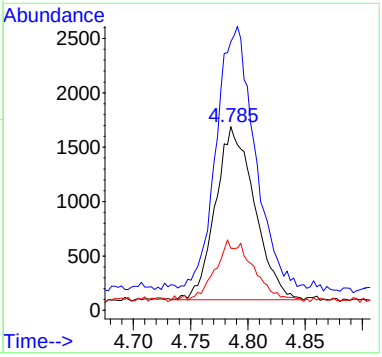


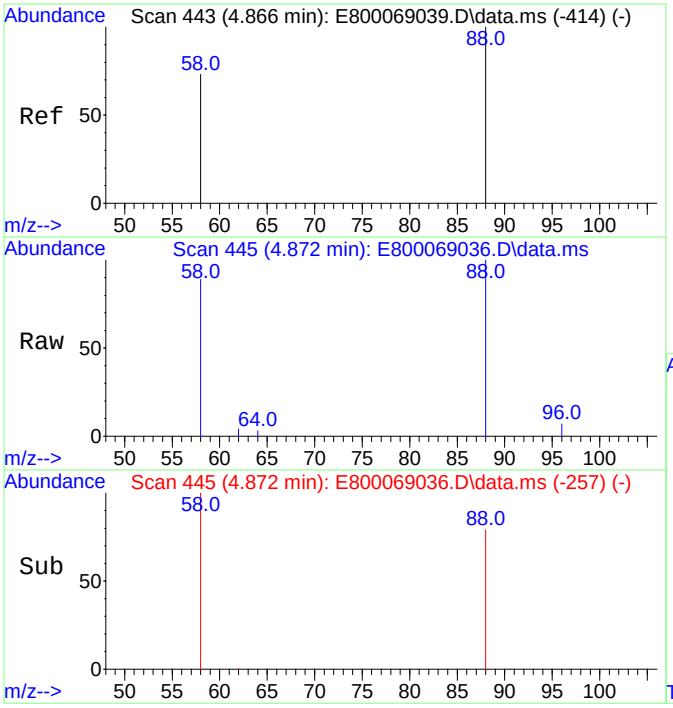


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.0620 ug/mL
RT: 4.785 min Scan# 415
Delta R.T. 0.038 min
Lab File: E800069036.D
Acq: 9 Feb 2023 12:20 pm

Tgt Ion: 64 Resp: 3769

Ion	Ratio	Lower	Upper
64	100		
96	149.5	0.0	339.2
62	16.6	0.0	61.6

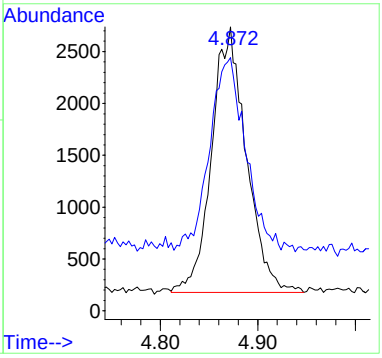




#3
1,4-Dioxane
Concen: 0.0602 ug/mL
RT: 4.872 min Scan# 445
Delta R.T. 0.043 min
Lab File: E800069036.D
Acq: 9 Feb 2023 12:20 pm

Tgt Ion: 88 Resp: 6330

Ion	Ratio	Lower	Upper
88	100		
58	73.0	42.1	78.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069037.D
Acq On : 9 Feb 2023 12:37 pm
Operator : KH
Sample : SEQ-CAL3
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 4 Sample Multiplier: 1

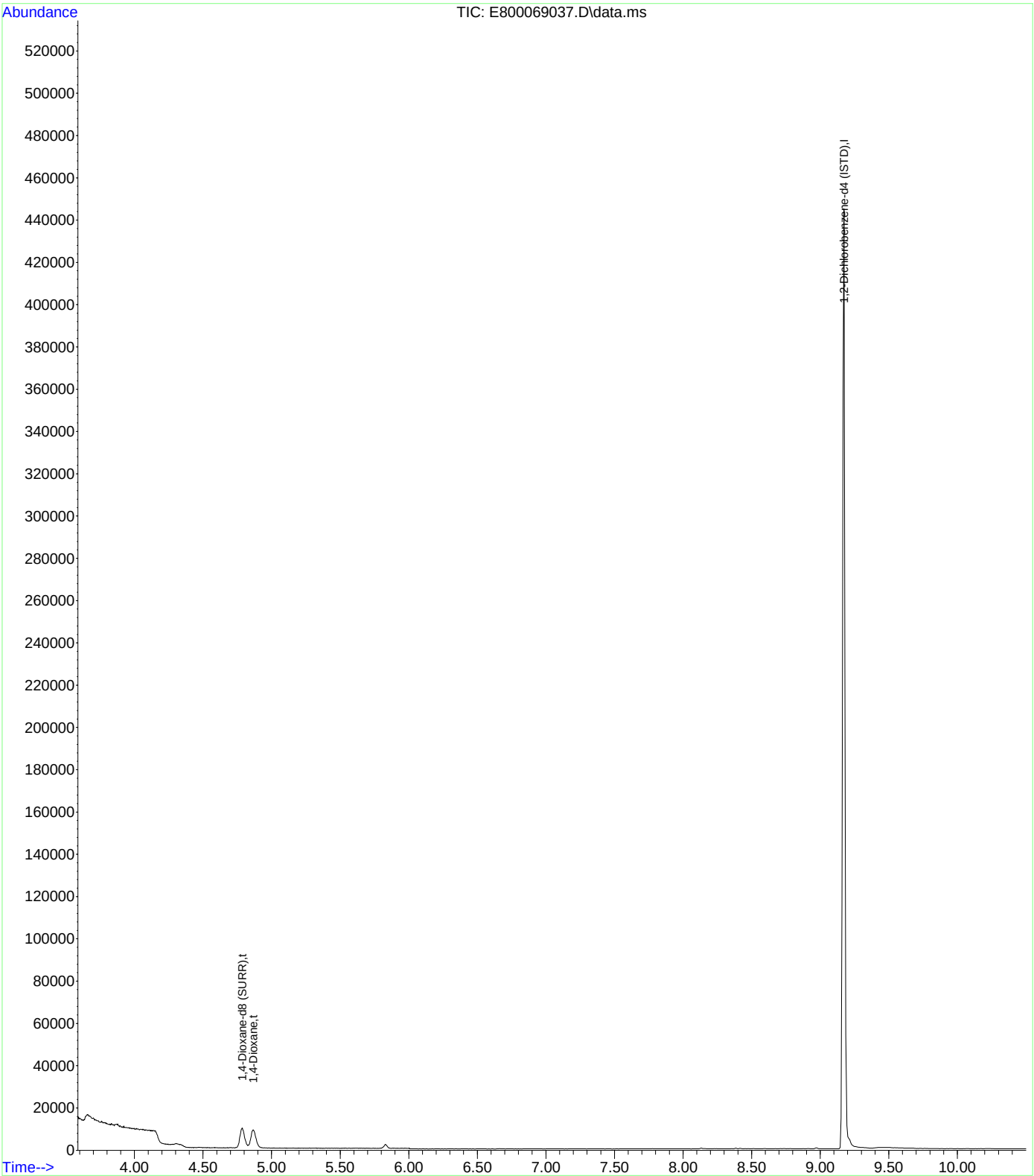
Quant Time: Feb 09 12:56:59 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

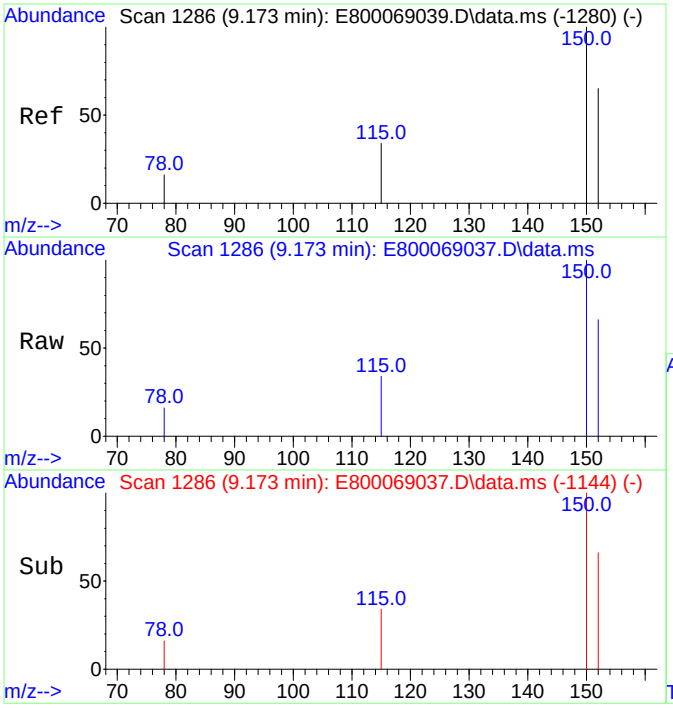
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	242682	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.785	64	7993	0.1254	ug/mL	87
3) 1,4-Dioxane	4.866	88	13064	0.1186	ug/mL	81

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\020923\
Data File : E800069037.D
Acq On : 9 Feb 2023 12:37 pm
Operator : KH
Sample : SEQ-CAL3
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 09 12:56:59 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

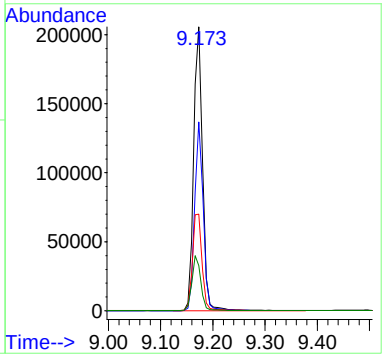


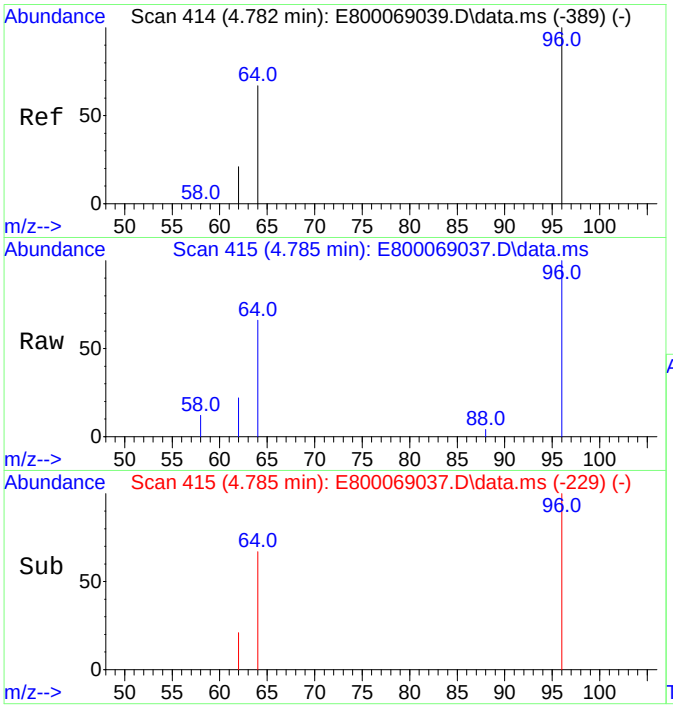


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069037.D
Acq: 9 Feb 2023 12:37 pm

Tgt Ion:150 Resp: 242682

Ion	Ratio	Lower	Upper
150	100		
152	64.0	32.0	96.2
115	36.7	19.6	58.7
78	19.3	10.7	31.9

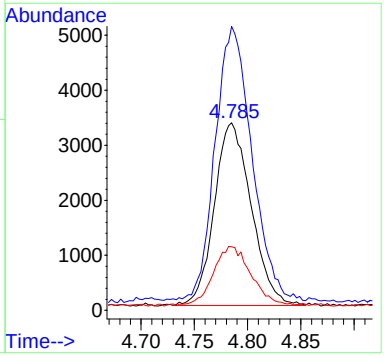


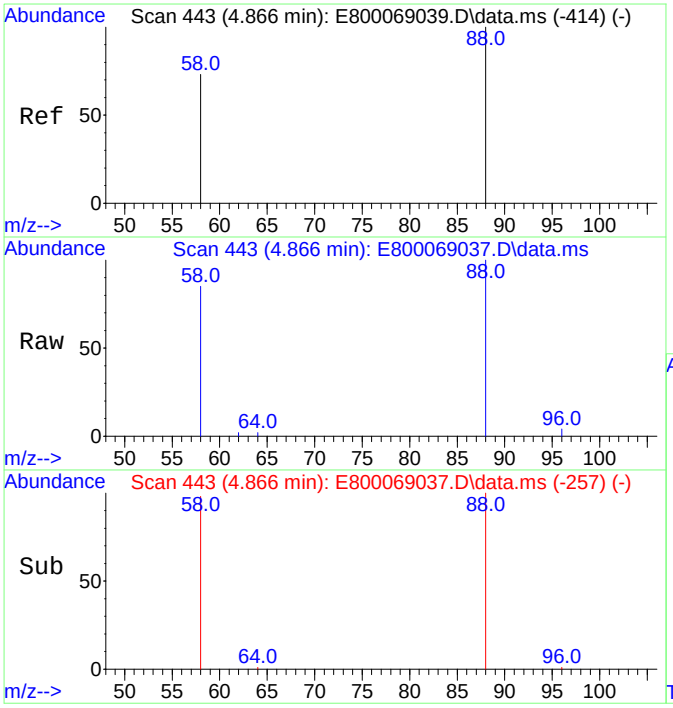


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.1254 ug/mL
RT: 4.785 min Scan# 415
Delta R.T. 0.038 min
Lab File: E800069037.D
Acq: 9 Feb 2023 12:37 pm

Tgt Ion: 64 Resp: 7993

Ion	Ratio	Lower	Upper
64	100		
96	149.3	0.0	339.2
62	33.1	0.0	61.6

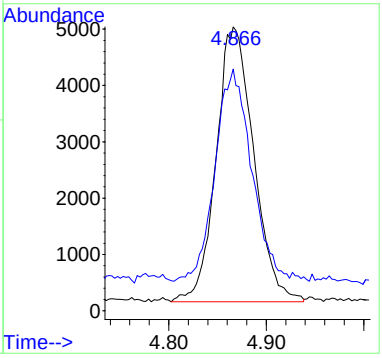




#3
1,4-Dioxane
Concen: 0.1186 ug/mL
RT: 4.866 min Scan# 443
Delta R.T. 0.038 min
Lab File: E800069037.D
Acq: 9 Feb 2023 12:37 pm

Tgt Ion: 88 Resp: 13064

Ion	Ratio	Lower	Upper
88	100		
58	74.8	42.1	78.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069038.D
Acq On : 9 Feb 2023 12:54 pm
Operator : KH
Sample : SEQ-CAL4
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 09 13:30:15 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

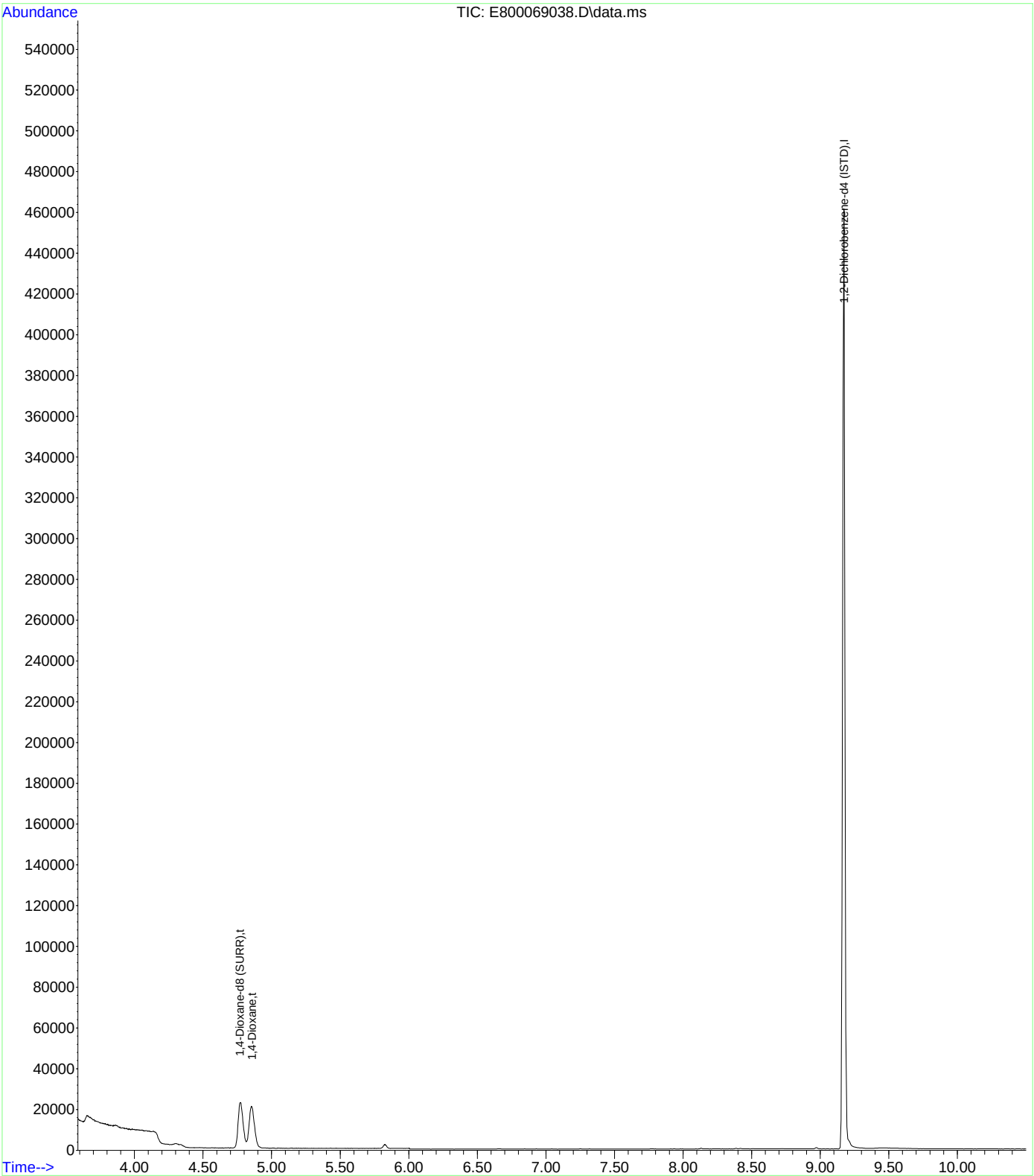
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	249842	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.768	64	20242	0.3085	ug/mL	85
3) 1,4-Dioxane	4.857	88	32068	0.2827	ug/mL	80

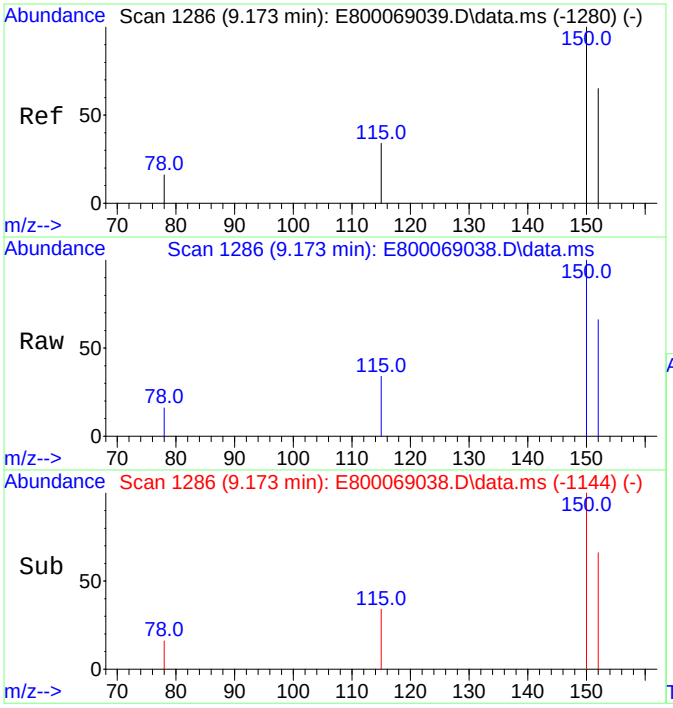
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069038.D
Acq On : 9 Feb 2023 12:54 pm
Operator : KH
Sample : SEQ-CAL4
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 09 13:30:15 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

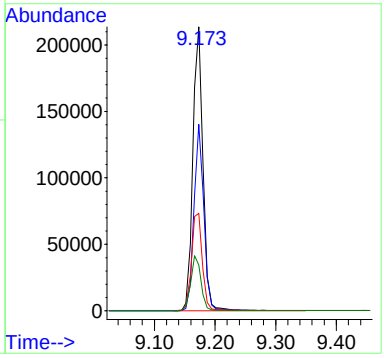


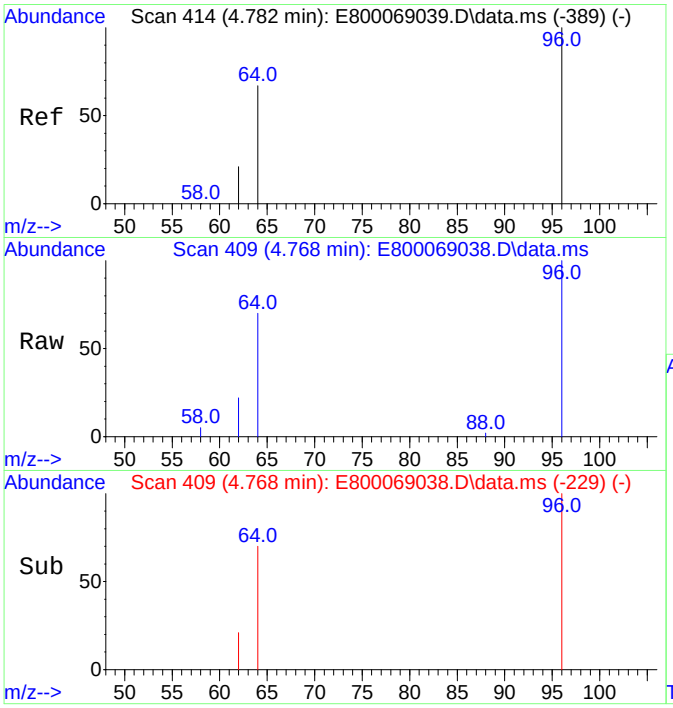


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069038.D
Acq: 9 Feb 2023 12:54 pm

Tgt Ion:150 Resp: 249842

Ion	Ratio	Lower	Upper
150	100		
152	63.7	32.0	96.2
115	36.6	19.6	58.7
78	19.4	10.7	31.9

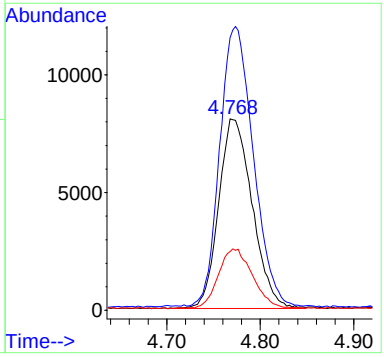


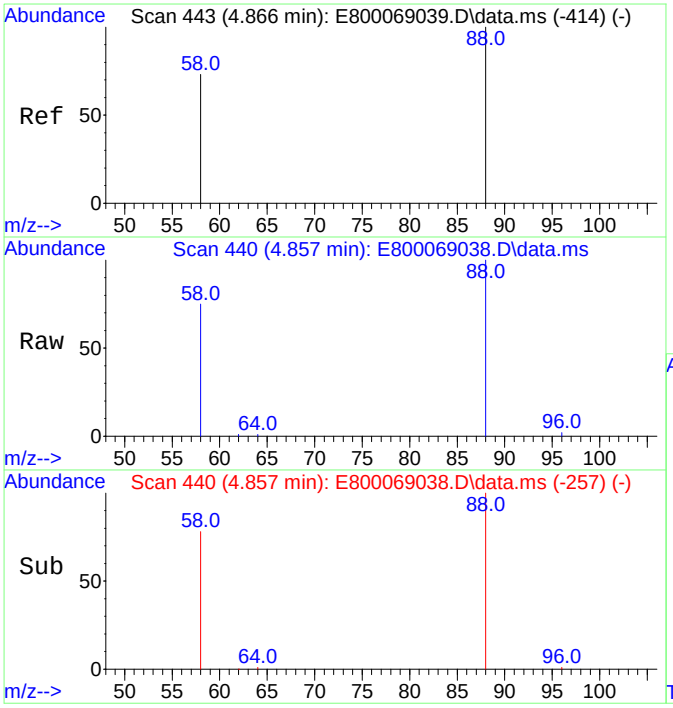


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.3085 ug/mL
RT: 4.768 min Scan# 409
Delta R.T. 0.020 min
Lab File: E800069038.D
Acq: 9 Feb 2023 12:54 pm

Tgt Ion: 64 Resp: 20242

Ion	Ratio	Lower	Upper
64	100		
96	146.1	0.0	339.2
62	32.7	0.0	61.6

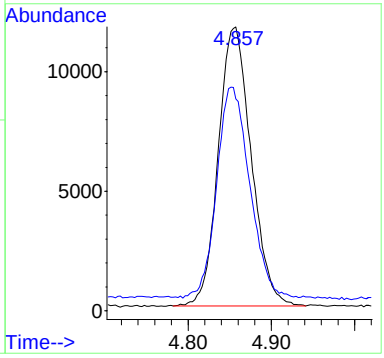




#3
1,4-Dioxane
Concen: 0.2827 ug/mL
RT: 4.857 min Scan# 440
Delta R.T. 0.029 min
Lab File: E800069038.D
Acq: 9 Feb 2023 12:54 pm

Tgt Ion: 88 Resp: 32068

Ion	Ratio	Lower	Upper
88	100		
58	75.7	42.1	78.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069039.D
Acq On : 9 Feb 2023 1:11 pm
Operator : KH
Sample : SEQ-CAL5
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 09 13:30:32 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

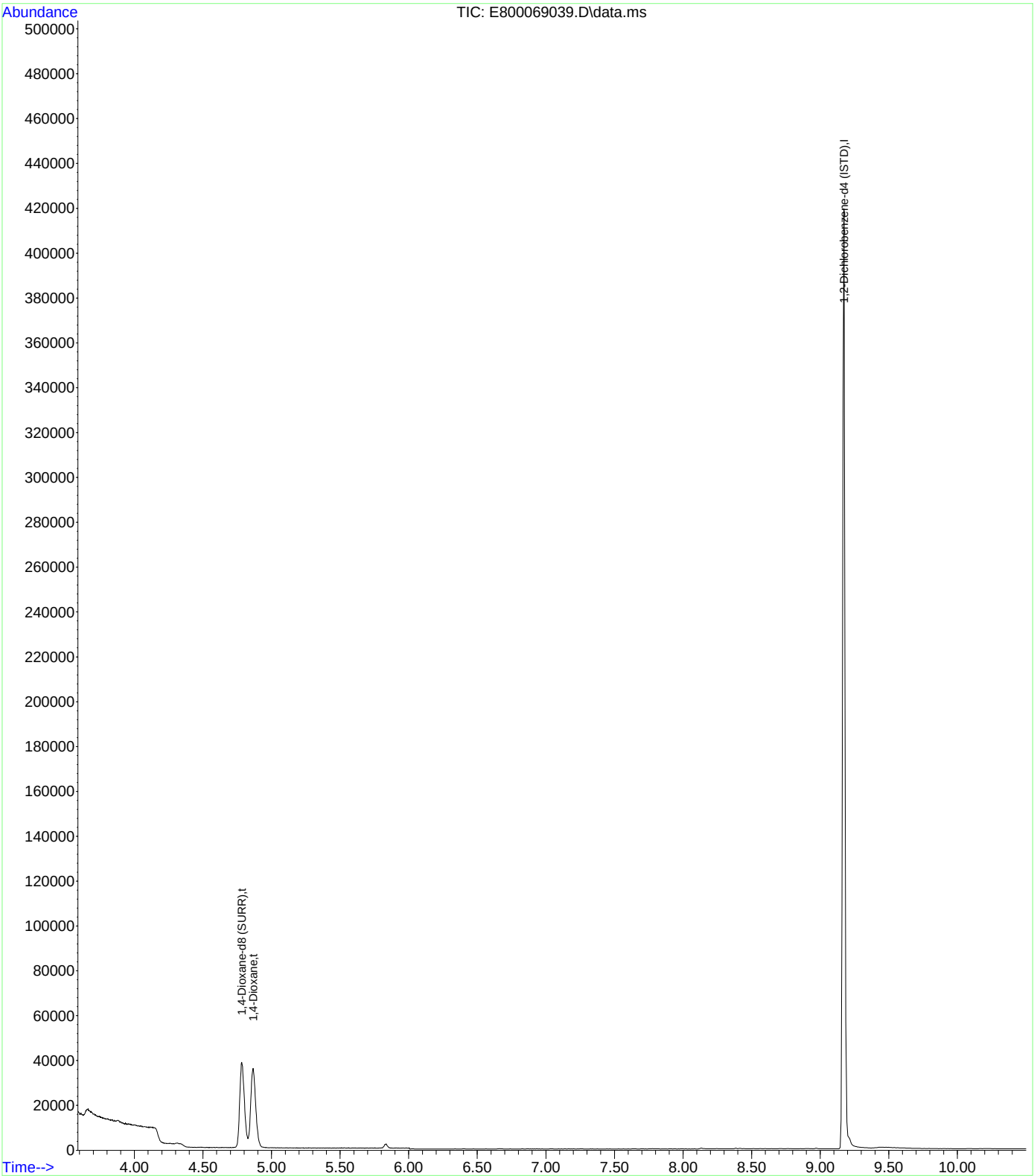
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	231799	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.782	64	32170	0.5285	ug/mL	87
3) 1,4-Dioxane	4.866	88	52124	0.4953	ug/mL	81

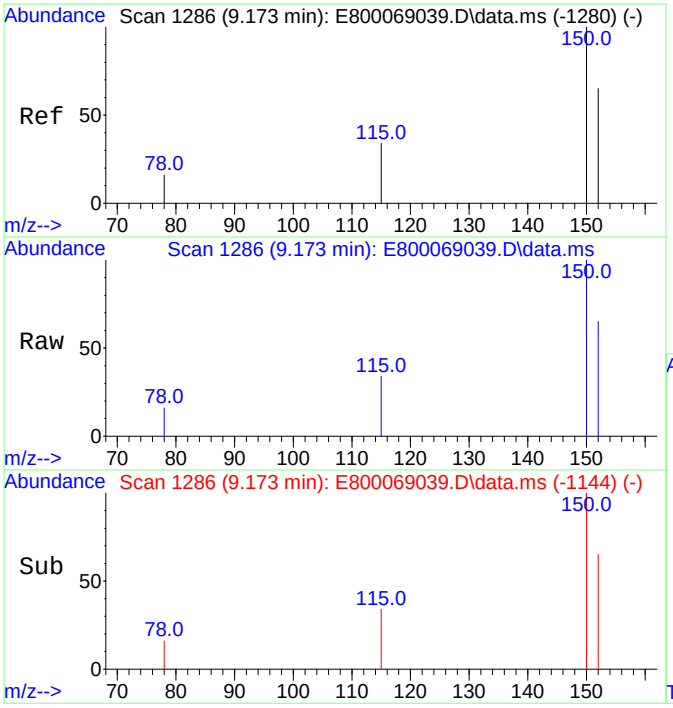
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069039.D
Acq On : 9 Feb 2023 1:11 pm
Operator : KH
Sample : SEQ-CAL5
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 09 13:30:32 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

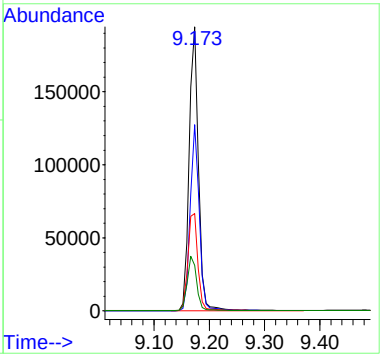


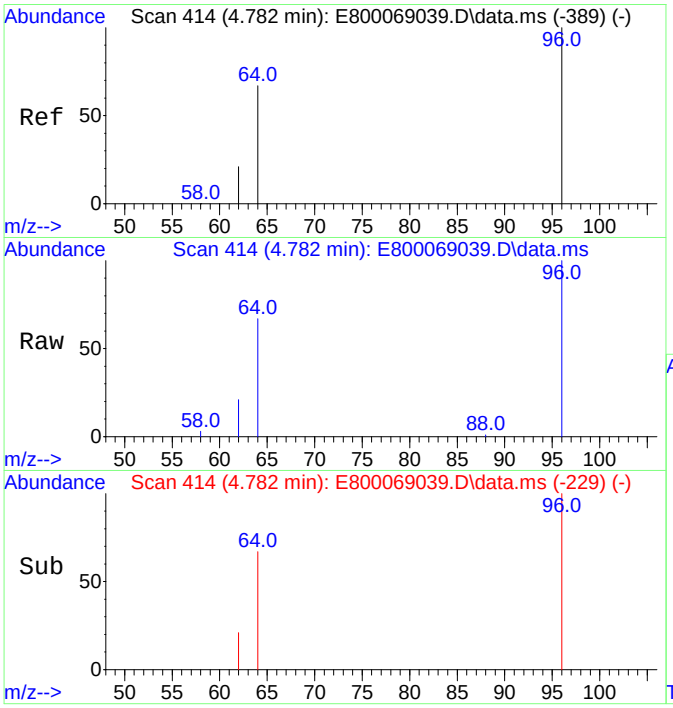


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069039.D
Acq: 9 Feb 2023 1:11 pm

Tgt Ion:150 Resp: 231799

Ion	Ratio	Lower	Upper
150	100		
152	63.9	32.0	96.2
115	36.7	19.6	58.7
78	19.3	10.7	31.9

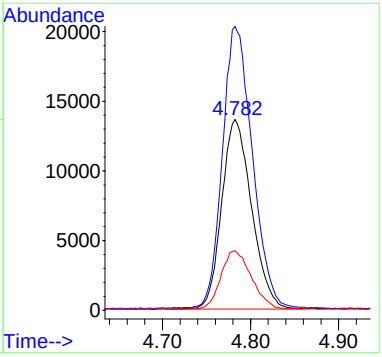


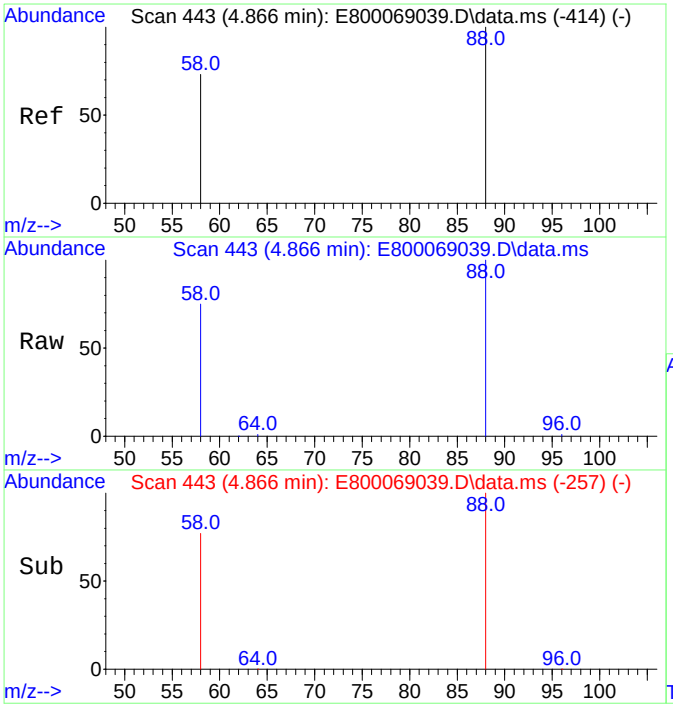


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.5285 ug/mL
RT: 4.782 min Scan# 414
Delta R.T. 0.035 min
Lab File: E800069039.D
Acq: 9 Feb 2023 1:11 pm

Tgt Ion: 64 Resp: 32170

Ion	Ratio	Lower	Upper
64	100		
96	148.5	0.0	339.2
62	31.3	0.0	61.6

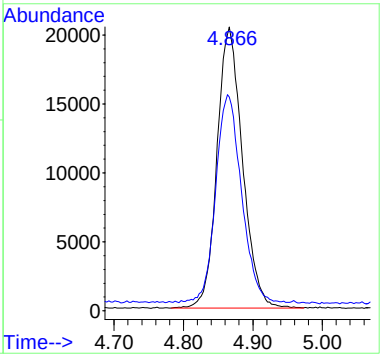




#3
1,4-Dioxane
Concen: 0.4953 ug/mL
RT: 4.866 min Scan# 443
Delta R.T. 0.038 min
Lab File: E800069039.D
Acq: 9 Feb 2023 1:11 pm

Tgt Ion: 88 Resp: 52124

Ion	Ratio	Lower	Upper
88	100		
58	74.8	42.1	78.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069040.D
Acq On : 9 Feb 2023 1:27 pm
Operator : KH
Sample : SEQ-CAL6
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 7 Sample Multiplier: 1

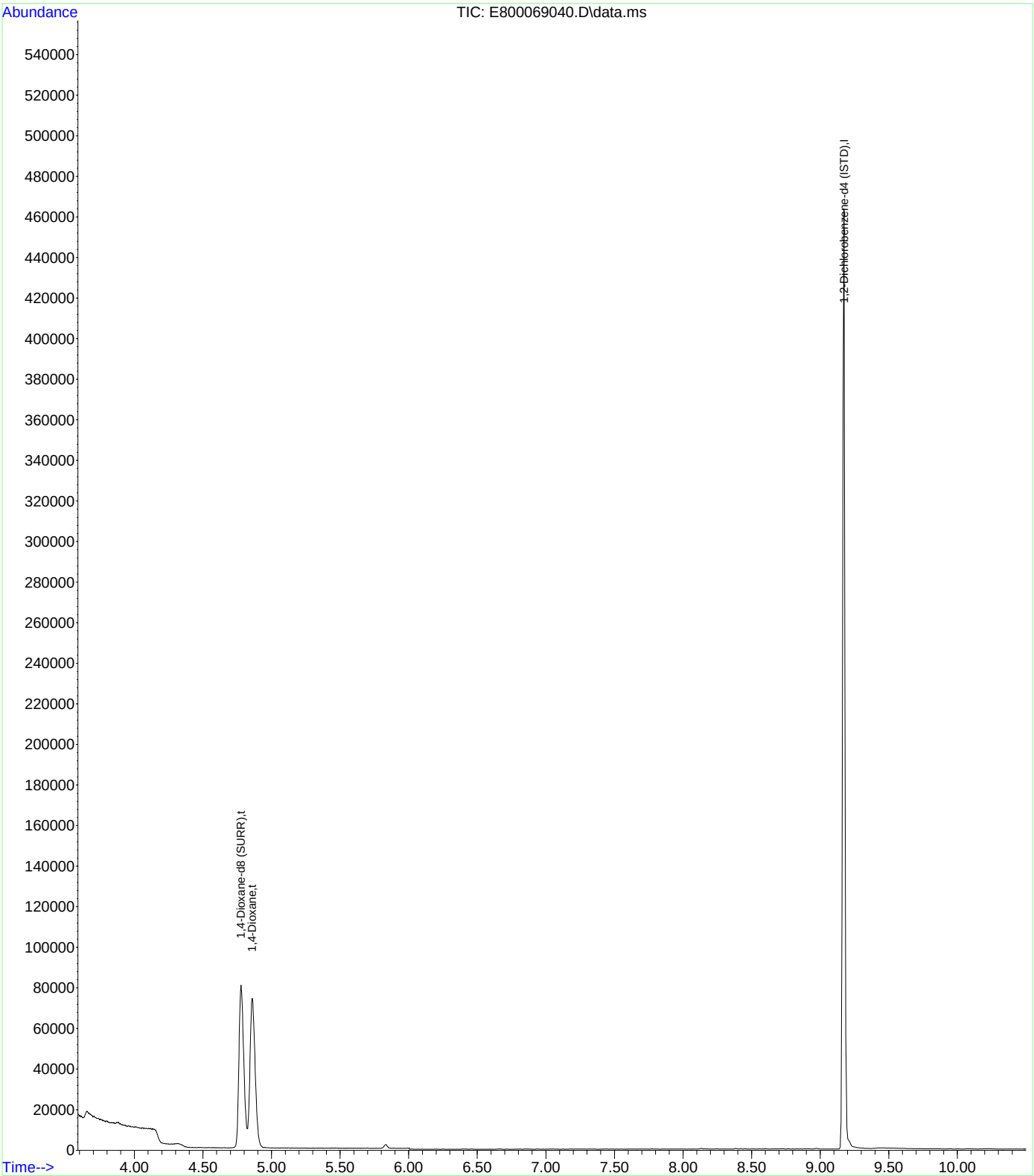
Quant Time: Feb 09 14:12:58 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

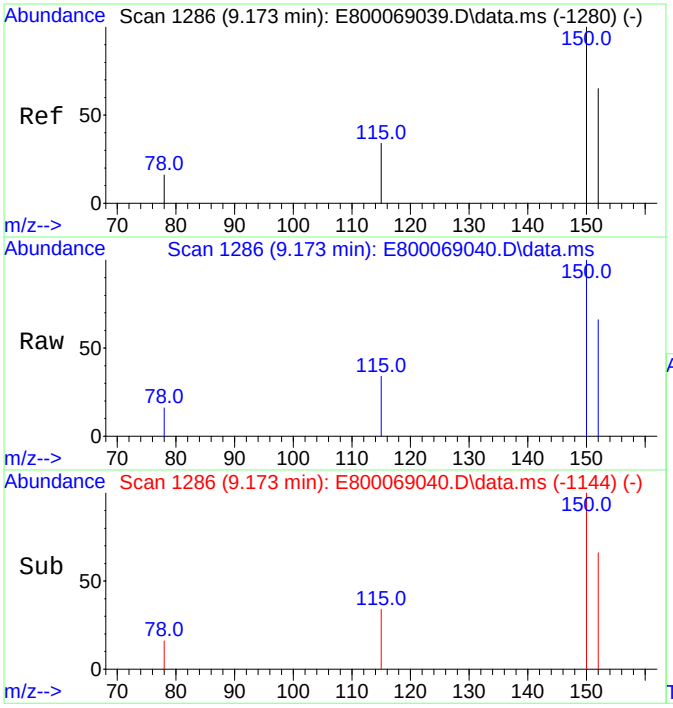
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	247791	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.776	64	69070	1.0615	ug/mL	88
3) 1,4-Dioxane	4.858	88	112041	0.9960	ug/mL	81

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\020923\
Data File : E800069040.D
Acq On : 9 Feb 2023 1:27 pm
Operator : KH
Sample : SEQ-CAL6
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 09 14:12:58 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

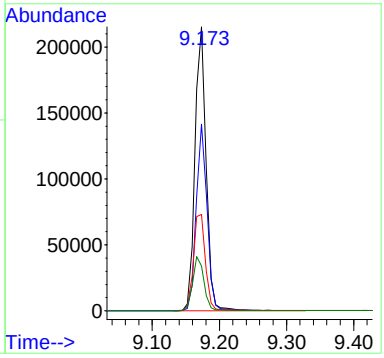


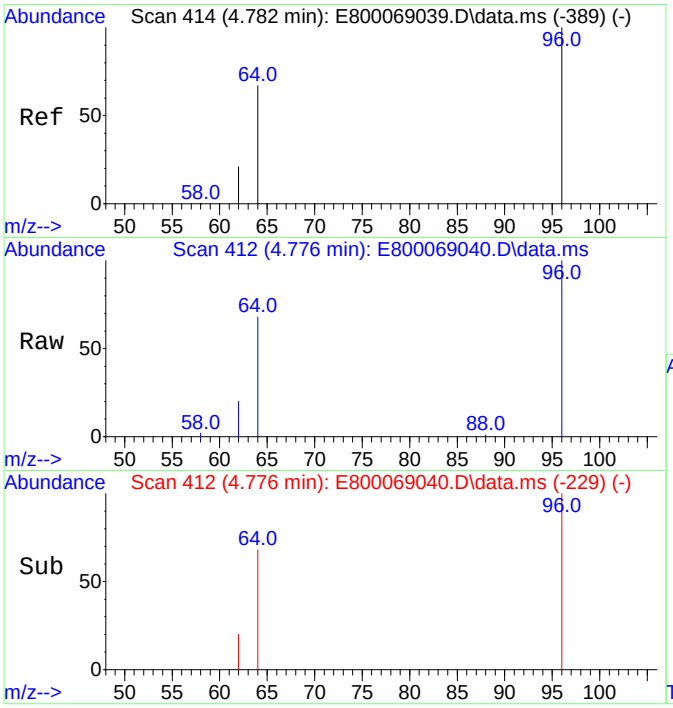


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069040.D
Acq: 9 Feb 2023 1:27 pm

Tgt Ion:150 Resp: 247791

Ion	Ratio	Lower	Upper
150	100		
152	63.9	32.0	96.2
115	36.7	19.6	58.7
78	19.3	10.7	31.9

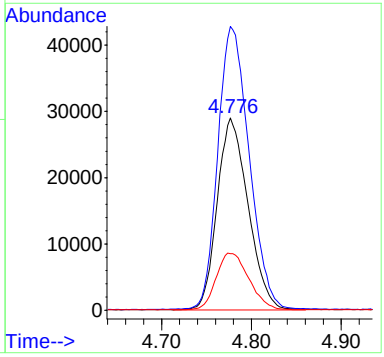


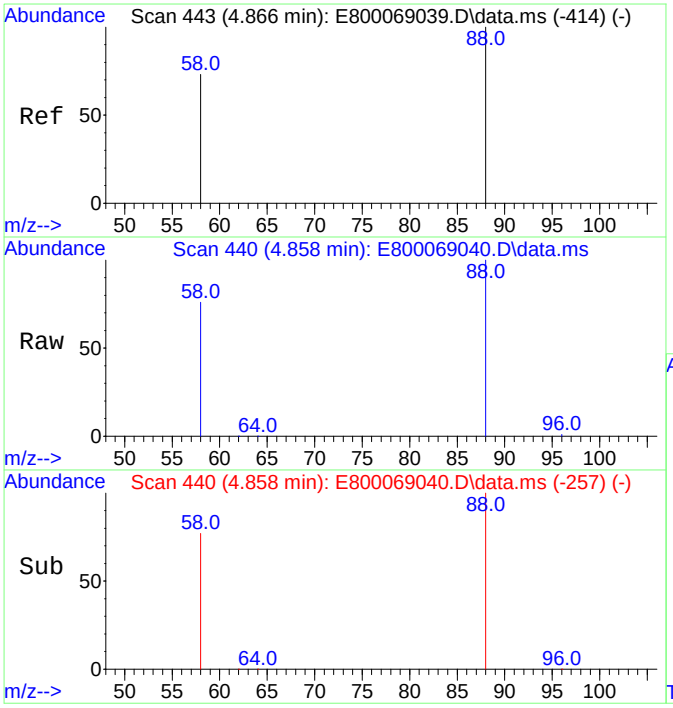


#2
1,4-Dioxane-d8 (SURR)
Concen: 1.0615 ug/mL
RT: 4.776 min Scan# 412
Delta R.T. 0.029 min
Lab File: E800069040.D
Acq: 9 Feb 2023 1:27 pm

Tgt Ion: 64 Resp: 69070

Ion	Ratio	Lower	Upper
64	100		
96	149.8	0.0	339.2
62	31.0	0.0	61.6

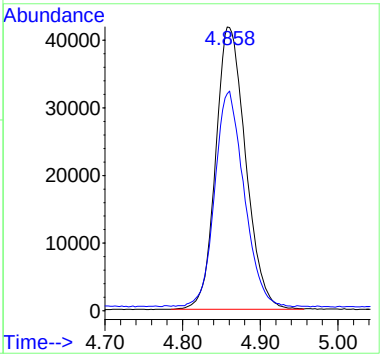




#3
1,4-Dioxane
Concen: 0.9960 ug/mL
RT: 4.858 min Scan# 440
Delta R.T. 0.029 min
Lab File: E800069040.D
Acq: 9 Feb 2023 1:27 pm

Tgt Ion: 88 Resp: 112041

Ion	Ratio	Lower	Upper
88	100		
58	74.4	42.1	78.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069041.D
Acq On : 9 Feb 2023 1:44 pm
Operator : KH
Sample : SEQ-CAL7
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 09 14:13:23 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

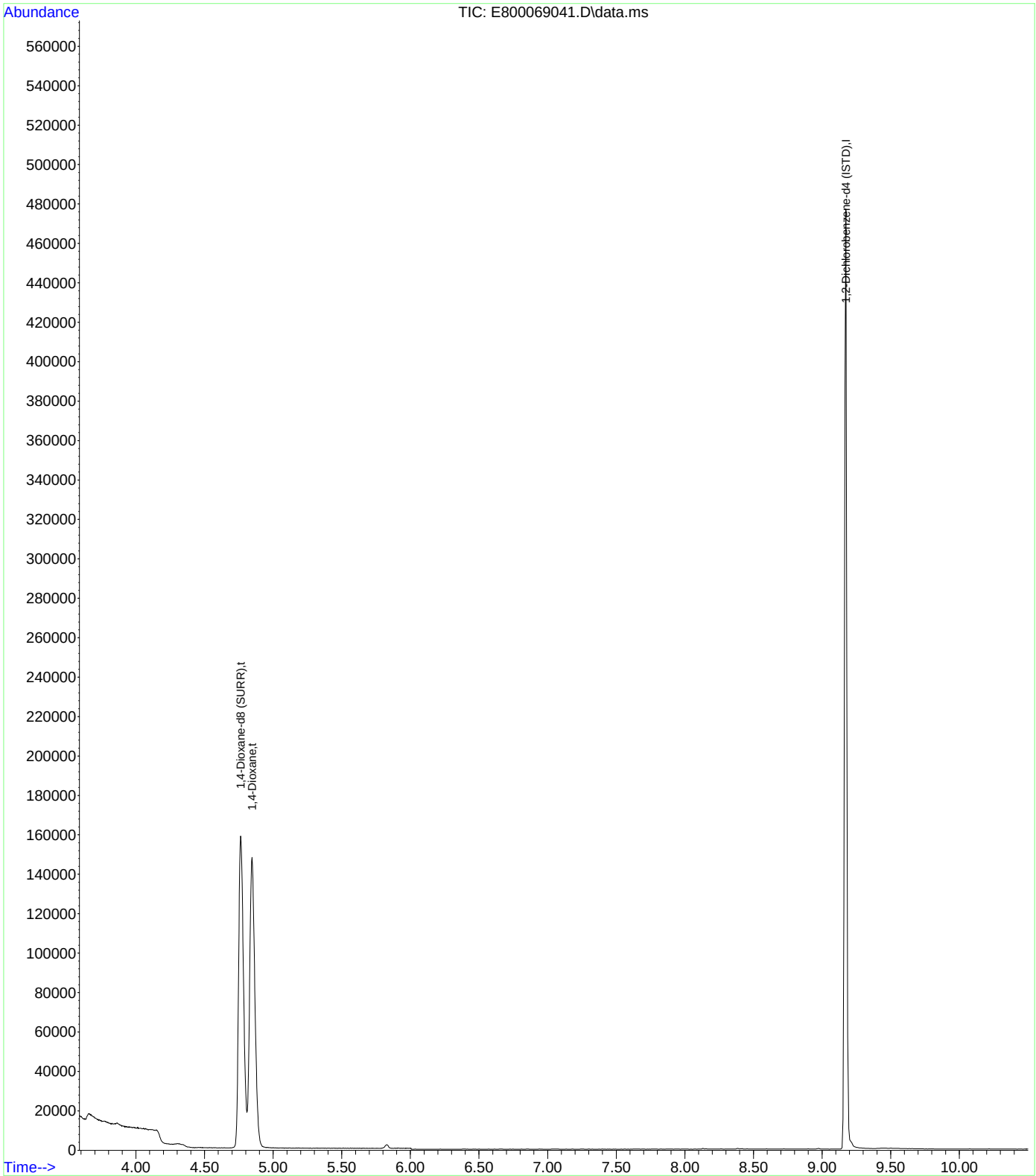
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	258084	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.762	64	138495	2.0436	ug/mL	88
3) 1,4-Dioxane	4.846	88	225261	1.9225	ug/mL	82

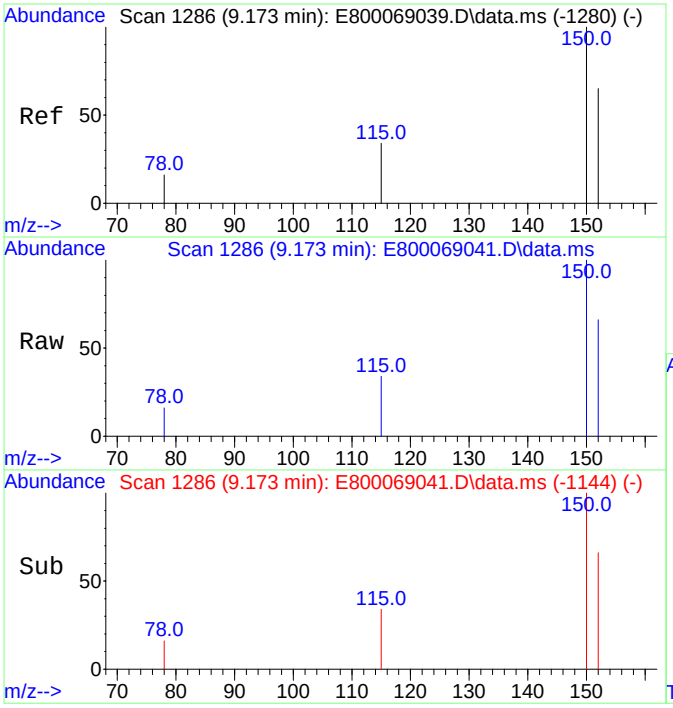
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069041.D
Acq On : 9 Feb 2023 1:44 pm
Operator : KH
Sample : SEQ-CAL7
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 09 14:13:23 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

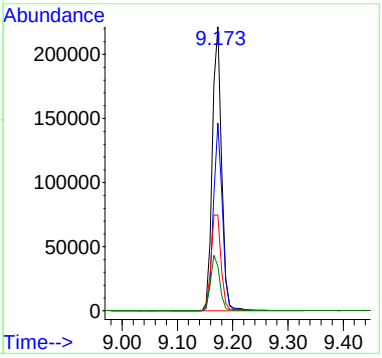


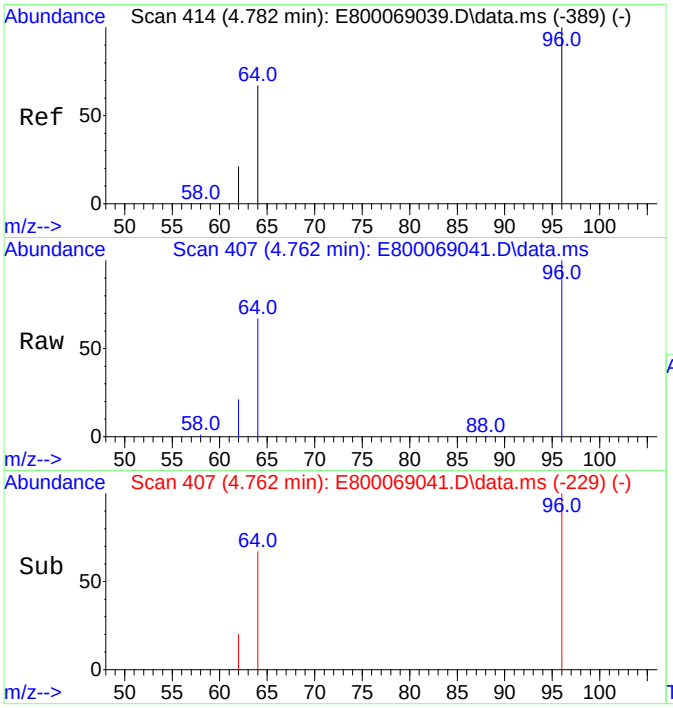


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069041.D
Acq: 9 Feb 2023 1:44 pm

Tgt Ion:150 Resp: 258084

Ion	Ratio	Lower	Upper
150	100		
152	63.7	32.0	96.2
115	36.6	19.6	58.7
78	19.4	10.7	31.9

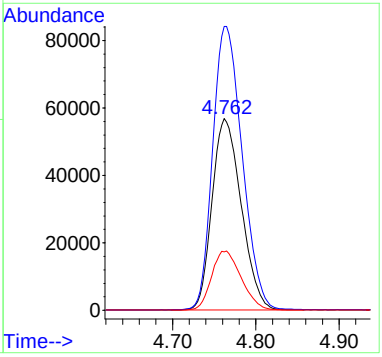


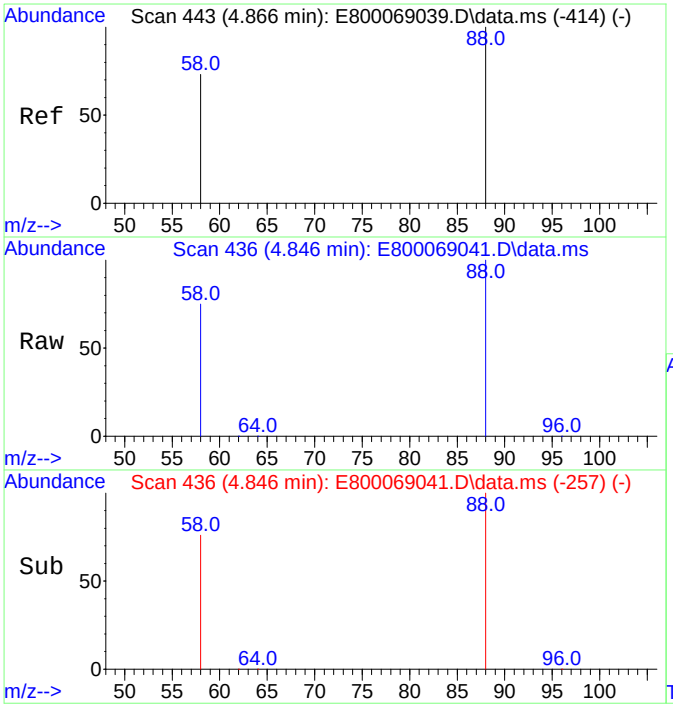


#2
1,4-Dioxane-d8 (SURR)
Concen: 2.0436 ug/mL
RT: 4.762 min Scan# 407
Delta R.T. 0.015 min
Lab File: E800069041.D
Acq: 9 Feb 2023 1:44 pm

Tgt Ion: 64 Resp: 138495

Ion	Ratio	Lower	Upper
64	100		
96	149.7	0.0	339.2
62	31.3	0.0	61.6

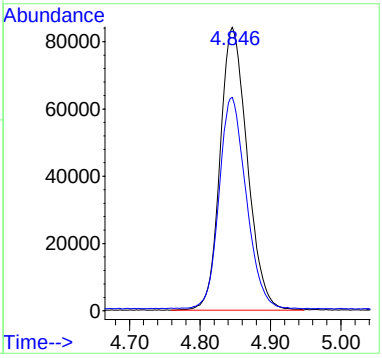




#3
1,4-Dioxane
Concen: 1.9225 ug/mL
RT: 4.846 min Scan# 436
Delta R.T. 0.017 min
Lab File: E800069041.D
Acq: 9 Feb 2023 1:44 pm

Tgt Ion: 88 Resp: 225261

Ion	Ratio	Lower	Upper
88	100		
58	73.7	42.1	78.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069042.D
Acq On : 9 Feb 2023 2:01 pm
Operator : KH
Sample : SEQ-CAL8
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 09 14:13:37 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

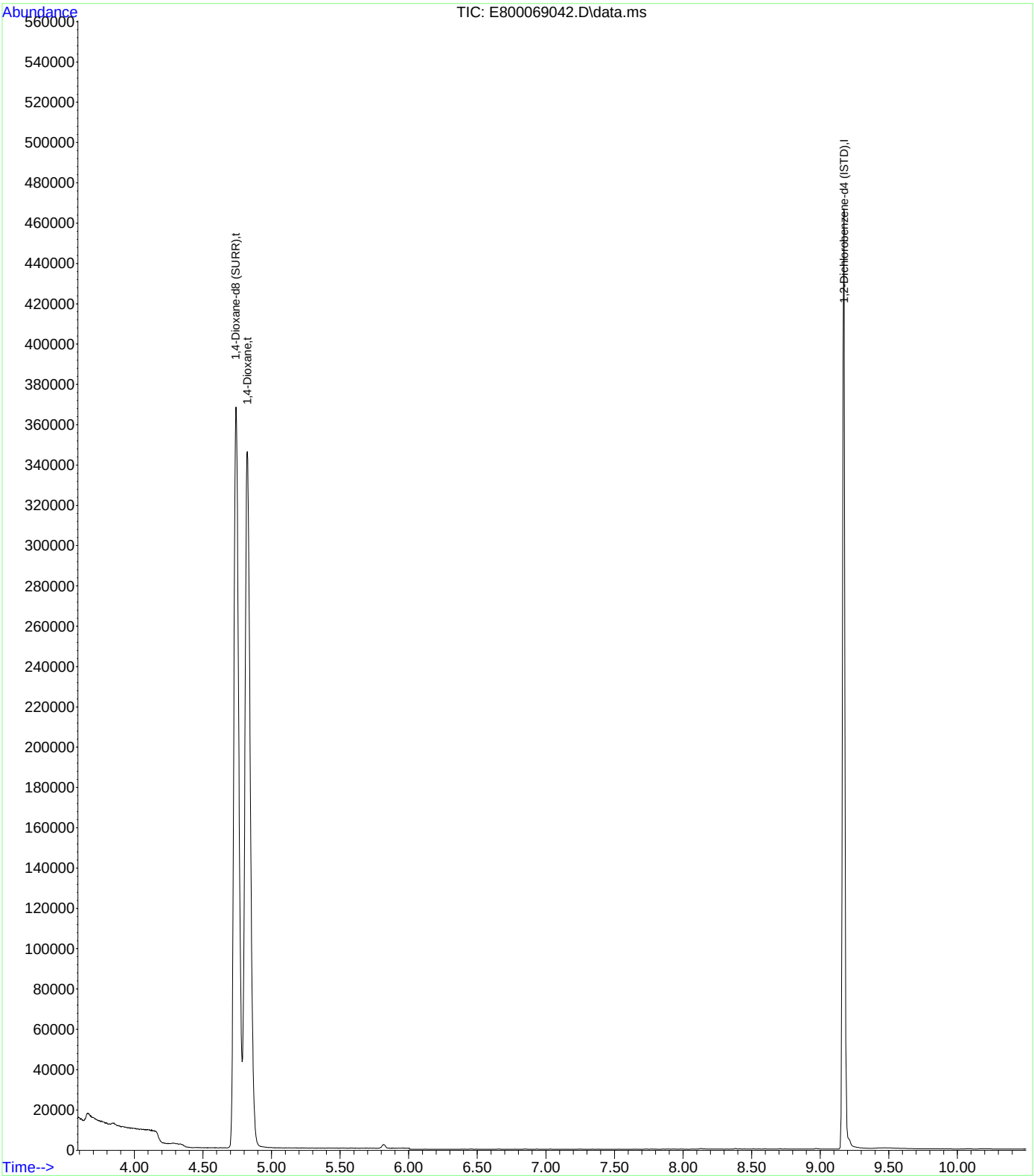
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	256224	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.739	64	328269	4.8791	ug/mL	87
3) 1,4-Dioxane	4.823	88	539644	4.6392	ug/mL	82

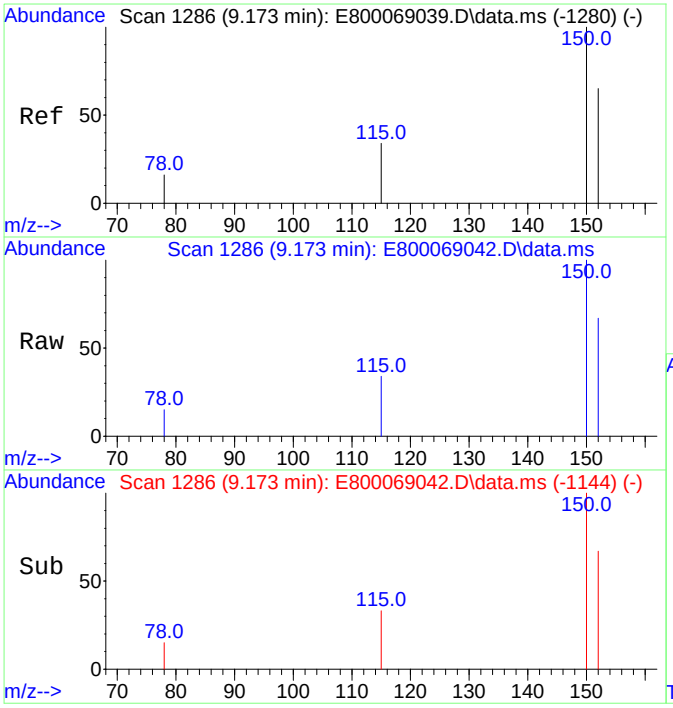
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069042.D
Acq On : 9 Feb 2023 2:01 pm
Operator : KH
Sample : SEQ-CAL8
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 09 14:13:37 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 10:31:40 2023
Response via : Initial Calibration

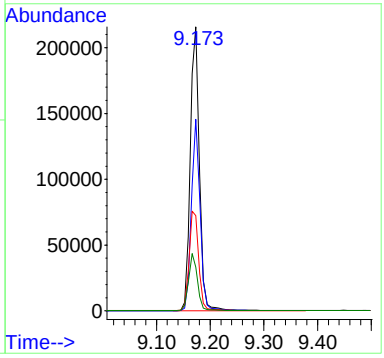


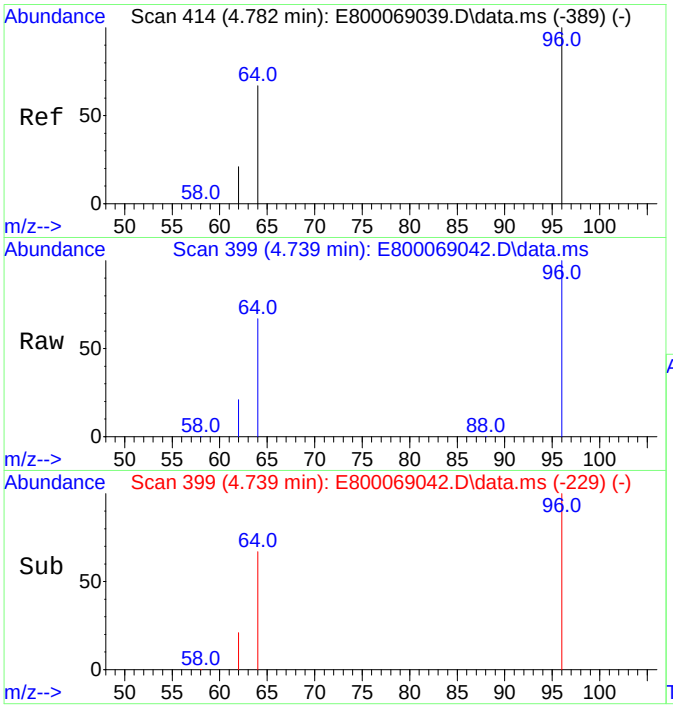


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069042.D
Acq: 9 Feb 2023 2:01 pm

Tgt Ion:150 Resp: 256224

Ion	Ratio	Lower	Upper
150	100		
152	64.0	32.0	96.2
115	36.7	19.6	58.7
78	19.4	10.7	31.9

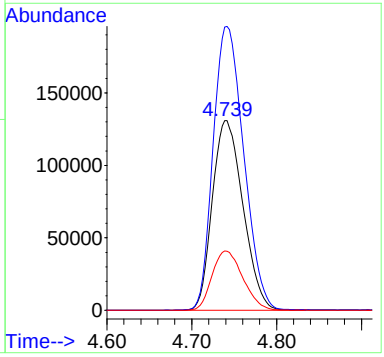


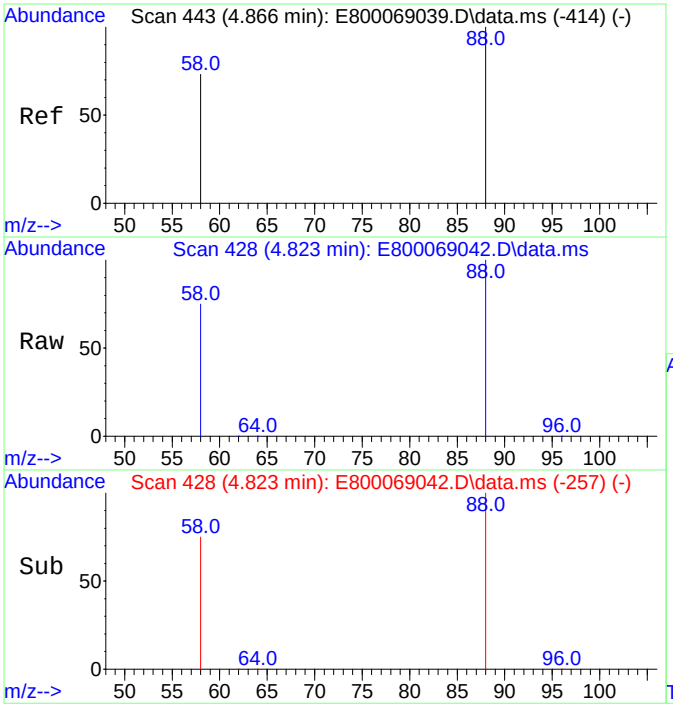


#2
1,4-Dioxane-d8 (SURR)
Concen: 4.8791 ug/mL
RT: 4.739 min Scan# 399
Delta R.T. -0.009 min
Lab File: E800069042.D
Acq: 9 Feb 2023 2:01 pm

Tgt Ion: 64 Resp: 328269

Ion	Ratio	Lower	Upper
64	100		
96	149.4	0.0	339.2
62	31.4	0.0	61.6

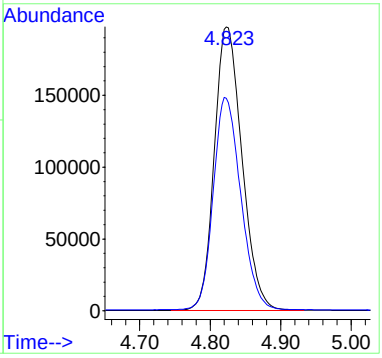




#3
1,4-Dioxane
Concen: 4.6392 ug/mL
RT: 4.823 min Scan# 428
Delta R.T. -0.006 min
Lab File: E800069042.D
Acq: 9 Feb 2023 2:01 pm

Tgt Ion: 88 Resp: 539644

Ion	Ratio	Lower	Upper
88	100		
58	74.1	42.1	78.3



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D SIM

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SB30015
Laboratory ID: S3B0926-SCV1
Sequence: S3B0926
Standard ID: Y22J345

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
1,4-Dioxane	0.500	0.496	-0.8	20.00
1,4-Dioxane-d8	0.500	0.500	0.08	20.00

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069043.D
Acq On : 9 Feb 2023 2:19 pm
Operator : KH
Sample : SEQ-SCV1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 09 14:35:13 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

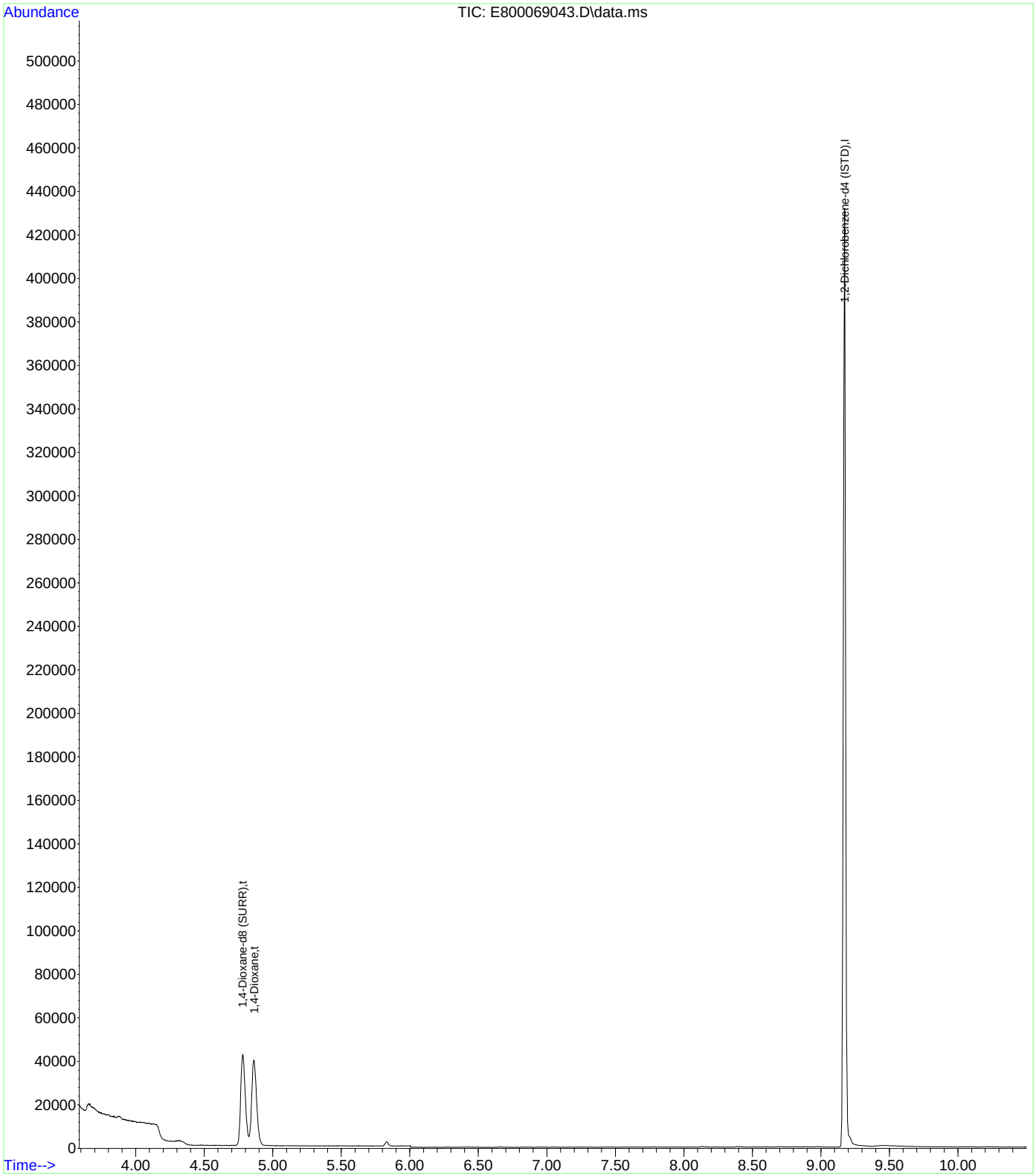
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.173	150	233320	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.779	64	34915	0.5004	ug/mL	100
3) 1,4-Dioxane	4.863	88	56991	0.4961	ug/mL	99

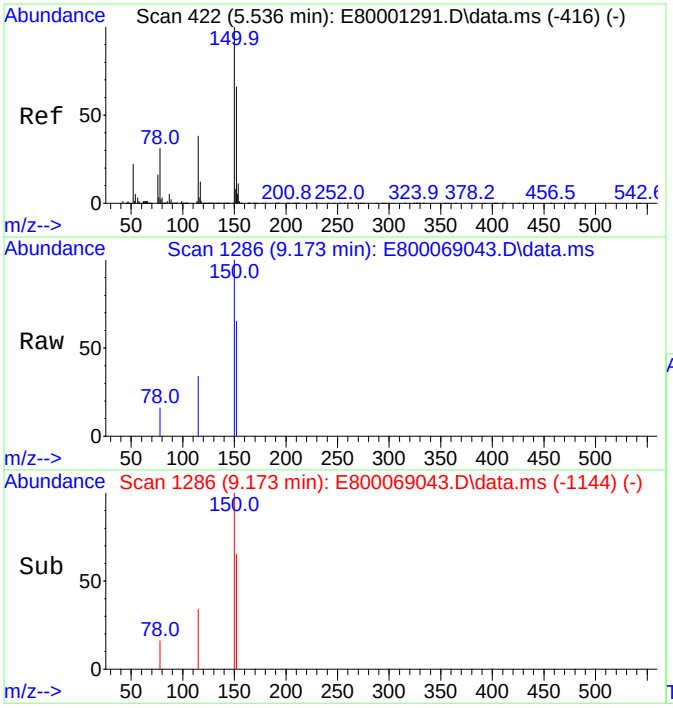
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020923\
Data File : E800069043.D
Acq On : 9 Feb 2023 2:19 pm
Operator : KH
Sample : SEQ-SCV1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801020923A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 09 14:35:13 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

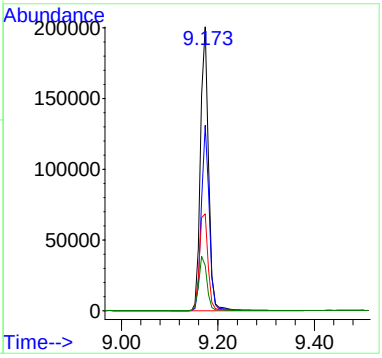


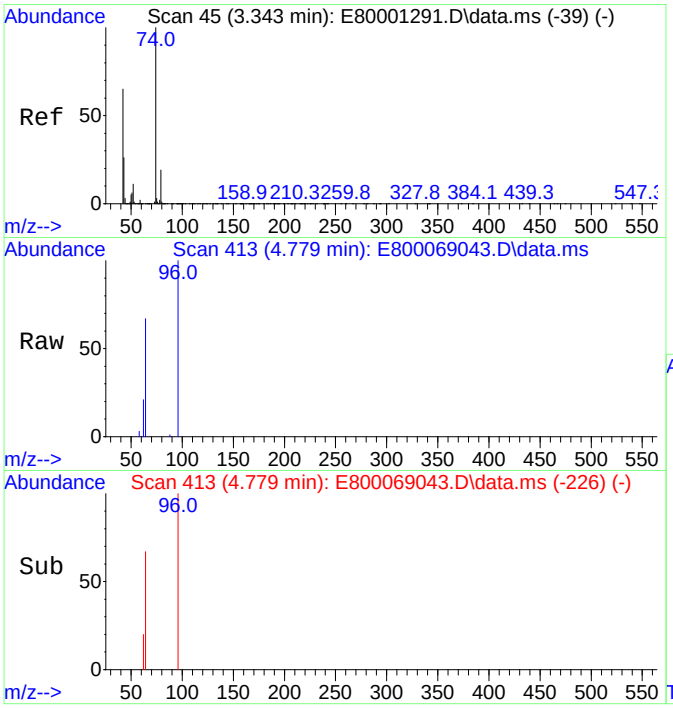


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.173 min Scan# 1286
Delta R.T. 0.000 min
Lab File: E800069043.D
Acq: 9 Feb 2023 2:19 pm

Tgt Ion:150 Resp: 233320

Ion	Ratio	Lower	Upper
150	100		
152	63.5	31.9	95.9
115	36.5	18.4	55.0
78	19.3	9.7	28.9

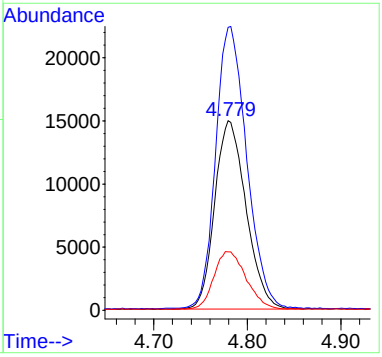


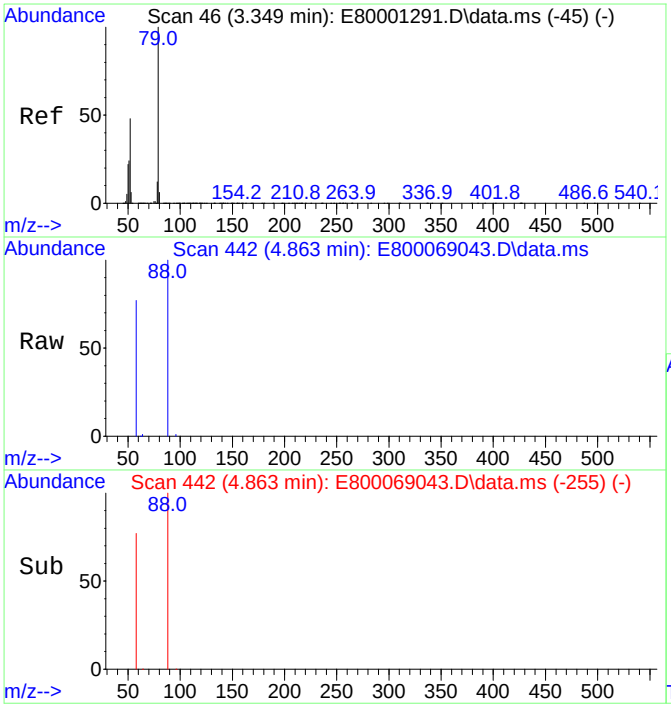


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.5004 ug/mL
RT: 4.779 min Scan# 413
Delta R.T. 0.041 min
Lab File: E800069043.D
Acq: 9 Feb 2023 2:19 pm

Tgt Ion: 64 Resp: 34915

Ion	Ratio	Lower	Upper
64	100		
96	148.0	0.0	297.0
62	31.5	0.0	62.6

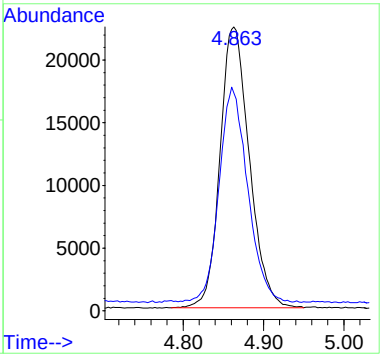




#3
1,4-Dioxane
Concen: 0.4961 ug/mL
RT: 4.863 min Scan# 442
Delta R.T. 0.041 min
Lab File: E800069043.D
Acq: 9 Feb 2023 2:19 pm

Tgt Ion: 88 Resp: 56991

Ion	Ratio	Lower	Upper
88	100		
58	74.0	52.4	97.2



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	MSBNA8	Calibration:	SB30015
Lab File ID:	E800070366.D	Calibration Date:	02/09/23 14:50
Sequence:	S3E1528	Injection Date:	05/14/23
Lab Sample ID:	S3E1528-CCV1	Injection Time:	17:52

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,4-Dioxane	A	0.500	0.467	0.2461607	0.2299072		-6.6	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070366.D
Acq On : 14 May 2023 5:52 pm
Operator : KH
Sample : SEQ-CCV1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL 70/30
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 18:05:30 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

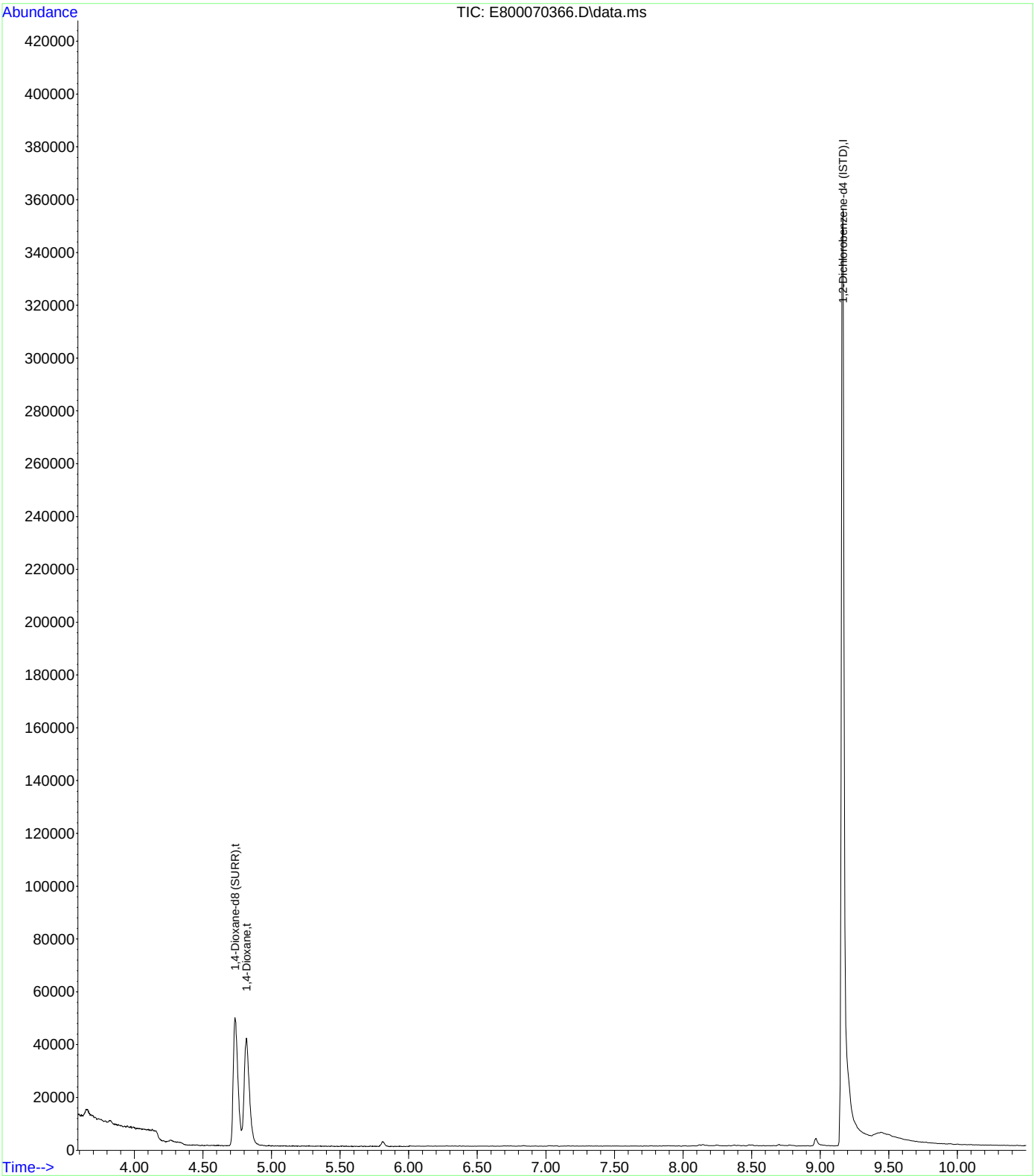
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.166	150	277786	0.50	ug/mL	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.733	64	40880	0.4921	ug/mL	100
3) 1,4-Dioxane	4.817	88	63865	0.4670	ug/mL	94

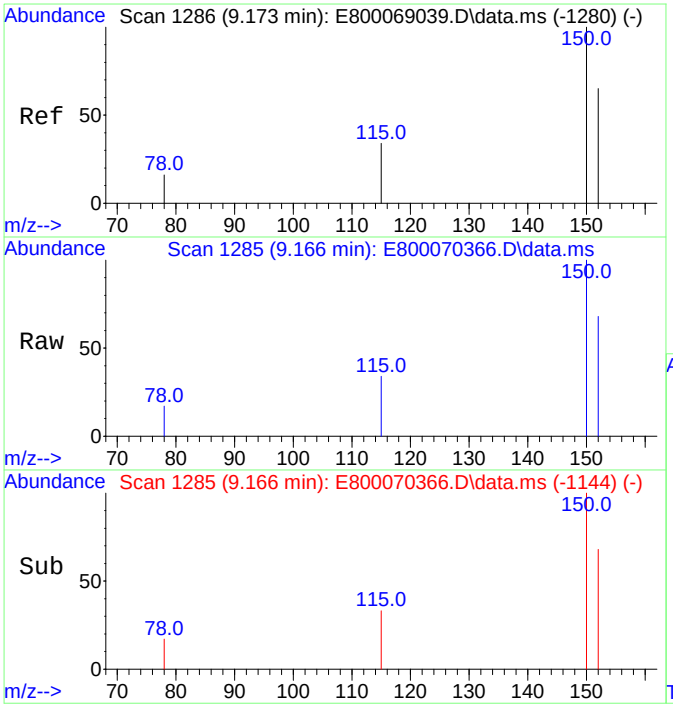
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070366.D
Acq On : 14 May 2023 5:52 pm
Operator : KH
Sample : SEQ-CCV1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL 70/30
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 18:05:30 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

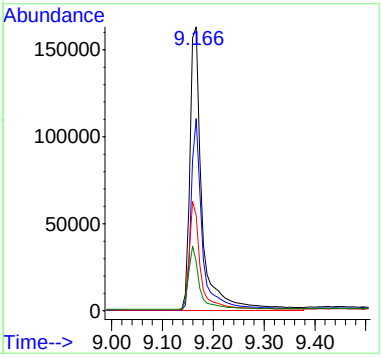


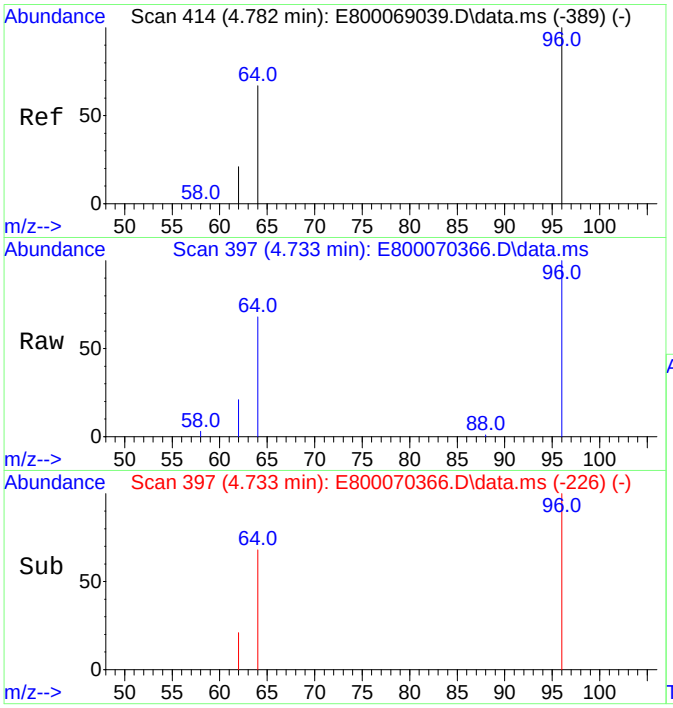


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.166 min Scan# 1285
Delta R.T. -0.007 min
Lab File: E800070366.D
Acq: 14 May 2023 5:52 pm

Tgt Ion:150 Resp: 277786

Ion	Ratio	Lower	Upper
150	100		
152	63.4	31.9	95.9
115	36.3	18.4	55.0
78	20.3	9.7	28.9

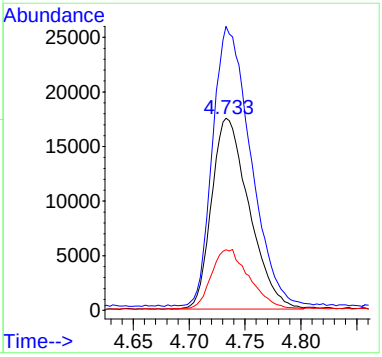


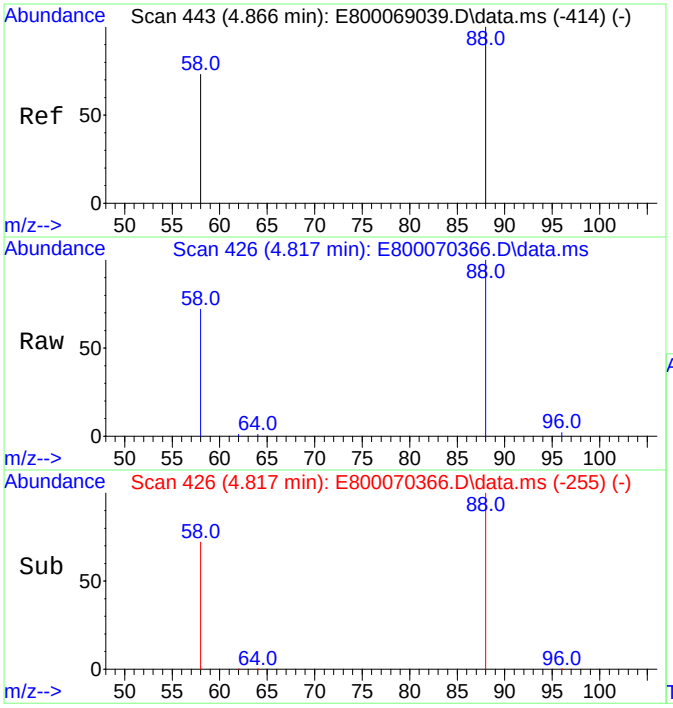


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.4921 ug/mL
RT: 4.733 min Scan# 397
Delta R.T. -0.006 min
Lab File: E800070366.D
Acq: 14 May 2023 5:52 pm

Tgt Ion: 64 Resp: 40880

Ion	Ratio	Lower	Upper
64	100		
96	148.2	0.0	297.0
62	31.6	0.0	62.6

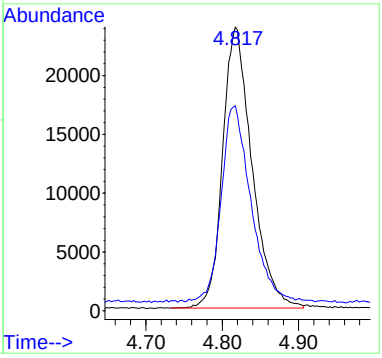




#3
1,4-Dioxane
Concen: 0.4670 ug/mL
RT: 4.817 min Scan# 426
Delta R.T. -0.006 min
Lab File: E800070366.D
Acq: 14 May 2023 5:52 pm

Tgt Ion: 88 Resp: 63865

Ion	Ratio	Lower	Upper
88	100		
58	70.1	52.4	97.2



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	MSBNA8	Calibration:	SB30015
Lab File ID:	E800070377.D	Calibration Date:	02/09/23 14:50
Sequence:	S3E1528	Injection Date:	05/14/23
Lab Sample ID:	S3E1528-CCV2	Injection Time:	21:06

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,4-Dioxane	A	0.500	0.474	0.2461607	0.2333466		-5.2	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070377.D
Acq On : 14 May 2023 9:06 pm
Operator : KH
Sample : SEQ-CCV2
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL 70/30
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 15 08:57:46 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

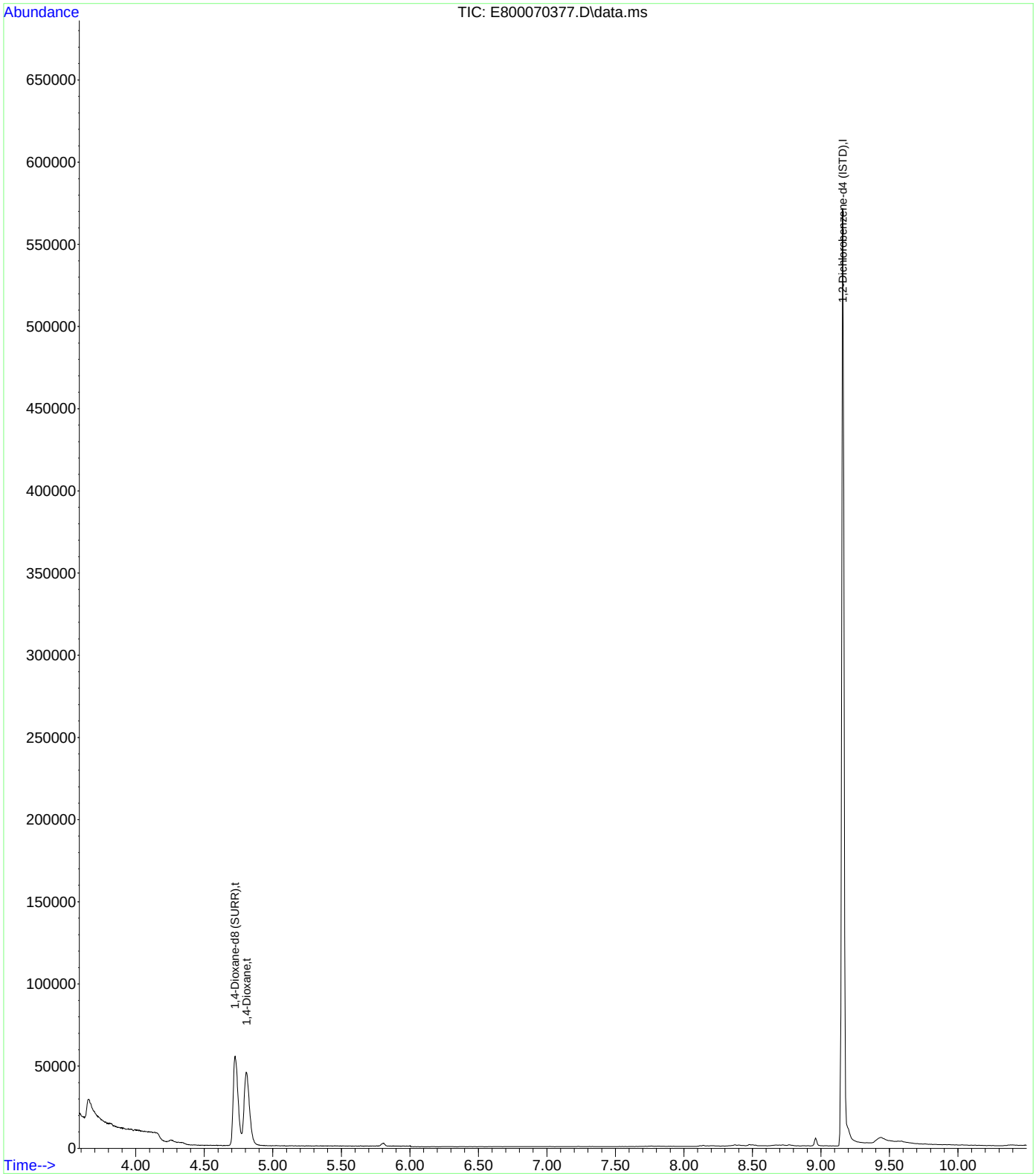
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.159	150	316032	0.50	ug/mL	-0.01
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.724	64	47629	0.5040	ug/mL	99
3) 1,4-Dioxane	4.808	88	73745	0.4740	ug/mL	91

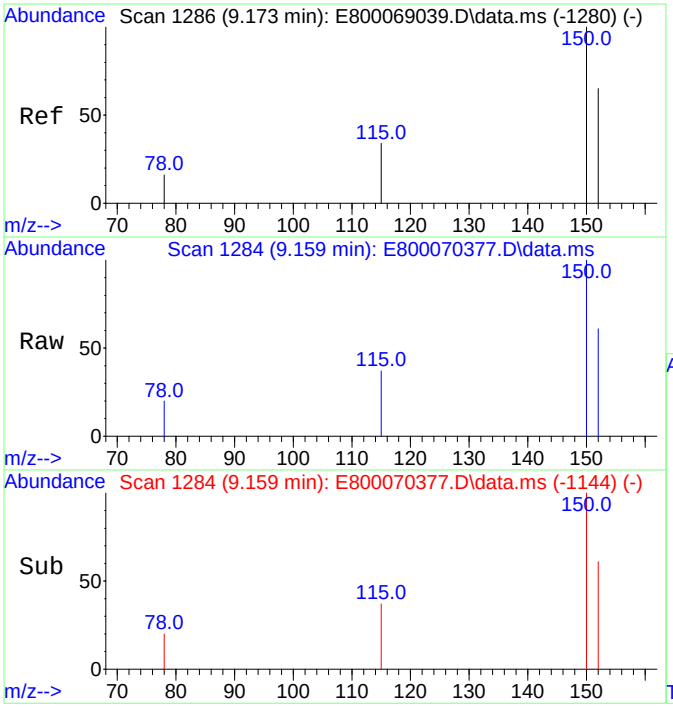
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070377.D
Acq On : 14 May 2023 9:06 pm
Operator : KH
Sample : SEQ-CCV2
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL 70/30
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 15 08:57:46 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

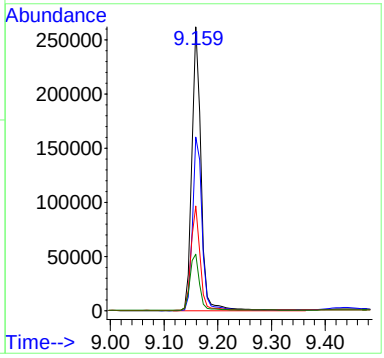


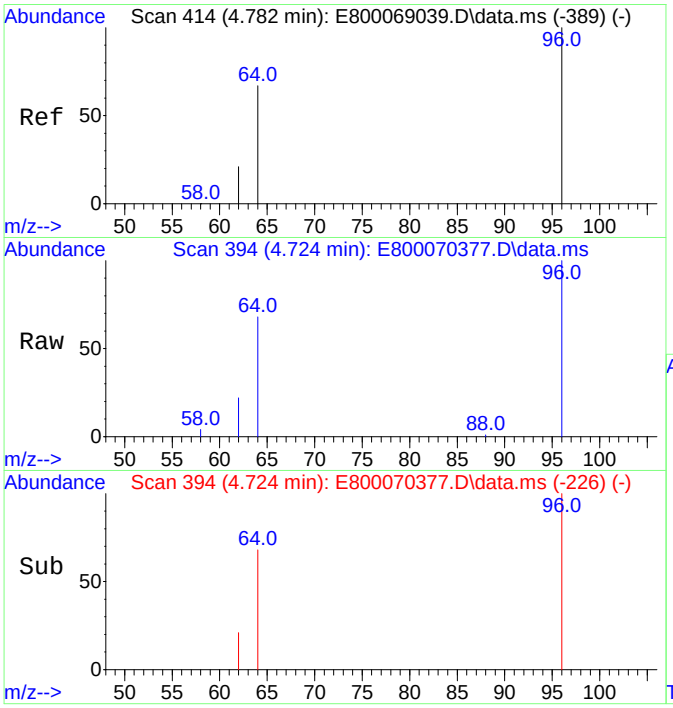


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.159 min Scan# 1284
Delta R.T. -0.014 min
Lab File: E800070377.D
Acq: 14 May 2023 9:06 pm

Tgt Ion:150 Resp: 316032

Ion	Ratio	Lower	Upper
150	100		
152	63.4	31.9	95.9
115	36.5	18.4	55.0
78	20.5	9.7	28.9

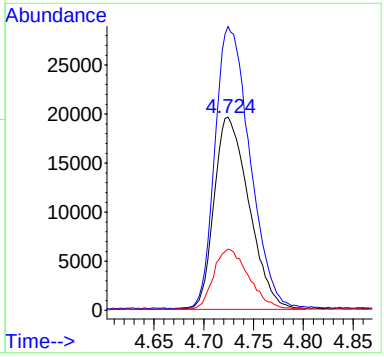


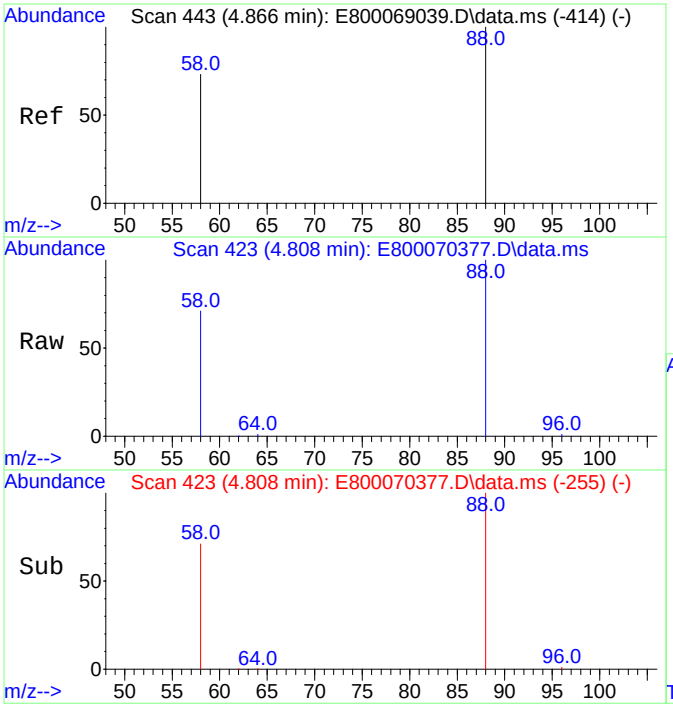


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.5040 ug/mL
RT: 4.724 min Scan# 394
Delta R.T. -0.015 min
Lab File: E800070377.D
Acq: 14 May 2023 9:06 pm

Tgt Ion: 64 Resp: 47629

Ion	Ratio	Lower	Upper
64	100		
96	147.7	0.0	297.0
62	31.7	0.0	62.6

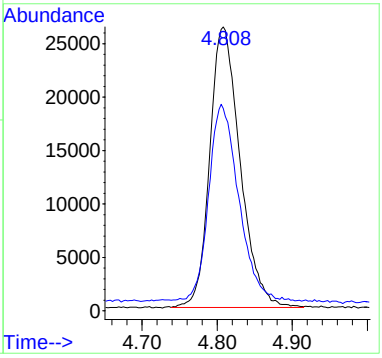




#3
1,4-Dioxane
Concen: 0.4740 ug/mL
RT: 4.808 min Scan# 423
Delta R.T. -0.015 min
Lab File: E800070377.D
Acq: 14 May 2023 9:06 pm

Tgt Ion: 88 Resp: 73745

Ion	Ratio	Lower	Upper
88	100		
58	66.9	52.4	97.2



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	MSBNA8	Calibration:	SB30015
Lab File ID:	E800070388.D	Calibration Date:	02/09/23 14:50
Sequence:	S3E1528	Injection Date:	05/15/23
Lab Sample ID:	S3E1528-CCV3	Injection Time:	00:14

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,4-Dioxane	A	0.500	0.470	0.2461607	0.2313321		-6.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070388.D
Acq On : 15 May 2023 12:14 am
Operator : KH
Sample : SEQ-CCV3
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL 70/30
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 15 08:58:16 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

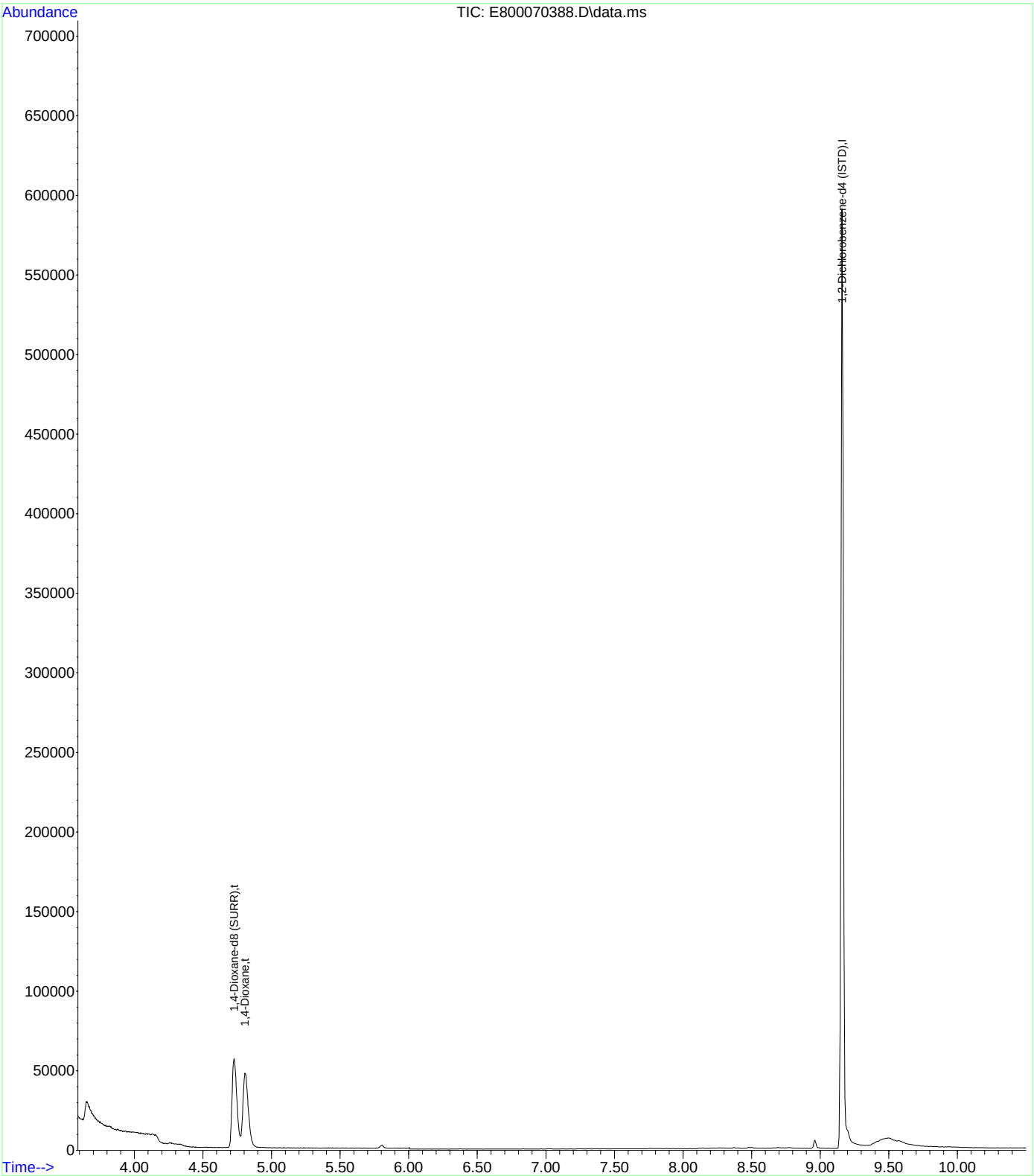
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.159	150	330287	0.50	ug/mL	-0.01
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.727	64	48205	0.4881	ug/mL	99
3) 1,4-Dioxane	4.805	88	76406	0.4699	ug/mL	93

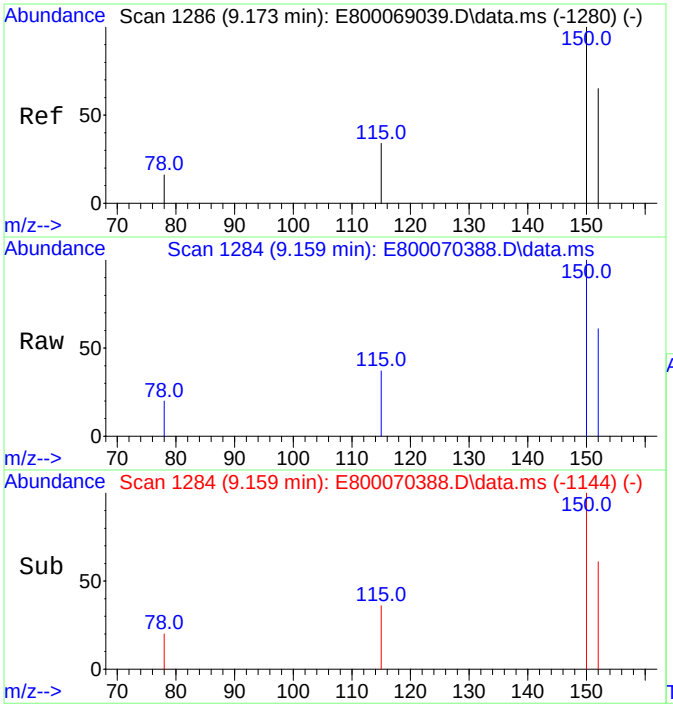
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070388.D
Acq On : 15 May 2023 12:14 am
Operator : KH
Sample : SEQ-CCV3
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL 70/30
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 15 08:58:16 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

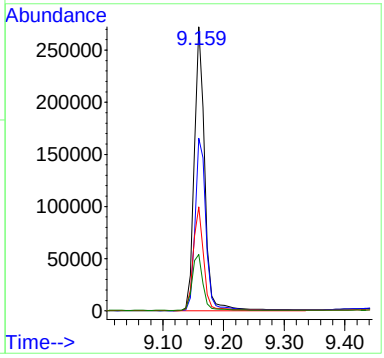


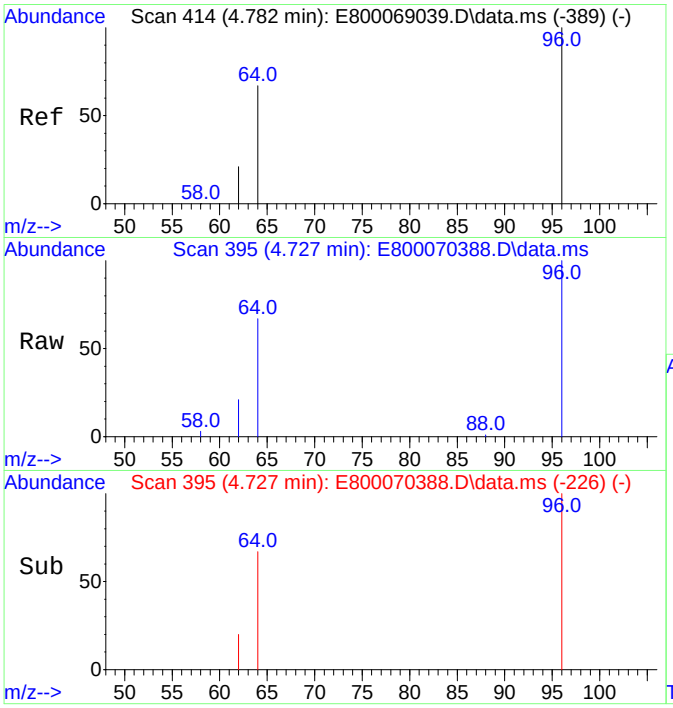


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.159 min Scan# 1284
Delta R.T. -0.014 min
Lab File: E800070388.D
Acq: 15 May 2023 12:14 am

Tgt Ion:150 Resp: 330287

Ion	Ratio	Lower	Upper
150	100		
152	63.7	31.9	95.9
115	36.5	18.4	55.0
78	20.5	9.7	28.9

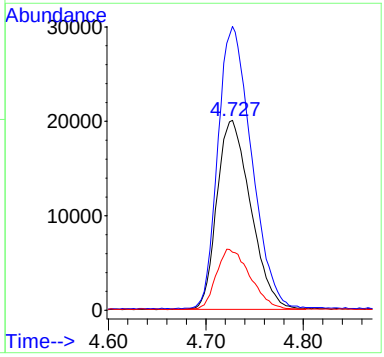


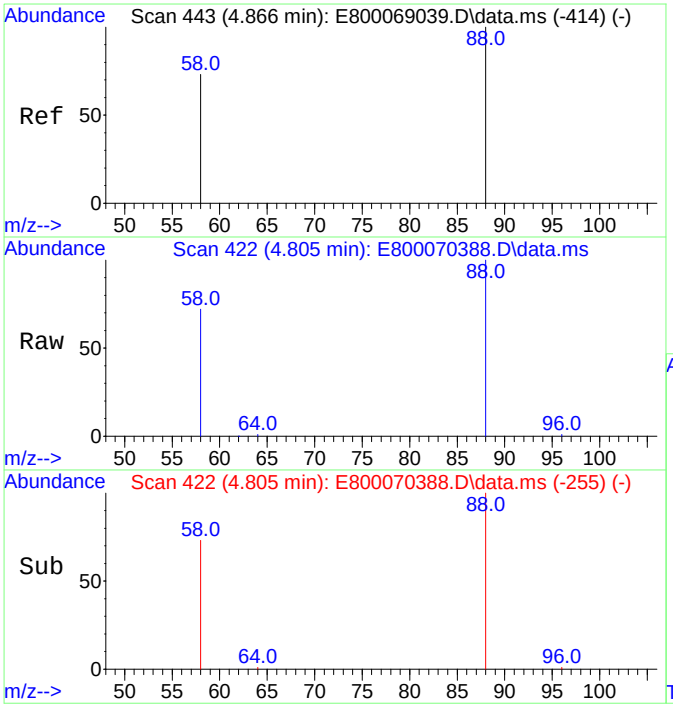


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.4881 ug/mL
RT: 4.727 min Scan# 395
Delta R.T. -0.012 min
Lab File: E800070388.D
Acq: 15 May 2023 12:14 am

Tgt Ion: 64 Resp: 48205

Ion	Ratio	Lower	Upper
64	100		
96	149.0	0.0	297.0
62	31.9	0.0	62.6

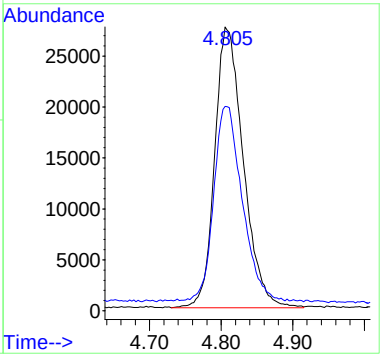




#3
1,4-Dioxane
Concen: 0.4699 ug/mL
RT: 4.805 min Scan# 422
Delta R.T. -0.017 min
Lab File: E800070388.D
Acq: 15 May 2023 12:14 am

Tgt Ion: 88 Resp: 76406

Ion	Ratio	Lower	Upper
88	100		
58	68.5	52.4	97.2



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	MSBNA8	Calibration:	SB30015
Lab File ID:	E800070393.D	Calibration Date:	02/09/23 14:50
Sequence:	S3E1528	Injection Date:	05/15/23
Lab Sample ID:	S3E1528-CCV4	Injection Time:	01:39

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,4-Dioxane	A	0.500	0.462	0.2461607	0.2273885		-7.6	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070393.D
Acq On : 15 May 2023 1:39 am
Operator : KH
Sample : SEQ-CCV4
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 15 08:58:31 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

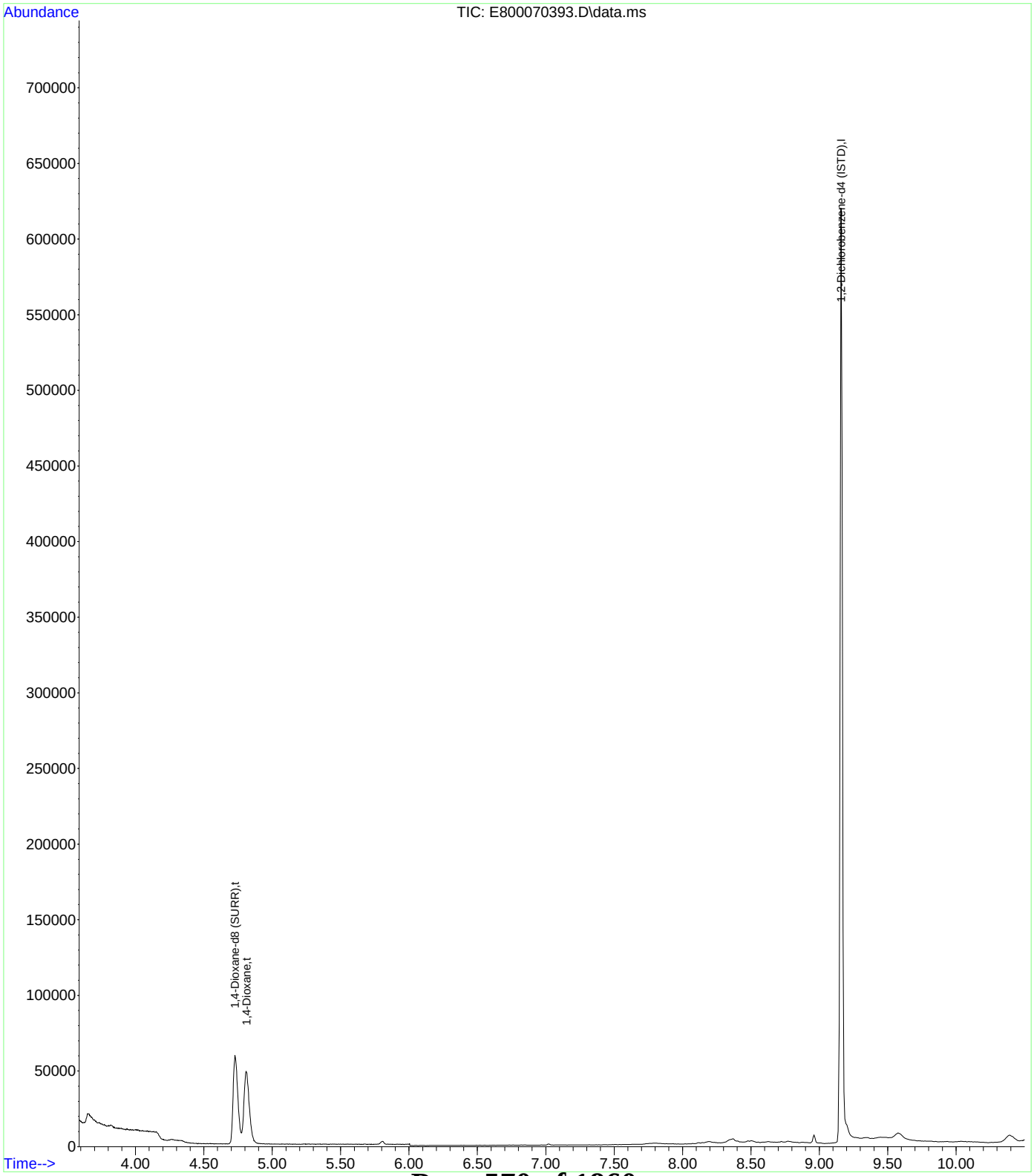
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.159	150	340391	0.50	ug/mL	-0.01
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.727	64	50021	0.4914	ug/mL	100
3) 1,4-Dioxane	4.811	88	77401	0.4619	ug/mL	94

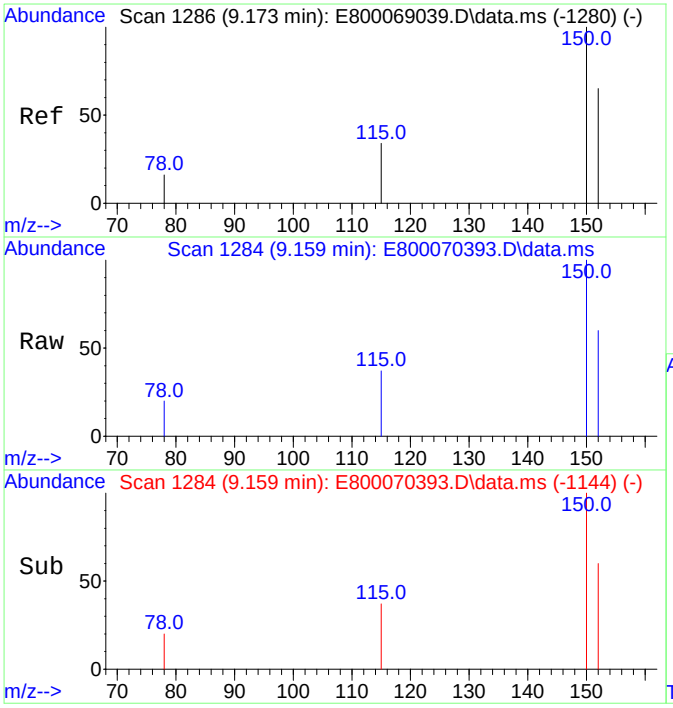
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070393.D
Acq On : 15 May 2023 1:39 am
Operator : KH
Sample : SEQ-CCV4
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 15 08:58:31 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

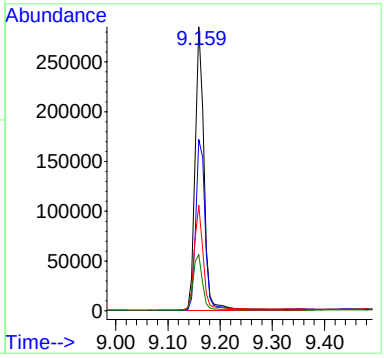


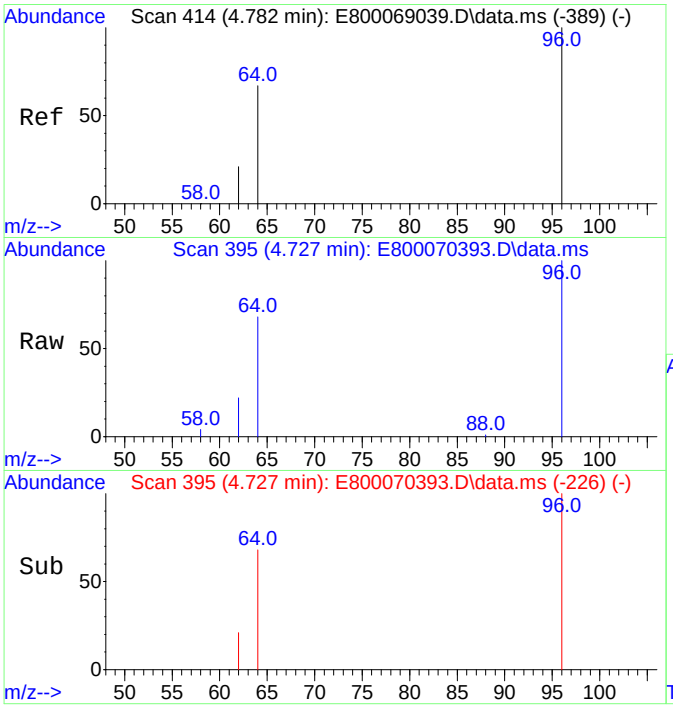


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.159 min Scan# 1284
Delta R.T. -0.014 min
Lab File: E800070393.D
Acq: 15 May 2023 1:39 am

Tgt Ion:150 Resp: 340391

Ion	Ratio	Lower	Upper
150	100		
152	64.0	31.9	95.9
115	37.9	18.4	55.0
78	20.6	9.7	28.9

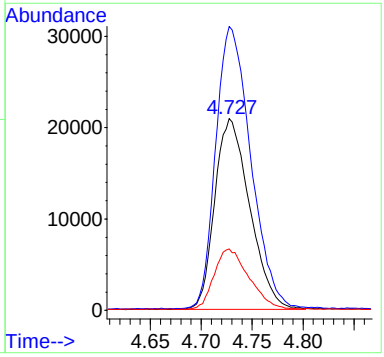


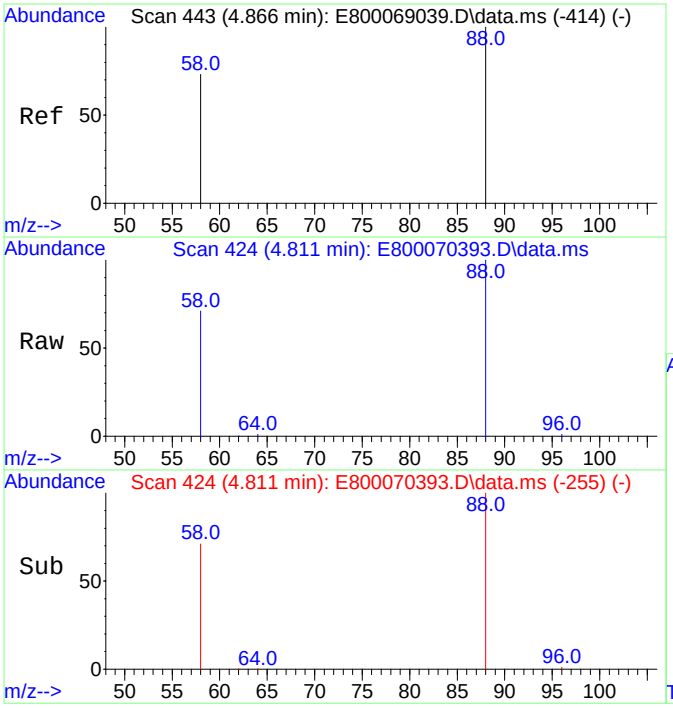


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.4914 ug/mL
RT: 4.727 min Scan# 395
Delta R.T. -0.011 min
Lab File: E800070393.D
Acq: 15 May 2023 1:39 am

Tgt Ion: 64 Resp: 50021

Ion	Ratio	Lower	Upper
64	100		
96	148.1	0.0	297.0
62	31.2	0.0	62.6

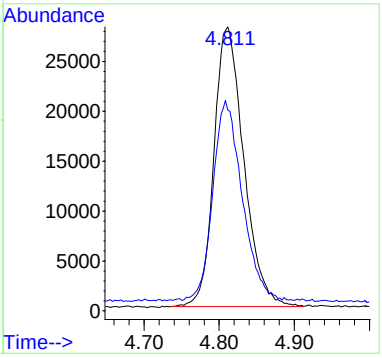




#3
1,4-Dioxane
Concen: 0.4619 ug/mL
RT: 4.811 min Scan# 424
Delta R.T. -0.011 min
Lab File: E800070393.D
Acq: 15 May 2023 1:39 am

Tgt Ion: 88 Resp: 77401

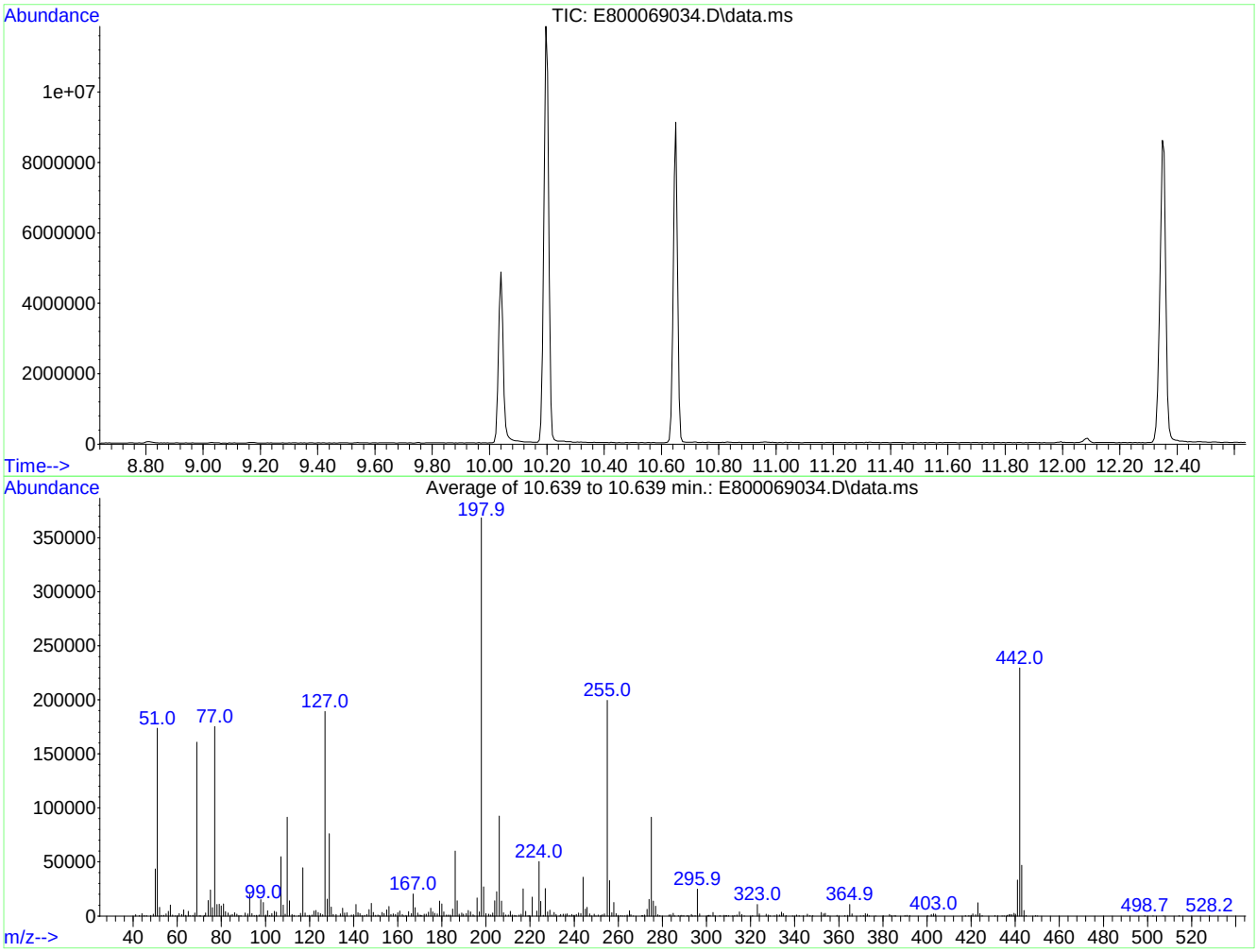
Ion	Ratio	Lower	Upper
88	100		
58	69.9	52.4	97.2



Data Path : C:\msdchem\1\data\020923\
Data File : E800069034.D
Acq On : 9 Feb 2023 11:26 am
Operator : KH
Sample : SEQ-TUN1
InstName : MSBNA8
Misc : QBSV801020923A
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\BNA8M003.M
Title : 8270D Semi Volatiles Calibration BNA_7
Last Update : Fri Aug 05 10:34:51 2022



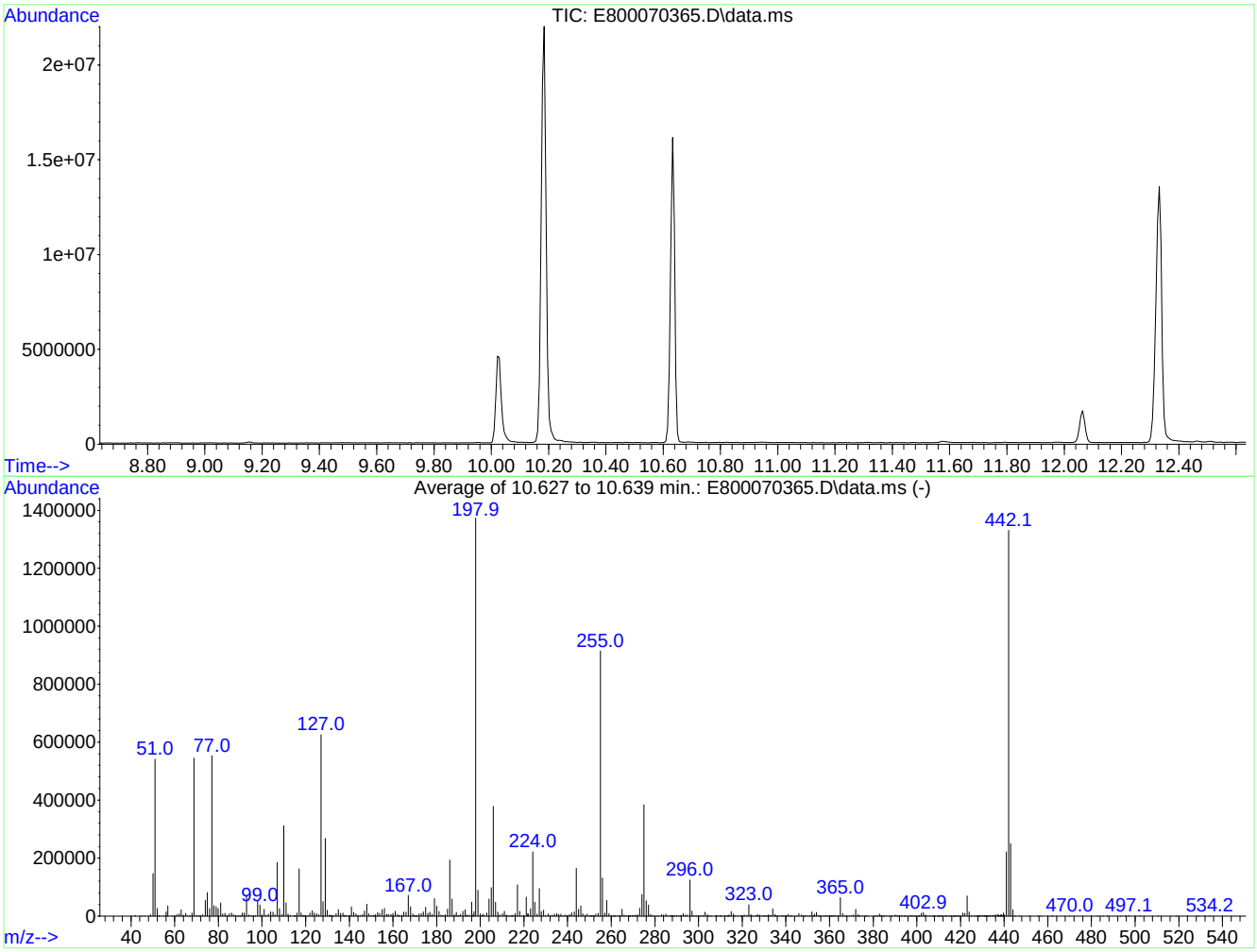
Spectrum Information: Average of 10.639 to 10.639 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	47.2	173824	PASS
68	69	0.00	2	1.7	2709	PASS
69	198	0.00	99	43.6	160704	PASS
70	69	0.00	2	0.3	497	PASS
127	198	10	80	51.4	189184	PASS
197	198	0.00	2	1.0	3866	PASS
198	198	100	100	100.0	368192	PASS
199	198	5	9	7.3	27040	PASS
275	198	10	60	24.8	91344	PASS
365	198	1	100	2.9	10789	PASS
441	442	0.01	24	14.5	33296	PASS
442	198	50	100	62.3	229440	PASS
443	442	15	24	20.5	46960	PASS

Data Path : C:\msdchem\1\data\051423\
Data File : E800070365.D
Acq On : 14 May 2023 5:17 pm
Operator : KH
Sample : SEQ-TUN1
InstName : MSBNA8
Misc : QBSV801051143A
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\BNA8M003.M
Title : 8270D Semi Volatiles Calibration BNA_7
Last Update : Fri Aug 05 10:34:51 2022



Spectrum Information: Average of 10.627 to 10.639 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.4	540639	PASS
68	69	0.00	2	1.8	9963	PASS
69	198	0.00	99	39.7	544922	PASS
70	69	0.00	2	0.5	2981	PASS
127	198	10	80	45.5	625088	PASS
197	198	0.00	2	1.1	15129	PASS
198	198	100	100	100.0	1373525	PASS
199	198	5	9	6.5	89101	PASS
275	198	10	60	28.0	384448	PASS
365	198	1	100	4.6	63533	PASS
441	442	0.01	24	16.6	220971	PASS
442	198	50	100	96.9	1330795	PASS
443	442	15	24	18.8	249963	PASS

METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: SVOA
METHOD: EPA 8270D SIM

FORM I

METHOD BLANK DATA SHEET

EPA 8270D SIM

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30880-BLK1	File ID:	E800070367.D
Prepared:	05/14/23 08:00	Preparation:	EPA 3550C	Initial/Final:	10.1 g / 10 mL
Analyzed:	05/14/23 18:15	Instrument:	MSBNA8		
Batch:	BE30880	Sequence:	S3E1528	Calibration:	SB30015

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
123-91-1	1,4-Dioxane	0.0198	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg)	CONC (mg/kg)	% REC	QC LIMITS	Q
1,4-Dioxane-d8	0.495	0.343	69.3	39 - 127.5	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,2-Dichlorobenzene-d4	256970	9.152	277786	9.166	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070367.D
Acq On : 14 May 2023 6:15 pm
Operator : KH
Sample : BE30880-BLK1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:56:25 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

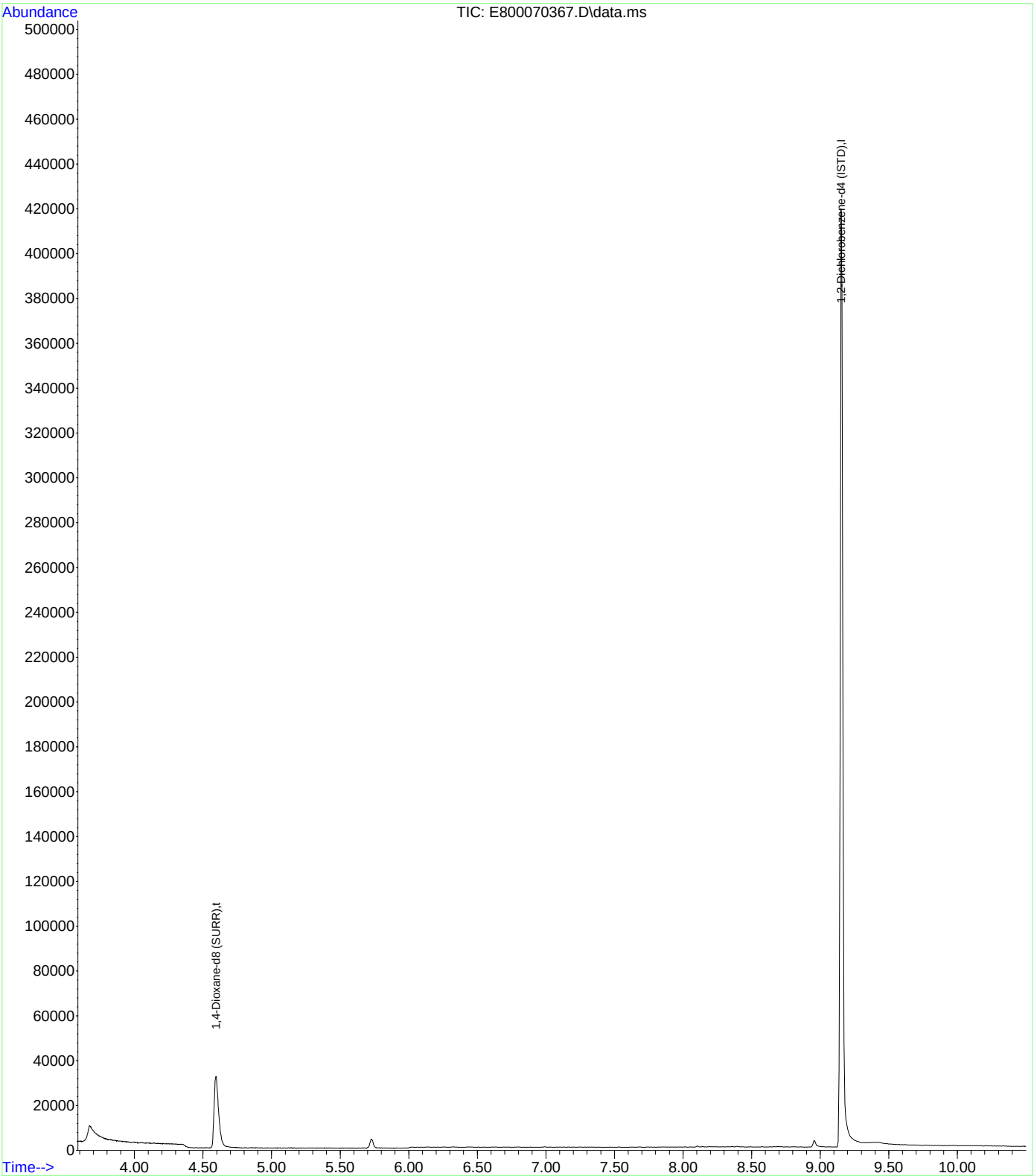
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.152	150	256970	0.50	ug/mL	-0.02
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.594	64	26641	0.3467	ug/mL	99

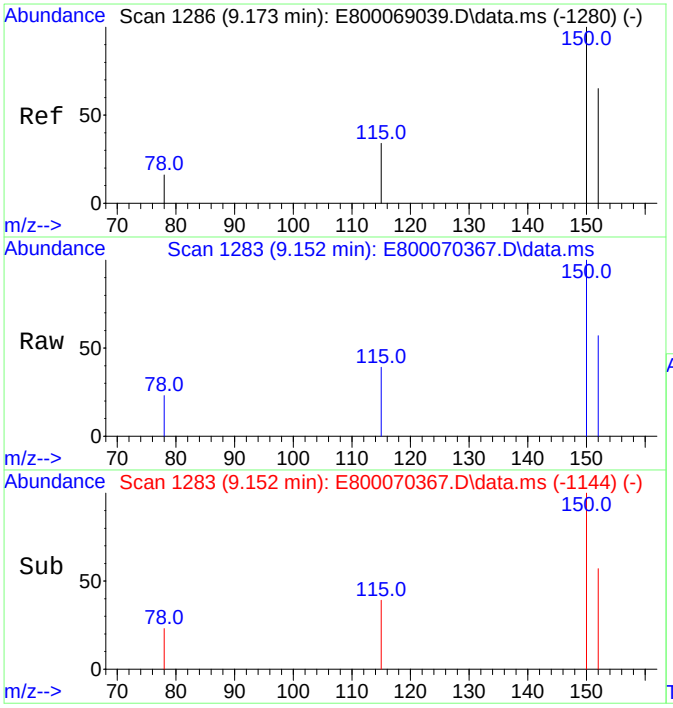
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070367.D
Acq On : 14 May 2023 6:15 pm
Operator : KH
Sample : BE30880-BLK1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:56:25 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

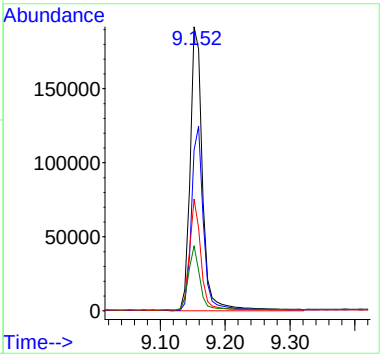


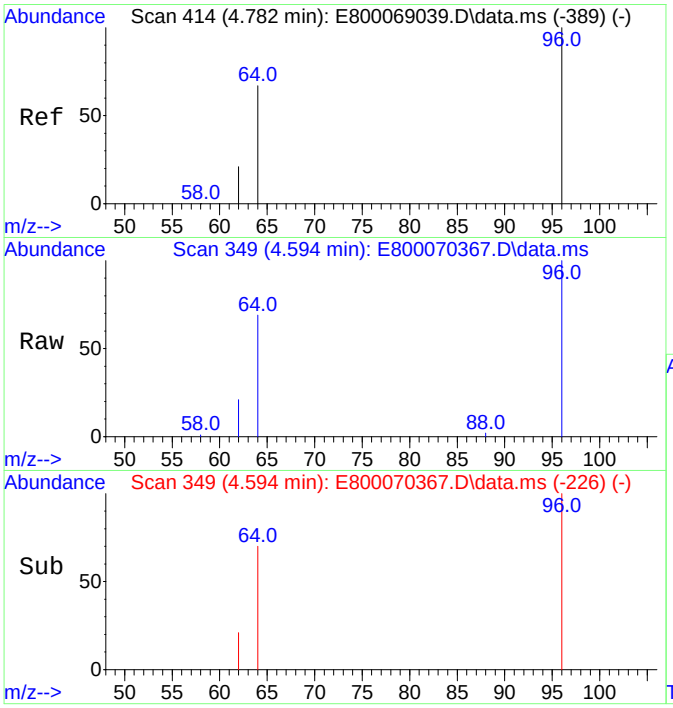


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.152 min Scan# 1283
Delta R.T. -0.021 min
Lab File: E800070367.D
Acq: 14 May 2023 6:15 pm

Tgt Ion:150 Resp: 256970

Ion	Ratio	Lower	Upper
150	100		
152	63.6	31.9	95.9
115	36.6	18.4	55.0
78	20.7	9.7	28.9

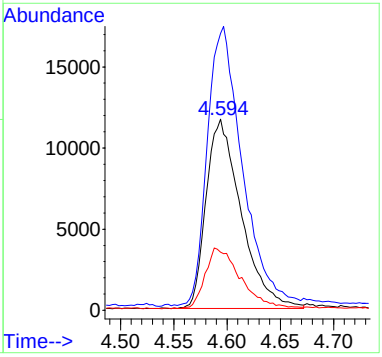




#2
1,4-Dioxane-d8 (SURR)
Concen: 0.3467 ug/mL
RT: 4.594 min Scan# 349
Delta R.T. -0.145 min
Lab File: E800070367.D
Acq: 14 May 2023 6:15 pm

Tgt Ion: 64 Resp: 26641

Ion	Ratio	Lower	Upper
64	100		
96	147.6	0.0	297.0
62	33.1	0.0	62.6



LCS RAW DATA

SDG: 23E0419
CLASS: SVOA
METHOD: EPA 8270D SIM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051423\
Data File : E800070368.D
Acq On : 14 May 2023 6:32 pm
Operator : KH
Sample : BE30880-BS1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 4 Sample Multiplier: 1

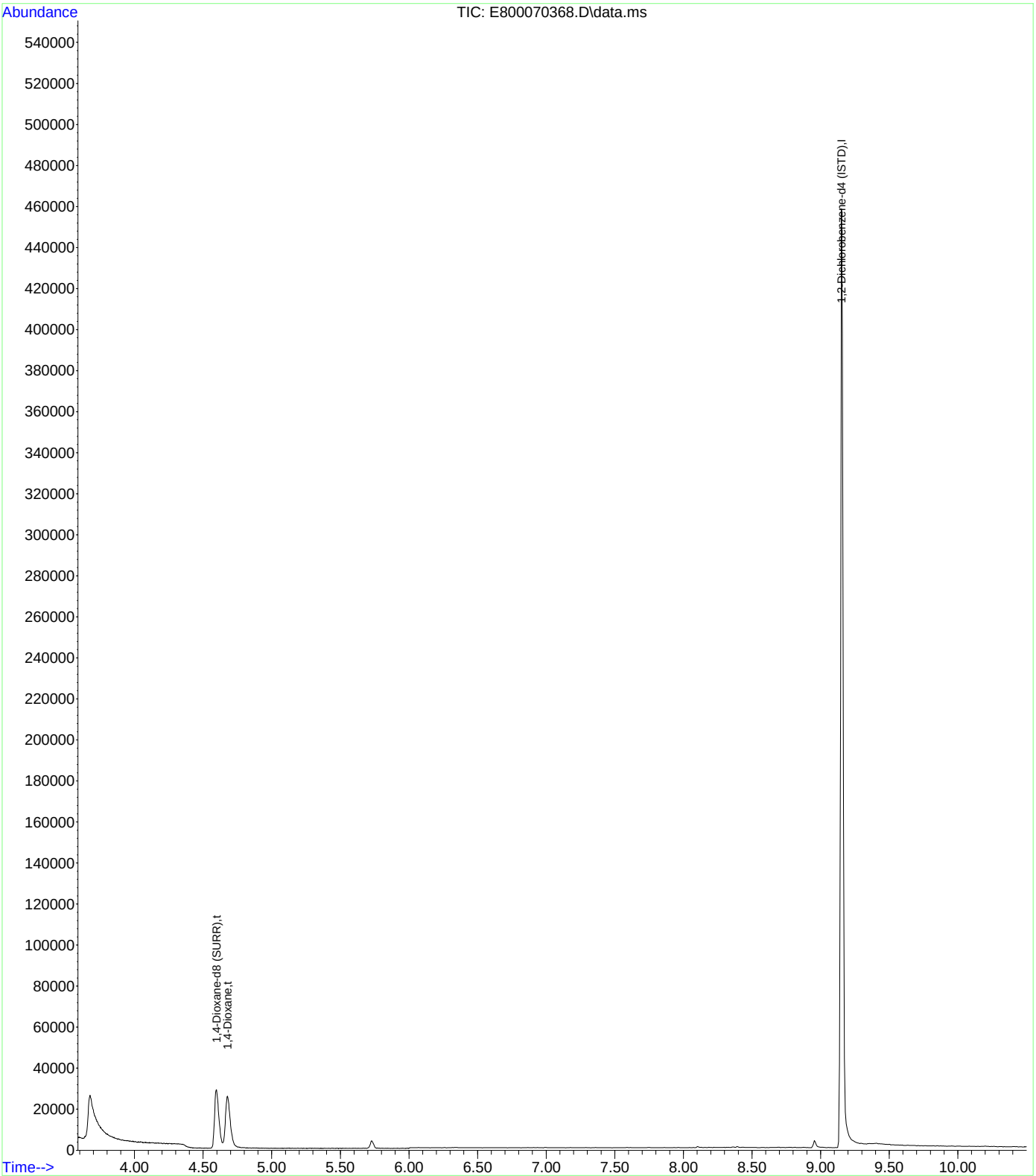
Quant Time: May 15 08:56:28 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

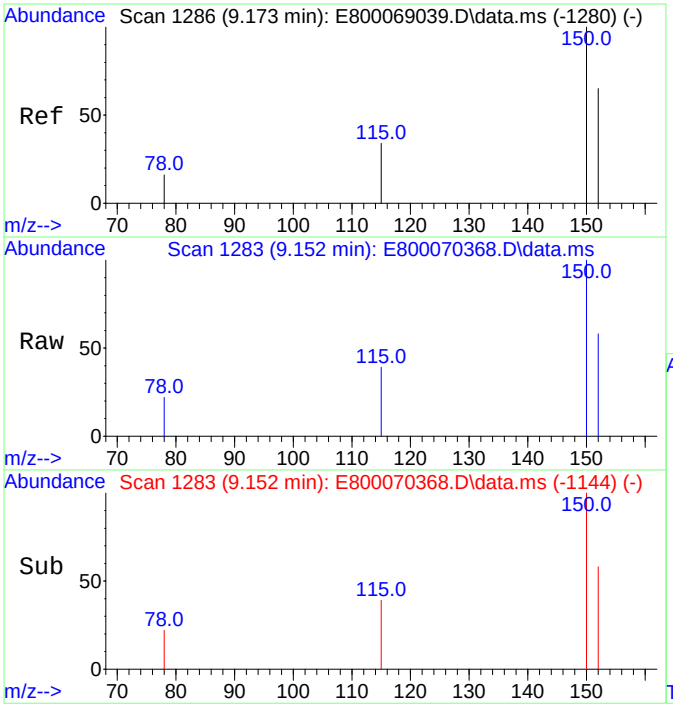
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,2-Dichlorobenzene-d4...	9.152	150	270468	0.50	ug/mL	-0.02
Target Compounds						Qvalue
2) 1,4-Dioxane-d8 (SURR)	4.597	64	22686	0.2805	ug/mL	99
3) 1,4-Dioxane	4.678	88	36515	0.2742	ug/mL	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051423\
Data File : E800070368.D
Acq On : 14 May 2023 6:32 pm
Operator : KH
Sample : BE30880-BS1
InstName : MSBNA8
DataAcq Meth:BN8DIOXSOILSIMACQ_2.M
Misc : QBSV801051143A SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 15 08:56:28 2023
Quant Method : C:\msdchem\1\methods\BN8DIOXSMSOILQ31mz65.M
Quant Title : EPA 8270D SIM 1,4-DIOXANE ISOTOPE DILUTION
QLast Update : Thu Feb 09 14:18:04 2023
Response via : Initial Calibration

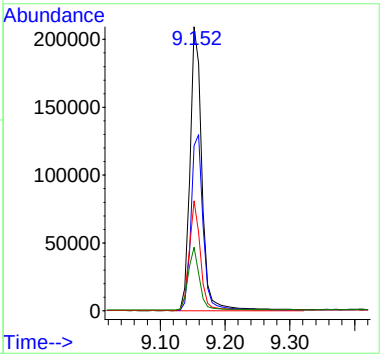


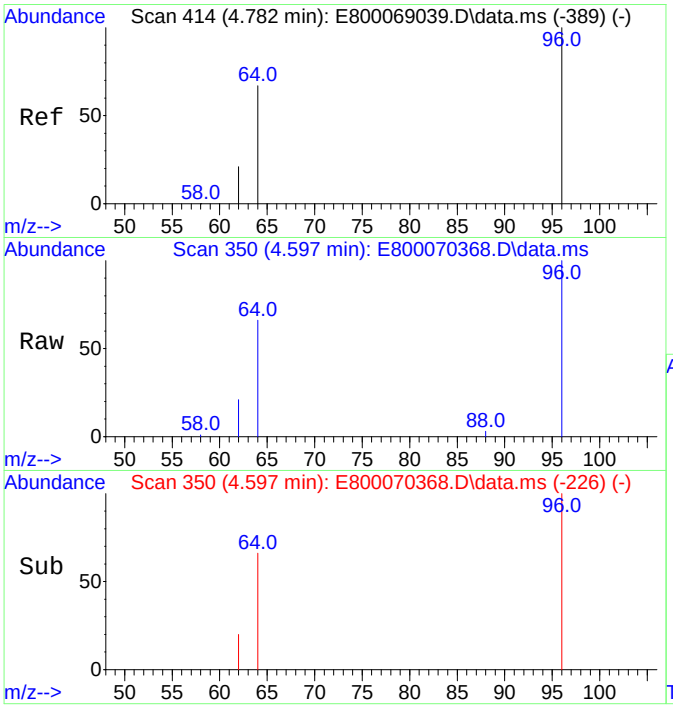


#1
1,2-Dichlorobenzene-d4 (ISTD)
Concen: 0.5000 ug/mL
RT: 9.152 min Scan# 1283
Delta R.T. -0.021 min
Lab File: E800070368.D
Acq: 14 May 2023 6:32 pm

Tgt Ion:150 Resp: 270468

Ion	Ratio	Lower	Upper
150	100		
152	63.5	31.9	95.9
115	36.5	18.4	55.0
78	20.7	9.7	28.9

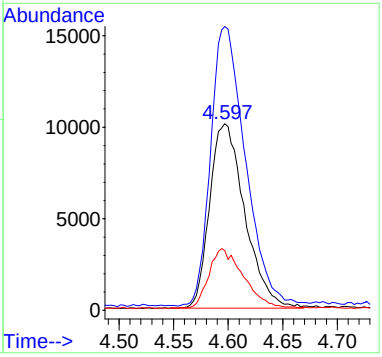


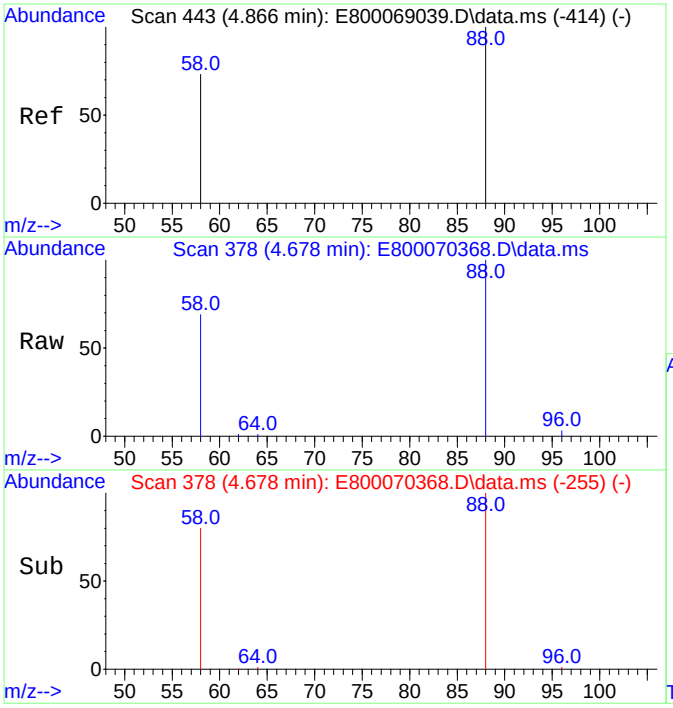


#2
1,4-Dioxane-d8 (SURR)
Concen: 0.2805 ug/mL
RT: 4.597 min Scan# 350
Delta R.T. -0.142 min
Lab File: E800070368.D
Acq: 14 May 2023 6:32 pm

Tgt Ion: 64 Resp: 22686

Ion	Ratio	Lower	Upper
64	100		
96	149.7	0.0	297.0
62	32.4	0.0	62.6

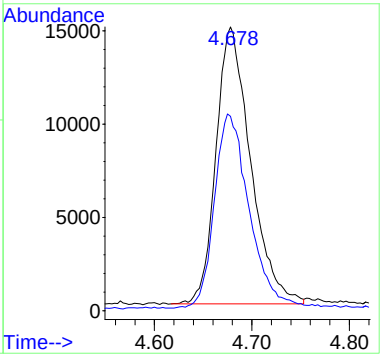




#3
1,4-Dioxane
Concen: 0.2742 ug/mL
RT: 4.678 min Scan# 378
Delta R.T. -0.145 min
Lab File: E800070368.D
Acq: 14 May 2023 6:32 pm

Tgt Ion: 88 Resp: 36515

Ion	Ratio	Lower	Upper
88	100		
58	70.7	52.4	97.2



BENCHSHEETS

SDG: 23E0419

CLASS: SVOA

METHOD: EPA 8270D SIM

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30880

Preparation Date: 05/14/2023 08:00

York Analytical Laboratories, Inc. - Stratford **Printed: 5/14/2023 3:39:05PM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: S23E124 200 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0359-01 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.1	10				
23E0359-02 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.2	10				
23E0359-03 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.2	10				
23E0359-04 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.4	10				
23E0359-05 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.6	10				
23E0359-06 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.3	10				
23E0359-07 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.2	10				
23E0359-08 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.5	10				
23E0359-09 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.2	10				
23E0383-03 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.1	10				
23E0383-04 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.2	10				
23E0419-11 B	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.3	10				
23E0419-12 B	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.3	10				
23E0433-01 F	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.2	10				
23E0433-02 F	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.5	10				
23E0433-03 F	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.3	10				
23E0485-01 F	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.4	10				
23E0485-02 F	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.6	10				
23E0610-03 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.5	10				
23E0610-04 E	Semi-Volatiles, 1,4-Dioxane 8270 SIM-Soil	10.4	10				
BE30880-BLK1	QC	10.1	10				
BE30880-BS1	QC	10.1	10	S22K220		200	
BE30880-MS1	QC	10.6	10	S22K220	23E0433-01	200	
BE30880-MSD1	QC	10.1	10	S22K220	23E0433-01	200	

SUNDAY MAY 14TH

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
S23A292	Methylene Chloride HW	ED535-US	S23B046	Sodium Sulfate, Anhydrous	139404

Preparations Performed by **NF** **Date:** **05/14/2023 08:00**

Soil 1,4-Dioxane Isotope Recovery Correction Calculations

Preparation Batch No.: **BE30880**

Sample ID	1,4-Dioxane-d8 found, ug/mL SURROGATE @ 0.50 ug/mL	*Dilution Adjusted* 1,4-Dioxane-d8 found, ug/mL SURROGATE Found	*Uncorrected* 1,4-Dioxane Detected, ug/mL INSTRUMENT Result	*Isotope Corrected* 1,4-Dioxane ug/ml CORRECTED Data	Dilution Factor	SURR, %R
BE30880-BLK1	0.3467	0.3467	0	0.000	1.0	69.3
BE30880-BS1	0.2805	0.2805	0.2742	0.489	1.0	56.1
BE30880-MS1	0.2391	0.2391	0.2268	0.474	1.0	47.8
BE30880-MSD1	0.2409	0.2409	0.2331	0.484	1.0	48.2
23E0419-11	0.2194	0.2194	0	0.000	1.0	43.9
23E0419-12	0.2172	0.2172	0	0.000	1.0	43.4
23E0433-01	0.2188	0.2188	0	0.000	1.0	43.8
23E0433-02	0.1812	0.1812	0	0.000	1.0	36.2
23E0433-03	0.2268	0.2268	0	0.000	1.0	45.4
23E0483-04	0.2126	0.2126	0	0.000	1.0	42.5
23E0359-01	0.1877	0.1877	0	0.000	1.0	37.5
23E0359-02	0.1839	0.1839	0	0.000	1.0	36.8
23E0359-03	0.1821	0.1821	0	0.000	1.0	36.4
23E0359-04	0.2116	0.2116	0	0.000	1.0	42.3
23E0359-05	0.2104	0.2104	0	0.000	1.0	42.1
23E0359-06	0.2757	0.2757	0	0.000	1.0	55.1
23E0359-07	0.1688	0.1688	0	0.000	1.0	33.8
23E0359-08	0.2123	0.2123	0	0.000	1.0	42.5
23E0359-09	0.2963	0.2963	0	0.000	1.0	59.3
23E0383-03	0.2015	0.2015	0	0.000	1.0	40.3
23E0485-01	0.1603	0.1603	0	0.000	1.0	32.1
23E0485-02	0.1655	0.1655	0	0.000	1.0	33.1
23E0610-03	0.2092	0.2092	0	0.000	1.0	41.8
23E0610-04	0.2321	0.2321	0	0.000	1.0	46.4

York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
CLASS: PFAS
METHOD: EPA 1633 Draft 2

DATA PACKAGE COVER PAGE

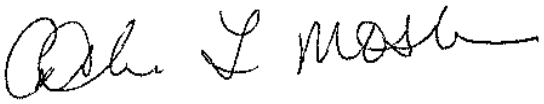
EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505 PFAS	23E0419-01
EHQ_ITEM304_COMP02_230505 PFAS	23E0419-02
EHQ_ITEM304_PFASFB_230505	23E0419-03

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV1)			Lab File ID: QQQ2076920.d		Analyzed: 05/10/23 11:21			
M3PFBS	2.33	140	70 - 130	3.83695	3.891104	-0.0542	+/-1.00	*
M5PFHxA	2.50	103	70 - 130	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	113	70 - 130	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	147	70 - 130	5.475966	5.529588	-0.0536	+/-1.00	*
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	97.2	70 - 130	5.979116	6.035356	-0.0562	+/-1.00	
M6PFDA	1.25	70.2	70 - 130	6.92975	6.988227	-0.0585	+/-1.00	
M7PFUdA	1.25	87.8	70 - 130	7.302134	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	89.0	70 - 130	7.635783	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.25	94.3	70 - 130	8.181983	8.25274	-0.0708	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	101	70 - 130	1.168	1.200119	-0.0321	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	121	70 - 130	6.50995	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	101	70 - 130	3.331683	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	91.9	70 - 130	7.509883	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.00	106	70 - 130	7.096517	7.158435	-0.0619	+/-1.00	
d5-N-EtFOSAA	5.00	102	70 - 130	7.283017	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	153	70 - 130	5.941033	5.999464	-0.0584	+/-1.00	*
M2-8:2 FTS	4.80	105	70 - 130	6.910634	6.970108	-0.0595	+/-1.00	
M9PFNA	1.25	144	70 - 130	6.492567	6.546115	-0.0535	+/-1.00	*
M2-4:2 FTS	4.69	154	70 - 130	4.584233	4.635462	-0.0512	+/-1.00	*
d-N-MeFOSA	2.50	105	70 - 130	8.235517	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	166	70 - 130	8.466166	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	111	70 - 130	4.9133	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	91.5	70 - 130	8.4521	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	101	70 - 130	8.239533	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB1)			Lab File ID: QQQ2076922.d		Analyzed: 05/10/23 11:50			
M3PFBS	2.33	105	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	89.7	25 - 150	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	95.6	25 - 150	5.3926	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	104	25 - 150	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	77.6	25 - 150	5.979116	6.035356	-0.0562	+/-1.00	
M6PFDA	1.25	93.0	25 - 150	6.9204	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.25	110	25 - 150	7.302117	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	108	25 - 150	7.635767	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.25	101	10 - 150	8.181967	8.25274	-0.0708	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	92.8	25 - 150	1.168	1.200119	-0.0321	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	91.5	25 - 150	6.509917	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	92.5	25 - 150	3.331683	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	72.9	10 - 150	7.509867	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.00	87.7	25 - 150	7.096483	7.158435	-0.0620	+/-1.00	
d5-N-EtFOSAA	5.00	77.2	25 - 150	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	98.6	25 - 200	5.941017	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	4.80	83.5	25 - 200	6.9106	6.970108	-0.0595	+/-1.00	
M9PFNA	1.25	140	25 - 150	6.4829	6.546115	-0.0632	+/-1.00	
M2-4:2 FTS	4.69	101	25 - 150	4.584233	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	77.7	25 - 150	8.235483	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	139	25 - 150	8.4754	8.475335	0.0001	+/-1.00	
M3HFPO-DA	10.0	107	25 - 150	4.9133	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	76.8	25 - 150	8.452084	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	80.4	25 - 150	8.2395	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Blank (BE30533-BLK1)			Lab File ID: QQQ2076923.d		Analyzed: 05/10/23 12:29			
M3PFBS	2.30	133	25 - 150	3.836967	3.891104	-0.0541	+/-1.00	
M5PFHxA	2.47	103	25 - 150	4.65945	4.703914	-0.0445	+/-1.00	
M4PFHpA	2.47	102	25 - 150	5.392617	5.446252	-0.0536	+/-1.00	
M3PFHxS	2.34	90.0	25 - 150	5.485267	5.529588	-0.0443	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.47	68.2	25 - 150	5.969467	6.035356	-0.0659	+/-1.00	
M6PFDA	1.24	60.5	25 - 150	6.920417	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.24	72.8	25 - 150	7.302134	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.24	70.1	25 - 150	7.635783	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.24	68.9	10 - 150	8.172717	8.25274	-0.0800	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.88	97.0	25 - 150	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.37	59.0	25 - 150	6.509933	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.94	108	25 - 150	3.3317	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.47	68.3	10 - 150	7.509883	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	4.94	73.5	25 - 150	7.096517	7.158435	-0.0619	+/-1.00	
d5-N-EtFOSAA	4.94	63.4	25 - 150	7.283017	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.70	87.1	25 - 200	5.941033	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	4.74	46.1	25 - 200	6.910634	6.970108	-0.0595	+/-1.00	
M9PFNA	1.24	69.0	25 - 150	6.482917	6.546115	-0.0632	+/-1.00	
M2-4:2 FTS	4.63	138	25 - 150	4.5935	4.635462	-0.0420	+/-1.00	
d-N-MeFOSA	2.47	49.6	25 - 150	8.244766	8.244686	0.0001	+/-1.00	
d-N-EtFOSA	2.47	191	25 - 150	8.475417	8.475335	0.0001	+/-1.00	*
M3HFPO-DA	9.88	120	25 - 150	4.913317	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	24.7	51.8	25 - 150	8.4521	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	24.7	55.7	25 - 150	8.239516	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BE30533-BS1)			Lab File ID: QQQ2076924.d		Analyzed: 05/10/23 12:41			
M3PFBS	2.31	108	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.48	93.1	25 - 150	4.6502	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.48	94.3	25 - 150	5.392617	5.446252	-0.0536	+/-1.00	
M3PFHxS	2.35	92.3	25 - 150	5.475983	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.48	77.3	25 - 150	5.969467	6.035356	-0.0659	+/-1.00	
M6PFDA	1.24	57.4	25 - 150	6.929733	6.988227	-0.0585	+/-1.00	
M7PFUdA	1.24	60.1	25 - 150	7.292817	7.369443	-0.0766	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.24	61.0	25 - 150	7.626467	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.24	76.8	10 - 150	8.172684	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.92	83.8	25 - 150	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.38	75.2	25 - 150	6.500617	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.96	94.9	25 - 150	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.48	64.8	10 - 150	7.50985	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	4.96	72.7	25 - 150	7.087183	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	4.96	63.6	25 - 150	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.72	87.4	25 - 200	5.931733	5.999464	-0.0677	+/-1.00	
M2-8:2 FTS	4.76	74.9	25 - 200	6.910617	6.970108	-0.0595	+/-1.00	
M9PFNA	1.24	104	25 - 150	6.473617	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.65	112	25 - 150	4.58425	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.48	57.3	25 - 150	8.235483	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.48	173	25 - 150	8.466133	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	9.92	109	25 - 150	4.913317	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	24.8	64.4	25 - 150	8.452066	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	24.8	72.0	25 - 150	8.2395	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BE30533-BS2)			Lab File ID: QQQ2076925.d		Analyzed: 05/10/23 12:53			
M3PFBS	2.30	120	25 - 150	3.836967	3.891104	-0.0541	+/-1.00	
M5PFHxA	2.47	114	25 - 150	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.47	105	25 - 150	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.34	110	25 - 150	5.475983	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.47	88.4	25 - 150	5.969467	6.035356	-0.0659	+/-1.00	
M6PFDA	1.24	65.7	25 - 150	6.929717	6.988227	-0.0585	+/-1.00	
M7PFUdA	1.24	64.5	25 - 150	7.3021	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.24	60.6	25 - 150	7.63575	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.24	52.3	10 - 150	8.172684	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.88	79.3	25 - 150	1.149633	1.200119	-0.0505	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.37	89.6	25 - 150	6.509917	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.94	99.2	25 - 150	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.47	80.6	10 - 150	7.50985	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	4.94	67.5	25 - 150	7.087183	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	4.94	61.8	25 - 150	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.70	107	25 - 200	5.941033	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	4.74	88.0	25 - 200	6.90095	6.970108	-0.0692	+/-1.00	
M9PFNA	1.24	105	25 - 150	6.4829	6.546115	-0.0632	+/-1.00	
M2-4:2 FTS	4.63	112	25 - 150	4.58425	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.47	78.8	25 - 150	8.235483	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.47	128	25 - 150	8.466133	8.475335	-0.0092	+/-1.00	
M3HFPO-DA	9.88	113	25 - 150	4.9133	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	24.7	51.2	25 - 150	8.452066	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	24.7	51.9	25 - 150	8.2395	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV2)			Lab File ID: QQQ2076933.d		Analyzed: 05/10/23 14:32			
M3PFBS	2.33	124	70 - 130	3.836967	3.891104	-0.0541	+/-1.00	
M5PFHxA	2.50	102	70 - 130	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	97.7	70 - 130	5.3926	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	106	70 - 130	5.475983	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	86.1	70 - 130	5.979133	6.035356	-0.0562	+/-1.00	
M6PFDA	1.25	81.7	70 - 130	6.9204	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.25	104	70 - 130	7.302117	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	103	70 - 130	7.626483	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.25	114	70 - 130	8.181967	8.25274	-0.0708	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	100	70 - 130	1.168	1.200119	-0.0321	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	108	70 - 130	6.500617	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	98.9	70 - 130	3.331683	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	107	70 - 130	7.509867	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.00	94.6	70 - 130	7.087183	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	5.00	100	70 - 130	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	112	70 - 130	5.941033	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	4.80	118	70 - 130	6.900967	6.970108	-0.0691	+/-1.00	
M9PFNA	1.25	93.1	70 - 130	6.4736	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	125	70 - 130	4.58425	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	118	70 - 130	8.2355	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	153	70 - 130	8.475417	8.475335	0.0001	+/-1.00	*
M3HFPO-DA	10.0	113	70 - 130	4.913317	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	104	70 - 130	8.452084	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	104	70 - 130	8.239516	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB2)			Lab File ID: QQQ2076934.d		Analyzed: 05/10/23 14:44			
M3PFBS	2.33	117	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	119	25 - 150	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	124	25 - 150	5.3926	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	109	25 - 150	5.475983	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	88.8	25 - 150	5.979116	6.035356	-0.0562	+/-1.00	
M6PFDA	1.25	73.4	25 - 150	6.9204	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.25	86.9	25 - 150	7.3021	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	83.5	25 - 150	7.635767	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.25	102	10 - 150	8.172684	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	94.7	25 - 150	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	113	25 - 150	6.509917	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	125	25 - 150	3.331683	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	93.1	10 - 150	7.50985	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.00	99.4	25 - 150	7.087183	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	5.00	84.5	25 - 150	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	113	25 - 200	5.941033	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	4.80	122	25 - 200	6.900967	6.970108	-0.0691	+/-1.00	
M9PFNA	1.25	55.1	25 - 150	6.4736	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	104	25 - 150	4.58425	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	95.7	25 - 150	8.235483	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	164	25 - 150	8.466133	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	143	25 - 150	4.9133	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	100	25 - 150	8.452066	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	101	25 - 150	8.2395	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1022
Instrument: QQQ-2
Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV3)				Lab File ID: QQQ2076945.d		Analyzed: 05/10/23 17:22		
M3PFBS	2.33	102	70 - 130	3.836967	3.891104	-0.0541	+/-1.00	
M5PFHxA	2.50	105	70 - 130	4.65945	4.703914	-0.0445	+/-1.00	
M4PFHpA	2.50	105	70 - 130	5.392617	5.446252	-0.0536	+/-1.00	
M3PFHxS	2.37	91.6	70 - 130	5.476	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	83.9	70 - 130	5.979116	6.035356	-0.0562	+/-1.00	
M6PFDA	1.25	81.0	70 - 130	6.920417	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.25	91.3	70 - 130	7.311417	7.369443	-0.0580	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	114	70 - 130	7.635783	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.25	111	70 - 130	8.181967	8.25274	-0.0708	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	99.9	70 - 130	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	75.8	70 - 130	6.509933	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	106	70 - 130	3.3317	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	88.4	70 - 130	7.509883	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.00	82.9	70 - 130	7.096517	7.158435	-0.0619	+/-1.00	
d5-N-EtFOSAA	5.00	90.0	70 - 130	7.283017	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	105	70 - 130	5.941033	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	4.80	88.7	70 - 130	6.910617	6.970108	-0.0595	+/-1.00	
M9PFNA	1.25	90.3	70 - 130	6.492567	6.546115	-0.0535	+/-1.00	
M2-4:2 FTS	4.69	95.3	70 - 130	4.584267	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	85.9	70 - 130	8.244766	8.244686	0.0001	+/-1.00	
d-N-EtFOSA	2.50	125	70 - 130	8.46615	8.475335	-0.0092	+/-1.00	
M3HFPO-DA	10.0	114	70 - 130	4.913317	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	98.0	70 - 130	8.452084	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	90.4	70 - 130	8.239516	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB3)			Lab File ID: QQQ2076946.d		Analyzed: 05/10/23 17:34			
M3PFBS	2.33	109	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	97.9	25 - 150	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	86.6	25 - 150	5.4019	5.446252	-0.0444	+/-1.00	
M3PFHxS	2.37	105	25 - 150	5.485267	5.529588	-0.0443	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	87.5	25 - 150	5.979133	6.035356	-0.0562	+/-1.00	
M6PFDA	1.25	88.4	25 - 150	6.92975	6.988227	-0.0585	+/-1.00	
M7PFUdA	1.25	100	25 - 150	7.302134	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	76.8	25 - 150	7.6358	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.25	99.6	10 - 150	8.182	8.25274	-0.0707	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	94.0	25 - 150	1.149633	1.200119	-0.0505	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	94.7	25 - 150	6.509933	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	101	25 - 150	3.331683	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	83.0	10 - 150	7.519183	7.519098	0.0001	+/-1.00	
d3-N-MeFOSAA	5.00	77.5	25 - 150	7.096517	7.158435	-0.0619	+/-1.00	
d5-N-EtFOSAA	5.00	73.5	25 - 150	7.283017	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	95.5	25 - 200	5.95035	5.999464	-0.0491	+/-1.00	
M2-8:2 FTS	4.80	131	25 - 200	6.910634	6.970108	-0.0595	+/-1.00	
M9PFNA	1.25	83.7	25 - 150	6.492567	6.546115	-0.0535	+/-1.00	
M2-4:2 FTS	4.69	119	25 - 150	4.58425	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	107	25 - 150	8.235534	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	139	25 - 150	8.475433	8.475335	0.0001	+/-1.00	
M3HFPO-DA	10.0	104	25 - 150	4.913317	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	88.6	25 - 150	8.452117	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	87.0	25 - 150	8.23955	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_COMP01_230505 PFAS (23E0419-01)			Lab File ID: QQQ2076948.d		Analyzed: 05/10/23 17:59			
M3PFBS	2.49	133	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.67	96.6	25 - 150	4.650167	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.67	101	25 - 150	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.53	123	25 - 150	5.48525	5.529588	-0.0443	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.67	83.3	25 - 150	5.9791	6.035356	-0.0563	+/-1.00	
M6PFDA	1.33	90.8	25 - 150	6.9204	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.33	77.1	25 - 150	7.3114	7.369443	-0.0580	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.33	70.9	25 - 150	7.635767	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.33	71.0	10 - 150	8.181967	8.25274	-0.0708	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.7	86.4	25 - 150	1.131283	1.200119	-0.0688	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.55	65.9	25 - 150	6.5006	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.33	106	25 - 150	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.67	93.7	10 - 150	7.509867	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.33	83.4	25 - 150	7.096483	7.158435	-0.0620	+/-1.00	
d5-N-EtFOSAA	5.33	85.2	25 - 150	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	5.07	141	25 - 200	5.941017	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	5.12	99.9	25 - 200	6.9106	6.970108	-0.0595	+/-1.00	
M9PFNA	1.33	161	25 - 150	6.49255	6.546115	-0.0536	+/-1.00	*
M2-4:2 FTS	5.00	110	25 - 150	4.584233	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.67	46.1	25 - 150	8.2355	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.67	107	25 - 150	8.475417	8.475335	0.0001	+/-1.00	
M3HFPO-DA	10.7	112	25 - 150	4.9133	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	26.7	57.0	25 - 150	8.4521	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	26.7	59.3	25 - 150	8.239516	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_COMP02_230505 PFAS (23E0419-02)			Lab File ID: QQQ2076949.d		Analyzed: 05/10/23 18:11			
M3PFBS	2.51	112	25 - 150	3.827733	3.891104	-0.0634	+/-1.00	
M5PFHxA	2.70	101	25 - 150	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.70	99.9	25 - 150	5.3926	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.56	103	25 - 150	5.475983	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.70	94.0	25 - 150	5.979116	6.035356	-0.0562	+/-1.00	
M6PFDA	1.35	102	25 - 150	6.9204	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.35	111	25 - 150	7.302117	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.35	102	25 - 150	7.635767	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.35	98.1	10 - 150	8.18195	8.25274	-0.0708	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.8	75.3	25 - 150	1.149633	1.200119	-0.0505	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.58	105	25 - 150	6.509917	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.39	106	25 - 150	3.313283	3.389554	-0.0763	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.70	86.6	10 - 150	7.50985	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.39	80.7	25 - 150	7.0965	7.158435	-0.0619	+/-1.00	
d5-N-EtFOSAA	5.39	90.4	25 - 150	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	5.13	118	25 - 200	5.941017	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	5.18	99.4	25 - 200	6.900967	6.970108	-0.0691	+/-1.00	
M9PFNA	1.35	78.6	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	5.06	104	25 - 150	4.58425	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.70	63.6	25 - 150	8.235483	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.70	120	25 - 150	8.466133	8.475335	-0.0092	+/-1.00	
M3HFPO-DA	10.8	107	25 - 150	4.913317	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	27.0	59.0	25 - 150	8.452066	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	27.0	61.8	25 - 150	8.2395	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV4)			Lab File ID: QQQ2076950.d		Analyzed: 05/10/23 18:23			
M3PFBS	2.33	117	70 - 130	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	100	70 - 130	4.650167	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	102	70 - 130	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	116	70 - 130	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	89.5	70 - 130	5.9791	6.035356	-0.0563	+/-1.00	
M6PFDA	1.25	91.3	70 - 130	6.920367	6.988227	-0.0679	+/-1.00	
M7PFUdA	1.25	83.8	70 - 130	7.302083	7.369443	-0.0674	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	113	70 - 130	7.63575	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.25	110	70 - 130	8.172667	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	101	70 - 130	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	71.5	70 - 130	6.5099	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	104	70 - 130	3.331683	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	103	70 - 130	7.509833	7.519098	-0.0093	+/-1.00	
d3-N-MeFOSAA	5.00	100	70 - 130	7.096467	7.158435	-0.0620	+/-1.00	
d5-N-EtFOSAA	5.00	100	70 - 130	7.282967	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	105	70 - 130	5.941	5.999464	-0.0585	+/-1.00	
M2-8:2 FTS	4.80	114	70 - 130	6.910583	6.970108	-0.0595	+/-1.00	
M9PFNA	1.25	109	70 - 130	6.482883	6.546115	-0.0632	+/-1.00	
M2-4:2 FTS	4.69	116	70 - 130	4.584233	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	92.5	70 - 130	8.235467	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	147	70 - 130	8.466117	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	116	70 - 130	4.9133	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	113	70 - 130	8.45205	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	104	70 - 130	8.230217	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB4)				Lab File ID: QQQ2076951.d		Analyzed: 05/10/23 18:35		
M3PFBS	2.33	106	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	87.0	25 - 150	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	83.9	25 - 150	5.3926	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	103	25 - 150	5.475983	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	83.4	25 - 150	5.979133	6.035356	-0.0562	+/-1.00	
M6PFDA	1.25	76.5	25 - 150	6.9204	6.988227	-0.0678	+/-1.00	
M7PFUdA	1.25	90.2	25 - 150	7.302117	7.369443	-0.0673	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	86.6	25 - 150	7.635767	7.700887	-0.0651	+/-1.00	
M2PFTeDA	1.25	86.3	10 - 150	8.172684	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	94.3	25 - 150	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	103	25 - 150	6.509933	6.573008	-0.0631	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	94.9	25 - 150	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	92.0	10 - 150	7.50985	7.519098	-0.0092	+/-1.00	
d3-N-MeFOSAA	5.00	86.2	25 - 150	7.0965	7.158435	-0.0619	+/-1.00	
d5-N-EtFOSAA	5.00	79.2	25 - 150	7.283	7.345679	-0.0627	+/-1.00	
M2-6:2 FTS	4.76	102	25 - 200	5.941033	5.999464	-0.0584	+/-1.00	
M2-8:2 FTS	4.80	89.4	25 - 200	6.910617	6.970108	-0.0595	+/-1.00	
M9PFNA	1.25	101	25 - 150	6.482917	6.546115	-0.0632	+/-1.00	
M2-4:2 FTS	4.69	119	25 - 150	4.58425	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	90.7	25 - 150	8.235483	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	161	25 - 150	8.46615	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	103	25 - 150	4.9133	4.961036	-0.0477	+/-1.00	
d9-N-EtFOSE	25.0	93.4	25 - 150	8.452084	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	96.4	25 - 150	8.2395	8.239436	0.0001	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV1)				Lab File ID: QQQ2077038.d	Analyzed: 05/17/23 09:39			
M3PFBS	2.33	115	70 - 130	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	98.9	70 - 130	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	100	70 - 130	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	108	70 - 130	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	93.4	70 - 130	5.96945	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	80.0	70 - 130	6.920367	6.988227	-0.0679	+/-1.00	
M7PFUdA	1.25	96.1	70 - 130	7.292783	7.369443	-0.0767	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	110	70 - 130	7.626433	7.700887	-0.0745	+/-1.00	
M2PFTeDA	1.25	113	70 - 130	8.17265	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	104	70 - 130	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	124	70 - 130	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	102	70 - 130	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	95.9	70 - 130	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	5.00	120	70 - 130	7.08715	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	5.00	115	70 - 130	7.273667	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	162	70 - 130	5.931716	5.999464	-0.0677	+/-1.00	*
M2-8:2 FTS	4.80	110	70 - 130	6.900933	6.970108	-0.0692	+/-1.00	
M9PFNA	1.25	111	70 - 130	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	161	70 - 130	4.58425	4.635462	-0.0512	+/-1.00	*
d-N-MeFOSA	2.50	109	70 - 130	8.23545	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	256	70 - 130	8.4661	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	114	70 - 130	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	88.3	70 - 130	8.452033	8.457796	-0.0058	+/-1.00	
d7-N-MeFOSE	25.0	96.6	70 - 130	8.2302	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB1)				Lab File ID: QQQ2077040.d		Analyzed: 05/17/23 10:04		
M3PFBS	2.33	77.7	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	97.3	25 - 150	4.650167	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	103	25 - 150	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	83.9	25 - 150	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	82.9	25 - 150	5.96945	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	85.1	25 - 150	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	1.25	97.4	25 - 150	7.302083	7.369443	-0.0674	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	99.1	25 - 150	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.25	97.9	10 - 150	8.172667	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	96.5	25 - 150	1.167983	1.200119	-0.0321	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	108	25 - 150	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	95.2	25 - 150	3.331683	3.389554	-0.0579	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	86.5	10 - 150	7.50055	7.519098	-0.0185	+/-1.00	
d3-N-MeFOSAA	5.00	98.1	25 - 150	7.087167	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	5.00	93.5	25 - 150	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	99.6	25 - 200	5.931716	5.999464	-0.0677	+/-1.00	
M2-8:2 FTS	4.80	80.4	25 - 200	6.90095	6.970108	-0.0692	+/-1.00	
M9PFNA	1.25	65.6	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	102	25 - 150	4.584233	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	2.50	93.0	25 - 150	8.235467	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	244	25 - 150	8.466117	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	114	25 - 150	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	84.1	25 - 150	8.45205	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	91.1	25 - 150	8.230217	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Blank (BE30673-BLK1)			Lab File ID: QQQ2077041.d		Analyzed: 05/17/23 11:16			
M3PFBS	46.6	133	25 - 150	3.827733	3.891104	-0.0634	+/-1.00	
M5PFHxA	50.0	122	25 - 150	4.650183	4.703914	-0.0537	+/-1.00	
M4PFHpA	50.0	110	25 - 150	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	47.4	117	25 - 150	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	50.0	118	25 - 150	5.96945	6.035356	-0.0659	+/-1.00	
M6PFDA	25.0	86.3	25 - 150	6.920383	6.988227	-0.0678	+/-1.00	
M7PFUdA	25.0	79.1	25 - 150	7.2928	7.369443	-0.0766	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	25.0	94.2	25 - 150	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	25.0	69.2	10 - 150	8.172667	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	200	115	25 - 150	1.14045	1.200119	-0.0597	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	47.9	133	25 - 150	6.5006	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	100	126	25 - 150	3.313283	3.389554	-0.0763	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	50.0	99.6	10 - 150	7.50055	7.519098	-0.0185	+/-1.00	
d3-N-MeFOSAA	100	122	25 - 150	7.087167	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	100	126	25 - 150	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	95.1	299	25 - 200	5.941017	5.999464	-0.0584	+/-1.00	*
M2-8:2 FTS	96.0	194	25 - 200	6.90095	6.970108	-0.0692	+/-1.00	
M9PFNA	25.0	153	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	*
M2-4:2 FTS	93.8	218	25 - 150	4.58425	4.635462	-0.0512	+/-1.00	*
d-N-MeFOSA	50.0	78.2	25 - 150	8.23545	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	50.0	609	25 - 150	8.45685	8.475335	-0.0185	+/-1.00	*
M3HFPO-DA	200	132	25 - 150	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	500	56.9	25 - 150	8.45205	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	500	73.6	25 - 150	8.230217	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1762
Instrument: QQQ-2
Calibration: SD30043

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BE30673-BS1)			Lab File ID: QQQ2077042.d		Analyzed: 05/17/23 11:28			
M3PFBS	46.6	134	25 - 150	3.82775	3.891104	-0.0634	+/-1.00	
M5PFHxA	50.0	111	25 - 150	4.640934	4.703914	-0.0630	+/-1.00	
M4PFHpA	50.0	119	25 - 150	5.383117	5.446252	-0.0631	+/-1.00	
M3PFHxS	47.4	132	25 - 150	5.466333	5.529588	-0.0633	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	50.0	109	25 - 150	5.960166	6.035356	-0.0752	+/-1.00	
M6PFDA	25.0	77.4	25 - 150	6.911067	6.988227	-0.0772	+/-1.00	
M7PFUdA	25.0	109	25 - 150	7.2928	7.369443	-0.0766	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	25.0	122	25 - 150	7.626467	7.700887	-0.0744	+/-1.00	
M2PFTeDA	25.0	93.7	10 - 150	8.172667	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	200	111	25 - 150	1.14045	1.200119	-0.0597	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	47.9	114	25 - 150	6.5006	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	100	106	25 - 150	3.304083	3.389554	-0.0855	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	50.0	94.9	10 - 150	7.50055	7.519098	-0.0185	+/-1.00	
d3-N-MeFOSAA	100	120	25 - 150	7.087167	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	100	111	25 - 150	7.2737	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	95.1	217	25 - 200	5.931733	5.999464	-0.0677	+/-1.00	*
M2-8:2 FTS	96.0	178	25 - 200	6.90095	6.970108	-0.0692	+/-1.00	
M9PFNA	25.0	105	25 - 150	6.4736	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	93.8	214	25 - 150	4.575016	4.635462	-0.0604	+/-1.00	*
d-N-MeFOSA	50.0	51.1	25 - 150	8.235467	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	50.0	352	25 - 150	8.466133	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	200	125	25 - 150	4.9036	4.961036	-0.0574	+/-1.00	
d9-N-EtFOSE	500	62.8	25 - 150	8.452066	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	500	70.3	25 - 150	8.239483	8.239436	0.0000	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1762
Instrument: QQQ-2
Calibration: SD30043

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BE30673-BS2)			Lab File ID: QQQ2077043.d		Analyzed: 05/17/23 11:41			
M3PFBS	46.6	136	25 - 150	3.818517	3.891104	-0.0726	+/-1.00	
M5PFHxA	50.0	116	25 - 150	4.640917	4.703914	-0.0630	+/-1.00	
M4PFHpA	50.0	118	25 - 150	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	47.4	142	25 - 150	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	50.0	96.8	25 - 150	5.96945	6.035356	-0.0659	+/-1.00	
M6PFDA	25.0	80.5	25 - 150	6.920383	6.988227	-0.0678	+/-1.00	
M7PFUdA	25.0	104	25 - 150	7.292783	7.369443	-0.0767	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	25.0	87.6	25 - 150	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	25.0	85.8	10 - 150	8.17265	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	200	111	25 - 150	1.1221	1.200119	-0.0780	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	47.9	126	25 - 150	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	100	104	25 - 150	3.304083	3.389554	-0.0855	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	50.0	88.0	10 - 150	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	100	99.3	25 - 150	7.08715	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	100	92.8	25 - 150	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	95.1	170	25 - 200	5.931716	5.999464	-0.0677	+/-1.00	
M2-8:2 FTS	96.0	96.5	25 - 200	6.900933	6.970108	-0.0692	+/-1.00	
M9PFNA	25.0	114	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	93.8	156	25 - 150	4.575	4.635462	-0.0605	+/-1.00	*
d-N-MeFOSA	50.0	69.8	25 - 150	8.23545	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	50.0	280	25 - 150	8.4661	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	200	132	25 - 150	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	500	66.7	25 - 150	8.452033	8.457796	-0.0058	+/-1.00	
d7-N-MeFOSE	500	74.6	25 - 150	8.239467	8.239436	0.0000	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_PFASFB_230505 (23E0419-03)			Lab File ID: QQQ2077048.d		Analyzed: 05/17/23 12:42			
M3PFBS	22.3	91.6	25 - 150	3.827717	3.891104	-0.0634	+/-1.00	
M5PFHxA	24.0	99.3	25 - 150	4.650167	4.703914	-0.0537	+/-1.00	
M4PFHpA	24.0	98.5	25 - 150	5.383083	5.446252	-0.0632	+/-1.00	
M3PFHxS	22.7	84.5	25 - 150	5.47595	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	24.0	81.7	25 - 150	5.969433	6.035356	-0.0659	+/-1.00	
M6PFDA	12.0	77.7	25 - 150	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	12.0	71.7	25 - 150	7.292783	7.369443	-0.0767	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	12.0	57.8	25 - 150	7.626433	7.700887	-0.0745	+/-1.00	
M2PFTeDA	12.0	23.8	10 - 150	8.172633	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	95.9	98.3	25 - 150	1.14045	1.200119	-0.0597	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	23.0	151	25 - 150	6.500583	6.573008	-0.0724	+/-1.00	*
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	47.9	95.9	25 - 150	3.313267	3.389554	-0.0763	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	24.0	72.9	10 - 150	7.500517	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	47.9	78.1	25 - 150	7.077833	7.158435	-0.0806	+/-1.00	
d5-N-EtFOSAA	47.9	62.5	25 - 150	7.273667	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	45.6	103	25 - 200	5.941	5.999464	-0.0585	+/-1.00	
M2-8:2 FTS	46.0	60.8	25 - 200	6.891617	6.970108	-0.0785	+/-1.00	
M9PFNA	12.0	100	25 - 150	6.473567	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	45.0	98.1	25 - 150	4.584233	4.635462	-0.0512	+/-1.00	
d-N-MeFOSA	24.0	42.3	25 - 150	8.2447	8.244686	0.0000	+/-1.00	
d-N-EtFOSA	24.0	312	25 - 150	8.42905	8.475335	-0.0463	+/-1.00	*
M3HFPO-DA	95.9	113	25 - 150	4.903567	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	240	22.6	25 - 150	8.452017	8.457796	-0.0058	+/-1.00	*
d7-N-MeFOSE	240	33.0	25 - 150	8.23945	8.239436	0.0000	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1762	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Duplicate (BE30673-DUP1)				Lab File ID: QQQ2077049.d		Analyzed: 05/17/23 12:54		
M3PFBS	21.9	87.3	25 - 150	3.827733	3.891104	-0.0634	+/-1.00	
M5PFHxA	23.5	103	25 - 150	4.640917	4.703914	-0.0630	+/-1.00	
M4PFHpA	23.5	105	25 - 150	5.383083	5.446252	-0.0632	+/-1.00	
M3PFHxS	22.2	90.2	25 - 150	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	23.5	92.8	25 - 150	5.969433	6.035356	-0.0659	+/-1.00	
M6PFDA	11.7	87.1	25 - 150	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	11.7	87.9	25 - 150	7.292783	7.369443	-0.0767	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	11.7	63.2	25 - 150	7.626433	7.700887	-0.0745	+/-1.00	
M2PFTeDA	11.7	27.7	10 - 150	8.163366	8.25274	-0.0894	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	93.8	98.4	25 - 150	1.14045	1.200119	-0.0597	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	22.5	89.2	25 - 150	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	46.9	98.5	25 - 150	3.313283	3.389554	-0.0763	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	23.5	60.3	10 - 150	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	46.9	58.2	25 - 150	7.077833	7.158435	-0.0806	+/-1.00	
d5-N-EtFOSAA	46.9	56.9	25 - 150	7.273667	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	44.6	124	25 - 200	5.9317	5.999464	-0.0678	+/-1.00	
M2-8:2 FTS	45.0	63.3	25 - 200	6.900933	6.970108	-0.0692	+/-1.00	
M9PFNA	11.7	81.3	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	44.0	107	25 - 150	4.575	4.635462	-0.0605	+/-1.00	
d-N-MeFOSA	23.5	38.6	25 - 150	8.23545	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	23.5	327	25 - 150	8.4661	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	93.8	117	25 - 150	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	235	10.5	25 - 150	8.452033	8.457796	-0.0058	+/-1.00	*
d7-N-MeFOSE	235	17.8	25 - 150	8.2302	8.239436	-0.0092	+/-1.00	*

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1762	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV2)				Lab File ID: QQQ2077051.d		Analyzed: 05/17/23 13:19		
M3PFBS	2.33	96.3	70 - 130	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	94.3	70 - 130	4.650167	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	92.6	70 - 130	5.383083	5.446252	-0.0632	+/-1.00	
M3PFHxS	2.37	106	70 - 130	5.47595	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	95.5	70 - 130	5.969433	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	72.2	70 - 130	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	1.25	96.0	70 - 130	7.292783	7.369443	-0.0767	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	94.7	70 - 130	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.25	89.9	70 - 130	8.17265	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	102	70 - 130	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	90.9	70 - 130	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	96.5	70 - 130	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	78.9	70 - 130	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	5.00	93.2	70 - 130	7.08715	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	5.00	88.9	70 - 130	7.273667	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	144	70 - 130	5.9317	5.999464	-0.0678	+/-1.00	*
M2-8:2 FTS	4.80	69.1	70 - 130	6.891617	6.970108	-0.0785	+/-1.00	*
M9PFNA	1.25	120	70 - 130	6.464267	6.546115	-0.0818	+/-1.00	
M2-4:2 FTS	4.69	141	70 - 130	4.584233	4.635462	-0.0512	+/-1.00	*
d-N-MeFOSA	2.50	89.0	70 - 130	8.23545	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	236	70 - 130	8.475367	8.475335	0.0000	+/-1.00	*
M3HFPO-DA	10.0	112	70 - 130	4.903567	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	82.3	70 - 130	8.45205	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	87.4	70 - 130	8.230217	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB2)				Lab File ID: QQQ2077052.d	Analyzed: 05/17/23 13:31			
M3PFBS	2.33	121	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	92.5	25 - 150	4.640917	4.703914	-0.0630	+/-1.00	
M4PFHpA	2.50	109	25 - 150	5.3831	5.446252	-0.0632	+/-1.00	
M3PFHxS	2.37	117	25 - 150	5.466317	5.529588	-0.0633	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	94.4	25 - 150	5.96945	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	73.4	25 - 150	6.901417	6.988227	-0.0868	+/-1.00	
M7PFUdA	1.25	90.3	25 - 150	7.2928	7.369443	-0.0766	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	99.3	25 - 150	7.617167	7.700887	-0.0837	+/-1.00	
M2PFTeDA	1.25	83.4	10 - 150	8.17265	8.25274	-0.0801	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	97.4	25 - 150	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	131	25 - 150	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	96.5	25 - 150	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	79.4	10 - 150	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	5.00	75.2	25 - 150	7.08715	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	5.00	81.5	25 - 150	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	144	25 - 200	5.931716	5.999464	-0.0677	+/-1.00	
M2-8:2 FTS	4.80	92.3	25 - 200	6.900933	6.970108	-0.0692	+/-1.00	
M9PFNA	1.25	87.9	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	164	25 - 150	4.584233	4.635462	-0.0512	+/-1.00	*
d-N-MeFOSA	2.50	68.3	25 - 150	8.2262	8.244686	-0.0185	+/-1.00	
d-N-EtFOSA	2.50	221	25 - 150	8.466117	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	112	25 - 150	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	77.6	25 - 150	8.45205	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	81.2	25 - 150	8.230217	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1762
Instrument: QQQ-2
Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV3)				Lab File ID: QQQ2077063.d	Analyzed: 05/17/23 15:46			
M3PFBS	2.33	96.9	70 - 130	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	103	70 - 130	4.650167	4.703914	-0.0537	+/-1.00	
M4PFHpA	2.50	103	70 - 130	5.3831	5.446252	-0.0632	+/-1.00	
M3PFHxS	2.37	103	70 - 130	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	101	70 - 130	5.96945	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	92.7	70 - 130	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	1.25	116	70 - 130	7.2928	7.369443	-0.0766	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	111	70 - 130	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.25	108	70 - 130	8.163383	8.25274	-0.0894	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	102	70 - 130	1.149633	1.200119	-0.0505	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	147	70 - 130	6.5006	6.573008	-0.0724	+/-1.00	*
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	103	70 - 130	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	99.3	70 - 130	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	5.00	104	70 - 130	7.08715	7.158435	-0.0713	+/-1.00	
d5-N-EtFOSAA	5.00	122	70 - 130	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	156	70 - 130	5.931716	5.999464	-0.0677	+/-1.00	*
M2-8:2 FTS	4.80	83.4	70 - 130	6.891617	6.970108	-0.0785	+/-1.00	
M9PFNA	1.25	97.6	70 - 130	6.464283	6.546115	-0.0818	+/-1.00	
M2-4:2 FTS	4.69	136	70 - 130	4.584233	4.635462	-0.0512	+/-1.00	*
d-N-MeFOSA	2.50	106	70 - 130	8.235467	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	269	70 - 130	8.475367	8.475335	0.0000	+/-1.00	*
M3HFPO-DA	10.0	116	70 - 130	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	99.3	70 - 130	8.45205	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	101	70 - 130	8.230217	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1762	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB3)			Lab File ID: QQQ2077064.d		Analyzed: 05/17/23 15:59			
M3PFBS	2.33	92.6	25 - 150	3.827733	3.891104	-0.0634	+/-1.00	
M5PFHxA	2.50	104	25 - 150	4.640917	4.703914	-0.0630	+/-1.00	
M4PFHpA	2.50	107	25 - 150	5.3831	5.446252	-0.0632	+/-1.00	
M3PFHxS	2.37	94.7	25 - 150	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	80.7	25 - 150	5.96945	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	71.4	25 - 150	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	1.25	89.8	25 - 150	7.292783	7.369443	-0.0767	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	84.7	25 - 150	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.25	83.1	10 - 150	8.163366	8.25274	-0.0894	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	95.5	25 - 150	1.149633	1.200119	-0.0505	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	94.9	25 - 150	6.491283	6.573008	-0.0817	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	94.7	25 - 150	3.313283	3.389554	-0.0763	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	69.1	10 - 150	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	5.00	89.3	25 - 150	7.077833	7.158435	-0.0806	+/-1.00	
d5-N-EtFOSAA	5.00	94.8	25 - 150	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	99.6	25 - 200	5.931716	5.999464	-0.0677	+/-1.00	
M2-8:2 FTS	4.80	74.1	25 - 200	6.900933	6.970108	-0.0692	+/-1.00	
M9PFNA	1.25	101	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	125	25 - 150	4.575	4.635462	-0.0605	+/-1.00	
d-N-MeFOSA	2.50	75.4	25 - 150	8.23545	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	220	25 - 150	8.4661	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	111	25 - 150	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	79.8	25 - 150	8.452033	8.457796	-0.0058	+/-1.00	
d7-N-MeFOSE	25.0	81.1	25 - 150	8.239467	8.239436	0.0000	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Sequence: S3E1762
Instrument: QQQ-2
Calibration: SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV4)				Lab File ID: QQQ2077070.d	Analyzed: 05/17/23 17:15			
M3PFBS	2.33	101	70 - 130	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	99.3	70 - 130	4.640917	4.703914	-0.0630	+/-1.00	
M4PFHpA	2.50	106	70 - 130	5.392583	5.446252	-0.0537	+/-1.00	
M3PFHxS	2.37	102	70 - 130	5.475966	5.529588	-0.0536	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	88.4	70 - 130	5.969433	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	89.8	70 - 130	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	1.25	98.4	70 - 130	7.2928	7.369443	-0.0766	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	98.3	70 - 130	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.25	92.9	70 - 130	8.1634	8.25274	-0.0893	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	101	70 - 130	1.168	1.200119	-0.0321	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	91.9	70 - 130	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	102	70 - 130	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	108	70 - 130	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	5.00	97.7	70 - 130	7.07785	7.158435	-0.0806	+/-1.00	
d5-N-EtFOSAA	5.00	101	70 - 130	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	155	70 - 130	5.931716	5.999464	-0.0677	+/-1.00	*
M2-8:2 FTS	4.80	84.1	70 - 130	6.900933	6.970108	-0.0692	+/-1.00	
M9PFNA	1.25	105	70 - 130	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	142	70 - 130	4.584233	4.635462	-0.0512	+/-1.00	*
d-N-MeFOSA	2.50	69.3	70 - 130	8.235467	8.244686	-0.0092	+/-1.00	*
d-N-EtFOSA	2.50	237	70 - 130	8.466117	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	119	70 - 130	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	89.8	70 - 130	8.45205	8.457796	-0.0057	+/-1.00	
d7-N-MeFOSE	25.0	93.3	70 - 130	8.230217	8.239436	-0.0092	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1762	Instrument:	QQQ-2
		Calibration:	SD30043

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB4)			Lab File ID: QQQ2077071.d		Analyzed: 05/17/23 17:27			
M3PFBS	2.33	106	25 - 150	3.83695	3.891104	-0.0542	+/-1.00	
M5PFHxA	2.50	99.3	25 - 150	4.640917	4.703914	-0.0630	+/-1.00	
M4PFHpA	2.50	97.9	25 - 150	5.383083	5.446252	-0.0632	+/-1.00	
M3PFHxS	2.37	101	25 - 150	5.4663	5.529588	-0.0633	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.50	94.3	25 - 150	5.969433	6.035356	-0.0659	+/-1.00	
M6PFDA	1.25	69.8	25 - 150	6.91105	6.988227	-0.0772	+/-1.00	
M7PFUdA	1.25	95.4	25 - 150	7.2928	7.369443	-0.0766	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	102	25 - 150	7.62645	7.700887	-0.0744	+/-1.00	
M2PFTeDA	1.25	84.9	10 - 150	8.163383	8.25274	-0.0894	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0	94.7	25 - 150	1.158817	1.200119	-0.0413	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.40	114	25 - 150	6.500583	6.573008	-0.0724	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	95.8	25 - 150	3.322483	3.389554	-0.0671	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.50	86.0	10 - 150	7.500533	7.519098	-0.0186	+/-1.00	
d3-N-MeFOSAA	5.00	105	25 - 150	7.07785	7.158435	-0.0806	+/-1.00	
d5-N-EtFOSAA	5.00	95.2	25 - 150	7.273684	7.345679	-0.0720	+/-1.00	
M2-6:2 FTS	4.76	134	25 - 200	5.9317	5.999464	-0.0678	+/-1.00	
M2-8:2 FTS	4.80	84.7	25 - 200	6.891617	6.970108	-0.0785	+/-1.00	
M9PFNA	1.25	91.2	25 - 150	6.473583	6.546115	-0.0725	+/-1.00	
M2-4:2 FTS	4.69	131	25 - 150	4.575	4.635462	-0.0605	+/-1.00	
d-N-MeFOSA	2.50	95.4	25 - 150	8.23545	8.244686	-0.0092	+/-1.00	
d-N-EtFOSA	2.50	276	25 - 150	8.4661	8.475335	-0.0092	+/-1.00	*
M3HFPO-DA	10.0	112	25 - 150	4.903584	4.961036	-0.0575	+/-1.00	
d9-N-EtFOSE	25.0	86.1	25 - 150	8.452033	8.457796	-0.0058	+/-1.00	
d7-N-MeFOSE	25.0	90.3	25 - 150	8.2302	8.239436	-0.0092	+/-1.00	

DUPLICATES

EHQ_ITEM304_PFASFB_230505

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Water
Laboratory ID: BE30673-DUP1
Batch: BE30673
Lab Source ID: 23E0419-03
Preparation: EPA 1633 Prep
Initial/Final: 532.78 mL / 5 mL
Source Sample Name: EHQ_ITEM304_PFASFB_230505
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ng/L)	C	DUPLICATE CONCENTRATION (ng/L)	C	RPD %	Q	METHOD
11CL-PF3OUdS	30	ND		ND				EPA 1633 Draft 2
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	30	ND		ND				EPA 1633 Draft 2
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	30	ND		ND				EPA 1633 Draft 2
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	30	ND		ND				EPA 1633 Draft 2
3-Perfluoroheptyl propanoic acid (FHpPA)	30	ND		ND				EPA 1633 Draft 2
3-Perfluoropentyl propanoic acid (FPePA)	30	ND		ND				EPA 1633 Draft 2
3-Perfluoropropyl propanoic acid (FPrPA)	30	ND		ND				EPA 1633 Draft 2
9CL-PF3ONS	30	ND		ND				EPA 1633 Draft 2
ADONA	30	ND		ND				EPA 1633 Draft 2
d3-N-MeFOSAA		37.4		27.3				EPA 1633 Draft 2
d3-N-MeFOSAA-EIS		0.00		0.00				EPA 1633 Draft 2
d3-NMeFOSA-EIS		0.00		0.00				EPA 1633 Draft 2
d5-N-EtFOSAA		30.0		26.7				EPA 1633 Draft 2
d5-N-EtFOSAA-EIS		0.00		0.00				EPA 1633 Draft 2
d5-NEtFOSA-EIS		0.00		0.00				EPA 1633 Draft 2
d7-N-MeFOSE		79.2		41.8				EPA 1633 Draft 2
d7-NMeFOSE-EIS		0.00		0.00				EPA 1633 Draft 2
d9-N-EtFOSE		54.1		24.6				EPA 1633 Draft 2
d9-NEtFOSE-EIS		0.00		0.00				EPA 1633 Draft 2
d-N-EtFOSA		74.8		76.7				EPA 1633 Draft 2
d-N-MeFOSA		10.1		9.07				EPA 1633 Draft 2
HFPO-DA (Gen-X)	30	ND		ND				EPA 1633 Draft 2
M2-4:2 FTS		44.1		47.2				EPA 1633 Draft 2
M2-4-2FTS-EIS		0.00		0.00				EPA 1633 Draft 2
M2-6:2 FTS		47.2		55.1				EPA 1633 Draft 2

DUPLICATES

EHQ_ITEM304_PFASFB_230505

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Water
Laboratory ID: BE30673-DUP1
Batch: BE30673
Lab Source ID: 23E0419-03
Preparation: EPA 1633 Prep
Initial/Final: 532.78 mL / 5 mL
Source Sample Name: EHQ_ITEM304_PFASFB_230505
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ng/mL)	C	DUPLICATE CONCENTRATION (ng/mL)	C	RPD %	Q	METHOD
M2-6-2FTS-EIS		0.00		0.00				EPA 1633 Draft 2
M2-8:2 FTS		28.0		28.5				EPA 1633 Draft 2
M2-8-2FTS-EIS		0.00		0.00				EPA 1633 Draft 2
M2PFTeDA		2.85		3.25				EPA 1633 Draft 2
M2PFTeDA-EIS		0.00		0.00				EPA 1633 Draft 2
M3HFPO-DA		109		110				EPA 1633 Draft 2
M3-HFPO-DA-EIS		0.00		0.00				EPA 1633 Draft 2
M3PFBA		0.00		0.00				EPA 1633 Draft 2
M3PFBS		20.5		19.1				EPA 1633 Draft 2
M3PFBS-EIS		0.00		0.00				EPA 1633 Draft 2
M3PFHxS		19.2		20.1				EPA 1633 Draft 2
M3PFHxS-EIS		0.00		0.00				EPA 1633 Draft 2
M4PFHpA		23.6		24.7				EPA 1633 Draft 2
M4PFHpA-EIS		0.00		0.00				EPA 1633 Draft 2
M5PFHxA		23.8		24.2				EPA 1633 Draft 2
M5PFHxA-EIS		0.00		0.00				EPA 1633 Draft 2
M6PFDA		9.31		10.2				EPA 1633 Draft 2
M6PFDA-EIS		0.00		0.00				EPA 1633 Draft 2
M7PFUdA		8.59		10.3				EPA 1633 Draft 2
M7PFUdA-EIS		0.00		0.00				EPA 1633 Draft 2
M9PFNA		12.0		9.54				EPA 1633 Draft 2
MPFDA		0.00		0.00				EPA 1633 Draft 2
MPFHxA		0.00		0.00				EPA 1633 Draft 2
MPFHxS		0.00		0.00				EPA 1633 Draft 2
MPFNA		0.00		0.00				EPA 1633 Draft 2
MPFOA		0.00		0.00				EPA 1633 Draft 2
MPFOS		0.00		0.00				EPA 1633 Draft 2
N-EtFOSA	30	ND		ND				EPA 1633 Draft 2

DUPLICATES

EHQ_ITEM304_PFASFB_230505

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Water
Laboratory ID: BE30673-DUP1
Batch: BE30673
Lab Source ID: 23E0419-03
Preparation: EPA 1633 Prep
Initial/Final: 532.78 mL / 5 mL
Source Sample Name: EHQ_ITEM304_PFASFB_230505
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ng/L)	C	DUPLICATE CONCENTRATION (ng/L)	C	RPD %	Q	METHOD
N-EtFOSAA	30	ND		ND				EPA 1633 Draft 2
N-EtFOSE	30	ND		ND				EPA 1633 Draft 2
N-MeFOSA	30	ND		ND				EPA 1633 Draft 2
N-MeFOSAA	30	ND		ND				EPA 1633 Draft 2
N-MeFOSE	30	ND		ND				EPA 1633 Draft 2
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)		17.5		14.2				EPA 1633 Draft 2
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS		0.00		0.00				EPA 1633 Draft 2
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)		34.8		20.1				EPA 1633 Draft 2
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS		0.00		0.00				EPA 1633 Draft 2
Perfluoro-1-decanesulfonic acid (PFDS)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-1-heptanesulfonic acid (PFHpS)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-1-nonanesulfonic acid (PFNS)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-1-octanesulfonamide (FOSA)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-1-pentanesulfonate (PFPeS)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-4-oxapentanoic acid (PFMPA)	30	ND		ND				EPA 1633 Draft 2
Perfluoro-5-oxahexanoic acid (PFMBA)	30	ND		ND				EPA 1633 Draft 2
Perfluorobutanesulfonic acid (PFBS)	30	ND		ND				EPA 1633 Draft 2
Perfluorodecanoic acid (PFDA)	30	ND		ND				EPA 1633 Draft 2

DUPLICATES

EHQ_ITEM304_PFASFB_230505

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Water
Laboratory ID: BE30673-DUP1
Batch: BE30673
Lab Source ID: 23E0419-03
Preparation: EPA 1633 Prep
Initial/Final: 532.78 mL / 5 mL
Source Sample Name: EHQ_ITEM304_PFASFB_230505
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ng/L)	C	DUPLICATE CONCENTRATION (ng/L)	C	RPD %	Q	METHOD
Perfluorododecanesulfonic acid (PFDoS)	30	ND		ND				EPA 1633 Draft 2
Perfluorododecanoic acid (PFDoA)	30	ND		ND				EPA 1633 Draft 2
Perfluoroheptanoic acid (PFHpA)	30	ND		ND				EPA 1633 Draft 2
Perfluorohexanesulfonic acid (PFHxS)	30	ND		ND				EPA 1633 Draft 2
Perfluorohexanoic acid (PFHxA)	30	0.702		0.701		0.182		EPA 1633 Draft 2
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)		6.93		7.41				EPA 1633 Draft 2
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS		0.00		0.00				EPA 1633 Draft 2
Perfluoro-n-[13C4]butanoic acid (MPFBA)		94.2		92.4				EPA 1633 Draft 2
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS		0.00		0.00				EPA 1633 Draft 2
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)		46.0		46.2				EPA 1633 Draft 2
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS		0.00		0.00				EPA 1633 Draft 2
Perfluoro-n-[13C8]octanoic acid (M8PFOA)		19.6		21.8				EPA 1633 Draft 2
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS		0.00		0.00				EPA 1633 Draft 2
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS		0.00		0.00				EPA 1633 Draft 2
Perfluoro-n-butanoic acid (PFBA)	30	ND		ND				EPA 1633 Draft 2
Perfluorononanoic acid (PFNA)	30	ND		ND				EPA 1633 Draft 2
Perfluorooctanesulfonic acid (PFOS)	30	ND		ND				EPA 1633 Draft 2
Perfluorooctanoic acid (PFOA)	30	ND		ND				EPA 1633 Draft 2
Perfluoropentanoic acid (PFPeA)	30	ND		ND				EPA 1633 Draft 2
Perfluorotetradecanoic acid (PFTA)	30	ND		ND				EPA 1633 Draft 2
Perfluorotridecanoic acid (PFTrDA)	30	ND		ND				EPA 1633 Draft 2

DUPLICATES

EHQ_ITEM304_PFASFB_230505

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Water
Laboratory ID: BE30673-DUP1
Batch: BE30673
Lab Source ID: 23E0419-03
Preparation: EPA 1633 Prep
Initial/Final: 532.78 mL / 5 mL
Source Sample Name: EHQ_ITEM304_PFASFB_230505
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ng/L)	C	DUPLICATE CONCENTRATION (ng/L)	C	RPD %	Q	METHOD
Perfluoroundecanoic acid (PFUnA)	30	ND		ND				EPA 1633 Draft 2

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30533	Laboratory ID:	BE30533-BS1
Preparation:	EPA 1633 Prep	Initial/Final:	5.04 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. #	QC LIMITS REC.
11CL-PF3OUdS	7.50	4.48	59.7	50 - 150
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	15.2	13.4	87.6	50 - 150
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	14.9	14.4	96.6	50 - 150
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	15.1	17.2	114	50 - 150
3-Perfluoroheptyl propanoic acid (FHpPA)	79.4	16.1	20.3 *	50 - 150
3-Perfluoropentyl propanoic acid (FPePA)	79.4	84.9	107	50 - 150
3-Perfluoropropyl propanoic acid (FPrPA)	15.9	58.3	367 *	50 - 150
9CL-PF3ONS	7.42	5.04	67.9	50 - 150
ADONA	7.50	6.25	83.4	50 - 150
HFPO-DA (Gen-X)	7.94	7.24	91.2	50 - 150
N-EtFOSA	3.97	1.42	35.7 *	50 - 150
N-EtFOSAA	3.97	4.42	111	50 - 150
N-EtFOSE	39.7	32.3	81.3	50 - 150
N-MeFOSA	3.97	4.12	104	50 - 150
N-MeFOSAA	3.97	4.55	115	50 - 150
N-MeFOSE	39.7	32.4	81.5	50 - 150
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	7.06	7.82	111	50 - 150
Perfluoro-1-decanesulfonic acid (PFDS)	3.83	4.26	111	50 - 150
Perfluoro-1-heptanesulfonic acid (PFHpS)	3.79	4.32	114	50 - 150
Perfluoro-1-nonanesulfonic acid (PFNS)	3.81	4.63	122	50 - 150
Perfluoro-1-octanesulfonamide (FOSA)	3.97	3.68	92.7	50 - 150
Perfluoro-1-pentanesulfonate (PFPeS)	3.73	3.74	100	50 - 150
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	7.94	9.49	120	50 - 150
Perfluoro-4-oxapentanoic acid (PFMPA)	7.94	7.76	97.8	50 - 150
Perfluoro-5-oxahexanoic acid (PFMBA)	7.94	7.21	90.8	50 - 150
Perfluorobutanesulfonic acid (PFBS)	3.51	3.57	102	50 - 150
Perfluorodecanoic acid (PFDA)	3.97	3.58	90.1	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	3.85	4.16	108	50 - 150
Perfluorododecanoic acid (PFDoA)	3.97	3.43	86.4	50 - 150

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30533	Laboratory ID:	BE30533-BS1
Preparation:	EPA 1633 Prep	Initial/Final:	5.04 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. #	QC LIMITS REC.
Perfluoroheptanoic acid (PFHpA)	3.97	3.61	91.0	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	3.63	3.60	99.0	50 - 150
Perfluorohexanoic acid (PFHxA)	3.97	4.48	113	50 - 150
Perfluoro-n-butanoic acid (PFBA)	15.9	16.6	104	50 - 150
Perfluorononanoic acid (PFNA)	3.97	2.64	66.6	50 - 150
Perfluorooctanesulfonic acid (PFOS)	3.69	5.28	143	50 - 150
Perfluorooctanoic acid (PFOA)	3.97	4.76	120	50 - 150
Perfluoropentanoic acid (PFPeA)	7.94	7.84	98.7	50 - 150
Perfluorotetradecanoic acid (PFTA)	3.97	3.36	84.6	50 - 150
Perfluorotridecanoic acid (PFTrDA)	3.97	3.14	79.2	50 - 150
Perfluoroundecanoic acid (PFUnA)	3.97	4.84	122	50 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30533	Laboratory ID:	BE30533-BS2
Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. #	QC LIMITS REC.
11CL-PF3OUdS	1.49	0.743	49.7 *	50 - 150
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	3.04	3.26	107	50 - 150
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	2.96	2.98	100	50 - 150
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	3.00	3.22	107	50 - 150
3-Perfluoroheptyl propanoic acid (FHpPA)	15.8	2.63	16.6 *	50 - 150
3-Perfluoropentyl propanoic acid (FPePA)	15.8	13.3	84.2	50 - 150
3-Perfluoropropyl propanoic acid (FPrPA)	3.16	10.4	330 *	50 - 150
9CL-PF3ONS	1.48	1.04	70.2	50 - 150
ADONA	1.49	1.22	81.4	50 - 150
HFPO-DA (Gen-X)	1.58	1.74	110	50 - 150
N-EtFOSA	0.791	0.395	50.0	50 - 150
N-EtFOSAA	0.791	0.830	105	50 - 150
N-EtFOSE	7.91	6.52	82.5	50 - 150
N-MeFOSA	0.791	0.726	91.8	50 - 150
N-MeFOSAA	0.791	1.28	162 *	50 - 150
N-MeFOSE	7.91	7.46	94.4	50 - 150
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	1.41	1.28	91.1	50 - 150
Perfluoro-1-decanesulfonic acid (PFDS)	0.763	0.580	76.0	50 - 150
Perfluoro-1-heptanesulfonic acid (PFHpS)	0.755	0.874	116	50 - 150
Perfluoro-1-nonanesulfonic acid (PFNS)	0.759	0.673	88.7	50 - 150
Perfluoro-1-octanesulfonamide (FOSA)	0.791	0.698	88.3	50 - 150
Perfluoro-1-pentanesulfonate (PFPeS)	0.743	0.741	99.7	50 - 150
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	1.58	1.50	94.6	50 - 150
Perfluoro-4-oxapentanoic acid (PFMPA)	1.58	1.49	93.9	50 - 150
Perfluoro-5-oxahexanoic acid (PFMBA)	1.58	1.39	87.9	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.700	0.645	92.2	50 - 150
Perfluorodecanoic acid (PFDA)	0.791	0.801	101	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.767	0.474	61.8	50 - 150
Perfluorododecanoic acid (PFDoA)	0.791	0.650	82.2	50 - 150

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30533	Laboratory ID:	BE30533-BS2
Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. #	QC LIMITS REC.
Perfluoroheptanoic acid (PFHpA)	0.791	0.687	86.9	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.723	0.639	88.4	50 - 150
Perfluorohexanoic acid (PFHxA)	0.791	0.688	87.0	50 - 150
Perfluoro-n-butanoic acid (PFBA)	3.16	3.02	95.6	50 - 150
Perfluorononanoic acid (PFNA)	0.791	0.618	78.2	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.735	1.05	143	50 - 150
Perfluorooctanoic acid (PFOA)	0.791	1.00	127	50 - 150
Perfluoropentanoic acid (PFPeA)	1.58	1.43	90.6	50 - 150
Perfluorotetradecanoic acid (PFTA)	0.791	0.905	114	50 - 150
Perfluorotridecanoic acid (PFTrDA)	0.791	0.663	83.9	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.791	0.947	120	50 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Water		
Batch:	BE30673	Laboratory ID:	BE30673-BS1
Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC. #	QC LIMITS REC.
11CL-PF3OUdS	151	124	81.9	50 - 150
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	307	240	78.2	50 - 150
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	300	249	82.9	50 - 150
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	304	325	107	50 - 150
3-Perfluoroheptyl propanoic acid (FHpPA)	1600	267	16.7 *	50 - 150
3-Perfluoropentyl propanoic acid (FPePA)	1600	1570	97.9	50 - 150
3-Perfluoropropyl propanoic acid (FPrPA)	320	1420	445 *	50 - 150
9CL-PF3ONS	150	160	107	50 - 150
ADONA	151	145	95.8	50 - 150
HFPO-DA (Gen-X)	160	140	87.8	50 - 150
N-EtFOSA	80.0	16.7	20.9 *	50 - 150
N-EtFOSAA	80.0	98.9	124	50 - 150
N-EtFOSE	800	738	92.2	50 - 150
N-MeFOSA	80.0	109	136	50 - 150
N-MeFOSAA	80.0	87.4	109	50 - 150
N-MeFOSE	800	744	93.0	50 - 150
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	142	134	94.2	50 - 150
Perfluoro-1-decanesulfonic acid (PFDS)	77.2	77.4	100	50 - 150
Perfluoro-1-heptanesulfonic acid (PFHpS)	76.4	82.7	108	50 - 150
Perfluoro-1-nonanesulfonic acid (PFNS)	76.8	81.7	106	50 - 150
Perfluoro-1-octanesulfonamide (FOSA)	80.0	63.6	79.5	50 - 150
Perfluoro-1-pentanesulfonate (PFPeS)	75.2	63.6	84.5	50 - 150
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	160	174	109	50 - 150
Perfluoro-4-oxapentanoic acid (PFMPA)	160	153	95.8	50 - 150
Perfluoro-5-oxahexanoic acid (PFMBA)	160	146	91.4	50 - 150
Perfluorobutanesulfonic acid (PFBS)	70.8	63.1	89.1	50 - 150
Perfluorodecanoic acid (PFDA)	80.0	112	140	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	77.6	70.0	90.3	50 - 150
Perfluorododecanoic acid (PFDoA)	80.0	61.7	77.2	50 - 150

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Water		
Batch:	BE30673	Laboratory ID:	BE30673-BS1
Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC. #	QC LIMITS REC.
Perfluoroheptanoic acid (PFHpA)	80.0	63.2	78.9	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	73.2	64.6	88.3	50 - 150
Perfluorohexanoic acid (PFHxA)	80.0	72.0	90.0	50 - 150
Perfluoro-n-butanoic acid (PFBA)	320	294	92.0	50 - 150
Perfluorononanoic acid (PFNA)	80.0	64.6	80.7	50 - 150
Perfluorooctanesulfonic acid (PFOS)	74.4	77.1	104	50 - 150
Perfluorooctanoic acid (PFOA)	80.0	81.4	102	50 - 150
Perfluoropentanoic acid (PFPeA)	160	141	88.4	50 - 150
Perfluorotetradecanoic acid (PFTA)	80.0	72.6	90.7	50 - 150
Perfluorotridecanoic acid (PFTrDA)	80.0	73.7	92.1	50 - 150
Perfluoroundecanoic acid (PFUnA)	80.0	107	133	50 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Water		
Batch:	BE30673	Laboratory ID:	BE30673-BS2
Preparation:	EPA 1633 Prep	Initial/Final:	250.05 mL / 5 mL

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC. #	QC LIMITS REC.
11CL-PF3OUdS	30.2	23.6	78.1	50 - 150
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	61.4	61.2	99.6	50 - 150
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	60.0	59.7	99.5	50 - 150
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	60.8	65.3	107	50 - 150
3-Perfluoroheptyl propanoic acid (FHpPA)	320	58.8	18.4 *	50 - 150
3-Perfluoropentyl propanoic acid (FPePA)	320	291	90.9	50 - 150
3-Perfluoropropyl propanoic acid (FPrPA)	64.0	282	440 *	50 - 150
9CL-PF3ONS	29.9	30.2	101	50 - 150
ADONA	30.2	25.8	85.5	50 - 150
HFPO-DA (Gen-X)	32.0	38.3	120	50 - 150
N-EtFOSA	16.0	ND	*	50 - 150
N-EtFOSAA	16.0	13.4	83.7	50 - 150
N-EtFOSE	160	143	89.2	50 - 150
N-MeFOSA	16.0	19.1	119	50 - 150
N-MeFOSAA	16.0	16.2	101	50 - 150
N-MeFOSE	160	134	83.9	50 - 150
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	28.5	25.0	87.9	50 - 150
Perfluoro-1-decanesulfonic acid (PFDS)	15.4	15.5	101	50 - 150
Perfluoro-1-heptanesulfonic acid (PFHpS)	15.3	12.7	83.0	50 - 150
Perfluoro-1-nonanesulfonic acid (PFNS)	15.4	12.7	83.0	50 - 150
Perfluoro-1-octanesulfonamide (FOSA)	16.0	10.6	66.1	50 - 150
Perfluoro-1-pentanesulfonate (PFPeS)	15.0	9.39	62.5	50 - 150
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	32.0	29.4	91.9	50 - 150
Perfluoro-4-oxapentanoic acid (PFMPA)	32.0	33.0	103	50 - 150
Perfluoro-5-oxahexanoic acid (PFMBA)	32.0	29.0	90.7	50 - 150
Perfluorobutanesulfonic acid (PFBS)	14.2	12.4	87.6	50 - 150
Perfluorodecanoic acid (PFDA)	16.0	19.3	120	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	15.5	15.1	97.6	50 - 150
Perfluorododecanoic acid (PFDoA)	16.0	17.7	110	50 - 150

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Water		
Batch:	BE30673	Laboratory ID:	BE30673-BS2
Preparation:	EPA 1633 Prep	Initial/Final:	250.05 mL / 5 mL

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC. #	QC LIMITS REC.
Perfluoroheptanoic acid (PFHpA)	16.0	13.7	85.8	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	14.6	10.9	74.7	50 - 150
Perfluorohexanoic acid (PFHxA)	16.0	16.1	101	50 - 150
Perfluoro-n-butanoic acid (PFBA)	64.0	57.6	90.0	50 - 150
Perfluorononanoic acid (PFNA)	16.0	13.1	81.6	50 - 150
Perfluorooctanesulfonic acid (PFOS)	14.9	13.4	90.0	50 - 150
Perfluorooctanoic acid (PFOA)	16.0	17.2	107	50 - 150
Perfluoropentanoic acid (PFPeA)	32.0	26.8	83.7	50 - 150
Perfluorotetradecanoic acid (PFTA)	16.0	11.8	73.7	50 - 150
Perfluorotridecanoic acid (PFTrDA)	16.0	17.4	109	50 - 150
Perfluoroundecanoic acid (PFUnA)	16.0	17.3	108	50 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30533 Batch Matrix: Soil Preparation: EPA 1633 Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-01	QQQ2076948.d	05/08/23 17:34	
EHQ_ITEM304_COMP02_230505	23E0419-02	QQQ2076949.d	05/08/23 17:34	
Blank	BE30533-BLK1	QQQ2076923.d	05/08/23 17:34	
LCS	BE30533-BS1	QQQ2076924.d	05/08/23 17:34	
LCS	BE30533-BS2	QQQ2076925.d	05/08/23 17:34	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30673 Batch Matrix: Water Preparation: EPA 1633 Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_PFASFB_230505	23E0419-03	QQQ2077048.d	05/15/23 12:21	
Blank	BE30673-BLK1	QQQ2077041.d	05/15/23 12:21	
LCS	BE30673-BS1	QQQ2077042.d	05/15/23 12:21	
LCS	BE30673-BS2	QQQ2077043.d	05/15/23 12:21	
EHQ_ITEM304_PFASFB_230505	BE30673-DUP1	QQQ2077049.d	05/15/23 12:21	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
763051-92-9	11CL-PF3OUdS	0.747	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.759	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	0.741	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.751	U
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	4.94	U
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	4.94	U
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	0.988	U
756426-58-1	9CL-PF3ONS	0.739	U
919005-14-4	ADONA	0.747	U
13252-13-6	HFPO-DA (Gen-X)	0.791	U
4151-50-2	N-EtFOSA	0.198	U
2991-50-6	N-EtFOSAA	0.198	U
1691-99-2	N-EtFOSE	1.98	U
31506-32-8	N-MeFOSA	0.198	U
2355-31-9	N-MeFOSAA	0.198	U
24448-09-7	N-MeFOSE	1.98	U
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.352	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	0.191	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	0.198	U
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	0.190	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	0.198	U
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	0.186	U
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	0.395	U
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	0.395	U
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	0.395	U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.175	U
335-76-2	Perfluorodecanoic acid (PFDA)	0.198	U
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	0.192	U
307-55-1	Perfluorododecanoic acid (PFDoA)	0.198	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.198	U

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.181	U
307-24-4	Perfluorohexanoic acid (PFHxA)	0.198	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	0.791	U
375-95-1	Perfluorononanoic acid (PFNA)	0.198	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.184	U
335-67-1	Perfluorooctanoic acid (PFOA)	0.198	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.395	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	0.198	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	0.198	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.198	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
d3-N-MeFOSAA	4.94	3.63	73.5	25 - 150	
d5-N-EtFOSAA	4.94	3.13	63.4	25 - 150	
d7-N-MeFOSE	24.7	13.8	55.7	25 - 150	
d9-N-EtFOSE	24.7	12.8	51.8	25 - 150	
d-N-EtFOSA	2.47	4.71	191	25 - 150	*
d-N-MeFOSA	2.47	1.23	49.6	25 - 150	
M2-4:2 FTS	4.63	6.42	138	25 - 150	
M2-6:2 FTS	4.70	4.09	87.1	25 - 200	
M2-8:2 FTS	4.74	2.19	46.1	25 - 200	
M2PFTeDA	1.24	0.851	68.9	10 - 150	
M3HFPO-DA	9.88	11.9	120	25 - 150	
M3PFBS	2.30	3.07	133	25 - 150	
M3PFHxS	2.34	2.11	90.0	25 - 150	
M4PFHpA	2.47	2.51	102	25 - 150	
M5PFHxA	2.47	2.53	103	25 - 150	
M6PFDA	1.24	0.747	60.5	25 - 150	
M7PFUdA	1.24	0.899	72.8	25 - 150	
M9PFNA	1.24	0.853	69.0	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.47	1.69	68.3	10 - 150	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.37	1.40	59.0	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.24	0.865	70.1	25 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.88	9.59	97.0	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.94	5.33	108	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.47	1.68	68.2	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
d3-N-MeFOSAA-EIS	7333.225	7.096517	14349.41	7.096517	
d3-NMeFOSA-EIS	767.8902	8.244766	2199.075	8.235517	
d5-N-EtFOSAA-EIS	6356.335	7.283017	13917.59	7.283017	
d5-NEtFOSA-EIS	4096.898	8.475417	4800.792	8.466166	
d7-NMeFOSE-EIS	27915.07	8.239516	68869.74	8.239533	
d9-NEtFOSE-EIS	25515.78	8.4521	61191.54	8.4521	
M2-4-2FTS-EIS	7892.759	4.5935	9246.764	4.584233	
M2-6-2FTS-EIS	2730.035	5.941033	5064.052	5.941033	
M2-8-2FTS-EIS	1254.396	6.910634	3017.819	6.910634	
M2PFTeDA-EIS	4517.044	8.172717	9651.079	8.181983	
M3-HFPO-DA-EIS	47829.32	4.913317	59955.33	4.9133	
M3PFBA	30889.11	1.1611	41535.98	1.170283	
M3PFBS-EIS	9210.424	3.836967	10243.35	3.83695	
M3PFHxS-EIS	5316.966	5.485267	9173.132	5.475966	
M4PFHpA-EIS	19584.98	5.392617	29725.46	5.392583	
M5PFHxA-EIS	17512.71	4.65945	23904.9	4.650183	
M6PFDA-EIS	2276.922	6.920417	4125.718	6.92975	
M7PFUdA-EIS	5428.191	7.302134	10221.27	7.302134	
MPFDA	7757.067	6.92065	12111.04	6.929983	
MPFHxA	25296.07	4.651033	34350.99	4.651017	
MPFHxS	2231.415	5.4848	2353.21	5.475517	
MPFNA	9214.575	6.483033	11748.85	6.48305	
MPFOA	24400.69	5.9794	31416.88	5.979383	
MPFOS	5901.159	6.510433	8003.365	6.51045	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	8274.225	7.509883	15092.67	7.509883	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	1207.14	6.509933	3377.967	6.50995	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	4350.685	7.635783	8627.707	7.635783	
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	41048.38	1.158817	57179.55	1.168	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	22091.28	3.3317	27998.21	3.331683	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	9169.312	5.969467	16839.11	5.979116	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	818.2249	6.482917	2173.213	6.492567	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ng/L)	Q
763051-92-9	11CL-PF3OUdS	15.1	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	15.4	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	15.0	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	15.2	U
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	50.0	U
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	50.0	U
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	10.0	U
756426-58-1	9CL-PF3ONS	15.0	U
919005-14-4	ADONA	1.15	J
13252-13-6	HFPO-DA (Gen-X)	16.0	U
4151-50-2	N-EtFOSA	4.00	U
2991-50-6	N-EtFOSAA	4.00	U
1691-99-2	N-EtFOSE	40.0	U
31506-32-8	N-MeFOSA	4.00	U
2355-31-9	N-MeFOSAA	4.00	U
24448-09-7	N-MeFOSE	40.0	U
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	7.12	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	3.86	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	3.82	U
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	3.84	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	4.00	U
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	3.76	U
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	8.00	U
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	8.00	U
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	8.00	U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3.54	U
335-76-2	Perfluorodecanoic acid (PFDA)	4.00	U
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	3.88	U
307-55-1	Perfluorododecanoic acid (PFDoA)	4.00	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.00	U

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ng/L)	Q
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.66	U
307-24-4	Perfluorohexanoic acid (PFHxA)	4.00	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	16.0	U
375-95-1	Perfluorononanoic acid (PFNA)	4.00	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.72	U
335-67-1	Perfluorooctanoic acid (PFOA)	0.875	J
2706-90-3	Perfluoropentanoic acid (PFPeA)	8.00	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	4.00	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	4.00	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	4.00	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
d3-N-MeFOSAA	100	122	122	25 - 150	
d5-N-EtFOSAA	100	126	126	25 - 150	
d7-N-MeFOSE	500	368	73.6	25 - 150	
d9-N-EtFOSE	500	285	56.9	25 - 150	
d-N-EtFOSA	50.0	304	609	25 - 150	*
d-N-MeFOSA	50.0	39.1	78.2	25 - 150	
M2-4:2 FTS	93.8	205	218	25 - 150	*
M2-6:2 FTS	95.1	284	299	25 - 200	*
M2-8:2 FTS	96.0	186	194	25 - 200	
M2PFTeDA	25.0	17.3	69.2	10 - 150	
M3HFPO-DA	200	265	132	25 - 150	
M3PFBS	46.6	62.0	133	25 - 150	
M3PFHxS	47.4	55.3	117	25 - 150	
M4PFHpA	50.0	54.9	110	25 - 150	
M5PFHxA	50.0	60.9	122	25 - 150	
M6PFDA	25.0	21.6	86.3	25 - 150	
M7PFUdA	25.0	19.8	79.1	25 - 150	
M9PFNA	25.0	38.3	153	25 - 150	*
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	50.0	49.8	99.6	10 - 150	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	47.9	63.6	133	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	25.0	23.5	94.2	25 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	200	231	115	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	100	126	126	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	50.0	59.0	118	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
d3-N-MeFOSAA-EIS	11222.77	7.087167	17278.1	7.08715	
d3-NMeFOSA-EIS	1119.085	8.23545	2421.225	8.23545	
d5-N-EtFOSAA-EIS	11705.52	7.273684	16688.83	7.273667	
d5-NEtFOSA-EIS	11973.53	8.45685	7845.189	8.4661	
d7-NMeFOSE-EIS	34123.66	8.230217	69829.86	8.2302	
d9-NEtFOSE-EIS	25951.58	8.45205	62731.32	8.452033	
M2-4-2FTS-EIS	10584.91	4.58425	11948.52	4.58425	
M2-6-2FTS-EIS	7976.774	5.941017	6641.646	5.931716	
M2-8-2FTS-EIS	4481.982	6.90095	3905.602	6.900933	
M2PFTeDA-EIS	5192.568	8.172667	11560.25	8.17265	
M3-HFPO-DA-EIS	43531.42	4.903584	65527.83	4.903584	
M3PFBA	27700.75	1.14275	42068.82	1.1611	
M3PFBS-EIS	7830.391	3.827733	10375.57	3.83695	
M3PFHxS-EIS	5872.777	5.475966	8343.078	5.475966	
M4PFHpA-EIS	17489.46	5.392583	27825.21	5.392583	
M5PFHxA-EIS	17152.84	4.650183	24274.19	4.650183	
M6PFDA-EIS	3720.355	6.920383	4681.368	6.920367	
M7PFUdA-EIS	6757.633	7.2928	11145.32	7.292783	
MPFDA	8881.083	6.9113	12064.13	6.920617	
MPFHxA	20865.79	4.641767	36343.42	4.651017	
MPFHxS	1900.077	5.4755	2907.181	5.4755	
MPFNA	8524.698	6.473717	13031.33	6.473717	
MPFOA	21238.55	5.969717	33005.6	5.969717	
MPFOS	5458.542	6.5011	8502.604	6.5011	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	11153.31	7.50055	16732.87	7.500533	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	2513.946	6.5006	3666.996	6.500583	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	6695.671	7.62645	10597.95	7.626433	
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	43813.24	1.14045	59843.77	1.158817	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	21230.38	3.313283	29986.22	3.322483	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	13803.53	5.96945	16982.8	5.96945	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	1682.121	6.473583	1853.677	6.473583	

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	S3E1022-CCV1	QQQ2076920.d	05/10/23 11:21
Calibration Blank	S3E1022-CCB1	QQQ2076922.d	05/10/23 11:50
Blank	BE30533-BLK1	QQQ2076923.d	05/10/23 12:29
LCS	BE30533-BS1	QQQ2076924.d	05/10/23 12:41
LCS	BE30533-BS2	QQQ2076925.d	05/10/23 12:53
Calibration Check	S3E1022-CCV2	QQQ2076933.d	05/10/23 14:32
Calibration Blank	S3E1022-CCB2	QQQ2076934.d	05/10/23 14:44
Calibration Check	S3E1022-CCV3	QQQ2076945.d	05/10/23 17:22
Calibration Blank	S3E1022-CCB3	QQQ2076946.d	05/10/23 17:34
EHQ_ITEM304_COMP01_230505 P	23E0419-01	QQQ2076948.d	05/10/23 17:59
EHQ_ITEM304_COMP02_230505 P	23E0419-02	QQQ2076949.d	05/10/23 18:11
Calibration Check	S3E1022-CCV4	QQQ2076950.d	05/10/23 18:23
Calibration Blank	S3E1022-CCB4	QQQ2076951.d	05/10/23 18:35

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1762	Instrument:	QQQ-2
		Calibration:	SD30043

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	S3E1762-CCV1	QQQ2077038.d	05/17/23 09:39
Calibration Blank	S3E1762-CCB1	QQQ2077040.d	05/17/23 10:04
Blank	BE30673-BLK1	QQQ2077041.d	05/17/23 11:16
LCS	BE30673-BS1	QQQ2077042.d	05/17/23 11:28
LCS	BE30673-BS2	QQQ2077043.d	05/17/23 11:41
EHQ_ITEM304_PFASFB_230505	23E0419-03	QQQ2077048.d	05/17/23 12:42
EHQ_ITEM304_PFASFB_230505	BE30673-DUP1	QQQ2077049.d	05/17/23 12:54
Calibration Check	S3E1762-CCV2	QQQ2077051.d	05/17/23 13:19
Calibration Blank	S3E1762-CCB2	QQQ2077052.d	05/17/23 13:31
Calibration Check	S3E1762-CCV3	QQQ2077063.d	05/17/23 15:46
Calibration Blank	S3E1762-CCB3	QQQ2077064.d	05/17/23 15:59
Calibration Check	S3E1762-CCV4	QQQ2077070.d	05/17/23 17:15
Calibration Blank	S3E1762-CCB4	QQQ2077071.d	05/17/23 17:27

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1022	Instrument:	QQQ-2
		Calibration:	SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV1)			Lab File ID: QQQ2076920.d			Analyzed: 05/10/23 11:21			
M3PFBA	41535.98	1.170283				50 - 150		+/-0.50	
MPFDA	12111.04	6.929983				50 - 150		+/-0.50	
MPFHxA	34350.99	4.651017				50 - 150		+/-0.50	
MPFHxS	2353.21	5.475517				50 - 150		+/-0.50	
MPFNA	11748.85	6.48305				50 - 150		+/-0.50	
MPFOA	31416.88	5.979383				50 - 150		+/-0.50	
MPFOS	8003.365	6.51045				50 - 150		+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	2173.213	6.492567				0 - 500		+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	16839.11	5.979116				0 - 500		+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	27998.21	3.331683				0 - 500		+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	57179.55	1.168				0 - 500		+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	8627.707	7.635783				0 - 500		+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3377.967	6.50995				0 - 500		+/-0.50	
Perfluoro-1-[13C8]octanesulfonamide	15092.67	7.509883				0 - 500		+/-0.50	
M7PFUdA-EIS	10221.27	7.302134				0 - 500		+/-0.50	
M6PFDA-EIS	4125.718	6.92975				0 - 500		+/-0.50	
M5PFHxA-EIS	23904.9	4.650183				0 - 500		+/-0.50	
M4PFHpA-EIS	29725.46	5.392583				0 - 500		+/-0.50	
M3PFHxS-EIS	9173.132	5.475966				0 - 500		+/-0.50	
M3PFBS-EIS	10243.35	3.83695				0 - 500		+/-0.50	
M3-HFPO-DA-EIS	59955.33	4.9133				0 - 500		+/-0.50	
M2PFTeDA-EIS	9651.079	8.181983				0 - 500		+/-0.50	
M2-8-2FTS-EIS	3017.819	6.910634				0 - 500		+/-0.50	
M2-6-2FTS-EIS	5064.052	5.941033				0 - 500		+/-0.50	
M2-4-2FTS-EIS	9246.764	4.584233				0 - 500		+/-0.50	
d9-NEtFOSE-EIS	61191.54	8.4521				0 - 500		+/-0.50	
d7-NMeFOSE-EIS	68869.74	8.239533				0 - 500		+/-0.50	
d5-NEtFOSA-EIS	4800.792	8.466166				0 - 500		+/-0.50	
d5-N-EtFOSAA-EIS	13917.59	7.283017				0 - 500		+/-0.50	
d3-NMeFOSA-EIS	2199.075	8.235517				0 - 500		+/-0.50	
d3-N-MeFOSAA-EIS	14349.41	7.096517				0 - 500		+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB1)			Lab File ID: QQQ2076922.d			Analyzed: 05/10/23 11:50			
M3PFBA	40224.82	1.161117	41535.98	1.170283	97	50 - 150	-0.0092	+/-0.50	
MPFDA	9366.637	6.920633	12111.04	6.929983	77	50 - 150	-0.0094	+/-0.50	
MPFHxA	33997.6	4.651017	34350.99	4.651017	99	50 - 150	0.0000	+/-0.50	
MPFHxS	2955.381	5.475517	2353.21	5.475517	126	50 - 150	0.0000	+/-0.50	
MPFNA	11334.58	6.483016	11748.85	6.48305	96	50 - 150	0.0000	+/-0.50	
MPFOA	31537.53	5.979383	31416.88	5.979383	100	50 - 150	0.0000	+/-0.50	
MPFOS	9057.906	6.510417	8003.365	6.51045	113	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	2040.569	6.4829	2173.213	6.492567	94	0 - 500	-0.0097	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	13494.89	5.979116	16839.11	5.979116	80	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	25447.16	3.331683	27998.21	3.331683	91	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	51129.68	1.168	57179.55	1.168	89	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	8078.161	7.635767	8627.707	7.635783	94	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2878.58	6.509917	3377.967	6.50995	85	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	13553.52	7.509867	15092.67	7.509883	90	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	9923.022	7.302117	10221.27	7.302134	97	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4226.772	6.9204	4125.718	6.92975	102	0 - 500	-0.0094	+/-0.50	
M5PFHxA-EIS	20585.3	4.650183	23904.9	4.650183	86	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	24782.04	5.3926	29725.46	5.392583	83	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	8118.839	5.475966	9173.132	5.475966	89	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	9618.873	3.83695	10243.35	3.83695	94	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	57137.39	4.9133	59955.33	4.9133	95	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	7979.132	8.181967	9651.079	8.181983	83	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3006.188	6.9106	3017.819	6.910634	100	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4097.085	5.941017	5064.052	5.941033	81	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	7649.306	4.584233	9246.764	4.584233	83	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	58097.89	8.452084	61191.54	8.4521	95	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	61870.15	8.2395	68869.74	8.239533	90	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	4530.157	8.4754	4800.792	8.466166	94	0 - 500	0.0092	+/-0.50	
d5-N-EtFOSAA-EIS	11877.36	7.283	13917.59	7.283017	85	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1845.218	8.235483	2199.075	8.235517	84	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	13443.66	7.096483	14349.41	7.096517	94	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (BE30533-BLK1)			Lab File ID: QQQ2076923.d			Analyzed: 05/10/23 12:29			
M3PFBA	30889.11	1.1611	41535.98	1.170283	74	50 - 150	-0.0092	+/-0.50	
MPFDA	7757.067	6.92065	12111.04	6.929983	64	50 - 150	-0.0093	+/-0.50	
MPFHxA	25296.07	4.651033	34350.99	4.651017	74	50 - 150	0.0000	+/-0.50	
MPFHxS	2231.415	5.4848	2353.21	5.475517	95	50 - 150	0.0093	+/-0.50	
MPFNA	9214.575	6.483033	11748.85	6.48305	78	50 - 150	0.0000	+/-0.50	
MPFOA	24400.69	5.9794	31416.88	5.979383	78	50 - 150	0.0000	+/-0.50	
MPFOS	5901.159	6.510433	8003.365	6.51045	74	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	818.2249	6.482917	2173.213	6.492567	38	0 - 500	-0.0097	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	9169.312	5.969467	16839.11	5.979116	54	0 - 500	-0.0096	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	22091.28	3.3317	27998.21	3.331683	79	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	41048.38	1.158817	57179.55	1.168	72	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	4350.685	7.635783	8627.707	7.635783	50	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	1207.14	6.509933	3377.967	6.50995	36	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	8274.225	7.509883	15092.67	7.509883	55	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	5428.191	7.302134	10221.27	7.302134	53	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	2276.922	6.920417	4125.718	6.92975	55	0 - 500	-0.0093	+/-0.50	
M5PFHxA-EIS	17512.71	4.65945	23904.9	4.650183	73	0 - 500	0.0093	+/-0.50	
M4PFHpA-EIS	19584.98	5.392617	29725.46	5.392583	66	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	5316.966	5.485267	9173.132	5.475966	58	0 - 500	0.0093	+/-0.50	
M3PFBS-EIS	9210.424	3.836967	10243.35	3.83695	90	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	47829.32	4.913317	59955.33	4.9133	80	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	4517.044	8.172717	9651.079	8.181983	47	0 - 500	-0.0093	+/-0.50	
M2-8-2FTS-EIS	1254.396	6.910634	3017.819	6.910634	42	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	2730.035	5.941033	5064.052	5.941033	54	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	7892.759	4.5935	9246.764	4.584233	85	0 - 500	0.0093	+/-0.50	
d9-NEtFOSE-EIS	25515.78	8.4521	61191.54	8.4521	42	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	27915.07	8.239516	68869.74	8.239533	41	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	4096.898	8.475417	4800.792	8.466166	85	0 - 500	0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	6356.335	7.283017	13917.59	7.283017	46	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	767.8902	8.244766	2199.075	8.235517	35	0 - 500	0.0092	+/-0.50	
d3-N-MeFOSAA-EIS	7333.225	7.096517	14349.41	7.096517	51	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BE30533-BS1)			Lab File ID: QQQ2076924.d			Analyzed: 05/10/23 12:41			
M3PFBA	31017.73	1.151933	41535.98	1.170283	75	50 - 150	-0.0183	+/-0.50	
MPFDA	8814.554	6.920633	12111.04	6.929983	73	50 - 150	-0.0094	+/-0.50	
MPFHxA	27217.32	4.651033	34350.99	4.651017	79	50 - 150	0.0000	+/-0.50	
MPFHxS	2395.062	5.475533	2353.21	5.475517	102	50 - 150	0.0000	+/-0.50	
MPFNA	8541	6.48305	11748.85	6.48305	73	50 - 150	0.0000	+/-0.50	
MPFOA	25241.25	5.969733	31416.88	5.979383	80	50 - 150	-0.0097	+/-0.50	
MPFOS	6017.128	6.510433	8003.365	6.51045	75	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1140.401	6.473617	2173.213	6.492567	52	0 - 500	-0.0190	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	10757.21	5.969467	16839.11	5.979116	64	0 - 500	-0.0096	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	20899.78	3.322483	27998.21	3.331683	75	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	35605.63	1.158817	57179.55	1.168	62	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	4305.463	7.626467	8627.707	7.635783	50	0 - 500	-0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	1569.505	6.500617	3377.967	6.50995	46	0 - 500	-0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	8006.396	7.50985	15092.67	7.509883	53	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	5094.225	7.292817	10221.27	7.302134	50	0 - 500	-0.0093	+/-0.50	
M6PFDA-EIS	2453.922	6.929733	4125.718	6.92975	59	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	17119.83	4.6502	23904.9	4.650183	72	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	19569.87	5.392617	29725.46	5.392583	66	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	5853.549	5.475983	9173.132	5.475966	64	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	7998.654	3.83695	10243.35	3.83695	78	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	46703.54	4.913317	59955.33	4.9133	78	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	5721.937	8.172684	9651.079	8.181983	59	0 - 500	-0.0093	+/-0.50	
M2-8-2FTS-EIS	2186.382	6.910617	3017.819	6.910634	72	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	2938.304	5.931733	5064.052	5.941033	58	0 - 500	-0.0093	+/-0.50	
M2-4-2FTS-EIS	6853.743	4.58425	9246.764	4.584233	74	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	32389.46	8.452066	61191.54	8.4521	53	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	36828.75	8.2395	68869.74	8.239533	53	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	3754.828	8.466133	4800.792	8.466166	78	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	6502.803	7.283	13917.59	7.283017	47	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	903.4304	8.235483	2199.075	8.235517	41	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	7395.956	7.087183	14349.41	7.096517	52	0 - 500	-0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BE30533-BS2)			Lab File ID: QQQ2076925.d			Analyzed: 05/10/23 12:53			
M3PFBA	31096.34	1.151933	41535.98	1.170283	75	50 - 150	-0.0183	+/-0.50	
MPFDA	8922.564	6.920633	12111.04	6.929983	74	50 - 150	-0.0094	+/-0.50	
MPFHxA	25793.22	4.651017	34350.99	4.651017	75	50 - 150	0.0000	+/-0.50	
MPFHxS	2222.453	5.475517	2353.21	5.475517	94	50 - 150	0.0000	+/-0.50	
MPFNA	8563.086	6.483033	11748.85	6.48305	73	50 - 150	0.0000	+/-0.50	
MPFOA	24428.82	5.979383	31416.88	5.979383	78	50 - 150	0.0000	+/-0.50	
MPFOS	6111.483	6.510433	8003.365	6.51045	76	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1161.802	6.4829	2173.213	6.492567	53	0 - 500	-0.0097	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	11905.49	5.969467	16839.11	5.979116	71	0 - 500	-0.0096	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	20710.67	3.322483	27998.21	3.331683	74	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	33784.13	1.149633	57179.55	1.168	59	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	4326.157	7.63575	8627.707	7.635783	50	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	1897.637	6.509917	3377.967	6.50995	56	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	10111.6	7.50985	15092.67	7.509883	67	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	5536.392	7.3021	10221.27	7.302134	54	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	2846.135	6.929717	4125.718	6.92975	69	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	19804.45	4.650183	23904.9	4.650183	83	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	20613.98	5.392583	29725.46	5.392583	69	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	6444.624	5.475983	9173.132	5.475966	70	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	8260.101	3.836967	10243.35	3.83695	81	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	45905.25	4.9133	59955.33	4.9133	77	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	3944.817	8.172684	9651.079	8.181983	41	0 - 500	-0.0093	+/-0.50	
M2-8-2FTS-EIS	2383.349	6.90095	3017.819	6.910634	79	0 - 500	-0.0097	+/-0.50	
M2-6-2FTS-EIS	3326.98	5.941033	5064.052	5.941033	66	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	6360.678	4.58425	9246.764	4.584233	69	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	26150.32	8.452066	61191.54	8.4521	43	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	26949.9	8.2395	68869.74	8.239533	39	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	2816.072	8.466133	4800.792	8.466166	59	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	6417.484	7.283	13917.59	7.283017	46	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1262.885	8.235483	2199.075	8.235517	57	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	6979.095	7.087183	14349.41	7.096517	49	0 - 500	-0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV2)			Lab File ID: QQQ2076933.d			Analyzed: 05/10/23 14:32			
M3PFBA	44428.17	1.170283	41535.98	1.170283	107	50 - 150	0.0000	+/-0.50	
MPFDA	11379.55	6.920633	12111.04	6.929983	94	50 - 150	-0.0094	+/-0.50	
MPFHxA	37375.82	4.651017	34350.99	4.651017	109	50 - 150	0.0000	+/-0.50	
MPFHxS	2998.237	5.46585	2353.21	5.475517	127	50 - 150	-0.0097	+/-0.50	
MPFNA	12147.38	6.483033	11748.85	6.48305	103	50 - 150	0.0000	+/-0.50	
MPFOA	38901.84	5.9794	31416.88	5.979383	124	50 - 150	0.0000	+/-0.50	
MPFOS	8446.836	6.510433	8003.365	6.51045	106	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1454.83	6.4736	2173.213	6.492567	67	0 - 500	-0.0190	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	18454.66	5.979133	16839.11	5.979116	110	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	29919.55	3.331683	27998.21	3.331683	107	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	60959.06	1.168	57179.55	1.168	107	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	9356.524	7.626483	8627.707	7.635783	108	0 - 500	-0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3183.444	6.500617	3377.967	6.50995	94	0 - 500	-0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	18578.71	7.509867	15092.67	7.509883	123	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	11335.08	7.302117	10221.27	7.302134	111	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4508.166	6.9204	4125.718	6.92975	109	0 - 500	-0.0094	+/-0.50	
M5PFHxA-EIS	25818.06	4.650183	23904.9	4.650183	108	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	27843.22	5.3926	29725.46	5.392583	94	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	8394.186	5.475983	9173.132	5.475966	92	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	11495.47	3.836967	10243.35	3.83695	112	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	66740.28	4.913317	59955.33	4.9133	111	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	11002.89	8.181967	9651.079	8.181983	114	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	4328.822	6.900967	3017.819	6.910634	143	0 - 500	-0.0097	+/-0.50	
M2-6-2FTS-EIS	4718.169	5.941033	5064.052	5.941033	93	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	9599.744	4.58425	9246.764	4.584233	104	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	73141.7	8.452084	61191.54	8.4521	120	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	74488.13	8.239516	68869.74	8.239533	108	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	4706.608	8.475417	4800.792	8.466166	98	0 - 500	0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	14353	7.283	13917.59	7.283017	103	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2618.084	8.2355	2199.075	8.235517	119	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	13511.56	7.087183	14349.41	7.096517	94	0 - 500	-0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB2)			Lab File ID: QQQ2076934.d			Analyzed: 05/10/23 14:44			
M3PFBA	42217.43	1.1611	44428.17	1.170283	95	50 - 150	-0.0092	+/-0.50	
MPFDA	11274.61	6.920633	11379.55	6.920633	99	50 - 150	0.0000	+/-0.50	
MPFHxA	27035.75	4.660267	37375.82	4.651017	72	50 - 150	0.0092	+/-0.50	
MPFHxS	2669.011	5.475517	2998.237	5.46585	89	50 - 150	0.0097	+/-0.50	
MPFNA	12700.63	6.483033	12147.38	6.483033	105	50 - 150	0.0000	+/-0.50	
MPFOA	33512.08	5.979383	38901.84	5.9794	86	50 - 150	0.0000	+/-0.50	
MPFOS	7656.238	6.510433	8446.836	6.510433	91	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	900.4128	6.4736	1454.83	6.4736	62	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	16404.96	5.979116	18454.66	5.979133	89	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	27414.49	3.331683	29919.55	3.331683	92	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	54736.52	1.158817	60959.06	1.168	90	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	7536.673	7.635767	9356.524	7.626483	81	0 - 500	0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3002.749	6.509917	3183.444	6.500617	94	0 - 500	0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	14628.27	7.50985	18578.71	7.509867	79	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	9419.205	7.3021	11335.08	7.302117	83	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4013.29	6.9204	4508.166	6.9204	89	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	21795.46	4.650183	25818.06	4.650183	84	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	25668.99	5.3926	27843.22	5.3926	92	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	7708.591	5.475983	8394.186	5.475983	92	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	9651.302	3.83695	11495.47	3.836967	84	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	60747.91	4.9133	66740.28	4.913317	91	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	9710.751	8.172684	11002.89	8.181967	88	0 - 500	-0.0093	+/-0.50	
M2-8-2FTS-EIS	3975.813	6.900967	4328.822	6.900967	92	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4251.243	5.941033	4718.169	5.941033	90	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	7092.55	4.58425	9599.744	4.58425	74	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	64159.71	8.452066	73141.7	8.452084	88	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	65562.95	8.2395	74488.13	8.239516	88	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	4528.777	8.466133	4706.608	8.475417	96	0 - 500	-0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	10990.66	7.283	14353	7.283	77	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1921.365	8.235483	2618.084	8.2355	73	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	12877.6	7.087183	13511.56	7.087183	95	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV3)			Lab File ID: QQQ2076945.d			Analyzed: 05/10/23 17:22			
M3PFBA	47603.97	1.151933	44428.17	1.170283	107	50 - 150	-0.0183	+/-0.50	
MPFDA	11735.12	6.92065	11379.55	6.920633	103	50 - 150	0.0000	+/-0.50	
MPFHxA	38962.19	4.651033	37375.82	4.651017	104	50 - 150	0.0000	+/-0.50	
MPFHxS	3666.173	5.484817	2998.237	5.46585	122	50 - 150	0.0190	+/-0.50	
MPFNA	12930.53	6.483033	12147.38	6.483033	106	50 - 150	0.0000	+/-0.50	
MPFOA	36214.31	5.9794	38901.84	5.9794	93	50 - 150	0.0000	+/-0.50	
MPFOS	9824.434	6.510433	8446.836	6.510433	116	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1502.882	6.492567	1454.83	6.4736	103	0 - 500	0.0190	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	16755.44	5.979116	18454.66	5.979133	91	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	33574.52	3.3317	29919.55	3.331683	112	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	65133.15	1.158817	60959.06	1.168	107	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	10730.96	7.635783	9356.524	7.626483	115	0 - 500	0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2588.635	6.509933	3183.444	6.500617	81	0 - 500	0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	17817.11	7.509883	18578.71	7.509867	96	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	10304.36	7.311417	11335.08	7.302117	91	0 - 500	0.0093	+/-0.50	
M6PFDA-EIS	4609.441	6.920417	4508.166	6.9204	102	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	27556.73	4.65945	25818.06	4.650183	107	0 - 500	0.0093	+/-0.50	
M4PFHpA-EIS	31097.92	5.392617	27843.22	5.3926	112	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	8894.239	5.476	8394.186	5.475983	106	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	11545.93	3.836967	11495.47	3.836967	100	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	69789.74	4.913317	66740.28	4.913317	105	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	11004	8.181967	11002.89	8.181967	100	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3965.304	6.910617	4328.822	6.900967	92	0 - 500	0.0097	+/-0.50	
M2-6-2FTS-EIS	5414.38	5.941033	4718.169	5.941033	115	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	8922.948	4.584267	9599.744	4.58425	93	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	80416.84	8.452084	73141.7	8.452084	110	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	75463.92	8.239516	74488.13	8.239516	101	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	4435.92	8.46615	4706.608	8.475417	94	0 - 500	-0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	15032.15	7.283017	14353	7.283	105	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2212.854	8.244766	2618.084	8.2355	85	0 - 500	0.0093	+/-0.50	
d3-N-MeFOSAA-EIS	13770.21	7.096517	13511.56	7.087183	102	0 - 500	0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB3)			Lab File ID: QQQ2076946.d			Analyzed: 05/10/23 17:34			
M3PFBA	45747.73	1.151933	47603.97	1.151933	96	50 - 150	0.0000	+/-0.50	
MPFDA	12098.75	6.92065	11735.12	6.92065	103	50 - 150	0.0000	+/-0.50	
MPFHxA	36845.14	4.651033	38962.19	4.651033	95	50 - 150	0.0000	+/-0.50	
MPFHxS	3012.78	5.484817	3666.173	5.484817	82	50 - 150	0.0000	+/-0.50	
MPFNA	14313.76	6.483033	12930.53	6.483033	111	50 - 150	0.0000	+/-0.50	
MPFOA	32289.13	5.9794	36214.31	5.9794	89	50 - 150	0.0000	+/-0.50	
MPFOS	9244.327	6.510433	9824.434	6.510433	94	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1541.557	6.492567	1502.882	6.492567	103	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	15571.74	5.979133	16755.44	5.979116	93	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	30039.73	3.331683	33574.52	3.3317	89	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	58891.95	1.149633	65133.15	1.158817	90	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	7441.567	7.6358	10730.96	7.635783	69	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3041.181	6.509933	2588.635	6.509933	117	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	15739.74	7.519183	17817.11	7.509883	88	0 - 500	0.0093	+/-0.50	
M7PFUdA-EIS	11691.92	7.302134	10304.36	7.311417	113	0 - 500	-0.0093	+/-0.50	
M6PFDA-EIS	5188.505	6.92975	4609.441	6.920417	113	0 - 500	0.0093	+/-0.50	
M5PFHxA-EIS	24349.7	4.650183	27556.73	4.65945	88	0 - 500	-0.0093	+/-0.50	
M4PFHpA-EIS	24347.17	5.4019	31097.92	5.392617	78	0 - 500	0.0093	+/-0.50	
M3PFHxS-EIS	8405.251	5.485267	8894.239	5.476	95	0 - 500	0.0093	+/-0.50	
M3PFBS-EIS	10168.98	3.83695	11545.93	3.836967	88	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	60360.26	4.913317	69789.74	4.913317	86	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	10183.39	8.182	11004	8.181967	93	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	4795.877	6.910634	3965.304	6.910617	121	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4043.767	5.95035	5414.38	5.941033	75	0 - 500	0.0093	+/-0.50	
M2-4-2FTS-EIS	9148.194	4.58425	8922.948	4.584267	103	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	68374.89	8.452117	80416.84	8.452084	85	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	68318.61	8.23955	75463.92	8.239516	91	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	4551.281	8.475433	4435.92	8.46615	103	0 - 500	0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	11555.84	7.283017	15032.15	7.283017	77	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2583.662	8.235534	2212.854	8.244766	117	0 - 500	-0.0092	+/-0.50	
d3-N-MeFOSAA-EIS	12115.65	7.096517	13770.21	7.096517	88	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_COMP01_230505 PFAS (23E0419-01)			Lab File ID: QQQ2076948.d			Analyzed: 05/10/23 17:59			
M3PFBA	34560.05	1.133567	47603.97	1.151933	73	50 - 150	-0.0184	+/-0.50	
MPFDA	10888.07	6.929966	11735.12	6.92065	93	50 - 150	0.0093	+/-0.50	
MPFHxA	28714.27	4.651017	38962.19	4.651033	74	50 - 150	0.0000	+/-0.50	
MPFHxS	2210.631	5.484783	3666.173	5.484817	60	50 - 150	0.0000	+/-0.50	
MPFNA	8736.231	6.483033	12930.53	6.483033	68	50 - 150	0.0000	+/-0.50	
MPFOA	27086.39	5.979383	36214.31	5.9794	75	50 - 150	0.0000	+/-0.50	
MPFOS	6238.951	6.510417	9824.434	6.510433	64	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1807.024	6.49255	1502.882	6.492567	120	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	12433.15	5.9791	16755.44	5.979116	74	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	24622.81	3.322483	33574.52	3.3317	73	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	40882.31	1.131283	65133.15	1.158817	63	0 - 500	-0.0275	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	6180.64	7.635767	10730.96	7.635783	58	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	1426.235	6.5006	2588.635	6.509933	55	0 - 500	-0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	11997.83	7.509867	17817.11	7.509883	67	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	8071.5	7.3114	10304.36	7.311417	78	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4795.295	6.9204	4609.441	6.920417	104	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	18725.1	4.650167	27556.73	4.65945	68	0 - 500	-0.0093	+/-0.50	
M4PFHpA-EIS	22133.67	5.392583	31097.92	5.392617	71	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	7212.796	5.48525	8894.239	5.476	81	0 - 500	0.0092	+/-0.50	
M3PFBS-EIS	9098.052	3.83695	11545.93	3.836967	79	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	50772.27	4.9133	69789.74	4.913317	73	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	6527.521	8.181967	11004	8.181967	59	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	2692.364	6.9106	3965.304	6.910617	68	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4389.275	5.941017	5414.38	5.941033	81	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	6191.155	4.584233	8922.948	4.584267	69	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	29715.7	8.4521	80416.84	8.452084	37	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	31463.42	8.239516	75463.92	8.239516	42	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	2409.011	8.475417	4435.92	8.46615	54	0 - 500	0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	9029.474	7.283	15032.15	7.283017	60	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	754.6917	8.2355	2212.854	8.244766	34	0 - 500	-0.0093	+/-0.50	
d3-N-MeFOSAA-EIS	8804.664	7.096483	13770.21	7.096517	64	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_COMP02_230505 PFAS (23E0419-02)			Lab File ID: QQQ2076949.d			Analyzed: 05/10/23 18:11			
M3PFBA	34605.65	1.14275	47603.97	1.151933	73	50 - 150	-0.0092	+/-0.50	
MPFDA	7721.719	6.920633	11735.12	6.92065	66	50 - 150	0.0000	+/-0.50	
MPFHxA	28712.59	4.651033	38962.19	4.651033	74	50 - 150	0.0000	+/-0.50	
MPFHxS	2723.227	5.475517	3666.173	5.484817	74	50 - 150	-0.0093	+/-0.50	
MPFNA	11494.63	6.483016	12930.53	6.483033	89	50 - 150	0.0000	+/-0.50	
MPFOA	26626.92	5.979383	36214.31	5.9794	74	50 - 150	0.0000	+/-0.50	
MPFOS	6524.547	6.510417	9824.434	6.510433	66	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1162.904	6.473583	1502.882	6.492567	77	0 - 500	-0.0190	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	13795.65	5.979116	16755.44	5.979116	82	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	24636.09	3.313283	33574.52	3.3317	73	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	35670.22	1.149633	65133.15	1.158817	55	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	6334.023	7.635767	10730.96	7.635783	59	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2367.18	6.509917	2588.635	6.509933	91	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	11594.04	7.50985	17817.11	7.509883	65	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	8253.563	7.302117	10304.36	7.311417	80	0 - 500	-0.0093	+/-0.50	
M6PFDA-EIS	3821.086	6.9204	4609.441	6.920417	83	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	19584	4.650183	27556.73	4.65945	71	0 - 500	-0.0093	+/-0.50	
M4PFHpA-EIS	21877.33	5.3926	31097.92	5.392617	70	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	7432.307	5.475983	8894.239	5.476	84	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	9428.506	3.827733	11545.93	3.836967	82	0 - 500	-0.0092	+/-0.50	
M3-HFPO-DA-EIS	48373.02	4.913317	69789.74	4.913317	69	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	6398.455	8.18195	11004	8.181967	58	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3299.268	6.900967	3965.304	6.910617	83	0 - 500	-0.0097	+/-0.50	
M2-6-2FTS-EIS	4528.576	5.941017	5414.38	5.941033	84	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	7234.996	4.58425	8922.948	4.584267	81	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	32174.37	8.452066	80416.84	8.452084	40	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	34246.34	8.2395	75463.92	8.239516	45	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	2819.778	8.466133	4435.92	8.46615	64	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	10026.33	7.283	15032.15	7.283017	67	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1087.031	8.235483	2212.854	8.244766	49	0 - 500	-0.0093	+/-0.50	
d3-N-MeFOSAA-EIS	8901.96	7.0965	13770.21	7.096517	65	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1022-CCV4)			Lab File ID: QQQ2076950.d			Analyzed: 05/10/23 18:23			
M3PFBA	48111.64	1.1611	47603.97	1.151933	101	50 - 150	0.0092	+/-0.50	
MPFDA	12088	6.9206	11735.12	6.92065	103	50 - 150	0.0000	+/-0.50	
MPFHxA	39391.54	4.651017	38962.19	4.651033	101	50 - 150	0.0000	+/-0.50	
MPFHxS	3224.849	5.4755	3666.173	5.484817	88	50 - 150	-0.0093	+/-0.50	
MPFNA	14673.06	6.483	12930.53	6.483033	113	50 - 150	0.0000	+/-0.50	
MPFOA	37936.26	5.979367	36214.31	5.9794	105	50 - 150	0.0000	+/-0.50	
MPFOS	8819.65	6.5104	9824.434	6.510433	90	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	2057.098	6.482883	1502.882	6.492567	137	0 - 500	-0.0097	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	18721.79	5.9791	16755.44	5.979116	112	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	33142.13	3.331683	33574.52	3.3317	99	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	66420.3	1.158817	65133.15	1.158817	102	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	10977.85	7.63575	10730.96	7.635783	102	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2191.566	6.5099	2588.635	6.509933	85	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	18581.44	7.509833	17817.11	7.509883	104	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	9738.719	7.302083	10304.36	7.311417	95	0 - 500	-0.0093	+/-0.50	
M6PFDA-EIS	5353.653	6.920367	4609.441	6.920417	116	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	26730.45	4.650167	27556.73	4.65945	97	0 - 500	-0.0093	+/-0.50	
M4PFHpA-EIS	30669.82	5.392583	31097.92	5.392617	99	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	9908.35	5.475966	8894.239	5.476	111	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	11740.14	3.83695	11545.93	3.836967	102	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	71936.56	4.9133	69789.74	4.913317	103	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	11196.39	8.172667	11004	8.181967	102	0 - 500	-0.0093	+/-0.50	
M2-8-2FTS-EIS	4494.156	6.910583	3965.304	6.910617	113	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4782.661	5.941	5414.38	5.941033	88	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	9572.663	4.584233	8922.948	4.584267	107	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	83058.87	8.45205	80416.84	8.452084	103	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	77642.23	8.230217	75463.92	8.239516	103	0 - 500	-0.0093	+/-0.50	
d5-NEtFOSA-EIS	4666.787	8.466117	4435.92	8.46615	105	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	14984.98	7.282967	15032.15	7.283017	100	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2139.51	8.235467	2212.854	8.244766	97	0 - 500	-0.0093	+/-0.50	
d3-N-MeFOSAA-EIS	14988.75	7.096467	13770.21	7.096517	109	0 - 500	-0.0001	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1022 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1022-CCB4)			Lab File ID: QQQ2076951.d			Analyzed: 05/10/23 18:35			
M3PFBA	46349.27	1.1611	48111.64	1.1611	96	50 - 150	0.0000	+/-0.50	
MPFDA	11285.03	6.929966	12088	6.9206	93	50 - 150	0.0094	+/-0.50	
MPFHxA	38922.89	4.651017	39391.54	4.651017	99	50 - 150	0.0000	+/-0.50	
MPFHxS	3274.083	5.475517	3224.849	5.4755	102	50 - 150	0.0000	+/-0.50	
MPFNA	12691.71	6.483033	14673.06	6.483	86	50 - 150	0.0000	+/-0.50	
MPFOA	34765.39	5.9794	37936.26	5.979367	92	50 - 150	0.0000	+/-0.50	
MPFOS	8570.617	6.510433	8819.65	6.5104	97	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1644.348	6.482917	2057.098	6.482883	80	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	15973.11	5.979133	18721.79	5.9791	85	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	29915.04	3.322483	33142.13	3.331683	90	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	59890.39	1.158817	66420.3	1.158817	90	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	7826.535	7.635767	10977.85	7.63575	71	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3066.584	6.509933	2191.566	6.5099	140	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	16184.7	7.50985	18581.44	7.509833	87	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	9787.405	7.302117	9738.719	7.302083	100	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4186.228	6.9204	5353.653	6.920367	78	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	22868.38	4.650183	26730.45	4.650167	86	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	24905.03	5.3926	30669.82	5.392583	81	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	8890.576	5.475983	9908.35	5.475966	90	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	10805.22	3.83695	11740.14	3.83695	92	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	63006.04	4.9133	71936.56	4.9133	88	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	8223.312	8.172684	11196.39	8.172667	73	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3568.413	6.910617	4494.156	6.910583	79	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4680.878	5.941033	4782.661	5.941	98	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	9990.657	4.58425	9572.663	4.584233	104	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	66881.02	8.452084	83058.87	8.45205	81	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	70193.87	8.2395	77642.23	8.230217	90	0 - 500	0.0093	+/-0.50	
d5-NEtFOSA-EIS	4983.201	8.46615	4666.787	8.466117	107	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	11539.19	7.283	14984.98	7.282967	77	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2036.963	8.235483	2139.51	8.235467	95	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	12493.65	7.0965	14988.75	7.096467	83	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1762	Instrument:	QQQ-2
		Calibration:	SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV1)			Lab File ID: QQQ2077038.d			Analyzed: 05/17/23 09:39			
M3PFBA	42068.82	1.1611				50 - 150		+/-0.50	
MPFDA	12064.13	6.920617				50 - 150		+/-0.50	
MPFHxA	36343.42	4.651017				50 - 150		+/-0.50	
MPFHxS	2907.181	5.4755				50 - 150		+/-0.50	
MPFNA	13031.33	6.473717				50 - 150		+/-0.50	
MPFOA	33005.6	5.969717				50 - 150		+/-0.50	
MPFOS	8502.604	6.5011				50 - 150		+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1853.677	6.473583				0 - 500		+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	16982.8	5.96945				0 - 500		+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	29986.22	3.322483				0 - 500		+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	59843.77	1.158817				0 - 500		+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	10597.95	7.626433				0 - 500		+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3666.996	6.500583				0 - 500		+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	16732.87	7.500533				0 - 500		+/-0.50	
M7PFUdA-EIS	11145.32	7.292783				0 - 500		+/-0.50	
M6PFDA-EIS	4681.368	6.920367				0 - 500		+/-0.50	
M5PFHxA-EIS	24274.19	4.650183				0 - 500		+/-0.50	
M4PFHpA-EIS	27825.21	5.392583				0 - 500		+/-0.50	
M3PFHxS-EIS	8343.078	5.475966				0 - 500		+/-0.50	
M3PFBS-EIS	10375.57	3.83695				0 - 500		+/-0.50	
M3-HFPO-DA-EIS	65527.83	4.903584				0 - 500		+/-0.50	
M2PFTeDA-EIS	11560.25	8.17265				0 - 500		+/-0.50	
M2-8-2FTS-EIS	3905.602	6.900933				0 - 500		+/-0.50	
M2-6-2FTS-EIS	6641.646	5.931716				0 - 500		+/-0.50	
M2-4-2FTS-EIS	11948.52	4.58425				0 - 500		+/-0.50	
d9-NEtFOSE-EIS	62731.32	8.452033				0 - 500		+/-0.50	
d7-NMeFOSE-EIS	69829.86	8.2302				0 - 500		+/-0.50	
d5-NEtFOSA-EIS	7845.189	8.4661				0 - 500		+/-0.50	
d5-N-EtFOSAA-EIS	16688.83	7.273667				0 - 500		+/-0.50	
d3-NMeFOSA-EIS	2421.225	8.23545				0 - 500		+/-0.50	
d3-N-MeFOSAA-EIS	17278.1	7.08715				0 - 500		+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB1)			Lab File ID: QQQ2077040.d			Analyzed: 05/17/23 10:04			
M3PFBA	41448.19	1.1611	42068.82	1.1611	99	50 - 150	0.0000	+/-0.50	
MPFDA	11207.96	6.911283	12064.13	6.920617	93	50 - 150	-0.0093	+/-0.50	
MPFHxA	34807.51	4.651017	36343.42	4.651017	96	50 - 150	0.0000	+/-0.50	
MPFHxS	3998.182	5.4755	2907.181	5.4755	138	50 - 150	0.0000	+/-0.50	
MPFNA	13548.67	6.4737	13031.33	6.473717	104	50 - 150	0.0000	+/-0.50	
MPFOA	32098.96	5.969717	33005.6	5.969717	97	50 - 150	0.0000	+/-0.50	
MPFOS	8335.309	6.5011	8502.604	6.5011	98	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1142.967	6.473583	1853.677	6.473583	62	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	14661.41	5.96945	16982.8	5.96945	86	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	26821.45	3.331683	29986.22	3.322483	89	0 - 500	0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	54762.21	1.167983	59843.77	1.158817	92	0 - 500	0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	8888.888	7.62645	10597.95	7.626433	84	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3123.976	6.500583	3666.996	6.500583	85	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	14794.02	7.50055	16732.87	7.500533	88	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	10496.65	7.302083	11145.32	7.292783	94	0 - 500	0.0093	+/-0.50	
M6PFDA-EIS	4627.461	6.91105	4681.368	6.920367	99	0 - 500	-0.0093	+/-0.50	
M5PFHxA-EIS	22880.93	4.650167	24274.19	4.650183	94	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	27346.16	5.392583	27825.21	5.392583	98	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	8878.344	5.475966	8343.078	5.475966	106	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	9622.058	3.83695	10375.57	3.83695	93	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	62256.81	4.903584	65527.83	4.903584	95	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	9273.563	8.172667	11560.25	8.17265	80	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3917.935	6.90095	3905.602	6.900933	100	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	5598.195	5.931716	6641.646	5.931716	84	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	10370.04	4.584233	11948.52	4.58425	87	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	58540.57	8.45205	62731.32	8.452033	93	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	64535.51	8.230217	69829.86	8.2302	92	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	7337.757	8.466117	7845.189	8.4661	94	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	13250.77	7.273684	16688.83	7.273667	79	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2031.203	8.235467	2421.225	8.23545	84	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	13827.41	7.087167	17278.1	7.08715	80	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (BE30673-BLK1)			Lab File ID: QQQ2077041.d			Analyzed: 05/17/23 11:16			
M3PFBA	27700.75	1.14275	42068.82	1.1611	66	50 - 150	-0.0184	+/-0.50	
MPFDA	8881.083	6.9113	12064.13	6.920617	74	50 - 150	-0.0093	+/-0.50	
MPFHxA	20865.79	4.641767	36343.42	4.651017	57	50 - 150	-0.0093	+/-0.50	
MPFHxS	1900.077	5.4755	2907.181	5.4755	65	50 - 150	0.0000	+/-0.50	
MPFNA	8524.698	6.473717	13031.33	6.473717	65	50 - 150	0.0000	+/-0.50	
MPFOA	21238.55	5.969717	33005.6	5.969717	64	50 - 150	0.0000	+/-0.50	
MPFOS	5458.542	6.5011	8502.604	6.5011	64	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1682.121	6.473583	1853.677	6.473583	91	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	13803.53	5.96945	16982.8	5.96945	81	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	21230.38	3.313283	29986.22	3.322483	71	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	43813.24	1.14045	59843.77	1.158817	73	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	6695.671	7.62645	10597.95	7.626433	63	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2513.946	6.5006	3666.996	6.500583	69	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	11153.31	7.50055	16732.87	7.500533	67	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	6757.633	7.2928	11145.32	7.292783	61	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	3720.355	6.920383	4681.368	6.920367	79	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	17152.84	4.650183	24274.19	4.650183	71	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	17489.46	5.392583	27825.21	5.392583	63	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	5872.777	5.475966	8343.078	5.475966	70	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	7830.391	3.827733	10375.57	3.83695	75	0 - 500	-0.0092	+/-0.50	
M3-HFPO-DA-EIS	43531.42	4.903584	65527.83	4.903584	66	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	5192.568	8.172667	11560.25	8.17265	45	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	4481.982	6.90095	3905.602	6.900933	115	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	7976.774	5.941017	6641.646	5.931716	120	0 - 500	0.0093	+/-0.50	
M2-4-2FTS-EIS	10584.91	4.58425	11948.52	4.58425	89	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	25951.58	8.45205	62731.32	8.452033	41	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	34123.66	8.230217	69829.86	8.2302	49	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	11973.53	8.45685	7845.189	8.4661	153	0 - 500	-0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	11705.52	7.273684	16688.83	7.273667	70	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1119.085	8.23545	2421.225	8.23545	46	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	11222.77	7.087167	17278.1	7.08715	65	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BE30673-BS1)			Lab File ID: QQQ2077042.d			Analyzed: 05/17/23 11:28			
M3PFBA	28041.83	1.133567	42068.82	1.1611	67	50 - 150	-0.0275	+/-0.50	
MPFDA	7182.563	6.9113	12064.13	6.920617	60	50 - 150	-0.0093	+/-0.50	
MPFHxA	23729	4.641783	36343.42	4.651017	65	50 - 150	-0.0092	+/-0.50	
MPFHxS	1793.868	5.475533	2907.181	5.4755	62	50 - 150	0.0000	+/-0.50	
MPFNA	9275.162	6.473733	13031.33	6.473717	71	50 - 150	0.0000	+/-0.50	
MPFOA	22513.5	5.969733	33005.6	5.969717	68	50 - 150	0.0000	+/-0.50	
MPFOS	5749.98	6.4918	8502.604	6.5011	68	50 - 150	-0.0093	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1258.348	6.4736	1853.677	6.473583	68	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	13478.13	5.960166	16982.8	5.96945	79	0 - 500	-0.0093	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	20290.26	3.304083	29986.22	3.322483	68	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	42641.96	1.14045	59843.77	1.158817	71	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	7009.448	7.626467	10597.95	7.626433	66	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2278.172	6.5006	3666.996	6.500583	62	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	11198.88	7.50055	16732.87	7.500533	67	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	7504.293	7.2928	11145.32	7.292783	67	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	2695.752	6.911067	4681.368	6.920367	58	0 - 500	-0.0093	+/-0.50	
M5PFHxA-EIS	17789.1	4.640934	24274.19	4.650183	73	0 - 500	-0.0092	+/-0.50	
M4PFHpA-EIS	21535.22	5.383117	27825.21	5.392583	77	0 - 500	-0.0095	+/-0.50	
M3PFHxS-EIS	6267.932	5.466333	8343.078	5.475966	75	0 - 500	-0.0096	+/-0.50	
M3PFBS-EIS	7466.556	3.82775	10375.57	3.83695	72	0 - 500	-0.0092	+/-0.50	
M3-HFPO-DA-EIS	46685.48	4.9036	65527.83	4.903584	71	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	5688.136	8.172667	11560.25	8.17265	49	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3883.592	6.90095	3905.602	6.900933	99	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	5455.874	5.931733	6641.646	5.931716	82	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	9808.982	4.575016	11948.52	4.58425	82	0 - 500	-0.0092	+/-0.50	
d9-NEtFOSE-EIS	30137.26	8.452066	62731.32	8.452033	48	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	34366.58	8.239483	69829.86	8.2302	49	0 - 500	0.0093	+/-0.50	
d5-NEtFOSA-EIS	7286.307	8.466133	7845.189	8.4661	93	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	10873.46	7.2737	16688.83	7.273667	65	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	769.7985	8.235467	2421.225	8.23545	32	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	11678.21	7.087167	17278.1	7.08715	68	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (BE30673-BS2)			Lab File ID: QQQ2077043.d			Analyzed: 05/17/23 11:41			
M3PFBA	26972.51	1.1244	42068.82	1.1611	64	50 - 150	-0.0367	+/-0.50	
MPFDA	8013.701	6.911283	12064.13	6.920617	66	50 - 150	-0.0093	+/-0.50	
MPFHxA	22761.3	4.641767	36343.42	4.651017	63	50 - 150	-0.0093	+/-0.50	
MPFHxS	1808.671	5.475517	2907.181	5.4755	62	50 - 150	0.0000	+/-0.50	
MPFNA	8403.146	6.4737	13031.33	6.473717	64	50 - 150	0.0000	+/-0.50	
MPFOA	20718.06	5.969717	33005.6	5.969717	63	50 - 150	0.0000	+/-0.50	
MPFOS	6364.155	6.5011	8502.604	6.5011	75	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1237.328	6.473583	1853.677	6.473583	67	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	11050.71	5.96945	16982.8	5.96945	65	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	19215.09	3.304083	29986.22	3.322483	64	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	41193.25	1.1221	59843.77	1.158817	69	0 - 500	-0.0367	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	5622.302	7.62645	10597.95	7.626433	53	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2772.315	6.500583	3666.996	6.500583	76	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	11493.65	7.500533	16732.87	7.500533	69	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	8035.603	7.292783	11145.32	7.292783	72	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	3130.276	6.920383	4681.368	6.920367	67	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	17759.75	4.640917	24274.19	4.650183	73	0 - 500	-0.0093	+/-0.50	
M4PFHpA-EIS	20552.15	5.392583	27825.21	5.392583	74	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	6797.102	5.475966	8343.078	5.475966	81	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	7595.886	3.818517	10375.57	3.83695	73	0 - 500	-0.0184	+/-0.50	
M3-HFPO-DA-EIS	47348.73	4.903584	65527.83	4.903584	72	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	5808.461	8.17265	11560.25	8.17265	50	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	2126.204	6.900933	3905.602	6.900933	54	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4316.641	5.931716	6641.646	5.931716	65	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	7226.168	4.575	11948.52	4.58425	60	0 - 500	-0.0092	+/-0.50	
d9-NEtFOSE-EIS	35439.39	8.452033	62731.32	8.452033	56	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	40365.48	8.239467	69829.86	8.2302	58	0 - 500	0.0093	+/-0.50	
d5-NEtFOSA-EIS	6419.442	8.4661	7845.189	8.4661	82	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	10042.18	7.273684	16688.83	7.273667	60	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1165.293	8.23545	2421.225	8.23545	48	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	10691.3	7.08715	17278.1	7.08715	62	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
EHQ_ITEM304_PFASFB_230505 (23E0419-03)			Lab File ID: QQQ2077048.d			Analyzed: 05/17/23 12:42			
M3PFBA	27974.85	1.14275	42068.82	1.1611	66	50 - 150	-0.0184	+/-0.50	
MPFDA	8072.214	6.911283	12064.13	6.920617	67	50 - 150	-0.0093	+/-0.50	
MPFHxA	23248.47	4.64175	36343.42	4.651017	64	50 - 150	-0.0093	+/-0.50	
MPFHxS	2456.575	5.4755	2907.181	5.4755	85	50 - 150	0.0000	+/-0.50	
MPFNA	9496.683	6.4737	13031.33	6.473717	73	50 - 150	0.0000	+/-0.50	
MPFOA	24987.79	5.9697	33005.6	5.969717	76	50 - 150	0.0000	+/-0.50	
MPFOS	4857.676	6.501083	8502.604	6.5011	57	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1227.629	6.473567	1853.677	6.473583	66	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	11257.69	5.969433	16982.8	5.96945	66	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	18046.62	3.313267	29986.22	3.322483	60	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	37661.65	1.14045	59843.77	1.158817	63	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	3737.013	7.626433	10597.95	7.626433	35	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	2549.747	6.500583	3666.996	6.500583	70	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	7264.449	7.500517	16732.87	7.500533	43	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	5565.583	7.292783	11145.32	7.292783	50	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	3043.498	6.91105	4681.368	6.920367	65	0 - 500	-0.0093	+/-0.50	
M5PFHxA-EIS	15590.79	4.650167	24274.19	4.650183	64	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	17472.39	5.383083	27825.21	5.392583	63	0 - 500	-0.0095	+/-0.50	
M3PFHxS-EIS	5497.276	5.47595	8343.078	5.475966	66	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	6971.723	3.827717	10375.57	3.83695	67	0 - 500	-0.0092	+/-0.50	
M3-HFPO-DA-EIS	41454.74	4.903567	65527.83	4.903584	63	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	1621.556	8.172633	11560.25	8.17265	14	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	1821.43	6.891617	3905.602	6.900933	47	0 - 500	-0.0093	+/-0.50	
M2-6-2FTS-EIS	3569.244	5.941	6641.646	5.931716	54	0 - 500	0.0093	+/-0.50	
M2-4-2FTS-EIS	6155.663	4.584233	11948.52	4.58425	52	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	9161.91	8.452017	62731.32	8.452033	15	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	13638.91	8.23945	69829.86	8.2302	20	0 - 500	0.0092	+/-0.50	
d5-NEtFOSA-EIS	5458.831	8.42905	7845.189	8.4661	70	0 - 500	-0.0371	+/-0.50	
d5-N-EtFOSAA-EIS	5163.877	7.273667	16688.83	7.273667	31	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	538.1154	8.2447	2421.225	8.23545	22	0 - 500	0.0092	+/-0.50	
d3-N-MeFOSAA-EIS	6414.239	7.077833	17278.1	7.08715	37	0 - 500	-0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Duplicate (BE30673-DUP1)			Lab File ID: QQQ2077049.d			Analyzed: 05/17/23 12:54			
M3PFBA	27804.57	1.133567	42068.82	1.1611	66	50 - 150	-0.0275	+/-0.50	
MPFDA	7460.019	6.911283	12064.13	6.920617	62	50 - 150	-0.0093	+/-0.50	
MPFHxA	22074.69	4.641767	36343.42	4.651017	61	50 - 150	-0.0093	+/-0.50	
MPFHxS	2481.949	5.4755	2907.181	5.4755	85	50 - 150	0.0000	+/-0.50	
MPFNA	8613.15	6.4644	13031.33	6.473717	66	50 - 150	-0.0093	+/-0.50	
MPFOA	20692.15	5.9697	33005.6	5.969717	63	50 - 150	0.0000	+/-0.50	
MPFOS	5560.868	6.5011	8502.604	6.5011	65	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	901.0918	6.473583	1853.677	6.473583	49	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	10582.41	5.969433	16982.8	5.96945	62	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	17600.11	3.313283	29986.22	3.322483	59	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	37484.02	1.14045	59843.77	1.158817	63	0 - 500	-0.0184	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	3771.253	7.626433	10597.95	7.626433	36	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	1720.012	6.500583	3666.996	6.500583	47	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	6883.811	7.500533	16732.87	7.500533	41	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	6305.06	7.292783	11145.32	7.292783	57	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	3152.636	6.91105	4681.368	6.920367	67	0 - 500	-0.0093	+/-0.50	
M5PFHxA-EIS	15403.88	4.640917	24274.19	4.650183	63	0 - 500	-0.0093	+/-0.50	
M4PFHpA-EIS	17692.44	5.383083	27825.21	5.392583	64	0 - 500	-0.0095	+/-0.50	
M3PFHxS-EIS	5930.724	5.475966	8343.078	5.475966	71	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	6716.531	3.827733	10375.57	3.83695	65	0 - 500	-0.0092	+/-0.50	
M3-HFPO-DA-EIS	40665.15	4.903584	65527.83	4.903584	62	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	1746.662	8.163366	11560.25	8.17265	15	0 - 500	-0.0093	+/-0.50	
M2-8-2FTS-EIS	1913.872	6.900933	3905.602	6.900933	49	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	4307.517	5.9317	6641.646	5.931716	65	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	6792.829	4.575	11948.52	4.58425	57	0 - 500	-0.0092	+/-0.50	
d9-NEtFOSE-EIS	4861.668	8.452033	62731.32	8.452033	8	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	8427.952	8.2302	69829.86	8.2302	12	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	6551.31	8.4661	7845.189	8.4661	84	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	5382.529	7.273667	16688.83	7.273667	32	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	563.3683	8.23545	2421.225	8.23545	23	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	5470.239	7.077833	17278.1	7.08715	32	0 - 500	-0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV2)			Lab File ID: QQQ2077051.d			Analyzed: 05/17/23 13:19			
M3PFBA	47046.61	1.151933	42068.82	1.1611	112	50 - 150	-0.0092	+/-0.50	
MPFDA	14275.88	6.911283	12064.13	6.920617	118	50 - 150	-0.0093	+/-0.50	
MPFHxA	40378.51	4.651	36343.42	4.651017	111	50 - 150	0.0000	+/-0.50	
MPFHxS	3586.412	5.4755	2907.181	5.4755	123	50 - 150	0.0000	+/-0.50	
MPFNA	11172.76	6.4737	13031.33	6.473717	86	50 - 150	0.0000	+/-0.50	
MPFOA	36755.49	5.9697	33005.6	5.969717	111	50 - 150	0.0000	+/-0.50	
MPFOS	10030.89	6.501083	8502.604	6.5011	118	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1721.215	6.464267	1853.677	6.473583	93	0 - 500	-0.0093	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	19339.22	5.969433	16982.8	5.96945	114	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	31543.53	3.322483	29986.22	3.322483	105	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	65572.3	1.158817	59843.77	1.158817	110	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	10817.55	7.62645	10597.95	7.626433	102	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3168.576	6.500583	3666.996	6.500583	86	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	16246.36	7.500533	16732.87	7.500533	97	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	13173.18	7.292783	11145.32	7.292783	118	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	5004.278	6.91105	4681.368	6.920367	107	0 - 500	-0.0093	+/-0.50	
M5PFHxA-EIS	25709.06	4.650167	24274.19	4.650183	106	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	28519.74	5.383083	27825.21	5.392583	102	0 - 500	-0.0095	+/-0.50	
M3PFHxS-EIS	10036.44	5.47595	8343.078	5.475966	120	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	10704.28	3.83695	10375.57	3.83695	103	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	71434.52	4.903567	65527.83	4.903584	109	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	10838.05	8.17265	11560.25	8.17265	94	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3019.675	6.891617	3905.602	6.900933	77	0 - 500	-0.0093	+/-0.50	
M2-6-2FTS-EIS	7258.398	5.9317	6641.646	5.931716	109	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	12941.68	4.584233	11948.52	4.58425	108	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	68975.87	8.45205	62731.32	8.452033	110	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	74472.95	8.230217	69829.86	8.2302	107	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	8530.465	8.475367	7845.189	8.4661	109	0 - 500	0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	15150.98	7.273667	16688.83	7.273667	91	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2341.487	8.23545	2421.225	8.23545	97	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	15810.44	7.08715	17278.1	7.08715	92	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB2)			Lab File ID: QQQ2077052.d			Analyzed: 05/17/23 13:31			
M3PFBA	44069.31	1.1611	47046.61	1.151933	94	50 - 150	0.0092	+/-0.50	
MPFDA	12163.59	6.911283	14275.88	6.911283	85	50 - 150	0.0000	+/-0.50	
MPFHxA	35169.3	4.641767	40378.51	4.651	87	50 - 150	-0.0092	+/-0.50	
MPFHxS	2605.848	5.465833	3586.412	5.4755	73	50 - 150	-0.0097	+/-0.50	
MPFNA	15571.99	6.4644	11172.76	6.4737	139	50 - 150	-0.0093	+/-0.50	
MPFOA	31911.32	5.969717	36755.49	5.9697	87	50 - 150	0.0000	+/-0.50	
MPFOS	9387.09	6.5011	10030.89	6.501083	94	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1760.239	6.473583	1721.215	6.464267	102	0 - 500	0.0093	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	16602.67	5.96945	19339.22	5.969433	86	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	27479.03	3.322483	31543.53	3.322483	87	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	58786.95	1.158817	65572.3	1.158817	90	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	9665.798	7.617167	10817.55	7.62645	89	0 - 500	-0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	4282.365	6.500583	3168.576	6.500583	135	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	15305.39	7.500533	16246.36	7.500533	94	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	10561	7.2928	13173.18	7.292783	80	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4330.756	6.901417	5004.278	6.91105	87	0 - 500	-0.0096	+/-0.50	
M5PFHxA-EIS	21958.34	4.640917	25709.06	4.650167	85	0 - 500	-0.0092	+/-0.50	
M4PFHpA-EIS	29145.45	5.3831	28519.74	5.383083	102	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	8092.311	5.466317	10036.44	5.47595	81	0 - 500	-0.0096	+/-0.50	
M3PFBS-EIS	9810.798	3.83695	10704.28	3.83695	92	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	61803.03	4.903584	71434.52	4.903567	87	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	8567.799	8.17265	10838.05	8.17265	79	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	2931.212	6.900933	3019.675	6.891617	97	0 - 500	0.0093	+/-0.50	
M2-6-2FTS-EIS	5271.17	5.931716	7258.398	5.9317	73	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	10896.11	4.584233	12941.68	4.584233	84	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	60815.59	8.45205	68975.87	8.45205	88	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	64780.8	8.230217	74472.95	8.230217	87	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	7464.955	8.466117	8530.465	8.475367	88	0 - 500	-0.0092	+/-0.50	
d5-N-EtFOSAA-EIS	13010.44	7.273684	15150.98	7.273667	86	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1680.304	8.2262	2341.487	8.23545	72	0 - 500	-0.0092	+/-0.50	
d3-N-MeFOSAA-EIS	11933.19	7.08715	15810.44	7.08715	75	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV3)			Lab File ID: QQQ2077063.d			Analyzed: 05/17/23 15:46			
M3PFBA	47664.09	1.151933	47046.61	1.151933	101	50 - 150	0.0000	+/-0.50	
MPFDA	12561.94	6.911283	14275.88	6.911283	88	50 - 150	0.0000	+/-0.50	
MPFHxA	39625.25	4.641767	40378.51	4.651	98	50 - 150	-0.0092	+/-0.50	
MPFHxS	3521.079	5.475517	3586.412	5.4755	98	50 - 150	0.0000	+/-0.50	
MPFNA	13374.51	6.473717	11172.76	6.4737	120	50 - 150	0.0000	+/-0.50	
MPFOA	36818.11	5.969717	36755.49	5.9697	100	50 - 150	0.0000	+/-0.50	
MPFOS	8400.526	6.5011	10030.89	6.501083	84	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1680.002	6.464283	1721.215	6.464267	98	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	20562.96	5.96945	19339.22	5.969433	106	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	33022.91	3.322483	31543.53	3.322483	105	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	66419.16	1.149633	65572.3	1.158817	101	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	11176.45	7.62645	10817.55	7.62645	103	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	4287.194	6.5006	3168.576	6.500583	135	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	17114.13	7.500533	16246.36	7.500533	105	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	14044.09	7.2928	13173.18	7.292783	107	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	5650.813	6.91105	5004.278	6.91105	113	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	27598.26	4.650167	25709.06	4.650167	107	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	31085.41	5.3831	28519.74	5.383083	109	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	9598.37	5.475966	10036.44	5.47595	96	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	10575.4	3.83695	10704.28	3.83695	99	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	72600.6	4.903584	71434.52	4.903567	102	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	11434.03	8.163383	10838.05	8.17265	105	0 - 500	-0.0093	+/-0.50	
M2-8-2FTS-EIS	3578.53	6.891617	3019.675	6.891617	119	0 - 500	0.0000	+/-0.50	
M2-6-2FTS-EIS	7730.443	5.931716	7258.398	5.9317	107	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	12226.42	4.584233	12941.68	4.584233	94	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	69645.13	8.45205	68975.87	8.45205	101	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	72166.55	8.230217	74472.95	8.230217	97	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	8168.931	8.475367	8530.465	8.475367	96	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	17472.21	7.273684	15150.98	7.273667	115	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2337.57	8.235467	2341.487	8.23545	100	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	14782.7	7.08715	15810.44	7.08715	93	0 - 500	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB3)			Lab File ID: QQQ2077064.d			Analyzed: 05/17/23 15:59			
M3PFBA	44574.75	1.151933	47664.09	1.151933	94	50 - 150	0.0000	+/-0.50	
MPFDA	12054.69	6.911283	12561.94	6.911283	96	50 - 150	0.0000	+/-0.50	
MPFHxA	35685.3	4.641767	39625.25	4.641767	90	50 - 150	0.0000	+/-0.50	
MPFHxS	3295.271	5.465833	3521.079	5.475517	94	50 - 150	-0.0097	+/-0.50	
MPFNA	14970.12	6.473717	13374.51	6.473717	112	50 - 150	0.0000	+/-0.50	
MPFOA	35327.5	5.969717	36818.11	5.969717	96	50 - 150	0.0000	+/-0.50	
MPFOS	9240.762	6.5011	8400.526	6.5011	110	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1942.746	6.473583	1680.002	6.464283	116	0 - 500	0.0093	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	15704.83	5.96945	20562.96	5.96945	76	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	27360.66	3.313283	33022.91	3.322483	83	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	58321.63	1.149633	66419.16	1.149633	88	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	8178.286	7.62645	11176.45	7.62645	73	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3046.914	6.491283	4287.194	6.5006	71	0 - 500	-0.0093	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	13095.33	7.500533	17114.13	7.500533	77	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	10414.74	7.292783	14044.09	7.2928	74	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4173.652	6.91105	5650.813	6.91105	74	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	25167.77	4.640917	27598.26	4.650167	91	0 - 500	-0.0092	+/-0.50	
M4PFHpA-EIS	29138.88	5.3831	31085.41	5.3831	94	0 - 500	0.0000	+/-0.50	
M3PFHxS-EIS	8260.88	5.475966	9598.37	5.475966	86	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	9460.42	3.827733	10575.4	3.83695	89	0 - 500	-0.0092	+/-0.50	
M3-HFPO-DA-EIS	62152.1	4.903584	72600.6	4.903584	86	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	8460.592	8.163366	11434.03	8.163383	74	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	2973.967	6.900933	3578.53	6.891617	83	0 - 500	0.0093	+/-0.50	
M2-6-2FTS-EIS	4615.207	5.931716	7730.443	5.931716	60	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	10481.82	4.575	12226.42	4.584233	86	0 - 500	-0.0092	+/-0.50	
d9-NEtFOSE-EIS	61567.98	8.452033	69645.13	8.45205	88	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	63715.46	8.239467	72166.55	8.230217	88	0 - 500	0.0092	+/-0.50	
d5-NEtFOSA-EIS	7339.35	8.4661	8168.931	8.475367	90	0 - 500	-0.0093	+/-0.50	
d5-N-EtFOSAA-EIS	14892.07	7.273684	17472.21	7.273684	85	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1826.451	8.23545	2337.57	8.235467	78	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	13960.11	7.077833	14782.7	7.08715	94	0 - 500	-0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1762-CCV4)			Lab File ID: QQQ2077070.d			Analyzed: 05/17/23 17:15			
M3PFBA	49063.9	1.1611	47664.09	1.151933	103	50 - 150	0.0092	+/-0.50	
MPFDA	12962.24	6.911283	12561.94	6.911283	103	50 - 150	0.0000	+/-0.50	
MPFHxA	40130.21	4.651017	39625.25	4.641767	101	50 - 150	0.0093	+/-0.50	
MPFHxS	3589.518	5.4755	3521.079	5.475517	102	50 - 150	0.0000	+/-0.50	
MPFNA	15066.4	6.4737	13374.51	6.473717	113	50 - 150	0.0000	+/-0.50	
MPFOA	38292.36	5.9697	36818.11	5.969717	104	50 - 150	0.0000	+/-0.50	
MPFOS	9467.188	6.5011	8400.526	6.5011	113	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	2038.899	6.473583	1680.002	6.464283	121	0 - 500	0.0093	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	18658.66	5.969433	20562.96	5.96945	91	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	33074.22	3.322483	33022.91	3.322483	100	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	67629.75	1.168	66419.16	1.149633	102	0 - 500	0.0184	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	10195.45	7.62645	11176.45	7.62645	91	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3022.218	6.500583	4287.194	6.5006	70	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	20954.72	7.500533	17114.13	7.500533	122	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	12268.65	7.2928	14044.09	7.2928	87	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	5644.699	6.91105	5650.813	6.91105	100	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	26918.75	4.640917	27598.26	4.650167	98	0 - 500	-0.0092	+/-0.50	
M4PFHpA-EIS	32469.84	5.392583	31085.41	5.3831	104	0 - 500	0.0095	+/-0.50	
M3PFHxS-EIS	9701.824	5.475966	9598.37	5.475966	101	0 - 500	0.0000	+/-0.50	
M3PFBS-EIS	11290.38	3.83695	10575.4	3.83695	107	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	75078.69	4.903584	72600.6	4.903584	103	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	10171.79	8.1634	11434.03	8.163383	89	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3677.397	6.900933	3578.53	6.891617	103	0 - 500	0.0093	+/-0.50	
M2-6-2FTS-EIS	7805.565	5.931716	7730.443	5.931716	101	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	13035.94	4.584233	12226.42	4.584233	107	0 - 500	0.0000	+/-0.50	
d9-NEtFOSE-EIS	71034.17	8.45205	69645.13	8.45205	102	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	75043.15	8.230217	72166.55	8.230217	104	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	8097.494	8.466117	8168.931	8.475367	99	0 - 500	-0.0092	+/-0.50	
d5-N-EtFOSAA-EIS	16278.96	7.273684	17472.21	7.273684	93	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	1718.924	8.235467	2337.57	8.235467	74	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	15642.81	7.07785	14782.7	7.08715	106	0 - 500	-0.0093	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1762 Instrument: QQQ-2

Calibration: SD30043

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Blank (S3E1762-CCB4)			Lab File ID: QQQ2077071.d			Analyzed: 05/17/23 17:27			
M3PFBA	46162.81	1.1611	49063.9	1.1611	94	50 - 150	0.0000	+/-0.50	
MPFDA	11918.74	6.911283	12962.24	6.911283	92	50 - 150	0.0000	+/-0.50	
MPFHxA	36495.65	4.641767	40130.21	4.651017	91	50 - 150	-0.0093	+/-0.50	
MPFHxS	3001.653	5.4755	3589.518	5.4755	84	50 - 150	0.0000	+/-0.50	
MPFNA	13114.57	6.4737	15066.4	6.4737	87	50 - 150	0.0000	+/-0.50	
MPFOA	35889.28	5.9697	38292.36	5.9697	94	50 - 150	0.0000	+/-0.50	
MPFOS	8908.996	6.5011	9467.188	6.5011	94	50 - 150	0.0000	+/-0.50	
Perfluoro-n-[13C9]nonanoic acid (M9	1539.254	6.473583	2038.899	6.473583	75	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C8]octanoic acid (M8	18644.78	5.969433	18658.66	5.969433	100	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C54]pentanoic acid (M	28315.05	3.322483	33074.22	3.322483	86	0 - 500	0.0000	+/-0.50	
Perfluoro-n-[13C4]butanoic acid (MP	59881.33	1.158817	67629.75	1.168	89	0 - 500	-0.0092	+/-0.50	
Perfluoro-n-[1,2-13C2]dodecanoic ac	9729.584	7.62645	10195.45	7.62645	95	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonic aci	3527.22	6.500583	3022.218	6.500583	117	0 - 500	0.0000	+/-0.50	
Perfluoro-1-[13C8]octanesulfonamid	15727.51	7.500533	20954.72	7.500533	75	0 - 500	0.0000	+/-0.50	
M7PFUdA-EIS	10938.77	7.2928	12268.65	7.2928	89	0 - 500	0.0000	+/-0.50	
M6PFDA-EIS	4039.142	6.91105	5644.699	6.91105	72	0 - 500	0.0000	+/-0.50	
M5PFHxA-EIS	24481.06	4.640917	26918.75	4.640917	91	0 - 500	0.0000	+/-0.50	
M4PFHpA-EIS	27260.11	5.383083	32469.84	5.392583	84	0 - 500	-0.0095	+/-0.50	
M3PFHxS-EIS	8007.06	5.4663	9701.824	5.475966	83	0 - 500	-0.0097	+/-0.50	
M3PFBS-EIS	9892.721	3.83695	11290.38	3.83695	88	0 - 500	0.0000	+/-0.50	
M3-HFPO-DA-EIS	64314.7	4.903584	75078.69	4.903584	86	0 - 500	0.0000	+/-0.50	
M2PFTeDA-EIS	8552.238	8.163383	10171.79	8.1634	84	0 - 500	0.0000	+/-0.50	
M2-8-2FTS-EIS	3097.946	6.891617	3677.397	6.900933	84	0 - 500	-0.0093	+/-0.50	
M2-6-2FTS-EIS	5641.907	5.9317	7805.565	5.931716	72	0 - 500	0.0000	+/-0.50	
M2-4-2FTS-EIS	10067.88	4.575	13035.94	4.584233	77	0 - 500	-0.0092	+/-0.50	
d9-NEtFOSE-EIS	64044.48	8.452033	71034.17	8.45205	90	0 - 500	0.0000	+/-0.50	
d7-NMeFOSE-EIS	68400.95	8.2302	75043.15	8.230217	91	0 - 500	0.0000	+/-0.50	
d5-NEtFOSA-EIS	8861.297	8.4661	8097.494	8.466117	109	0 - 500	0.0000	+/-0.50	
d5-N-EtFOSAA-EIS	14420.92	7.273684	16278.96	7.273684	89	0 - 500	0.0000	+/-0.50	
d3-NMeFOSA-EIS	2227.902	8.23545	1718.924	8.235467	130	0 - 500	0.0000	+/-0.50	
d3-N-MeFOSAA-EIS	15836	7.07785	15642.81	7.07785	101	0 - 500	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505 P	05/05/23 13:00	05/05/23 17:07	05/08/23 17:34	3.19	28.00	05/10/23 17:59	2.02	28.00	
EHQ_ITEM304_COMP02_230505 P	05/05/23 13:15	05/05/23 17:07	05/08/23 17:34	3.18	28.00	05/10/23 18:11	2.03	28.00	
EHQ_ITEM304_PFASFB_230505	05/05/23 13:30	05/05/23 17:07	05/15/23 12:21	9.95	28.00	05/17/23 12:42	2.01	28.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Water **Instrument:** QQQ-2

Analyte	LOD	LOQ	Units
11CL-PF3OUdS	1.38	7.56	ng/L
	0.311	0.756	ug/kg
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	2.05	7.68	ng/L
	0.755	0.768	ug/kg
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	1.79	7.50	ng/L
	0.595	0.750	ug/kg
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	1.06	7.60	ng/L
	0.595	0.760	ug/kg
3-Perfluoroheptyl propanoic acid (FHpPA)	9.47	25.0	ng/L
	1.50	5.00	ug/kg
3-Perfluoropentyl propanoic acid (FPePA)	7.33	25.0	ng/L
	2.10	5.00	ug/kg
3-Perfluoropropyl propanoic acid (FPrPA)	2.03	5.00	ng/L
	0.634	1.00	ug/kg
9CL-PF3ONS	0.700	7.48	ng/L
	0.246	0.748	ug/kg
ADONA	0.530	7.56	ng/L
	0.174	0.756	ug/kg
HFPO-DA (Gen-X)	3.23	8.00	ng/L
	0.608	0.800	ug/kg
N-EtFOSA	1.80	2.00	ng/L
	0.198	0.200	ug/kg
N-EtFOSAA	1.03	2.00	ng/L
	0.194	0.200	ug/kg
N-EtFOSE	3.99	20.0	ng/L
	0.697	2.00	ug/kg
N-MeFOSA	1.58	2.00	ng/L
	0.180	0.200	ug/kg
N-MeFOSAA	0.790	2.00	ng/L
	0.148	0.200	ug/kg
N-MeFOSE	3.99	20.0	ng/L
	0.611	2.00	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Water **Instrument:** QQQ-2

Analyte	LOD	LOQ	Units
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.500	3.56	ng/L
	0.139	0.356	ug/kg
Perfluoro-1-decanesulfonic acid (PFDS)	1.32	1.93	ng/L
	0.191	0.193	ug/kg
Perfluoro-1-heptanesulfonic acid (PFHpS)	0.910	1.91	ng/L
	0.155	0.200	ug/kg
Perfluoro-1-nonanesulfonic acid (PFNS)	0.860	1.92	ng/L
	0.124	0.192	ug/kg
Perfluoro-1-octanesulfonamide (FOSA)	0.880	2.00	ng/L
	0.146	0.200	ug/kg
Perfluoro-1-pentanesulfonate (PFPeS)	0.760	1.88	ng/L
	0.157	0.188	ug/kg
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	2.14	4.00	ng/L
	0.193	0.400	ug/kg
Perfluoro-4-oxapentanoic acid (PFMPA)	0.250	4.00	ng/L
	0.0620	0.400	ug/kg
Perfluoro-5-oxahexanoic acid (PFMBA)	0.370	4.00	ng/L
	0.0960	0.400	ug/kg
Perfluorobutanesulfonic acid (PFBS)	0.470	1.77	ng/L
	0.111	0.177	ug/kg
Perfluorodecanoic acid (PFDA)	0.750	2.00	ng/L
	0.191	0.200	ug/kg
Perfluorododecanesulfonic acid (PFDoS)	0.930	1.94	ng/L
	0.169	0.194	ug/kg
Perfluorododecanoic acid (PFDoA)	0.880	2.00	ng/L
	0.163	0.200	ug/kg
Perfluoroheptanoic acid (PFHpA)	0.710	2.00	ng/L
	0.105	0.200	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Water **Instrument:** QQQ-2

Analyte	LOD	LOQ	Units
Perfluorohexanesulfonic acid (PFHxS)	0.680	1.83	ng/L
	0.179	0.183	ug/kg
Perfluorohexanoic acid (PFHxA)	0.350	2.00	ng/L
	0.0530	0.200	ug/kg
Perfluoro-n-butanoic acid (PFBA)	0.330	8.00	ng/L
	0.109	0.800	ug/kg
Perfluorononanoic acid (PFNA)	0.520	2.00	ng/L
	0.189	0.200	ug/kg
Perfluorooctanesulfonic acid (PFOS)	0.820	1.86	ng/L
	0.167	0.186	ug/kg
Perfluorooctanoic acid (PFOA)	0.420	2.00	ng/L
	0.172	0.200	ug/kg
Perfluoropentanoic acid (PFPeA)	0.230	4.00	ng/L
	0.109	0.400	ug/kg
Perfluorotetradecanoic acid (PFTA)	0.690	2.00	ng/L
	0.103	0.200	ug/kg
Perfluorotridecanoic acid (PFTrDA)	0.740	2.00	ng/L
	0.125	0.200	ug/kg
Perfluoroundecanoic acid (PFUnA)	1.13	2.00	ng/L
	0.198	0.200	ug/kg

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_COMP01_230505 PFAS

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-01	File ID:	QQQ2076948.d
Sampled:	05/05/23 13:00	Prepared:	05/08/23 17:34	Analyzed:	05/10/23 17:59
Solids:	93.38	Preparation:	EPA 1633 Prep	Initial/Final:	5.02 g / 5 mL
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043
Instrument:	QQQ-2				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1	0.189	U
307-24-4	Perfluorohexanoic acid (PFHxA)	1	0.213	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	1	0.213	U
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1	0.195	U
335-67-1	Perfluorooctanoic acid (PFOA)	1	0.213	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1	0.198	U
375-95-1	Perfluorononanoic acid (PFNA)	1	0.213	U
335-76-2	Perfluorodecanoic acid (PFDA)	1	0.213	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1	0.213	U
307-55-1	Perfluorododecanoic acid (PFDoA)	1	0.213	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	1	0.213	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	1	0.213	U
2355-31-9	N-MeFOSAA	1	0.213	U
2991-50-6	N-EtFOSAA	1	0.213	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	1	0.427	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	1	0.213	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	1	0.213	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	1	0.206	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	1	0.811	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	1	0.819	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	1	0.853	U
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	1	0.380	U
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	1	0.427	U
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	1	0.427	U
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	1	0.427	U
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	1	0.201	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	1	0.800	U
13252-13-6	HFPO-DA (Gen-X)	1	0.853	U
763051-92-9	11CL-PF3OUdS	1	0.806	U
756426-58-1	9CL-PF3ONS	1	0.798	U
919005-14-4	ADONA	1	0.806	U
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	1	0.207	U
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	1	0.205	U
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	1	1.07	U
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	1	5.33	U
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	1	5.33	U
24448-09-7	N-MeFOSE	1	2.13	U
31506-32-8	N-MeFOSA	1	0.213	U
1691-99-2	N-EtFOSE	1	2.13	U
4151-50-2	N-EtFOSA	1	0.213	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_COMP01_230505 PFAS

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-01	File ID:	QQQ2076948.d
Sampled:	05/05/23 13:00	Prepared:	05/08/23 17:34	Analyzed:	05/10/23 17:59
Solids:	93.38	Preparation:	EPA 1633 Prep	Initial/Final:	5.02 g / 5 mL
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043
Instrument:	QQQ-2				

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
M3PFBS	2.49	3.30	133	25 - 150	
M5PFHxA	2.67	2.58	96.6	25 - 150	
M4PFHpA	2.67	2.70	101	25 - 150	
M3PFHxS	2.53	3.11	123	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.67	2.22	83.3	25 - 150	
M6PFDA	1.33	1.21	90.8	25 - 150	
M7PFUdA	1.33	1.03	77.1	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.33	0.945	70.9	25 - 150	
M2PFTeDA	1.33	0.946	71.0	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.7	9.21	86.4	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.55	1.68	65.9	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.33	5.65	106	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.67	2.50	93.7	10 - 150	
d3-N-MeFOSAA	5.33	4.45	83.4	25 - 150	
d5-N-EtFOSAA	5.33	4.54	85.2	25 - 150	
M2-6:2 FTS	5.07	7.17	141	25 - 200	
M2-8:2 FTS	5.12	5.12	99.9	25 - 200	
M9PFNA	1.33	2.14	161	25 - 150	*
M2-4:2 FTS	5.00	5.49	110	25 - 150	
d-N-MeFOSA	2.67	1.23	46.1	25 - 150	
d-N-EtFOSA	2.67	2.86	107	25 - 150	
M3HFPO-DA	10.7	12.0	112	25 - 150	
d9-N-EtFOSE	26.7	15.2	57.0	25 - 150	
d7-N-MeFOSE	26.7	15.8	59.3	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M3PFBA	34560.05	1.133567	47603.97	1.151933	
MPFDA	10888.07	6.929966	11735.12	6.92065	
MPFHxA	28714.27	4.651017	38962.19	4.651033	
MPFHxS	2210.631	5.484783	3666.173	5.484817	
MPFNA	8736.231	6.483033	12930.53	6.483033	
MPFOA	27086.39	5.979383	36214.31	5.9794	
MPFOS	6238.951	6.510417	9824.434	6.510433	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	1807.024	6.49255	1502.882	6.492567	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	12433.15	5.9791	16755.44	5.979116	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	24622.81	3.322483	33574.52	3.3317	
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	40882.31	1.131283	65133.15	1.158817	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	6180.64	7.635767	10730.96	7.635783	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	1426.235	6.5006	2588.635	6.509933	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	11997.83	7.509867	17817.11	7.509883	
M7PFUdA-EIS	8071.5	7.3114	10304.36	7.311417	
M6PFDA-EIS	4795.295	6.9204	4609.441	6.920417	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_COMP01_230505 PFAS

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-01	File ID:	QQQ2076948.d
Sampled:	05/05/23 13:00	Prepared:	05/08/23 17:34	Analyzed:	05/10/23 17:59
Solids:	93.38	Preparation:	EPA 1633 Prep	Initial/Final:	5.02 g / 5 mL
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043
Instrument:	QQQ-2				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M5PFHxA-EIS	18725.1	4.650167	27556.73	4.65945	
M4PFHpA-EIS	22133.67	5.392583	31097.92	5.392617	
M3PFHxS-EIS	7212.796	5.48525	8894.239	5.476	
M3PFBS-EIS	9098.052	3.83695	11545.93	3.836967	
M3-HFPO-DA-EIS	50772.27	4.9133	69789.74	4.913317	
M2PFTeDA-EIS	6527.521	8.181967	11004	8.181967	
M2-8-2FTS-EIS	2692.364	6.9106	3965.304	6.910617	
M2-6-2FTS-EIS	4389.275	5.941017	5414.38	5.941033	
M2-4-2FTS-EIS	6191.155	4.584233	8922.948	4.584267	
d9-NEtFOSE-EIS	29715.7	8.4521	80416.84	8.452084	
d7-NMeFOSE-EIS	31463.42	8.239516	75463.92	8.239516	
d5-NEtFOSA-EIS	2409.011	8.475417	4435.92	8.46615	
d5-N-EtFOSAA-EIS	9029.474	7.283	15032.15	7.283017	
d3-NMeFOSA-EIS	754.6917	8.2355	2212.854	8.244766	
d3-N-MeFOSAA-EIS	8804.664	7.096483	13770.21	7.096517	

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076948.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 5:59:05 PM
Sample Name	23E0419-01	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.134	216.0 -> 172.0	34560	5.0000	ng/ml		-0.073
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.131	217.0 -> 172.0	40882	10.0000	ng/ml		-0.073
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.322	268.0 -> 223.0	24623	5.0000	ng/ml		-0.065
MPFHxA	4.651	315.0 -> 269.8	28714	2.5000	ng/ml		-0.047
MPFHxS	5.485	403.0 -> 103.0	2211	2.3700	ng/ml		-0.037
M3PFBS-EIS	3.837	302.0 -> 79.9	9098	2.3300	ng/ml		-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	18725	2.5000	ng/ml		-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	6191	4.6900	ng/ml		-0.047
M3PFHxS-EIS	5.485	402.0 -> 80.0	7213	2.3700	ng/ml		-0.047
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	50772	10.0000	ng/ml		-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	22134	2.5000	ng/ml		-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	4389	4.7550	ng/ml		-0.056
MPFOA	5.979	417.0 -> 372.0	27086	2.5000	ng/ml		-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.979	421.0 -> 376.0	12433	2.5000	ng/ml		-0.056
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	1426	2.3950	ng/ml		-0.065
MPFNA	6.483	468.0 -> 423.0	8736	1.2500	ng/ml		-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.493	472.0 -> 223.0	1807	1.2500	ng/ml		-0.047
MPFOS	6.510	503.0 -> 80.0	6239	2.3950	ng/ml		-0.065
M2-8-2FTS-EIS	6.911	529.0 -> 509.0	2692	4.8000	ng/ml		-0.056
MPFDA	6.930	515.0 -> 469.8	10888	1.2500	ng/ml		-0.056
M6PFDA-EIS	6.920	519.0 -> 473.9	4795	1.2500	ng/ml		-0.065
d3-N-MeFOSAA-EIS	7.096	573.0 -> 418.8	8805	5.0000	ng/ml		-0.056
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	9029	5.0000	ng/ml		-0.065
M7PFUdA-EIS	7.311	570.0 -> 525.0	8072	1.2500	ng/ml		-0.056
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	11998	2.5000	ng/ml		-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.636	615.0 -> 570.0	6181	1.2500	ng/ml		-0.065
M2PFTeDA-EIS	8.182	715.0 -> 670.0	6528	1.2500	ng/ml		-0.074
d3-NMeFOSA-EIS	8.236	515.0 -> 219.0	755	2.5000	ng/ml		-0.009
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	31463	25.0000	ng/ml		0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	29716	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2409	2.5000	ng/ml	m	0.000
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.131	217.0 -> 172.0	40882	8.6362	ng/ml		-0.073
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.322	268.0 -> 223.0	24623	5.2963	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.837	302.0 -> 79.9	9098	3.0942	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.584	329.0 -> 309.0	6191	5.1431	ng/ml		-0.047

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%			
M5PFHxA	4.650	318.0 -> 273.0	18725	2.4143	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3-HFPO-DA	4.913	287.0 -> 169.0	50772	11.2258	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M4PFHpA	5.393	367.0 -> 322.0	22134	2.5268	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFHxS	5.485	402.0 -> 80.0	7213	2.9201	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M2-6-2FTS	5.941	429.0 -> 409.0	4389	6.7223	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.979	421.0 -> 376.0	12433	2.0821	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.493	472.0 -> 223.0	1807	2.0098	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	1426	1.5791	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M2-8-2FTS	6.911	529.0 -> 509.0	2692	4.7969	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M6PFDA	6.920	519.0 -> 473.9	4795	1.1346	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d3-N-MeFOSAA	7.096	573.0 -> 418.8	8805	4.1718	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
d5-N-EtFOSAA	7.283	589.0 -> 418.8	9029	4.2576	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M7PFUdA	7.311	570.0 -> 525.0	8072	0.9637	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	11998	2.3426	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.636	615.0 -> 570.0	6181	0.8864	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d7-NMeFOSE	8.240	623.0 -> 59.0	31463	14.8361	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-NMeFOSA	8.236	515.0 -> 219.0	755	1.1536	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M2PFTeDA	8.182	715.0 -> 670.0	6528	0.8870	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
d9-NEtFOSE	8.452	639.0 -> 59.0	29716	14.2567	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d5-NEtFOSA	8.475	531.0 -> 169.0	2409	2.6788	ng/ml	m	0.000
Spiked Amount:	Range: - %			Recovery = NA%			
Target Compounds							QValue
Perfluoro-n-butanoic acid (PFBA)	1.136	213.0 -> 168.9	102	0.0199	ng/ml		100
PFMPA	2.070	229.0 -> 85.0	2	0.0006	ng/ml		100
3:3FTCA	3.084	241.0 -> 177.0	3	0.0091	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	3.314	263.0 -> 219.0	91	0.0169	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	3.856	298.9 -> 79.9	8	0.0016	ng/ml		100
PFMBA	3.950	279.0 -> 85.0	5	0.0010	ng/ml		100
PFEESA	4.354	315.0 -> 135.0	24	0.0020	ng/ml		100
NFDHA	4.504	295.0 -> 201.1	24	0.0044	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.873	327.0 -> 307.0	2	0.0015	ng/ml		100

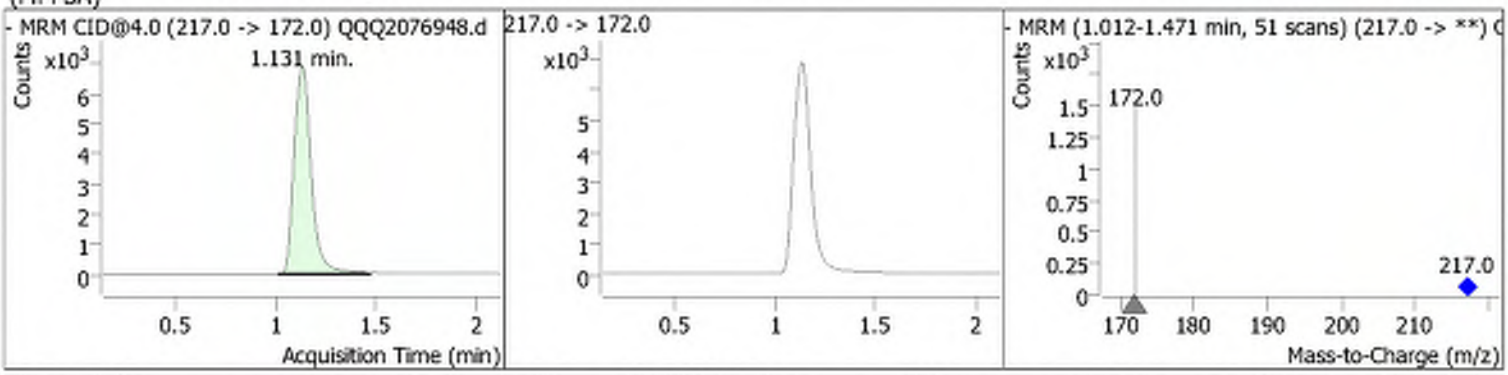
Quantitation Results Report (Not Reviewed)

Agilent

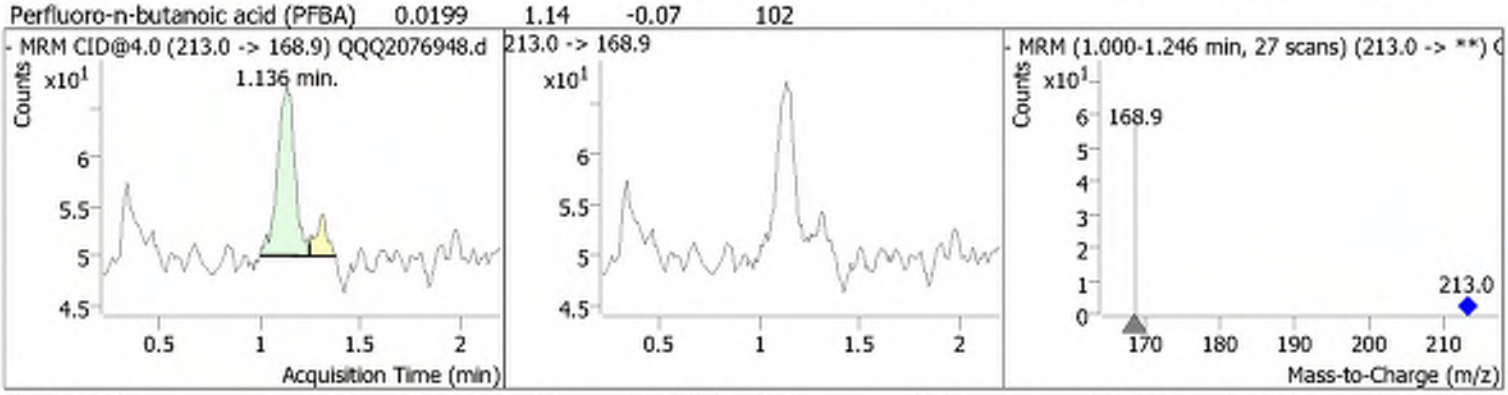
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.670	313.0 -> 268.9	244	0.0278	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.807	348.9 -> 79.9	4	0.0010	ng/ml	100
HFPO-DA	4.932	285.0 -> 169.1	30	0.0692	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	5.439	363.0 -> 318.8	14	0.0012	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	36	0.0087	ng/ml	100
5-3FTCA	5.562	341.0 -> 217.0	27	0.0262	ng/ml	100
ADONA	5.514	377.0 -> 85.0	14	0.0022	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.951	427.0 -> 407.0	1	0.0010	ng/ml	100
Perfluorooctanoic acid (PFOA)	6.026	413.0 -> 368.8	179	0.0250	ng/ml	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.091	448.9 -> 80.0	1	0.0004	ng/ml	100
Perfluorononanoic acid (PFNA)	6.558	463.0 -> 418.8	60	0.0058	ng/ml	100
Perfluorooctanesulfonic acid (PFOS)	6.333	498.9 -> 79.9	40	0.0557	ng/ml	100
7-3FTCA	6.736	441.0 -> 337.0	38	0.0232	ng/ml	100
9-Cl-PF3ONS	6.873	531.0 -> 351.0	1	0.0002	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.920	527.0 -> 80.9	28	0.0399	ng/ml	100
Perfluorodecanoic acid (PFDA)	7.024	513.0 -> 468.8	9	0.0011	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	6.938	548.9 -> 79.9	13	0.0098	ng/ml	100
N-MeFOSAA	7.116	570.0 -> 418.9	16	0.0133	ng/ml	100
N-EtFOSAA	7.413	584.0 -> 418.8	3	0.0020	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.543	598.9 -> 98.9	2	0.0028	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	7.451	563.0 -> 519.0	77	0.0147	ng/ml	100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	133	0.0157	ng/ml	100
11-Cl-PF3OUdS	6.852	631.0 -> 451.0	2	0.0007	ng/ml	100
Perfluorododecanoic acid (PFDoA)	7.711	613.0 -> 568.8	27	0.0062	ng/ml	100
Perfluorododecanesulfonic acid (PFDoS)	7.988	699.0 -> 80.0	0	0.0007	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	8.081	663.0 -> 618.8	7	0.0018	ng/ml	100
NMeFOSA	8.367	512.0 -> 169.0	1	0.0022	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	8.247	713.0 -> 669.0	35	0.0048	ng/ml	100
NMeFOSE	8.286	616.0 -> 59.0	4	0.0033	ng/ml	100
NEtFOSE	8.480	630.0 -> 59.0	19	0.0131	ng/ml	100
NEtFOSA	8.486	526.0 -> 169.0	17	0.0209	ng/ml	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

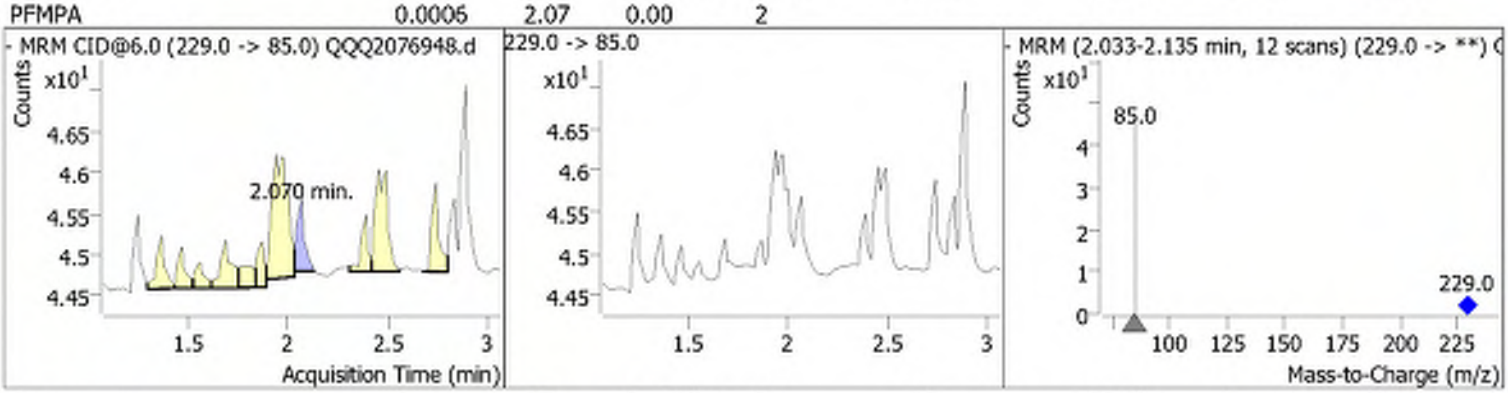
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	8.6362	1.13	-0.07	40882				



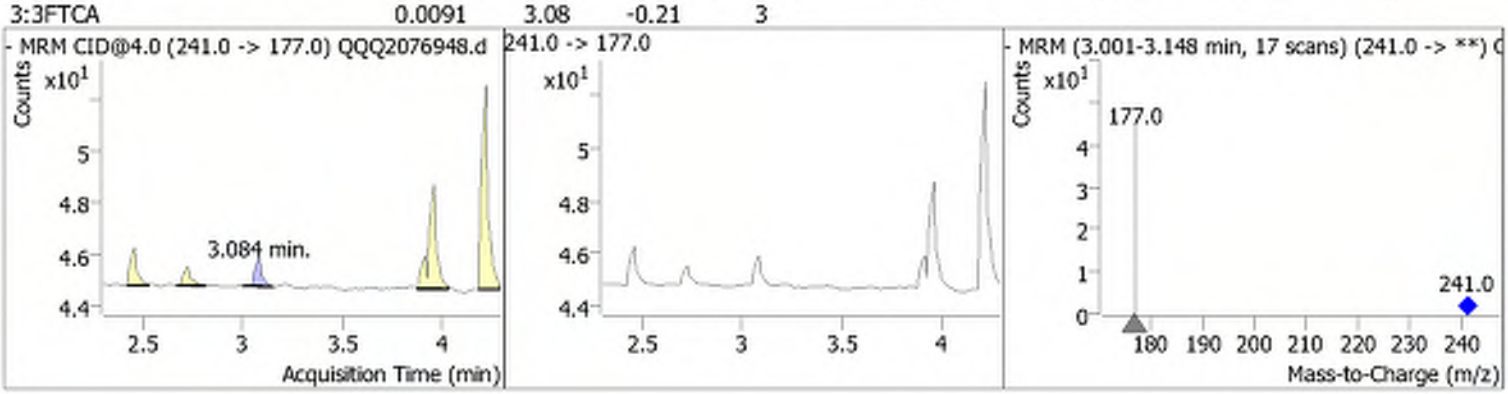
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0199	1.14	-0.07	102				



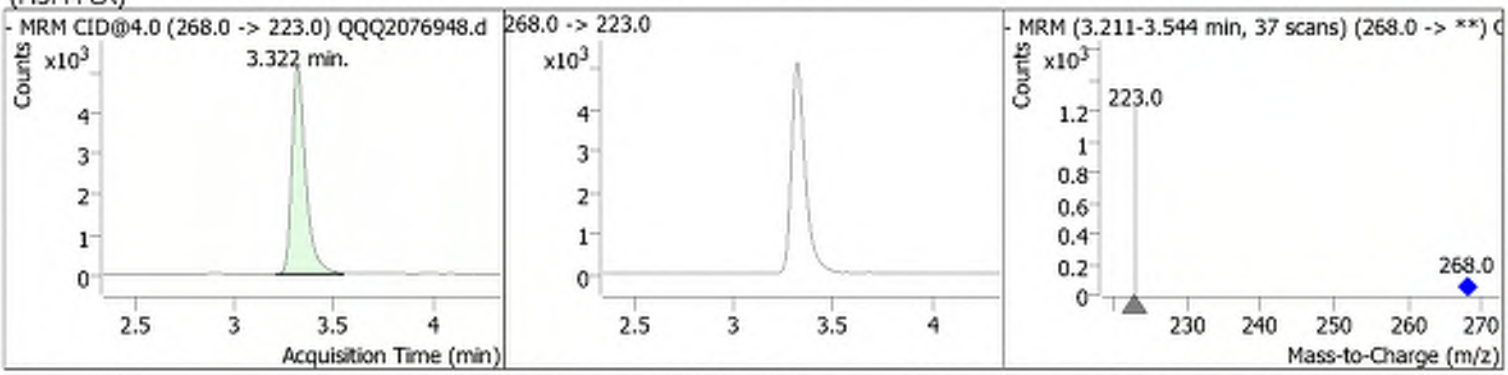
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0006	2.07	0.00	2				



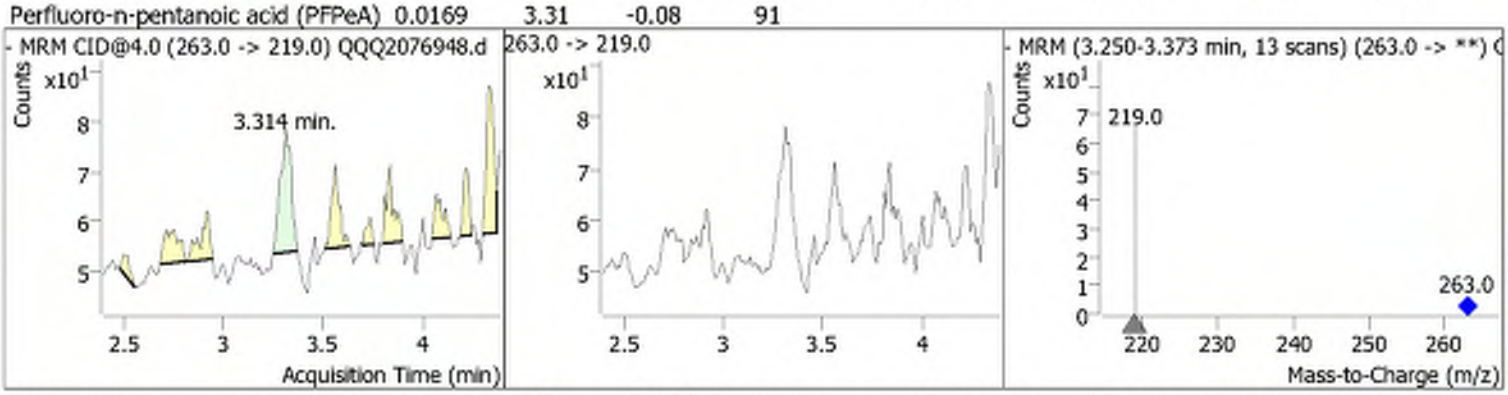
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.0091	3.08	-0.21	3				



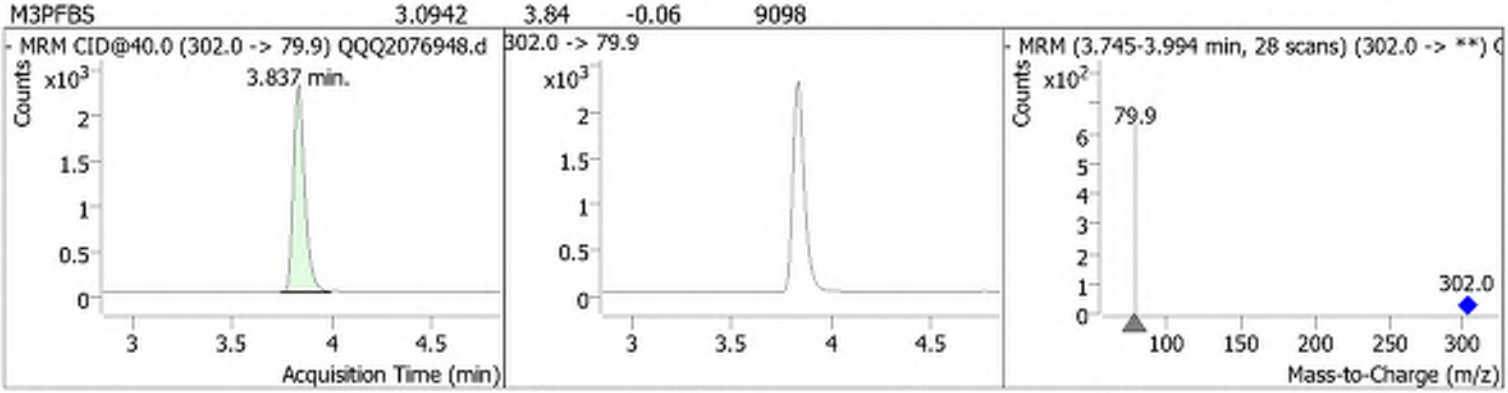
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.2963	3.32	-0.06	24623				



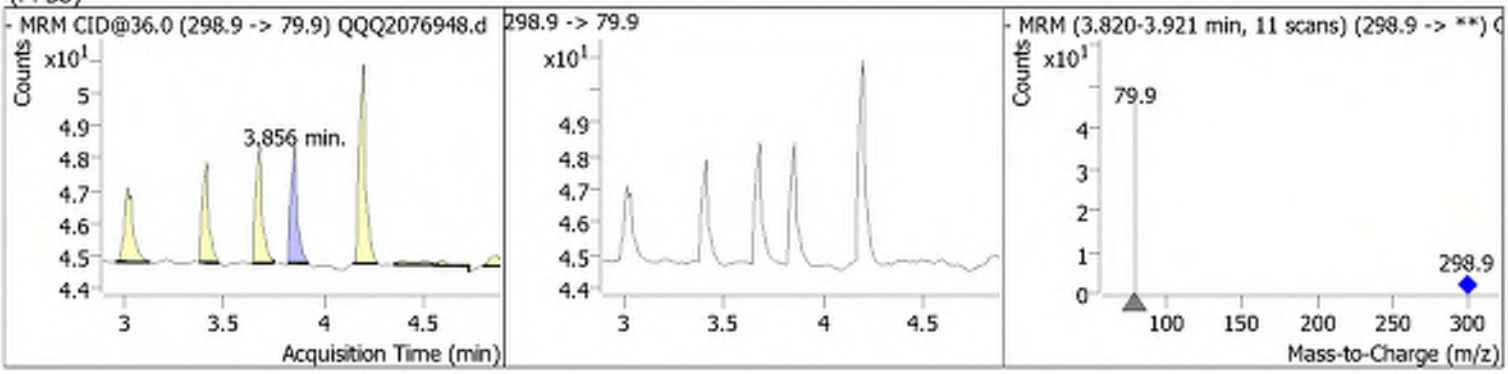
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0169	3.31	-0.08	91				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.0942	3.84	-0.06	9098				

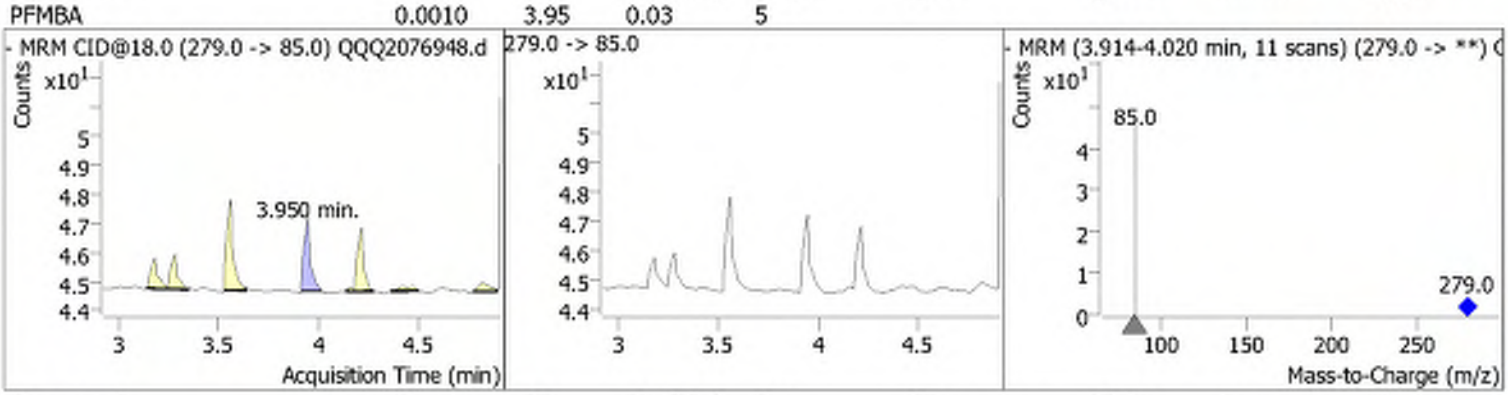


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0016	3.86	-0.04	8				

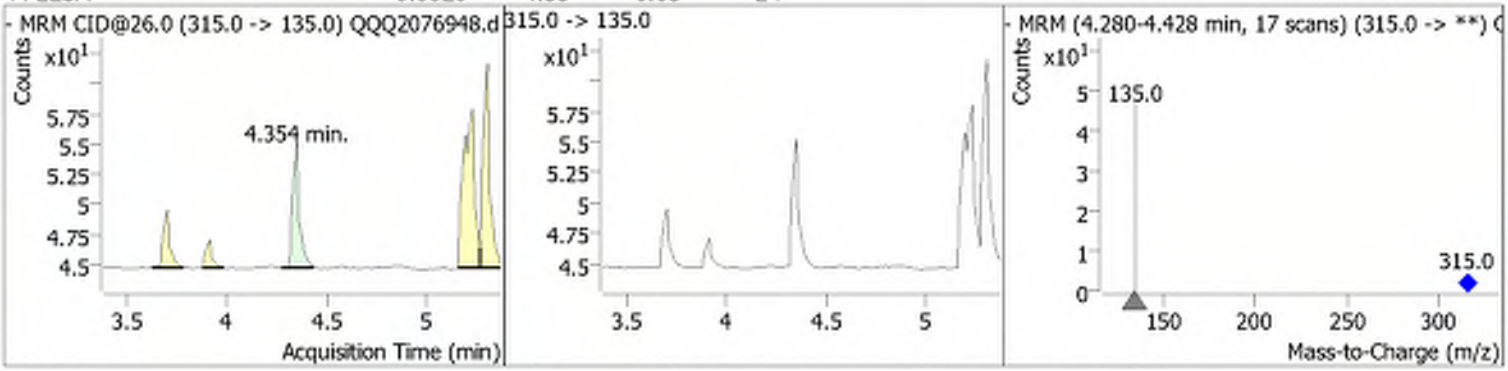


Quantitation Results Report (Not Reviewed)

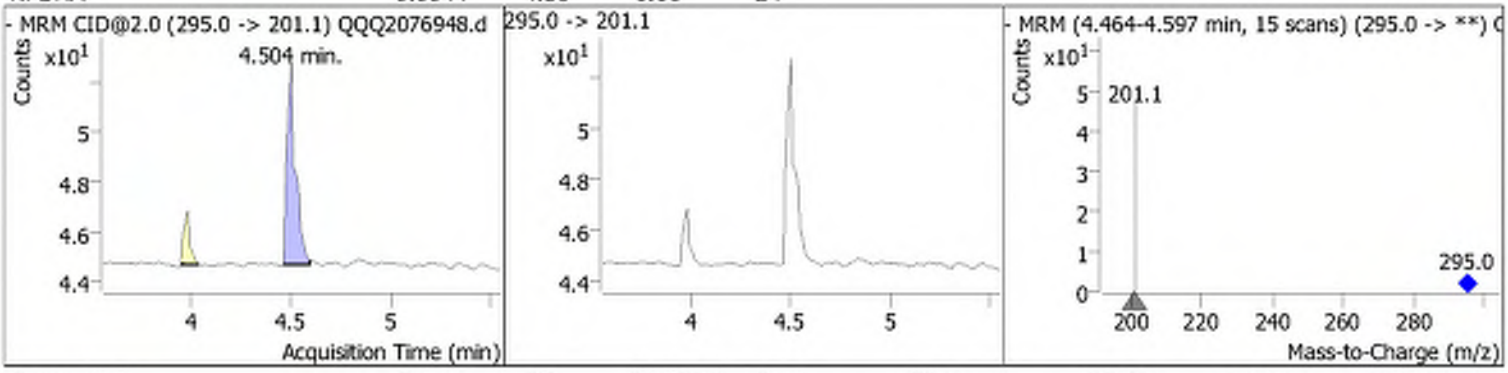
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0010	3.95	0.03	5				



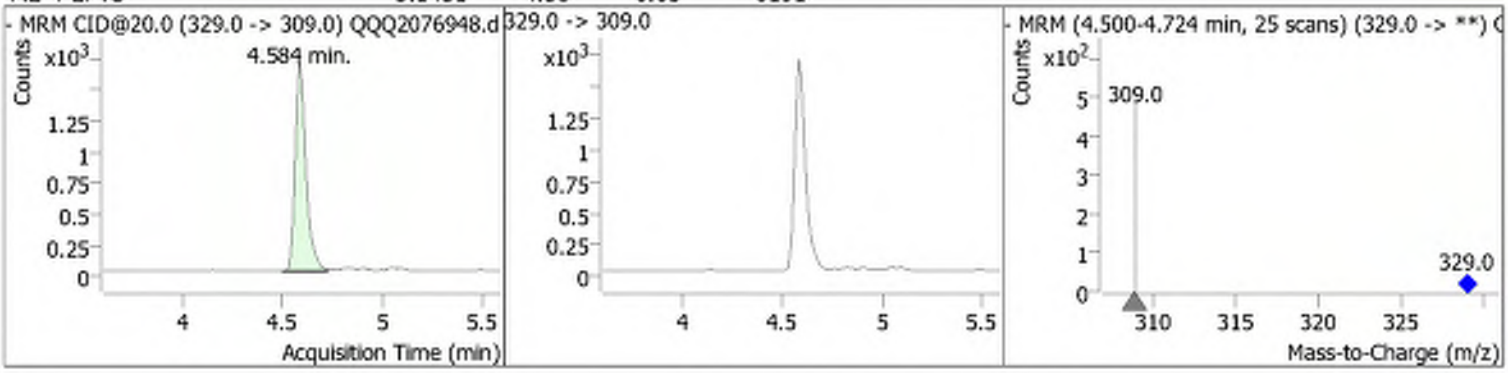
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0020	4.35	-0.03	24				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0044	4.50	-0.06	24				



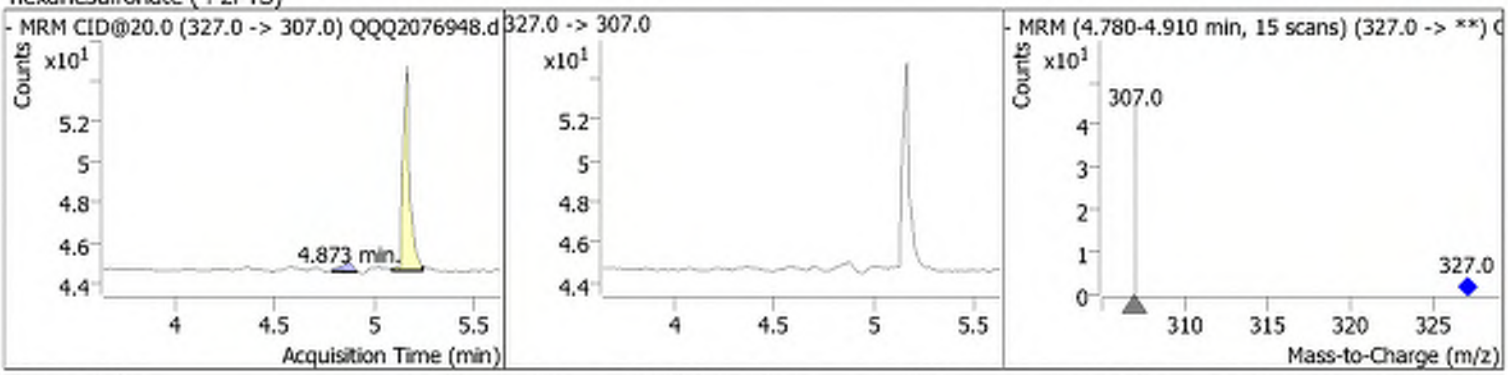
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.1431	4.58	-0.05	6191				



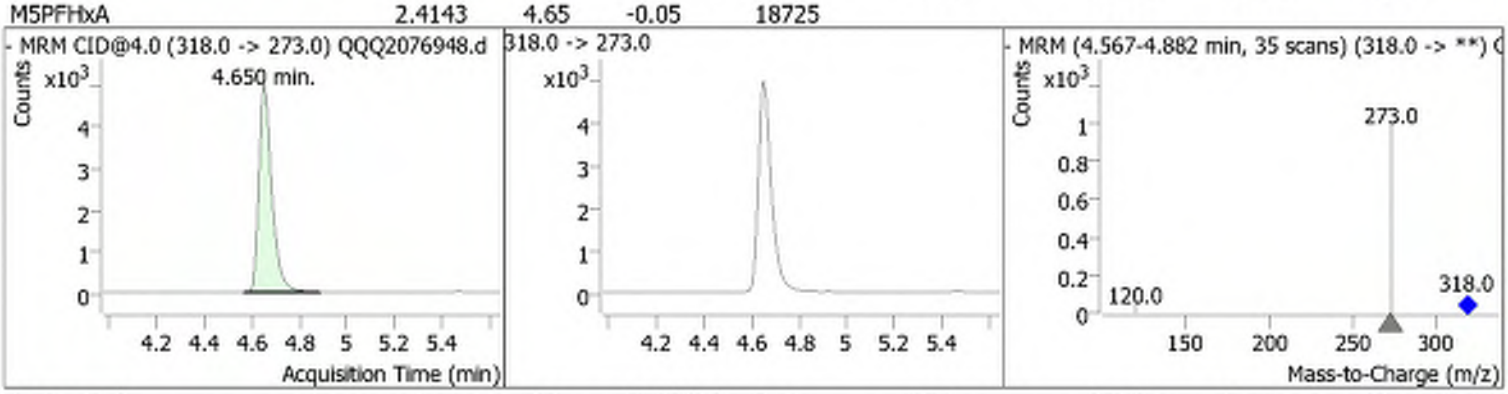
Quantitation Results Report (Not Reviewed)

Agilent

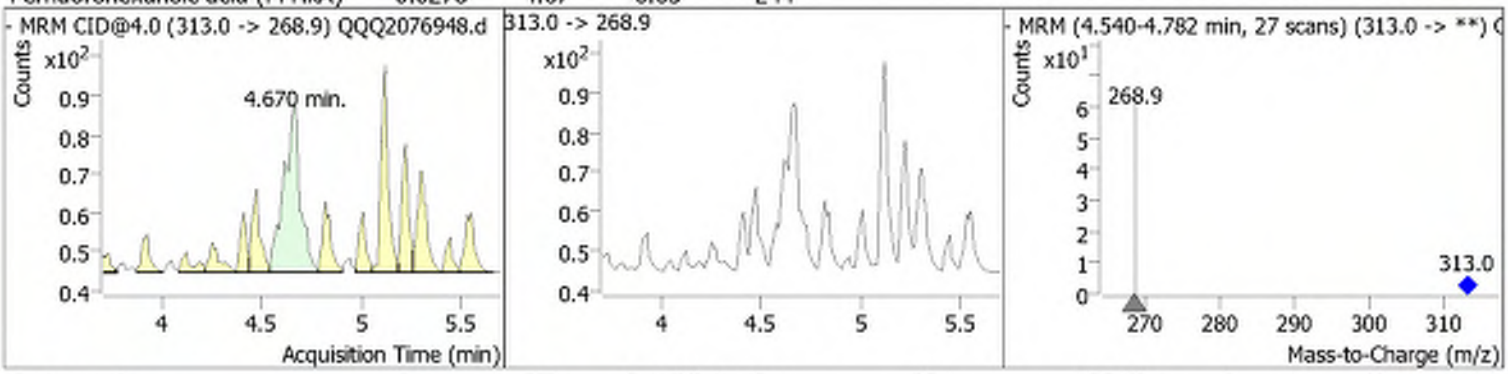
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0015	4.87	0.24	2				



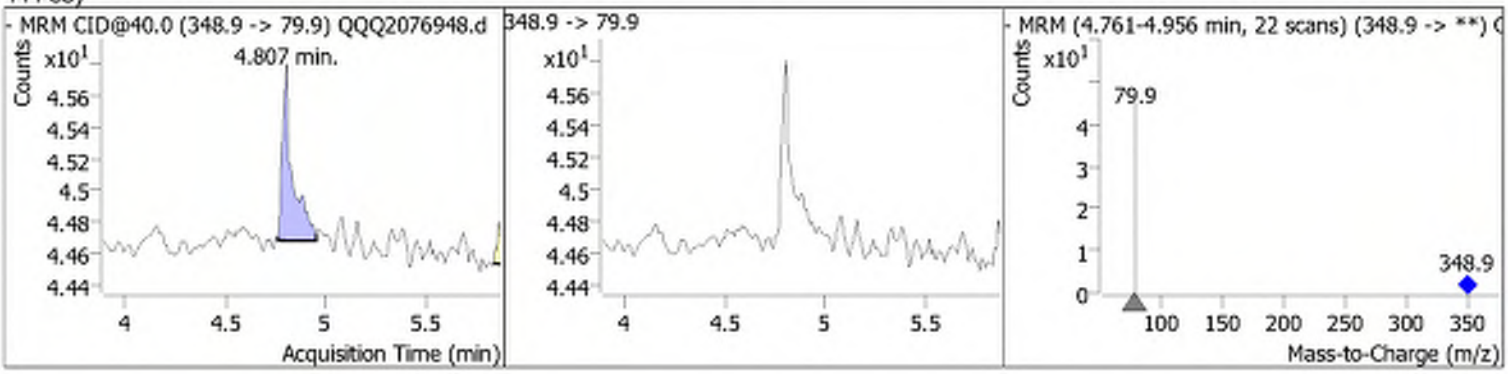
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4143	4.65	-0.05	18725				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0278	4.67	-0.03	244				

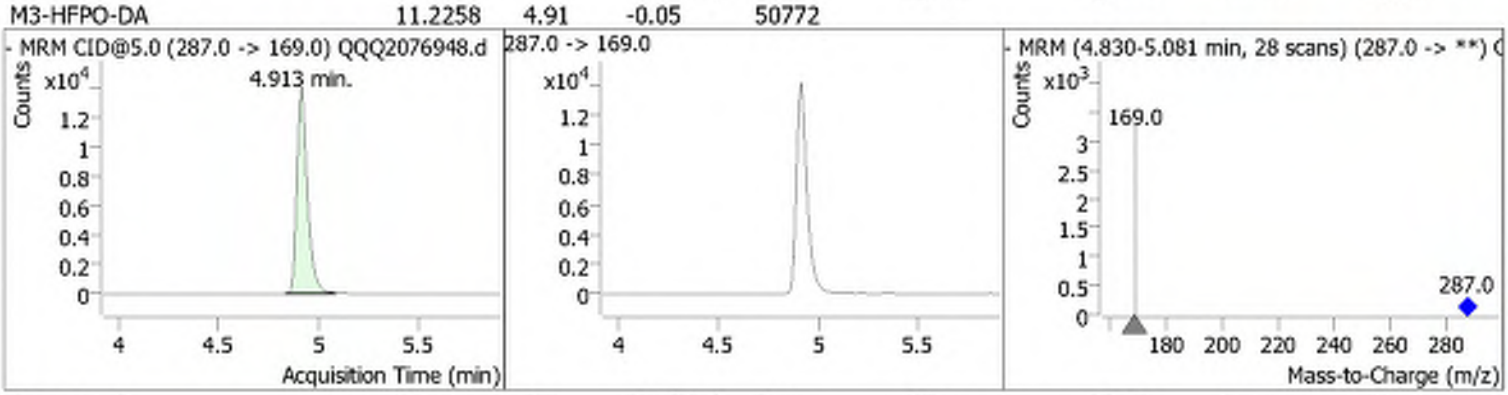


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0010	4.81	-0.07	4				

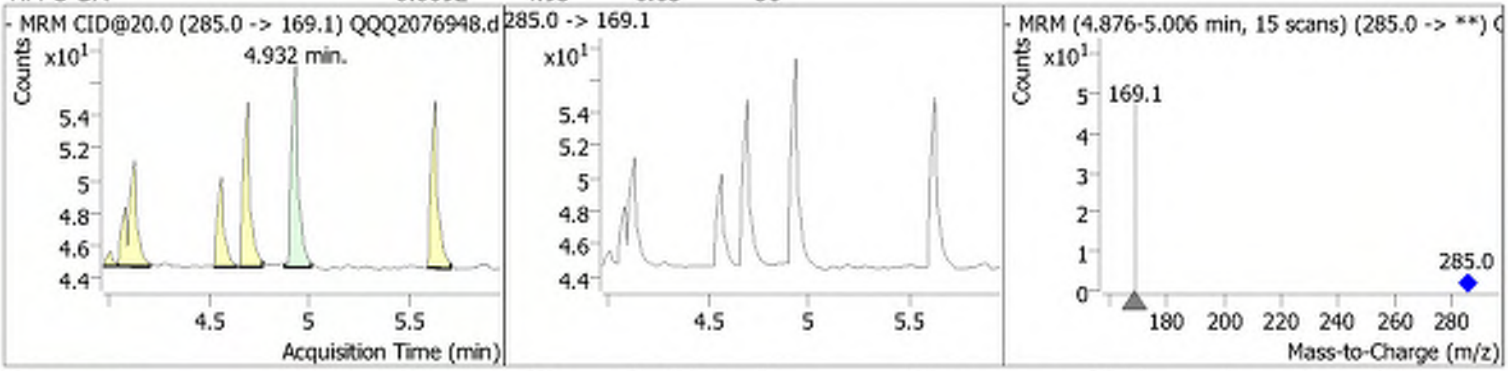


Quantitation Results Report (Not Reviewed)

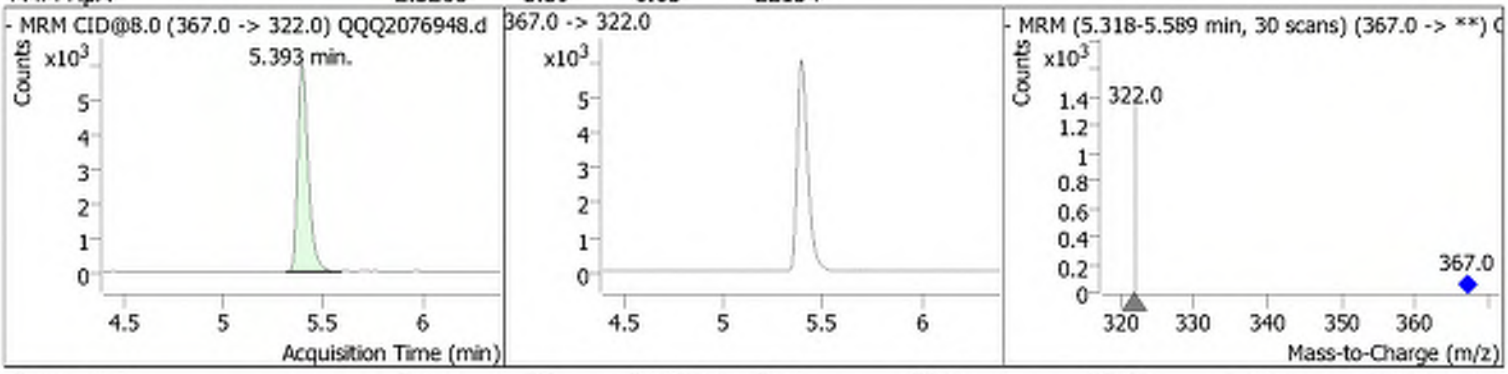
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.2258	4.91	-0.05	50772				



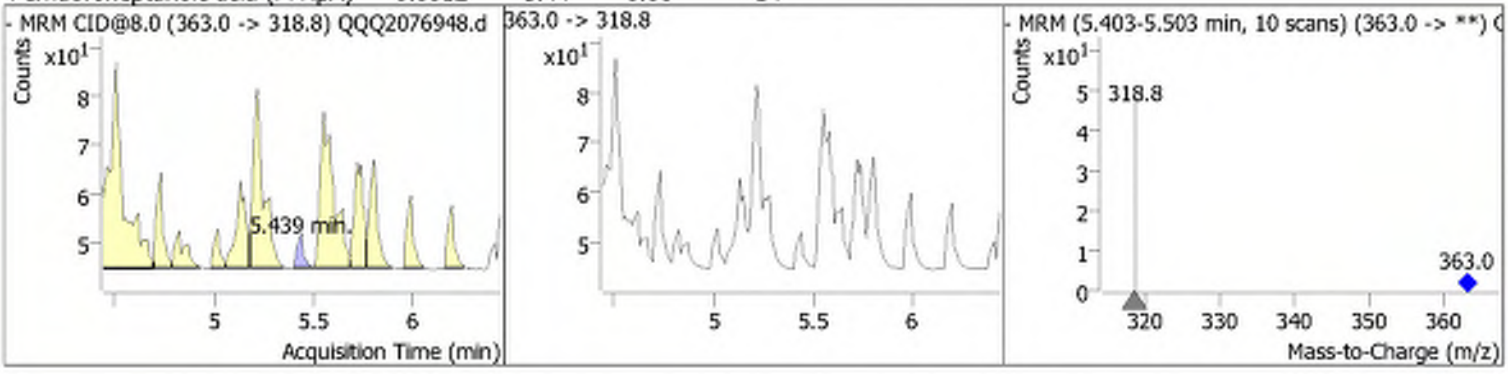
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0692	4.93	-0.03	30				



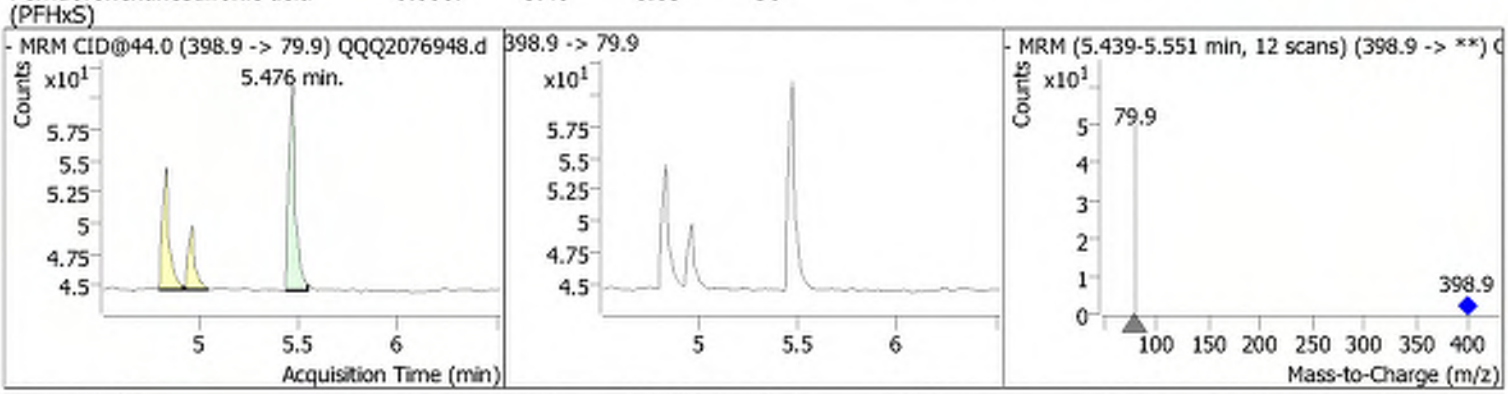
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5268	5.39	-0.05	22134				



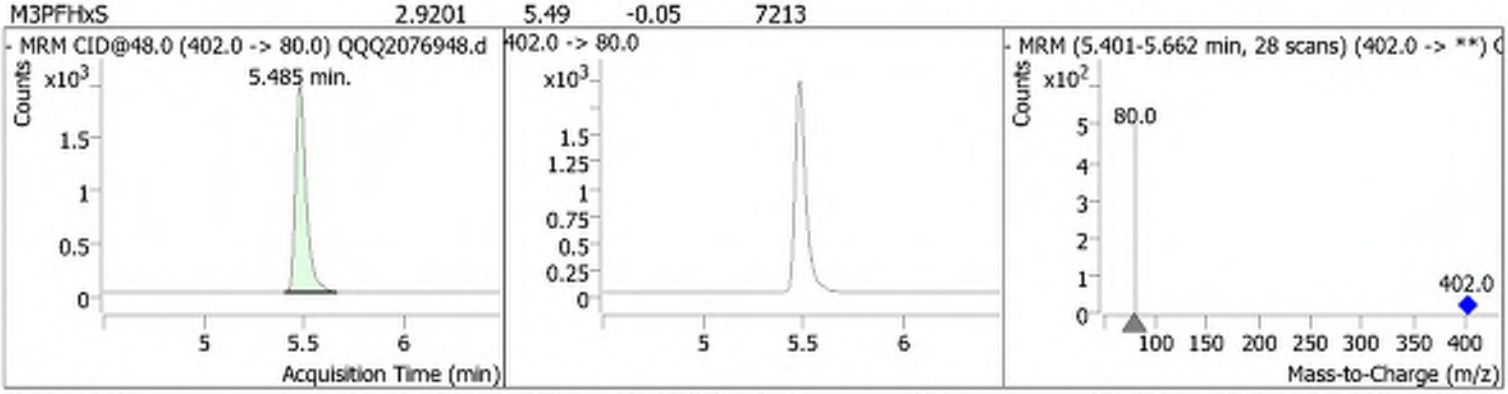
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0012	5.44	0.00	14				



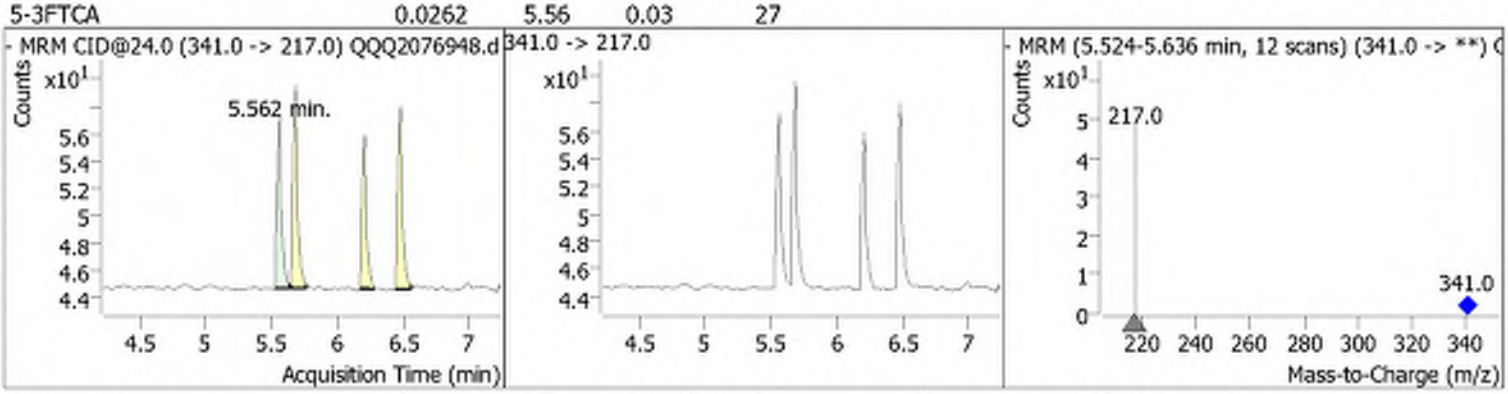
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0087	5.48	-0.05	36				



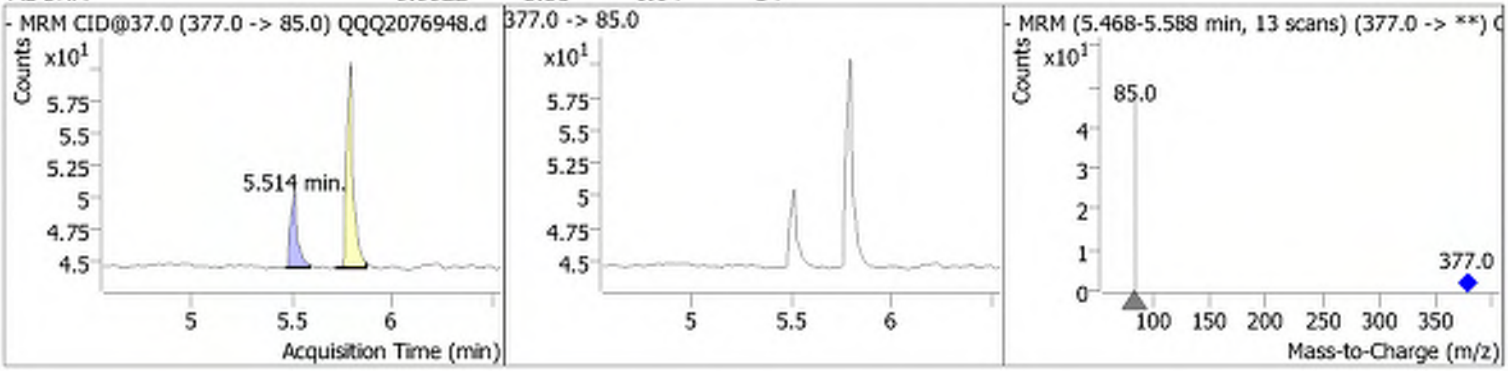
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.9201	5.49	-0.05	7213				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	0.0262	5.56	0.03	27				

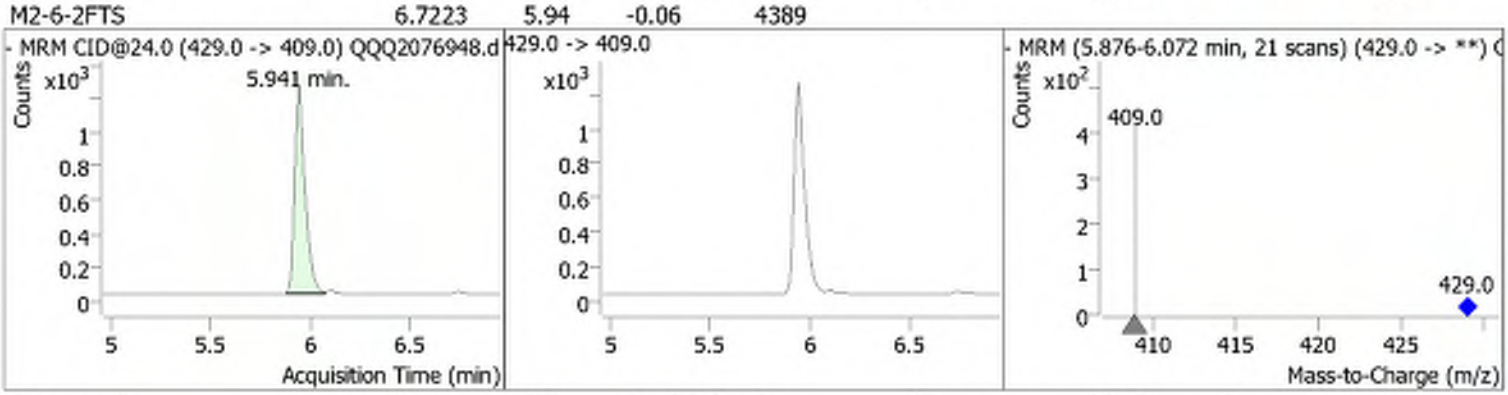


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0022	5.51	-0.04	14				

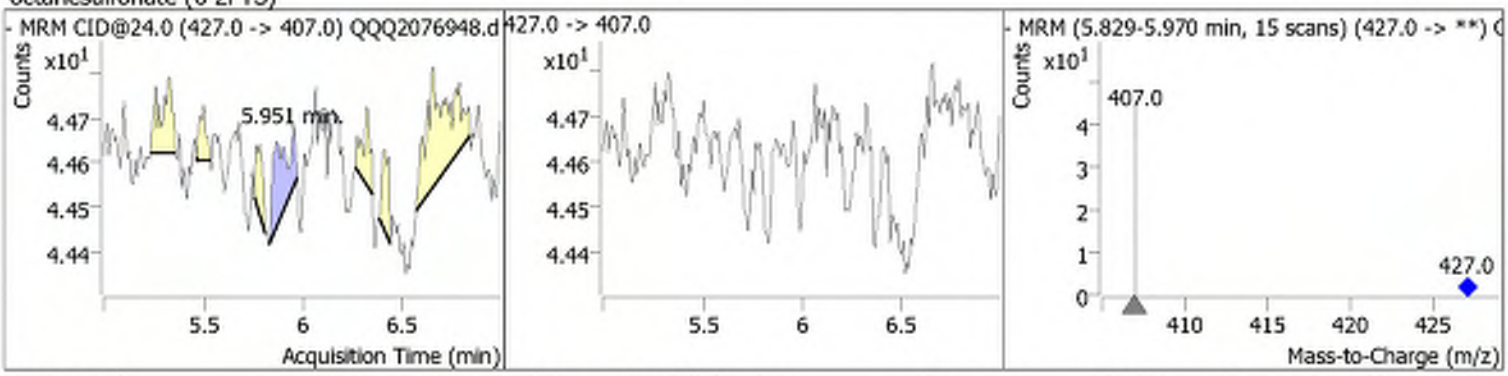


Quantitation Results Report (Not Reviewed)

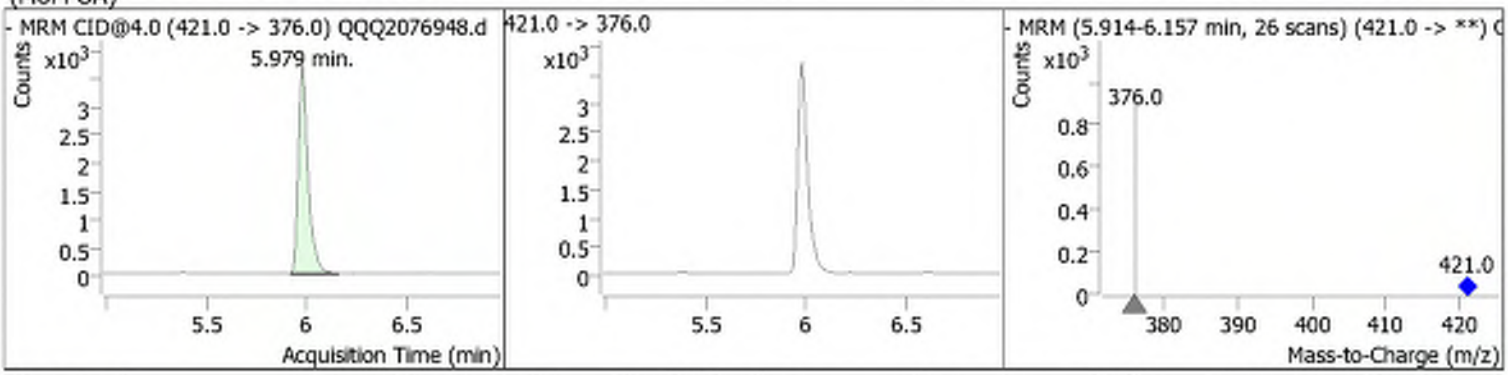
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	6.7223	5.94	-0.06	4389				



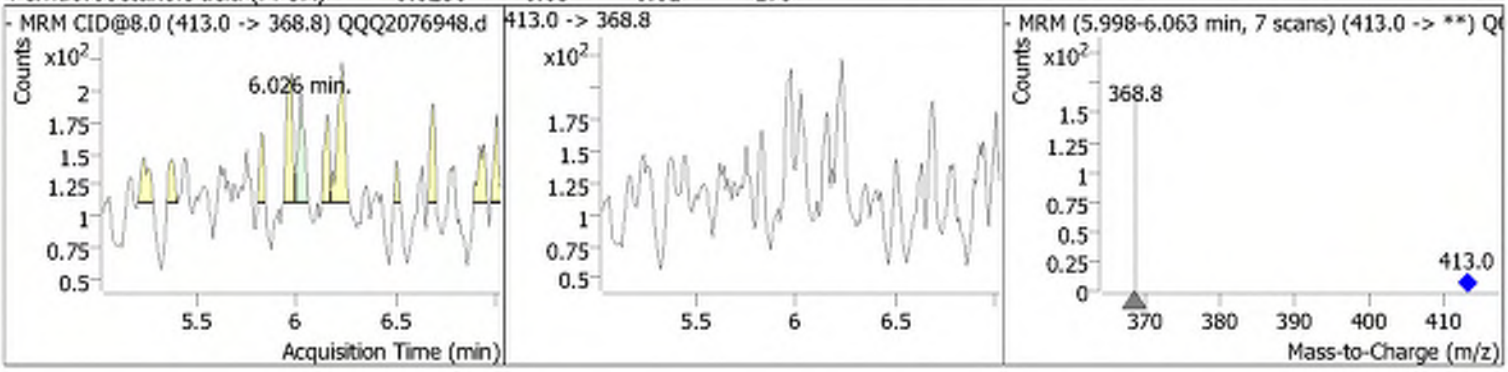
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0010	5.95	-0.05	1				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.0821	5.98	-0.06	12433				



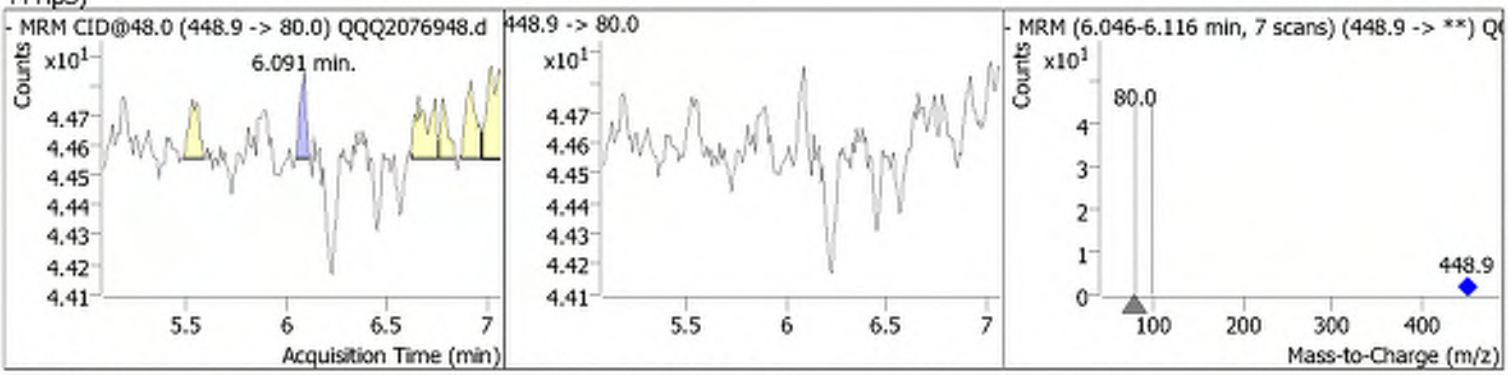
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0250	6.03	-0.01	179				



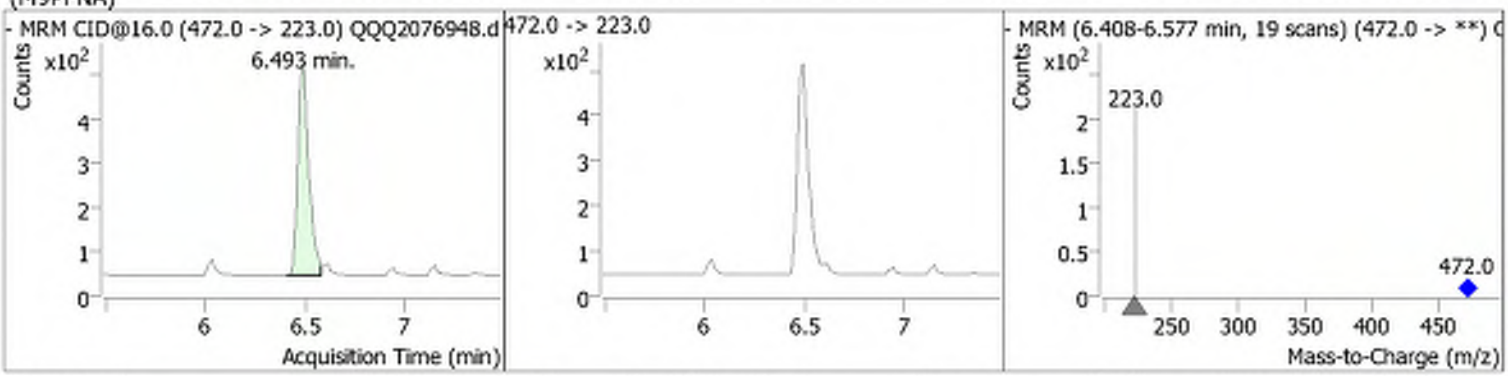
Quantitation Results Report (Not Reviewed)

Agilent

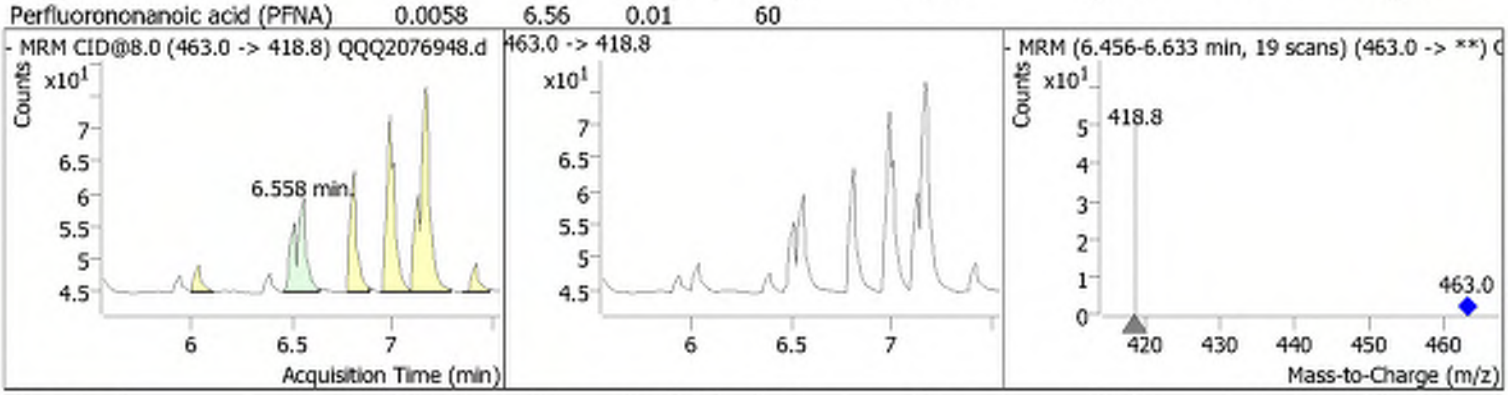
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0004	6.09	0.01	1				



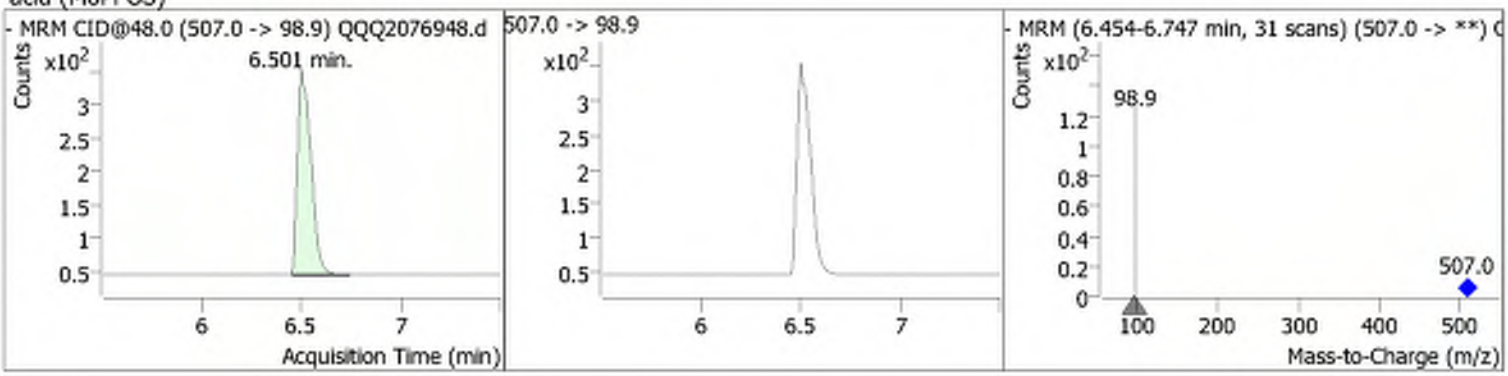
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	2.0098	6.49	-0.05	1807				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0058	6.56	0.01	60				



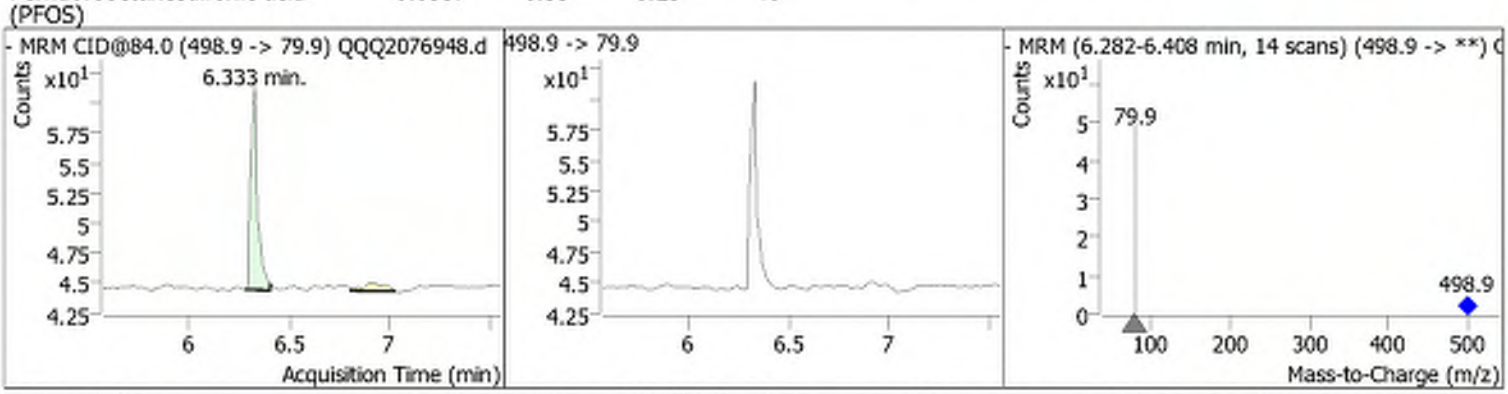
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	1.5791	6.50	-0.07	1426				



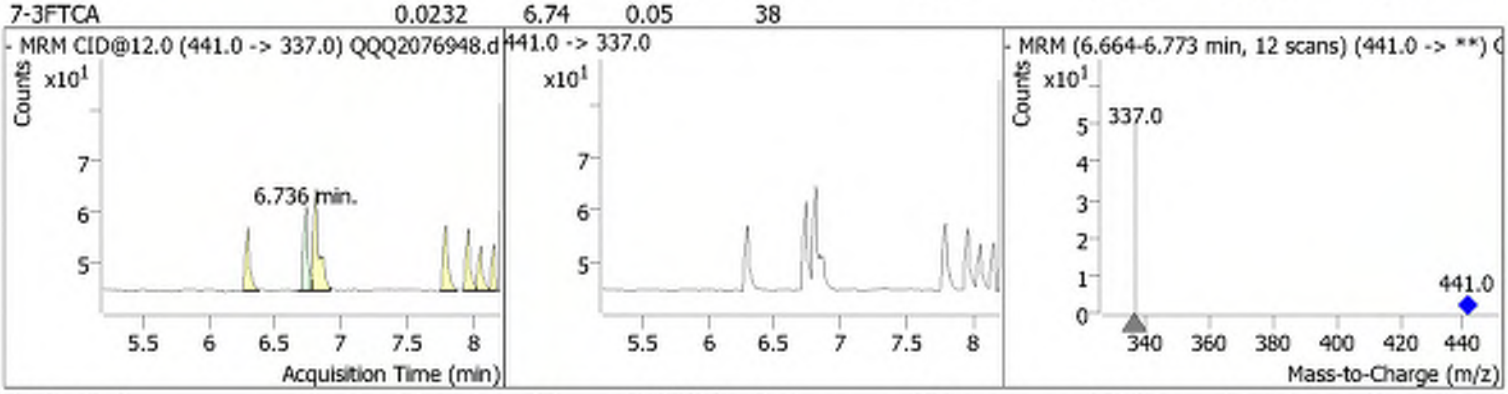
Quantitation Results Report (Not Reviewed)

Agilent

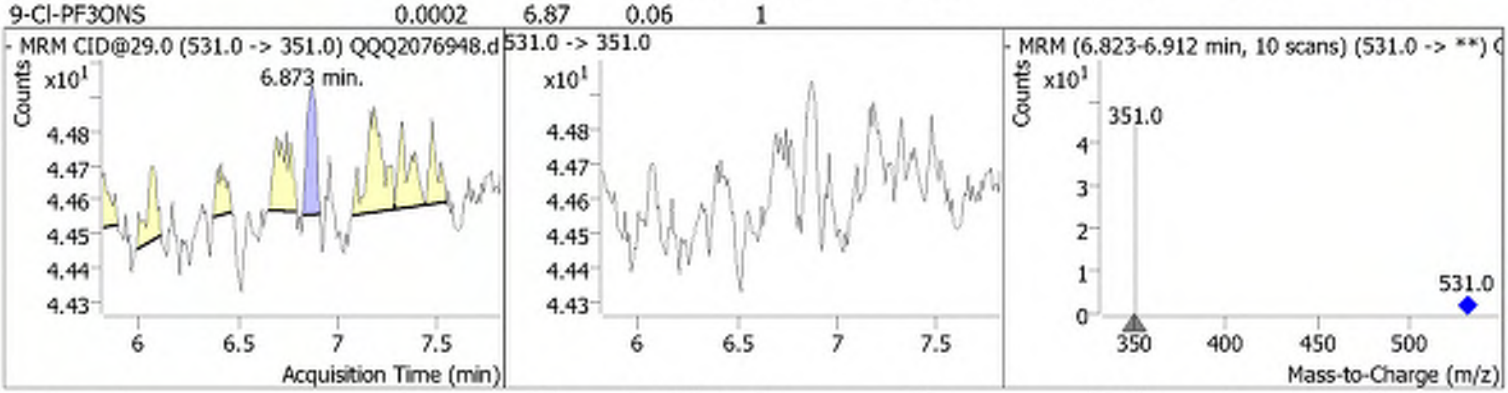
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0557	6.33	-0.23	40				



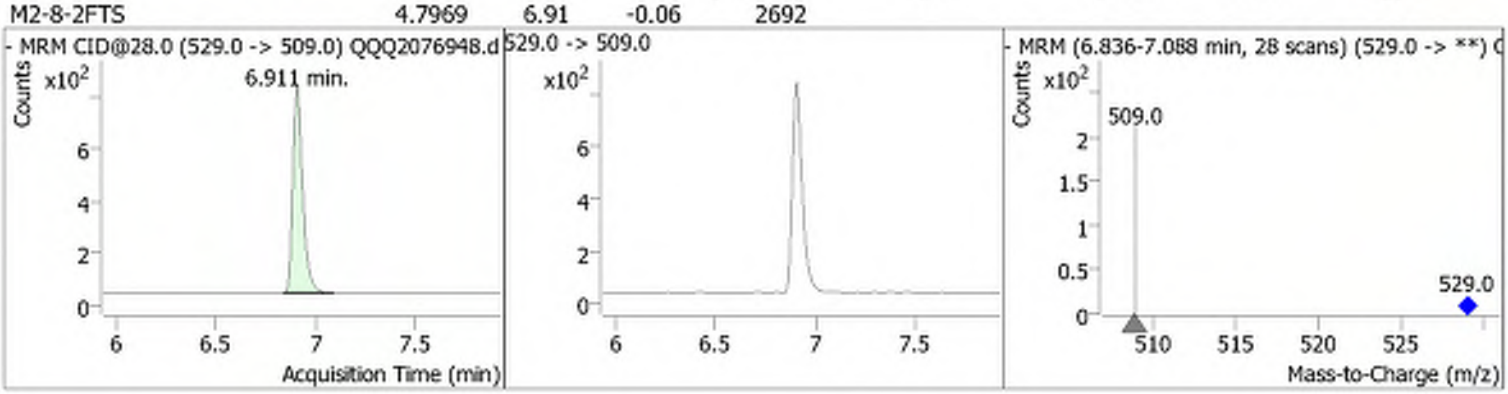
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.0232	6.74	0.05	38				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0002	6.87	0.06	1				



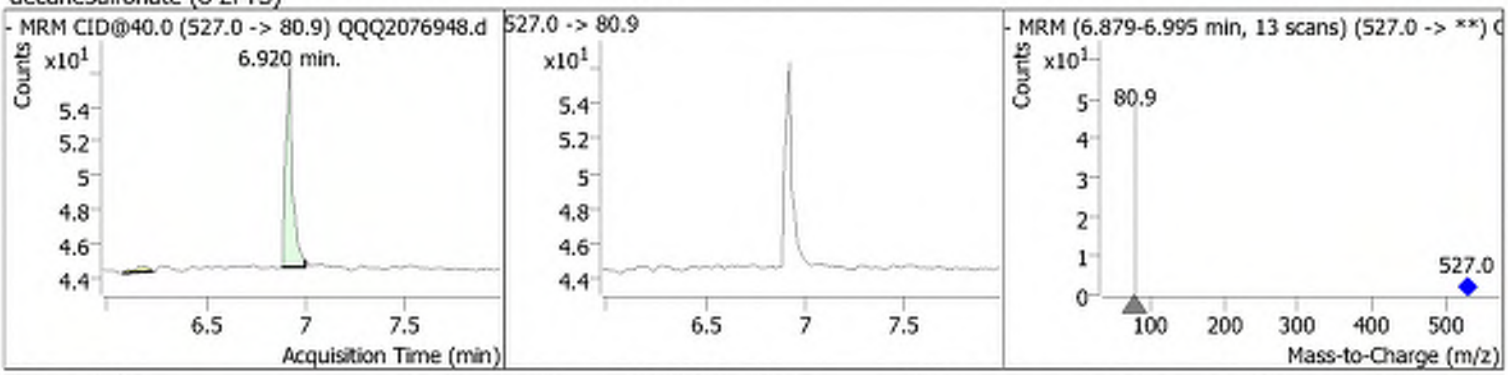
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.7969	6.91	-0.06	2692				



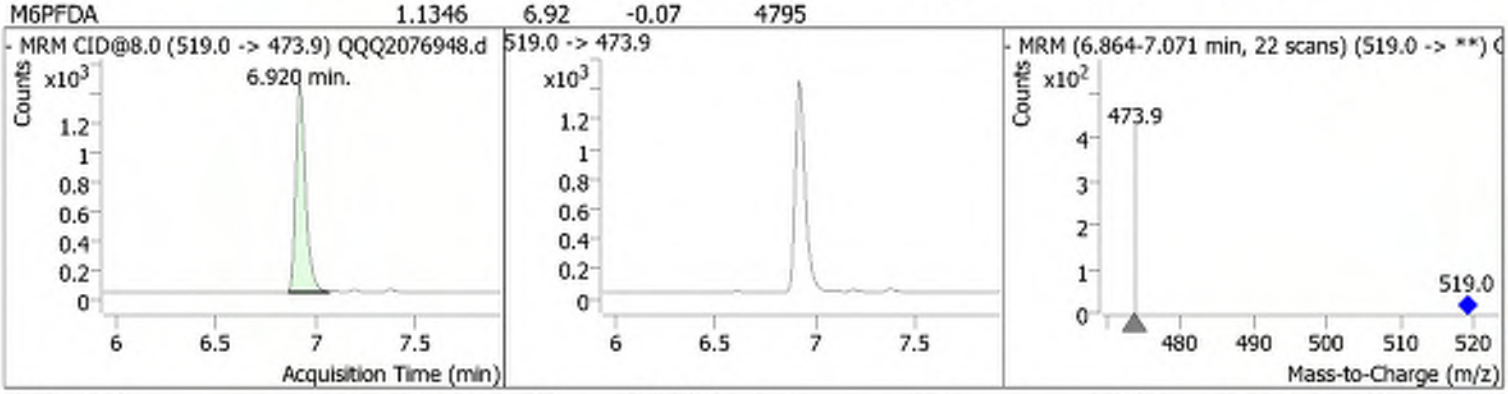
Quantitation Results Report (Not Reviewed)

Agilent

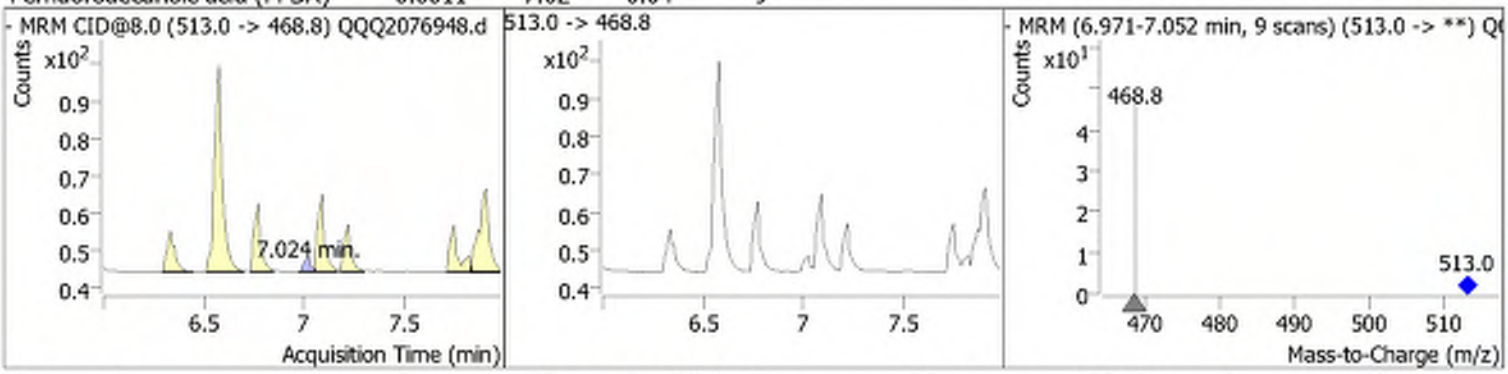
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0399	6.92	-0.06	28				



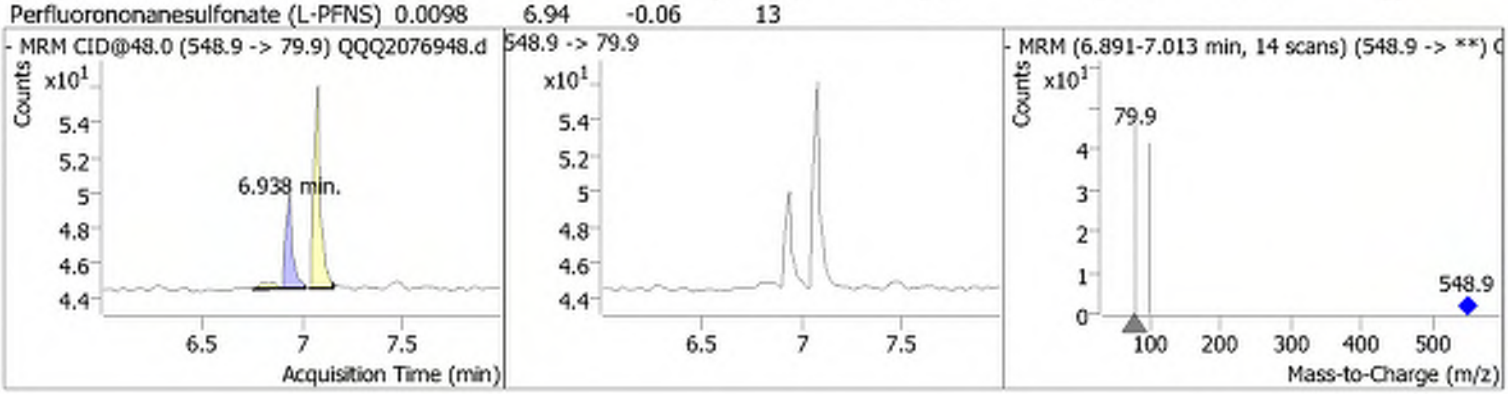
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.1346	6.92	-0.07	4795				



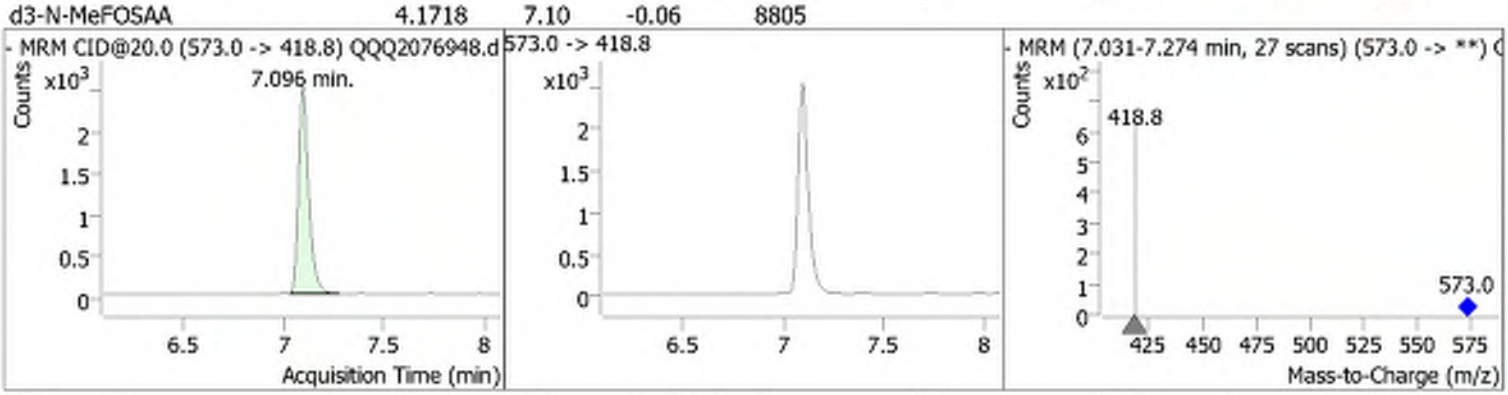
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0011	7.02	0.04	9				



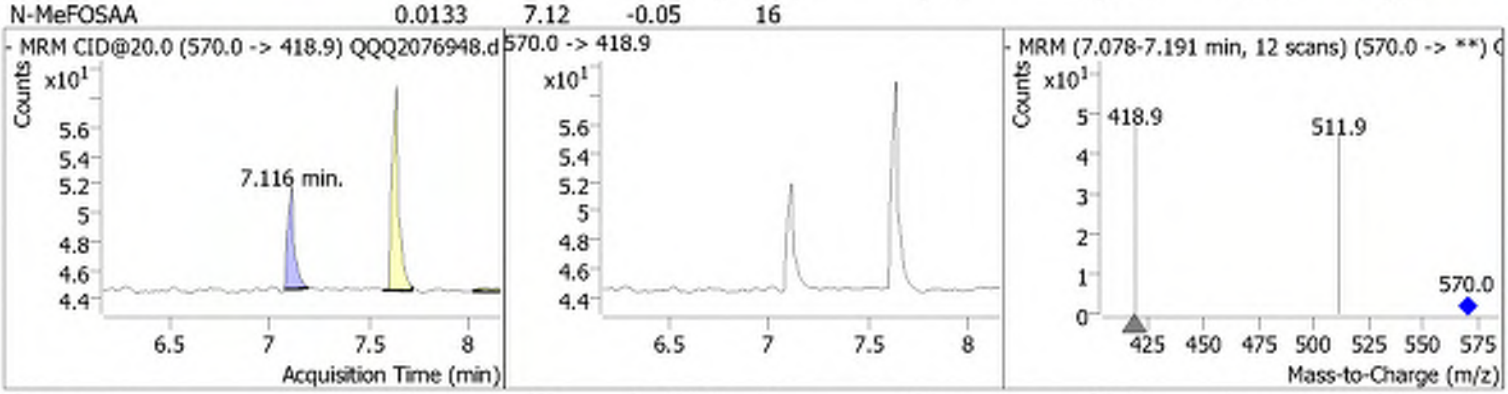
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0098	6.94	-0.06	13				



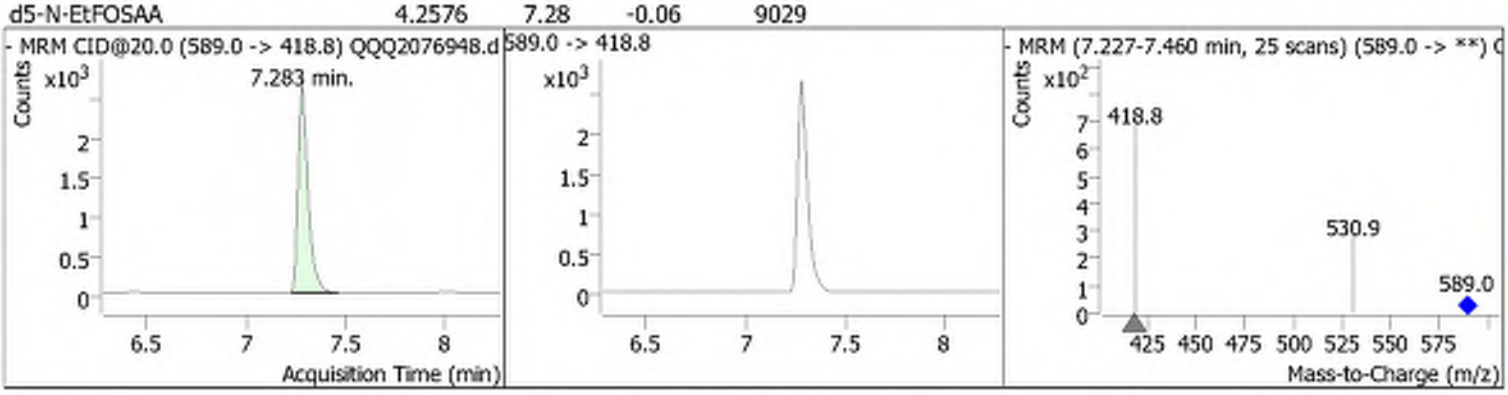
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.1718	7.10	-0.06	8805				



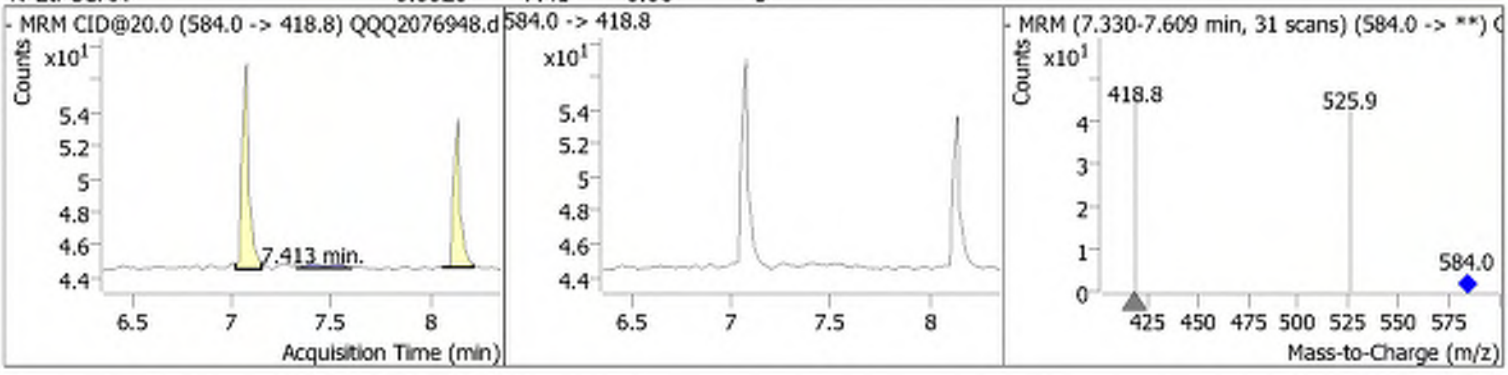
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0133	7.12	-0.05	16				



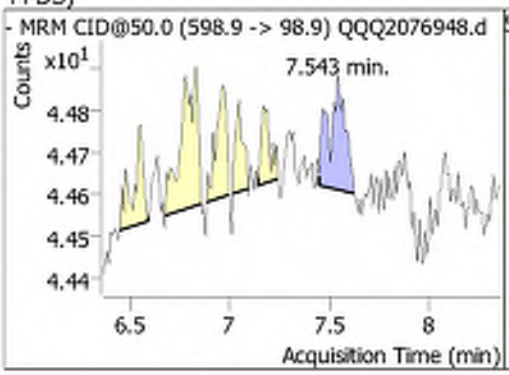
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.2576	7.28	-0.06	9029				

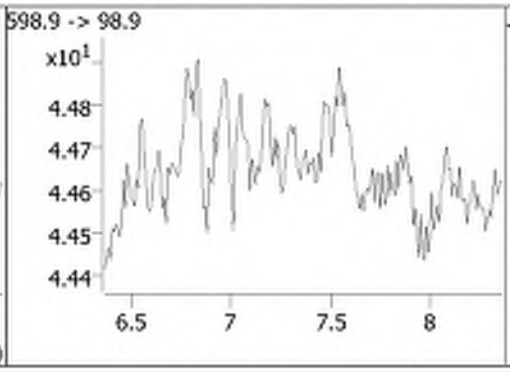


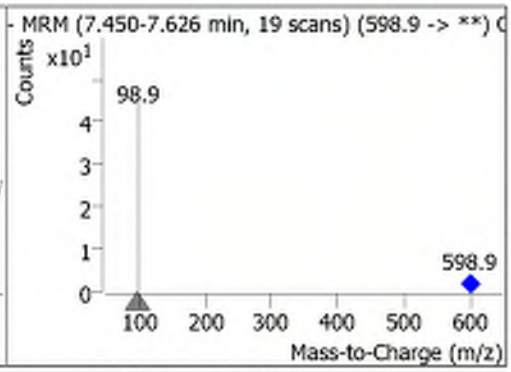
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0020	7.41	0.06	3				



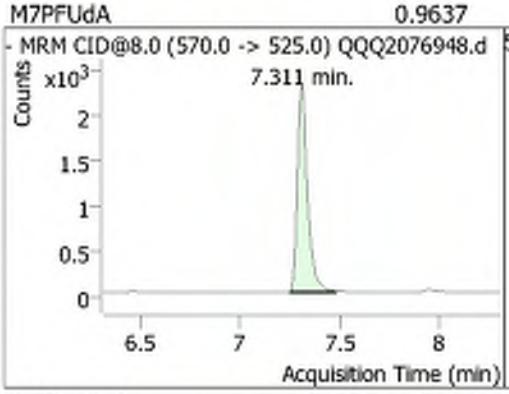
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0028	7.54	0.18	2				

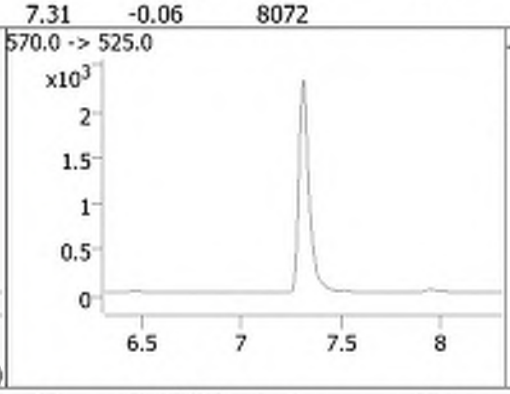


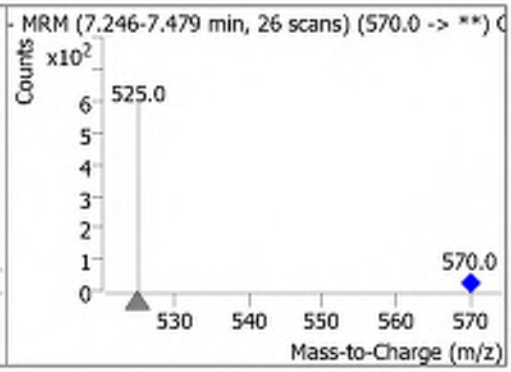




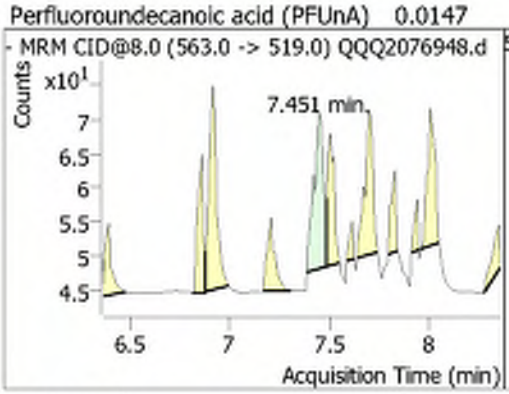
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.9637	7.31	-0.06	8072				

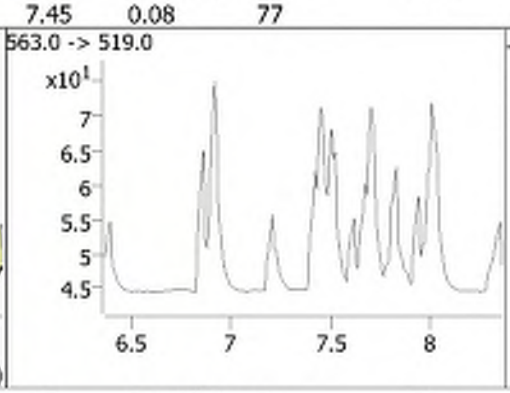


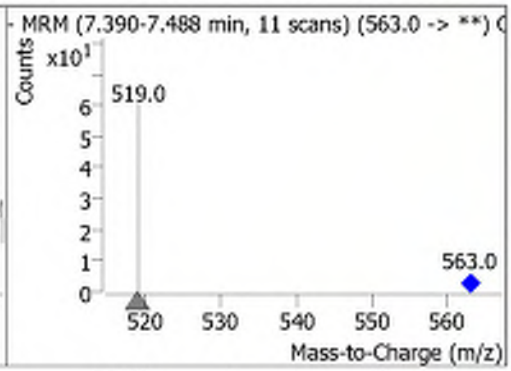




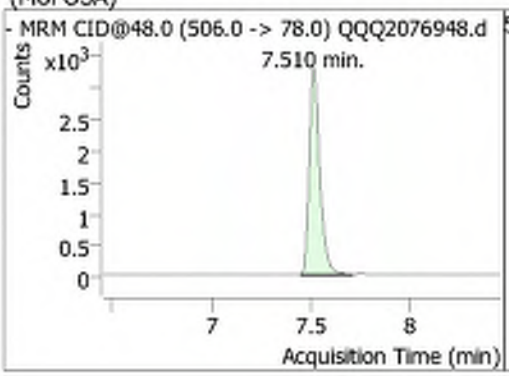
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0147	7.45	0.08	77				

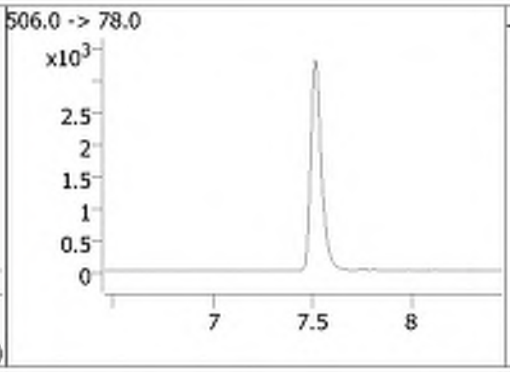


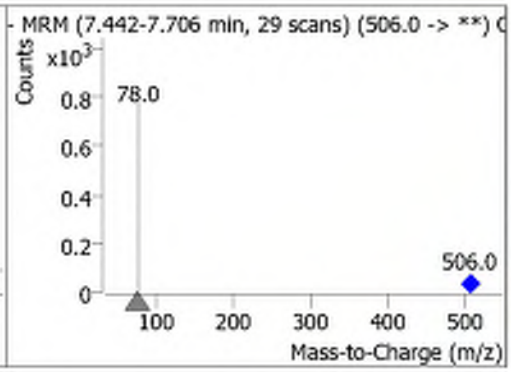




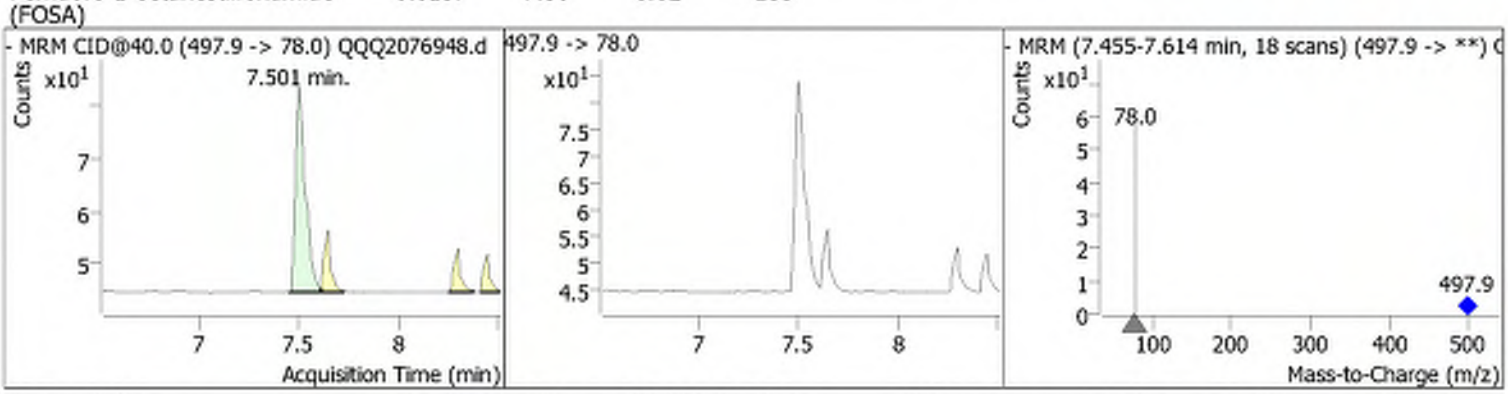
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.3426	7.51	-0.01	11998				



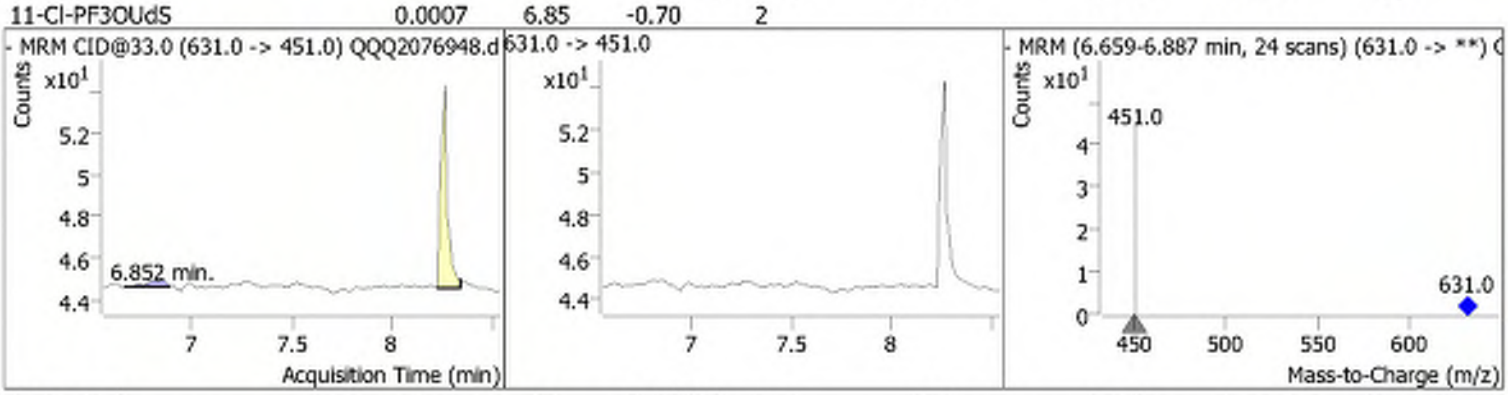




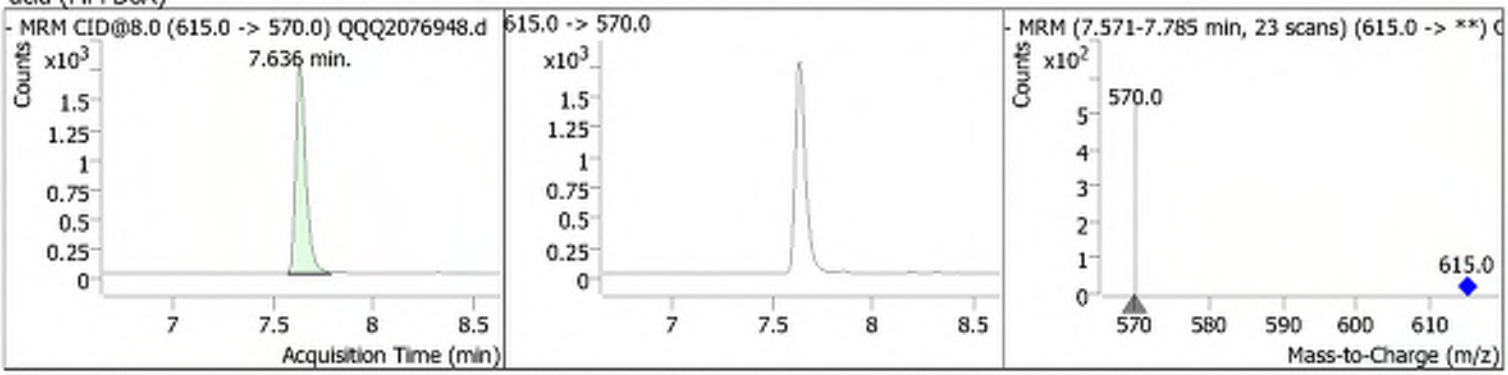
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0157	7.50	-0.02	133				



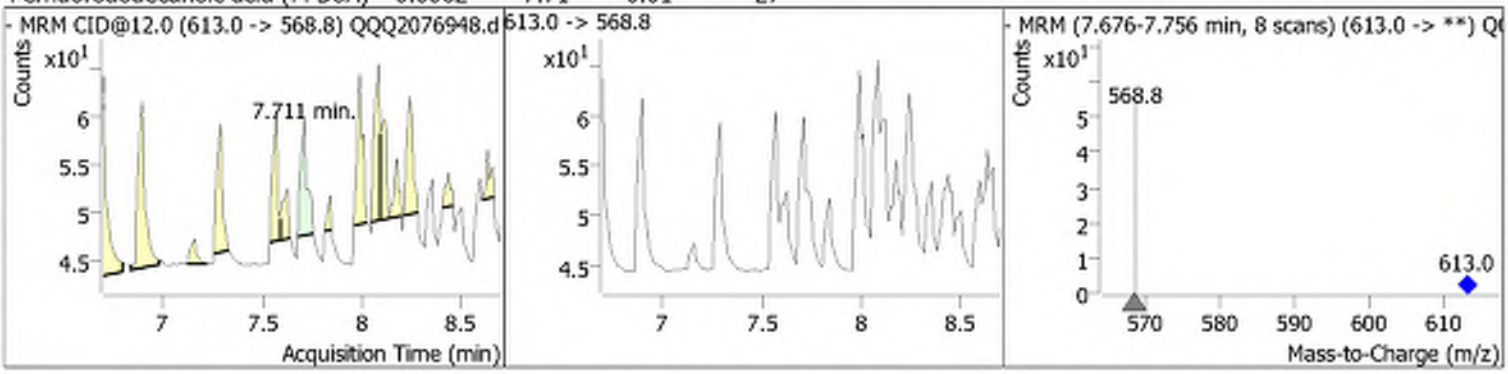
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.0007	6.85	-0.70	2				



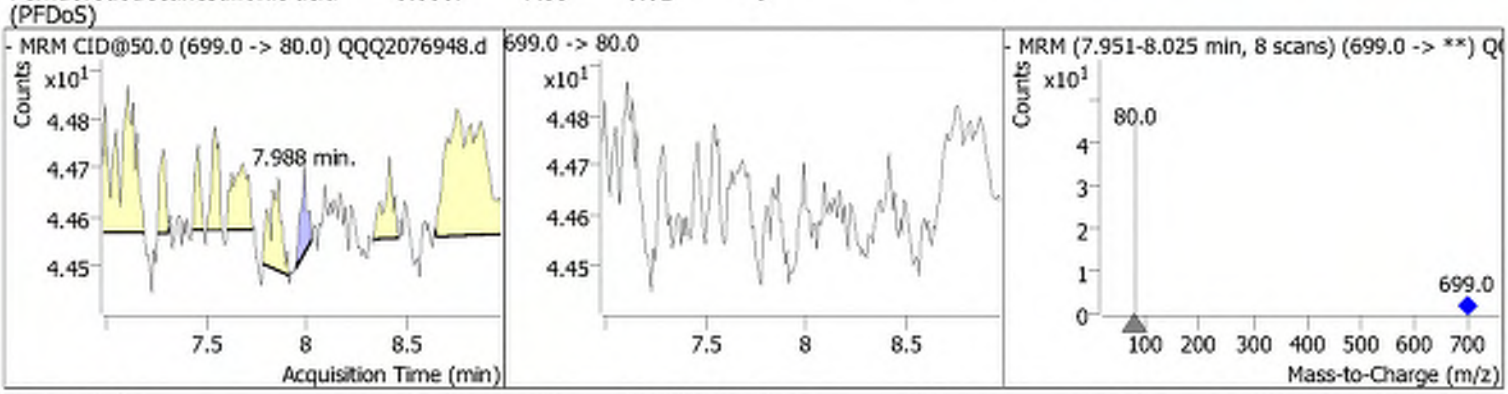
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.8864	7.64	-0.07	6181				



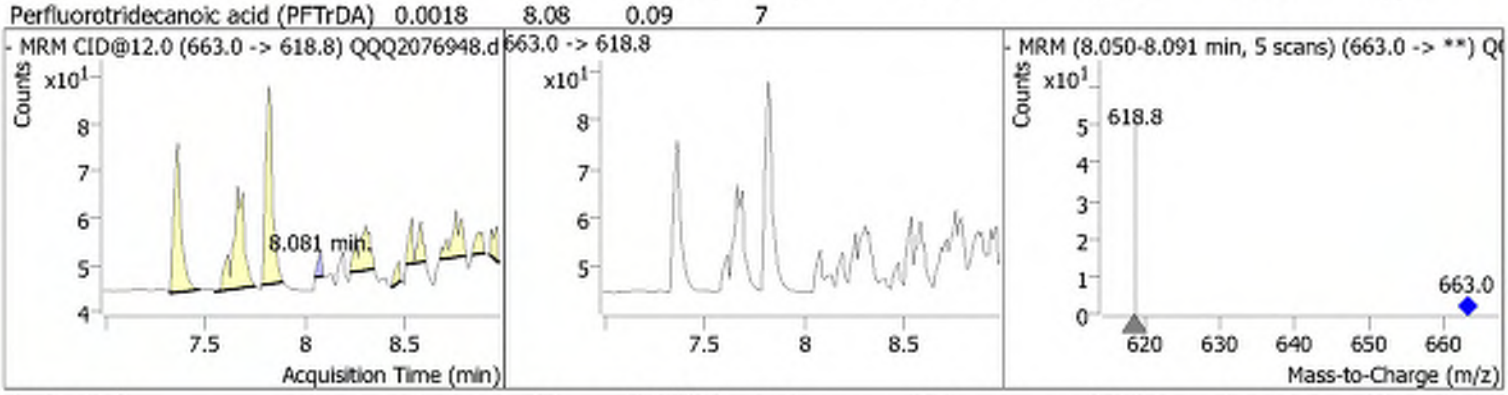
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0062	7.71	0.01	27				



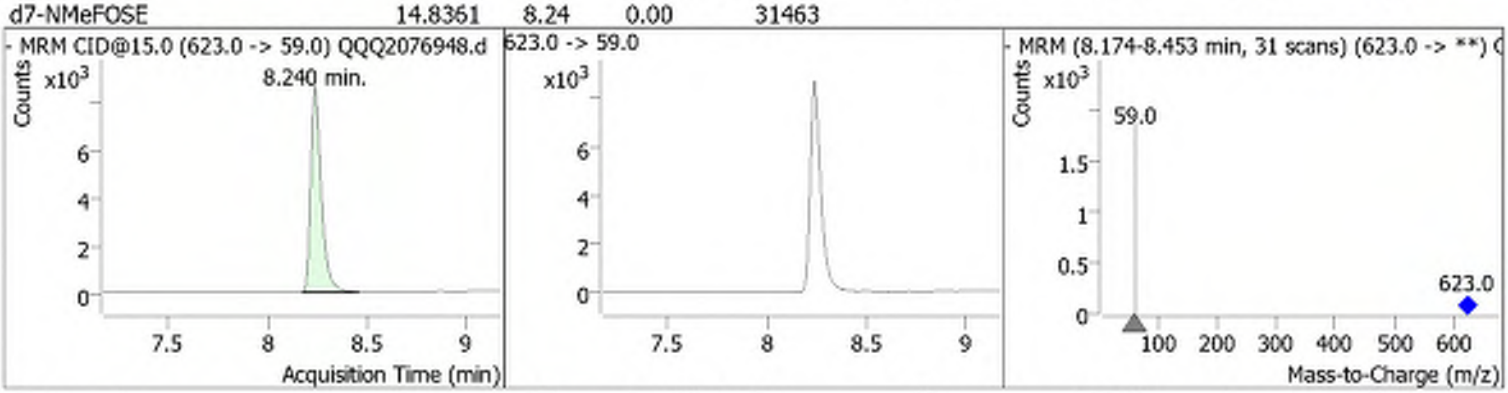
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0007	7.99	0.01	0				



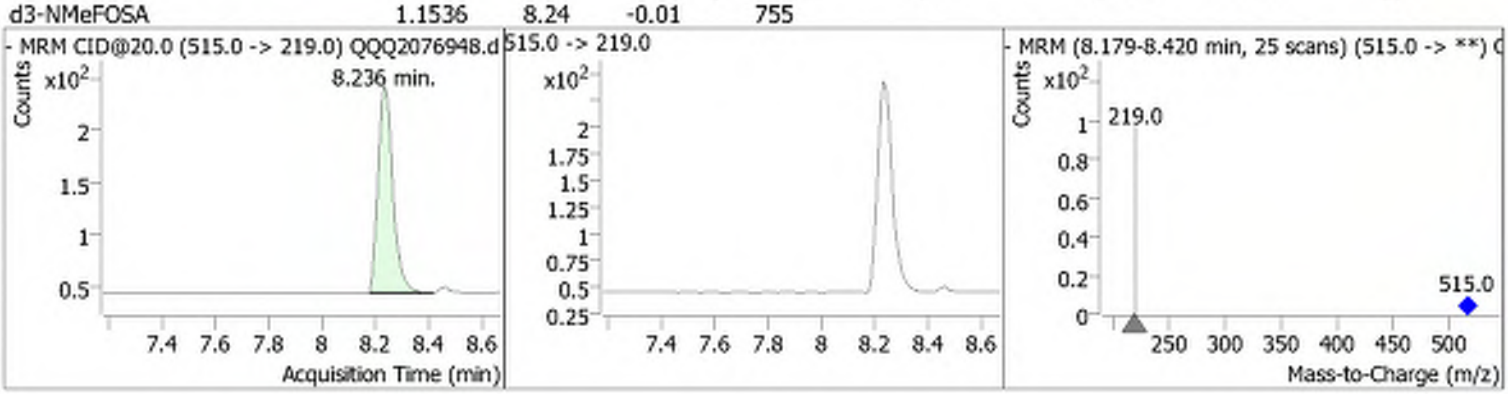
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0018	8.08	0.09	7				



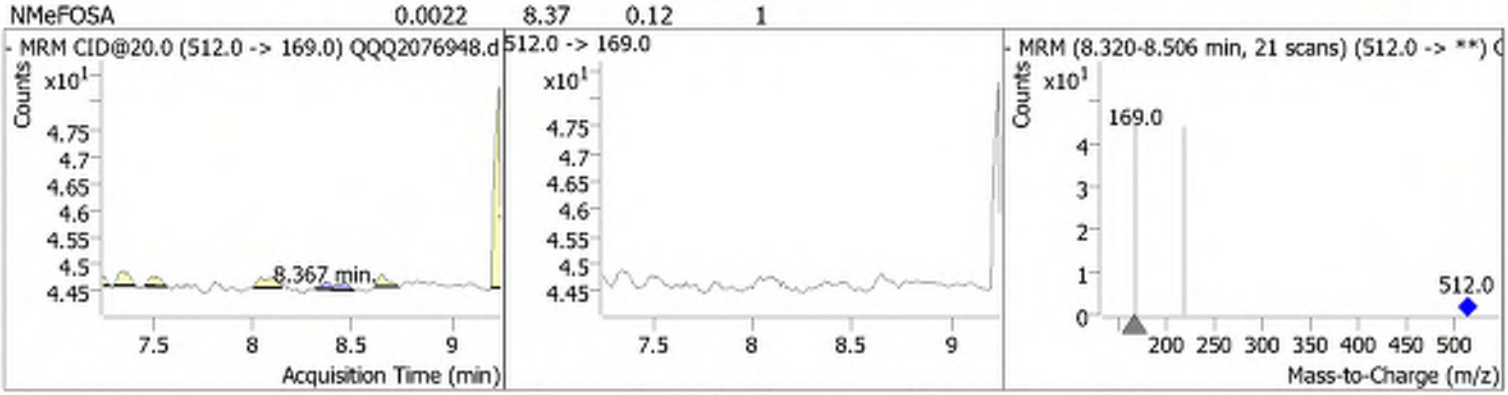
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	14.8361	8.24	0.00	31463				



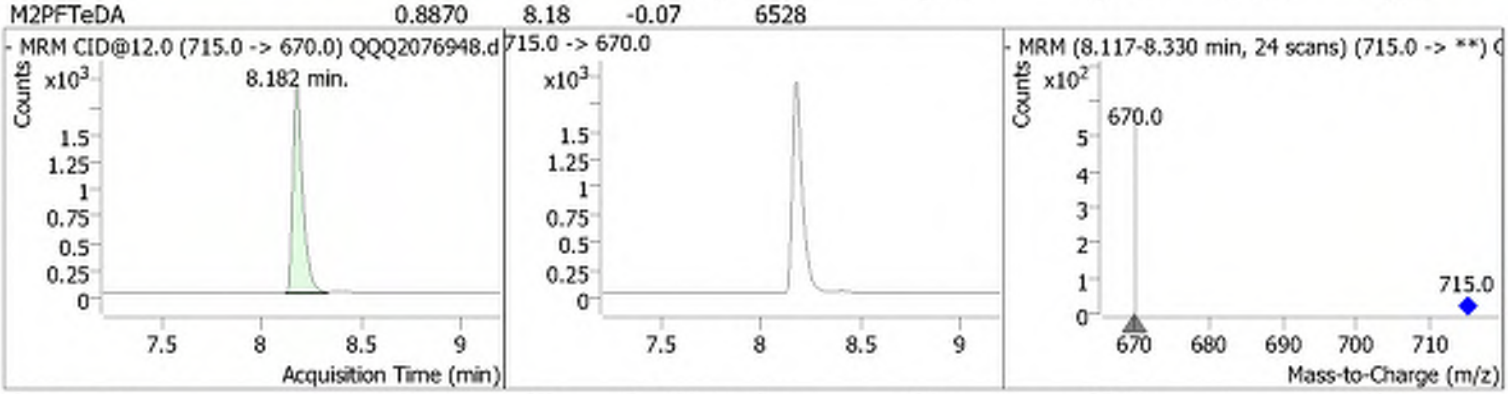
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.1536	8.24	-0.01	755				



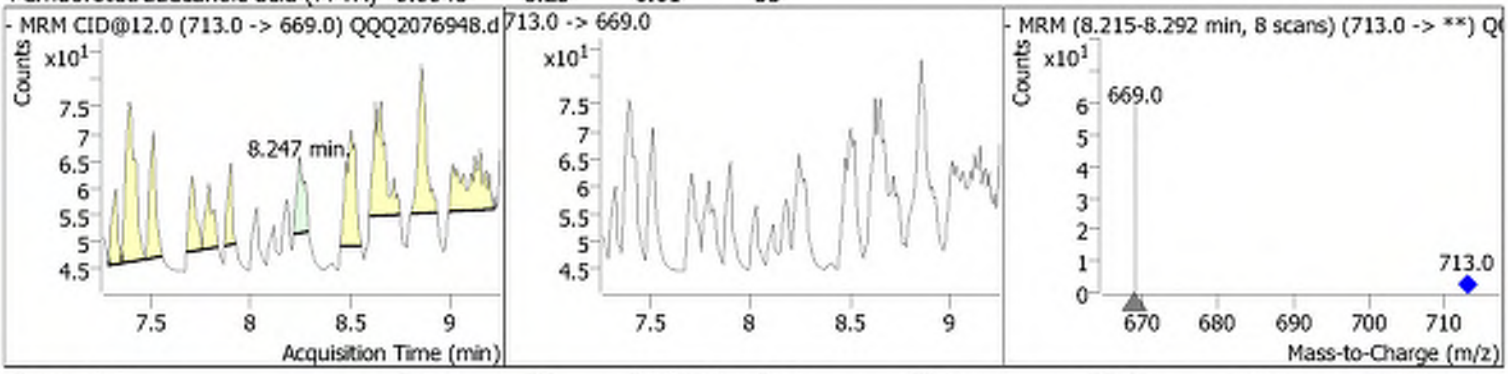
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.0022	8.37	0.12	1				



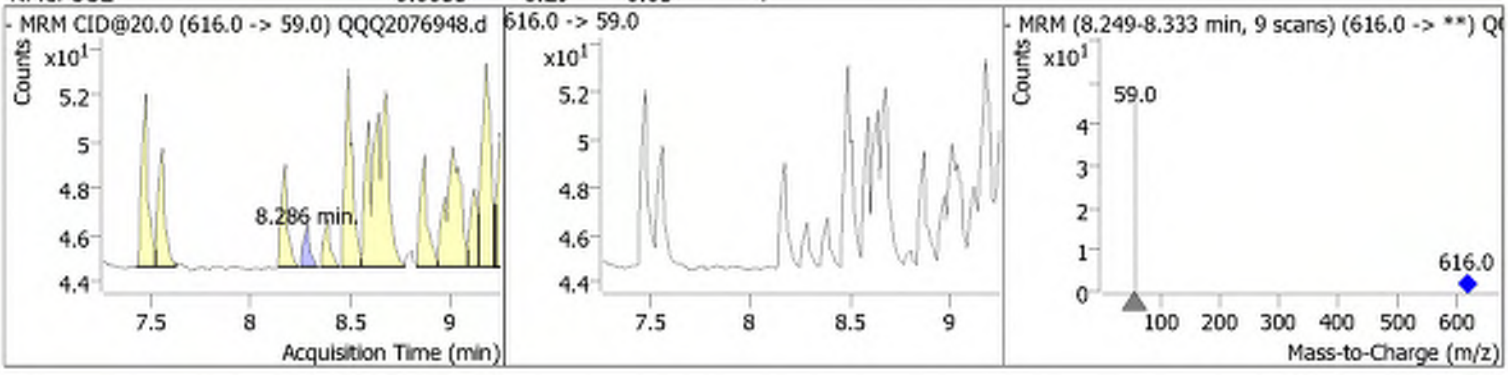
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.8870	8.18	-0.07	6528				



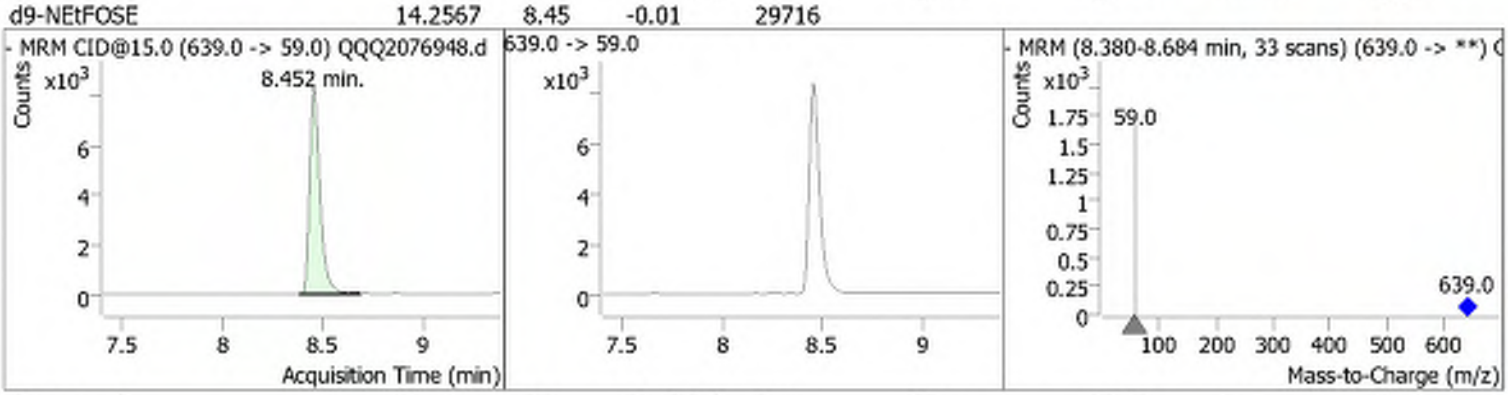
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0048	8.25	-0.01	35				



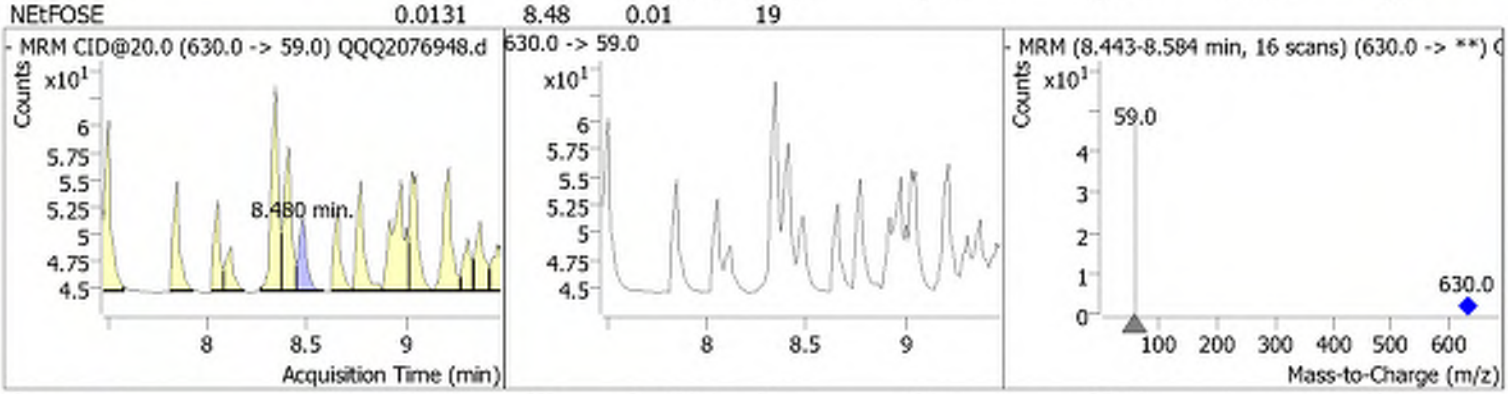
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	0.0033	8.29	0.03	4				



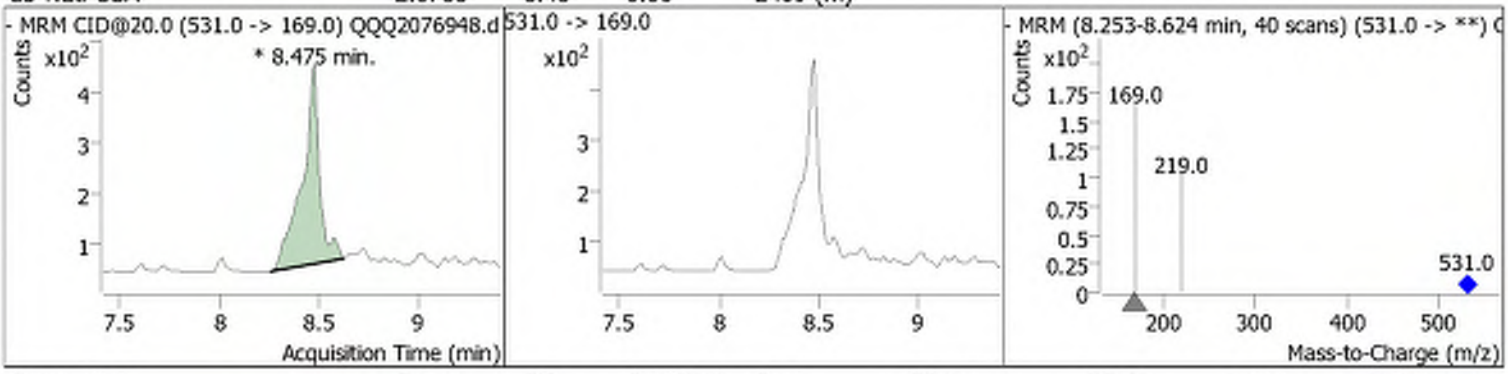
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	14.2567	8.45	-0.01	29716				



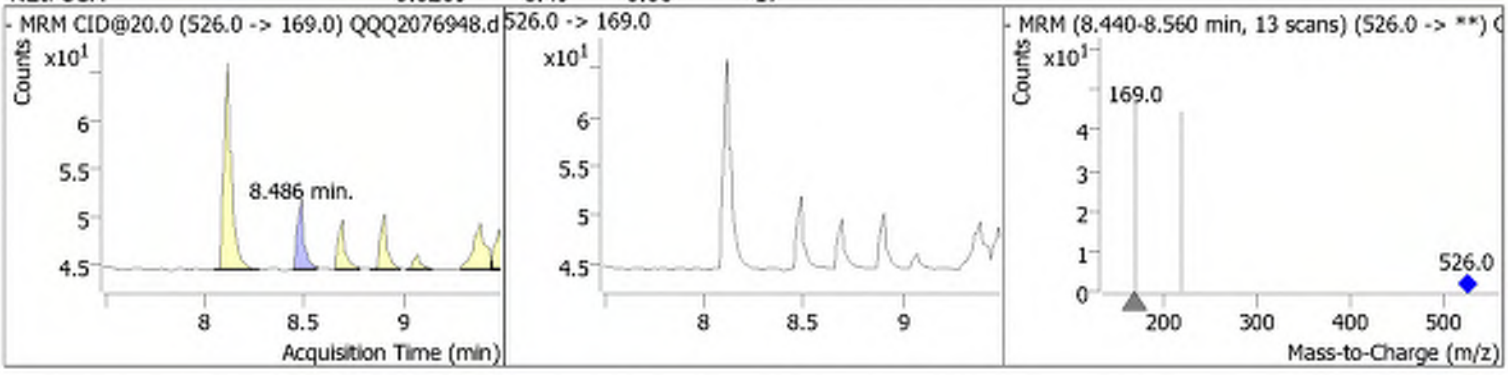
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	0.0131	8.48	0.01	19				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.6788	8.48	0.00	2409 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.0209	8.49	0.00	17				



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_COMP02_230505 PFAS

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-02 File ID: QQQ2076949.d

Sampled: 05/05/23 13:15 Prepared: 05/08/23 17:34 Analyzed: 05/10/23 18:11

Solids: 91.96 Preparation: EPA 1633 Prep Initial/Final: 5.04 g / 5 mL

Batch: BE30533 Sequence: S3E1022 Calibration: SD30043 Instrument: QQQ-2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1	0.191	U
307-24-4	Perfluorohexanoic acid (PFHxA)	1	0.216	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	1	0.216	U
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1	0.197	U
335-67-1	Perfluorooctanoic acid (PFOA)	1	0.216	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1	0.201	U
375-95-1	Perfluorononanoic acid (PFNA)	1	0.216	U
335-76-2	Perfluorodecanoic acid (PFDA)	1	0.216	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1	0.216	U
307-55-1	Perfluorododecanoic acid (PFDoA)	1	0.216	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	1	0.216	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	1	0.216	U
2355-31-9	N-MeFOSAA	1	0.216	U
2991-50-6	N-EtFOSAA	1	0.216	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	1	0.432	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	1	0.216	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	1	0.216	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	1	0.208	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	1	0.820	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	1	0.829	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	1	0.863	U
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	1	0.384	U
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	1	0.432	U
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	1	0.432	U
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	1	0.432	U
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	1	0.203	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	1	0.809	U
13252-13-6	HFPO-DA (Gen-X)	1	0.863	U
763051-92-9	11CL-PF3OUdS	1	0.816	U
756426-58-1	9CL-PF3ONS	1	0.807	U
919005-14-4	ADONA	1	0.816	U
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	1	0.209	U
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	1	0.207	U
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	1	1.08	U
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	1	5.39	U
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	1	5.39	U
24448-09-7	N-MeFOSE	1	2.16	U
31506-32-8	N-MeFOSA	1	0.216	U
1691-99-2	N-EtFOSE	1	2.16	U
4151-50-2	N-EtFOSA	1	0.216	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_COMP02_230505 PFAS

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-02	File ID:	QQQ2076949.d
Sampled:	05/05/23 13:15	Prepared:	05/08/23 17:34	Analyzed:	05/10/23 18:11
Solids:	91.96	Preparation:	EPA 1633 Prep	Initial/Final:	5.04 g / 5 mL
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043
Instrument:	QQQ-2				

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
M3PFBS	2.51	2.81	112	25 - 150	
M5PFHxA	2.70	2.72	101	25 - 150	
M4PFHpA	2.70	2.69	99.9	25 - 150	
M3PFHxS	2.56	2.64	103	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.70	2.54	94.0	25 - 150	
M6PFDA	1.35	1.38	102	25 - 150	
M7PFUdA	1.35	1.50	111	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.35	1.38	102	25 - 150	
M2PFTeDA	1.35	1.32	98.1	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.8	8.12	75.3	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.58	2.70	105	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.39	5.72	106	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.70	2.34	86.6	10 - 150	
d3-N-MeFOSAA	5.39	4.35	80.7	25 - 150	
d5-N-EtFOSAA	5.39	4.88	90.4	25 - 150	
M2-6:2 FTS	5.13	6.07	118	25 - 200	
M2-8:2 FTS	5.18	5.15	99.4	25 - 200	
M9PFNA	1.35	1.06	78.6	25 - 150	
M2-4:2 FTS	5.06	5.26	104	25 - 150	
d-N-MeFOSA	2.70	1.71	63.6	25 - 150	
d-N-EtFOSA	2.70	3.23	120	25 - 150	
M3HFPO-DA	10.8	11.5	107	25 - 150	
d9-N-EtFOSE	27.0	15.9	59.0	25 - 150	
d7-N-MeFOSE	27.0	16.7	61.8	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M3PFBA	34605.65	1.14275	47603.97	1.151933	
MPFDA	7721.719	6.920633	11735.12	6.92065	
MPFHxA	28712.59	4.651033	38962.19	4.651033	
MPFHxS	2723.227	5.475517	3666.173	5.484817	
MPFNA	11494.63	6.483016	12930.53	6.483033	
MPFOA	26626.92	5.979383	36214.31	5.9794	
MPFOS	6524.547	6.510417	9824.434	6.510433	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	1162.904	6.473583	1502.882	6.492567	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	13795.65	5.979116	16755.44	5.979116	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	24636.09	3.313283	33574.52	3.3317	
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	35670.22	1.149633	65133.15	1.158817	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	6334.023	7.635767	10730.96	7.635783	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	2367.18	6.509917	2588.635	6.509933	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	11594.04	7.50985	17817.11	7.509883	
M7PFUdA-EIS	8253.563	7.302117	10304.36	7.311417	
M6PFDA-EIS	3821.086	6.9204	4609.441	6.920417	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_COMP02_230505 PFAS

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-02	File ID:	QQQ2076949.d
Sampled:	05/05/23 13:15	Prepared:	05/08/23 17:34	Analyzed:	05/10/23 18:11
Solids:	91.96	Preparation:	EPA 1633 Prep	Initial/Final:	5.04 g / 5 mL
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043
Instrument:	QQQ-2				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M5PFHxA-EIS	19584	4.650183	27556.73	4.65945	
M4PFHpA-EIS	21877.33	5.3926	31097.92	5.392617	
M3PFHxS-EIS	7432.307	5.475983	8894.239	5.476	
M3PFBS-EIS	9428.506	3.827733	11545.93	3.836967	
M3-HFPO-DA-EIS	48373.02	4.913317	69789.74	4.913317	
M2PFTeDA-EIS	6398.455	8.18195	11004	8.181967	
M2-8-2FTS-EIS	3299.268	6.900967	3965.304	6.910617	
M2-6-2FTS-EIS	4528.576	5.941017	5414.38	5.941033	
M2-4-2FTS-EIS	7234.996	4.58425	8922.948	4.584267	
d9-NEtFOSE-EIS	32174.37	8.452066	80416.84	8.452084	
d7-NMeFOSE-EIS	34246.34	8.2395	75463.92	8.239516	
d5-NEtFOSA-EIS	2819.778	8.466133	4435.92	8.46615	
d5-N-EtFOSAA-EIS	10026.33	7.283	15032.15	7.283017	
d3-NMeFOSA-EIS	1087.031	8.235483	2212.854	8.244766	
d3-N-MeFOSAA-EIS	8901.96	7.0965	13770.21	7.096517	

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076949.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 6:11:22 PM
Sample Name	23E0419-02	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.143	216.0 -> 172.0	34606	5.0000	ng/ml		-0.064
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.150	217.0 -> 172.0	35670	10.0000	ng/ml		-0.055
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.313	268.0 -> 223.0	24636	5.0000	ng/ml		-0.074
MPFHxA	4.651	315.0 -> 269.8	28713	2.5000	ng/ml		-0.047
MPFHxS	5.476	403.0 -> 103.0	2723	2.3700	ng/ml		-0.047
M3PFBS-EIS	3.828	302.0 -> 79.9	9429	2.3300	ng/ml		-0.065
M5PFHxA-EIS	4.650	318.0 -> 273.0	19584	2.5000	ng/ml		-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	7235	4.6900	ng/ml		-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	7432	2.3700	ng/ml		-0.056
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	48373	10.0000	ng/ml		-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	21877	2.5000	ng/ml		-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	4529	4.7550	ng/ml		-0.056
MPFOA	5.979	417.0 -> 372.0	26627	2.5000	ng/ml		-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.979	421.0 -> 376.0	13796	2.5000	ng/ml		-0.056
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.510	507.0 -> 98.9	2367	2.3950	ng/ml		-0.056
MPFNA	6.483	468.0 -> 423.0	11495	1.2500	ng/ml		-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1163	1.2500	ng/ml		-0.066
MPFOS	6.510	503.0 -> 80.0	6525	2.3950	ng/ml		-0.065
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	3299	4.8000	ng/ml		-0.066
MPFDA	6.921	515.0 -> 469.8	7722	1.2500	ng/ml		-0.065
M6PFDA-EIS	6.920	519.0 -> 473.9	3821	1.2500	ng/ml		-0.065
d3-N-MeFOSAA-EIS	7.097	573.0 -> 418.8	8902	5.0000	ng/ml		-0.056
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	10026	5.0000	ng/ml		-0.065
M7PFUdA-EIS	7.302	570.0 -> 525.0	8254	1.2500	ng/ml		-0.065
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	11594	2.5000	ng/ml		-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.636	615.0 -> 570.0	6334	1.2500	ng/ml		-0.065
M2PFTeDA-EIS	8.182	715.0 -> 670.0	6398	1.2500	ng/ml		-0.074
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	1087	2.5000	ng/ml		-0.009
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	34246	25.0000	ng/ml		0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	32174	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	2820	2.5000	ng/ml	m	-0.009
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.150	217.0 -> 172.0	35670	7.5252	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.313	268.0 -> 223.0	24636	5.2994	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.828	302.0 -> 79.9	9429	2.6030	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.584	329.0 -> 309.0	7235	4.8789	ng/ml		-0.047

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%			
M5PFHxA	4.650	318.0 -> 273.0	19584	2.5252	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3-HFPO-DA	4.913	287.0 -> 169.0	48373	10.6960	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M4PFHpA	5.393	367.0 -> 322.0	21877	2.4977	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFHxS	5.476	402.0 -> 80.0	7432	2.4425	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M2-6-2FTS	5.941	429.0 -> 409.0	4529	5.6301	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.979	421.0 -> 376.0	13796	2.3501	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1163	0.9830	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.510	507.0 -> 98.9	2367	2.5061	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M2-8-2FTS	6.901	529.0 -> 509.0	3299	4.7717	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
M6PFDA	6.920	519.0 -> 473.9	3821	1.2749	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d3-N-MeFOSAA	7.097	573.0 -> 418.8	8902	4.0332	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
d5-N-EtFOSAA	7.283	589.0 -> 418.8	10026	4.5207	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M7PFUdA	7.302	570.0 -> 525.0	8254	1.3895	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	11594	2.1646	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.636	615.0 -> 570.0	6334	1.2809	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d7-NMeFOSE	8.240	623.0 -> 59.0	34246	15.4414	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-NMeFOSA	8.235	515.0 -> 219.0	1087	1.5889	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M2PFTeDA	8.182	715.0 -> 670.0	6398	1.2260	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
d9-NEtFOSE	8.452	639.0 -> 59.0	32174	14.7606	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d5-NEtFOSA	8.466	531.0 -> 169.0	2820	2.9983	ng/ml	m	-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Target Compounds							**QValue**
Perfluoro-n-butanoic acid (PFBA)	1.145	213.0 -> 168.9	117	0.0260	ng/ml		100
PFMPA	2.107	229.0 -> 85.0	4	0.0010	ng/ml		100
3:3FTCA	3.231	241.0 -> 177.0	3	0.0109	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	3.332	263.0 -> 219.0	159	0.0294	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	3.856	298.9 -> 79.9	21	0.0044	ng/ml		100
PFMBA	4.145	279.0 -> 85.0	16	0.0029	ng/ml		100
PFEESA	4.345	315.0 -> 135.0	12	0.0009	ng/ml		100
NFDHA	4.504	295.0 -> 201.1	12	0.0022	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.901	327.0 -> 307.0	11	0.0076	ng/ml		100

Quantitation Results Report (Not Reviewed)

Agilent

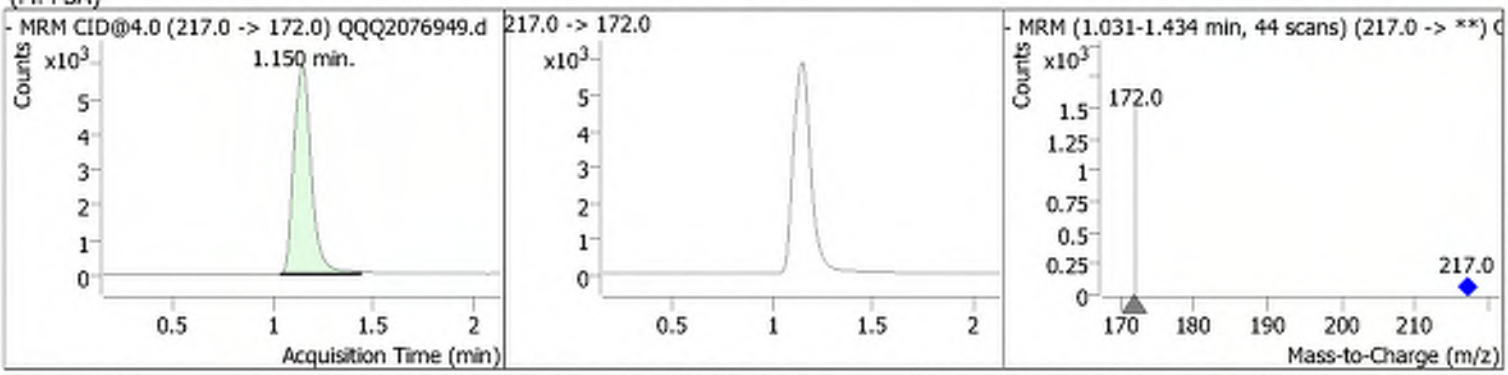
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.661	313.0 -> 268.9	166	0.0180	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.761	348.9 -> 79.9	10	0.0025	ng/ml	100
HFPO-DA	4.728	285.0 -> 169.1	13	0.0305	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	9	0.0008	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	5.588	398.9 -> 79.9	1	0.0002	ng/ml	100
5-3FTCA	5.394	341.0 -> 217.0	28	0.0258	ng/ml	100
ADONA	5.523	377.0 -> 85.0	2	0.0004	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.820	427.0 -> 407.0	0	0.0002	ng/ml	100
Perfluorooctanoic acid (PFOA)	5.980	413.0 -> 368.8	415	0.0522	ng/ml	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.006	448.9 -> 80.0	60	0.0254	ng/ml	100
Perfluorononanoic acid (PFNA)	6.493	463.0 -> 418.8	146	0.0220	ng/ml	100
Perfluorooctanesulfonic acid (PFOS)	6.305	498.9 -> 79.9	9	0.0073	ng/ml	100
7-3FTCA	7.017	441.0 -> 337.0	32	0.0185	ng/ml	100
9-Cl-PF3ONS	6.779	531.0 -> 351.0	79	0.0115	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.920	527.0 -> 80.9	19	0.0227	ng/ml	100
Perfluorodecanoic acid (PFDA)	6.958	513.0 -> 468.8	32	0.0050	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	7.219	548.9 -> 79.9	2	0.0010	ng/ml	100
N-MeFOSAA	7.256	570.0 -> 418.9	0	0.0004	ng/ml	100
N-EtFOSAA	7.451	584.0 -> 418.8	2	0.0012	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.208	598.9 -> 98.9	2	0.0018	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	7.423	563.0 -> 519.0	83	0.0156	ng/ml	100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	59	0.0072	ng/ml	100
11-Cl-PF3OUdS	7.486	631.0 -> 451.0	41	0.0155	ng/ml	100
Perfluorododecanoic acid (PFDoA)	7.654	613.0 -> 568.8	69	0.0158	ng/ml	100
Perfluorododecanesulfonic acid (PFDoS)	8.313	699.0 -> 80.0	15	0.0166	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	8.034	663.0 -> 618.8	43	0.0109	ng/ml	100
NMeFOSA	7.920	512.0 -> 169.0	29	0.0470	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	8.238	713.0 -> 669.0	90	0.0124	ng/ml	100
NMeFOSE	8.193	616.0 -> 59.0	6	0.0047	ng/ml	100
NEtFOSE	8.471	630.0 -> 59.0	66	0.0428	ng/ml	100
NEtFOSA	8.616	526.0 -> 169.0	1	0.0011	ng/ml	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

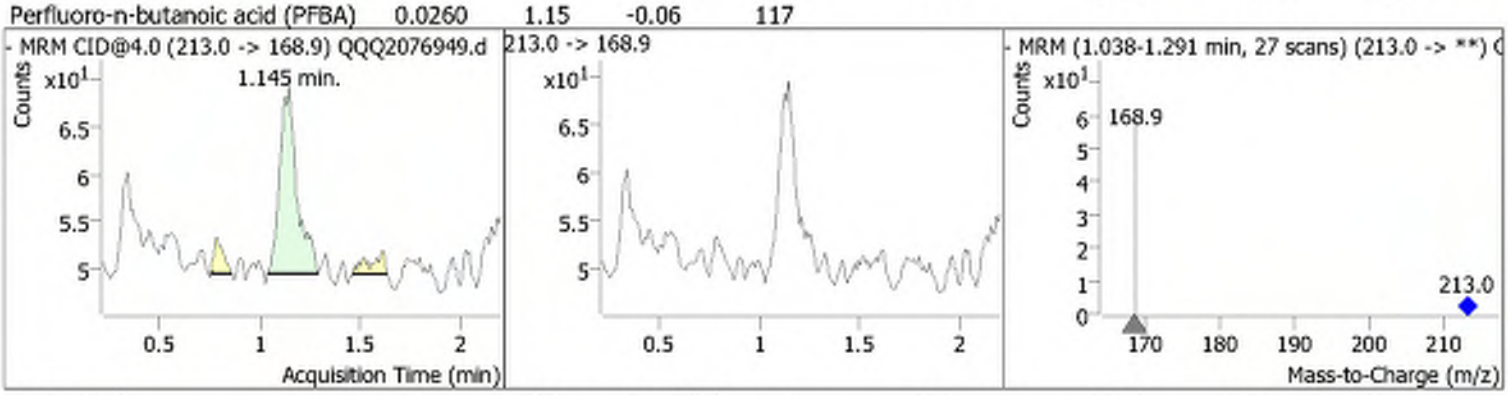
Quantitation Results Report (Not Reviewed)

Agilent

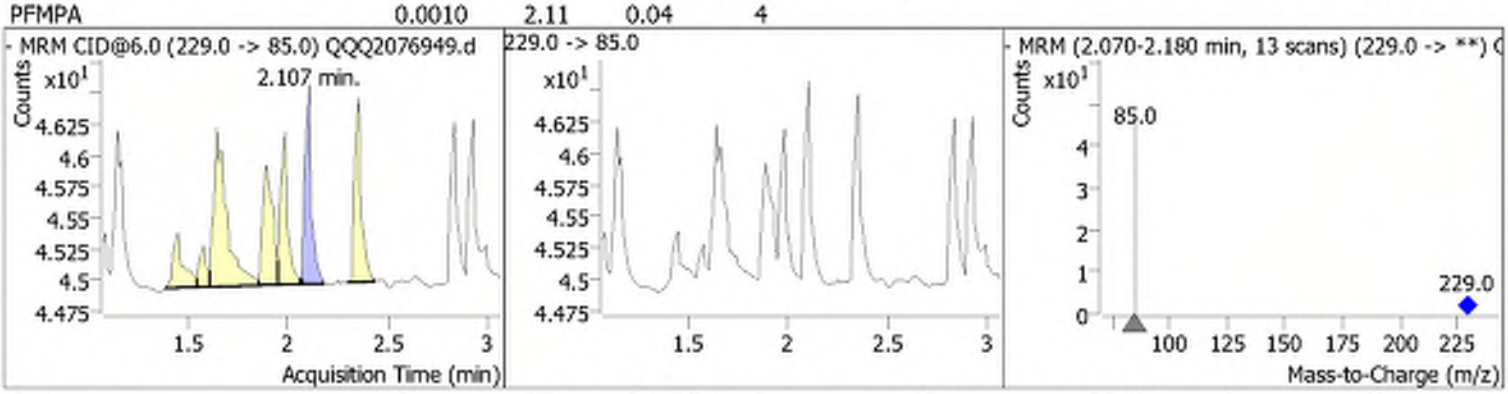
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	7.5252	1.15	-0.06	35670				



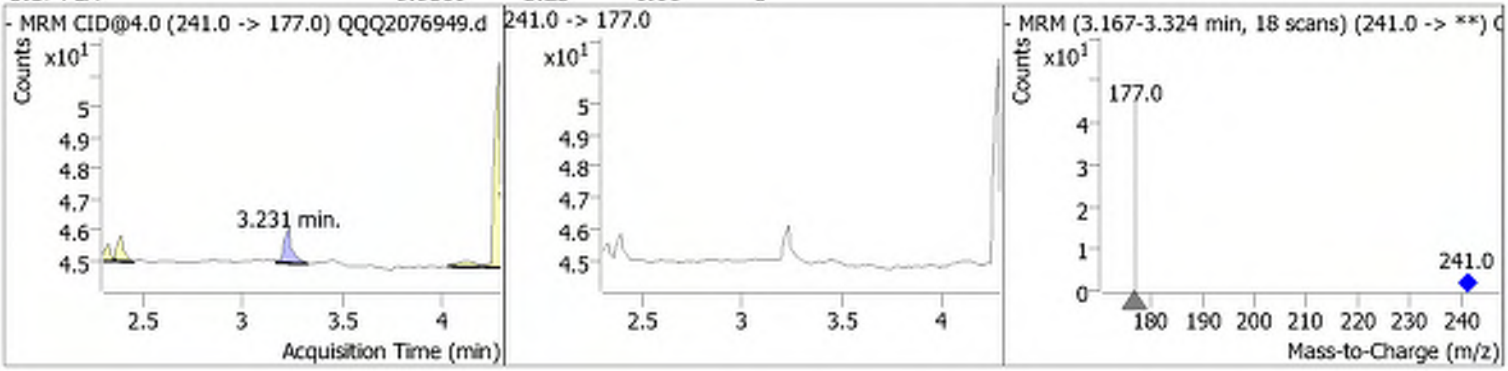
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0260	1.15	-0.06	117				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0010	2.11	0.04	4				



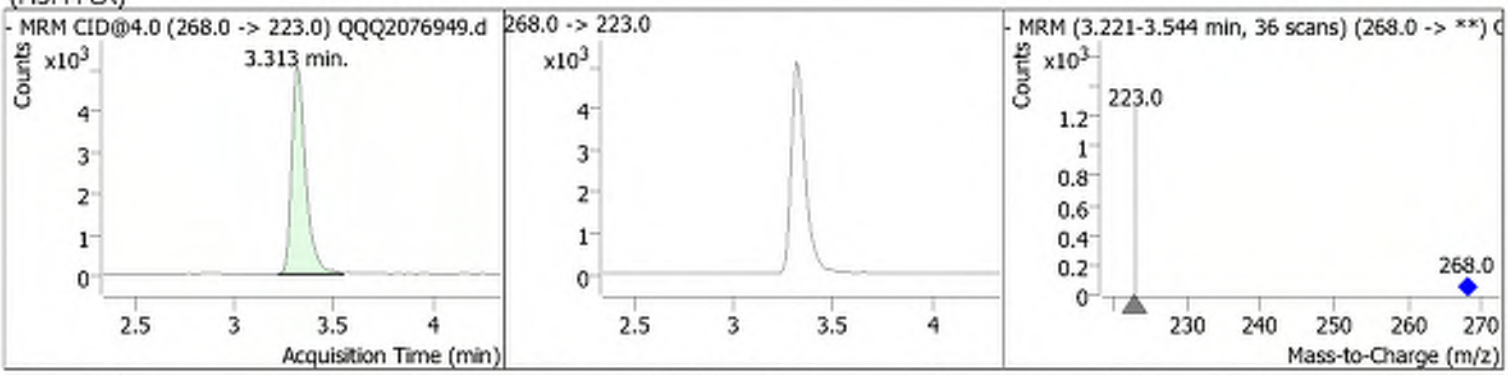
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.0109	3.23	-0.06	3				



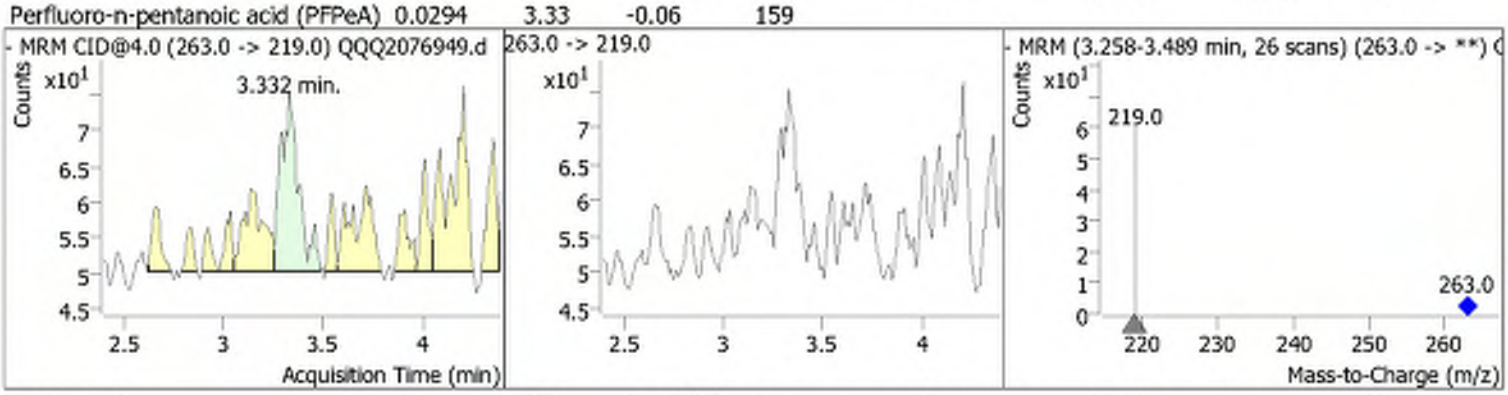
Quantitation Results Report (Not Reviewed)

Agilent

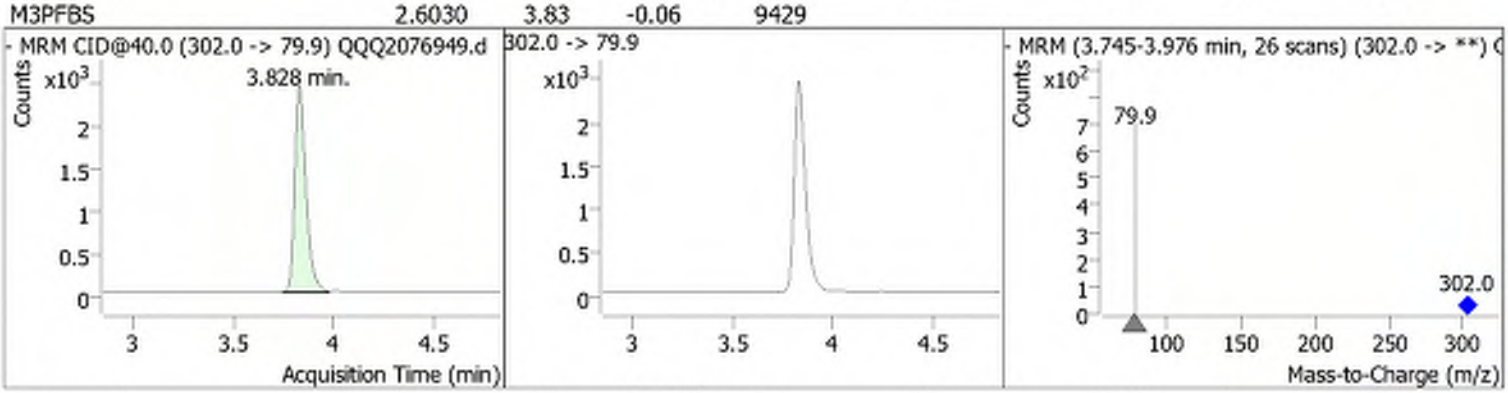
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.2994	3.31	-0.07	24636				



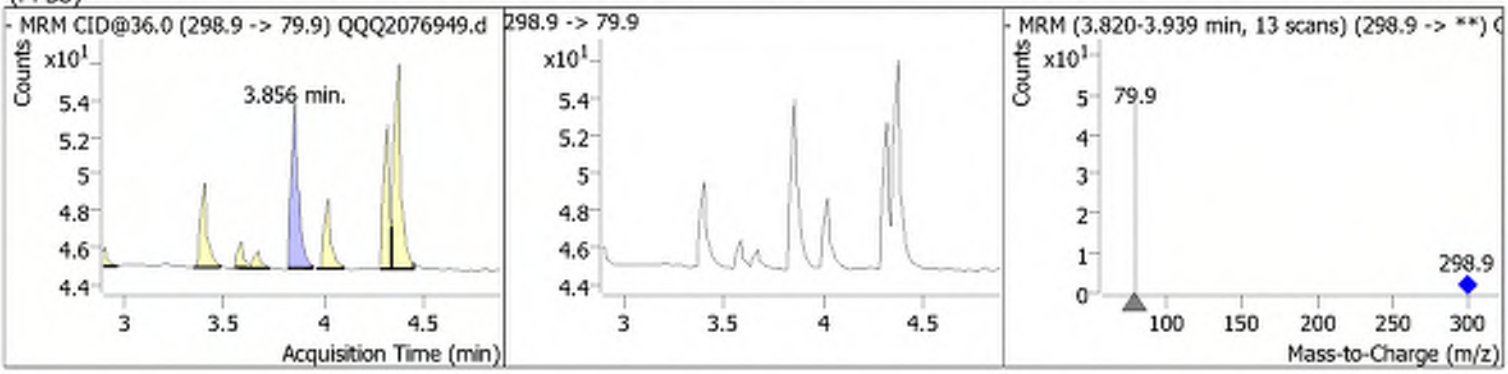
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0294	3.33	-0.06	159				



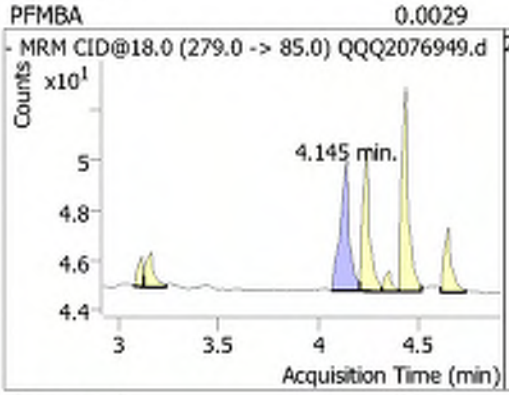
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.6030	3.83	-0.06	9429				

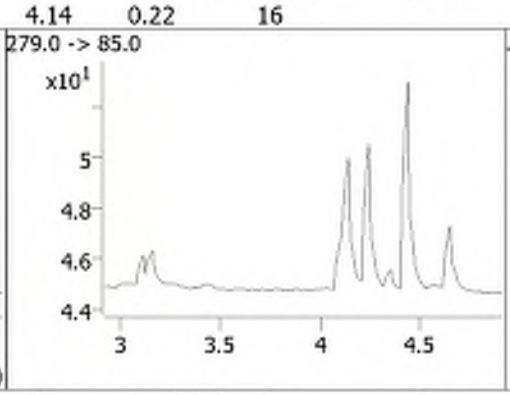


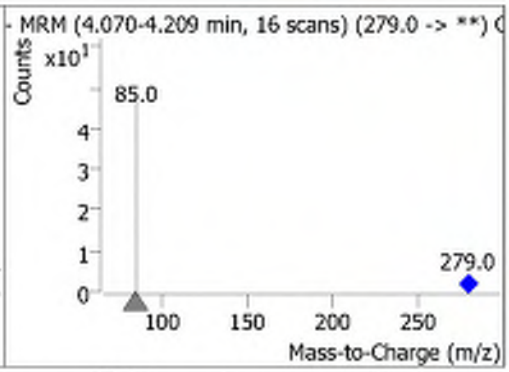
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0044	3.86	-0.04	21				



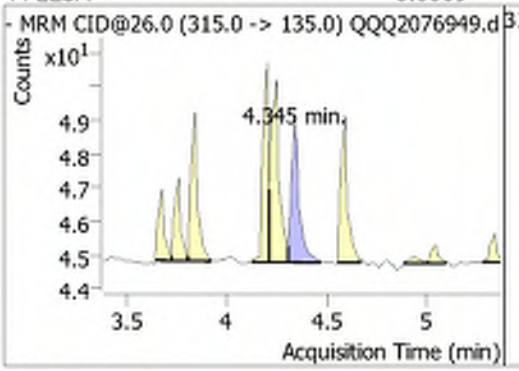
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0029	4.14	0.22	16				

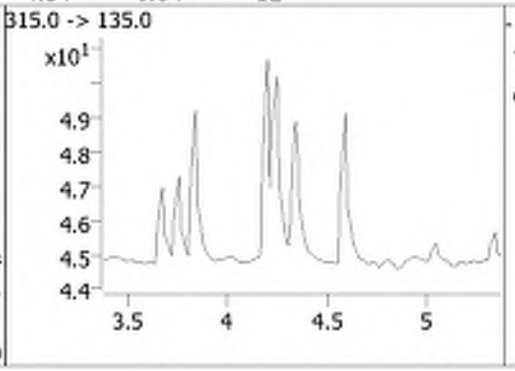


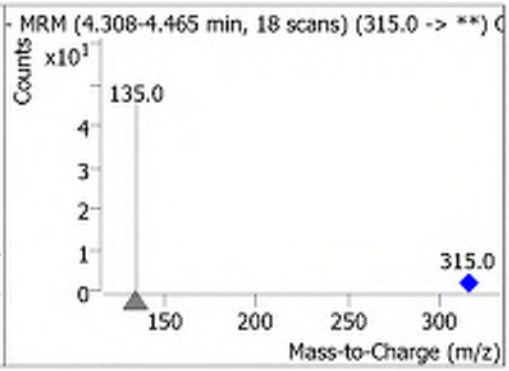




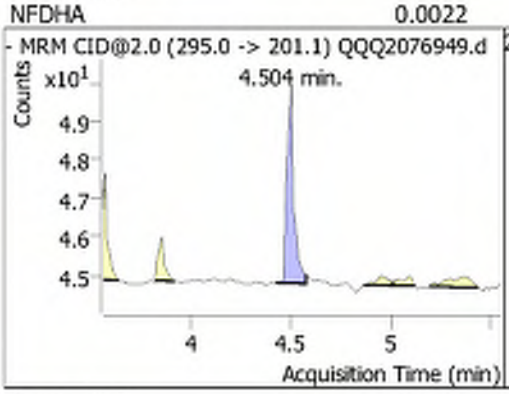
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0009	4.34	-0.04	12				

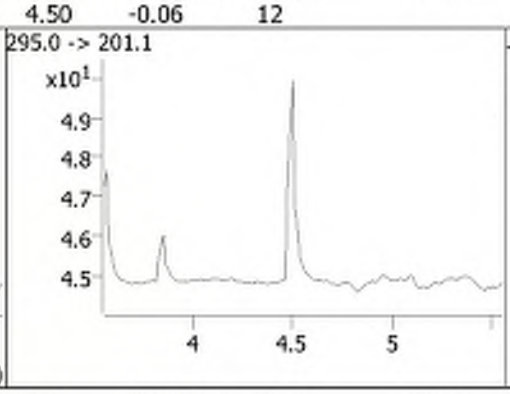


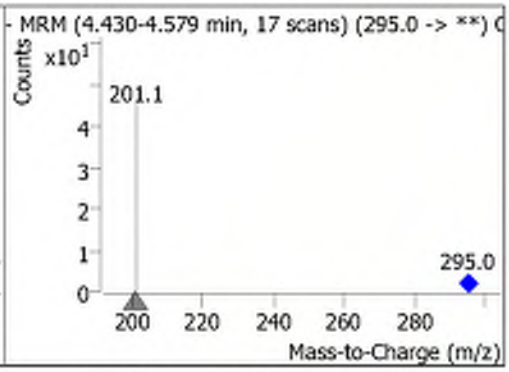




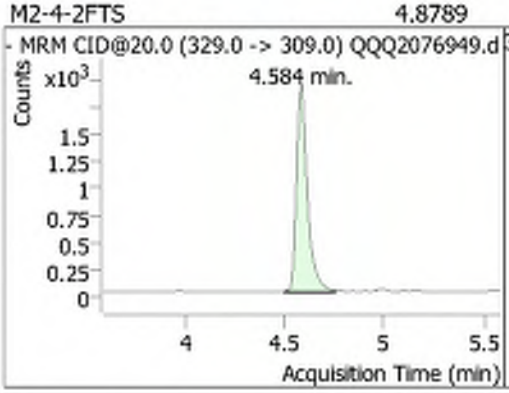
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0022	4.50	-0.06	12				

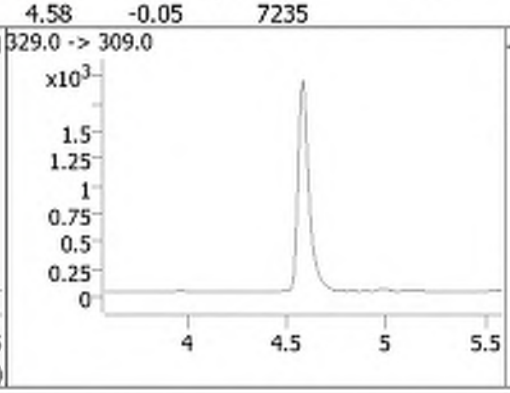


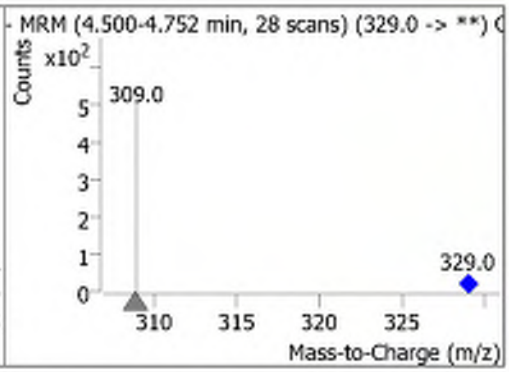




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.8789	4.58	-0.05	7235				



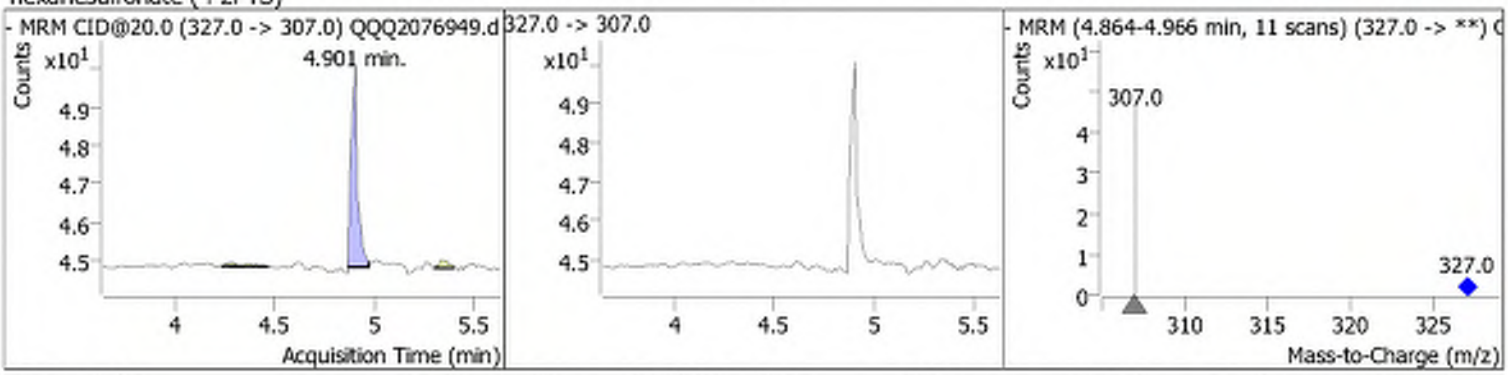




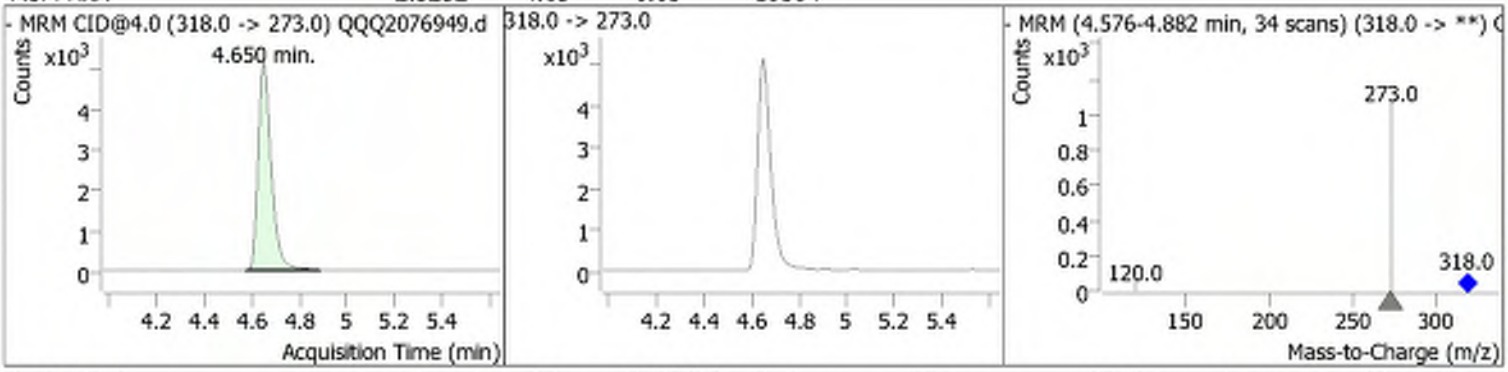
Quantitation Results Report (Not Reviewed)

Agilent

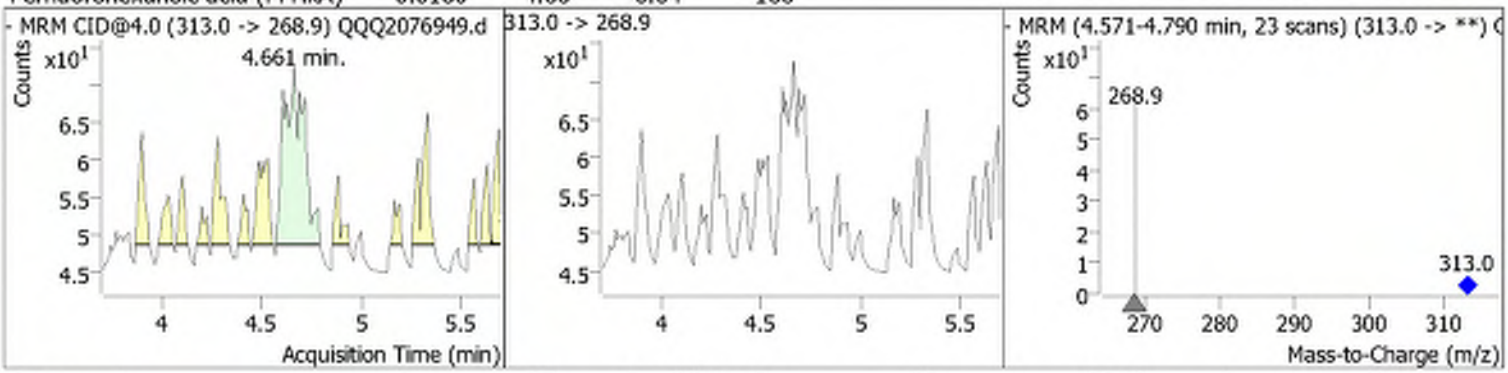
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0076	4.90	0.27	11				



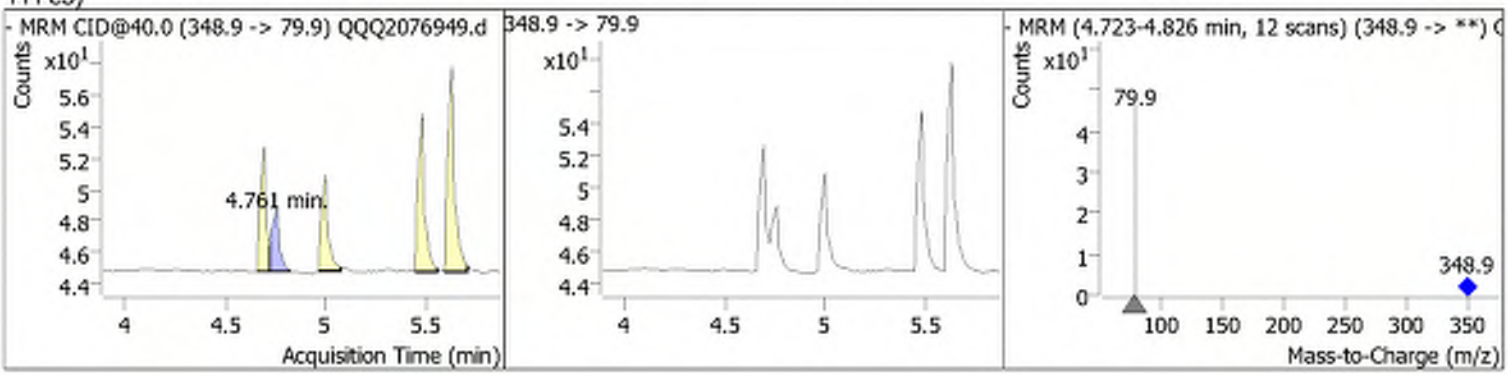
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5252	4.65	-0.05	19584				



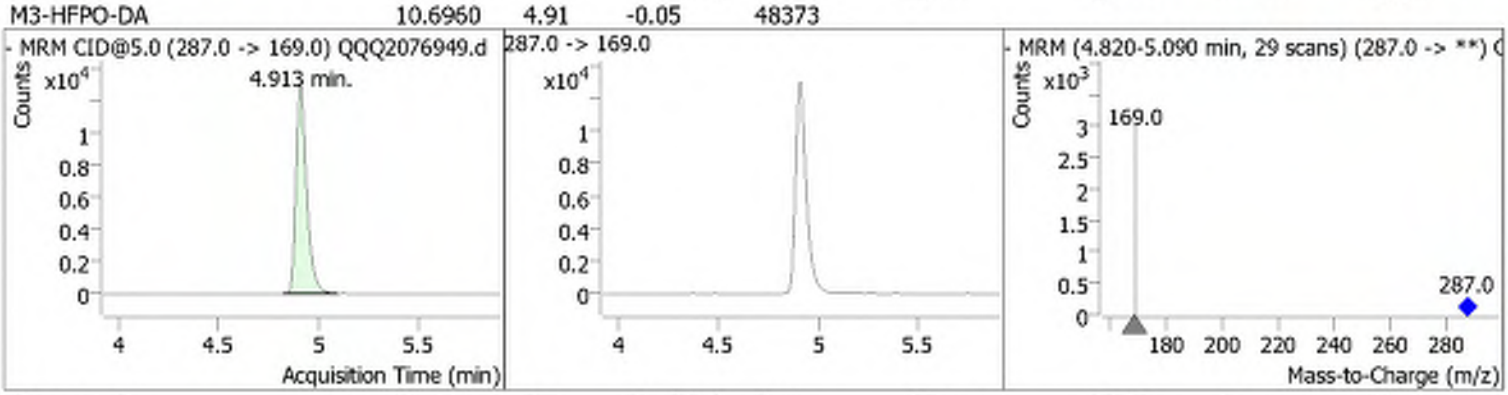
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0180	4.66	-0.04	166				



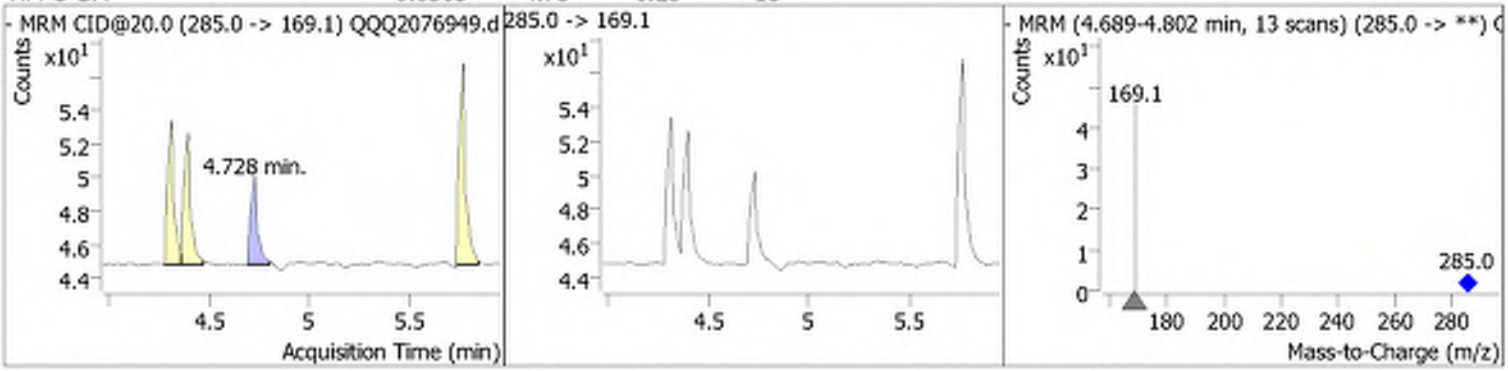
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0025	4.76	-0.12	10				



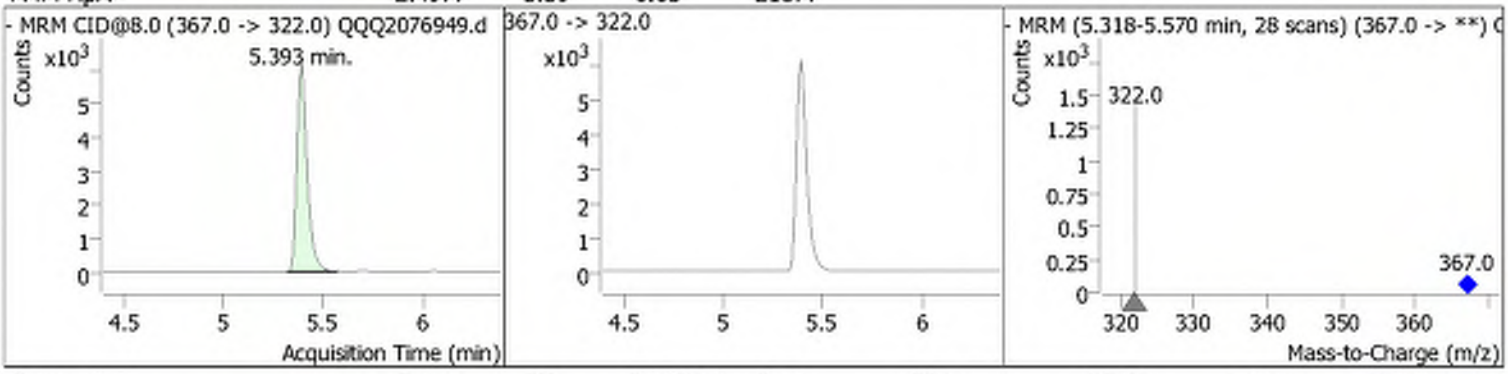
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.6960	4.91	-0.05	48373				



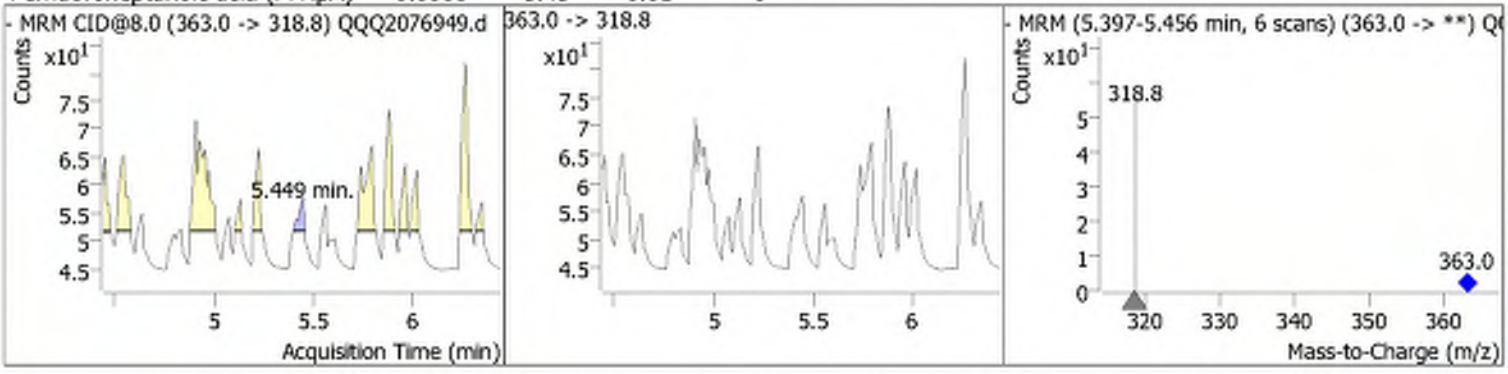
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0305	4.73	-0.23	13				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.4977	5.39	-0.05	21877				



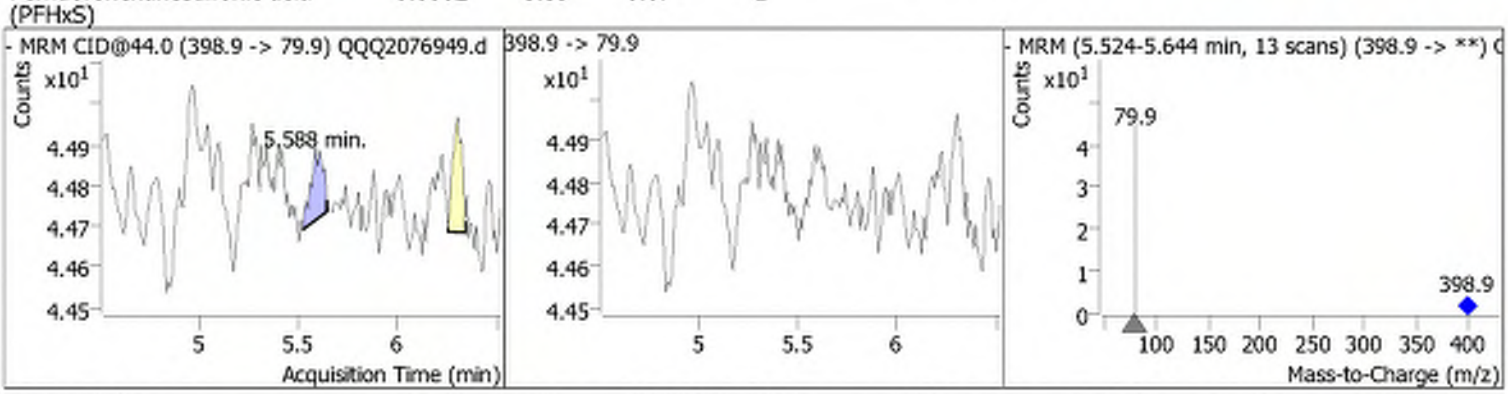
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0008	5.45	0.01	9				



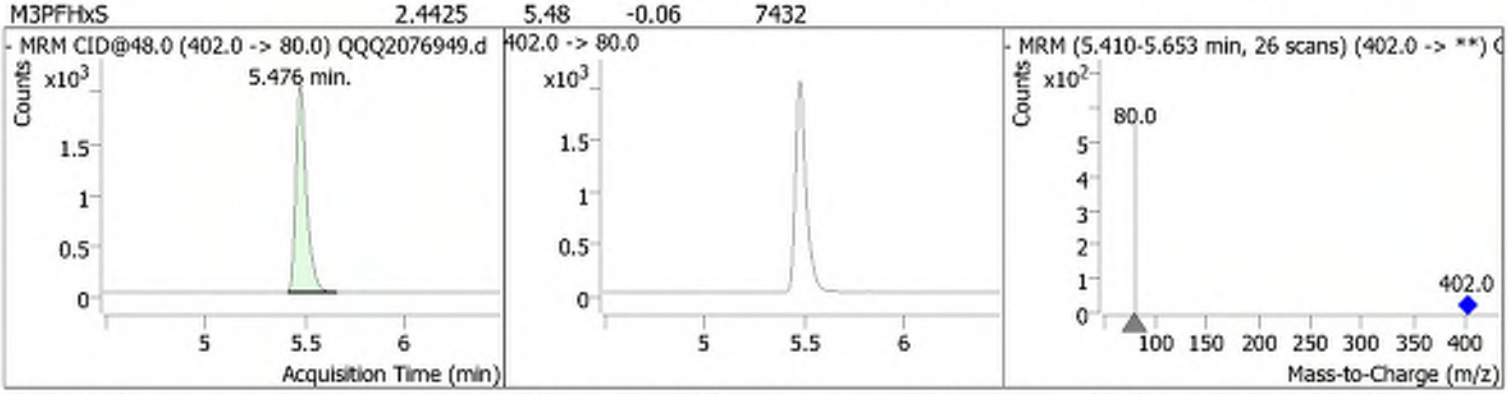
Quantitation Results Report (Not Reviewed)

Agilent

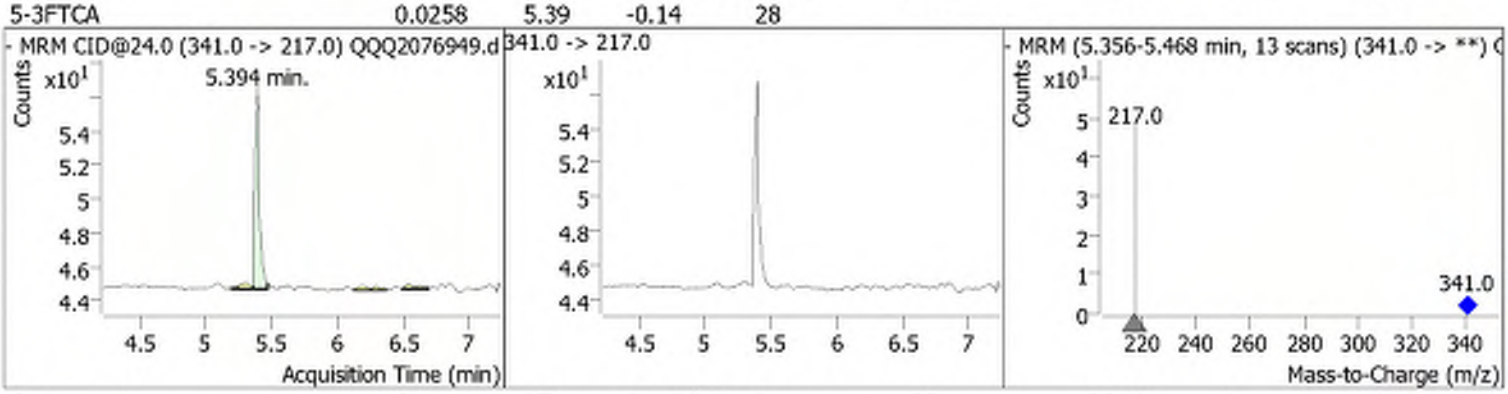
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0002	5.59	0.07	1				



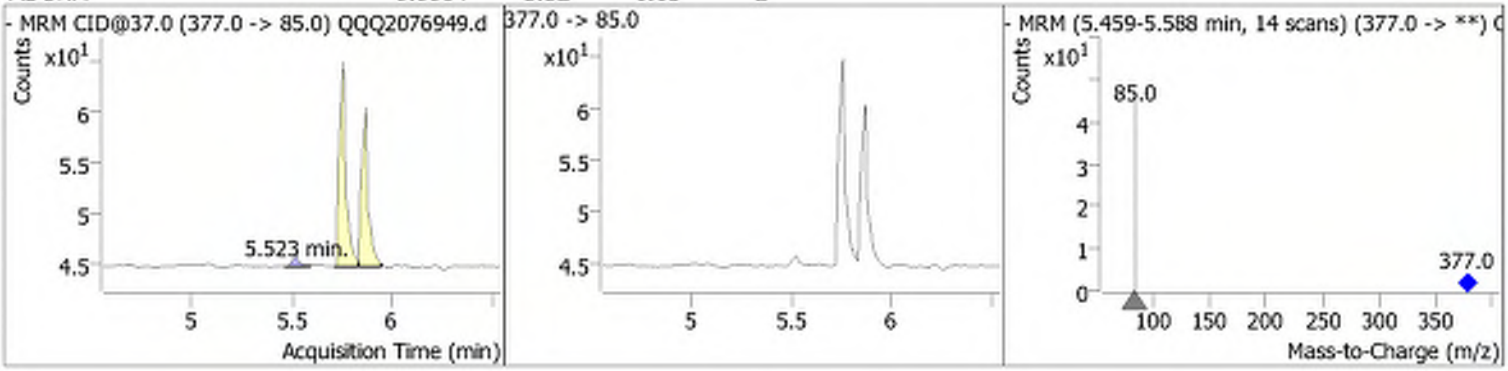
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.4425	5.48	-0.06	7432				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	0.0258	5.39	-0.14	28				

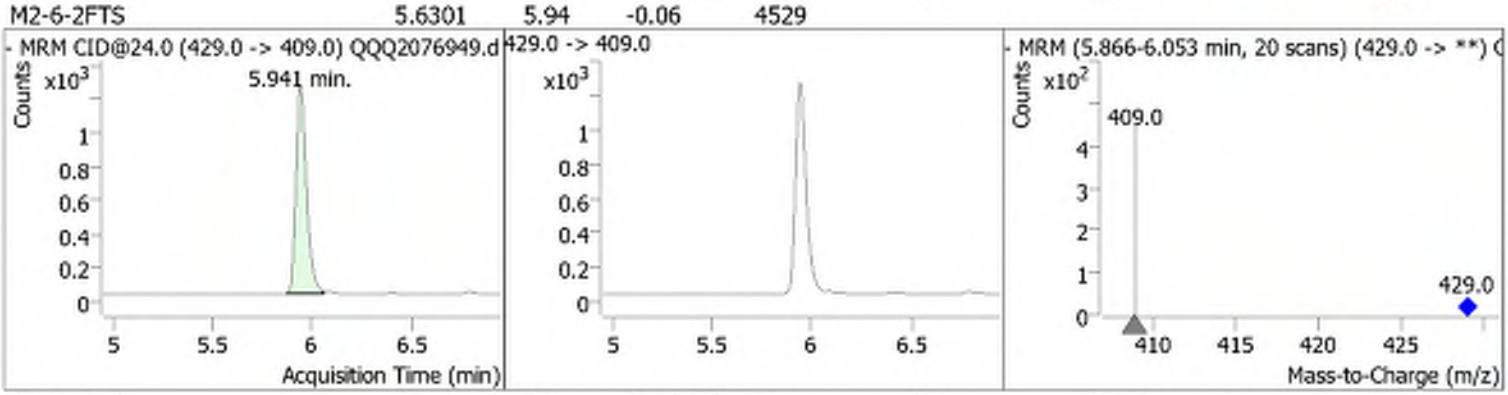


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0004	5.52	-0.03	2				

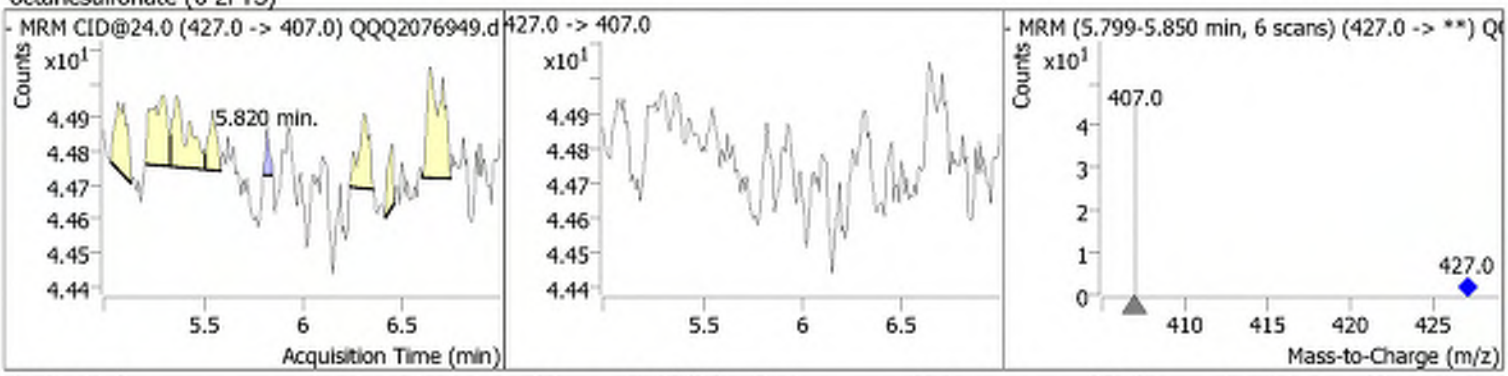


Quantitation Results Report (Not Reviewed)

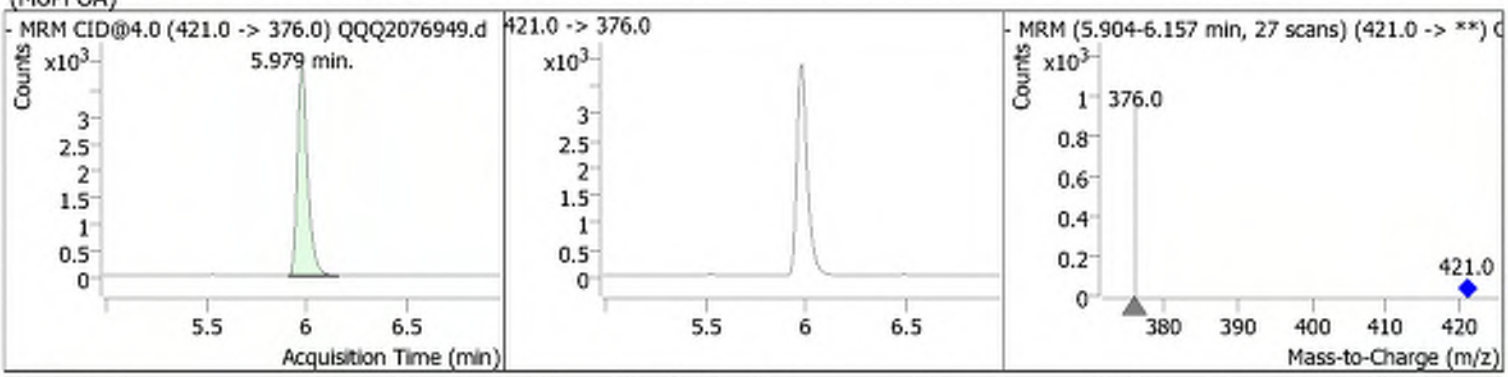
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.6301	5.94	-0.06	4529				



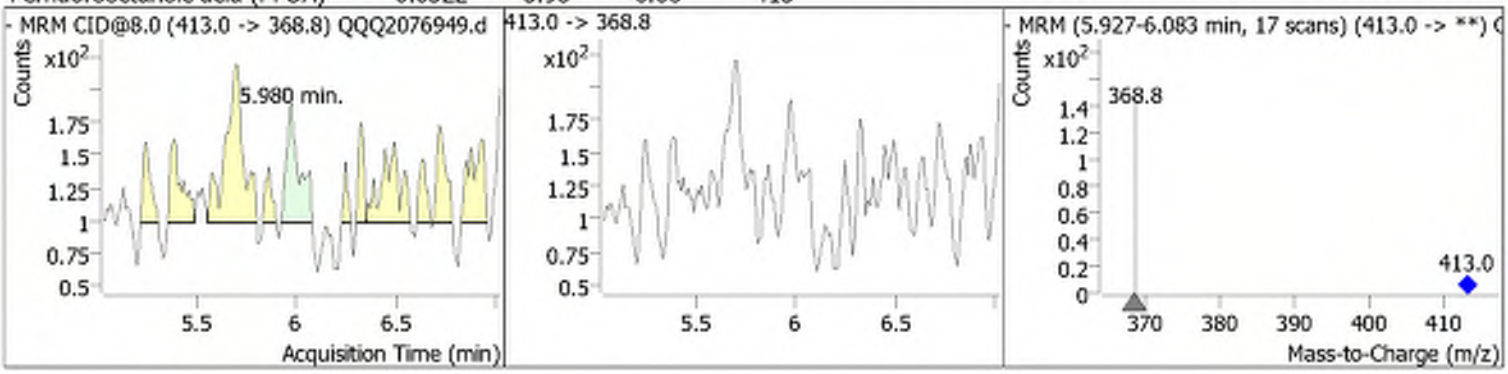
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0002	5.82	-0.18	0				



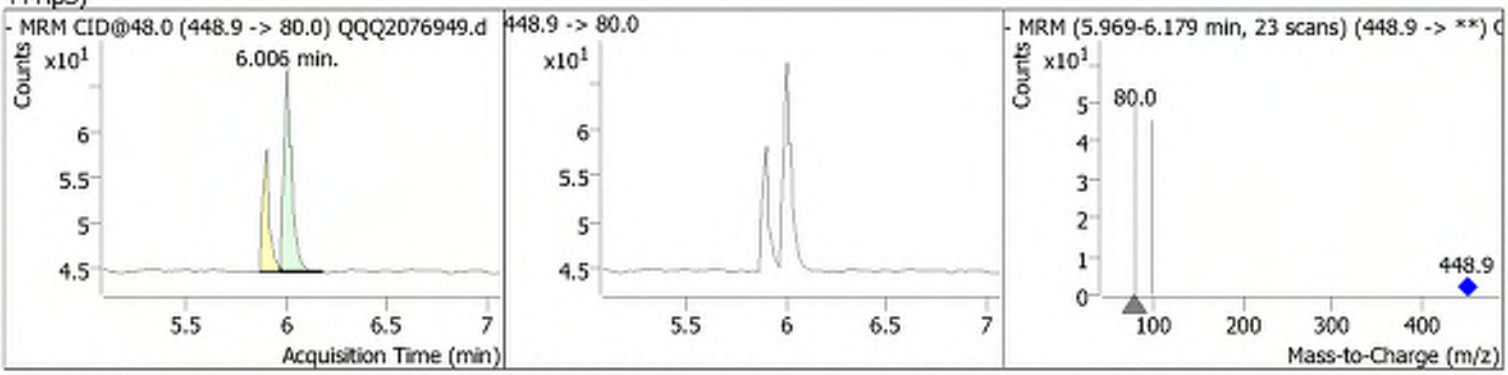
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.3501	5.98	-0.06	13796				



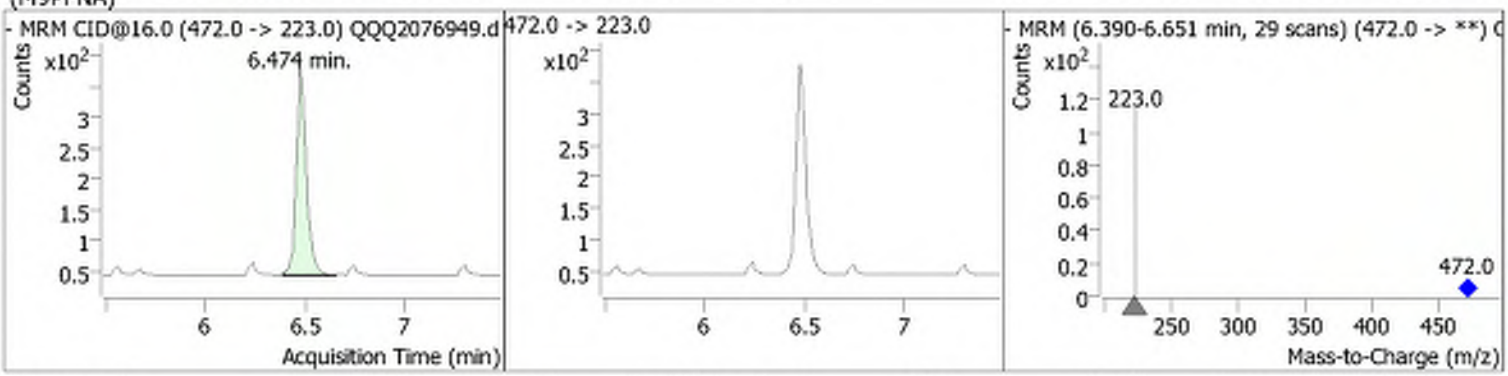
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0522	5.98	-0.06	415				



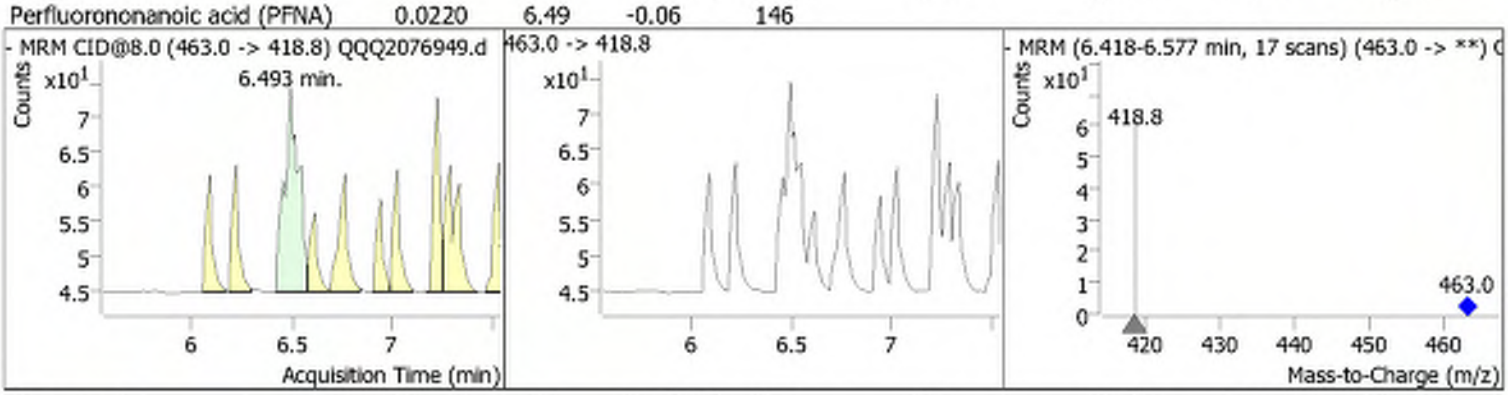
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0254	6.01	-0.07	60				



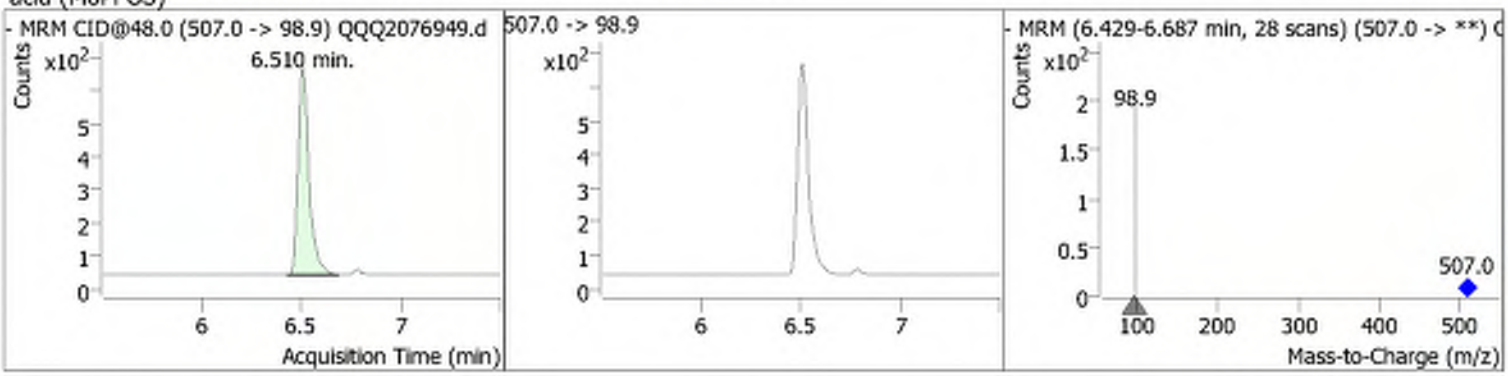
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	0.9830	6.47	-0.07	1163				



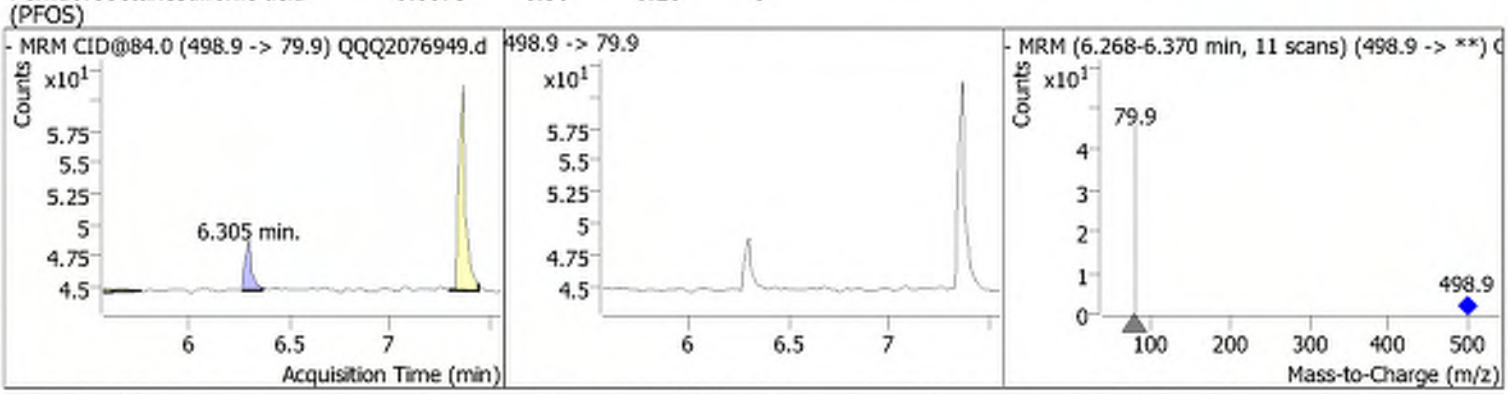
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0220	6.49	-0.06	146				



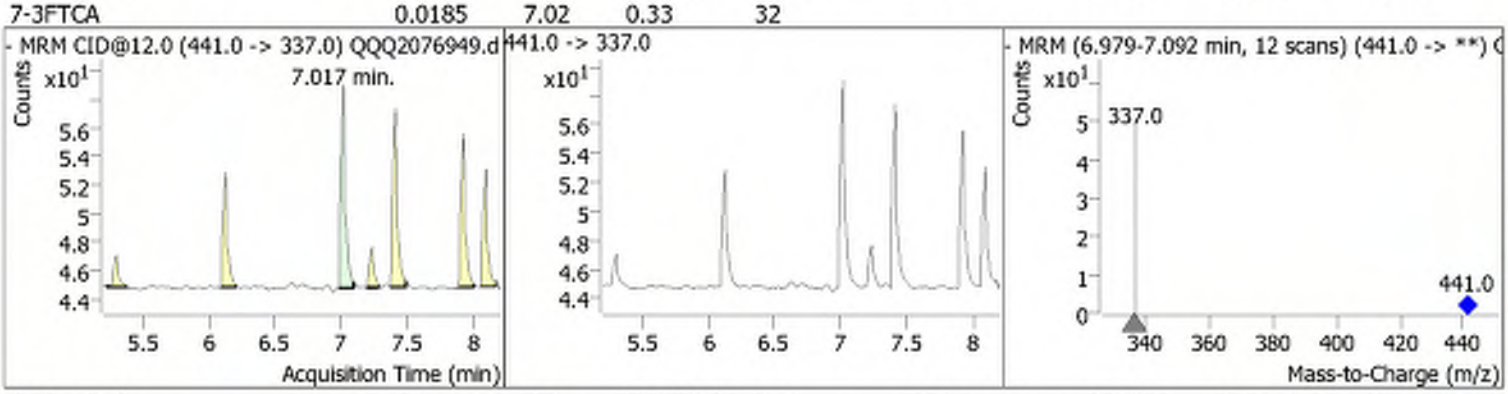
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.5061	6.51	-0.06	2367				



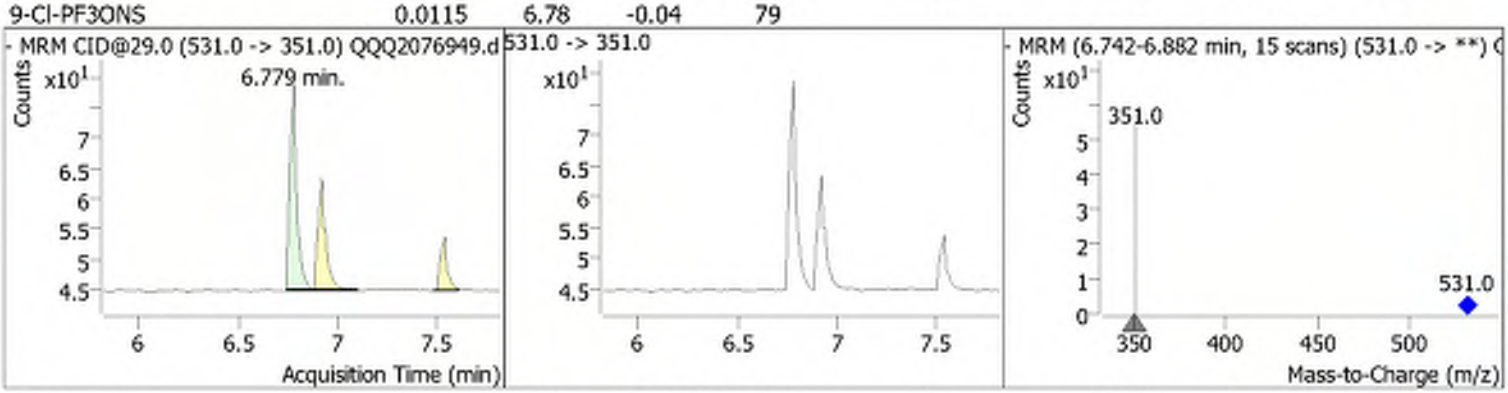
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0073	6.30	-0.26	9				



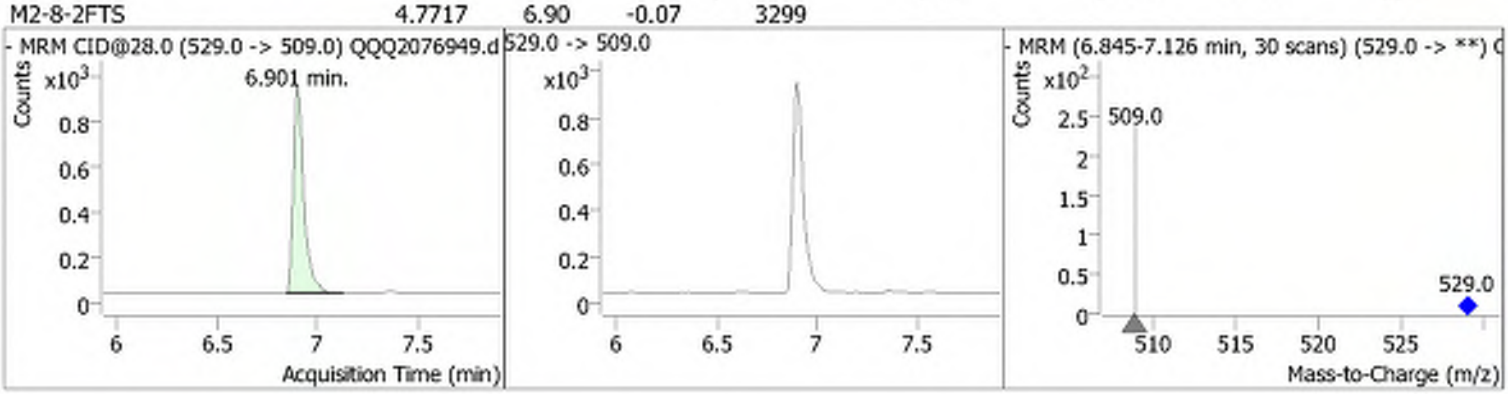
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.0185	7.02	0.33	32				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0115	6.78	-0.04	79				



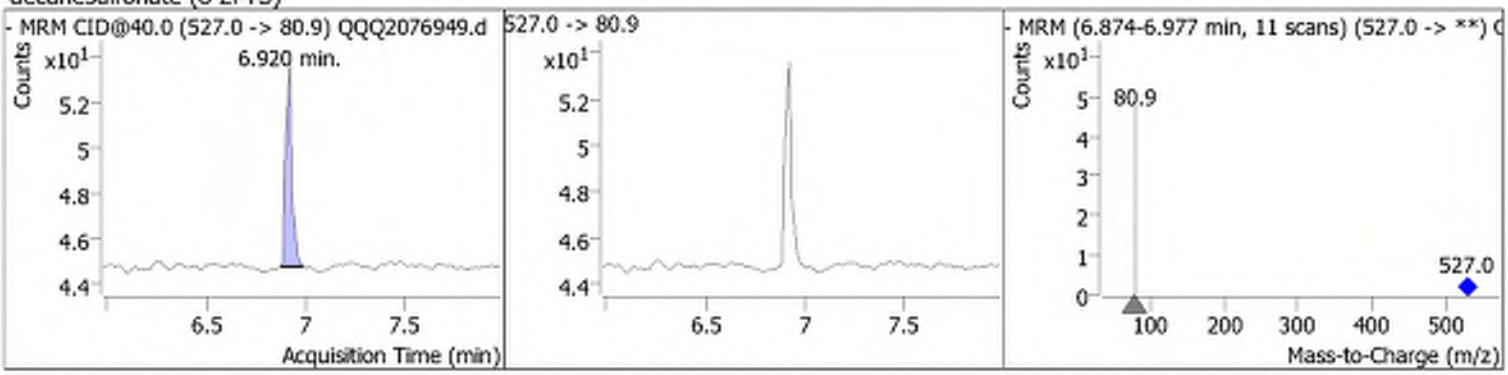
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.7717	6.90	-0.07	3299				



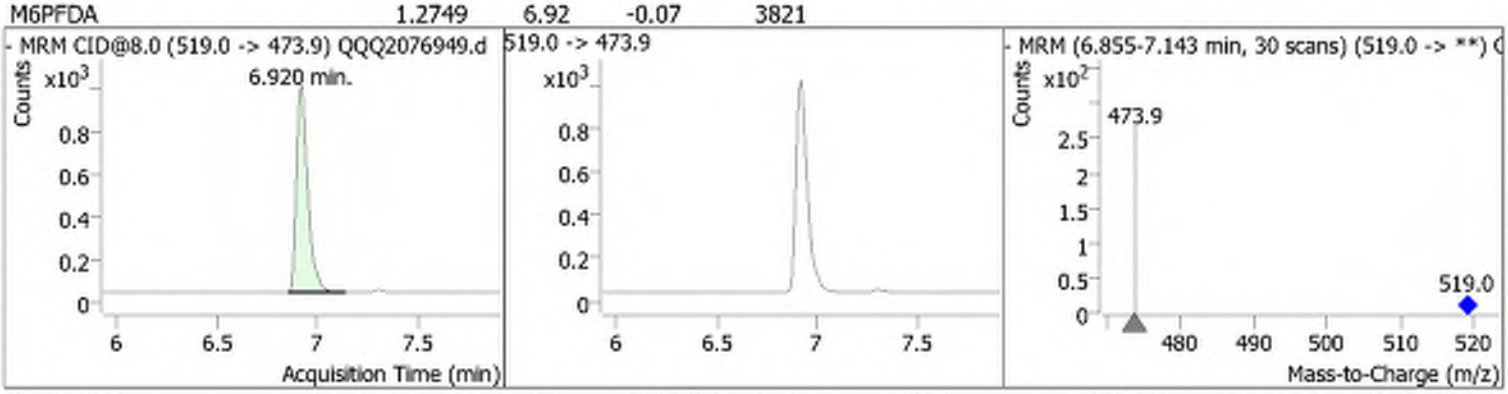
Quantitation Results Report (Not Reviewed)

Agilent

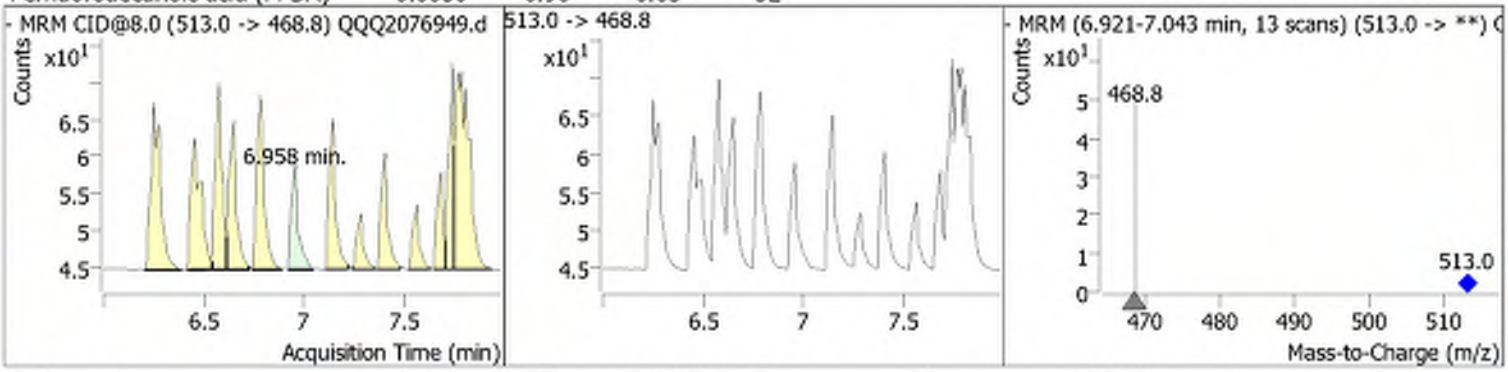
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0227	6.92	-0.06	19				



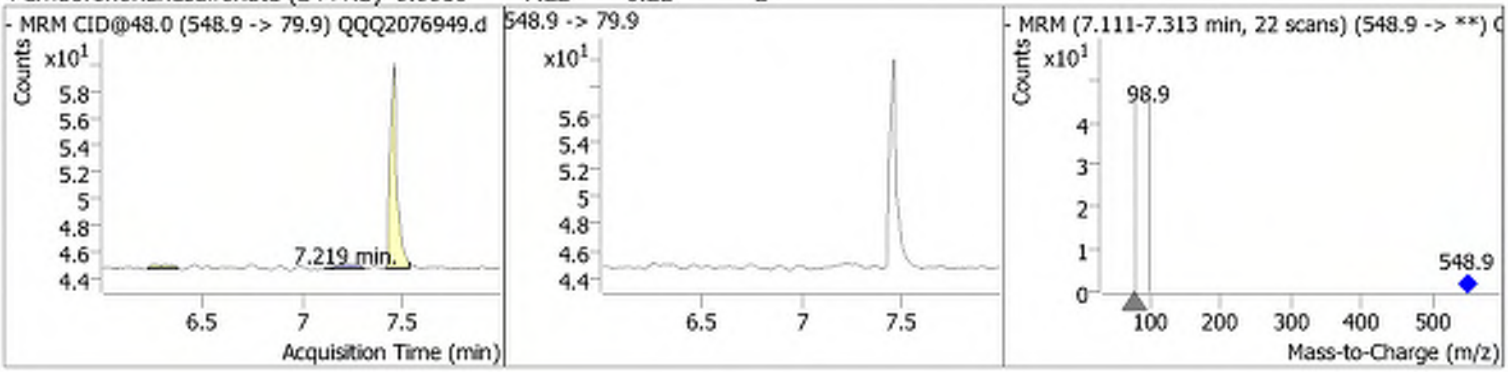
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.2749	6.92	-0.07	3821				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0050	6.96	-0.03	32				

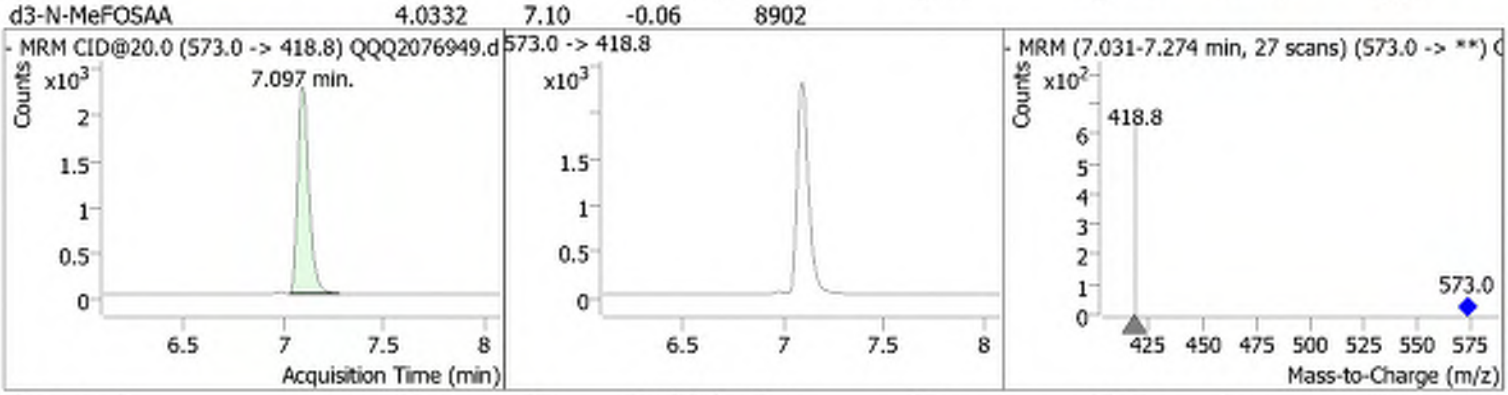


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0010	7.22	0.22	2				

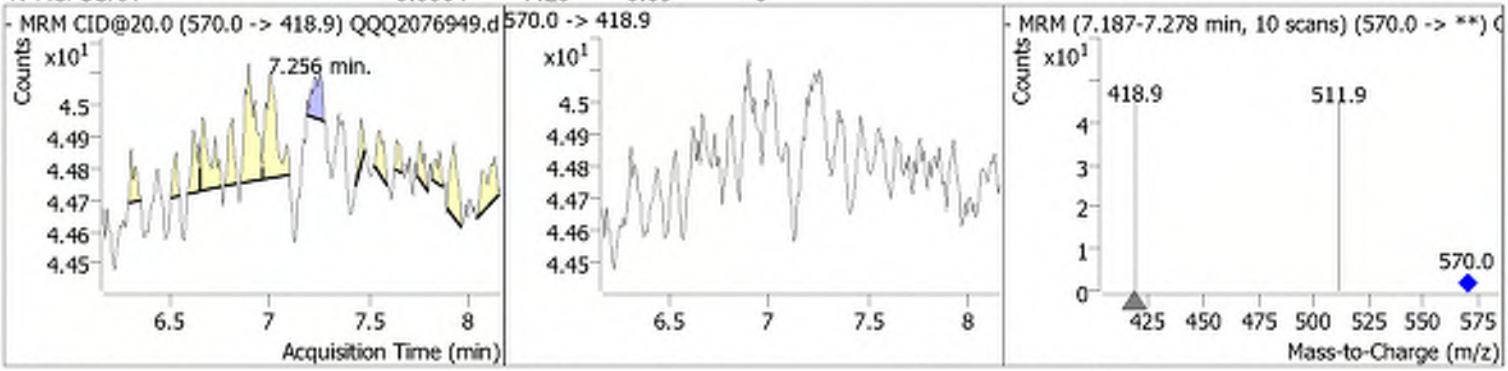


Quantitation Results Report (Not Reviewed)

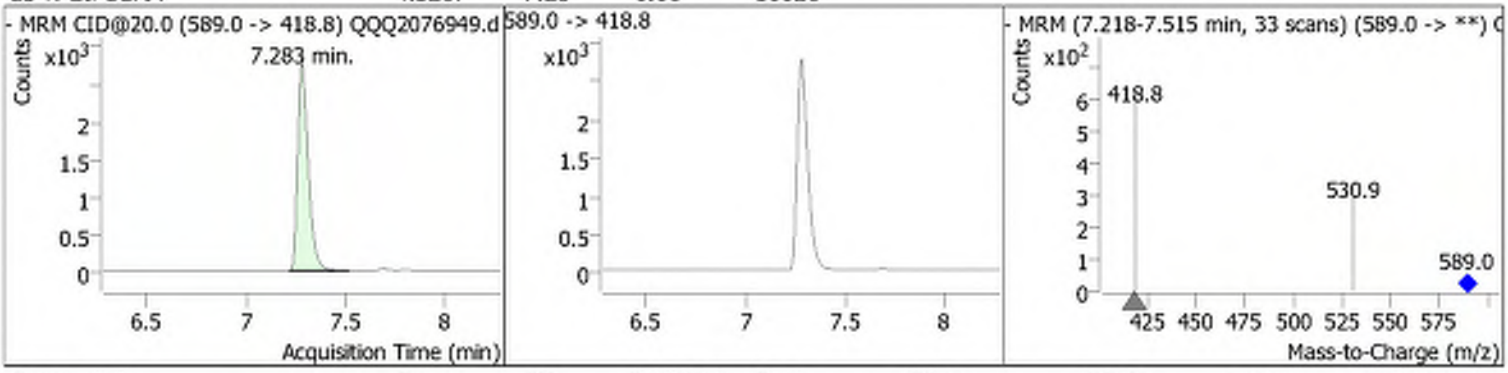
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.0332	7.10	-0.06	8902				



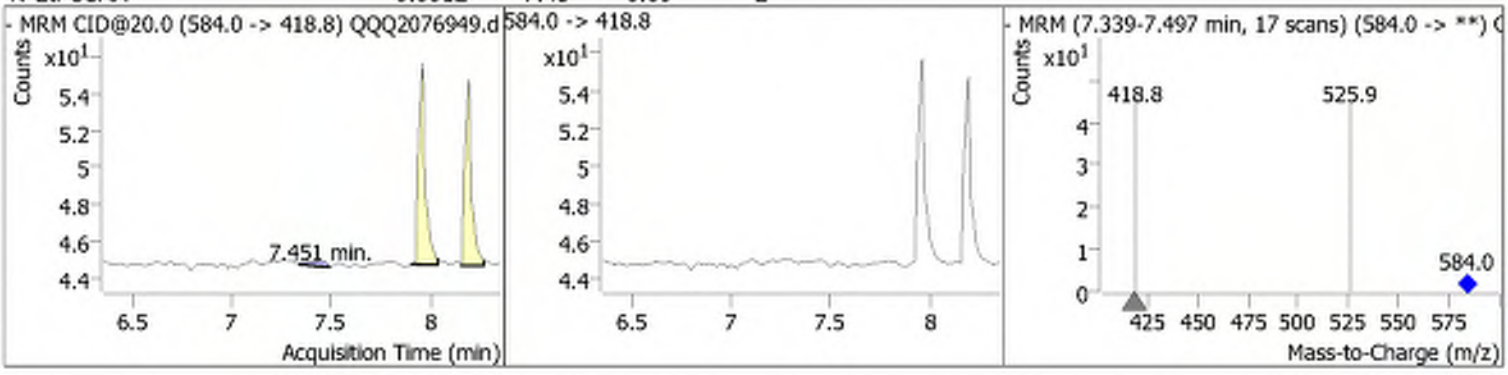
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0004	7.26	0.09	0				



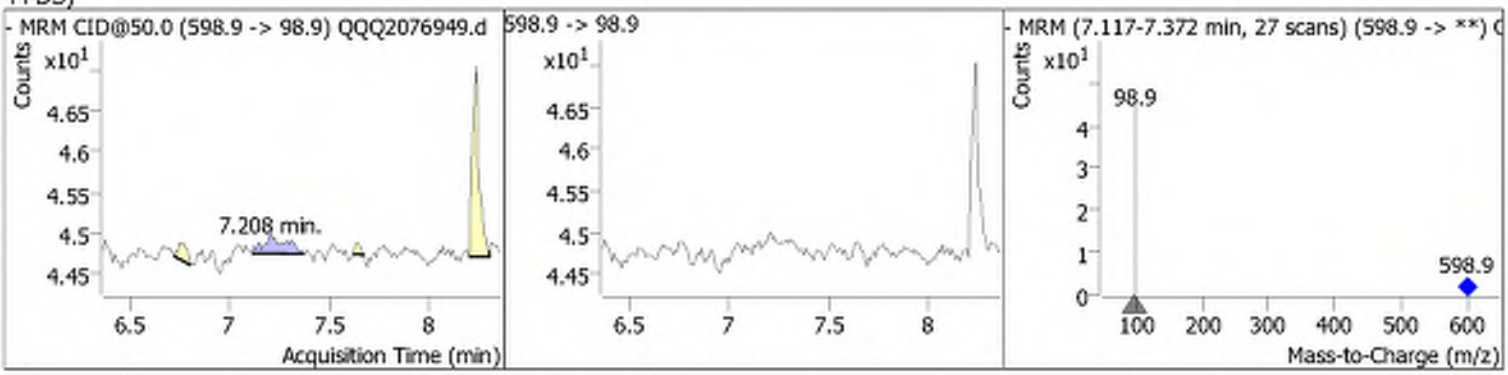
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.5207	7.28	-0.06	10026				



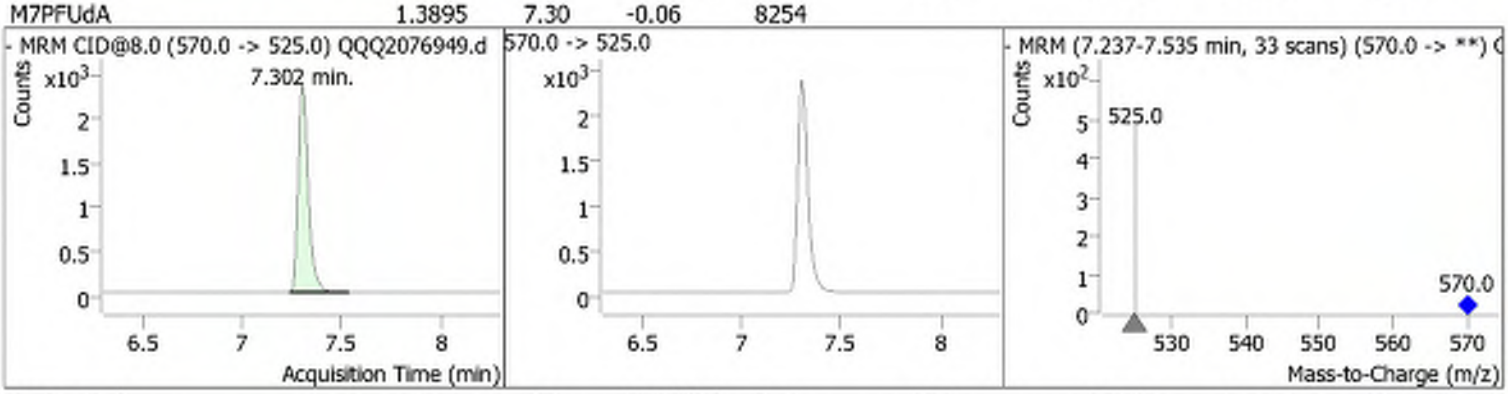
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0012	7.45	0.09	2				



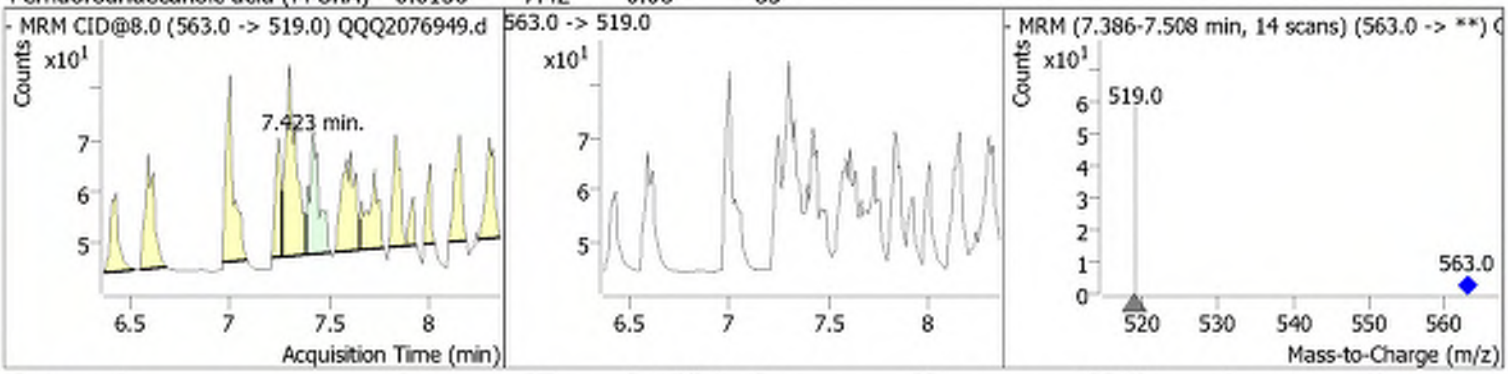
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0018	7.21	-0.16	2				



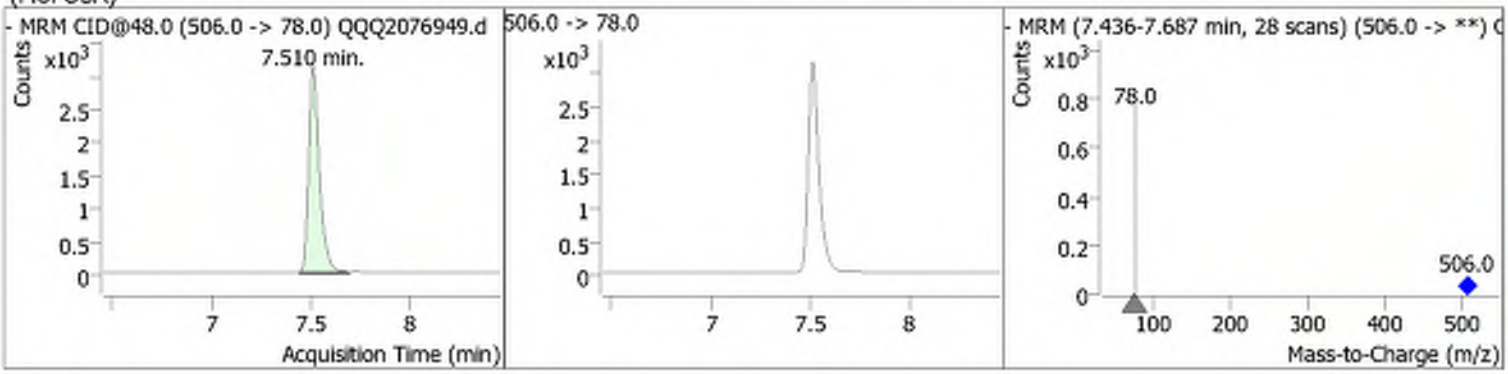
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.3895	7.30	-0.06	8254				



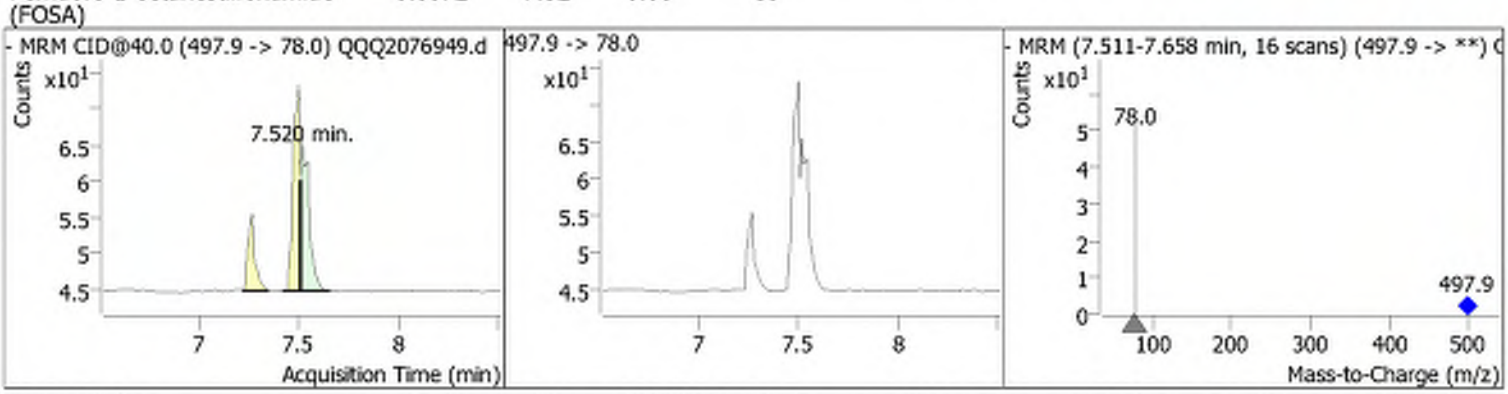
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0156	7.42	0.06	83				



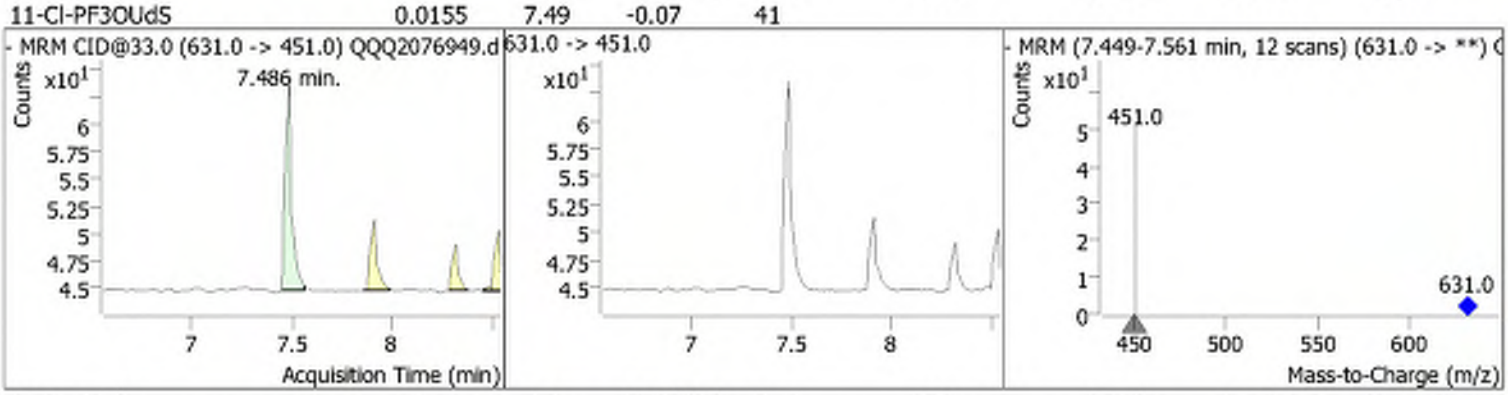
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.1646	7.51	-0.01	11594				



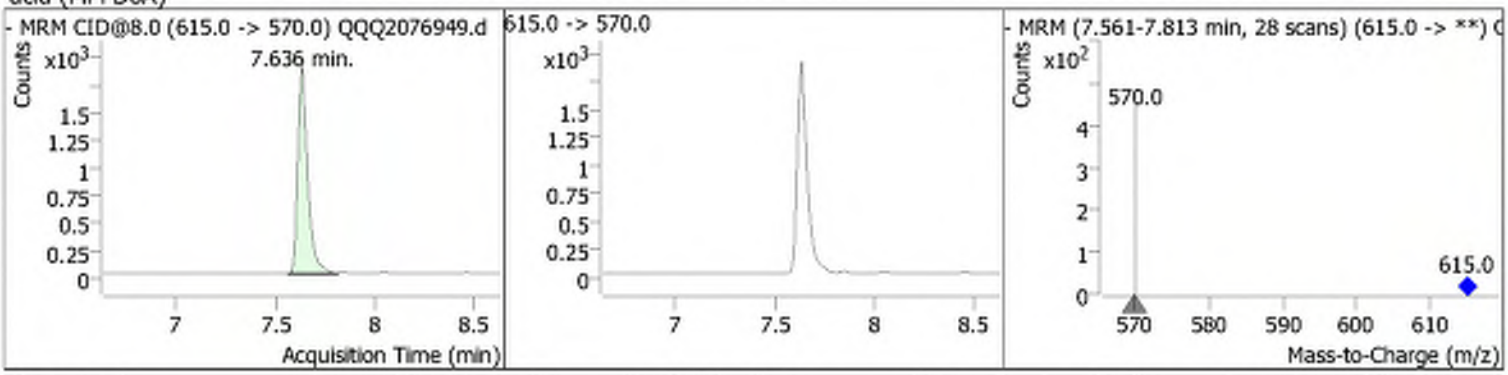
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0072	7.52	0.00	59				



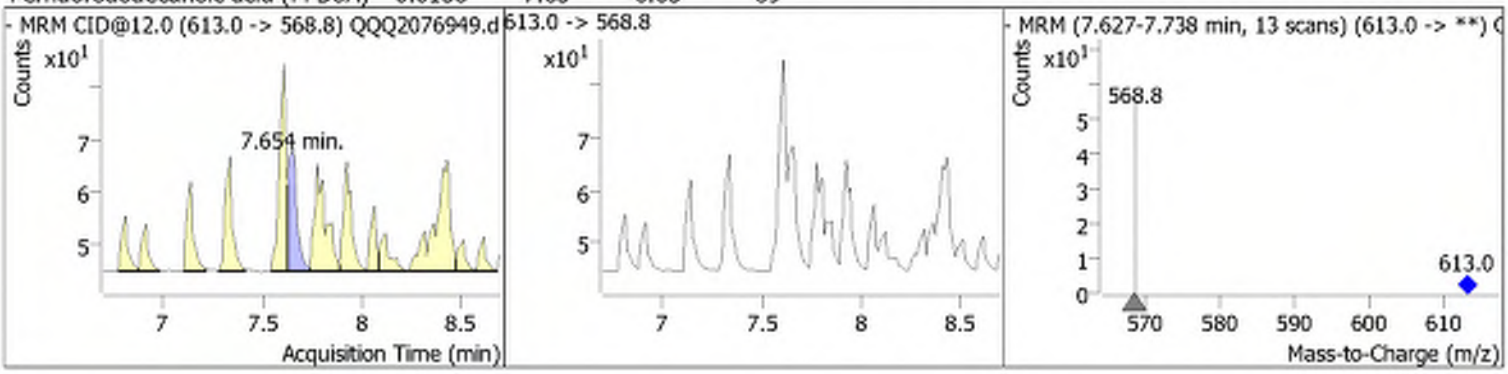
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.0155	7.49	-0.07	41				



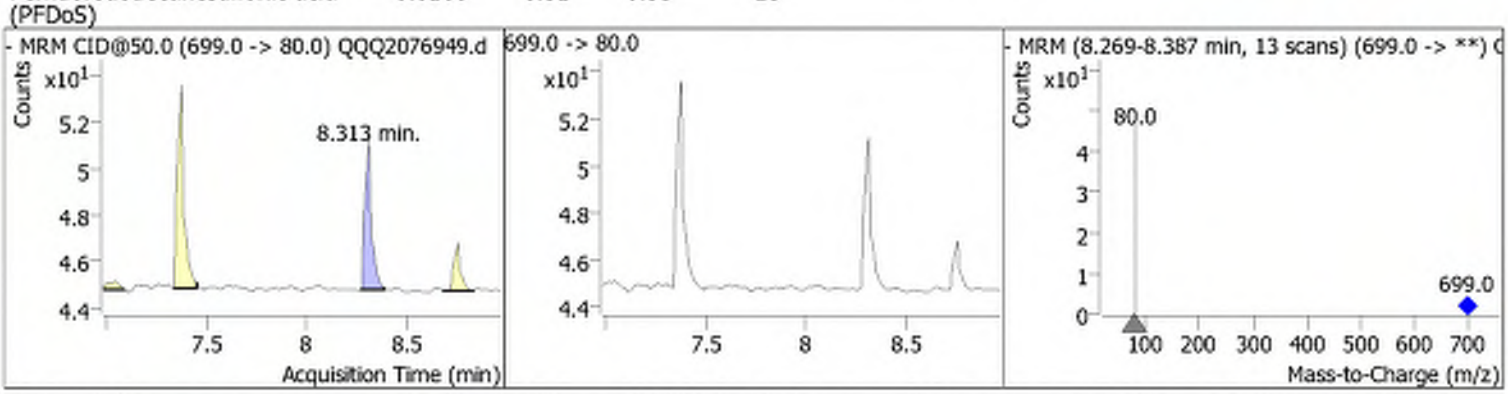
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.2809	7.64	-0.07	6334				



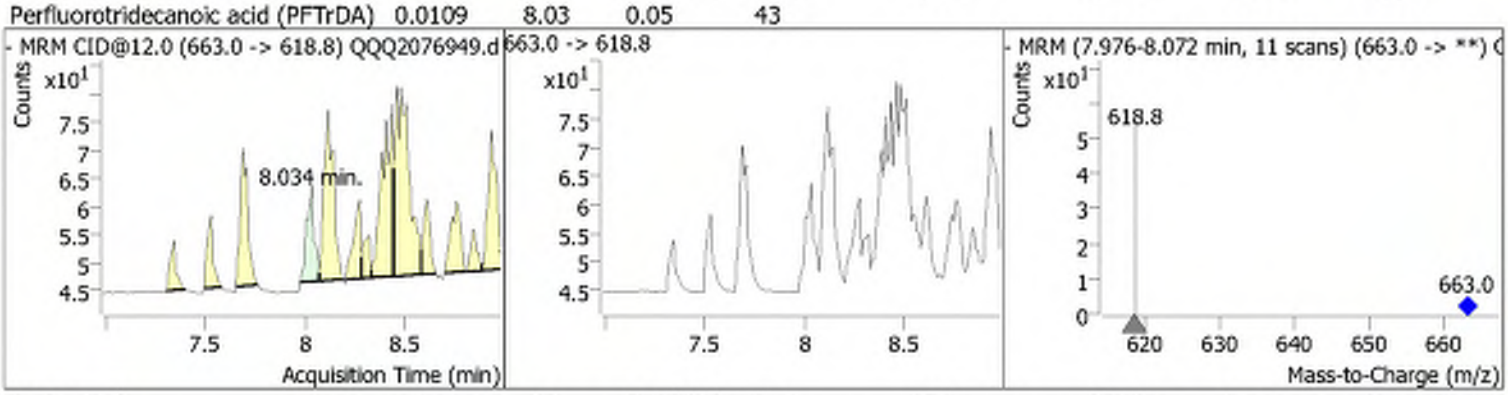
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0158	7.65	-0.05	69				



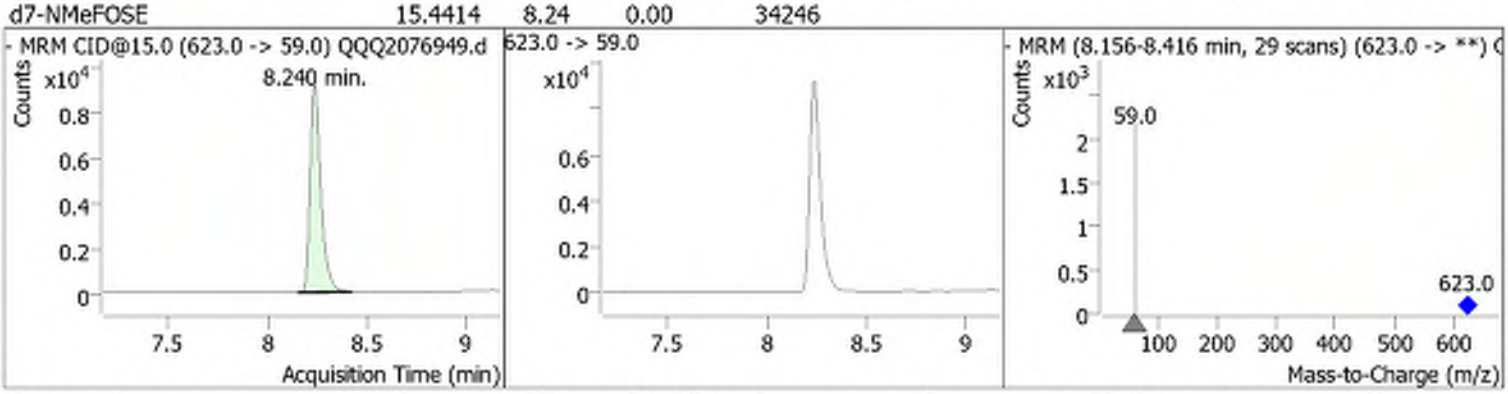
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0166	8.31	0.33	15				



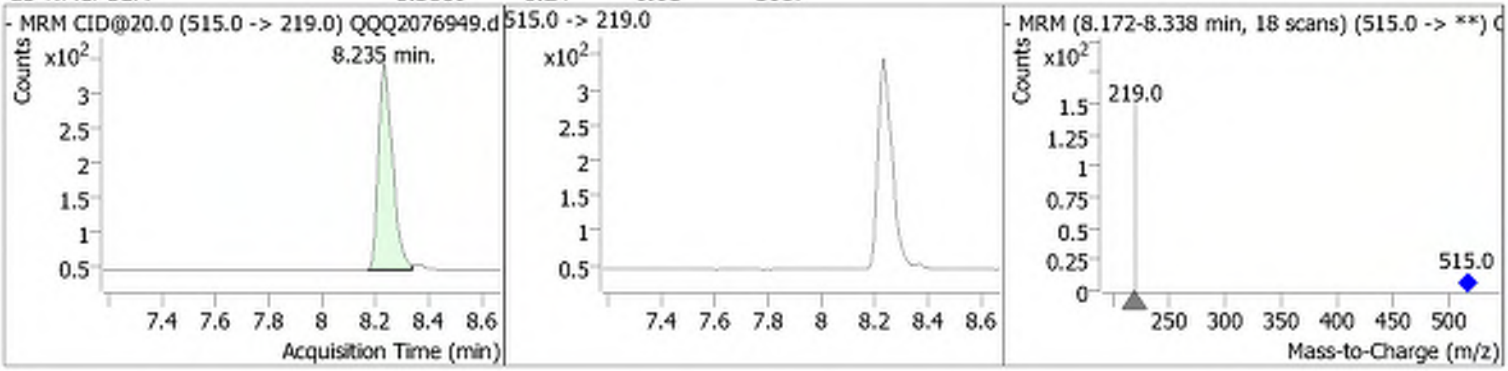
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0109	8.03	0.05	43				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	15.4414	8.24	0.00	34246				

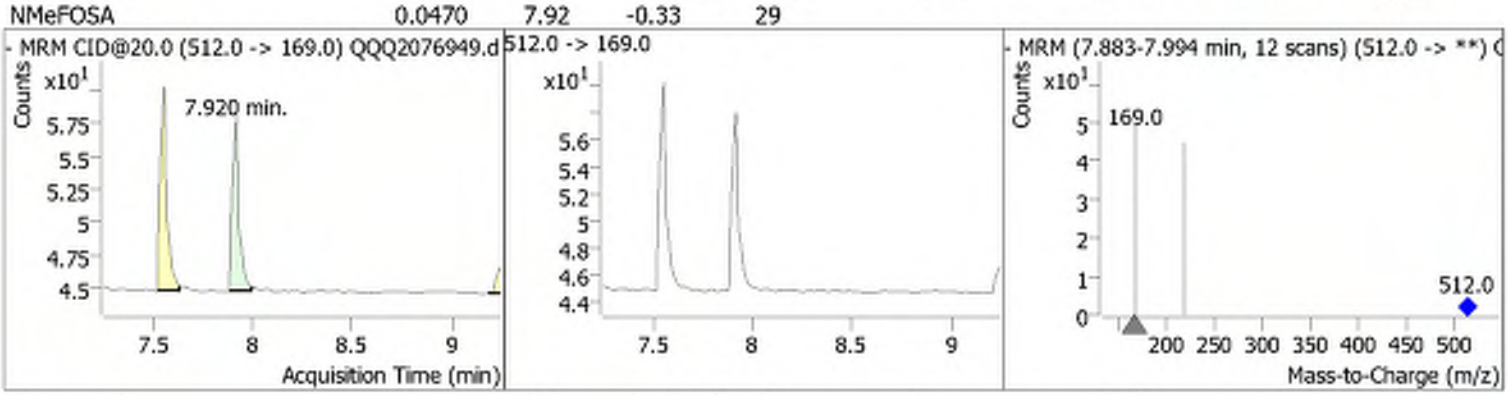


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.5889	8.24	-0.01	1087				

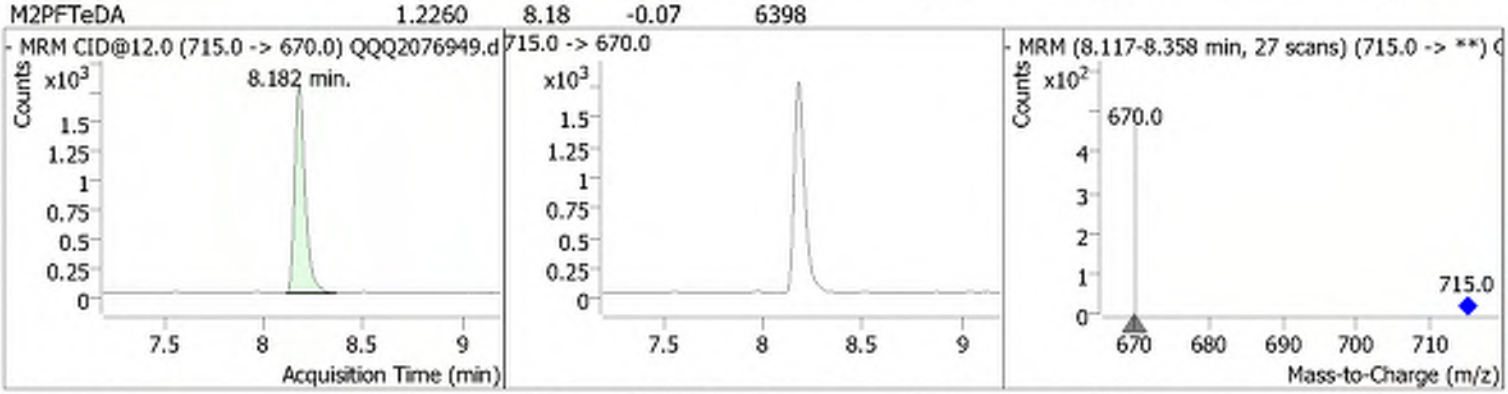


Quantitation Results Report (Not Reviewed)

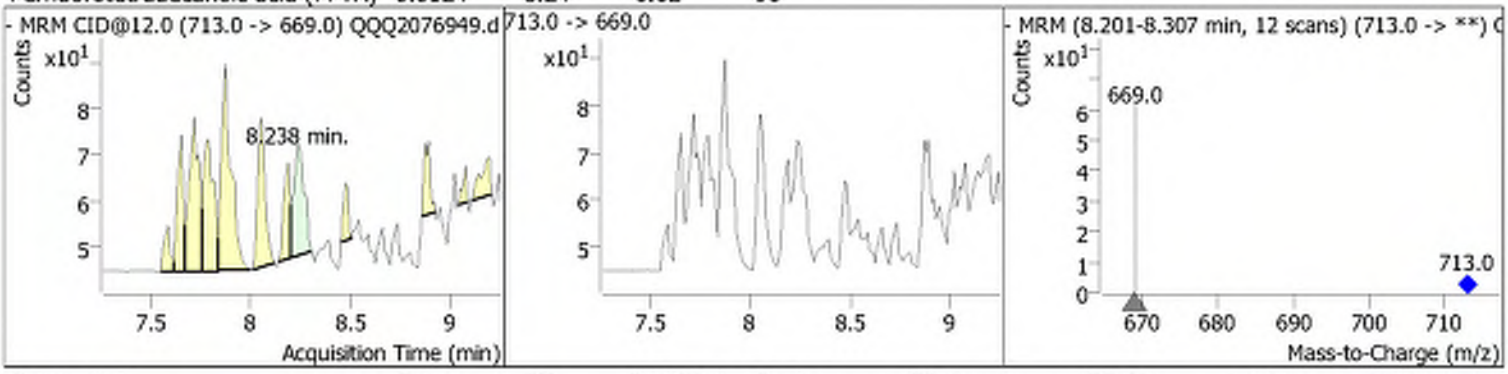
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.0470	7.92	-0.33	29				



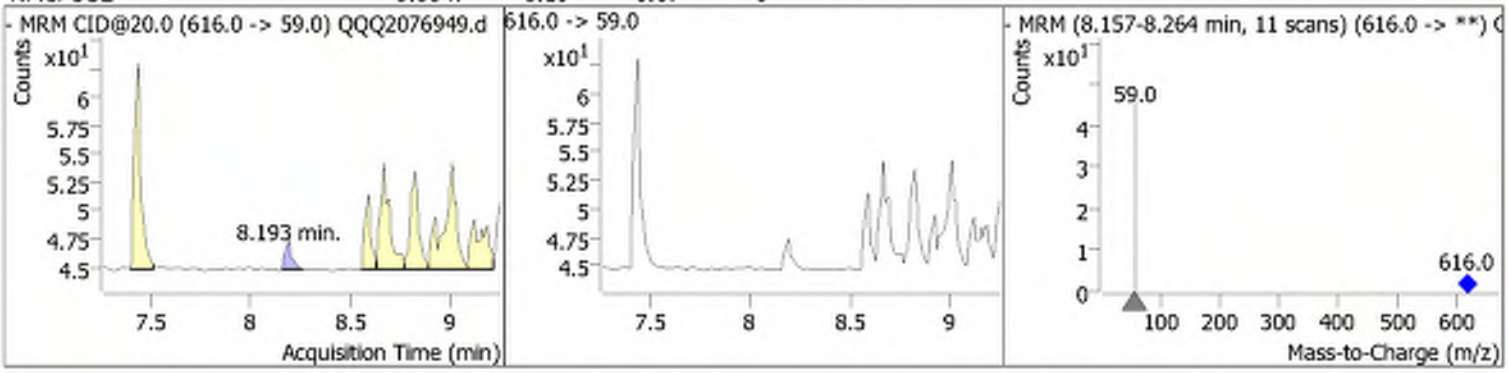
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.2260	8.18	-0.07	6398				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0124	8.24	-0.02	90				



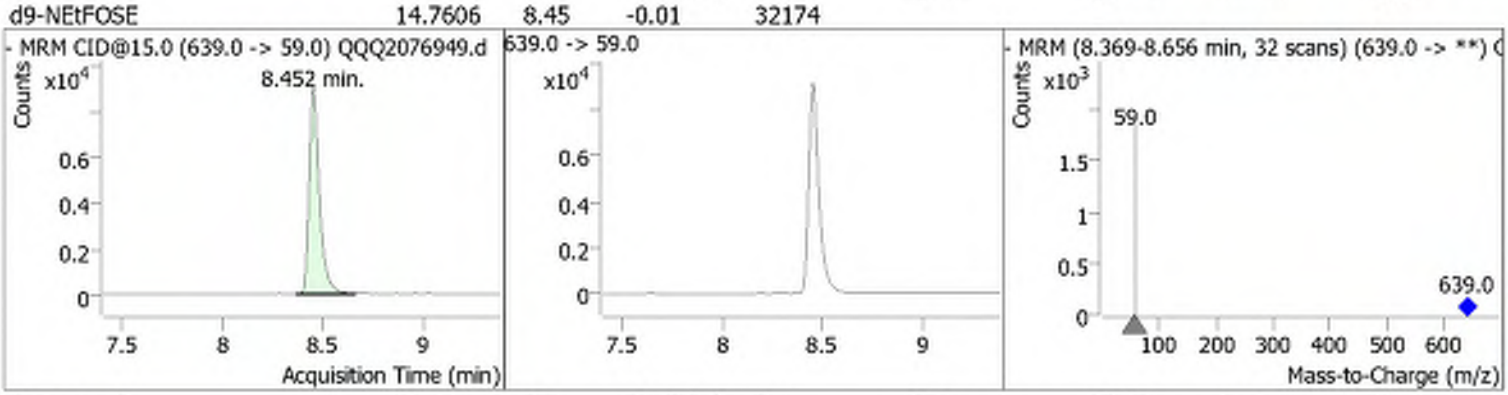
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	0.0047	8.19	-0.07	6				



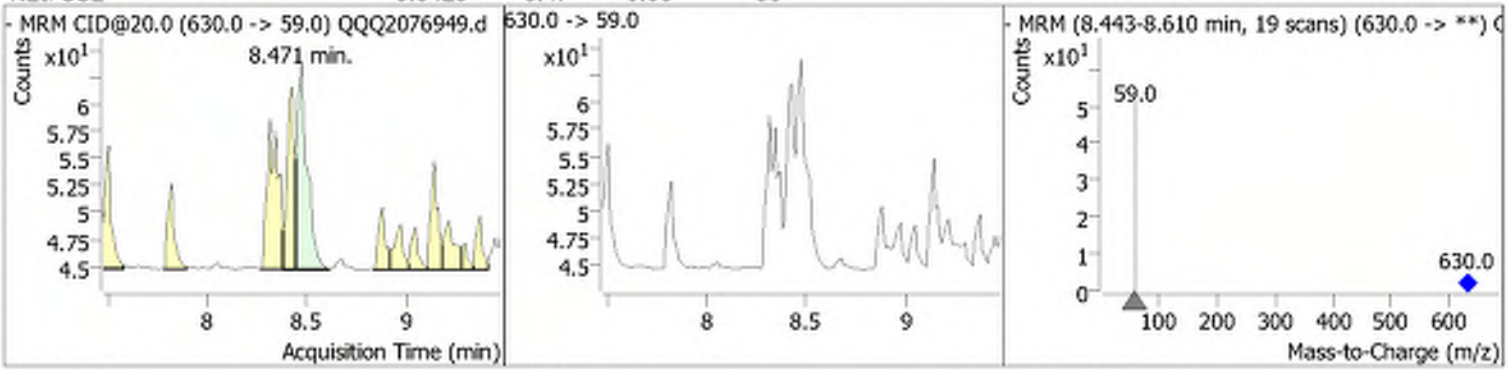
Quantitation Results Report (Not Reviewed)

Agilent

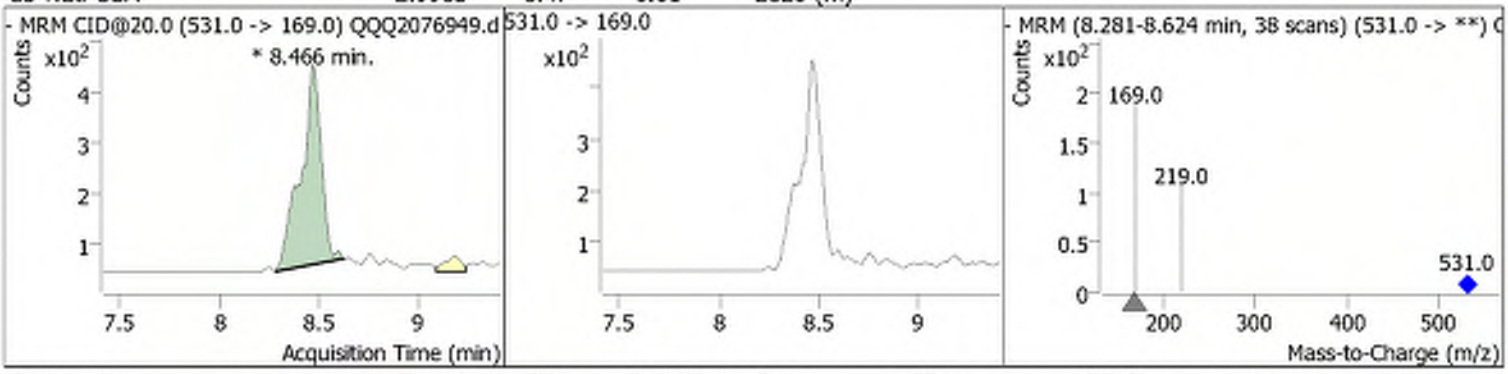
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	14.7606	8.45	-0.01	32174				



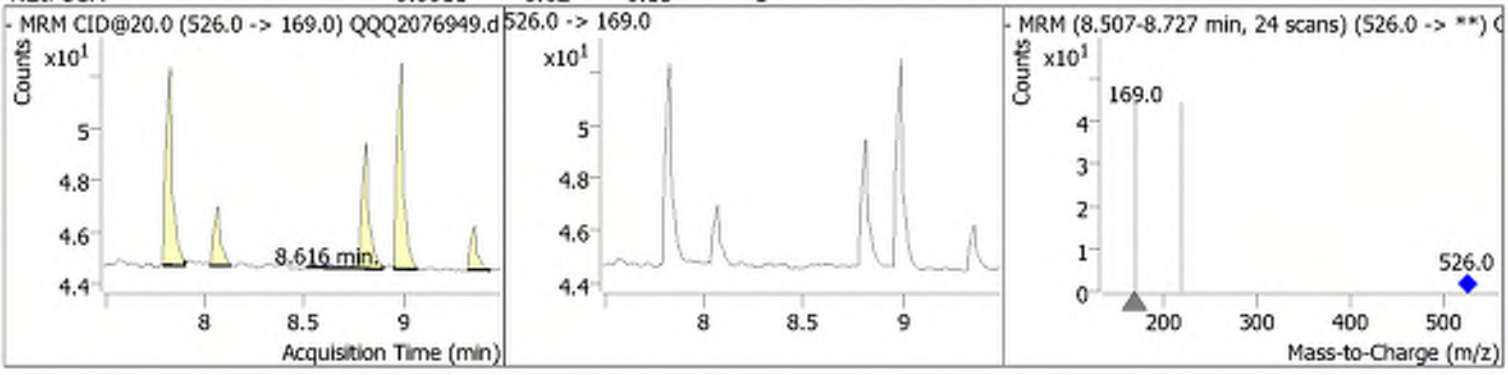
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	0.0428	8.47	0.00	66				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.9983	8.47	-0.01	2820 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.0011	8.62	0.13	1				



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_PFASFB_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Water Laboratory ID: 23E0419-03 File ID: QQQ2077048.d

Sampled: 05/05/23 13:30 Prepared: 05/15/23 12:21 Analyzed: 05/17/23 12:42

Solids: Preparation: EPA 1633 Prep Initial/Final: 521.44 mL / 5 mL

Batch: BE30673 Sequence: S3E1762 Calibration: SD30043 Instrument: QQQ-2

CAS NO.	COMPOUND	DILUTION	CONC. (ng/L)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1	1.70	U
307-24-4	Perfluorohexanoic acid (PFHxA)	1	0.702	J
375-85-9	Perfluoroheptanoic acid (PFHpA)	1	1.92	U
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1	1.75	U
335-67-1	Perfluorooctanoic acid (PFOA)	1	1.92	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1	1.78	U
375-95-1	Perfluorononanoic acid (PFNA)	1	1.92	U
335-76-2	Perfluorodecanoic acid (PFDA)	1	1.92	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1	1.92	U
307-55-1	Perfluorododecanoic acid (PFDoA)	1	1.92	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	1	1.92	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	1	1.92	U
2355-31-9	N-MeFOSAA	1	1.92	U
2991-50-6	N-EtFOSAA	1	1.92	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	1	3.84	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	1	1.92	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	1	1.83	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	1	1.85	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	1	7.29	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	1	7.36	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	1	7.67	U
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	1	3.41	U
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	1	3.84	U
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	1	3.84	U
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	1	3.84	U
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	1	1.80	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	1	7.19	U
13252-13-6	HFPO-DA (Gen-X)	1	7.67	U
763051-92-9	11CL-PF3OUdS	1	7.25	U
756426-58-1	9CL-PF3ONS	1	7.17	U
919005-14-4	ADONA	1	7.25	U
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	1	1.86	U
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	1	1.84	U
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	1	4.79	U
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	1	24.0	U
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	1	24.0	U
24448-09-7	N-MeFOSE	1	19.2	U
31506-32-8	N-MeFOSA	1	1.92	U
1691-99-2	N-EtFOSE	1	19.2	U
4151-50-2	N-EtFOSA	1	1.92	U

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_PFASFB_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	23E0419-03	File ID:	QQQ2077048.d
Sampled:	05/05/23 13:30	Prepared:	05/15/23 12:21	Analyzed:	05/17/23 12:42
Solids:		Preparation:	EPA 1633 Prep	Initial/Final:	521.44 mL / 5 mL
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043
Instrument:	QQQ-2				

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
M3PFBS	22.3	20.5	91.6	25 - 150	
M5PFHxA	24.0	23.8	99.3	25 - 150	
M4PFHpA	24.0	23.6	98.5	25 - 150	
M3PFHxS	22.7	19.2	84.5	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	24.0	19.6	81.7	25 - 150	
M6PFDA	12.0	9.31	77.7	25 - 150	
M7PFUdA	12.0	8.59	71.7	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	12.0	6.93	57.8	25 - 150	
M2PFTeDA	12.0	2.85	23.8	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	95.9	94.2	98.3	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	23.0	34.8	151	25 - 150	*
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	47.9	46.0	95.9	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	24.0	17.5	72.9	10 - 150	
d3-N-MeFOSAA	47.9	37.4	78.1	25 - 150	
d5-N-EtFOSAA	47.9	30.0	62.5	25 - 150	
M2-6:2 FTS	45.6	47.2	103	25 - 200	
M2-8:2 FTS	46.0	28.0	60.8	25 - 200	
M9PFNA	12.0	12.0	100	25 - 150	
M2-4:2 FTS	45.0	44.1	98.1	25 - 150	
d-N-MeFOSA	24.0	10.1	42.3	25 - 150	
d-N-EtFOSA	24.0	74.8	312	25 - 150	*
M3HFPO-DA	95.9	109	113	25 - 150	
d9-N-EtFOSE	240	54.1	22.6	25 - 150	*
d7-N-MeFOSE	240	79.2	33.0	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M3PFBA	27974.85	1.14275	42068.82	1.1611	
MPFDA	8072.214	6.911283	12064.13	6.920617	
MPFHxA	23248.47	4.64175	36343.42	4.651017	
MPFHxS	2456.575	5.4755	2907.181	5.4755	
MPFNA	9496.683	6.4737	13031.33	6.473717	
MPFOA	24987.79	5.9697	33005.6	5.969717	
MPFOS	4857.676	6.501083	8502.604	6.5011	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	1227.629	6.473567	1853.677	6.473583	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	11257.69	5.969433	16982.8	5.96945	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	18046.62	3.313267	29986.22	3.322483	
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	37661.65	1.14045	59843.77	1.158817	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	3737.013	7.626433	10597.95	7.626433	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	2549.747	6.500583	3666.996	6.500583	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7264.449	7.500517	16732.87	7.500533	
M7PFUdA-EIS	5565.583	7.292783	11145.32	7.292783	
M6PFDA-EIS	3043.498	6.91105	4681.368	6.920367	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 1633 Draft 2

EHQ_ITEM304_PFASFB_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	23E0419-03	File ID:	QQQ2077048.d
Sampled:	05/05/23 13:30	Prepared:	05/15/23 12:21	Analyzed:	05/17/23 12:42
Solids:		Preparation:	EPA 1633 Prep	Initial/Final:	521.44 mL / 5 mL
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043
Instrument:	QQQ-2				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M5PFHxA-EIS	15590.79	4.650167	24274.19	4.650183	
M4PFHpA-EIS	17472.39	5.383083	27825.21	5.392583	
M3PFHxS-EIS	5497.276	5.47595	8343.078	5.475966	
M3PFBS-EIS	6971.723	3.827717	10375.57	3.83695	
M3-HFPO-DA-EIS	41454.74	4.903567	65527.83	4.903584	
M2PFTeDA-EIS	1621.556	8.172633	11560.25	8.17265	
M2-8-2FTS-EIS	1821.43	6.891617	3905.602	6.900933	
M2-6-2FTS-EIS	3569.244	5.941	6641.646	5.931716	
M2-4-2FTS-EIS	6155.663	4.584233	11948.52	4.58425	
d9-NEtFOSE-EIS	9161.91	8.452017	62731.32	8.452033	
d7-NMeFOSE-EIS	13638.91	8.23945	69829.86	8.2302	
d5-NEtFOSA-EIS	5458.831	8.42905	7845.189	8.4661	
d5-N-EtFOSAA-EIS	5163.877	7.273667	16688.83	7.273667	
d3-NMeFOSA-EIS	538.1154	8.2447	2421.225	8.23545	
d3-N-MeFOSAA-EIS	6414.239	7.077833	17278.1	7.08715	

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077048.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 12:42:35 PM
Sample Name	23E0419-03	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.143	216.0 -> 172.0	27975	5.0000	ng/ml		-0.064
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.140	217.0 -> 172.0	37662	10.0000	ng/ml		-0.064
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.313	268.0 -> 223.0	18047	5.0000	ng/ml		-0.074
MPFHxA	4.642	315.0 -> 269.8	23248	2.5000	ng/ml		-0.056
MPFHxS	5.476	403.0 -> 103.0	2457	2.3700	ng/ml		-0.047
M3PFBS-EIS	3.828	302.0 -> 79.9	6972	2.3300	ng/ml		-0.065
M5PFHxA-EIS	4.650	318.0 -> 273.0	15591	2.5000	ng/ml		-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	6156	4.6900	ng/ml		-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	5497	2.3700	ng/ml		-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	41455	10.0000	ng/ml		-0.056
M4PFHpA-EIS	5.383	367.0 -> 322.0	17472	2.5000	ng/ml		-0.056
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	3569	4.7550	ng/ml		-0.056
MPFOA	5.970	417.0 -> 372.0	24988	2.5000	ng/ml		-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	11258	2.5000	ng/ml		-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	2550	2.3950	ng/ml		-0.065
MPFNA	6.474	468.0 -> 423.0	9497	1.2500	ng/ml		-0.066
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1228	1.2500	ng/ml		-0.066
MPFOS	6.501	503.0 -> 80.0	4858	2.3950	ng/ml		-0.075
M2-8-2FTS-EIS	6.892	529.0 -> 509.0	1821	4.8000	ng/ml		-0.075
MPFDA	6.911	515.0 -> 469.8	8072	1.2500	ng/ml		-0.075
M6PFDA-EIS	6.911	519.0 -> 473.9	3043	1.2500	ng/ml		-0.075
d3-N-MeFOSAA-EIS	7.078	573.0 -> 418.8	6414	5.0000	ng/ml		-0.075
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	5164	5.0000	ng/ml		-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	5566	1.2500	ng/ml		-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	7264	2.5000	ng/ml		-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	3737	1.2500	ng/ml		-0.074
M2PFTeDA-EIS	8.173	715.0 -> 670.0	1622	1.2500	ng/ml		-0.084
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	538	2.5000	ng/ml		0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	13639	25.0000	ng/ml		0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	9162	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.429	531.0 -> 169.0	5459	2.5000	ng/ml	m	-0.046
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.140	217.0 -> 172.0	37662	9.8286	ng/ml		-0.064
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.313	268.0 -> 223.0	18047	4.7944	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.828	302.0 -> 79.9	6972	2.1337	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.584	329.0 -> 309.0	6156	4.6016	ng/ml		-0.047

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%			
M5PFHxA	4.650	318.0 -> 273.0	15591	2.4828	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3-HFPO-DA	4.904	287.0 -> 169.0	41455	11.3206	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M4PFHpA	5.383	367.0 -> 322.0	17472	2.4636	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFHxS	5.476	402.0 -> 80.0	5497	2.0027	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M2-6-2FTS	5.941	429.0 -> 409.0	3569	4.9191	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	11258	2.0436	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1228	1.2561	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	2550	3.6257	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M2-8-2FTS	6.892	529.0 -> 509.0	1821	2.9203	ng/ml		-0.075
Spiked Amount:	Range: - %			Recovery = NA%			
M6PFDA	6.911	519.0 -> 473.9	3043	0.9713	ng/ml		-0.075
Spiked Amount:	Range: - %			Recovery = NA%			
d3-N-MeFOSAA	7.078	573.0 -> 418.8	6414	3.9033	ng/ml		-0.075
Spiked Amount:	Range: - %			Recovery = NA%			
d5-N-EtFOSAA	7.274	589.0 -> 418.8	5164	3.1273	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
M7PFUdA	7.293	570.0 -> 525.0	5566	0.8963	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	7264	1.8217	ng/ml		-0.019
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	3737	0.7229	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
d7-NMeFOSE	8.239	623.0 -> 59.0	13639	8.2599	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-NMeFOSA	8.245	515.0 -> 219.0	538	1.0565	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
M2PFTeDA	8.173	715.0 -> 670.0	1622	0.2972	ng/ml		-0.084
Spiked Amount:	Range: - %			Recovery = NA%			
d9-NEtFOSE	8.452	639.0 -> 59.0	9162	5.6455	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d5-NEtFOSA	8.429	531.0 -> 169.0	5459	7.7963	ng/ml	m	-0.046
Spiked Amount:	Range: - %			Recovery = NA%			
Target Compounds							QValue
Perfluoro-n-butanoic acid (PFBA)	1.145	213.0 -> 168.9	70	0.0148	ng/ml		100
PFMPA	2.033	229.0 -> 85.0	1	0.0004	ng/ml		100
3:3FTCA	3.259	241.0 -> 177.0	3	0.0128	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	3.471	263.0 -> 219.0	7	0.0017	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	3.967	298.9 -> 79.9	4	0.0010	ng/ml		100
PFMBA	4.070	279.0 -> 85.0	10	0.0025	ng/ml		100
PFEESA	4.428	315.0 -> 135.0	7	0.0007	ng/ml		100
NFDHA	4.467	295.0 -> 201.1	1	0.0002	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.566	327.0 -> 307.0	1	0.0004	ng/ml		100

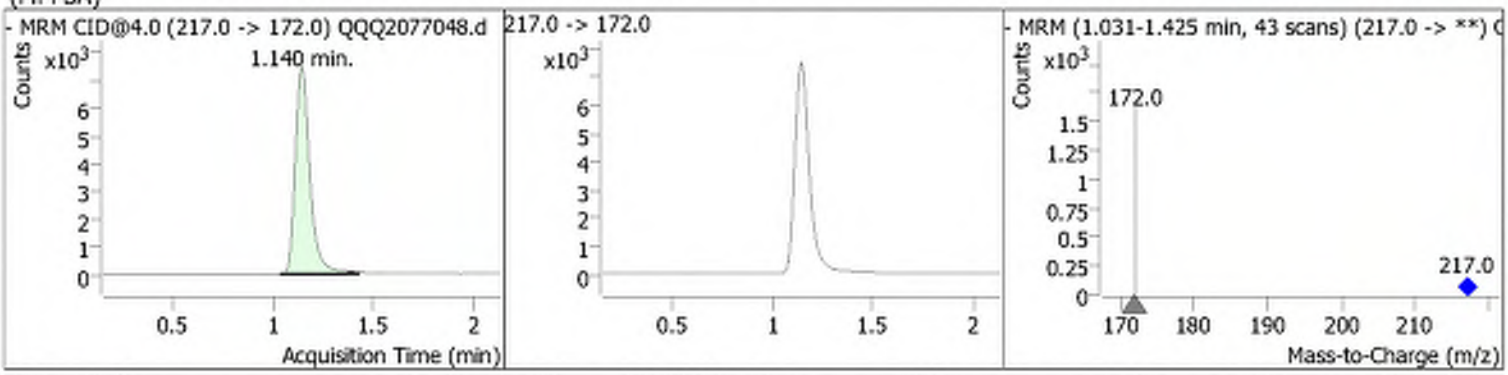
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.689	313.0 -> 268.9	537	0.0732	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	5.058	348.9 -> 79.9	0	0.0001	ng/ml	100
HFPO-DA	4.783	285.0 -> 169.1	19	0.0532	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	5.374	363.0 -> 318.8	92	0.0098	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	38	0.0119	ng/ml	100
5-3FTCA	5.049	341.0 -> 217.0	12	0.0133	ng/ml	100
ADONA	5.598	377.0 -> 85.0	60	0.0112	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	6.241	427.0 -> 407.0	21	0.0277	ng/ml	100
Perfluorooctanoic acid (PFOA)	5.980	413.0 -> 368.8	59	0.0091	ng/ml	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.166	448.9 -> 80.0	3	0.0011	ng/ml	100
Perfluorononanoic acid (PFNA)	6.483	463.0 -> 418.8	69	0.0099	ng/ml	100
Perfluorooctanesulfonic acid (PFOS)	6.501	498.9 -> 79.9	41	0.0318	ng/ml	100
7-3FTCA	6.633	441.0 -> 337.0	97	0.0720	ng/ml	100
9-Cl-PF3ONS	6.892	531.0 -> 351.0	2	0.0003	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	7.023	527.0 -> 80.9	2	0.0044	ng/ml	100
Perfluorodecanoic acid (PFDA)	6.892	513.0 -> 468.8	69	0.0136	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	6.957	548.9 -> 79.9	2	0.0006	ng/ml	100
N-MeFOSAA	7.060	570.0 -> 418.9	1	0.0008	ng/ml	100
N-EtFOSAA	7.339	584.0 -> 418.8	2	0.0025	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.366	598.9 -> 98.9	0	0.0004	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	7.423	563.0 -> 519.0	99	0.0276	ng/ml	100
Perfluoro-1-octanesulfonamide (FOSA)	7.436	497.9 -> 78.0	38	0.0074	ng/ml	100
11-Cl-PF3OUdS	8.360	631.0 -> 451.0	23	0.0102	ng/ml	100
Perfluorododecanoic acid (PFDoA)	7.636	613.0 -> 568.8	31	0.0121	ng/ml	100
Perfluorododecanesulfonic acid (PFDoS)	7.923	699.0 -> 80.0	1	0.0009	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	7.997	663.0 -> 618.8	52	0.0514	ng/ml	100
NMeFOSA	8.302	512.0 -> 169.0	21	0.0685	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	8.349	713.0 -> 669.0	37	0.0203	ng/ml	100
NMeFOSE	8.082	616.0 -> 59.0	23	0.0478	ng/ml	100
NEtFOSE	8.490	630.0 -> 59.0	16	0.0357	ng/ml	100
NEtFOSA	8.393	526.0 -> 169.0	29	0.0157	ng/ml	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

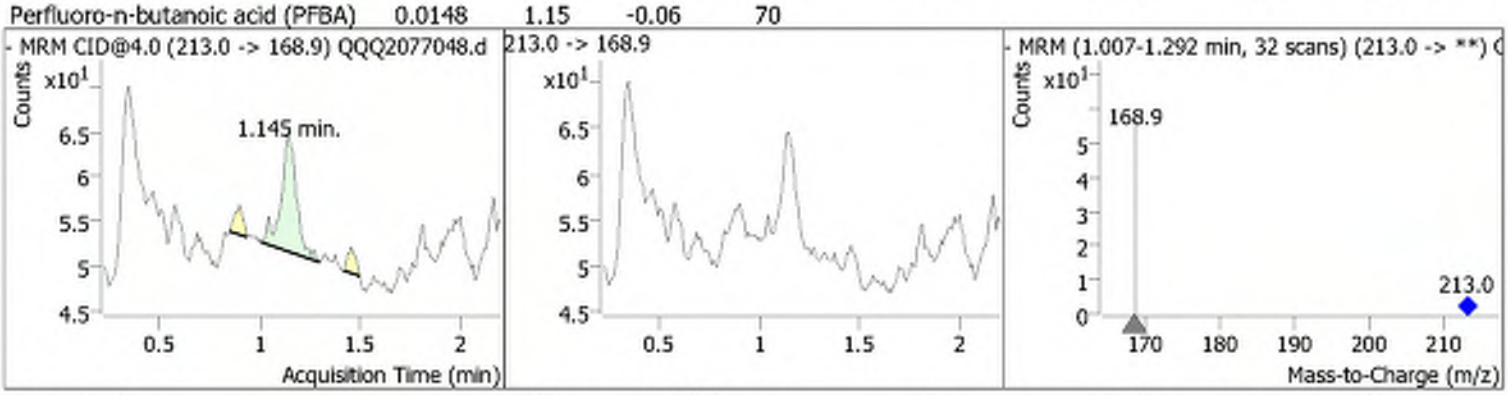
Quantitation Results Report (Not Reviewed)

Agilent

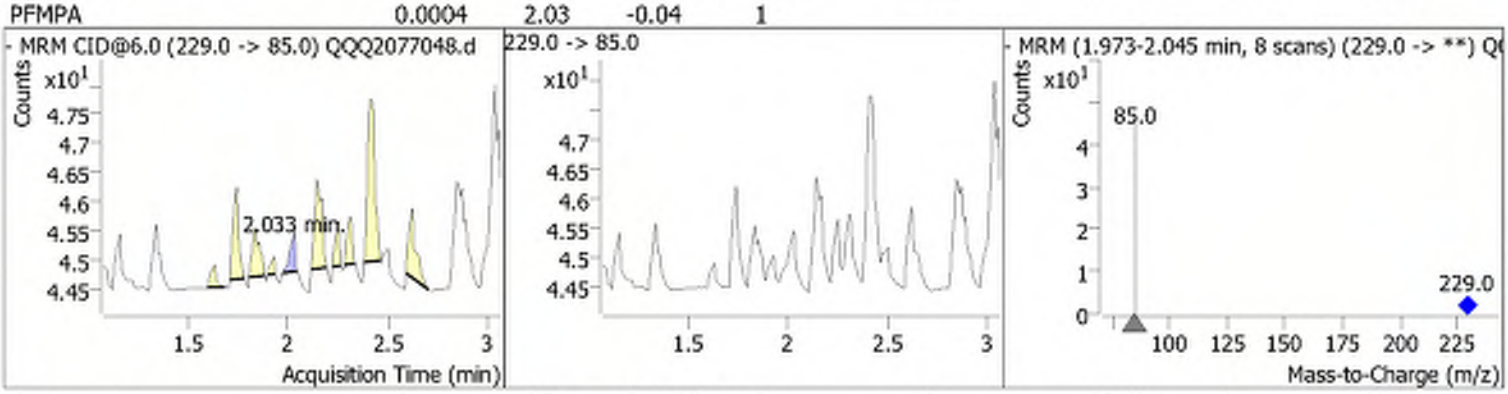
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.8286	1.14	-0.06	37662				



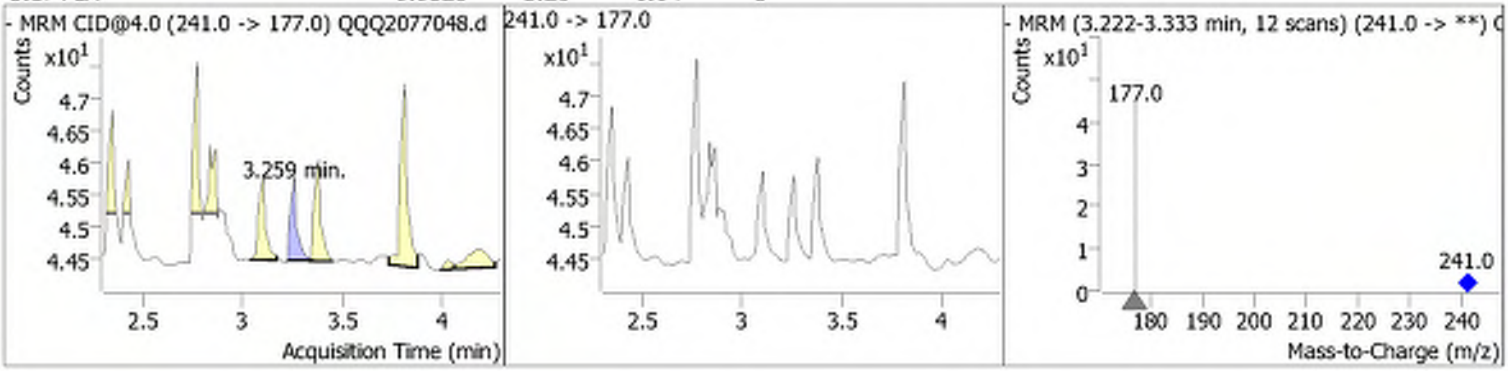
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0148	1.15	-0.06	70				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0004	2.03	-0.04	1				



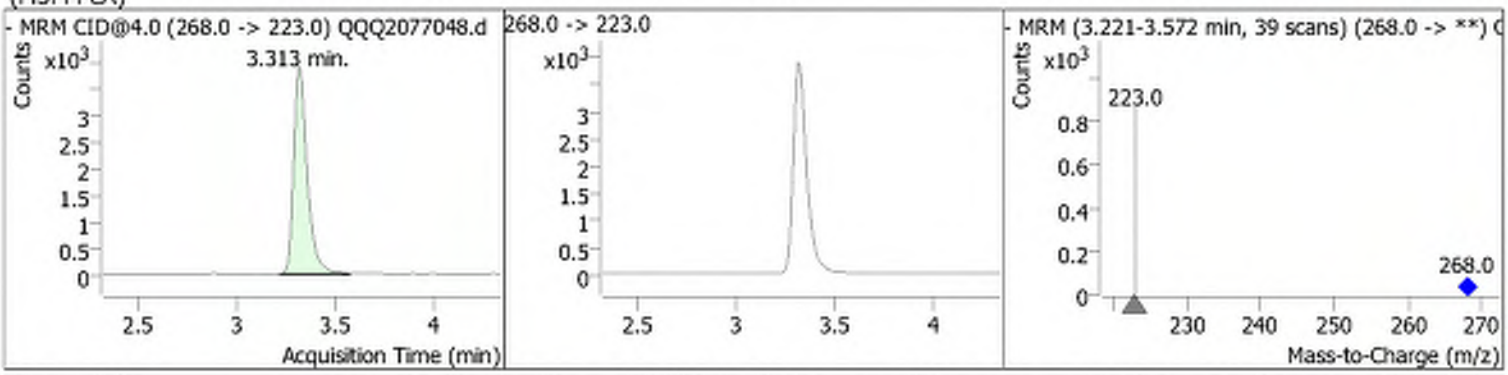
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.0128	3.26	-0.04	3				



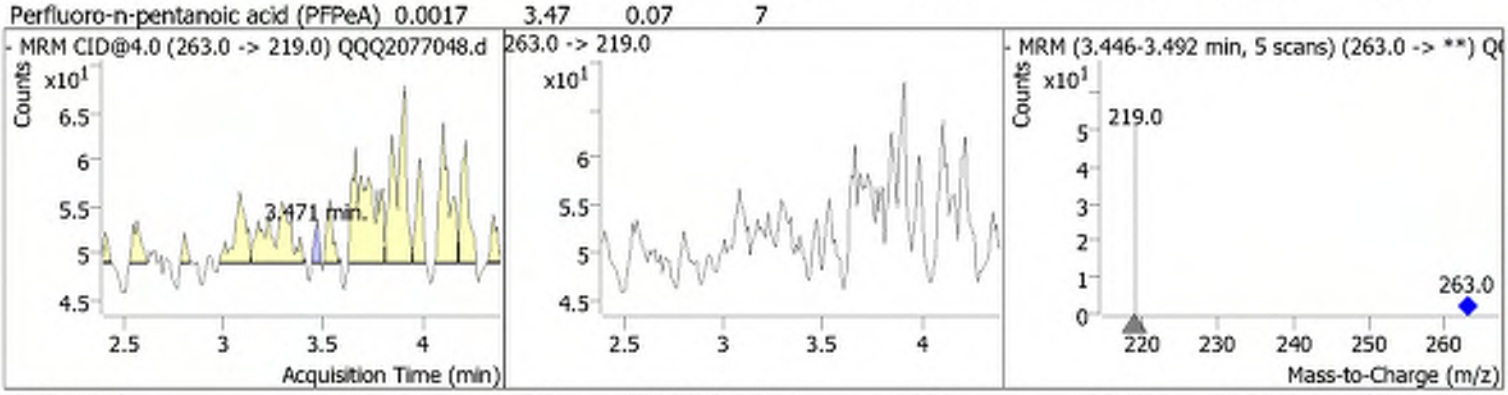
Quantitation Results Report (Not Reviewed)

Agilent

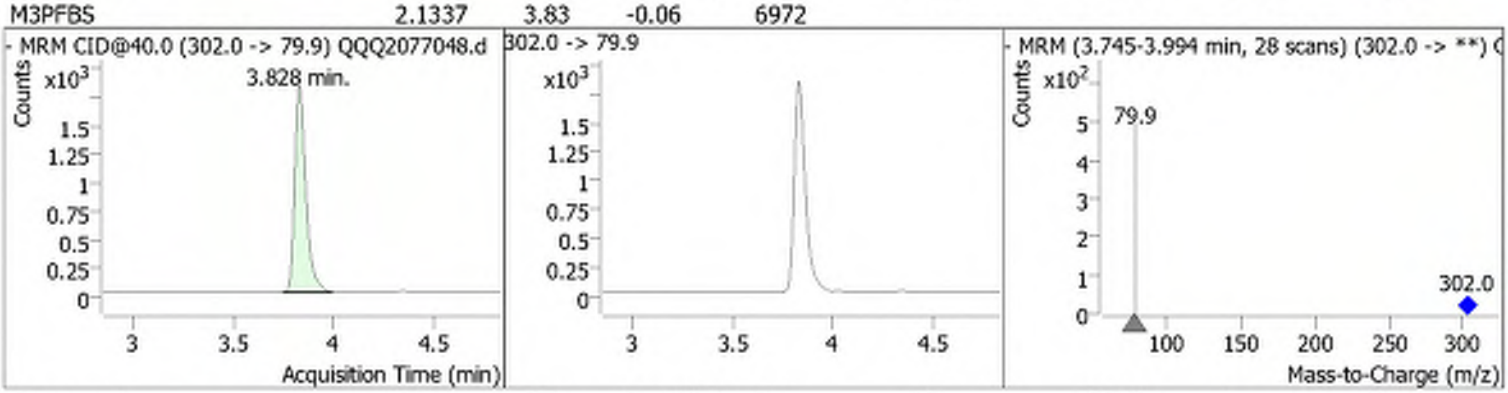
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.7944	3.31	-0.07	18047				



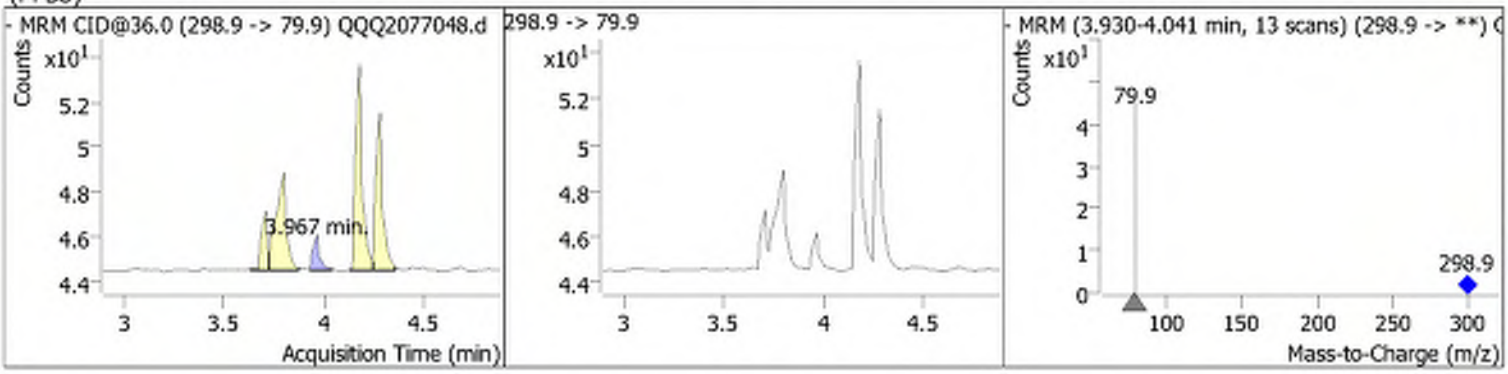
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0017	3.47	0.07	7				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.1337	3.83	-0.06	6972				

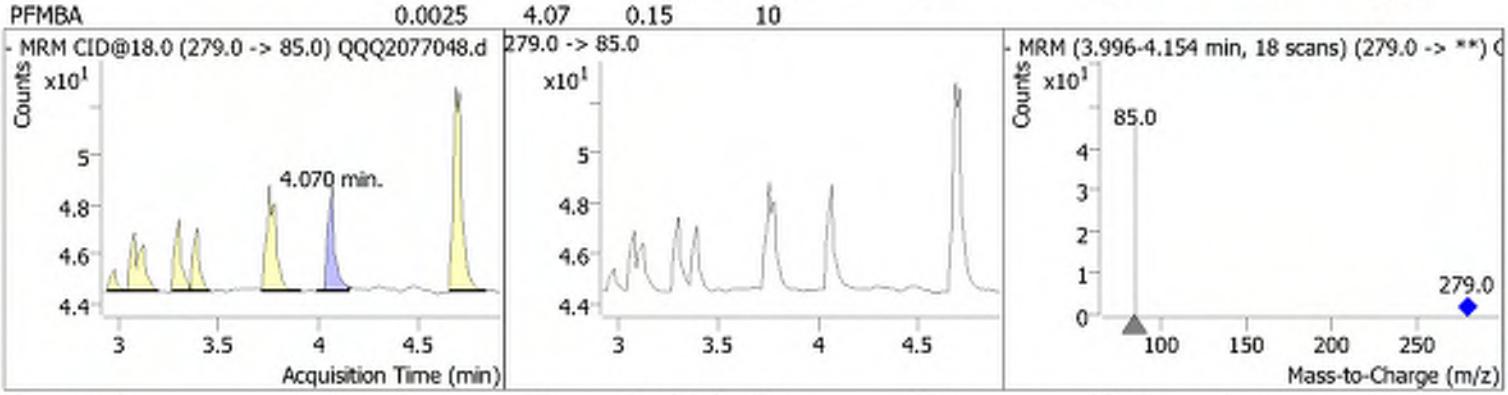


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0010	3.97	0.07	4				

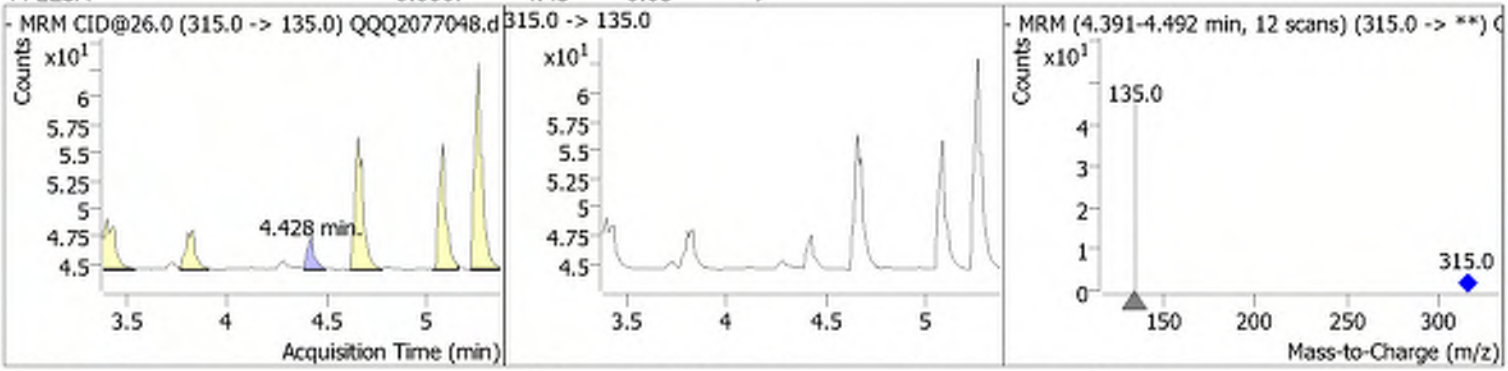


Quantitation Results Report (Not Reviewed)

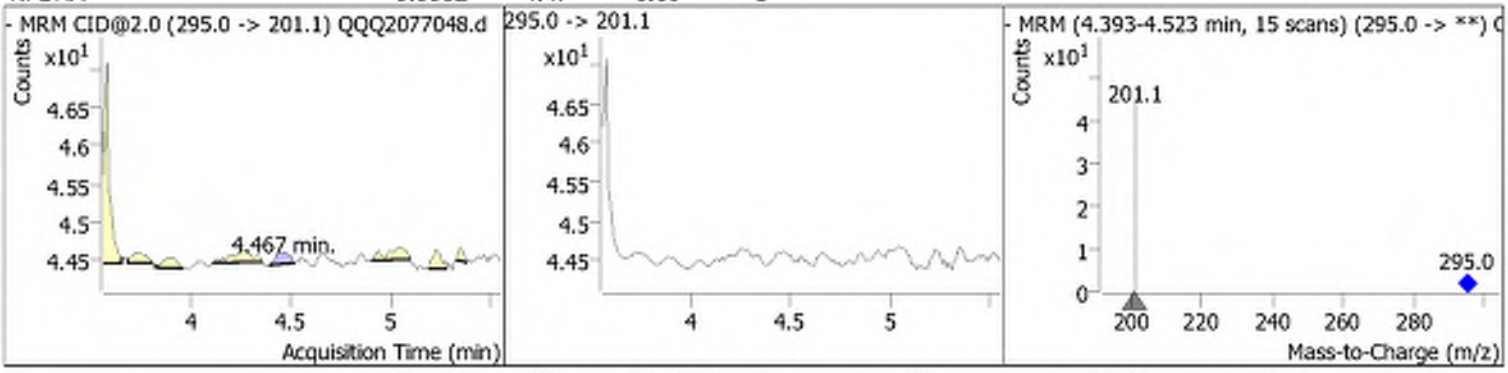
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0025	4.07	0.15	10				



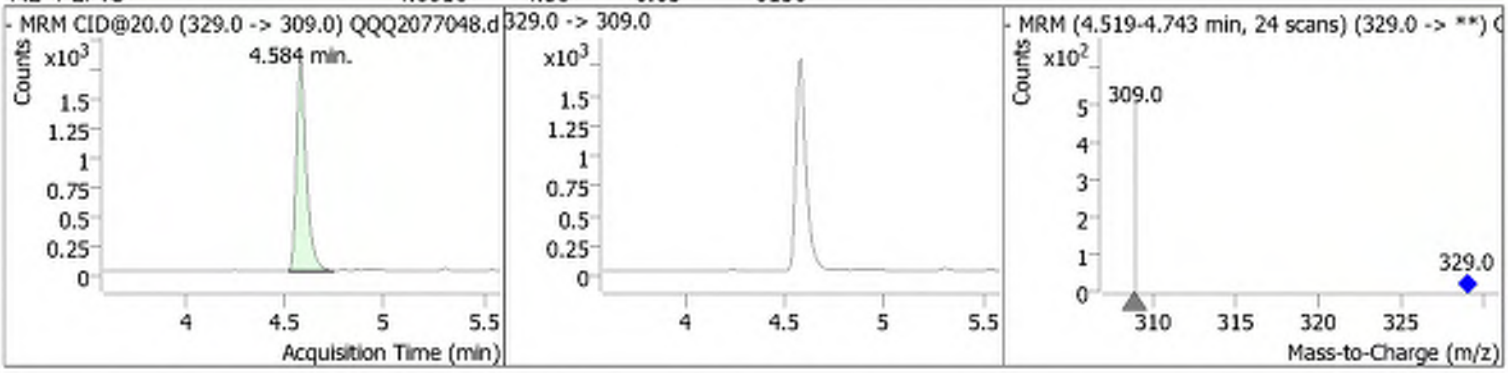
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0007	4.43	0.05	7				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0002	4.47	-0.09	1				



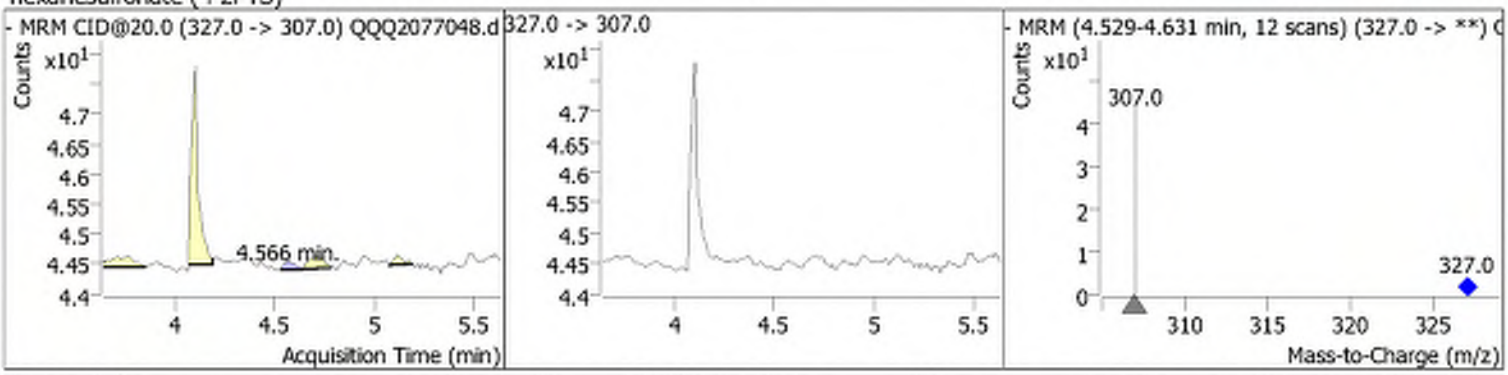
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.6016	4.58	-0.05	6156				



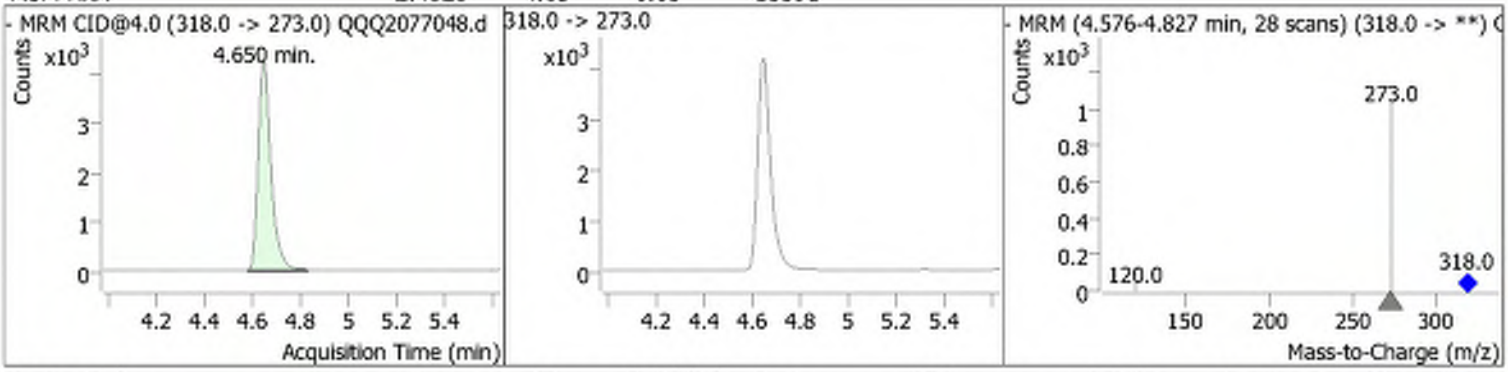
Quantitation Results Report (Not Reviewed)

Agilent

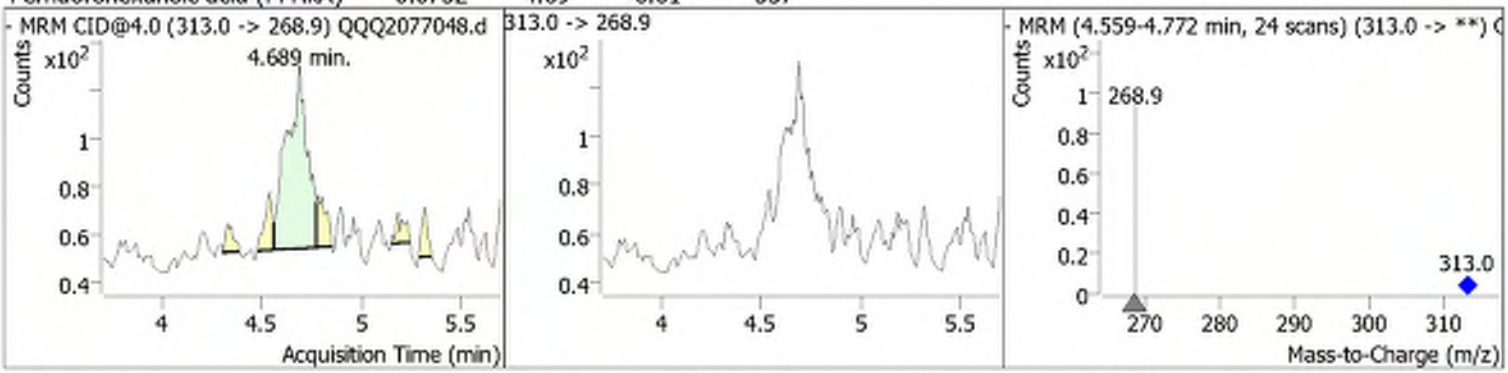
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0004	4.57	-0.07	1				



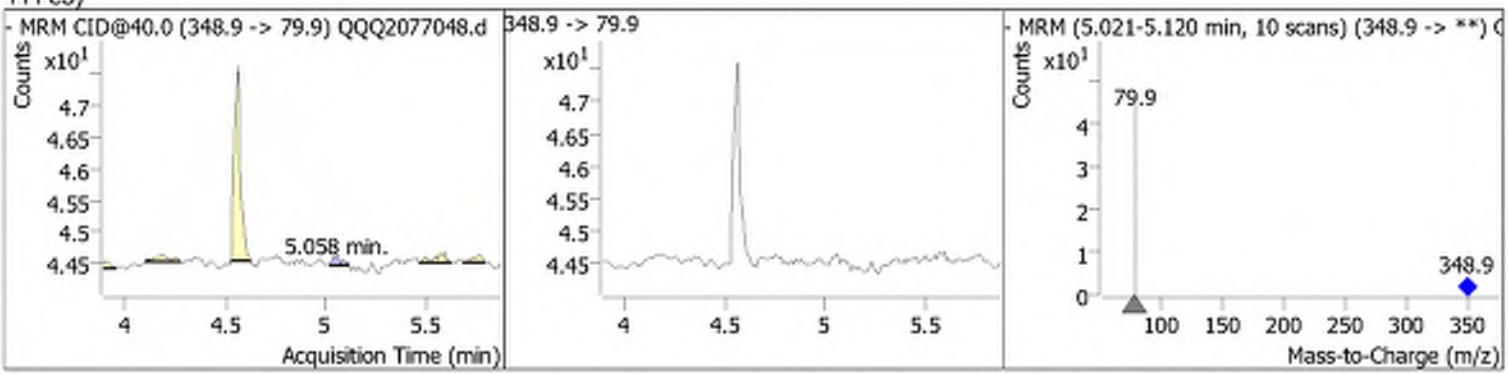
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4828	4.65	-0.05	15591				



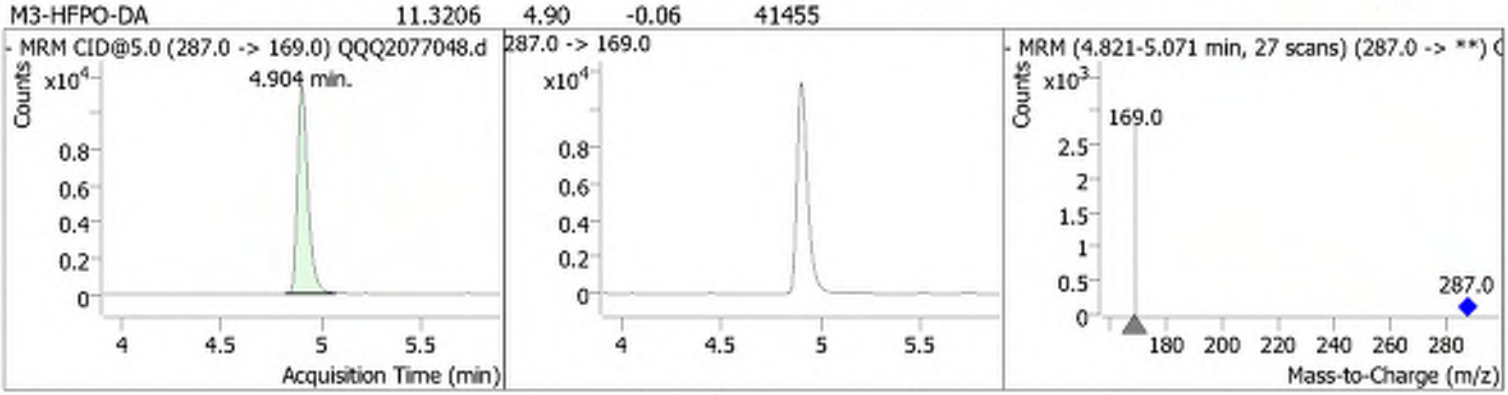
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0732	4.69	-0.01	537				



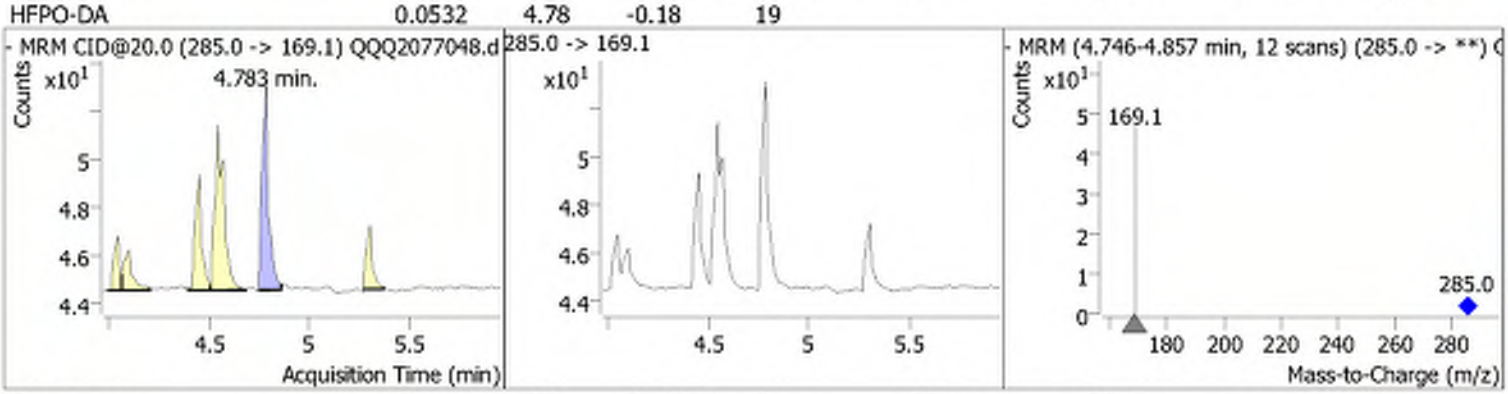
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0001	5.06	0.18	0				



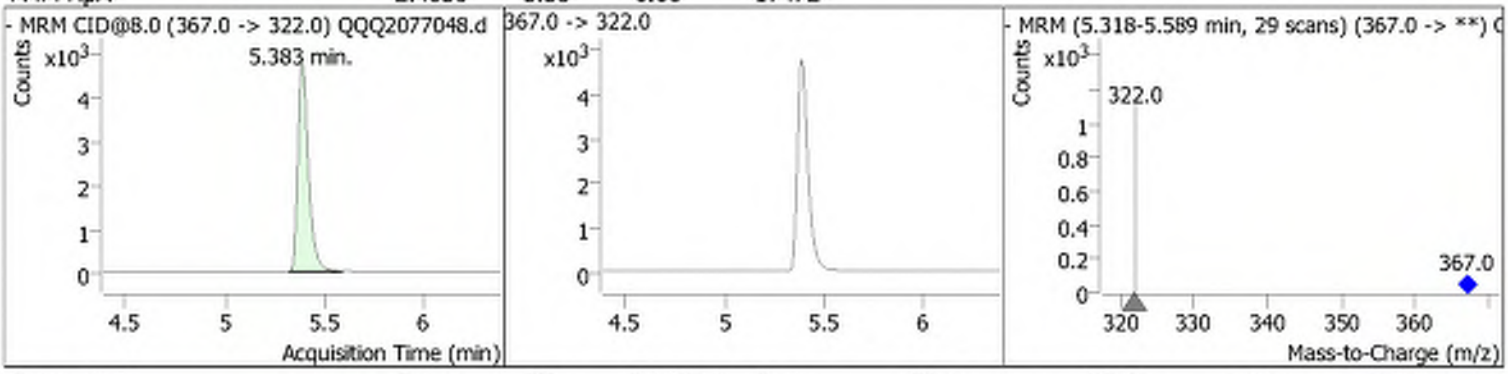
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.3206	4.90	-0.06	41455				



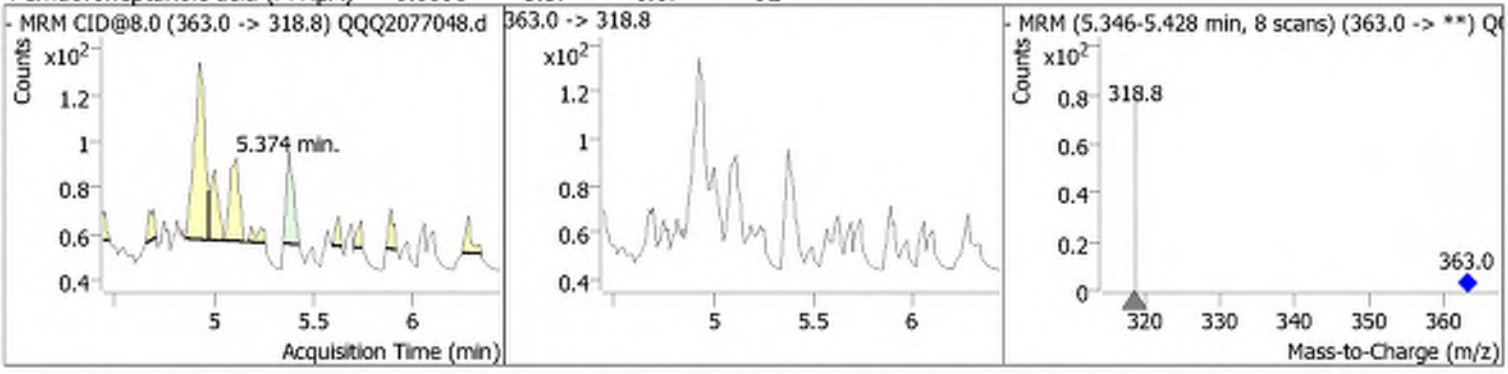
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0532	4.78	-0.18	19				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.4636	5.38	-0.06	17472				

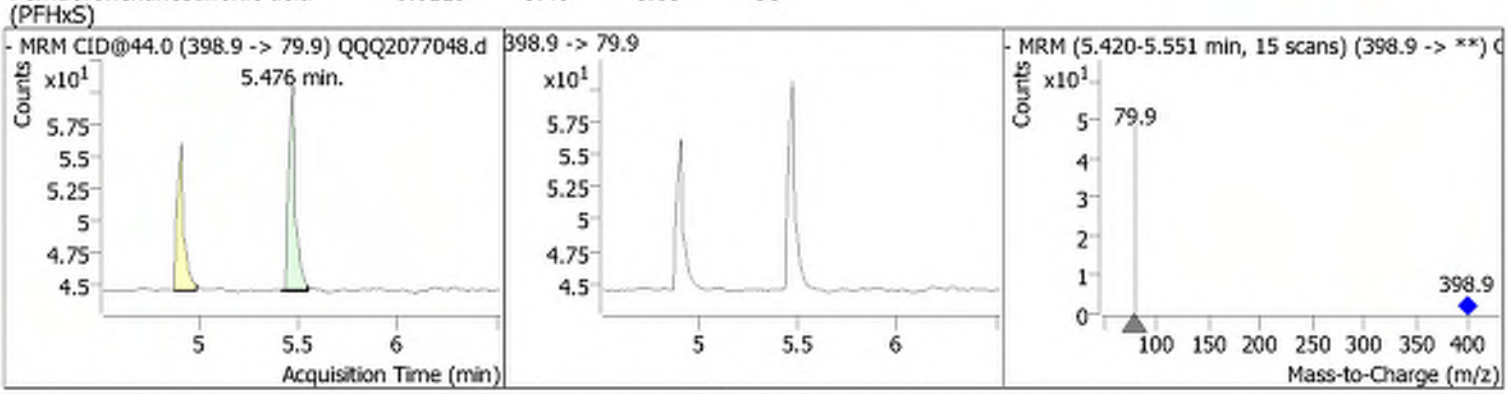


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0098	5.37	-0.07	92				

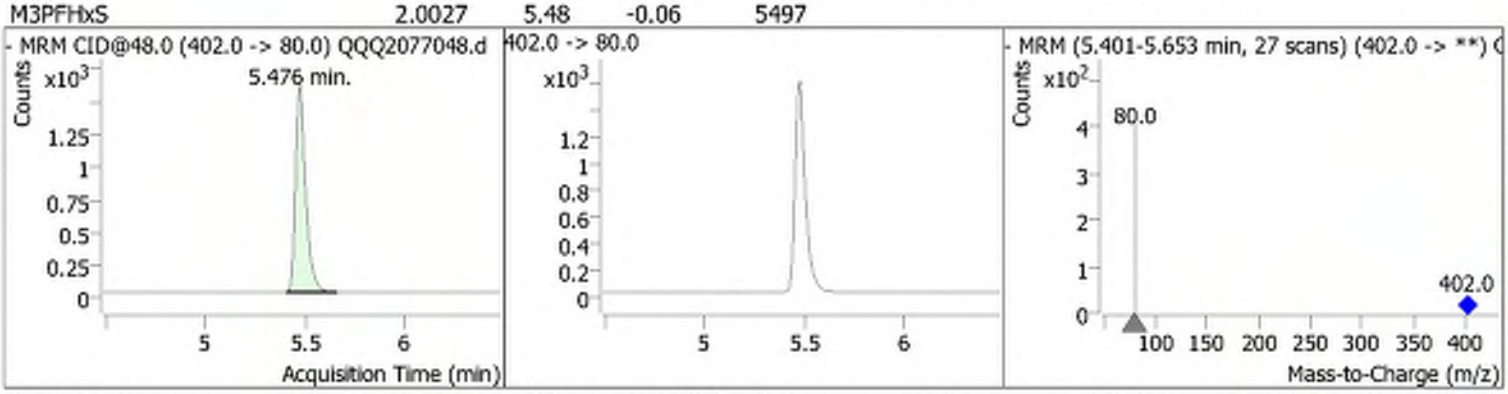


Quantitation Results Report (Not Reviewed)

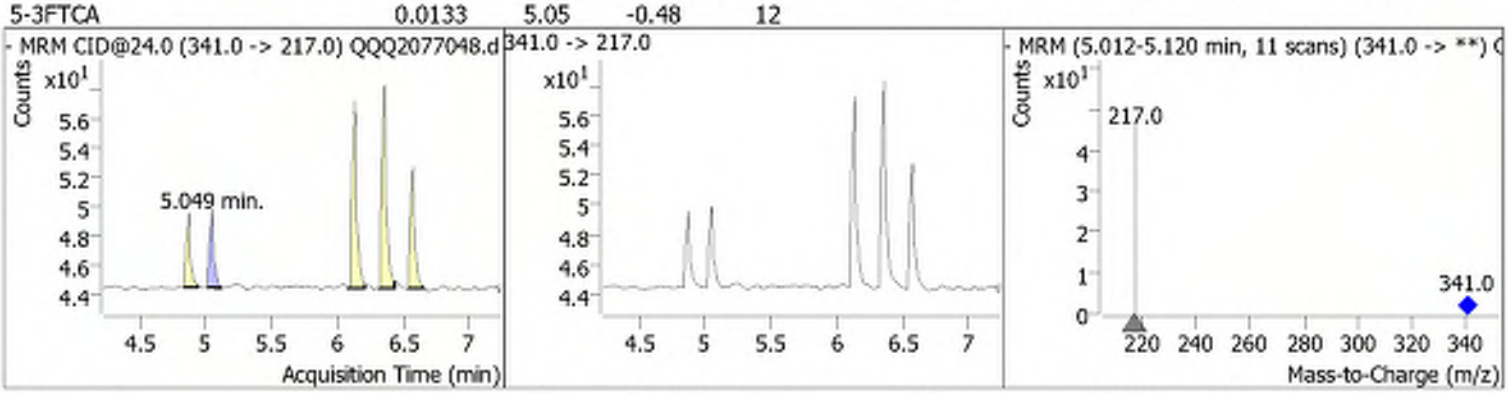
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0119	5.48	-0.05	38				



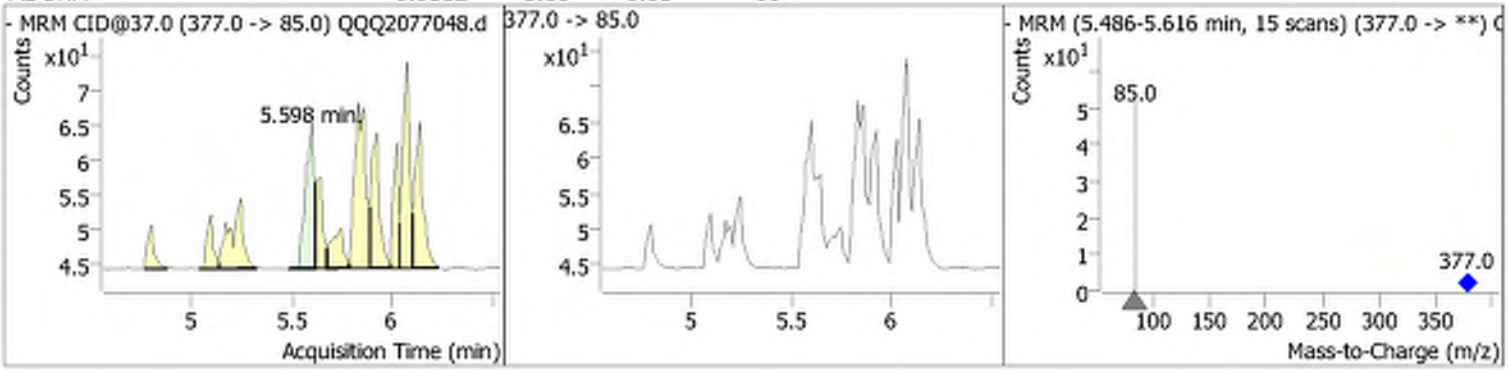
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.0027	5.48	-0.06	5497				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	0.0133	5.05	-0.48	12				



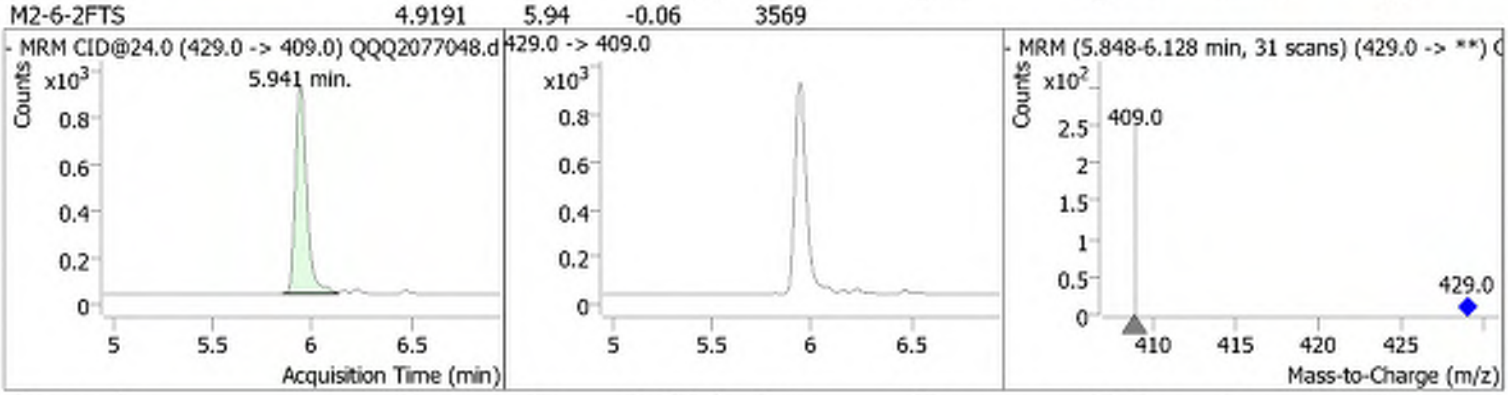
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0112	5.60	0.05	60				



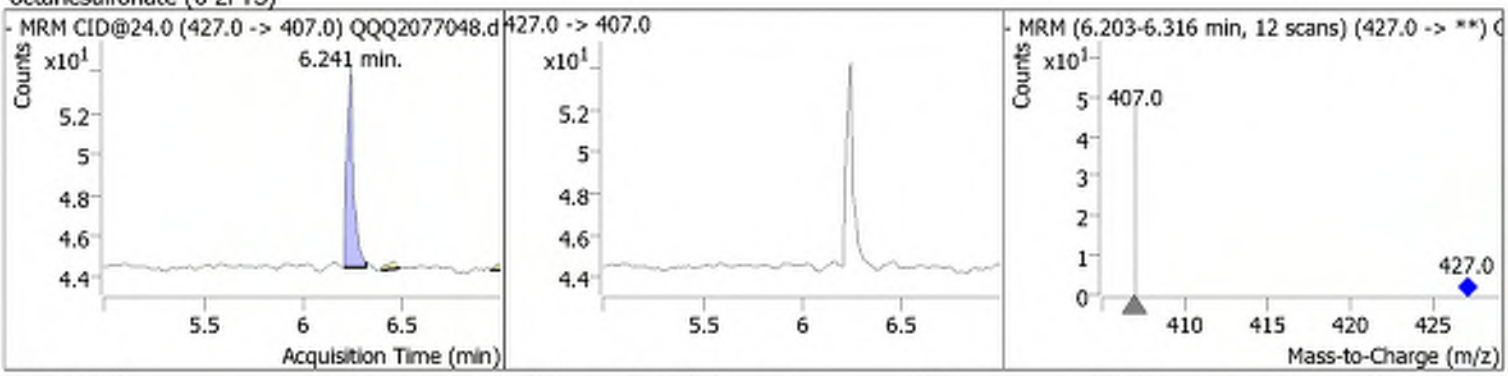
Quantitation Results Report (Not Reviewed)

Agilent

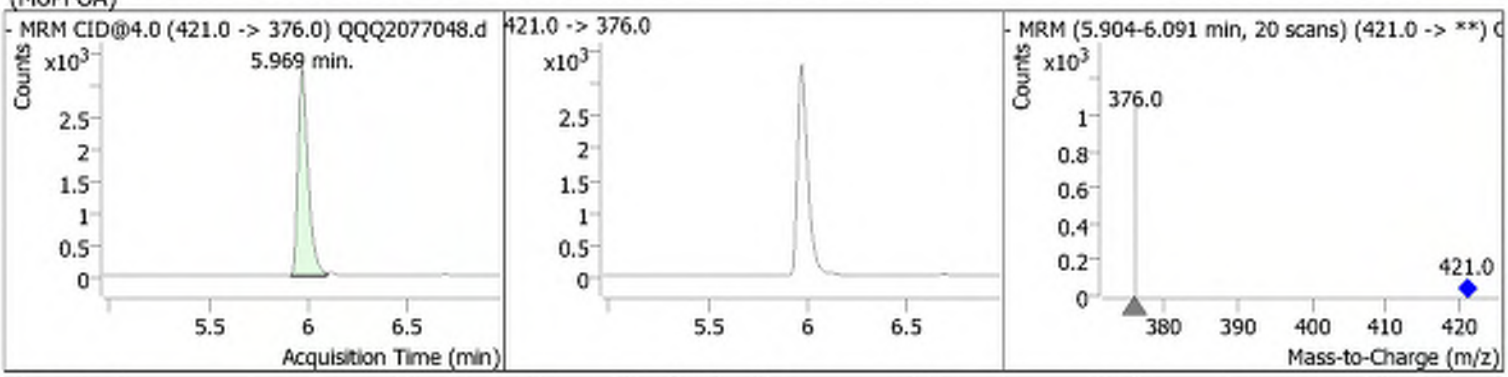
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.9191	5.94	-0.06	3569				



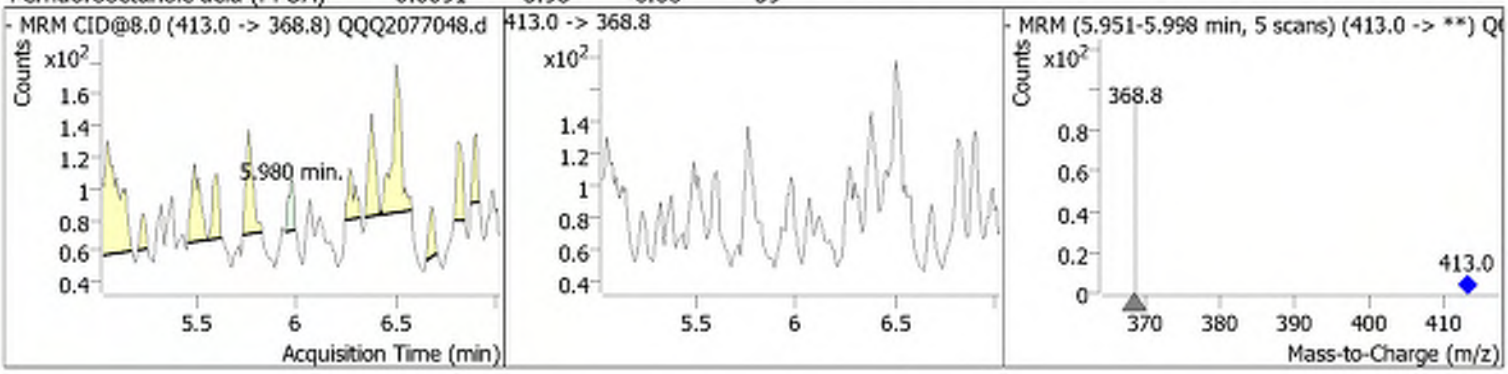
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0277	6.24	0.24	21				



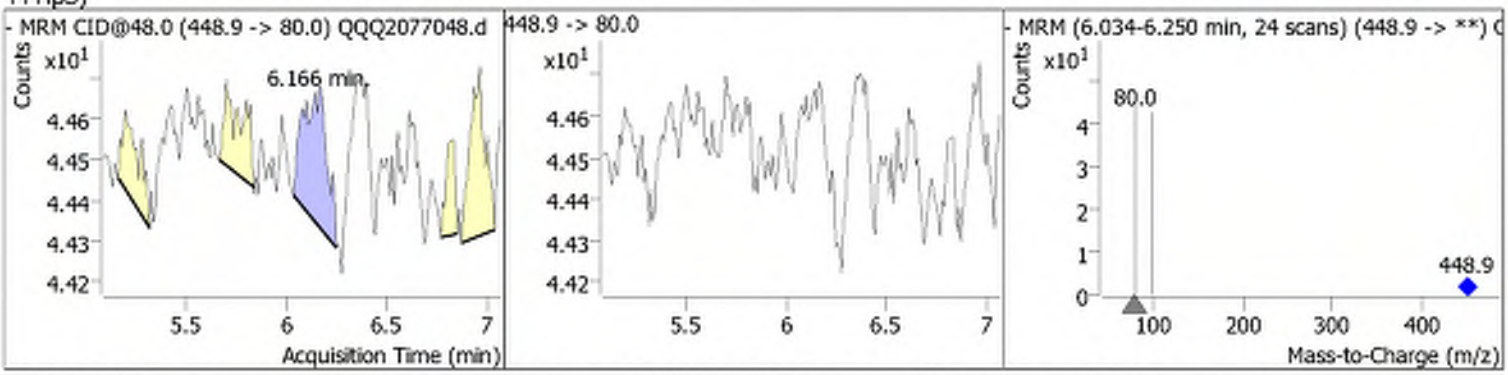
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.0436	5.97	-0.07	11258				



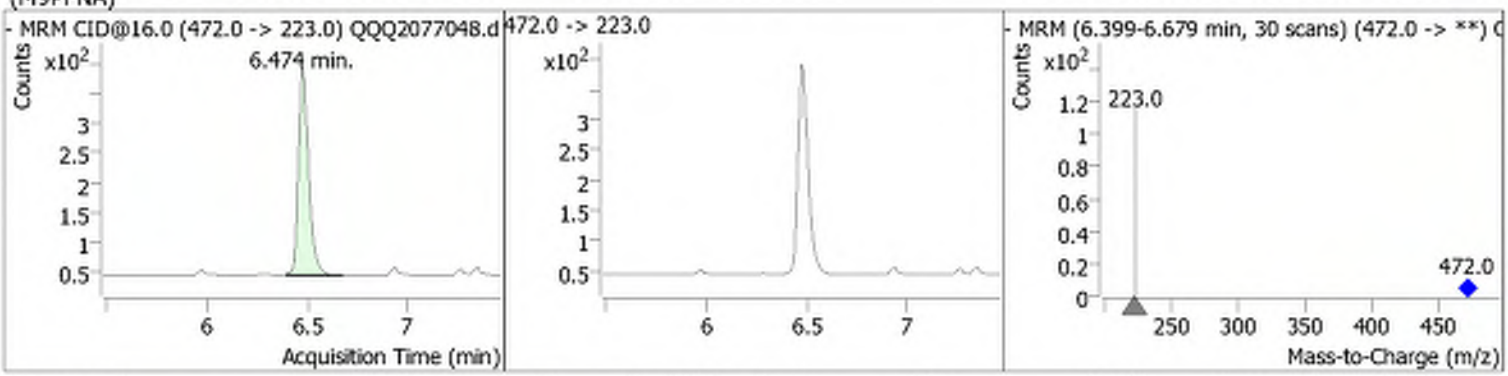
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0091	5.98	-0.06	59				



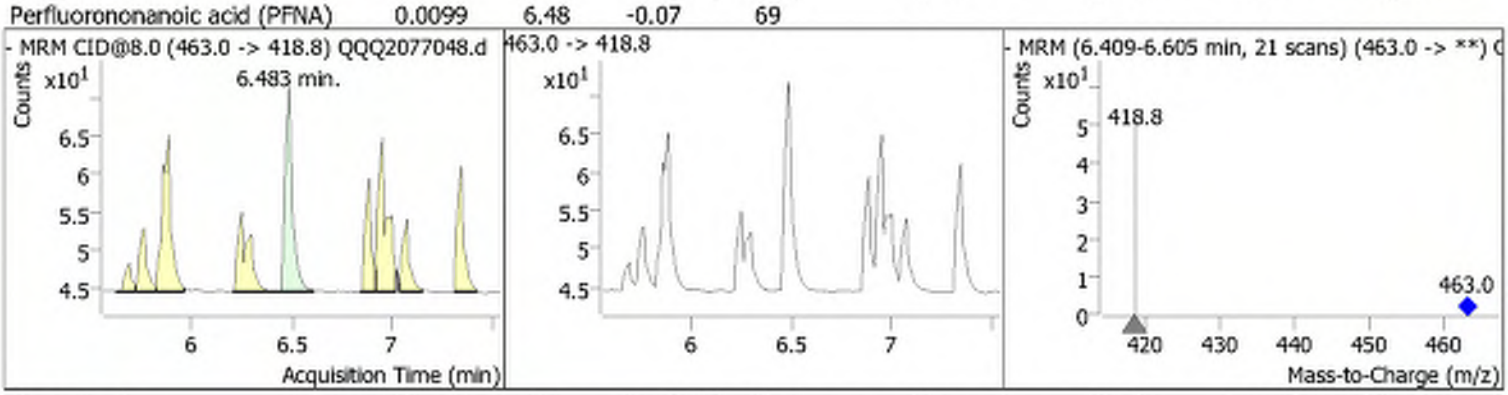
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0011	6.17	0.08	3				



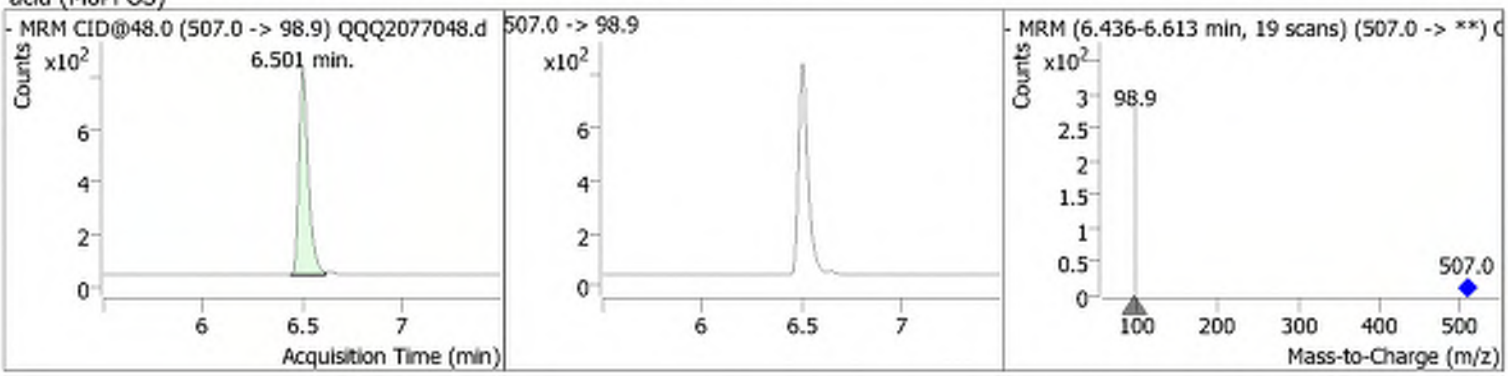
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.2561	6.47	-0.07	1228				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0099	6.48	-0.07	69				

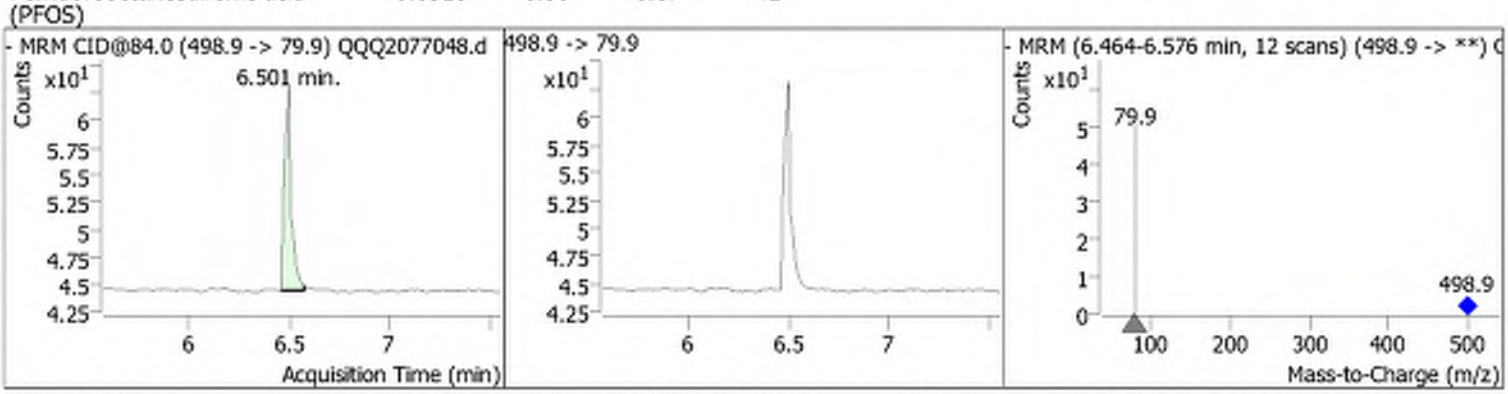


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.6257	6.50	-0.07	2550				

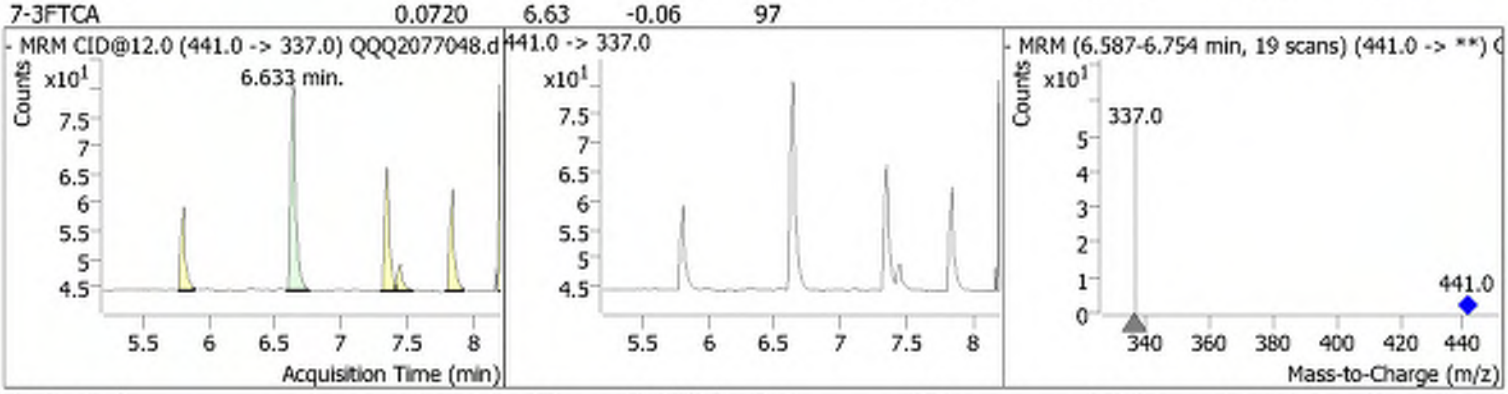


Quantitation Results Report (Not Reviewed)

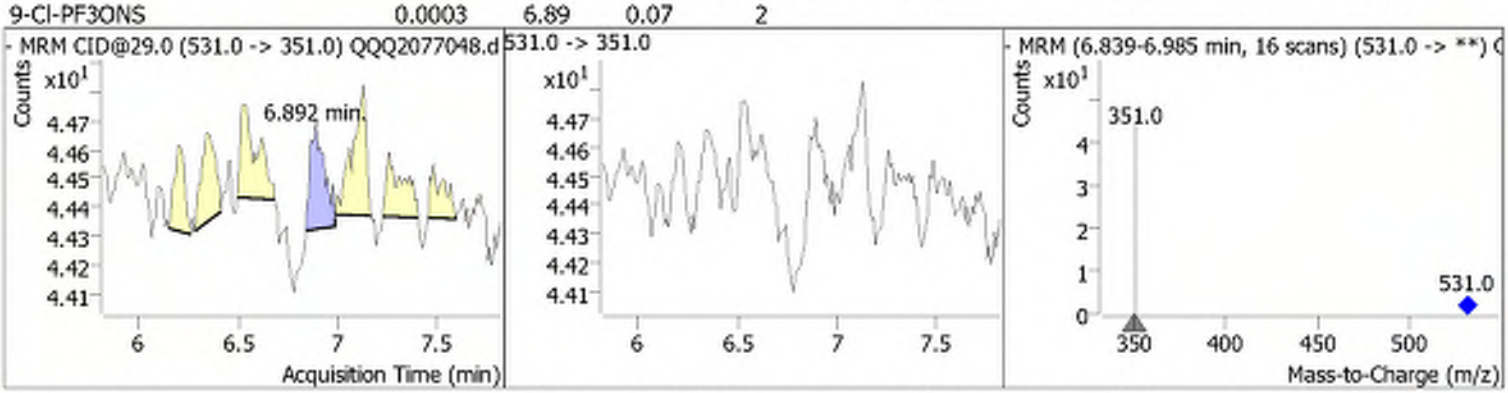
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0318	6.50	-0.07	41				



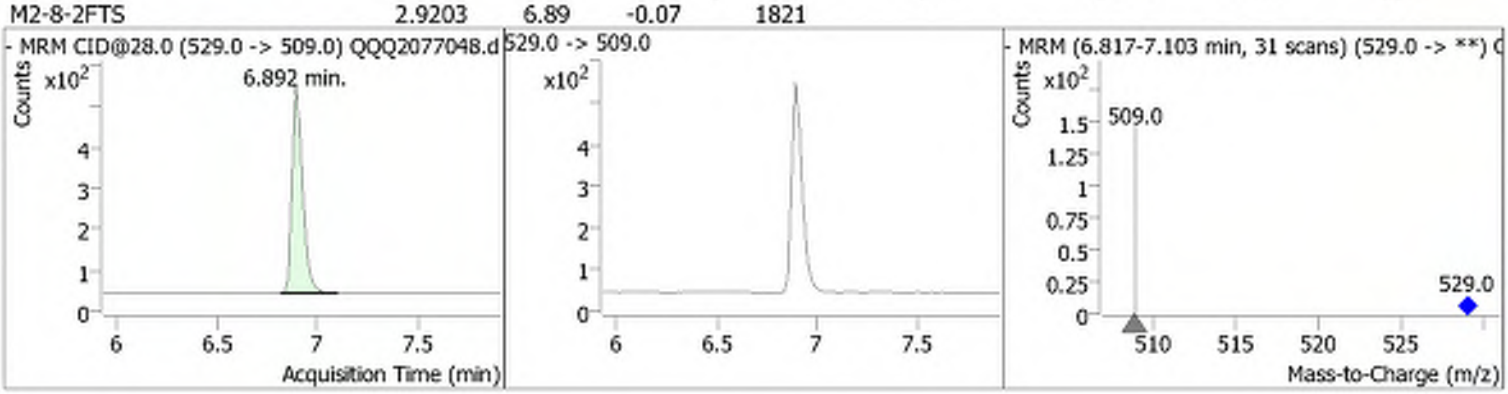
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.0720	6.63	-0.06	97				



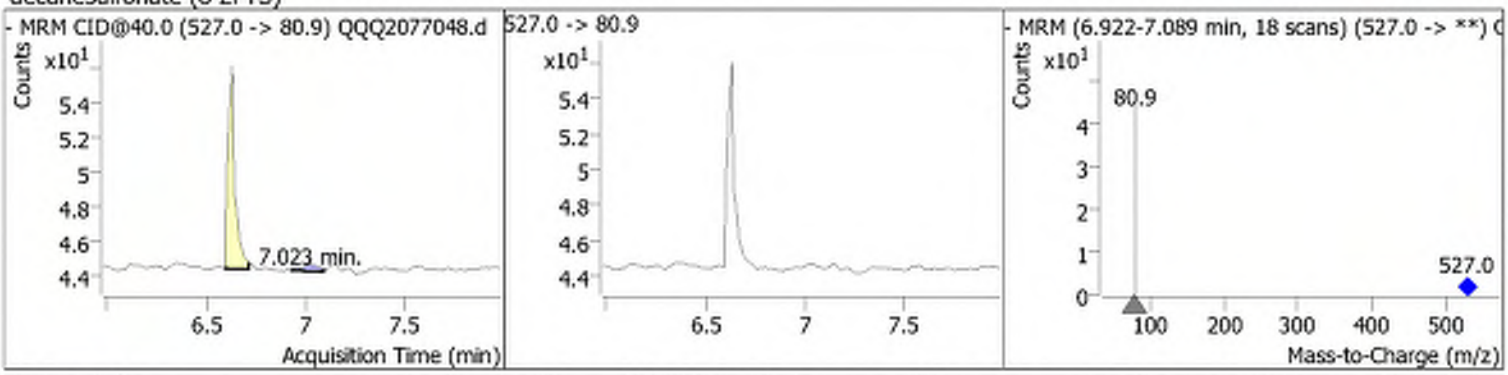
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0003	6.89	0.07	2				



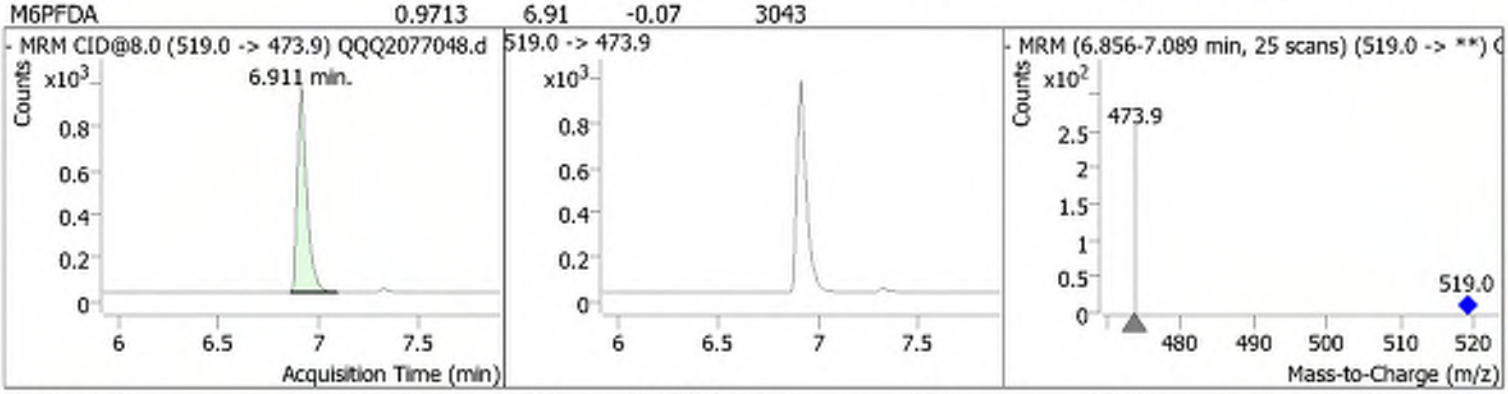
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	2.9203	6.89	-0.07	1821				



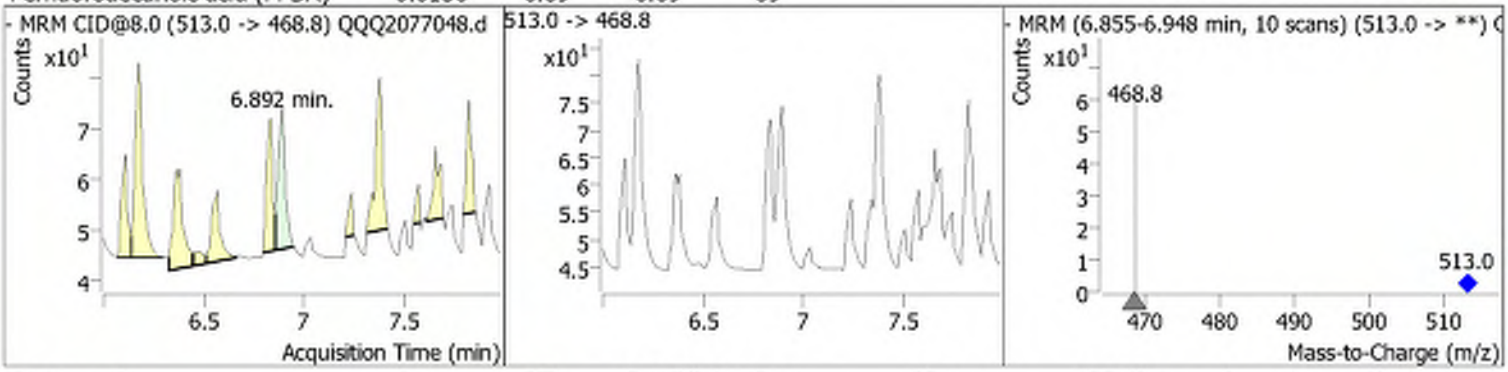
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0044	7.02	0.05	2				



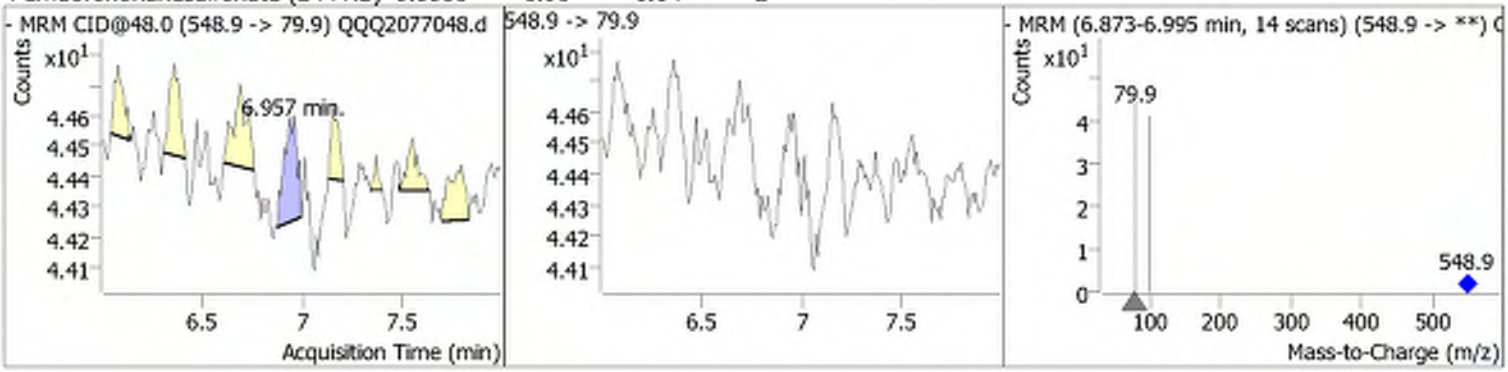
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.9713	6.91	-0.07	3043				



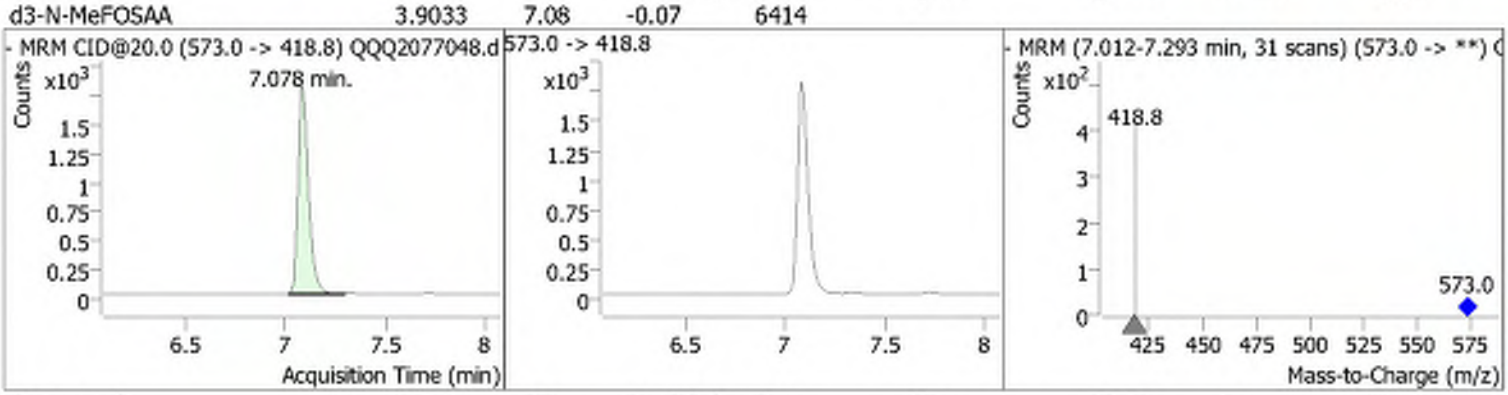
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0136	6.89	-0.09	69				



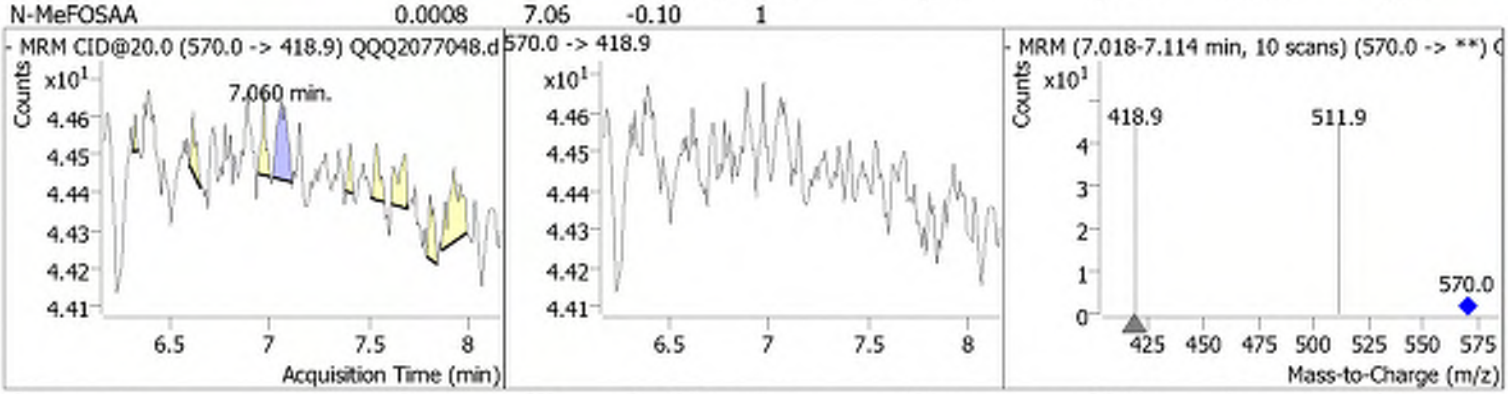
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0006	6.96	-0.04	2				



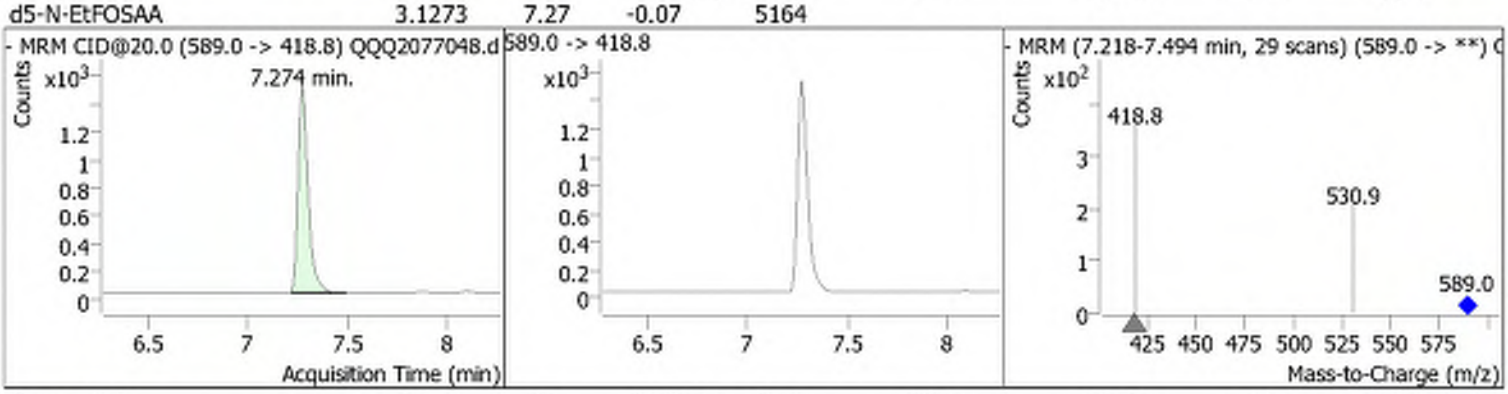
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.9033	7.08	-0.07	6414				



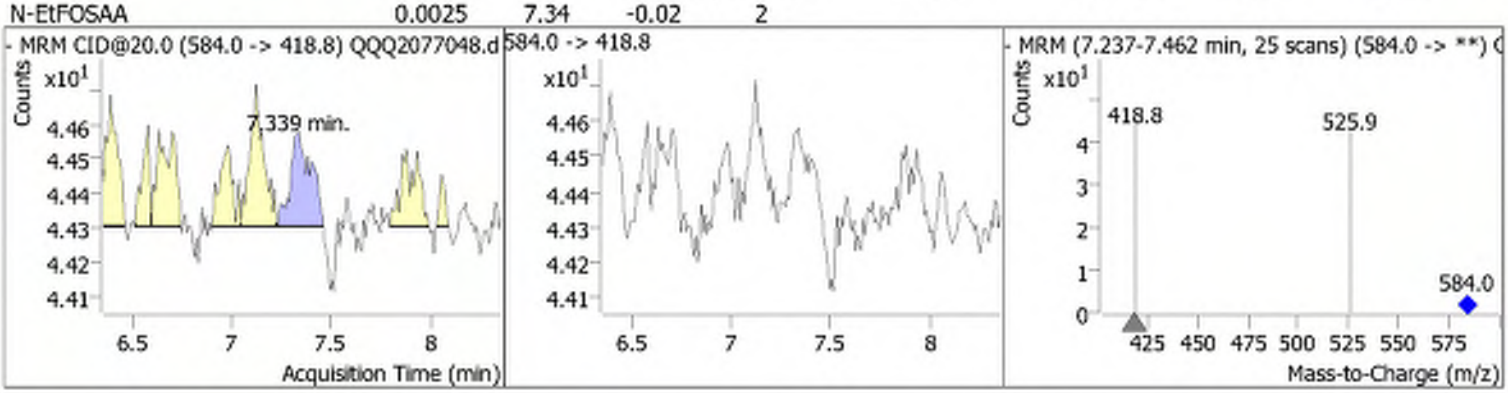
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0008	7.06	-0.10	1				



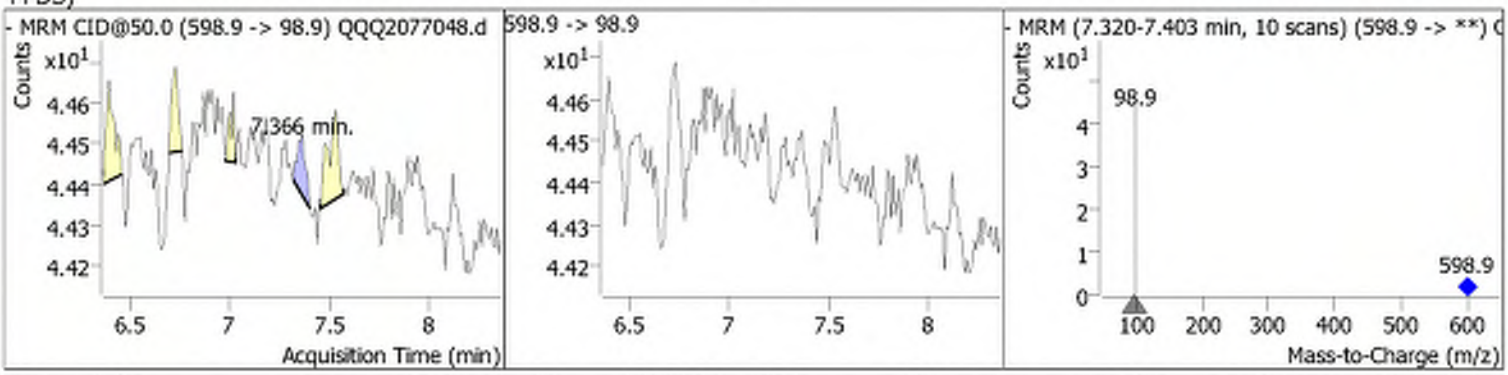
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.1273	7.27	-0.07	5164				



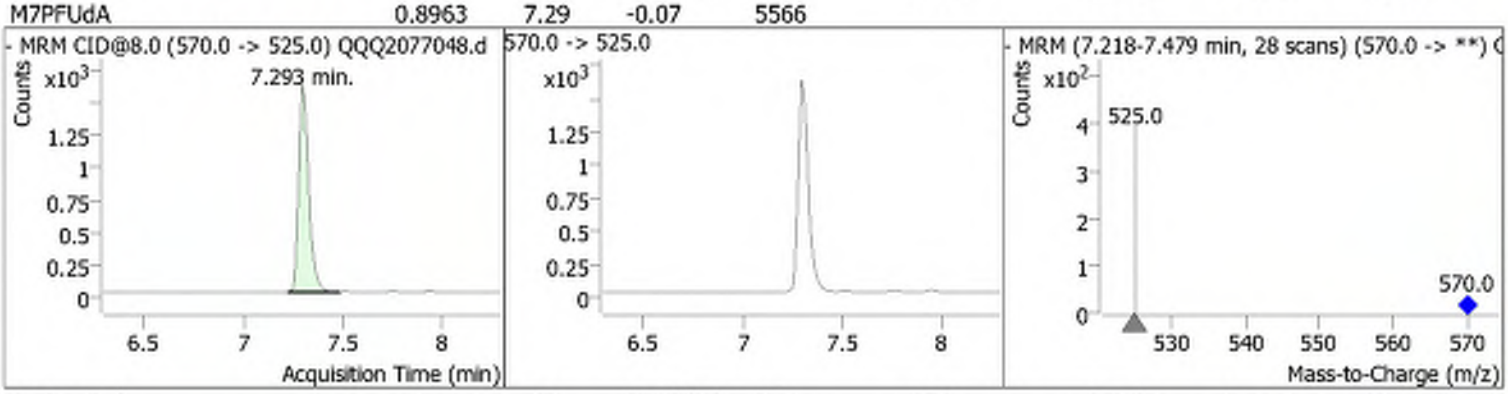
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0025	7.34	-0.02	2				



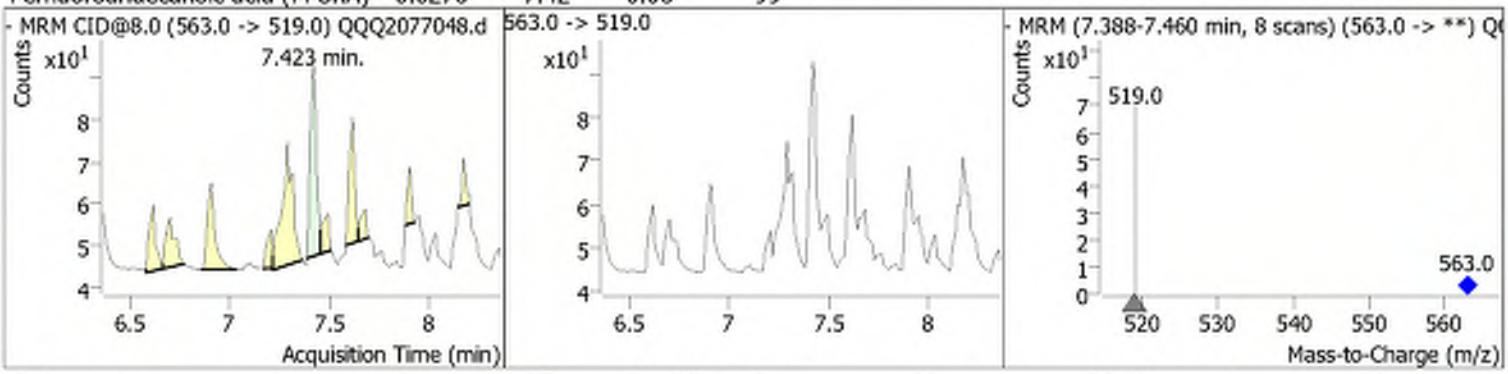
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0004	7.37	0.00	0				



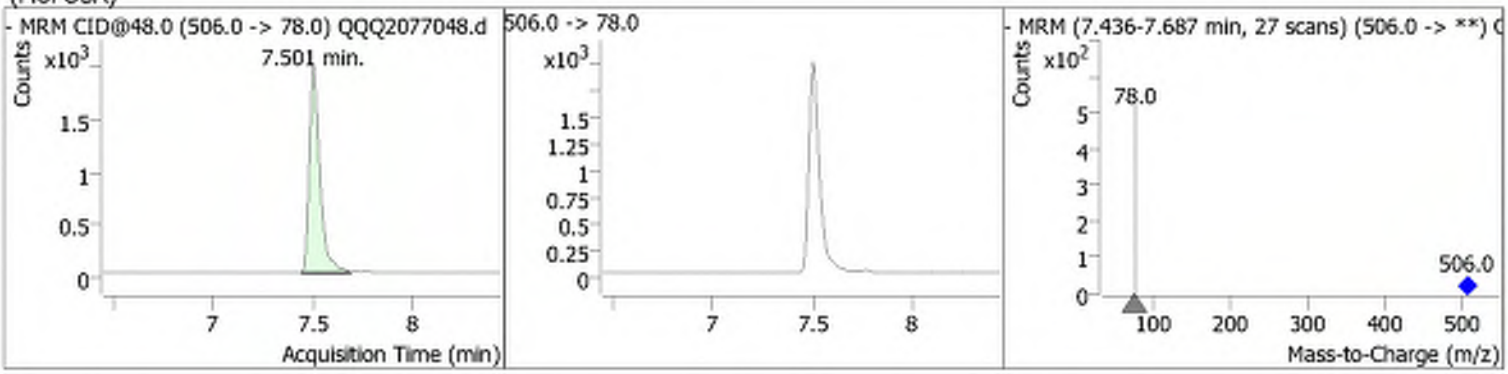
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.8963	7.29	-0.07	5566				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0276	7.42	0.06	99				



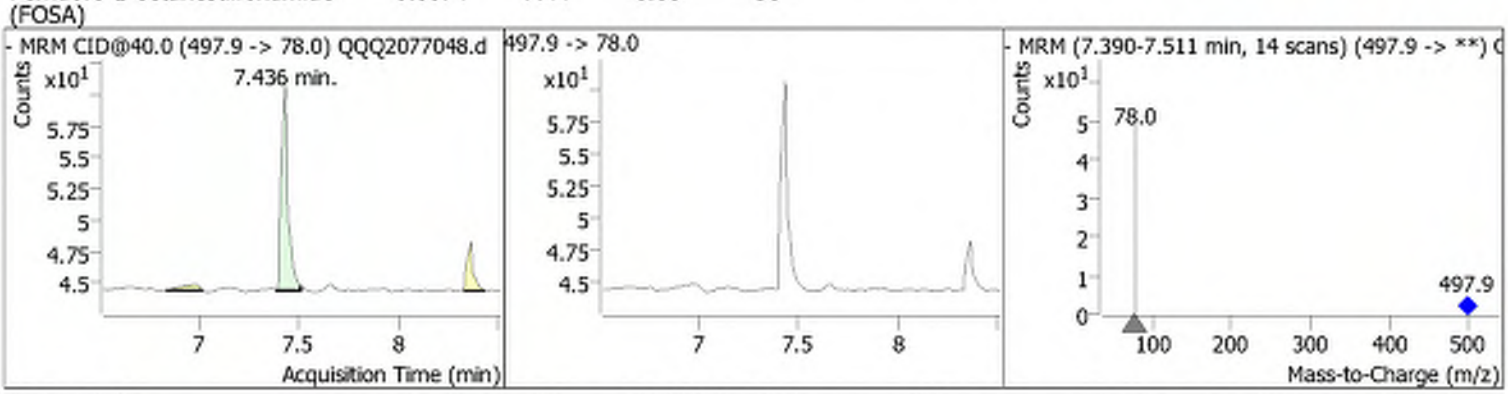
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	1.8217	7.50	-0.02	7264				



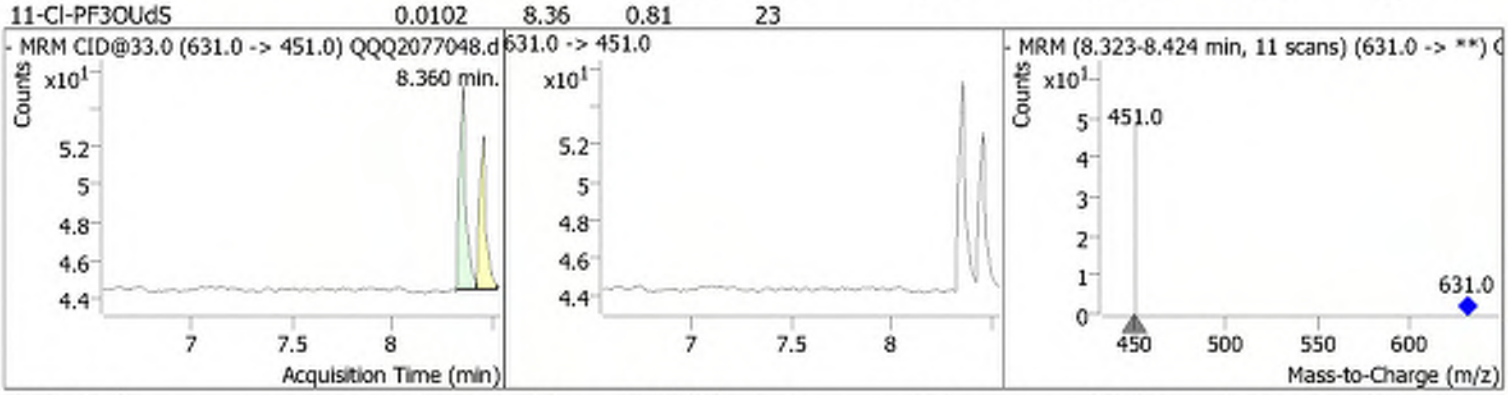
Quantitation Results Report (Not Reviewed)

Agilent

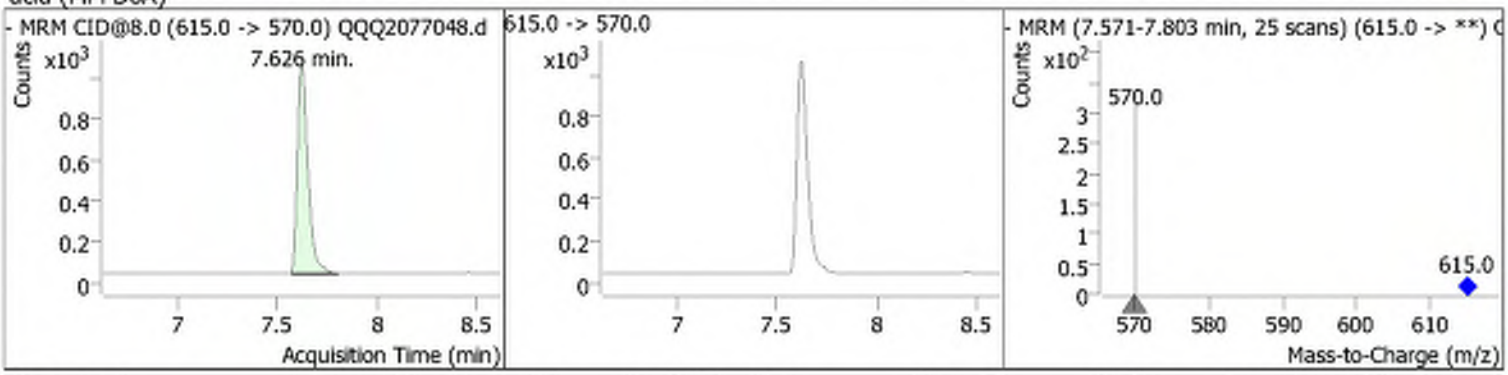
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0074	7.44	-0.08	38				



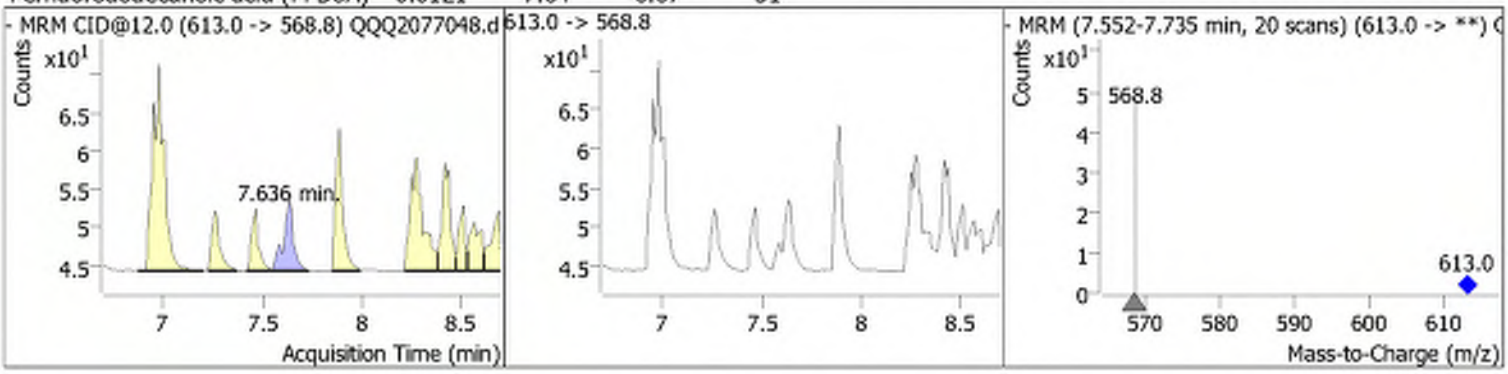
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.0102	8.36	0.81	23				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.7229	7.63	-0.07	3737				



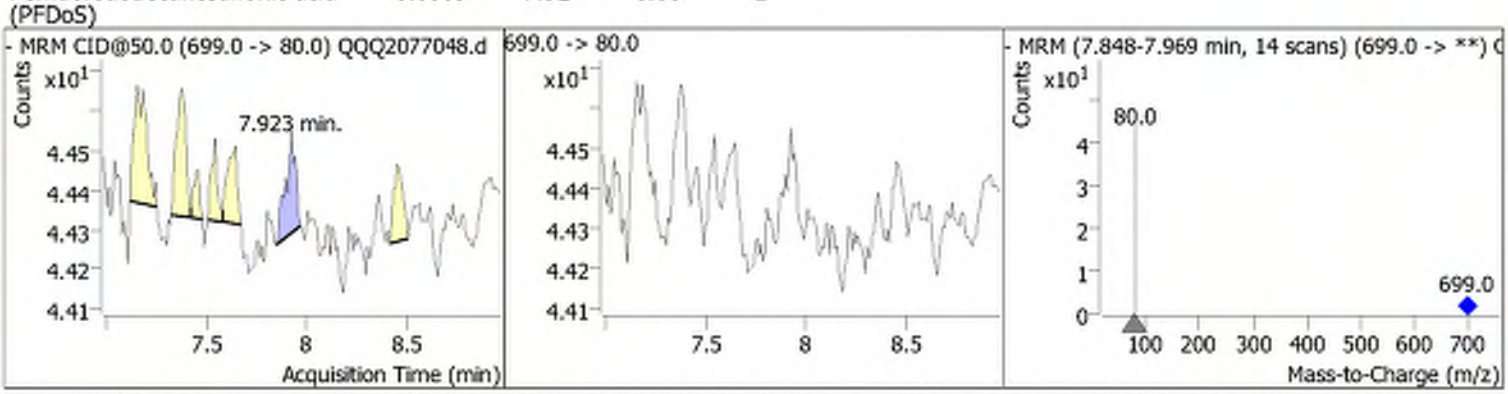
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0121	7.64	-0.07	31				



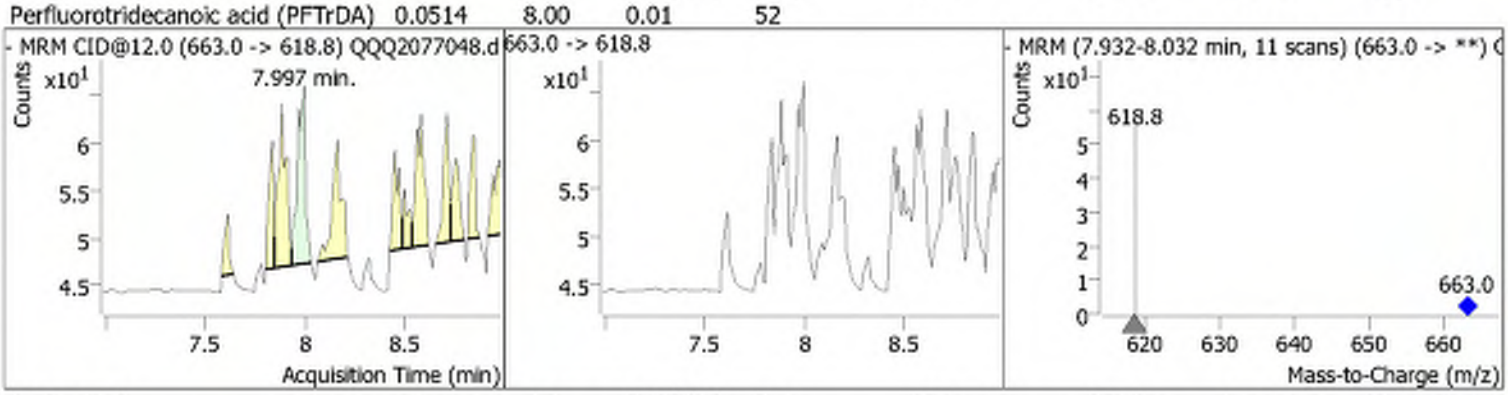
Quantitation Results Report (Not Reviewed)

Agilent

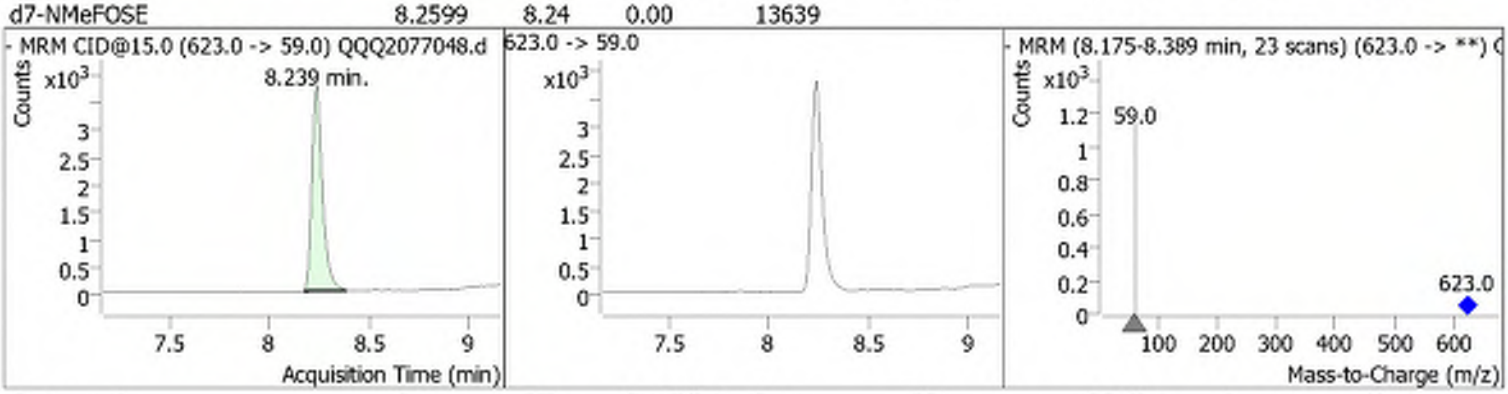
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0009	7.92	-0.06	1				



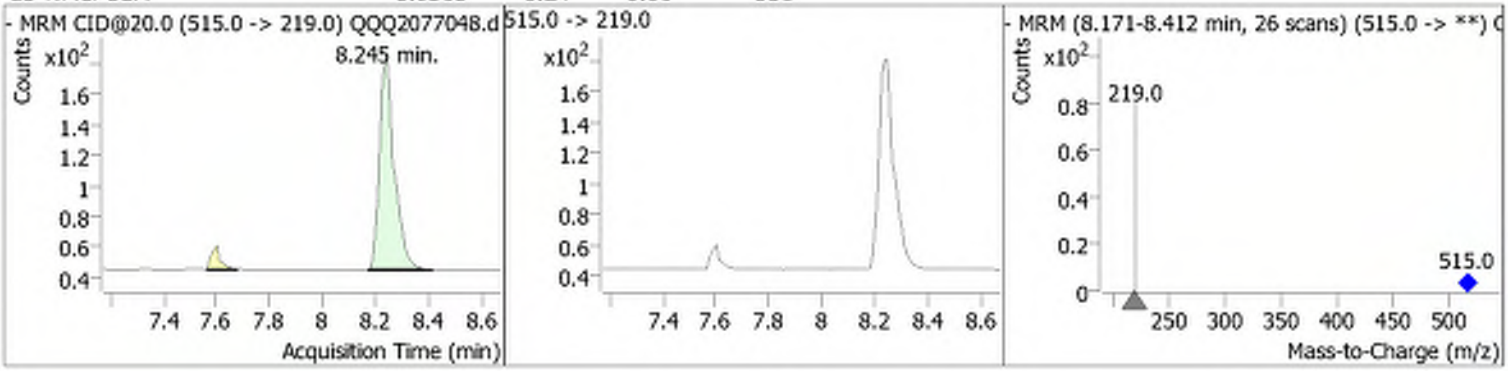
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0514	8.00	0.01	52				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	8.2599	8.24	0.00	13639				



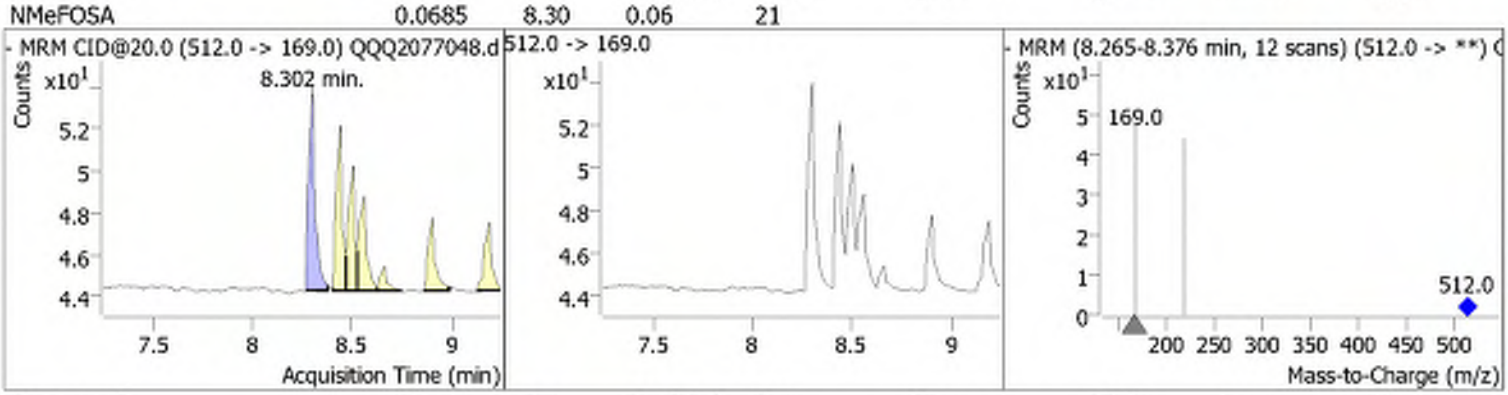
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.0565	8.24	0.00	538				



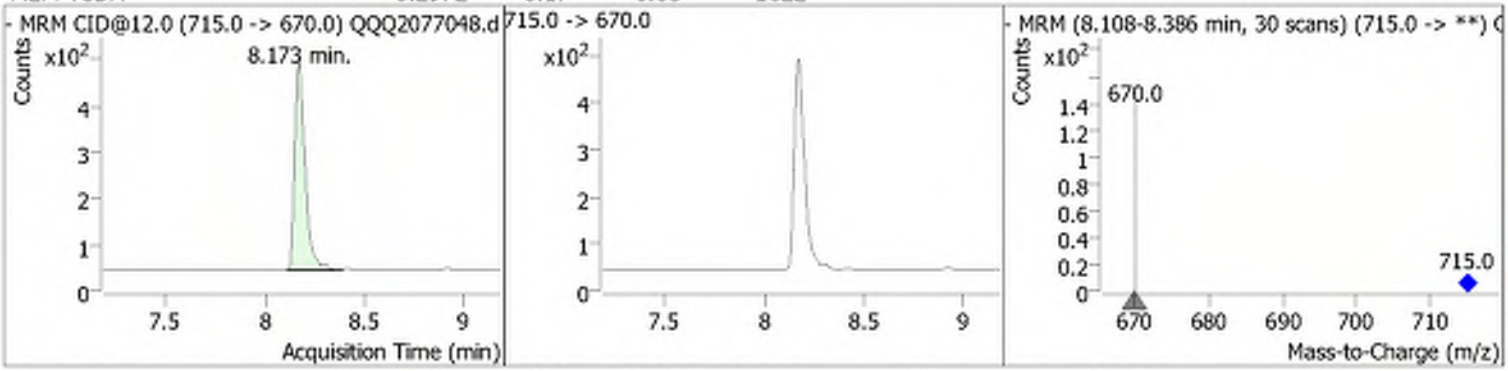
Quantitation Results Report (Not Reviewed)

Agilent

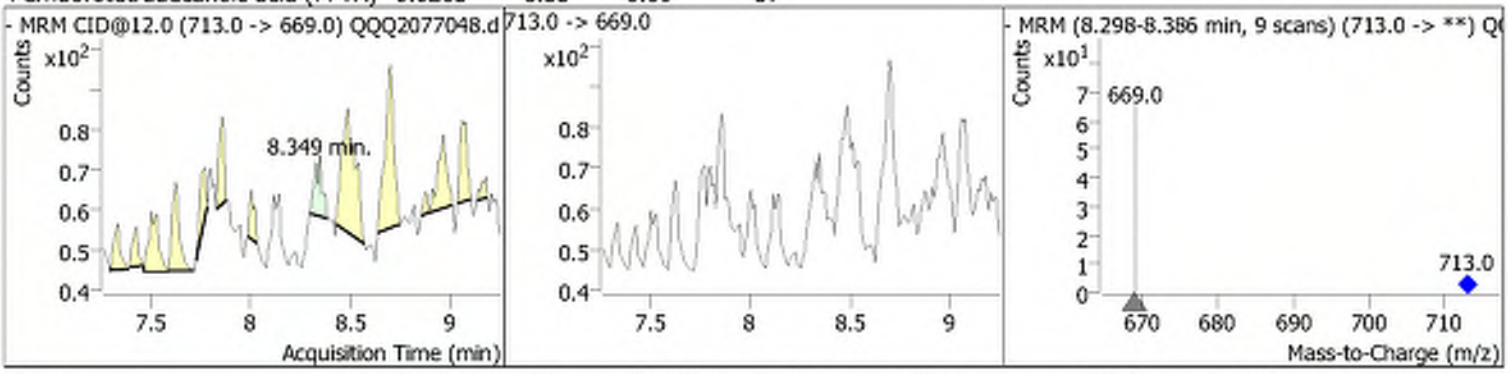
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.0685	8.30	0.06	21				



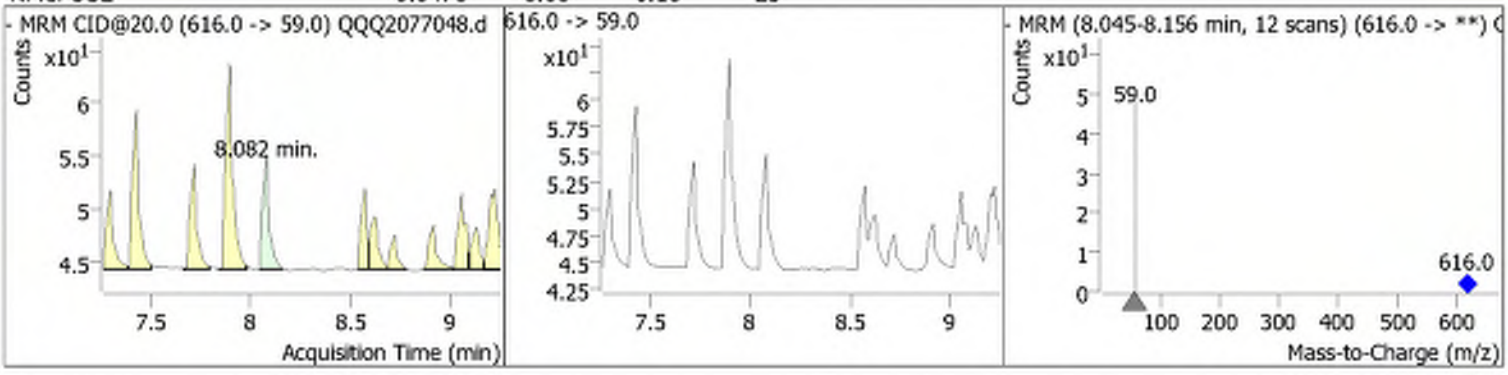
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.2972	8.17	-0.08	1622				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0203	8.35	0.09	37				

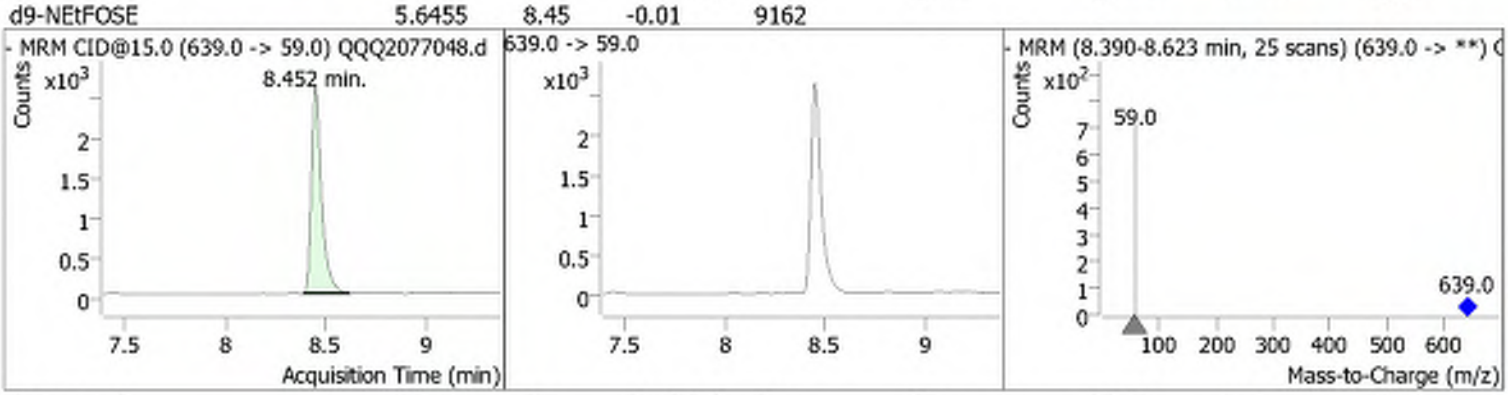


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	0.0478	8.08	-0.18	23				

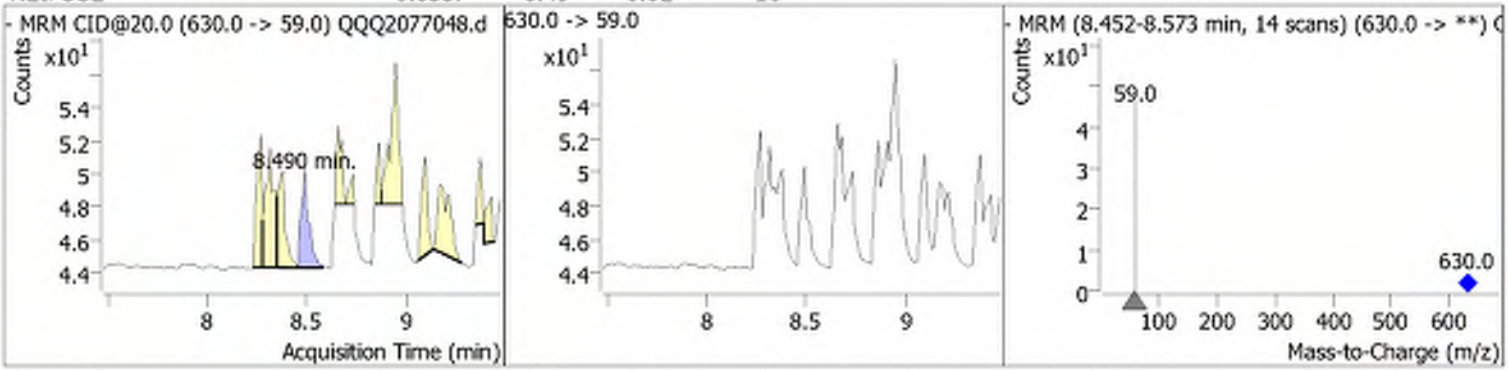


Quantitation Results Report (Not Reviewed)

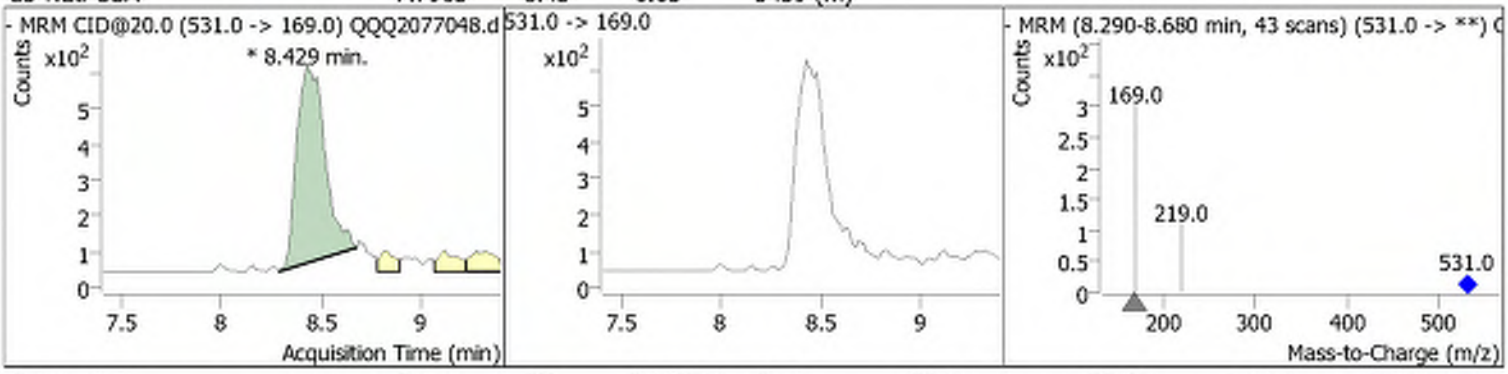
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	5.6455	8.45	-0.01	9162				



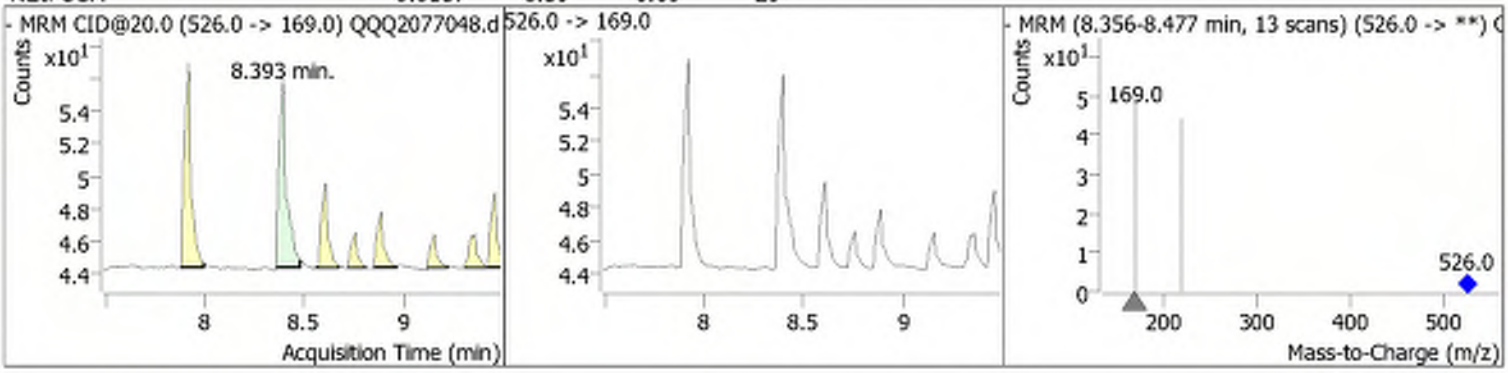
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	0.0357	8.49	0.02	16				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	7.7963	8.43	-0.05	5459 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.0157	8.39	-0.09	29				



FORM VI **INITIAL CALIBRATION DATA**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30043
Instrument: QQQ-2
Calibration Date: 04/27/23 18:13

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
11CL-PF3OUdS	0.756	0.1303677	1.89	0.1415898	4.72	0.1280658	9.45	0.1276698	18.9	0.1433625	47.2	0.1460728
1H,1H,2H,2H-Perfluorodecan esulfonic acid (8:2 FTS)	0.768	1.800126	1.92	1.116135	4.8	0.8908212	9.6	1.011764	19.2	1.196864	48	0.790276
1H,1H,2H,2H-Perfluorohexan esulfonic acid (4:2 FTS)	0.75	1.175946	1.88	1.215092	4.69	1.049889	9.38	1.045878	18.8	0.9219015	46.9	0.8648394
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.76	1.497051	1.9	1.170603	4.75	1.281604	9.5	1.102982	19	0.8964197	47.5	0.7565176
3-Perfluoroheptyl propanoic acid (FHpPA)	5	7.147724E-03	12.5	7.233868E-03	31.2	7.539175E-03	62.6	7.856338E-03	125	7.446915E-03	312	7.461393E-03
3-Perfluoropentyl propanoic acid (FPePA)	5	0.145946	12.5	0.1634111	31.2	0.1708867	62.6	0.1745895	125	0.1637732	312	0.1484974
3-Perfluoropropyl propanoic acid (FPrPA)	1	1.880819	2.5	2.015642	6.24	1.674077	12.5	1.888158	25	1.868167	62.4	1.753349
9CL-PF3ONS	0.748	0.4320783	1.87	0.3749398	4.68	0.3984493	9.35	0.3672387	18.7	0.4285393	46.8	0.3948504
ADONA	0.756	0.3109618	1.89	0.3327964	4.72	0.3612089	9.45	0.3176701	18.9	0.34685	47.2	0.3530109
d3-N-MeFOSAA	5	0.65176	5	0.656882	5	0.6510175	5	0.8271152	5	0.9331801	5	0.8553489
d5-N-EtFOSAA	5	0.7403177	5	0.8552547	5	0.7025643	5	0.7769704	5	0.9523692	5	0.8354563
d7-N-MeFOSE	25	0.7608579	25	0.8058801	25	0.7646304	25	0.8474891	25	0.9645659	25	0.7971604
d9-N-EtFOSE	25	0.7447551	25	0.8152963	25	0.7888978	25	0.7784672	25	0.9062861	25	0.7800922
d-N-EtFOSA	2.5	0.3020192	2.5	0.3177161	2.5	0.3411447	2.5	0.3438517	2.5	0.3890167	2.5	0.3377203
d-N-MeFOSA	2.5	0.238845	2.5	0.241909	2.5	0.246116	2.5	0.2452491	2.5	0.2763128	2.5	0.2456716
HFPO-DA (Gen-X)	0.8	8.057629E-03	2	2.399383E-02	5	1.742572E-02	10	2.067182E-02	20	2.540654E-02	50	0.0222151
M2-4:2 FTS	4.69	1.160217	4.69	1.206034	4.69	1.522459	4.69	1.320583	4.69	1.472502	4.69	1.573449
M2-6:2 FTS	4.76	0.6050704	4.76	0.6863552	4.76	0.6924733	4.76	0.739476	4.76	0.7351819	4.76	0.953322
M2-8:2 FTS	4.8	0.5160652	4.8	0.5857819	4.8	0.795142	4.8	0.721645	4.8	0.4691085	4.8	0.6731346
M2PFTeDA	1.25	0.7662313	1.25	0.9090785	1.25	0.8679563	1.25	0.9853132	1.25	0.8473705	1.25	0.7461742
M3HFPO-DA	10	0.4150686	10	0.4585151	10	0.4245007	10	0.4276977	10	0.4056673	10	0.3830166
M3PFBS	2.33	3.10918	2.33	3.280872	2.33	3.435484	2.33	3.369636	2.33	3.216284	2.33	3.391145
M3PFHxS	2.37	2.610683	2.37	3.218688	2.37	3.217157	2.37	2.9109	2.37	2.514224	2.37	2.659957
M4PFHpA	2.5	0.7259008	2.5	0.8970474	2.5	0.8310696	2.5	0.7434868	2.5	0.7372251	2.5	0.7739882
M5PFHxA	2.5	0.6926961	2.5	0.7706735	2.5	0.6551183	2.5	0.6543098	2.5	0.7005048	2.5	0.6162037
M6PFDA	1.25	0.4130587	1.25	0.5413756	1.25	0.5574079	1.25	0.5656309	1.25	0.5348076	1.25	0.433581
M7PFUdA	1.25	0.8421078	1.25	1.075252	1.25	1.071021	1.25	1.027659	1.25	1.092271	1.25	0.873845
M9PFNA	1.25	0.141514	1.25	0.136983	1.25	0.1286812	1.25	0.1262315	1.25	0.0849165	1.25	0.1537125
N-EtFOSA	0.2	0.9745609	0.5	1.135583	1.25	1.048096	2.5	0.958454	5	1.030592	12.5	1.043181

FORM VI

INITIAL CALIBRATION DATA

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC)

Project: 170446801

Calibration: SD30043

Instrument: QQQ-2

Calibration Date: 04/27/23 18:13

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
N-EtFOSAA	0.2	1.070815	0.5	0.6482899	1.25	0.9463845	2.5	0.7980905	5	0.7495274	12.5	0.8421025
N-EtFOSE	2	1.125897	5	1.061285	12.5	1.229342	25	1.202988	50	1.241502	125	1.218439
N-MeFOSA	0.2	1.70662	0.5	0.8312938	1.25	1.430015	2.5	1.309498	5	1.451383	12.5	1.304411
N-MeFOSAA	0.2	0.6294493	0.5	0.6862589	1.25	1.000014	2.5	0.7978653	5	0.6684829	12.5	0.7786863
N-MeFOSE	2	0.7332472	5	0.8451962	12.5	0.8639907	25	0.773166	50	0.8052725	125	0.8683017
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.356	1.522881	0.89	1.645994	2.22	1.688967	4.45	1.688053	8.9	1.664018	22.2	1.811795
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.5	1.814303	2.5	1.799956	2.5	1.879443	2.5	1.867222	2.5	2.196491	2.5	1.940968
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.4	0.2802565	2.4	0.3917648	2.4	0.3190786	2.4	0.3373434	2.4	0.4300463	2.4	0.3438232
Perfluoro-1-decanesulfonic acid (PFDS)	0.193	0.1653055	0.482	1.346623	1.21	1.403304	2.41	1.244785	4.82	1.267265	12.1	1.241058
Perfluoro-1-heptanesulfonic acid (PFHpS)	0.191	4.109432	0.476	2.63626	1.19	3.421087	2.38	3.184121	4.76	3.058104	11.9	3.166871
Perfluoro-1-nonanesulfonic acid (PFNS)	0.192	1.54255	0.481	2.235555	1.2	2.469043	2.4	2.789508	4.81	2.902596	12	3.244294
Perfluoro-1-octanesulfonamide (FOSA)	0.2	1.533488	0.5	1.809732	1.25	1.784906	2.5	1.633536	5	1.79401	12.5	1.82096
Perfluoro-1-pentanesulfonate (PFPeS)	0.188	1.42783	0.47	1.124181	1.18	0.9474326	2.35	1.234388	4.7	1.45473	11.8	1.539036
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	0.4	0.6395927	1	0.6902878	2.5	0.7200641	5	0.7451486	10	0.6914169	25	0.8089814
Perfluoro-4-oxapentanoic acid (PFMPA)	0.4	0.7658286	1	0.7837515	2.5	0.6957413	5	0.725533	10	0.7227047	25	0.7962833
Perfluoro-5-oxahexanoic acid (PFMBA)	0.4	1.078204	1	1.124238	2.5	0.9942456	5	1.06186	10	1.06883	25	1.151182
Perfluorobutanesulfonic acid (PFBS)	0.177	1.223085	0.444	1.431779	1.11	1.499183	2.22	1.208772	4.44	1.296645	11.1	1.402673
Perfluorodecanoic acid (PFDA)	0.2	2.170243	0.5	2.197901	1.25	1.672797	2.5	1.741334	5	1.830876	12.5	2.053148
Perfluorododecanesulfonic acid (PFDoS)	0.194	0.9933548	0.485	0.9041408	1.21	1.100472	2.42	1.050319	4.85	1.142768	12.1	1.223245
Perfluorododecanoic acid (PFDoA)	0.2	1.195927	0.5	0.874354	1.25	0.8145511	2.5	0.7637244	5	0.8259495	12.5	0.8863531
Perfluoroheptanoic acid (PFHpA)	0.2	1.54441	0.5	1.188732	1.25	1.194544	2.5	1.229182	5	1.426235	12.5	1.27432
Perfluorohexanesulfonic acid (PFHxS)	0.183	1.081857	0.457	1.611582	1.14	1.419569	2.28	1.273598	4.57	1.480931	11.4	1.5297
Perfluorohexanoic acid (PFHxA)	0.2	1.372838	0.5	1.125431	1.25	1.192003	2.5	1.267876	5	1.177142	12.5	1.340079

FORM VI

INITIAL CALIBRATION DATA

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC)

Project: 170446801

Calibration: SD30043

Instrument: QQQ-2

Calibration Date: 04/27/23 18:13

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	0.7182837	1.25	0.9303961	1.25	0.8136289	1.25	0.832169	1.25	0.7257293	1.25	0.7445164
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10	0.6931908	10	0.7151685	10	0.6928626	10	0.7063584	10	0.7062003	10	0.6712457
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5	0.3862562	5	0.4506481	5	0.4348874	5	0.4134252	5	0.4245687	5	0.3841448
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.5	0.5863431	2.5	0.6063726	2.5	0.5476766	2.5	0.5433568	2.5	0.593667	2.5	0.5178065
Perfluoro-n-butanoic acid (PFBA)	0.8	1.266033	2	1.18104	5	1.21965	10	1.184859	20	1.232704	50	1.314388
Perfluorononanoic acid (PFNA)	0.2	6.374669	0.5	5.625323	1.25	7.776929	2.5	6.285249	5	9.417014	12.5	6.108043
Perfluorooctanesulfonic acid (PFOS)	0.186	1.896983	0.464	2.12832	1.16	1.784237	2.32	1.57556	4.64	1.654192	11.6	1.802265
Perfluorooctanoic acid (PFOA)	0.2	1.721501	0.5	1.638228	1.25	1.580522	2.5	1.36264	5	1.476469	12.5	1.570316
Perfluoropentanoic acid (PFPeA)	0.4	1.089293	1	1.005767	2.5	0.9470773	5	0.9940545	10	1.002333	25	1.139393
Perfluorotetradecanoic acid (PFTA)	0.2	1.644712	0.5	1.554377	1.25	1.308087	2.5	1.189607	5	1.393432	12.5	1.504266
Perfluorotridecanoic acid (PFTrDA)	0.2	0.6045863	0.5	0.885894	1.25	0.8884434	2.5	0.7530009	5	0.7257251	12.5	0.8125782
Perfluoroundecanoic acid (PFUnA)	0.2	1.085079	0.5	1.111052	1.25	0.9598616	2.5	1.145158	5	0.892429	12.5	1.098369

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Calibration: SD30043 Instrument: QQQ-2

Calibration Date: 04/27/23 18:13

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
11CL-PF3OUdS	94.5	0.1351079	236	0.1398022								
1H,1H,2H,2H-Perfluorodecan esulfonic acid (8:2 FTS)	96	0.5838039	240	0.4737996								
1H,1H,2H,2H-Perfluorohexan esulfonic acid (4:2 FTS)	93.8	0.5904891	234	0.3356386								
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	95	0.6722864	238	0.3156606								
3-Perfluoroheptyl propanoic acid (FHpPA)	624	7.164342E-03	1560	8.004373E-03								
3-Perfluoropentyl propanoic acid (FPePA)	624	0.1117991	1560	9.200017E-02								
3-Perfluoropropyl propanoic acid (FPrPA)	125	1.617112	312	1.192698								
9CL-PF3ONS	93.5	0.3494534	234	0.3827538								
ADONA	94.5	0.3249623	236	0.3520307								
d3-N-MeFOSAA	5	0.8360766	5	0.948377								
d5-N-EtFOSAA	5	0.7873933	5	0.740269								
d7-N-MeFOSE	25	0.7052386	25	0.7446613								
d9-N-EtFOSE	25	0.7266518	25	0.7403448								
d-N-EtFOSA	2.5	0.3648316	2.5	0.3135353								
d-N-MeFOSA	2.5	0.2156052	2.5	0.2615938								
HFPO-DA (Gen-X)	100	2.200251E-02	250	2.405166E-02								
M2-4:2 FTS	4.69	1.848934	4.69	5.052608								
M2-6:2 FTS	4.76	0.8748646	4.76	2.862944								
M2-8:2 FTS	4.8	0.8087821	4.8	1.30713								
M2PFTeDA	1.25	0.7278177	1.25	0.9088983								
M3HFPO-DA	10	0.3489423	10	0.2868125								
M3PFBS	2.33	3.089675	2.33	4.166404								
M3PFHxS	2.37	2.265358	2.37	2.9504								
M4PFHpA	2.5	0.6690511	2.5	0.7234297								
M5PFHxA	2.5	0.6512943	2.5	0.6613756								
M6PFDA	1.25	0.3765558	1.25	0.4591445								
M7PFUdA	1.25	0.901968	1.25	0.8086535								
M9PFNA	1.25	0.1137857	1.25	0.1433446								
N-EtFOSA	25	0.8638526	78	0.857707								

FORM VI INITIAL CALIBRATION DATA (Continued)

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30043
Instrument: QQQ-2
Calibration Date: 04/27/23 18:13

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
N-EtFOSAA	25	0.7669205	62.5	0.8442815								
N-EtFOSE	250	1.113438	780	0.8436242								
N-MeFOSA	25	1.358946	78	0.9718971								
N-MeFOSAA	25	0.6977313	62.5	0.7994941								
N-MeFOSE	250	0.824949	780	0.5807664								
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	44.5	1.452927	111	1.436781								
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.5	1.893933	2.5	2.040881								
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.4	0.3951477	2.4	0.3376081								
Perfluoro-1-decanesulfonic acid (PFDS)	24.1	0.9495642	60.3	1.105727								
Perfluoro-1-heptanesulfonic acid (PFHpS)	23.8	2.726847	59.6	3.536267								
Perfluoro-1-nonanesulfonic acid (PFNS)	24	2.440624	60.1	2.705975								
Perfluoro-1-octanesulfonamide (FOSA)	25	1.685081	62.5	1.640304								
Perfluoro-1-pentanesulfonate (PFPeS)	23.5	1.598086	58.8	1.907493								
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	50	0.6524691	125	0.6523004								
Perfluoro-4-oxapentanoic acid (PFMPA)	50	0.7746708	125	0.7963107								
Perfluoro-5-oxahexanoic acid (PFMBA)	50	1.082008	125	1.009908								
Perfluorobutanesulfonic acid (PFBS)	22.2	1.289051	55.4	1.400733								
Perfluorodecanoic acid (PFDA)	25	2.06893	62.5	1.974366								
Perfluorododecanesulfonic acid (PFDoS)	24.2	1.032223	60.6	1.355612								
Perfluorododecanoic acid (PFDoA)	25	0.7929692	62.5	0.7240474								
Perfluoroheptanoic acid (PFHpA)	25	1.361392	62.5	1.331805								
Perfluorohexanesulfonic acid (PFHxS)	22.8	1.45035	57.1	1.526368								
Perfluorohexanoic acid (PFHxA)	25	1.172993	62.5	1.290522								

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30043
Instrument: QQQ-2
Calibration Date: 04/27/23 18:13

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.25	0.6708522	1.25	0.9685303								
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10	0.6375258	10	0.6564188								
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5	0.358657	5	0.38558								
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.5	0.5182154	2.5	0.4957484								
Perfluoro-n-butanoic acid (PFBA)	100	1.254997	250	1.27845								
Perfluorononanoic acid (PFNA)	25	6.448361	62.5	5.195645								
Perfluorooctanesulfonic acid (PFOS)	23.2	1.466436	58	2.143435								
Perfluorooctanoic acid (PFOA)	25	1.460899	62.5	1.578597								
Perfluoropentanoic acid (PFPeA)	50	1.09307	125	1.107949								
Perfluorotetradecanoic acid (PFTA)	25	1.358689	62.5	1.359372								
Perfluorotridecanoic acid (PFTrDA)	25	0.7164963	62.5	0.6590828								
Perfluoroundecanoic acid (PFUnA)	25	0.8643888	62.5	1.160091								

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 1633 Draft 2

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30043
Instrument: QQQ-2
Calibration Date: 04/27/23 18:13

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
11CL-PF3OUdS	0.1365048	5.284078	7.553736	0.0554469		0.9997037	0.995	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.9829487	42.0566	6.972829	0.1014			20	*
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	0.8999592	33.47194	4.634725	0.1029141			20	*
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.9616406	39.3047	5.99741	1.769764E-02			20	*
3-Perfluoroheptyl propanoic acid (FHpPA)	7.481766E-03	4.202858	3.29585	0.1548017		0.9997618	0.995	
3-Perfluoropentyl propanoic acid (FPePA)	0.1463629	20.24593	5.535902	7.733467E-02		0.9952226	0.995	
3-Perfluoropropyl propanoic acid (FPrPA)	1.736253	14.65552	6.689417	4.111811E-03		0.9999802	0.995	
9CL-PF3ONS	0.3910379	7.350722	6.819258	6.423147E-02		0.9989546	0.995	
ADONA	0.3374364	5.462223	5.55706	8.987776E-02		0.9995865	0.995	
d3-N-MeFOSAA	0.7949697	15.71878	7.158435	6.762929E-02			20	
d5-N-EtFOSAA	0.7988244	10.01788	7.345679	5.735247E-02			20	
d7-N-MeFOSE	0.7988105	9.946891	8.239436	1.397495E-02			20	
d9-N-EtFOSE	0.7850989	7.257886	8.457796	5.815095E-02			20	
d-N-EtFOSA	0.3387294	8.400032	8.475335	0.020374			20	
d-N-MeFOSA	0.2464128	7.117411	8.244686	5.760698E-02			20	
HFPO-DA (Gen-X)	0.0204781	27.27543	4.963543	0.1384932		0.9997129	0.995	
M2-4:2 FTS	1.894598	68.34832	4.635462	0.1074395			20	*
M2-6:2 FTS	1.018711	73.94906	5.999464	7.320801E-02			20	*
M2-8:2 FTS	0.7345987	35.69492	6.970108	7.056398E-02			20	*
M2PFTeDA	0.844855	10.78455	8.25274	6.042752E-02			20	
M3HFPO-DA	0.3937776	13.72529	4.961036	6.536166E-02			20	
M3PFBS	3.382335	10.09413	3.891104	8.353912E-02			20	
M3PFHxS	2.793421	12.15381	5.529588	7.793642E-02			20	
M4PFHpA	0.7626498	9.342389	5.446252	7.794063E-02			20	
M5PFHxA	0.675272	6.888085	4.703914	9.415907E-02			20	
M6PFDA	0.4851953	15.11552	6.988227	6.122056E-02			20	
M7PFUdA	0.9615972	12.13123	7.369443	5.912821E-02			20	
M9PFNA	0.1286461	16.66764	6.546115	0.1017495			20	
N-EtFOSA	0.9890033	9.644376	8.485802	1.626895E-02		0.9989188	0.995	
N-EtFOSAA	0.8333015	15.46763	7.354075	9.388778E-02		0.9994822	0.995	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Calibration:	SD30043	Instrument:	QQQ-2
		Calibration Date:	04/27/23 18:13

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
N-EtFOSE	1.129564	11.71007	8.470931	1.123952E-02		0.9999393	0.995	
N-MeFOSA	1.295508	21.35802	8.248887	5.662046E-02		0.9994415	0.995	
N-MeFOSAA	0.7572478	15.43454	7.16345	0.0463983		0.999172	0.995	
N-MeFOSE	0.7868612	12.0863	8.259592	3.940227E-02		0.9997485	0.995	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	1.613927	8.092451	4.385134	0.1096521		0.9979298	0.995	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	1.92915	6.829864	7.519098	5.843562E-03			20	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	0.3543836	13.5784	6.573008	6.404835E-02			20	
Perfluoro-1-decanesulfonic acid (PFDS)	1.090454	36.63678	7.370887	6.612511E-02		0.9960163	0.995	
Perfluoro-1-heptanesulfonic acid (PFHpS)	3.229874	14.54574	6.080985	1.873875E-02		0.9983727	0.995	
Perfluoro-1-nonanesulfonic acid (PFNS)	2.541268	20.06375	7.001487	6.180389E-02		0.9962246	0.995	
Perfluoro-1-octanesulfonamide (FOSA)	1.712752	6.13737	7.519887	0.013192		0.9998018	0.995	
Perfluoro-1-pentanesulfonate (PFPeS)	1.404147	21.33255	4.883498	8.847192E-02		0.9999313	0.995	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	0.7000326	8.129294	4.561191	7.115815E-02		0.9980543	0.995	
Perfluoro-4-oxapentanoic acid (PFMPA)	0.757603	5.016402	2.064365	0.4075477		0.999917	0.995	
Perfluoro-5-oxahexanoic acid (PFMBA)	1.071309	4.881938	3.922489	9.54821E-03		0.9998808	0.995	
Perfluorobutanesulfonic acid (PFBS)	1.34399	7.78426	3.890691	0.1089615		0.9995876	0.995	
Perfluorodecanoic acid (PFDA)	1.963699	9.971873	6.987423	4.901084E-02		0.9997652	0.995	
Perfluorododecanesulfonic acid (PFDoS)	1.100267	12.81437	7.978394	6.068585E-02		0.9982089	0.995	
Perfluorododecanoic acid (PFDoA)	0.8597345	16.98229	7.701031	7.269913E-03		0.999638	0.995	
Perfluoroheptanoic acid (PFHpA)	1.318827	9.365546	5.446414	7.928734E-02		0.9997722	0.995	
Perfluorohexanesulfonic acid (PFHxS)	1.421744	11.90192	5.528735	8.636042E-02		0.999813	0.995	
Perfluorohexanoic acid (PFHxA)	1.24236	7.122998	4.702704	0.1072093		0.999126	0.995	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.8005132	13.23505	7.700887	4.827458E-03			20	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	0.6848714	3.981342	1.200119	0.4084003			20	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	0.4047709	7.666945	3.389554	0.1252365			20	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	0.5511483	7.333125	6.035356	1.909702E-02			20	
Perfluoro-n-butanoic acid (PFBA)	1.241515	3.713708	1.201265	0.4900135		0.9998943	0.995	
Perfluorononanoic acid (PFNA)	6.653904	20.19084	6.548693	7.843427E-02			20	*
Perfluorooctanesulfonic acid (PFOS)	1.806429	13.52702	6.570298	7.318778E-02		0.997371	0.995	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Calibration:	SD30043	Instrument:	QQQ-2
		Calibration Date:	04/27/23 18:13

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Perfluorooctanoic acid (PFOA)	1.548646	7.231531	6.035735	1.686828E-02		0.9996881	0.995	
Perfluoropentanoic acid (PFPeA)	1.047367	6.520123	3.392313	0.145358		0.9998428	0.995	
Perfluorotetradecanoic acid (PFTA)	1.414068	10.32156	8.252933	5.828508E-02		0.9995593	0.995	
Perfluorotridecanoic acid (PFTrDA)	0.7557259	13.45904	7.9913	8.629514E-02		0.9994883	0.995	
Perfluoroundecanoic acid (PFUnA)	1.039554	11.20666	7.368671	4.337381E-02		0.9969821	0.995	

Quantitation Results Report (Not Reviewed)

Data File	QQQ2076113.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 11:32:43 AM
Sample Name	Qualitative mix branched	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	Qual mix
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

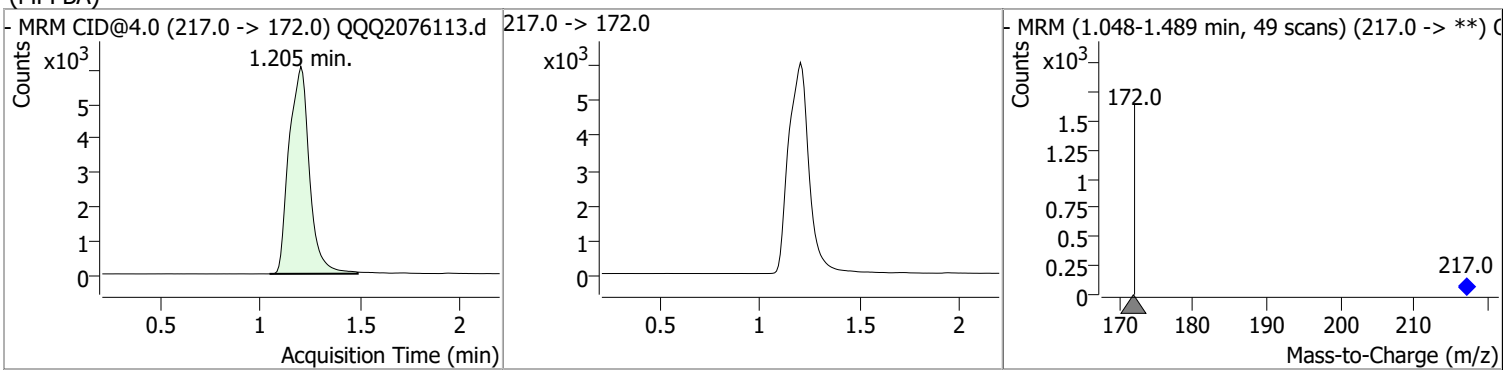
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.207	216.0 -> 172.0	30249	5.0000	ng/ml	0.000
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.205	217.0 -> 172.0	42939	10.0000	ng/ml	0.000
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.396	268.0 -> 223.0	24916	5.0000	ng/ml	0.009
MPFHxA	4.707	315.0 -> 269.8	28741	2.5000	ng/ml	0.010
MPFHxS	5.531	403.0 -> 103.0	2788	2.3700	ng/ml	0.009
M3PFBS-EIS	3.892	302.0 -> 79.9	8061	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	21647	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.640	329.0 -> 309.0	6980	4.6900	ng/ml	0.009
M3PFHxS-EIS	5.532	402.0 -> 80.0	7344	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	46745	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.449	367.0 -> 322.0	21823	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	6.006	429.0 -> 409.0	4157	4.7550	ng/ml	0.009
MPFOA	6.036	417.0 -> 372.0	26126	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	15473	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.566	507.0 -> 98.9	3582	2.3950	ng/ml	0.000
MPFNA	6.549	468.0 -> 423.0	8661	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.539	472.0 -> 223.0	1322	1.2500	ng/ml	0.000
MPFOS	6.576	503.0 -> 80.0	7034	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.976	529.0 -> 509.0	2312	4.8000	ng/ml	0.010
MPFDA	6.986	515.0 -> 469.8	9454	1.2500	ng/ml	0.000
M6PFDA-EIS	6.986	519.0 -> 473.9	5168	1.2500	ng/ml	0.000
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	11641	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	12654	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.367	570.0 -> 525.0	8674	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	13567	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.710	615.0 -> 570.0	7308	1.2500	ng/ml	0.009
M2PFTeDA-EIS	8.256	715.0 -> 670.0	9042	1.2500	ng/ml	0.000
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1757	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	57761	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.461	639.0 -> 59.0	57091	25.0000	ng/ml	0.000
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2042	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.205	217.0 -> 172.0	42939	10.3636	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.396	268.0 -> 223.0	24916	5.3542	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	8061	2.1733	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.640	329.0 -> 309.0	6980	4.5966	ng/ml	0.009

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	21647	2.7884	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	46745	10.3258	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	21823	2.4890	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	7344	2.3572	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	6.006	429.0 -> 409.0	4157	5.0472	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	15473	2.6865	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.539	472.0 -> 223.0	1322	1.4835	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.566	507.0 -> 98.9	3582	3.5173	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.976	529.0 -> 509.0	2312	3.2656	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.986	519.0 -> 473.9	5168	1.4082	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	11641	4.8919	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	12654	5.2920	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	8674	1.1926	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	13567	2.3496	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.710	615.0 -> 570.0	7308	1.2071	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	57761	24.1571	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	1757	2.3820	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.256	715.0 -> 670.0	9042	1.4151	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.461	639.0 -> 59.0	57091	24.2941	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2042	2.0144	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.200	213.0 -> 168.9	316	0.0584	ng/ml	100
PFMPA	2.043	229.0 -> 85.0	132	0.0347	ng/ml	100
3:3FTCA	3.314	241.0 -> 177.0	48	0.1587	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.388	263.0 -> 219.0	179	0.0329	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.911	298.9 -> 79.9	68	0.0166	ng/ml	100
PFMBA	3.932	279.0 -> 85.0	215	0.0379	ng/ml	100
PFEESA	4.391	315.0 -> 135.0	450	0.0323	ng/ml	100
NFDHA	4.569	295.0 -> 201.1	101	0.0163	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.659	327.0 -> 307.0	23	0.0165	ng/ml	100

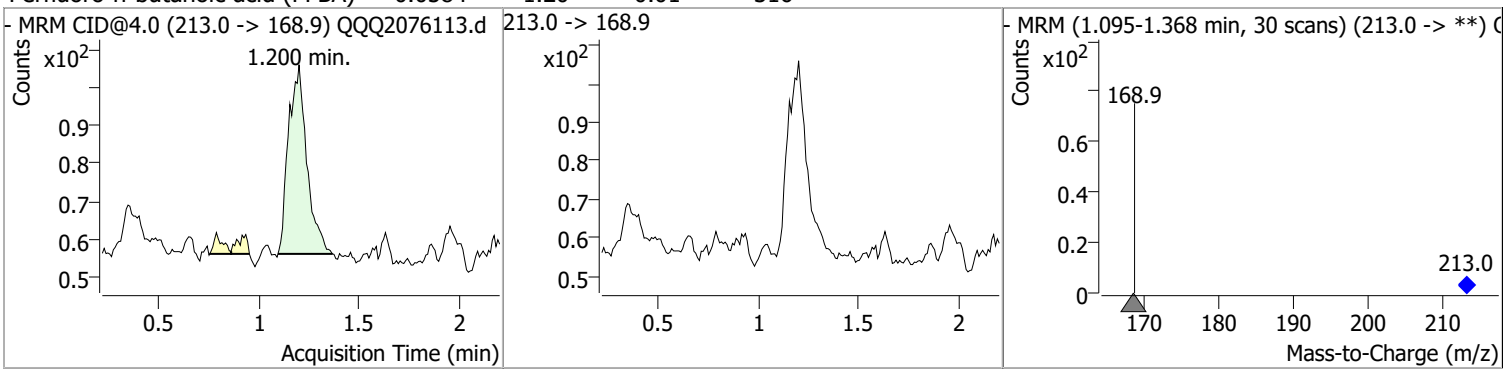
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.707	313.0 -> 268.9	652	0.0640	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	158	0.0383	ng/ml		100
HFPO-DA	4.941	285.0 -> 169.1	39	0.0976	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	2433	0.2070	ng/ml	m	100
Perfluorohexanesulfonic acid (PFHxS)	5.513	398.9 -> 79.9	10	0.0023	ng/ml		100
5-3FTCA	5.534	341.0 -> 217.0	1575	1.3029	ng/ml		100
ADONA	5.551	377.0 -> 85.0	299	0.0495	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.988	427.0 -> 407.0	47	0.0526	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	161616	17.6467	ng/ml	m	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.109	448.9 -> 80.0	3	0.0009	ng/ml		100
Perfluorononanoic acid (PFNA)	6.408	463.0 -> 418.8	92559	12.9713	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.595	498.9 -> 79.9	62	0.0342	ng/ml		100
7-3FTCA	6.689	441.0 -> 337.0	1498	0.7982	ng/ml		100
9-Cl-PF3ONS	6.826	531.0 -> 351.0	375	0.0565	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	7.555	527.0 -> 80.9	8	0.0139	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.977	513.0 -> 468.8	217	0.0252	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.995	548.9 -> 79.9	25	0.0076	ng/ml		100
N-MeFOSAA	7.153	570.0 -> 418.9	28	0.0179	ng/ml		100
N-EtFOSAA	6.928	584.0 -> 418.8	2	0.0011	ng/ml		100
Perfluoro-1-decanesulfonate (L-PFDS)	7.385	598.9 -> 98.9	77	0.0534	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.377	563.0 -> 519.0	686	0.1223	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	213720	22.9302	ng/ml	m	100
11-Cl-PF3OUdS	7.561	631.0 -> 451.0	279	0.1087	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	177	0.0350	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.997	699.0 -> 80.0	27	0.0198	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.923	663.0 -> 618.8	10	0.0018	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	28088	30.3079	ng/ml	m	100
Perfluorotetradecanoic acid (PFTA)	8.247	713.0 -> 669.0	205	0.0201	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	39324	19.2686	ng/ml	m	100
NEtFOSE	8.471	630.0 -> 59.0	53566	19.7566	ng/ml	m	100
NEtFOSA	8.486	526.0 -> 169.0	27949	35.3393	ng/ml	m	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

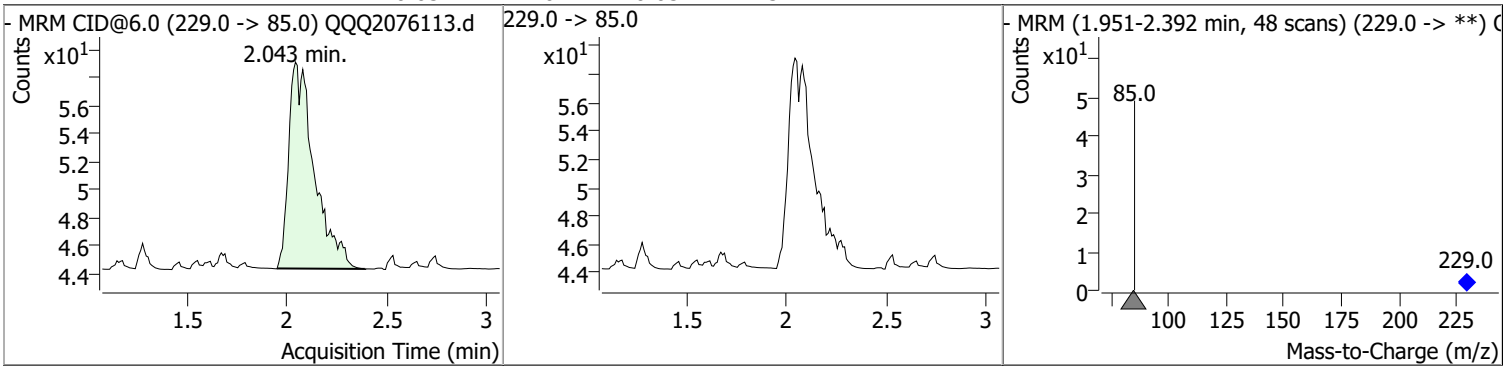
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.3636	1.20	0.00	42939				



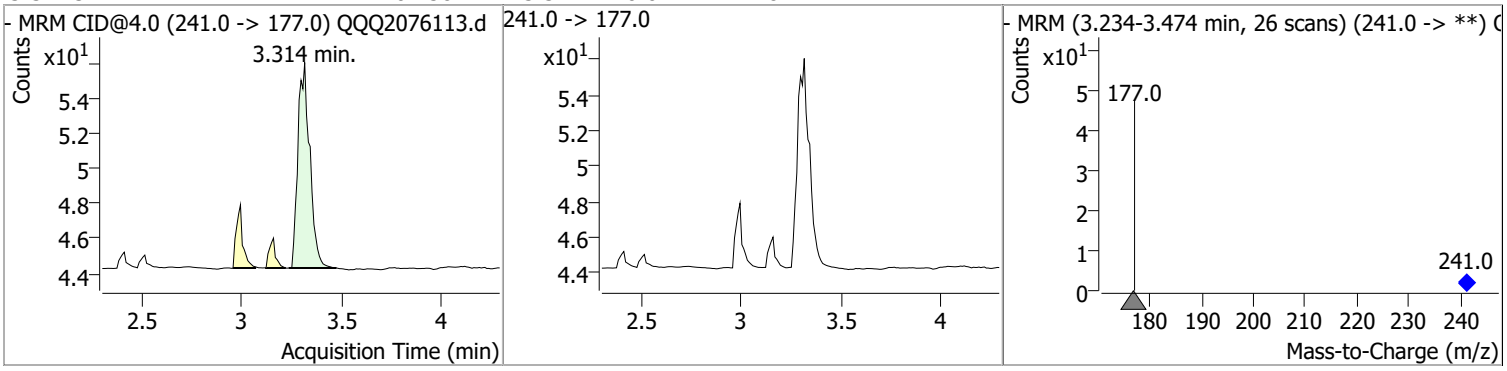
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0584	1.20	-0.01	316				



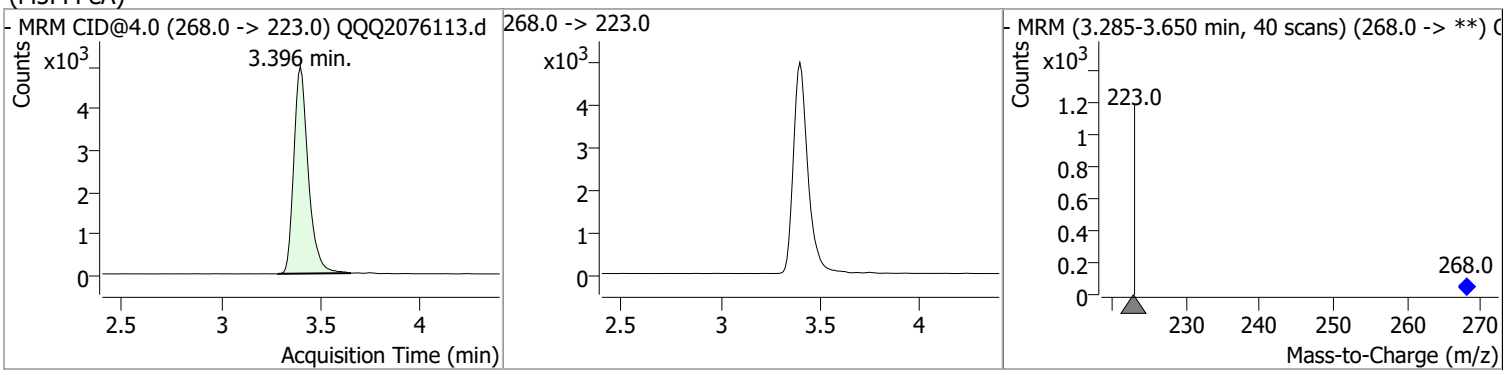
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0347	2.04	-0.03	132				



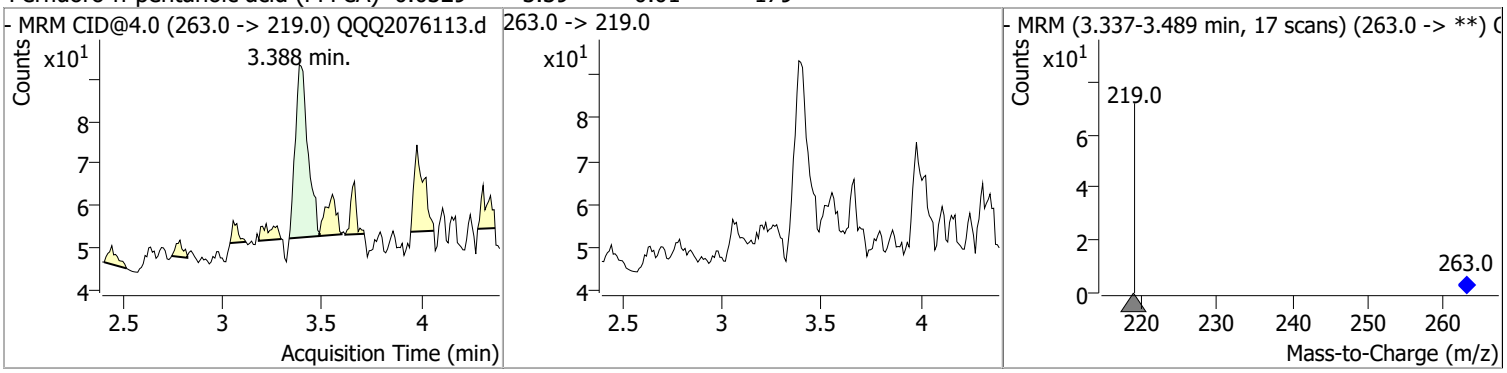
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.1587	3.31	0.02	48				



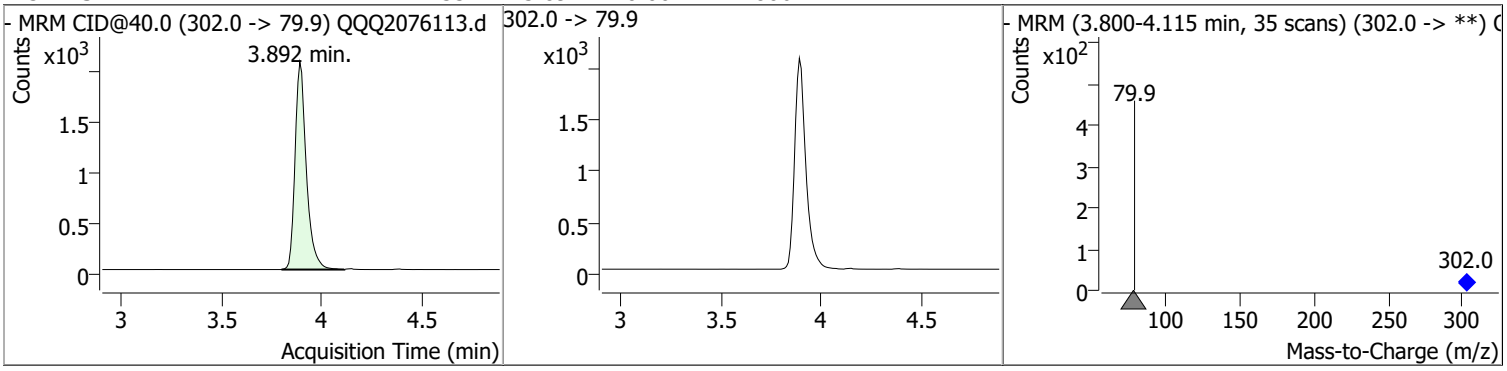
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.3542	3.40	0.01	24916				



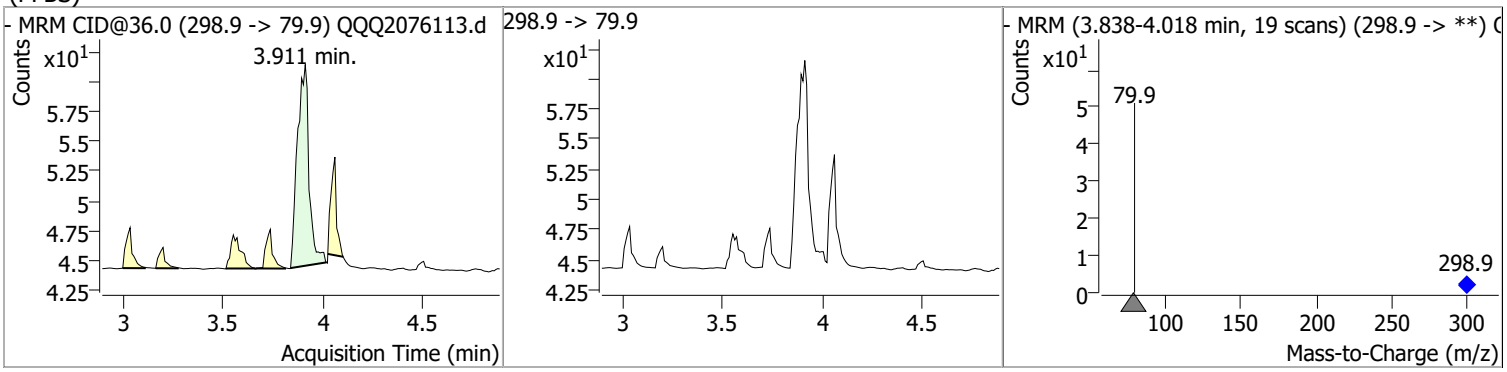
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0329	3.39	-0.01	179				



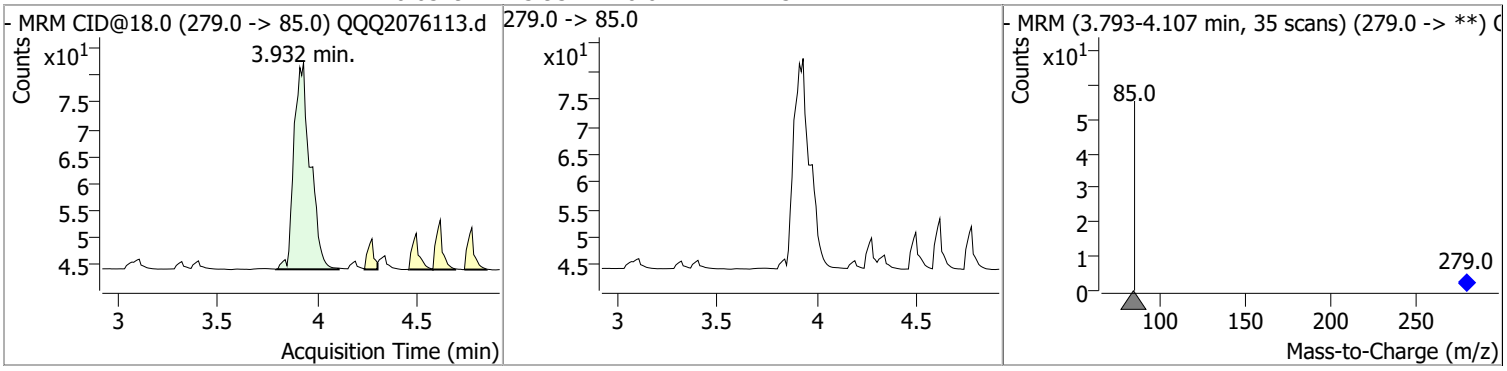
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.1733	3.89	0.00	8061				



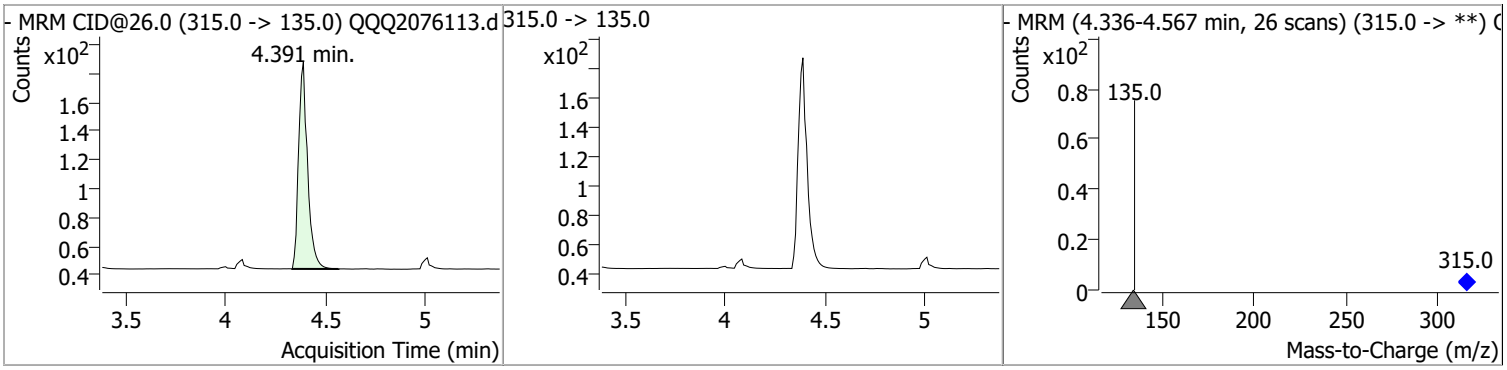
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0166	3.91	0.02	68				



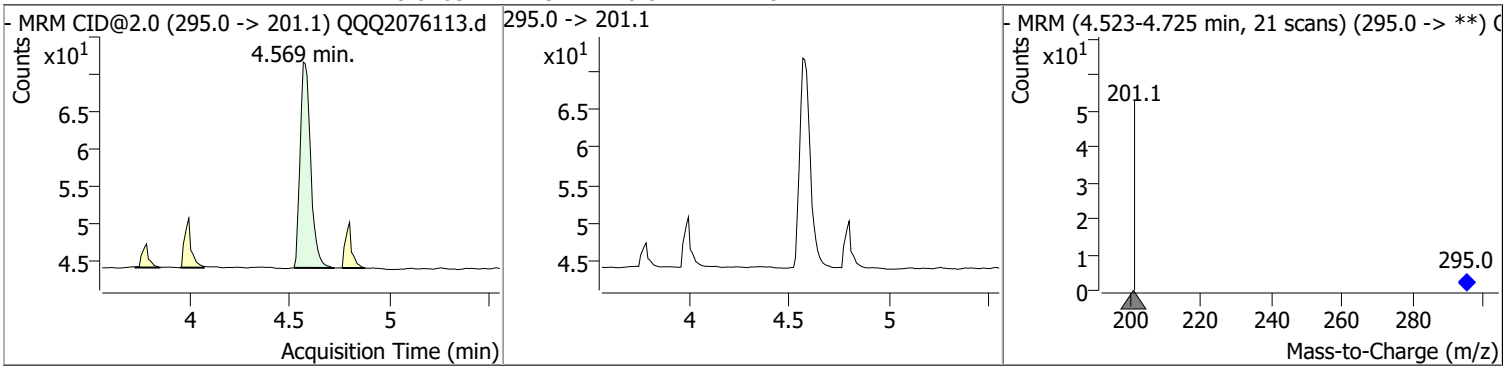
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0379	3.93	0.01	215				



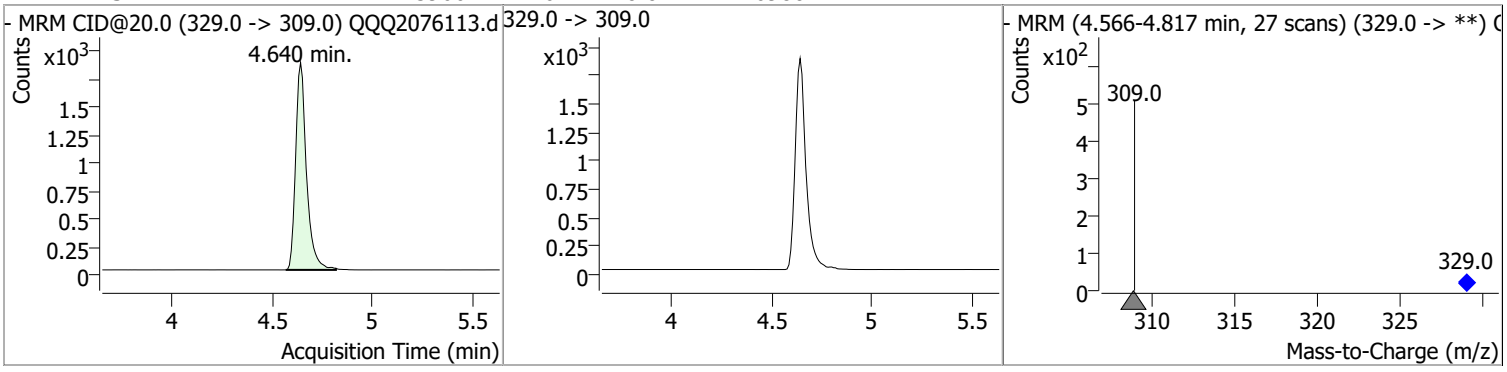
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0323	4.39	0.01	450				



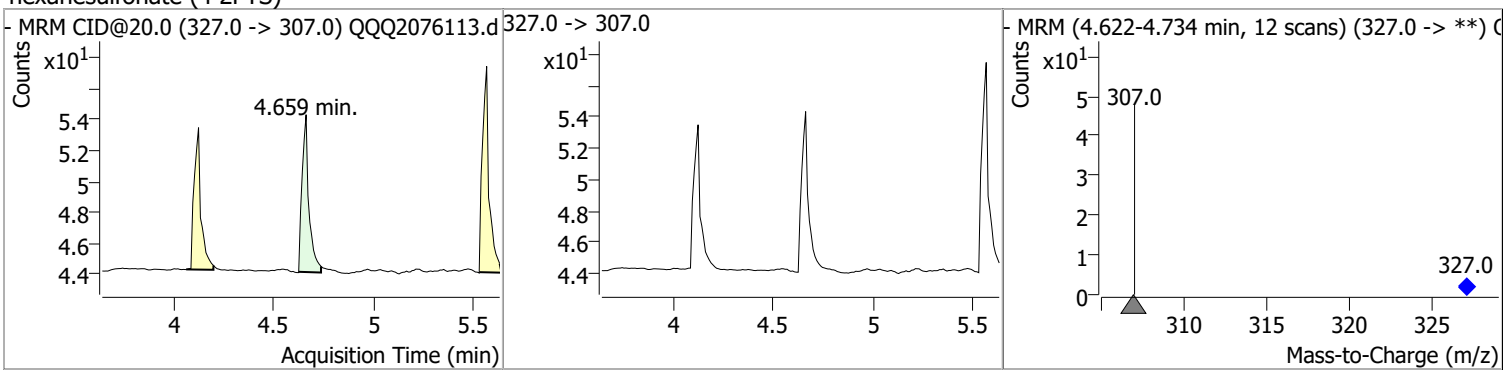
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0163	4.57	0.01	101				



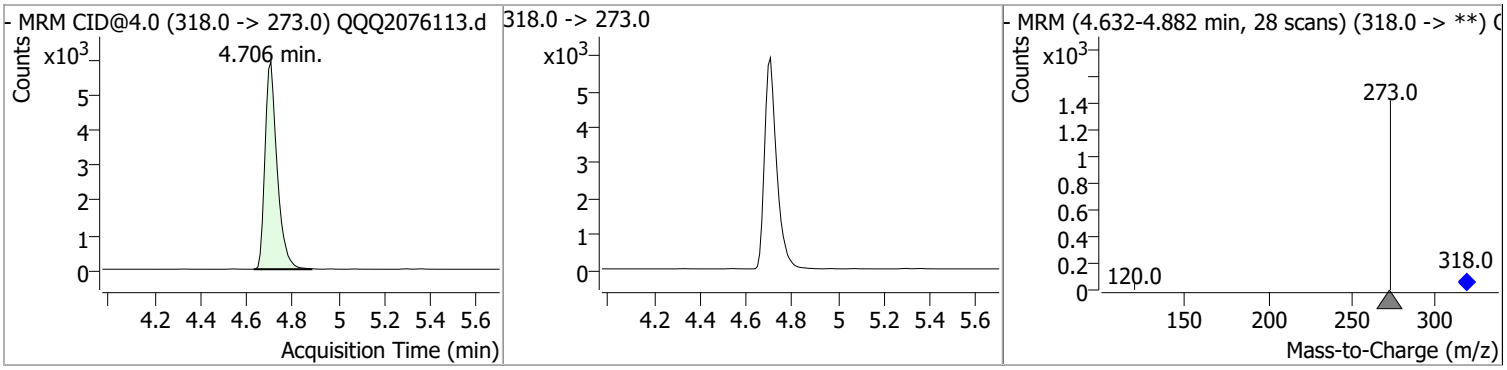
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.5966	4.64	0.01	6980				



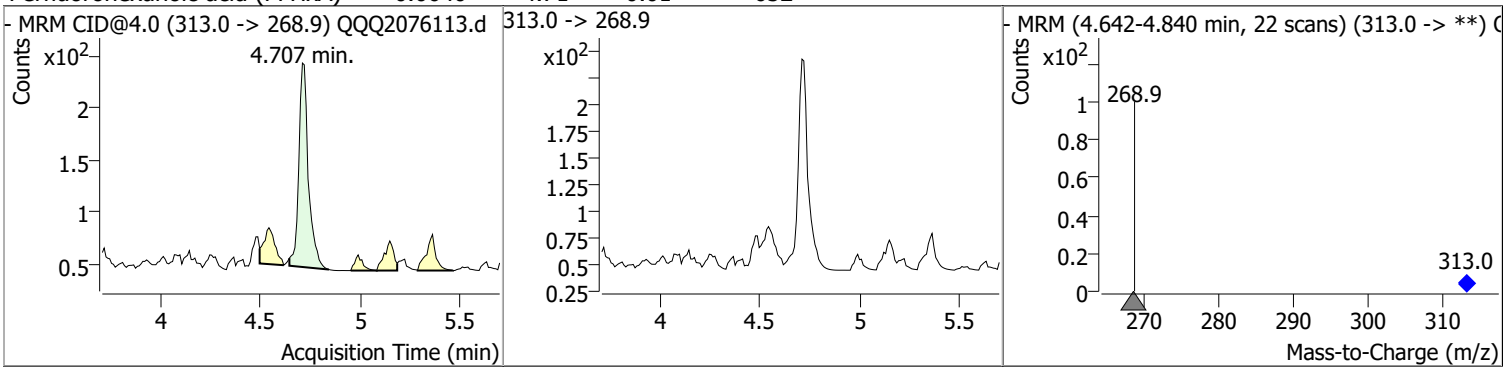
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0165	4.66	0.03	23				



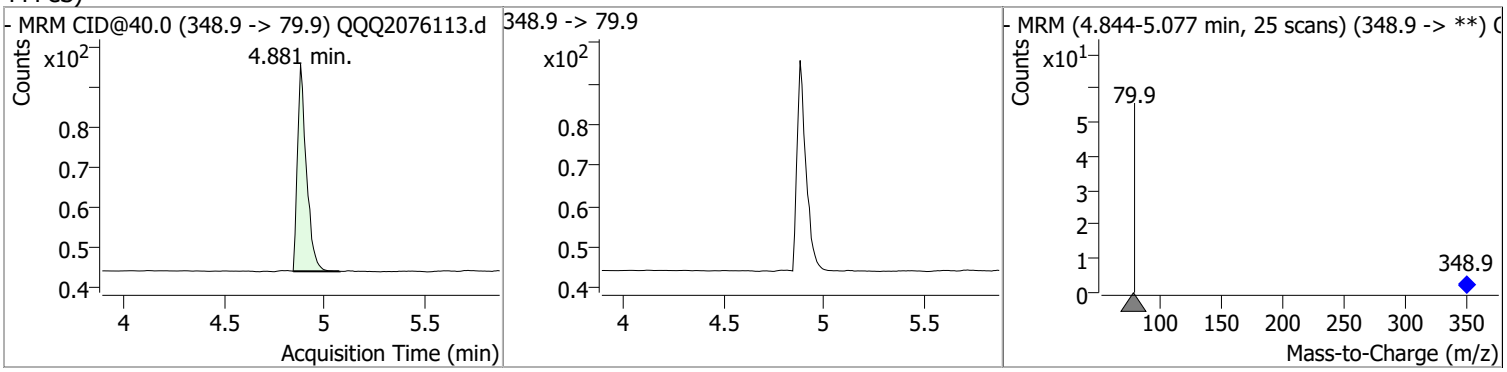
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.7884	4.71	0.01	21647				



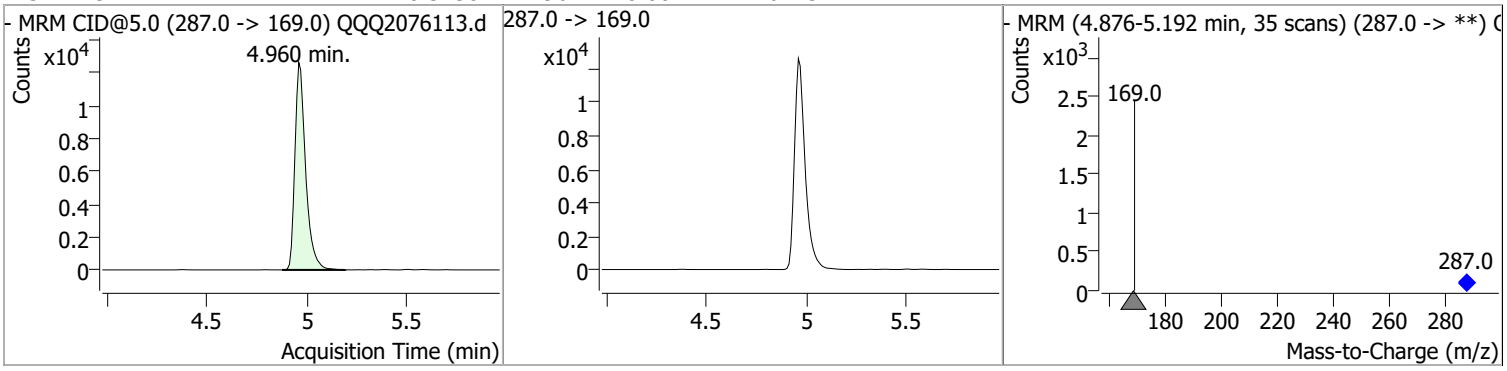
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0640	4.71	0.01	652				



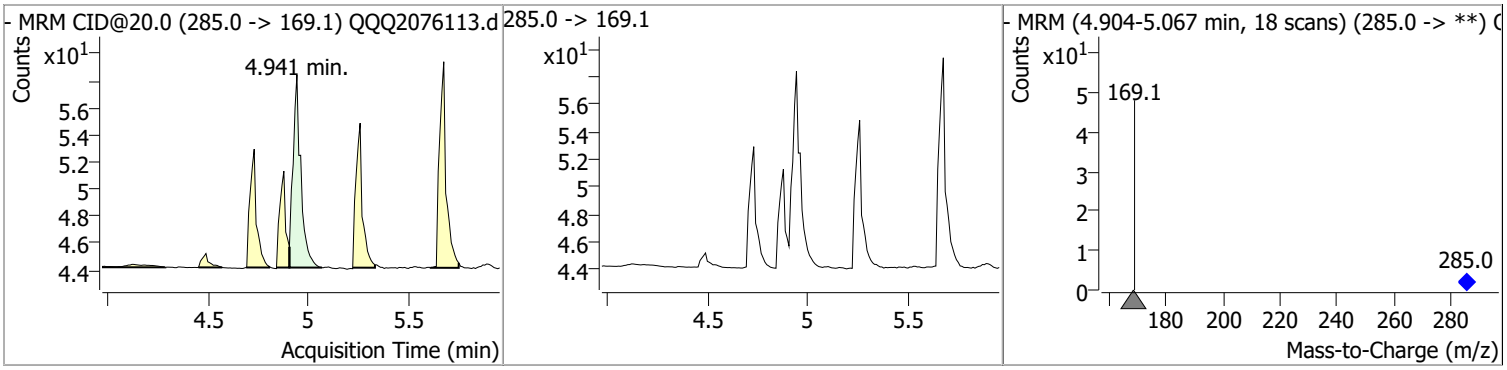
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0383	4.88	0.00	158				



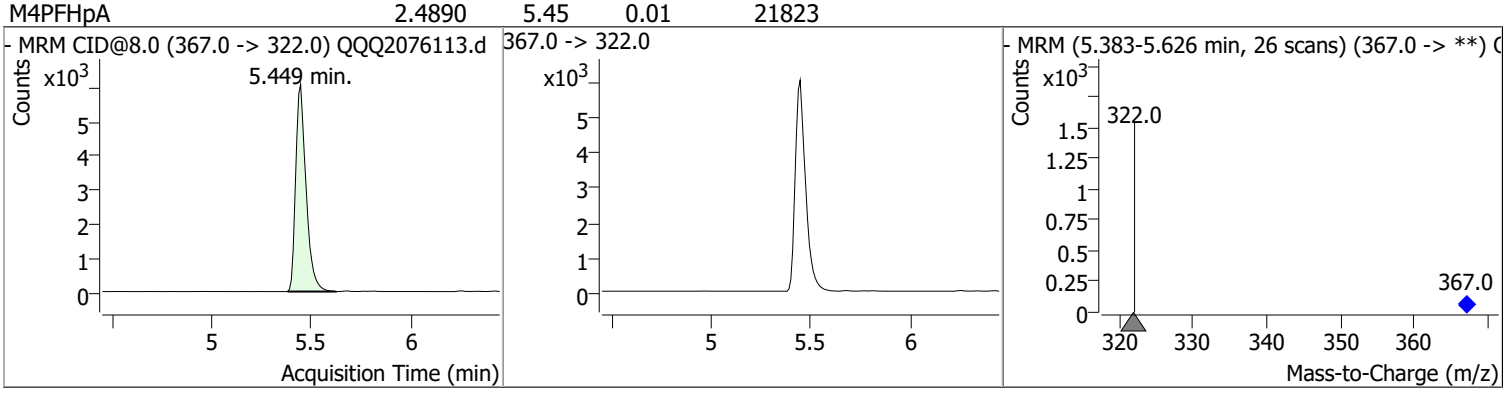
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.3258	4.96	0.00	46745				



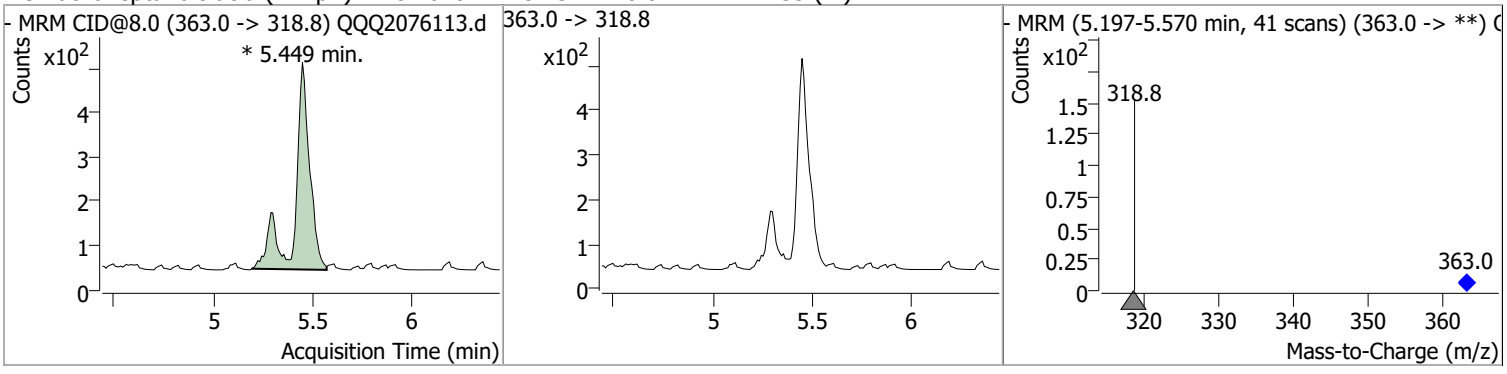
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0976	4.94	-0.02	39				



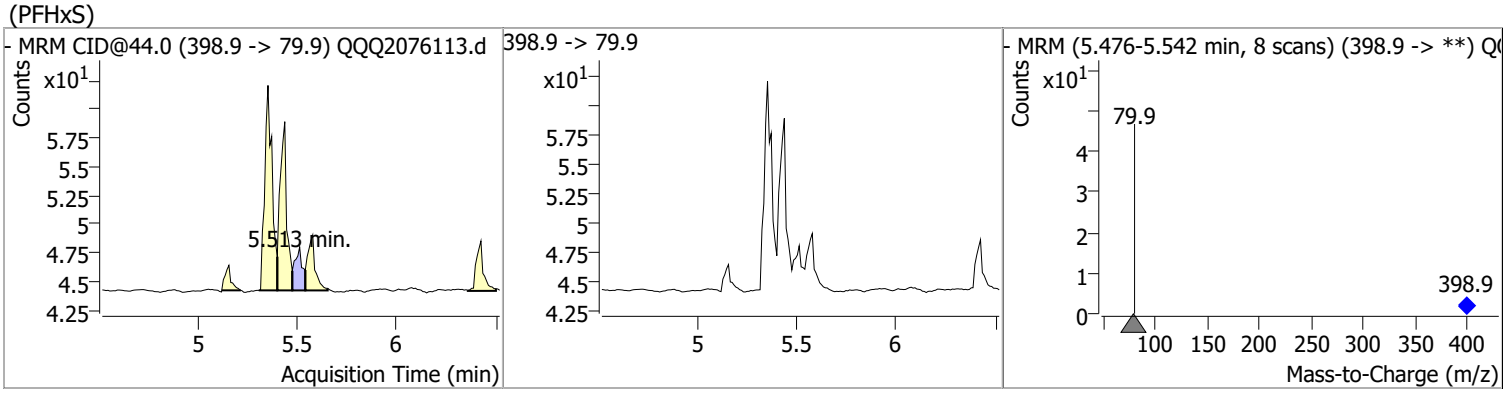
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.4890	5.45	0.01	21823				



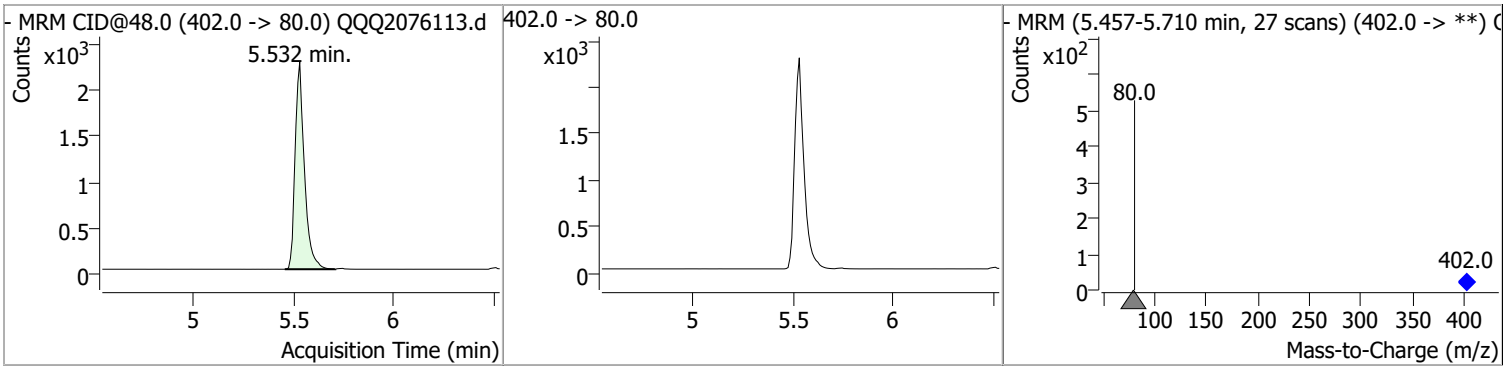
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.2070	5.45	0.01	2433 (m)				



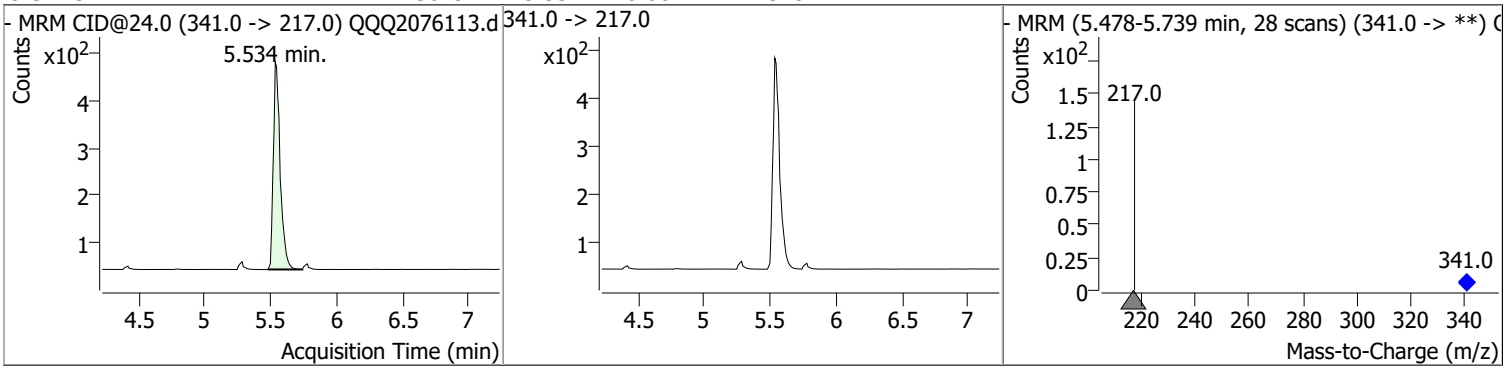
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0023	5.51	-0.01	10				



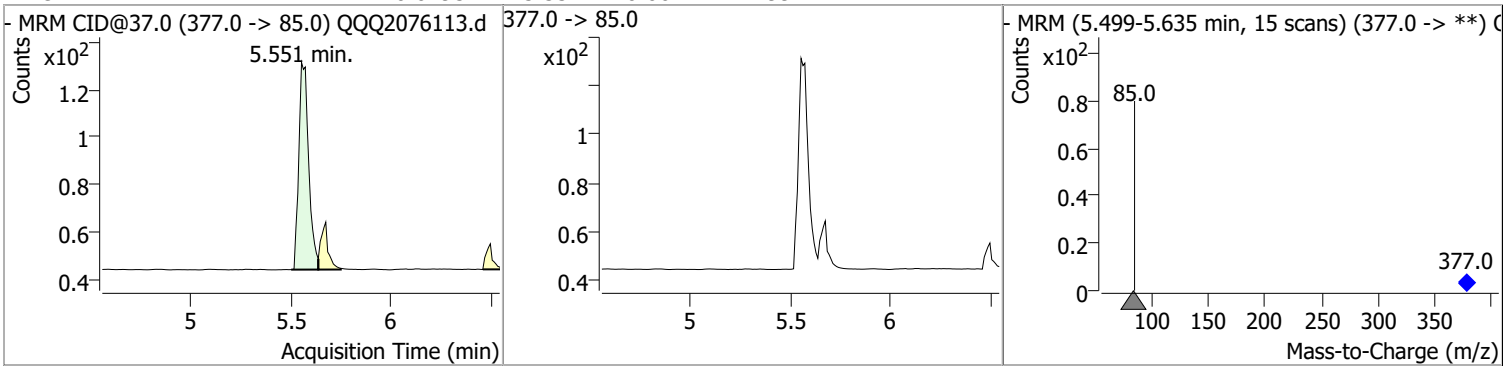
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.3572	5.53	0.00	7344				



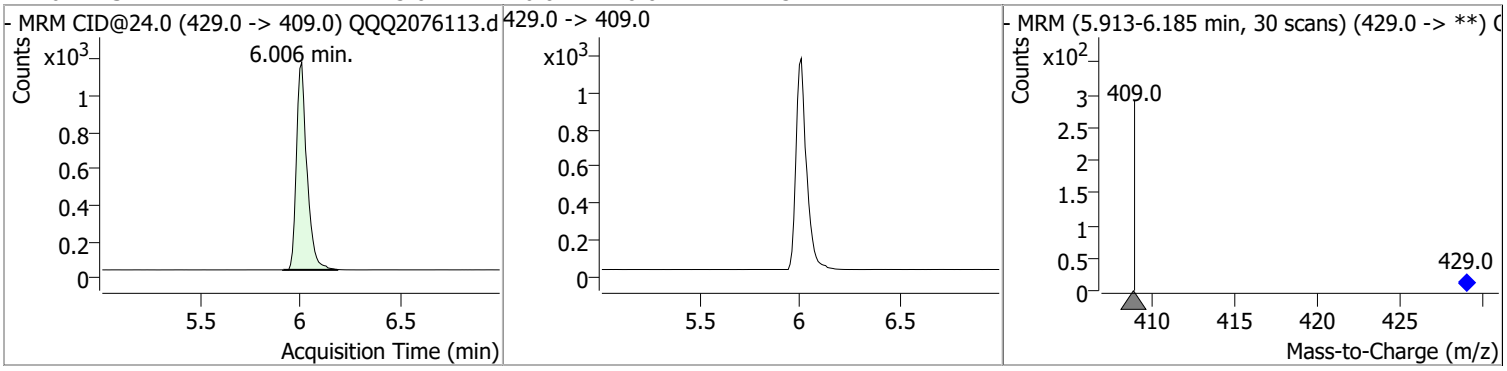
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	1.3029	5.53	0.00	1575				



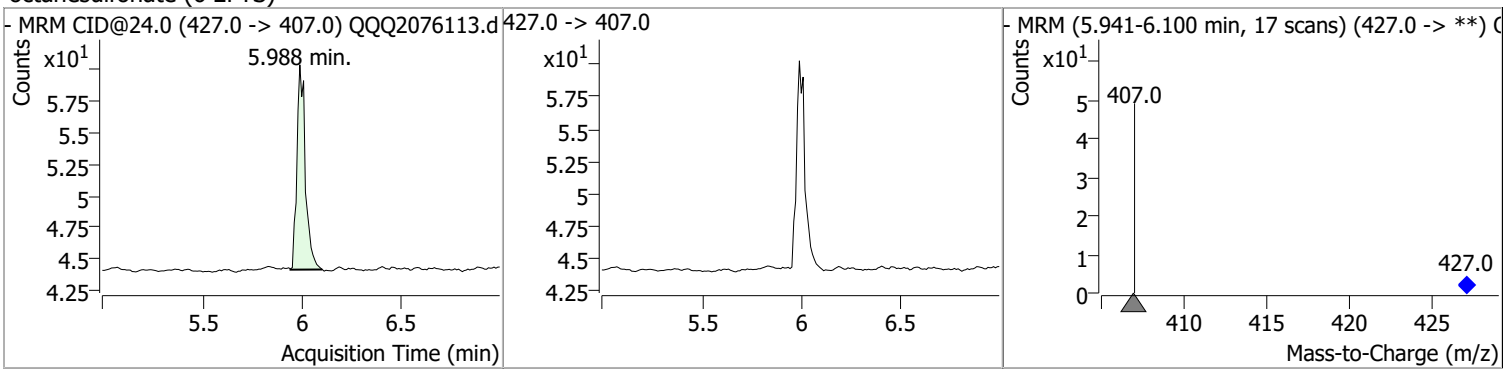
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0495	5.55	0.00	299				



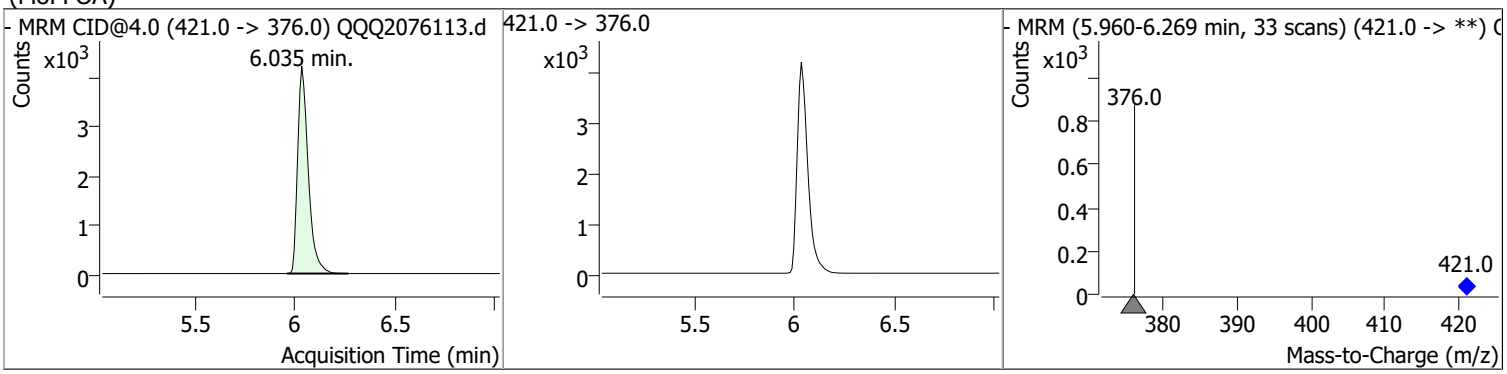
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.0472	6.01	0.01	4157				



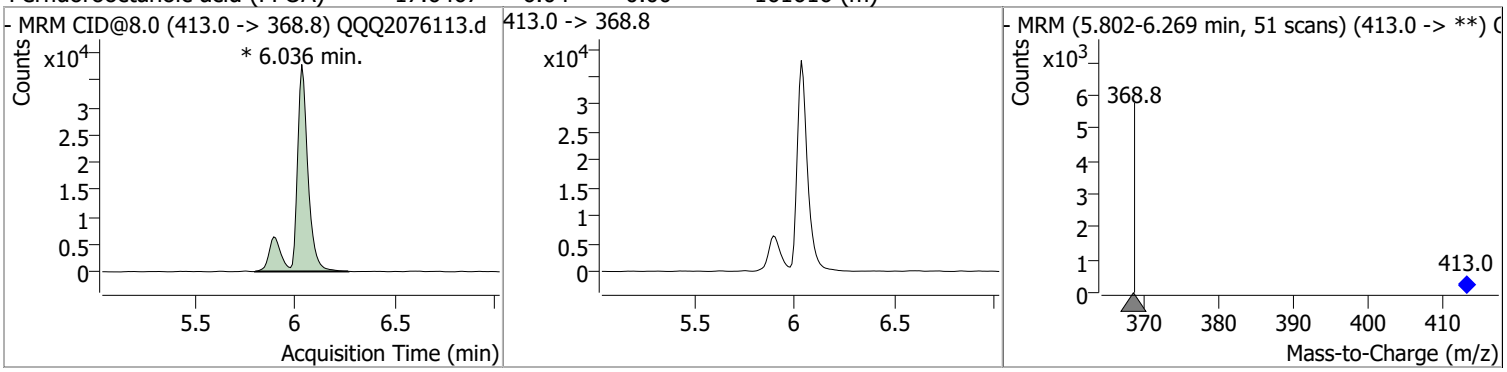
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0526	5.99	-0.01	47				



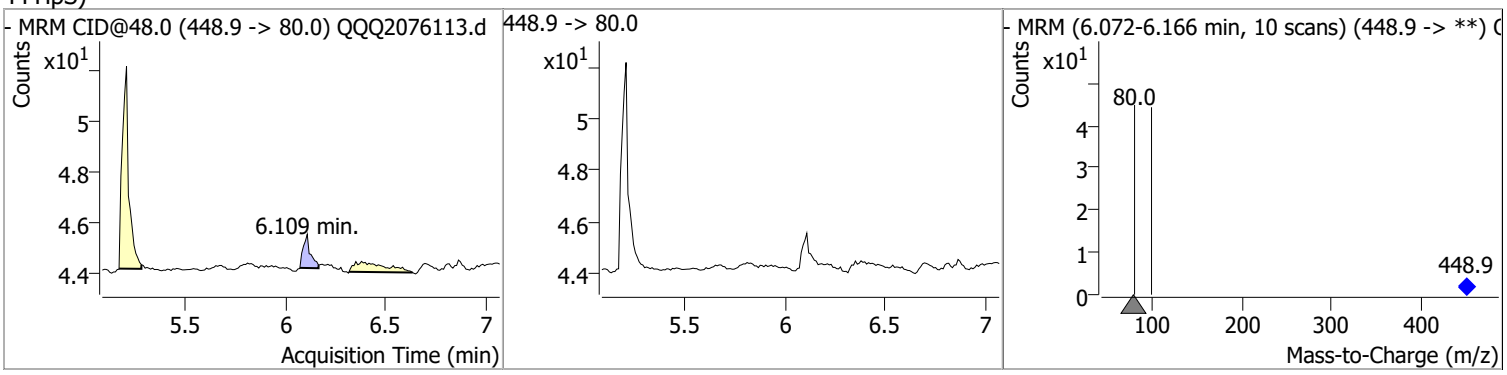
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.6865	6.04	0.00	15473				



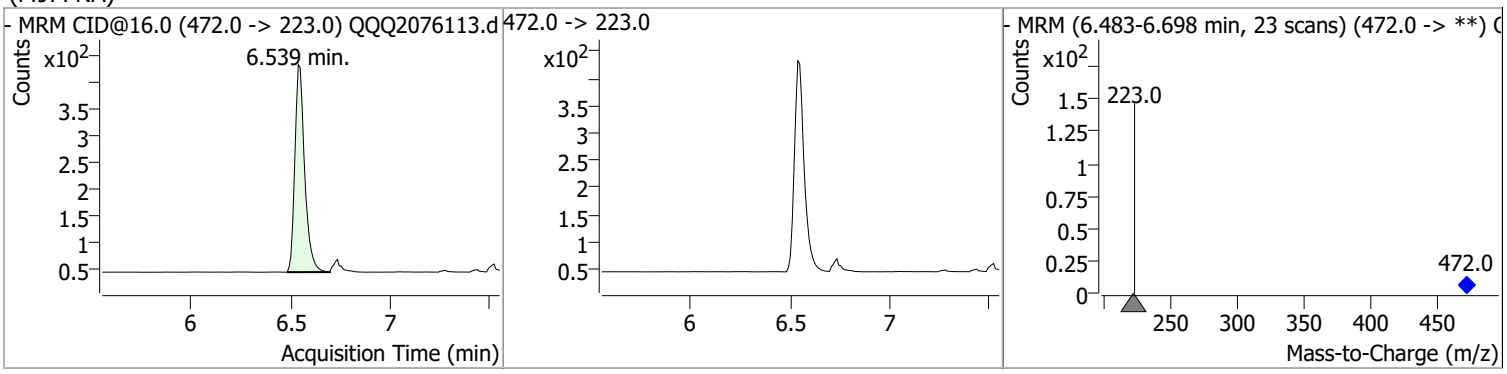
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	17.6467	6.04	0.00	161616 (m)				



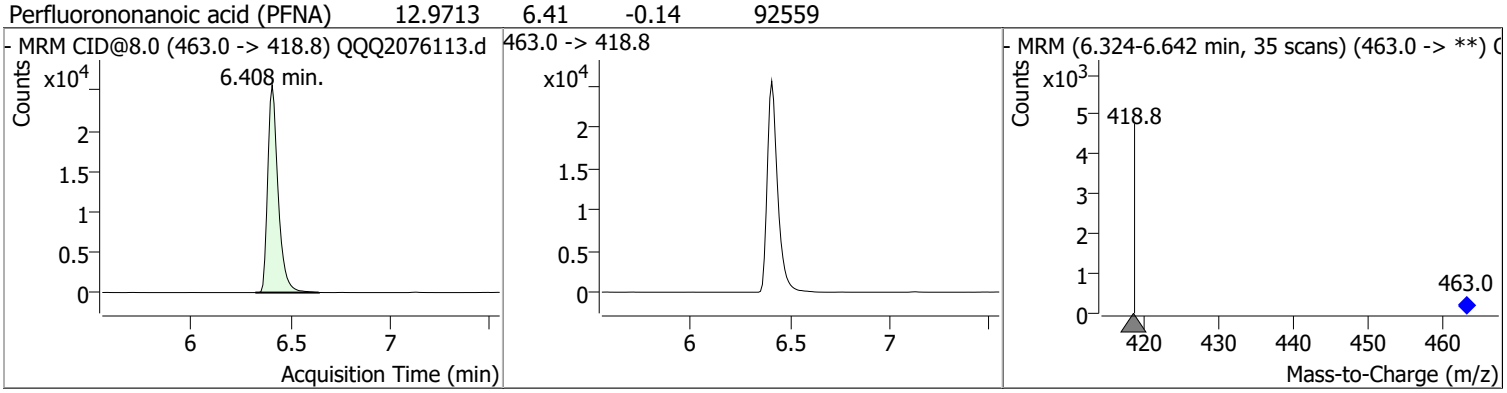
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0009	6.11	0.03	3				



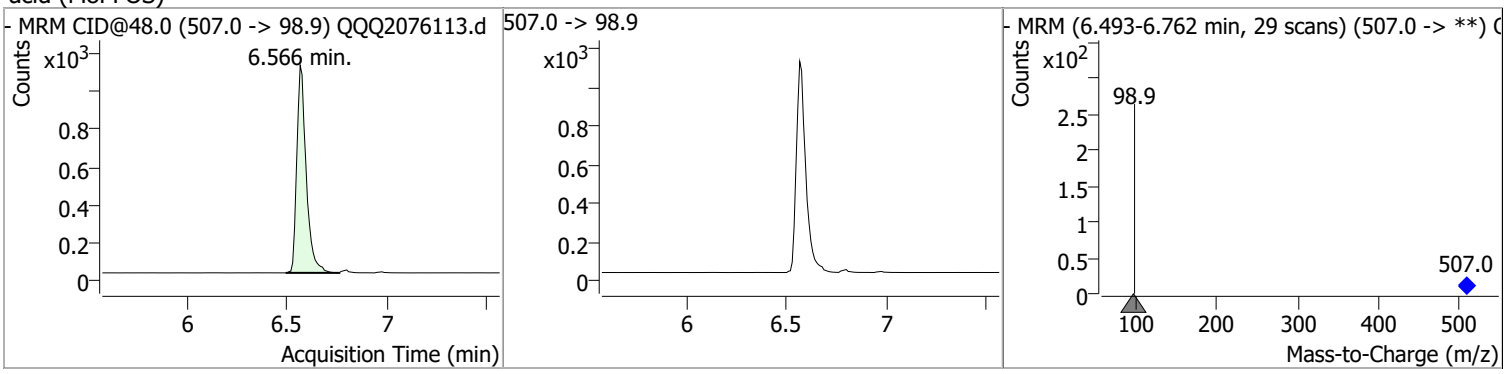
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.4835	6.54	0.00	1322				



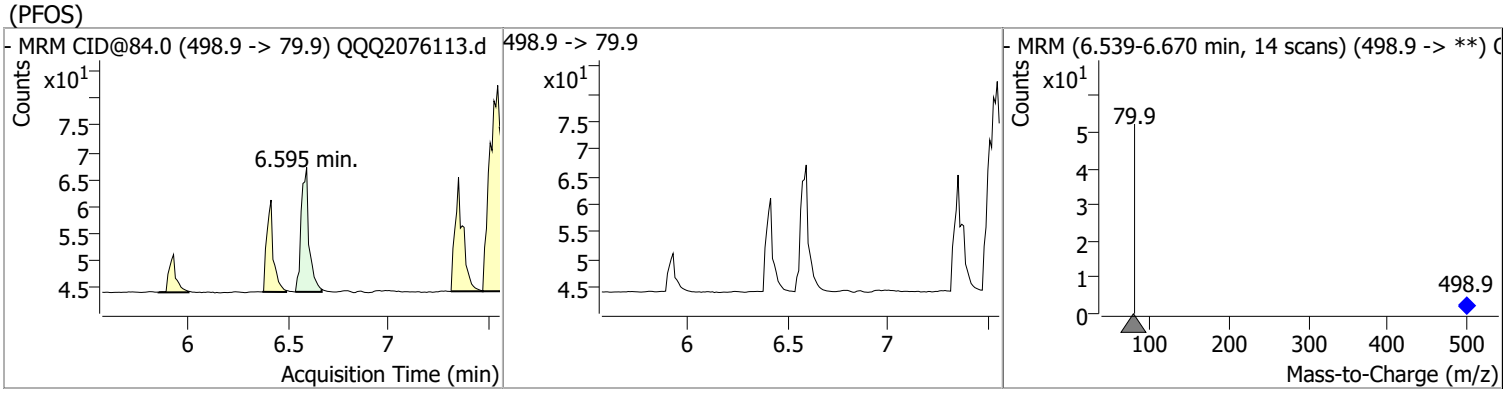
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	12.9713	6.41	-0.14	92559				



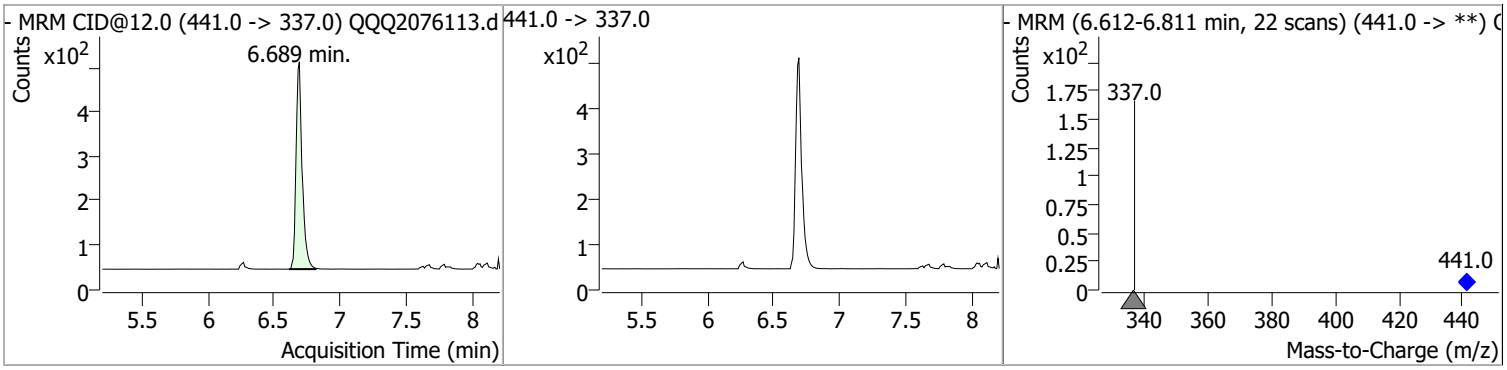
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.5173	6.57	0.00	3582				



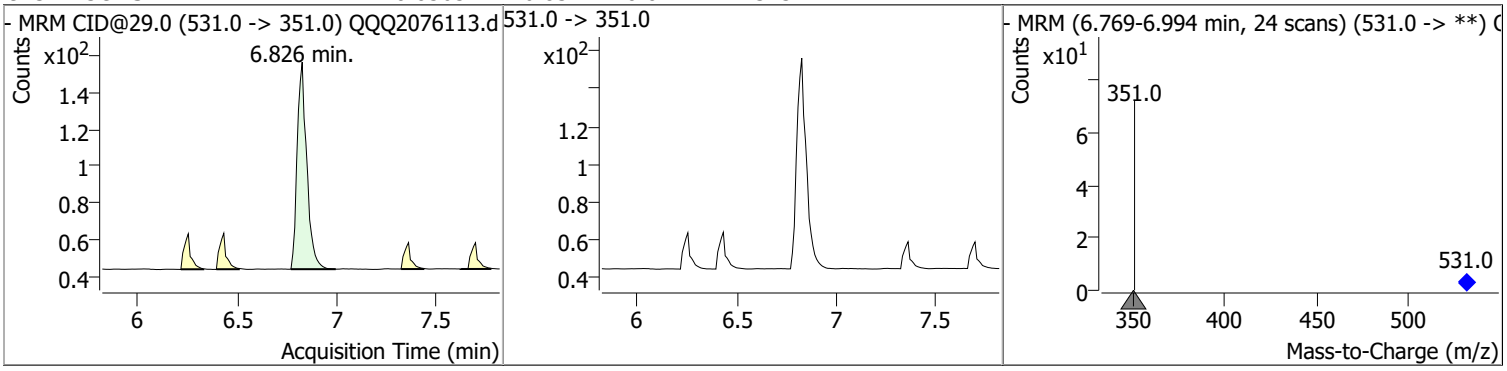
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0342	6.59	0.03	62				



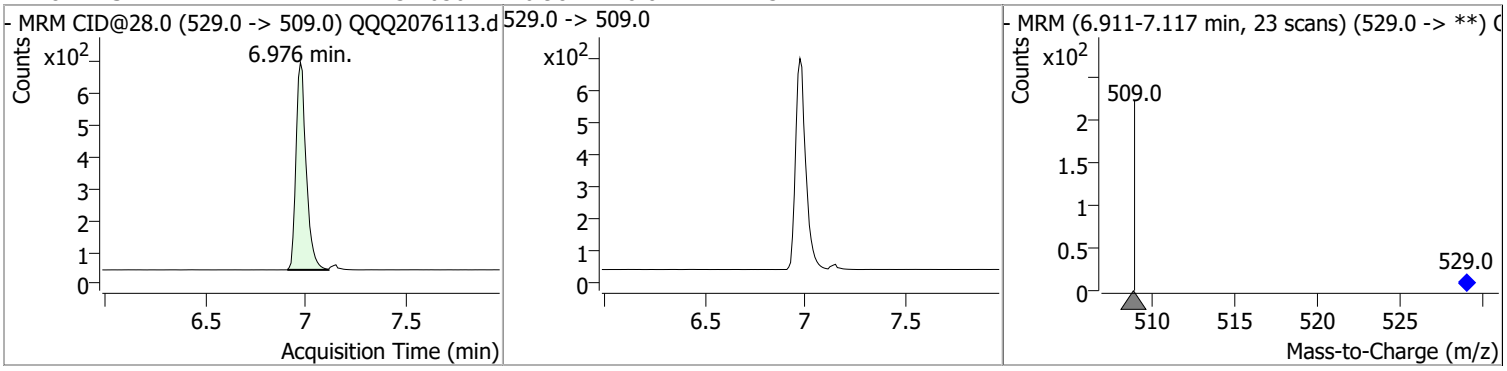
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.7982	6.69	0.00	1498				



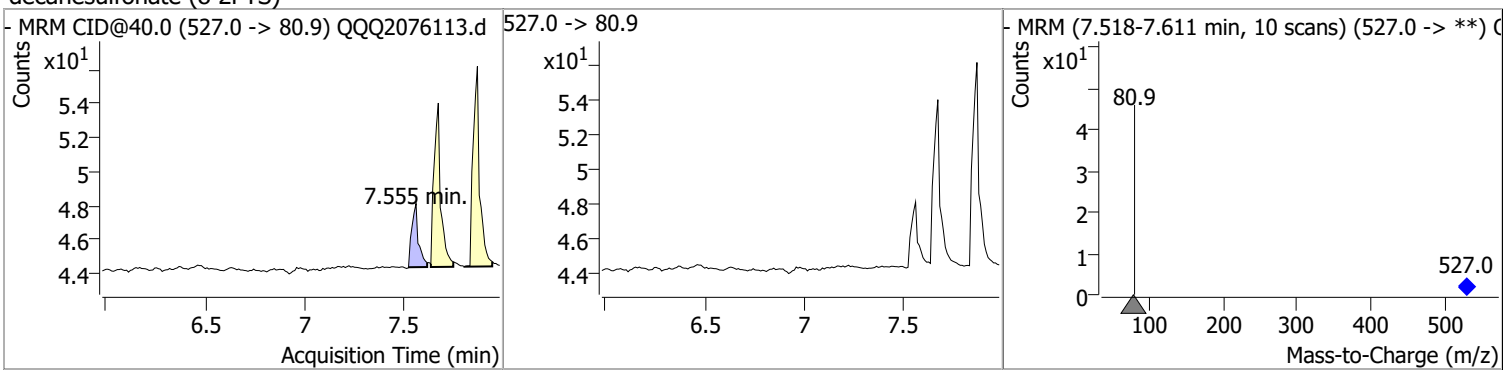
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0565	6.83	0.01	375				



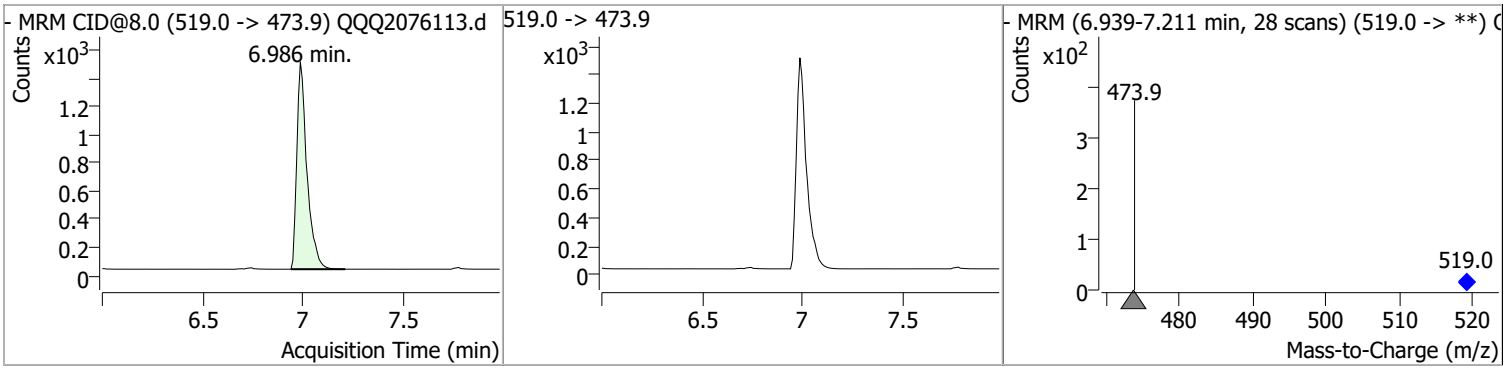
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	3.2656	6.98	0.01	2312				



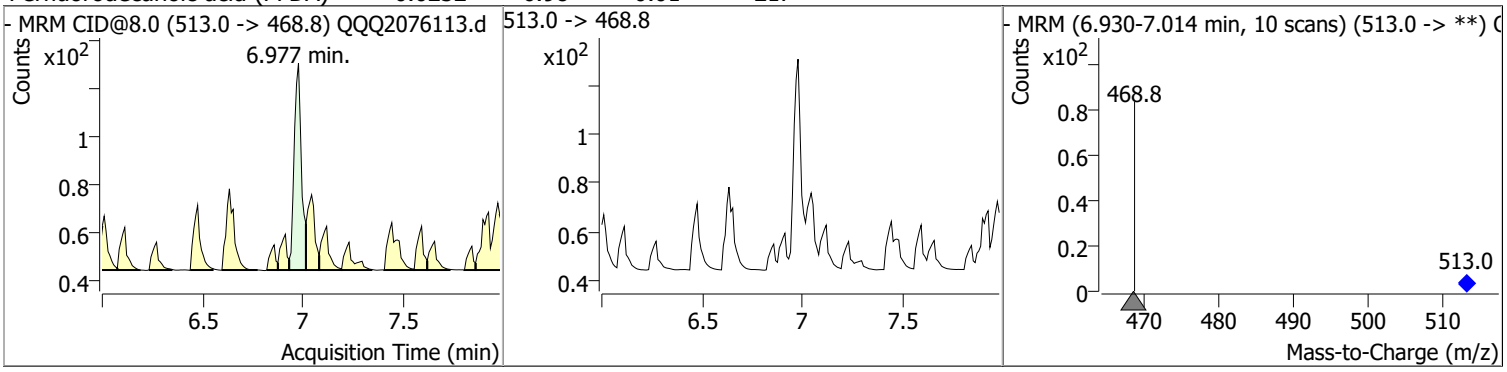
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0139	7.56	0.58	8				



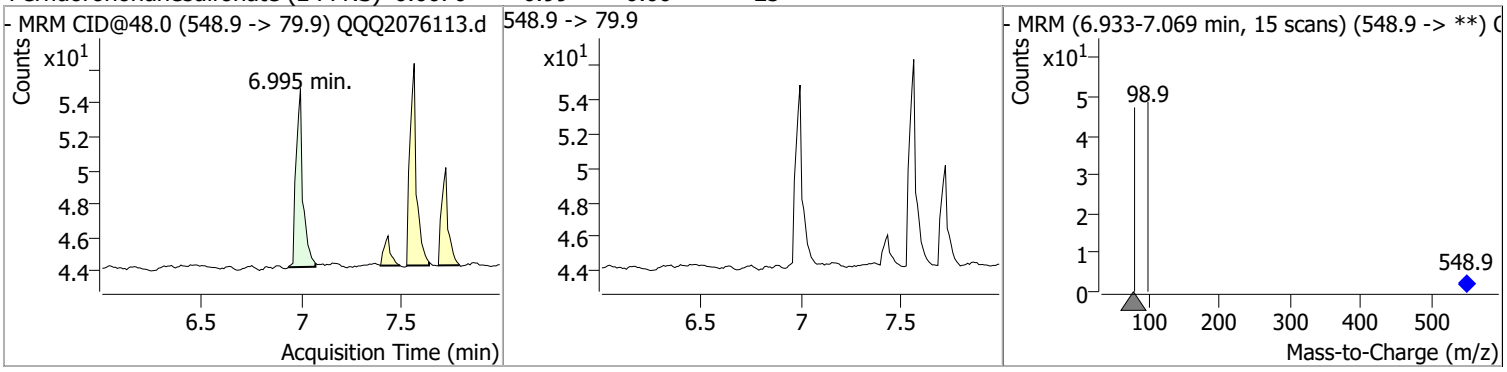
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.4082	6.99	0.00	5168				



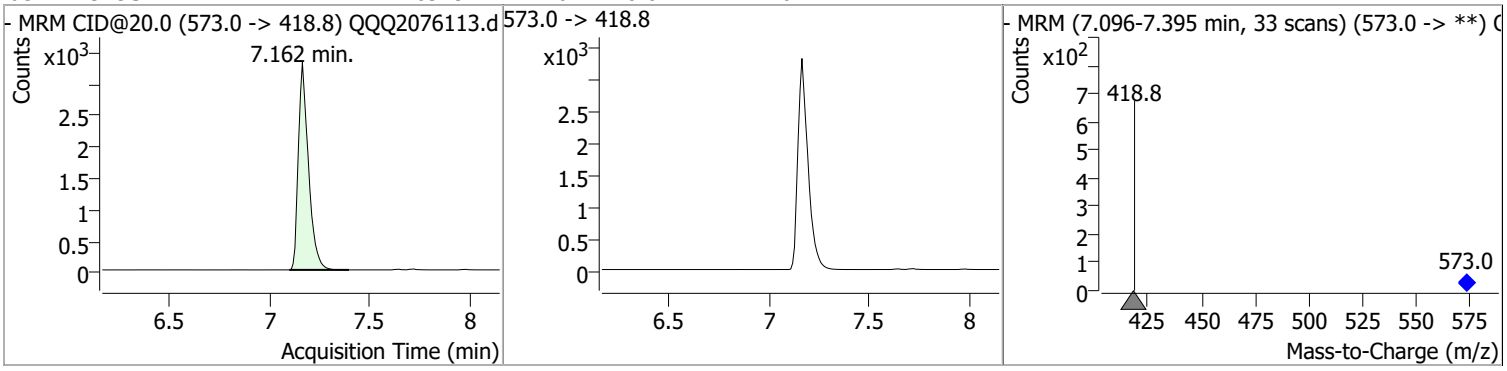
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0252	6.98	-0.01	217				



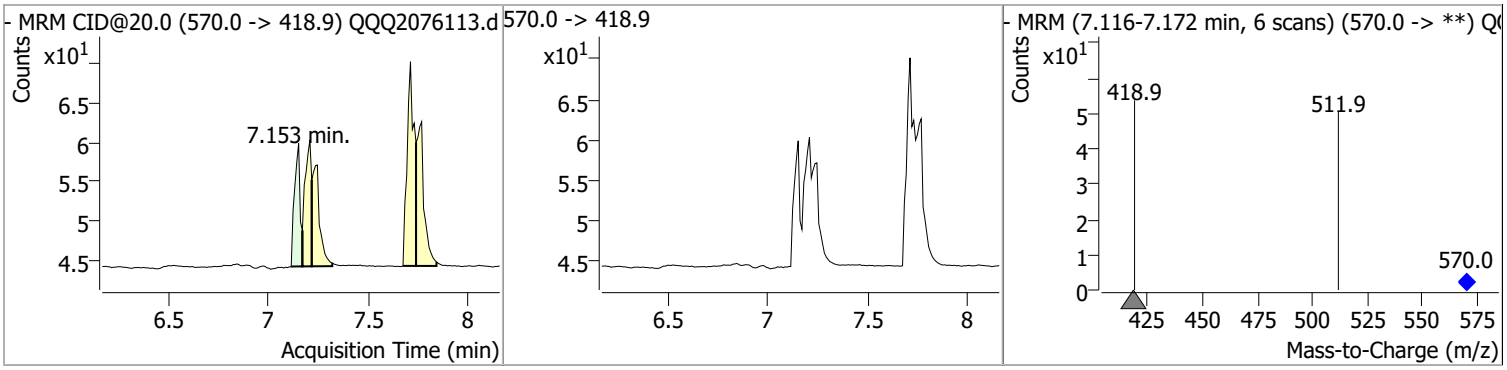
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0076	6.99	0.00	25				



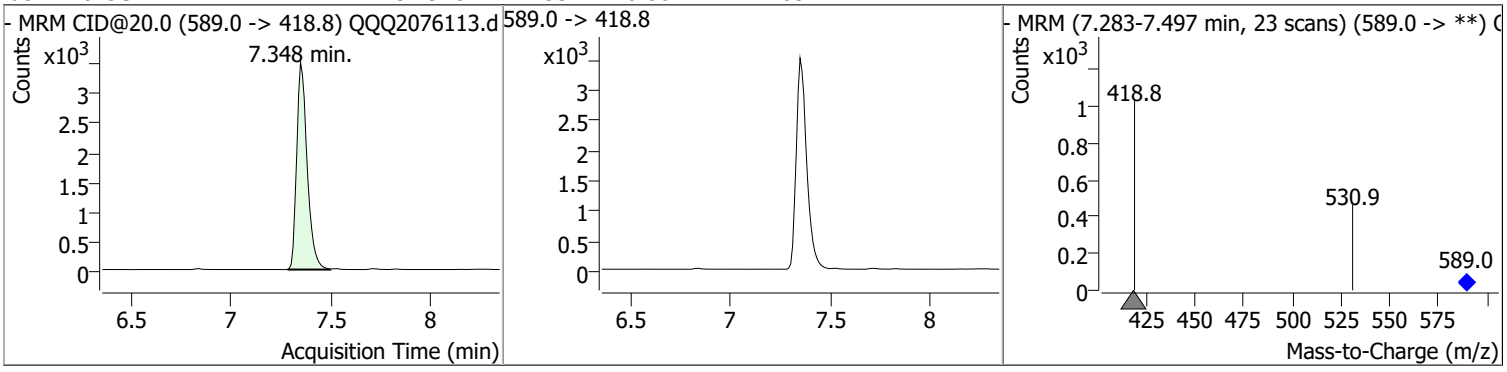
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.8919	7.16	0.01	11641				



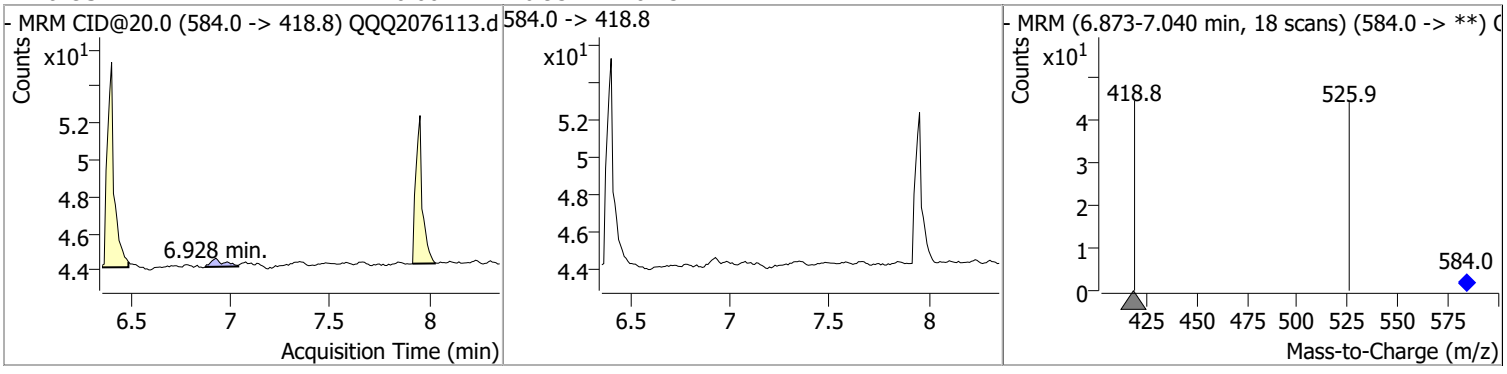
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0179	7.15	-0.01	28				



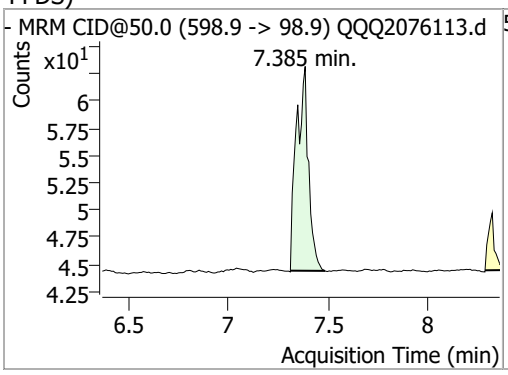
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.2920	7.35	0.00	12654				

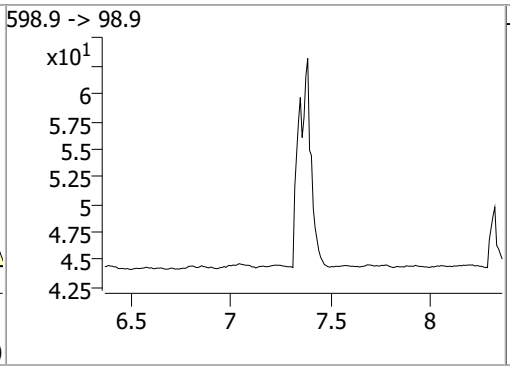


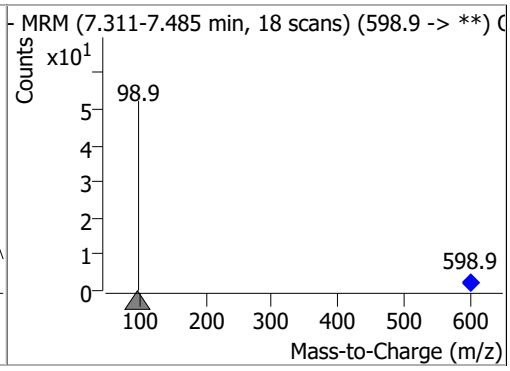
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0011	6.93	-0.43	2				



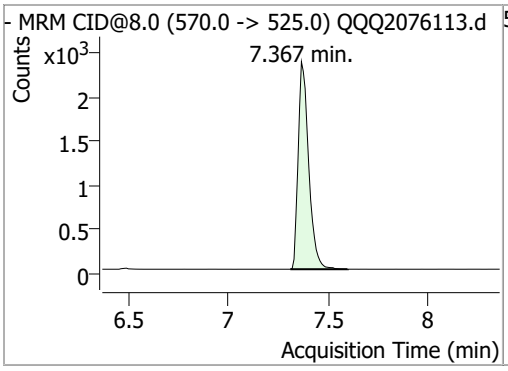
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0534	7.38	0.02	77				

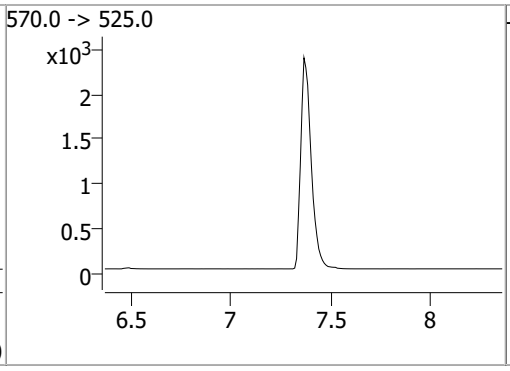


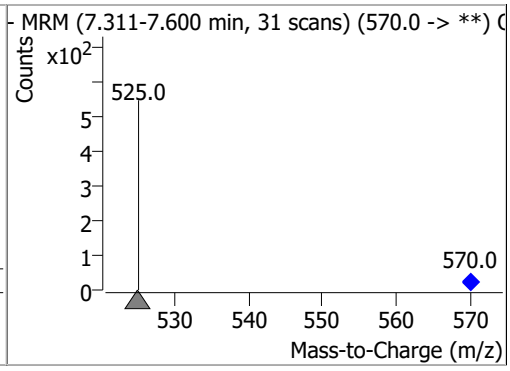




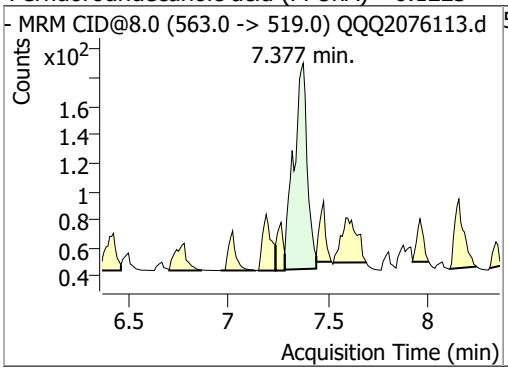
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.1926	7.37	0.00	8674				

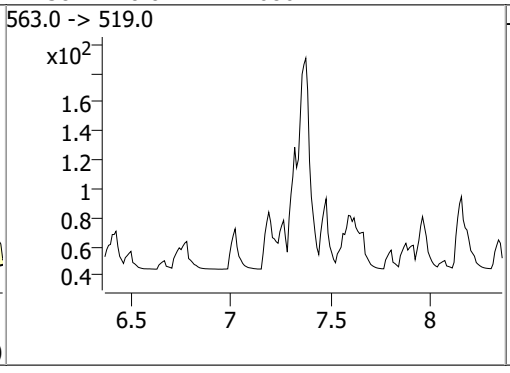


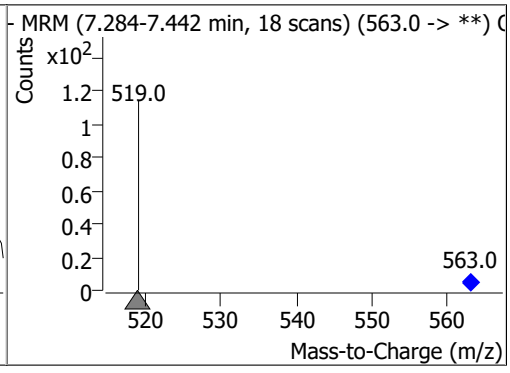




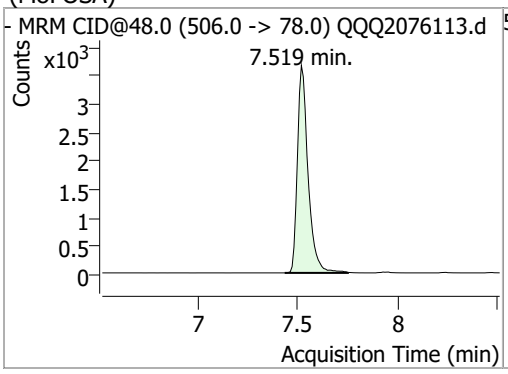
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.1223	7.38	0.01	686				

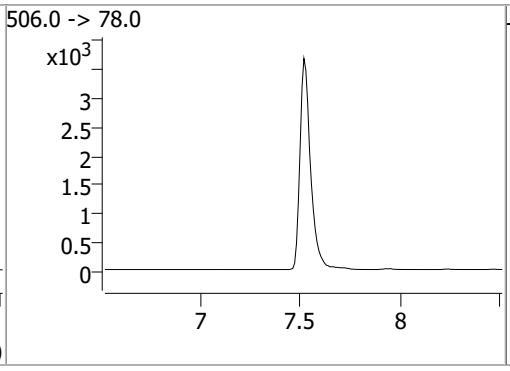


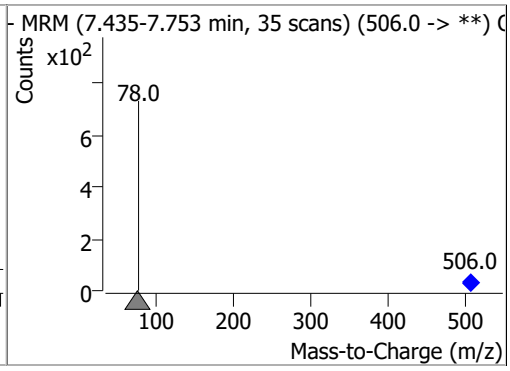




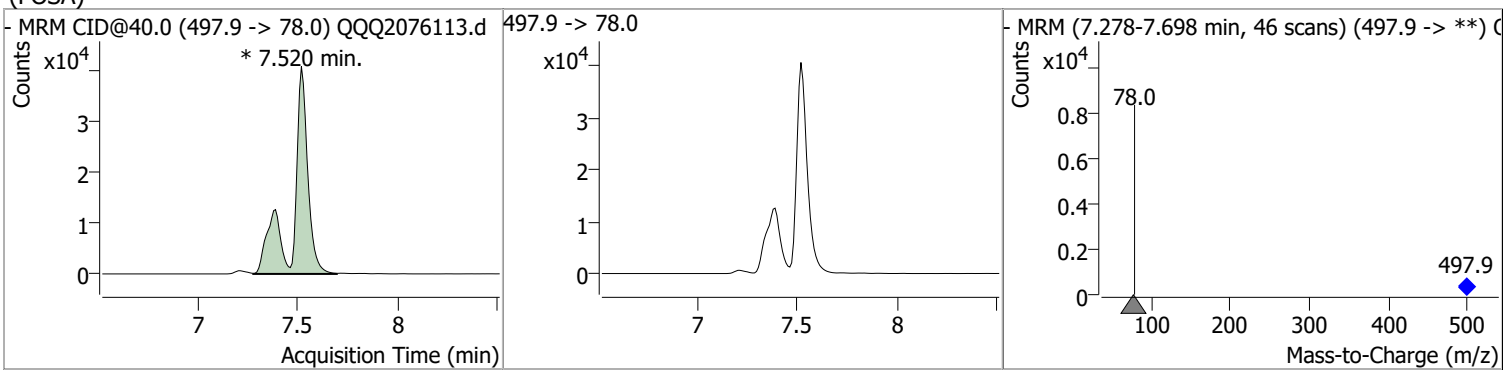
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.3496	7.52	0.00	13567				



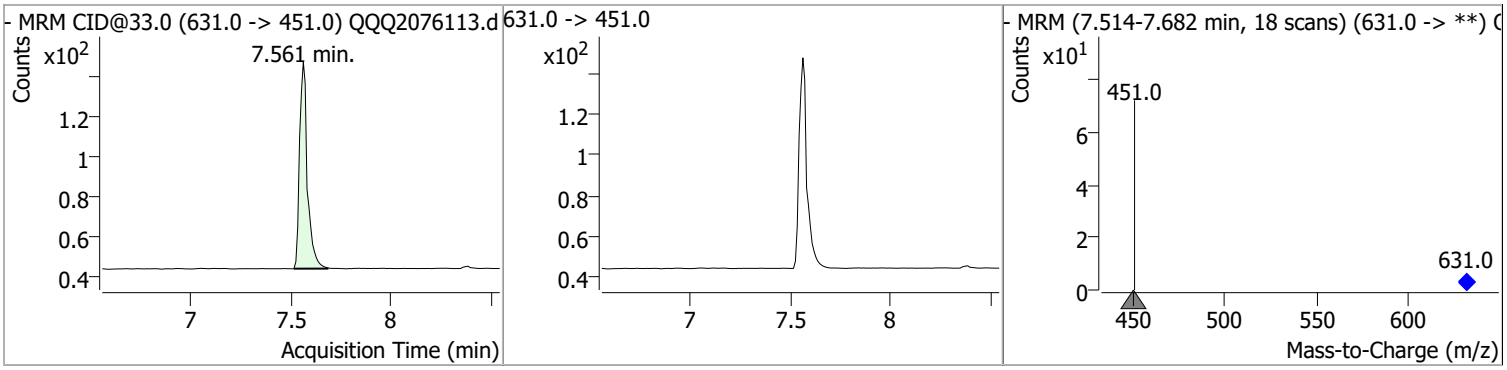




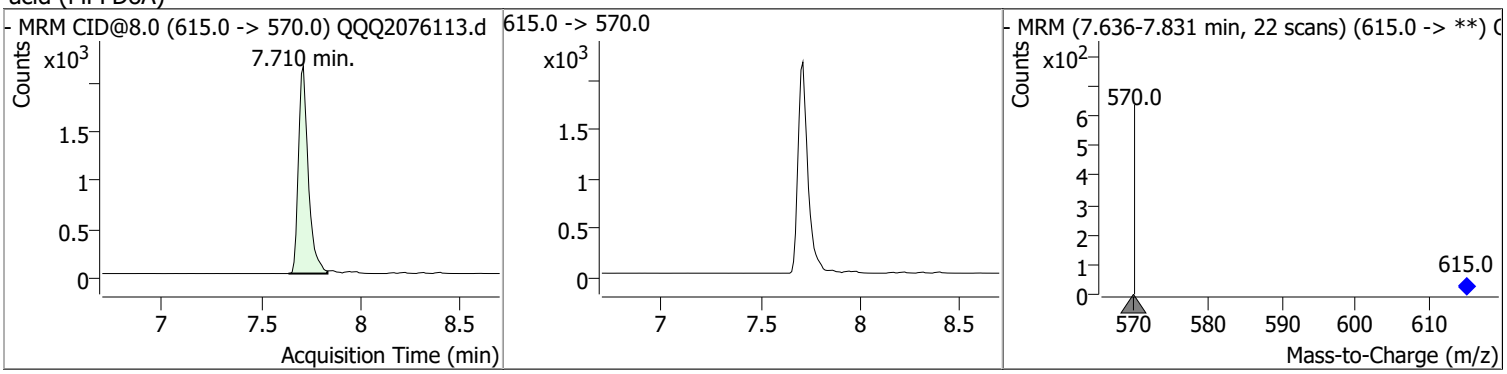
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	22.9302	7.52	0.00	213720 (m)				



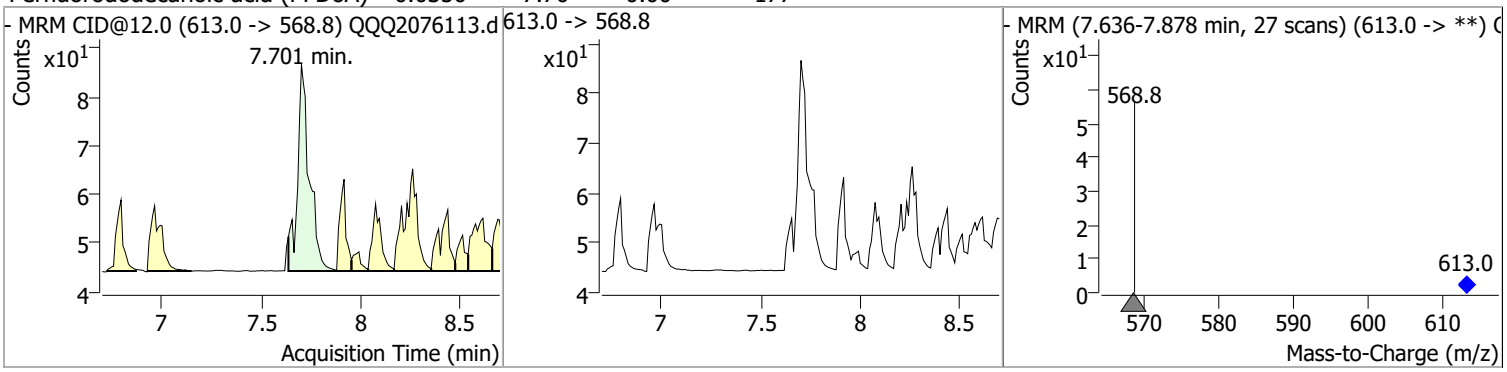
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.1087	7.56	0.01	279				



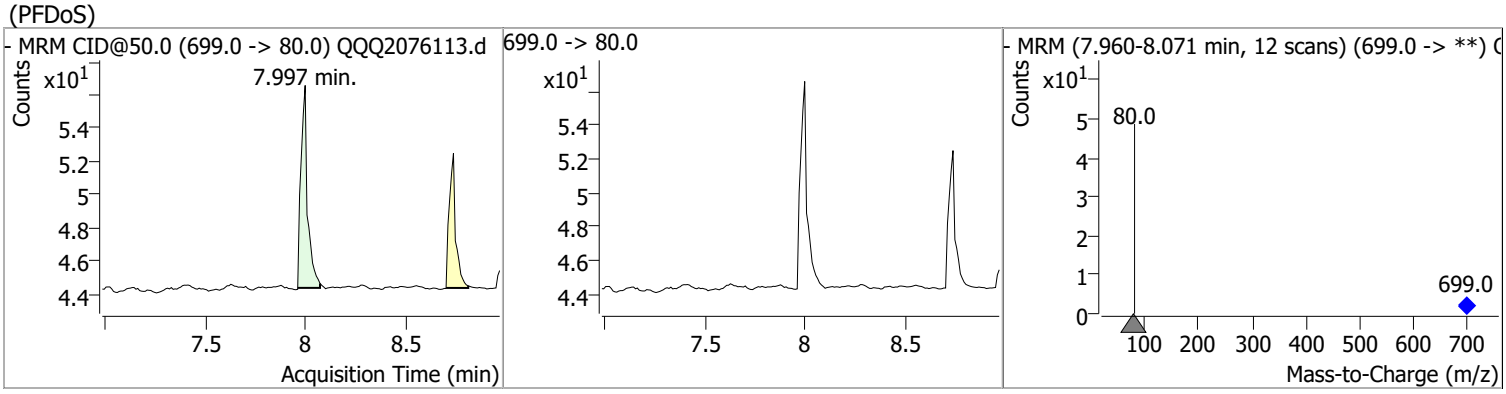
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.2071	7.71	0.01	7308				



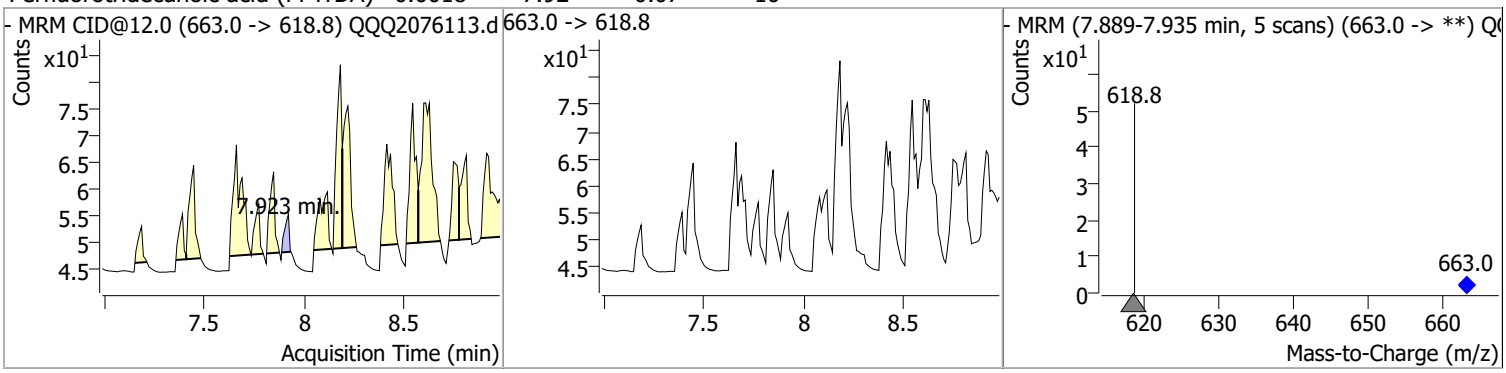
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0350	7.70	0.00	177				



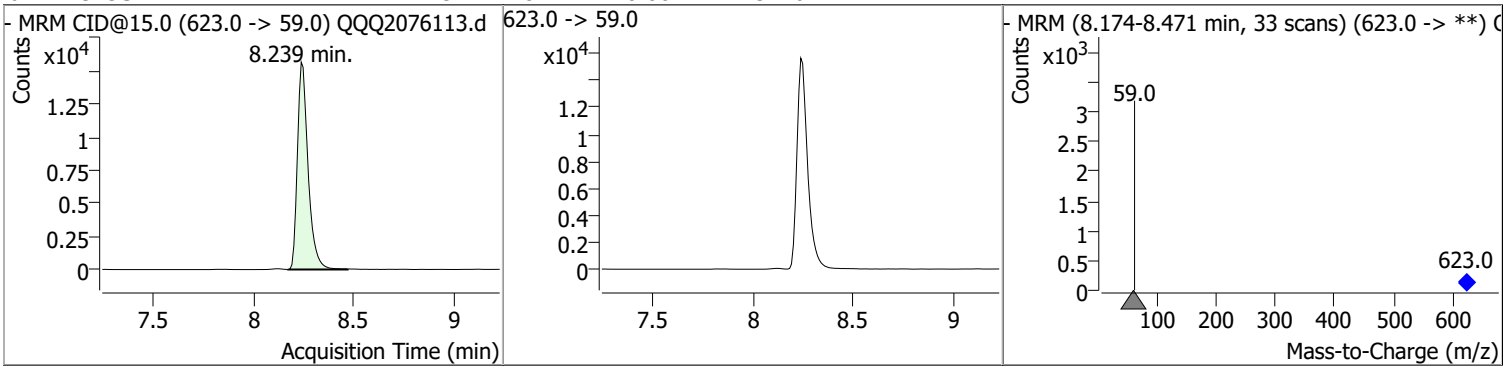
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0198	8.00	0.02	27				



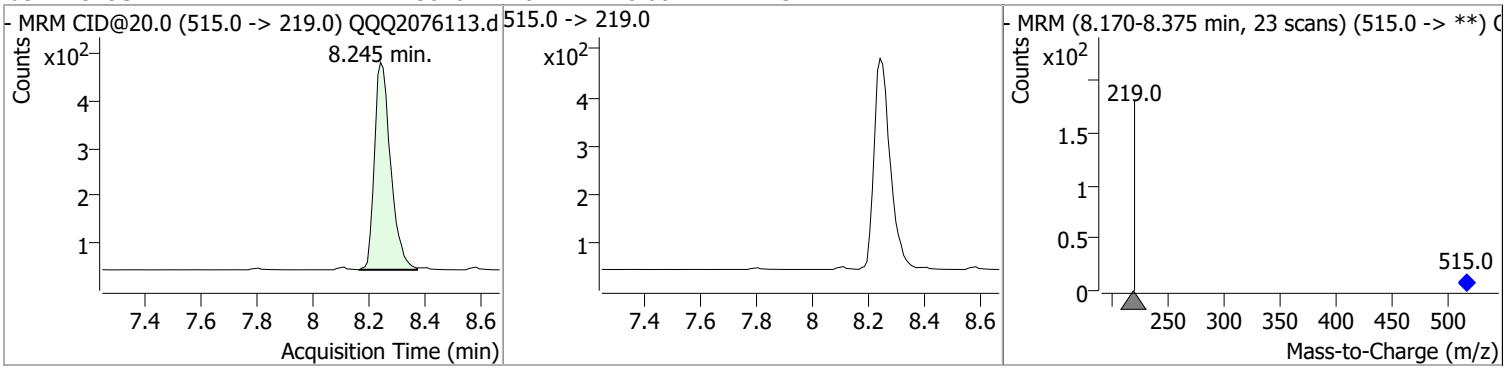
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0018	7.92	-0.07	10				



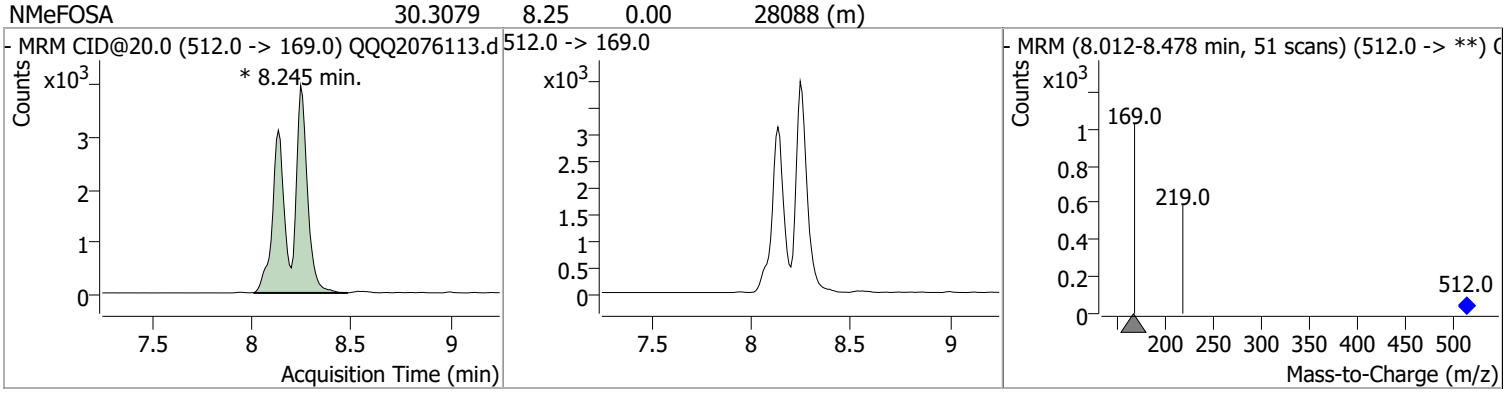
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	24.1571	8.24	0.00	57761				



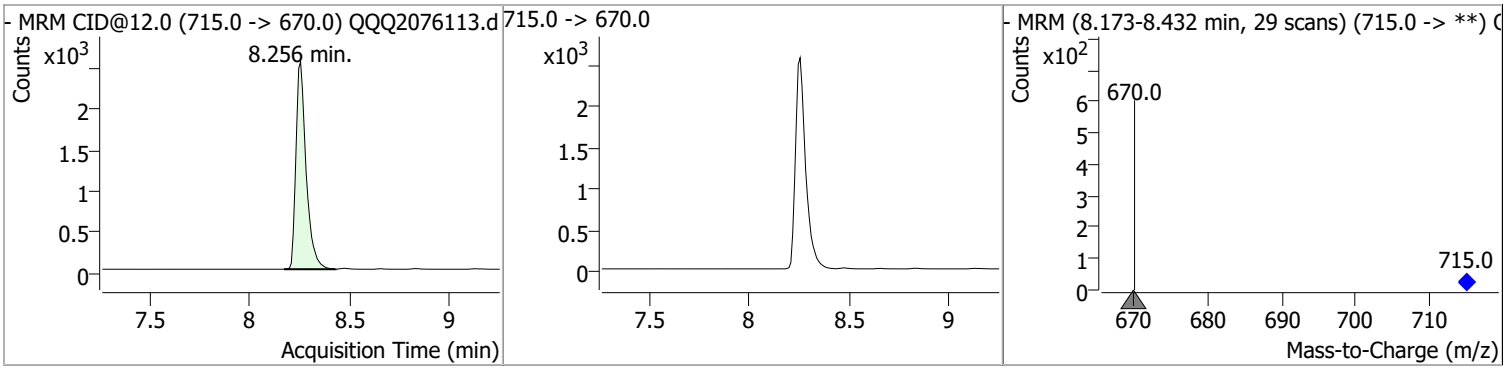
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.3820	8.24	0.00	1757				



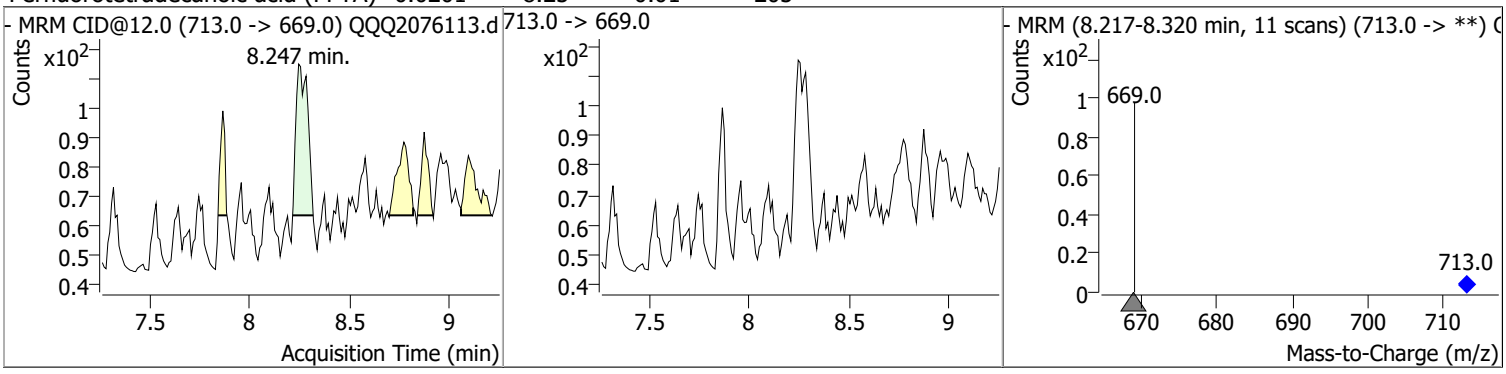
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	30.3079	8.25	0.00	28088 (m)				



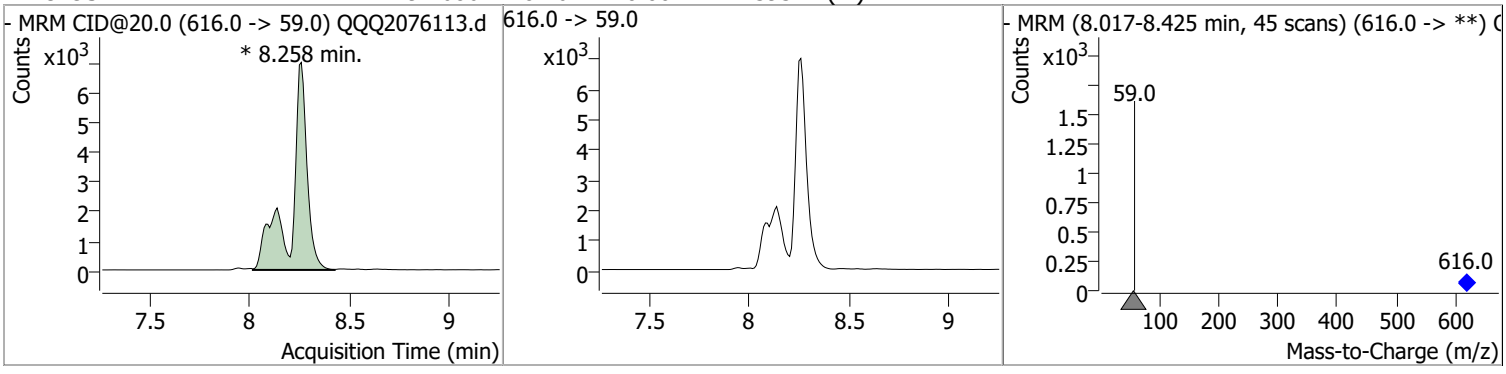
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.4151	8.26	0.00	9042				



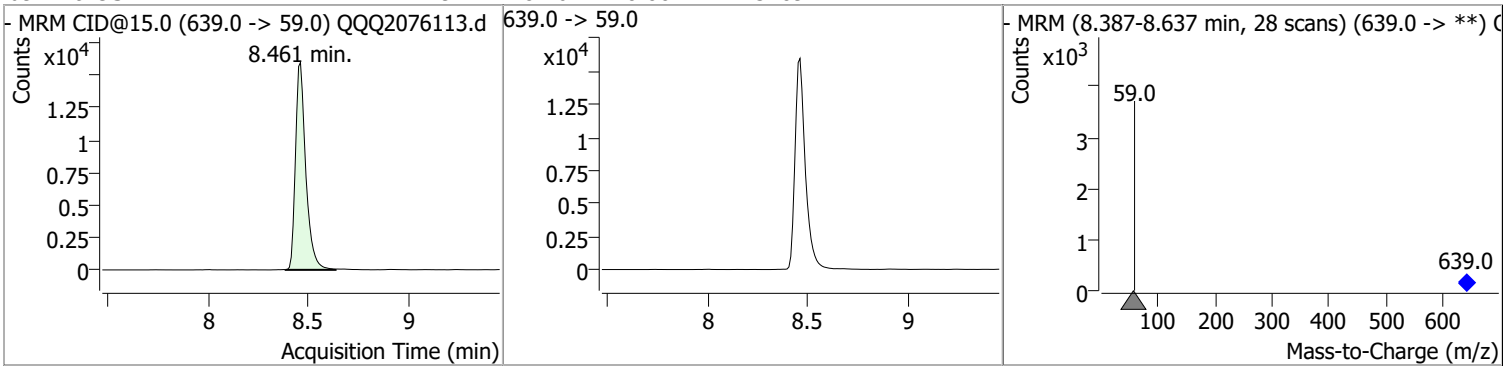
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0201	8.25	-0.01	205				



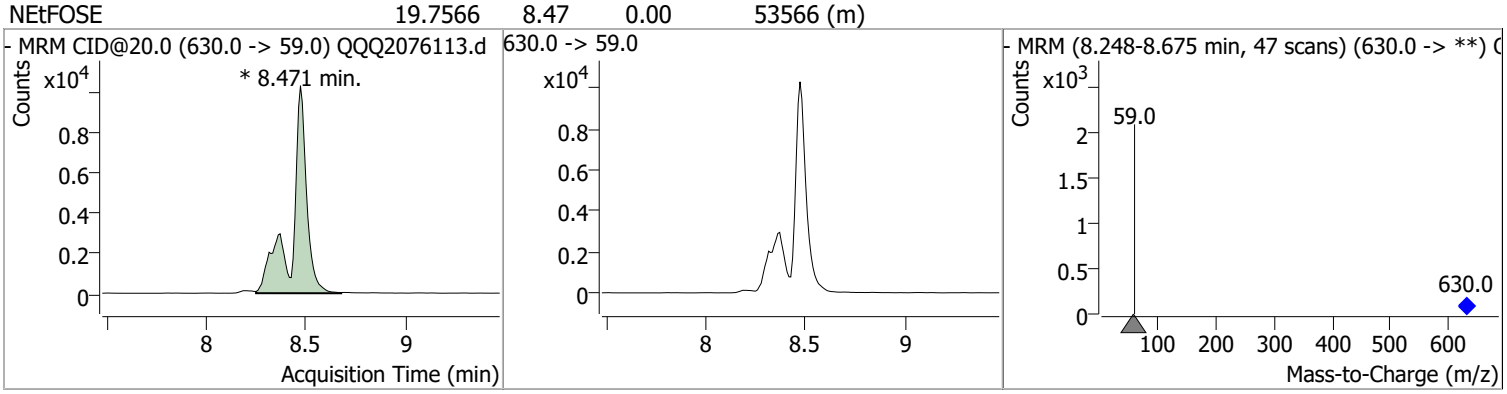
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	19.2686	8.26	0.00	39324 (m)				



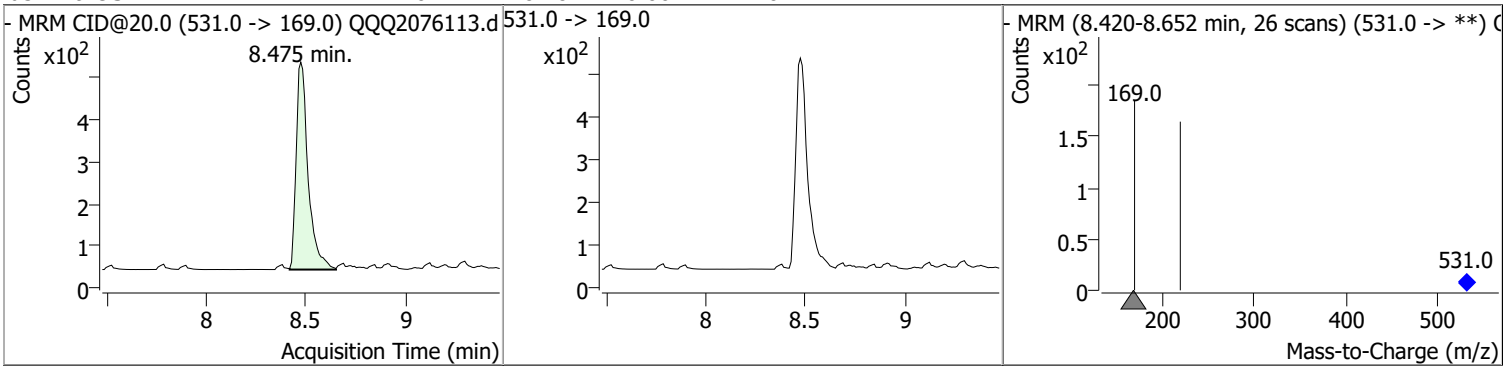
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	24.2941	8.46	0.00	57091				



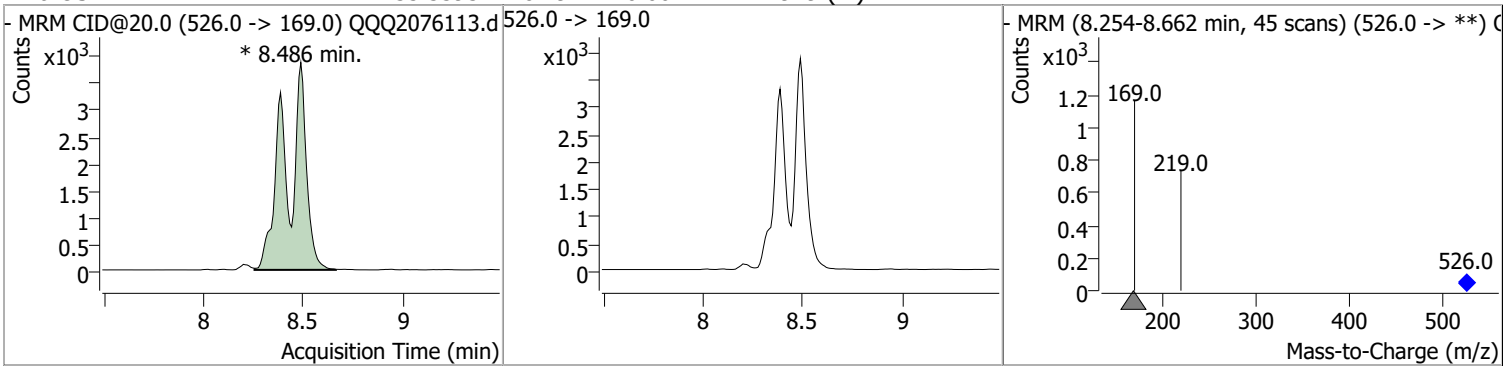
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	19.7566	8.47	0.00	53566 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.0144	8.48	0.00	2042				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	35.3393	8.49	0.00	27949 (m)				



Data File	QQQ2076114.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 11:45:00 AM
Sample Name	Instrument blank	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	IBLK w/ EIS/NIS
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

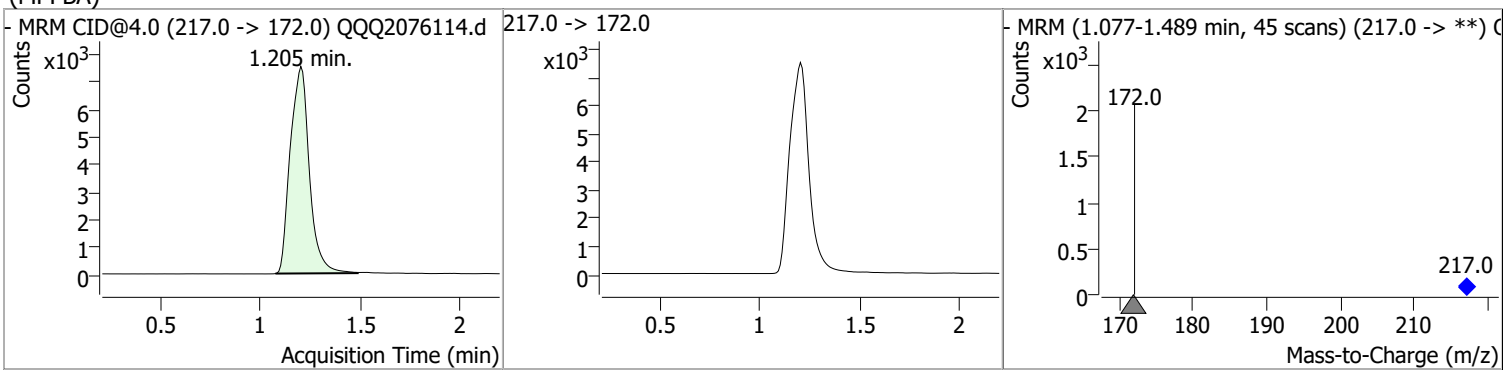
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.207	216.0 -> 172.0	36624	5.0000	ng/ml	0.000
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.205	217.0 -> 172.0	49697	10.0000	ng/ml	0.000
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.396	268.0 -> 223.0	27732	5.0000	ng/ml	0.009
MPFHxA	4.707	315.0 -> 269.8	35408	2.5000	ng/ml	0.010
MPFHxS	5.531	403.0 -> 103.0	3259	2.3700	ng/ml	0.009
M3PFBS-EIS	3.892	302.0 -> 79.9	9314	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	23968	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.649	329.0 -> 309.0	7552	4.6900	ng/ml	0.019
M3PFHxS-EIS	5.532	402.0 -> 80.0	8647	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.969	287.0 -> 169.0	58552	10.0000	ng/ml	0.009
M4PFHpA-EIS	5.449	367.0 -> 322.0	27764	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	3721	4.7550	ng/ml	0.000
MPFOA	6.036	417.0 -> 372.0	34077	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	17758	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.585	507.0 -> 98.9	2832	2.3950	ng/ml	0.019
MPFNA	6.549	468.0 -> 423.0	12340	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.548	472.0 -> 223.0	1412	1.2500	ng/ml	0.009
MPFOS	6.576	503.0 -> 80.0	8650	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.976	529.0 -> 509.0	3244	4.8000	ng/ml	0.010
MPFDA	6.995	515.0 -> 469.8	10615	1.2500	ng/ml	0.009
M6PFDA-EIS	6.986	519.0 -> 473.9	4898	1.2500	ng/ml	0.000
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	11670	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	14654	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.367	570.0 -> 525.0	11544	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	17149	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.710	615.0 -> 570.0	8819	1.2500	ng/ml	0.009
M2PFTeDA-EIS	8.256	715.0 -> 670.0	9942	1.2500	ng/ml	0.000
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1998	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.249	623.0 -> 59.0	72206	25.0000	ng/ml	0.009
d9-NEtFOSE-EIS	8.461	639.0 -> 59.0	66152	25.0000	ng/ml	0.000
d5-NEtFOSA-EIS	8.485	531.0 -> 169.0	3102	2.5000	ng/ml	0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.205	217.0 -> 172.0	49697	9.9066	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.396	268.0 -> 223.0	27732	4.8374	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	9314	2.1489	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.649	329.0 -> 309.0	7552	4.2563	ng/ml	0.019

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	23968	2.5060	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.969	287.0 -> 169.0	58552	10.4987	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	27764	2.5704	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	8647	2.3749	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.997	429.0 -> 409.0	3721	3.8658	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	17758	2.3638	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.548	472.0 -> 223.0	1412	1.1121	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.585	507.0 -> 98.9	2832	2.2612	ng/ml	0.019
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.976	529.0 -> 509.0	3244	3.9215	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.986	519.0 -> 473.9	4898	1.1888	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	11670	3.9881	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	14654	4.9836	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	11544	1.4136	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	17149	2.4150	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.710	615.0 -> 570.0	8819	1.2973	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.249	623.0 -> 59.0	72206	24.5569	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	1998	2.2028	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.256	715.0 -> 670.0	9942	1.3858	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.461	639.0 -> 59.0	66152	22.8910	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.485	531.0 -> 169.0	3102	2.4882	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.237	213.0 -> 168.9	49	0.0078	ng/ml	100
PFMPA	2.088	229.0 -> 85.0	1	0.0002	ng/ml	100
3:3FTCA	3.361	241.0 -> 177.0	13	0.0392	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.351	263.0 -> 219.0	10	0.0016	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	14	0.0029	ng/ml	100
PFMBA	3.913	279.0 -> 85.0	14	0.0023	ng/ml	100
PFEESA	4.382	315.0 -> 135.0	6	0.0004	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	16	0.0023	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.650	327.0 -> 307.0	8	0.0054	ng/ml	100

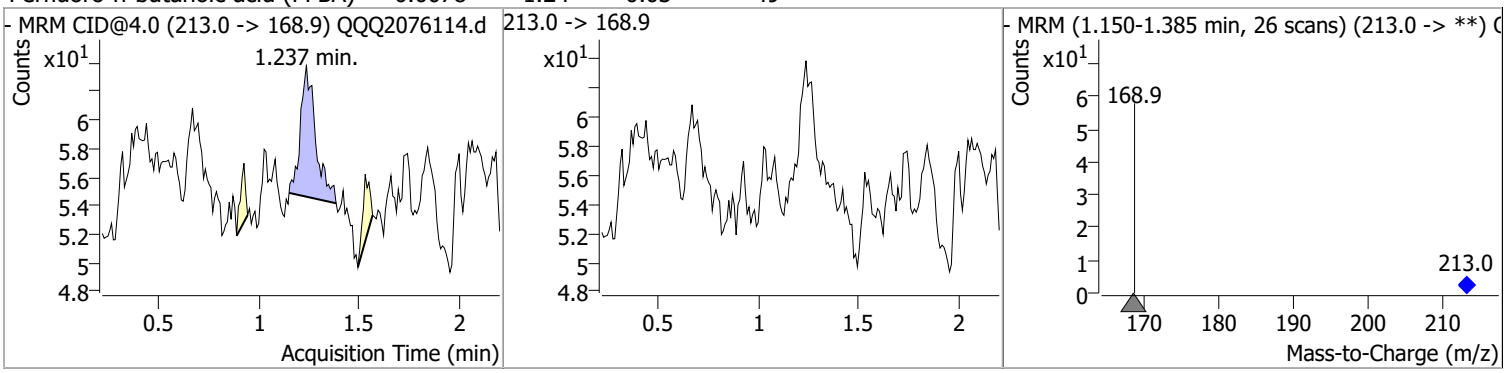
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.726	313.0 -> 268.9	166	0.0148	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.928	348.9 -> 79.9	1	0.0002	ng/ml	100
HFPO-DA	4.988	285.0 -> 169.1	12	0.0245	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	5.477	363.0 -> 318.8	177	0.0118	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	5.541	398.9 -> 79.9	36	0.0074	ng/ml	100
5-3FTCA	5.524	341.0 -> 217.0	13	0.0098	ng/ml	100
ADONA	5.448	377.0 -> 85.0	23	0.0031	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	6.194	427.0 -> 407.0	1	0.0007	ng/ml	100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	524	0.0512	ng/ml	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.053	448.9 -> 80.0	0	0.0001	ng/ml	100
Perfluorononanoic acid (PFNA)	6.558	463.0 -> 418.8	55	0.0068	ng/ml	100
Perfluorooctanesulfonic acid (PFOS)	6.679	498.9 -> 79.9	28	0.0195	ng/ml	100
7-3FTCA	6.633	441.0 -> 337.0	42	0.0202	ng/ml	100
9-Cl-PF3ONS	6.836	531.0 -> 351.0	144	0.0174	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	7.014	527.0 -> 80.9	39	0.0457	ng/ml	100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	28	0.0035	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	7.591	548.9 -> 79.9	4	0.0017	ng/ml	100
N-MeFOSAA	7.162	570.0 -> 418.9	12	0.0079	ng/ml	100
N-EtFOSAA	7.385	584.0 -> 418.8	46	0.0207	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.376	598.9 -> 98.9	11	0.0095	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	7.377	563.0 -> 519.0	127	0.0170	ng/ml	100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	18	0.0015	ng/ml	100
11-Cl-PF3OUdS	7.570	631.0 -> 451.0	155	0.0482	ng/ml	100
Perfluorododecanoic acid (PFDoA)	7.711	613.0 -> 568.8	114	0.0187	ng/ml	100
Perfluorododecanesulfonic acid (PFDoS)	7.737	699.0 -> 80.0	0	0.0004	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	8.006	663.0 -> 618.8	145	0.0234	ng/ml	100
NMeFOSA	8.218	512.0 -> 169.0	38	0.0340	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	8.275	713.0 -> 669.0	99	0.0088	ng/ml	100
NMeFOSE	8.277	616.0 -> 59.0	65	0.0252	ng/ml	100
NEtFOSE	8.527	630.0 -> 59.0	103	0.0326	ng/ml	100
NEtFOSA	8.486	526.0 -> 169.0	45	0.0429	ng/ml	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

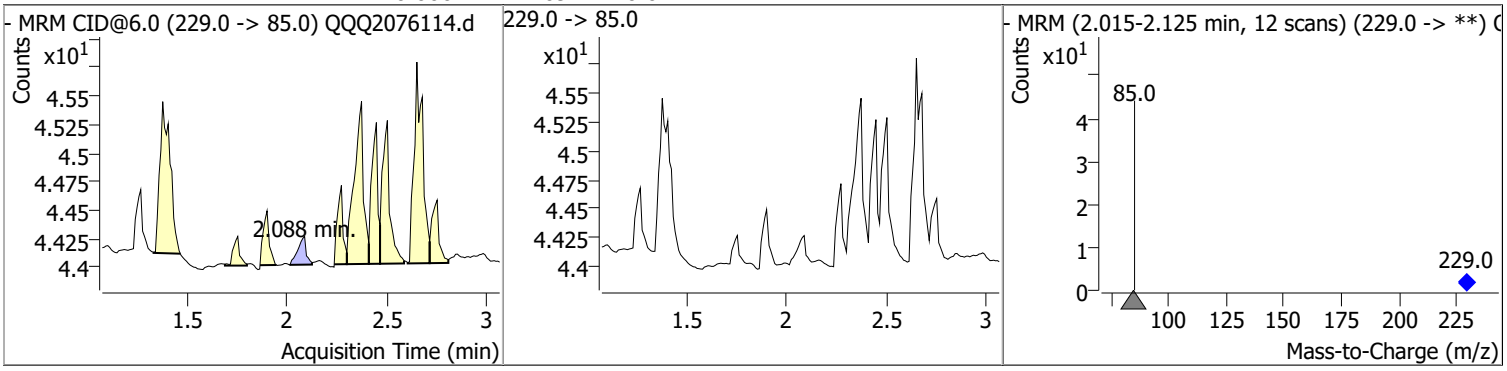
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.9066	1.20	0.00	49697				



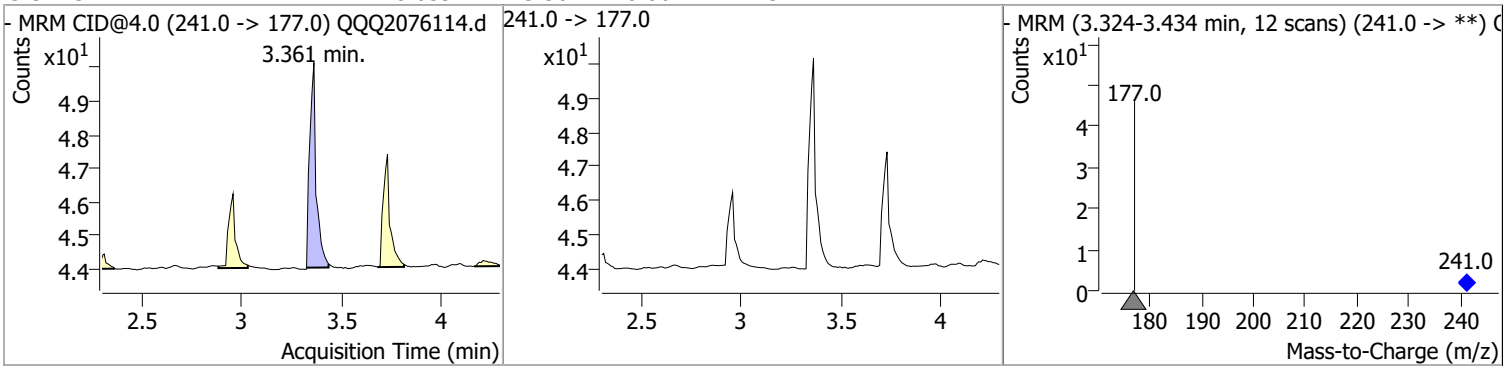
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0078	1.24	0.03	49				



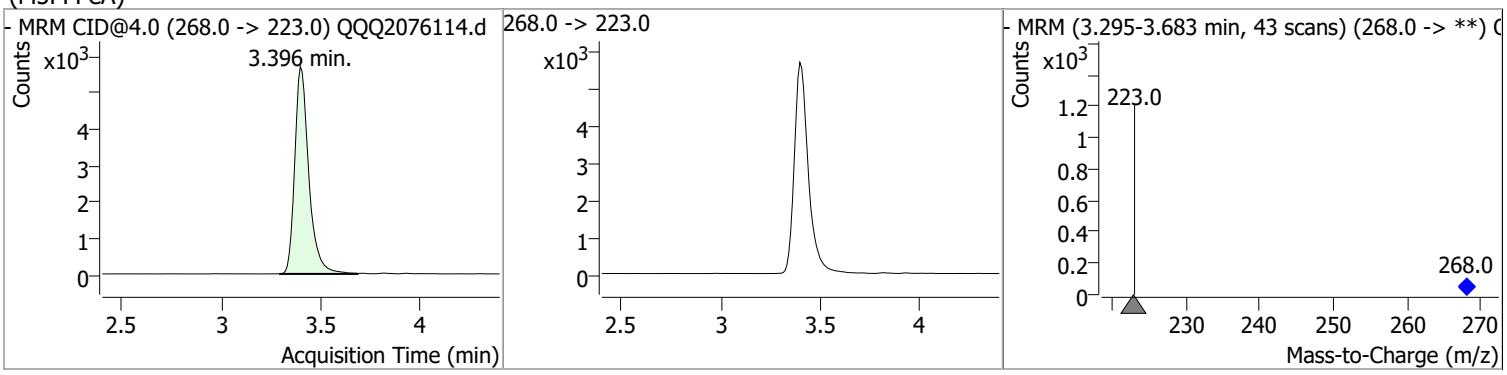
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0002	2.09	0.02	1				



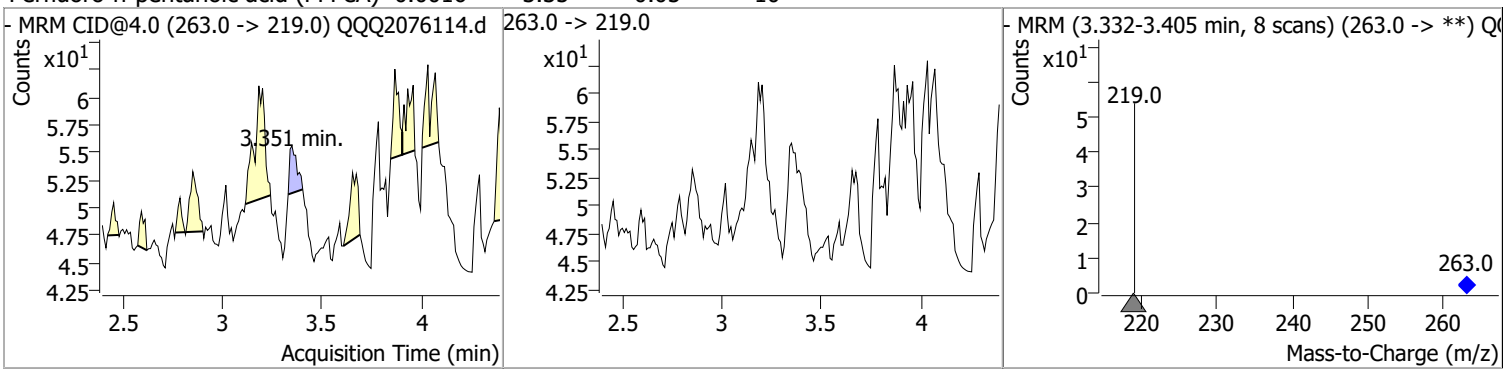
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.0392	3.36	0.06	13				



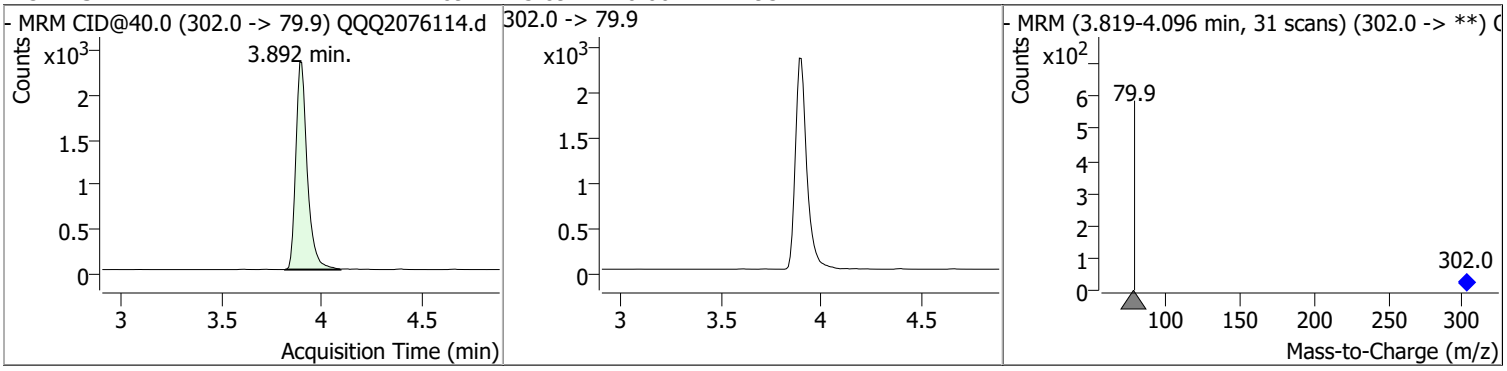
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.8374	3.40	0.01	27732				



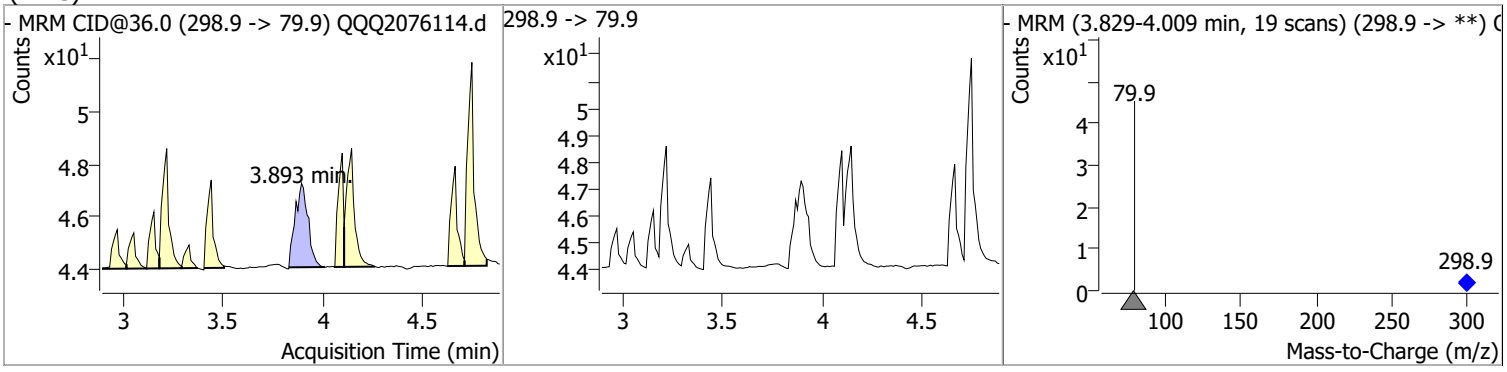
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0016	3.35	-0.05	10				



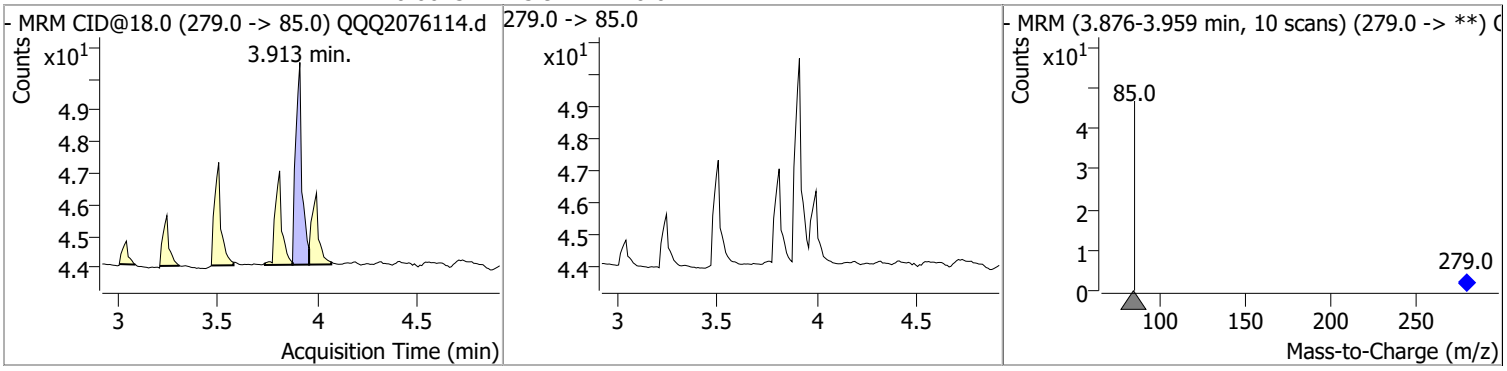
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.1489	3.89	0.00	9314				



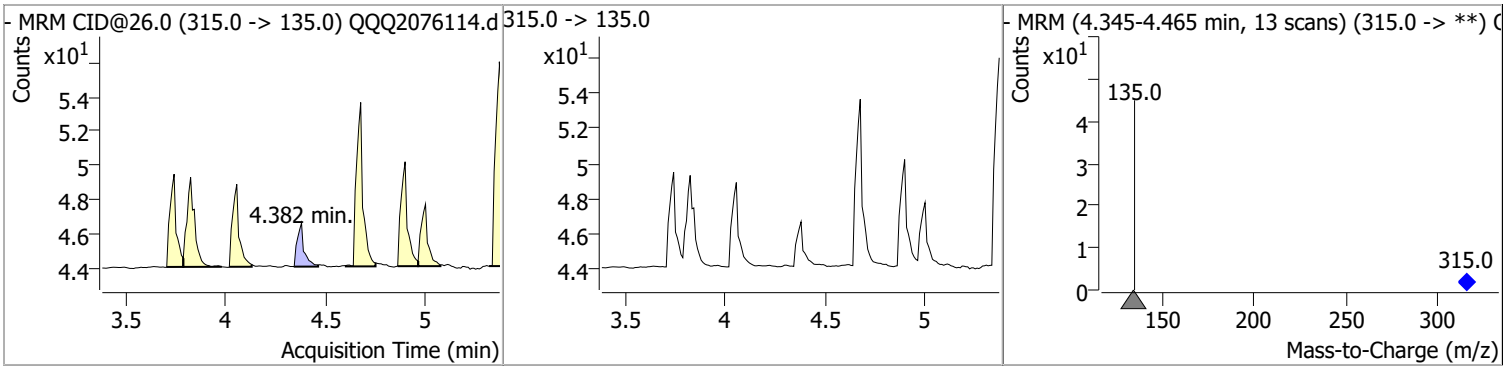
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0029	3.89	0.00	14				



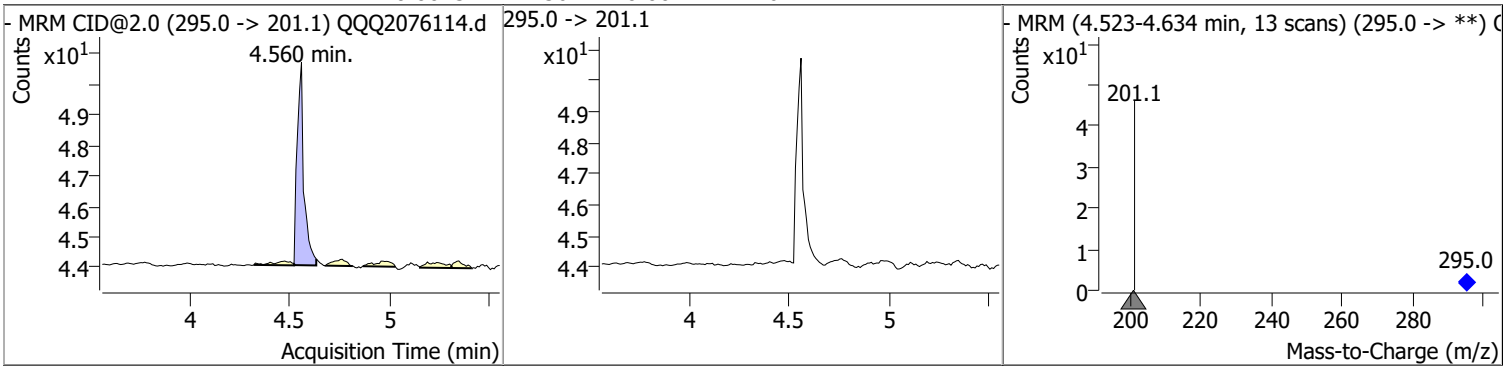
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0023	3.91	-0.01	14				



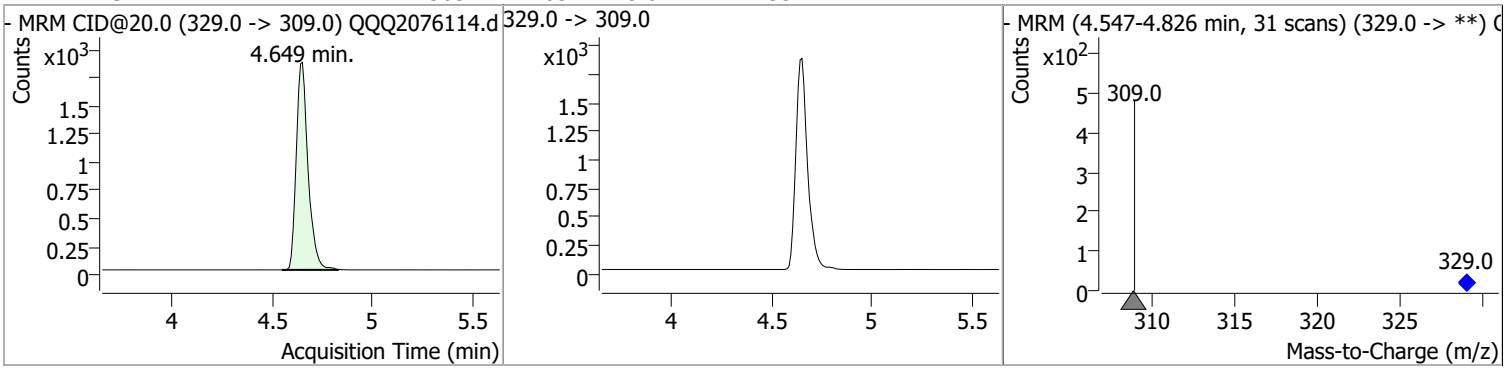
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0004	4.38	0.00	6				



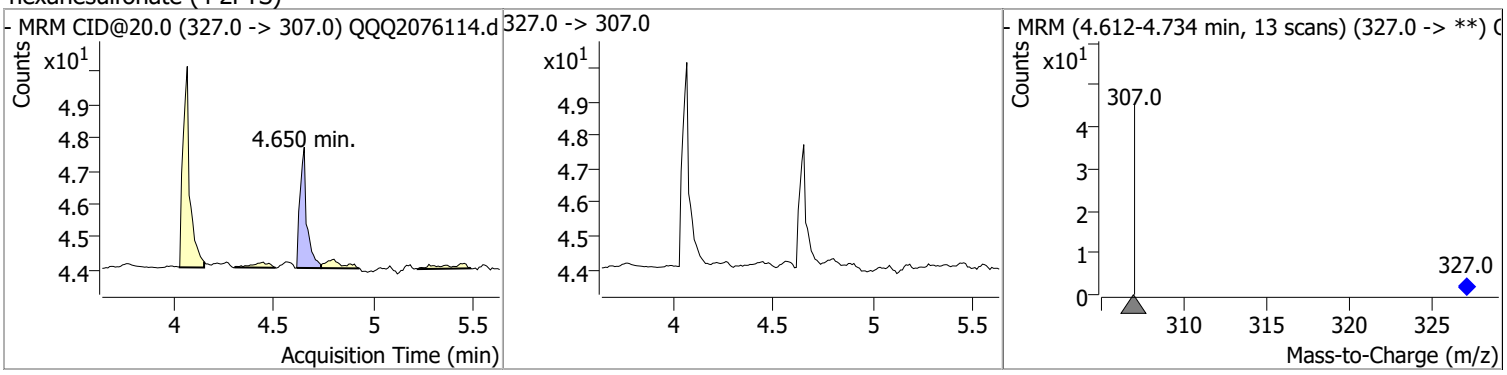
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0023	4.56	0.00	16				



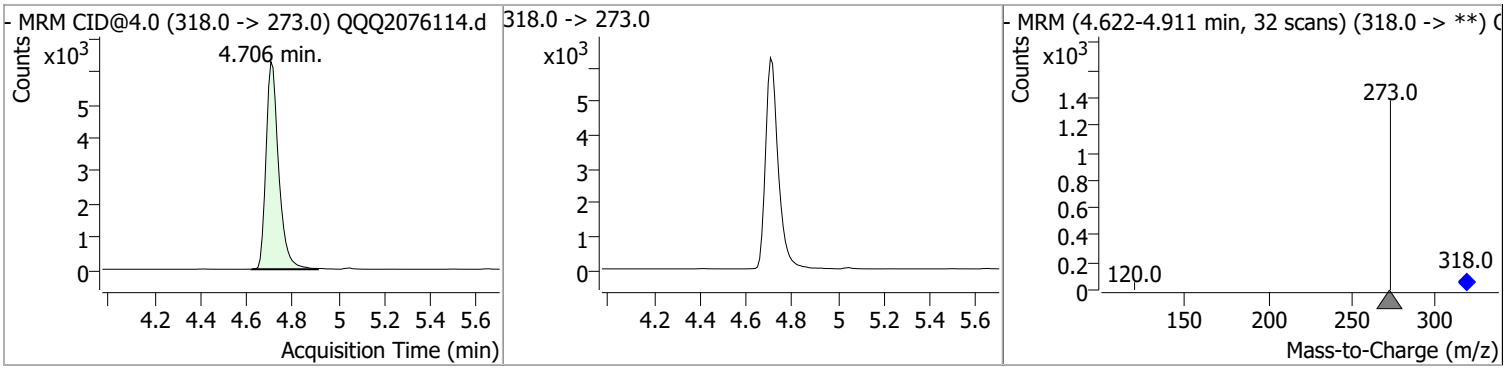
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.2563	4.65	0.02	7552				



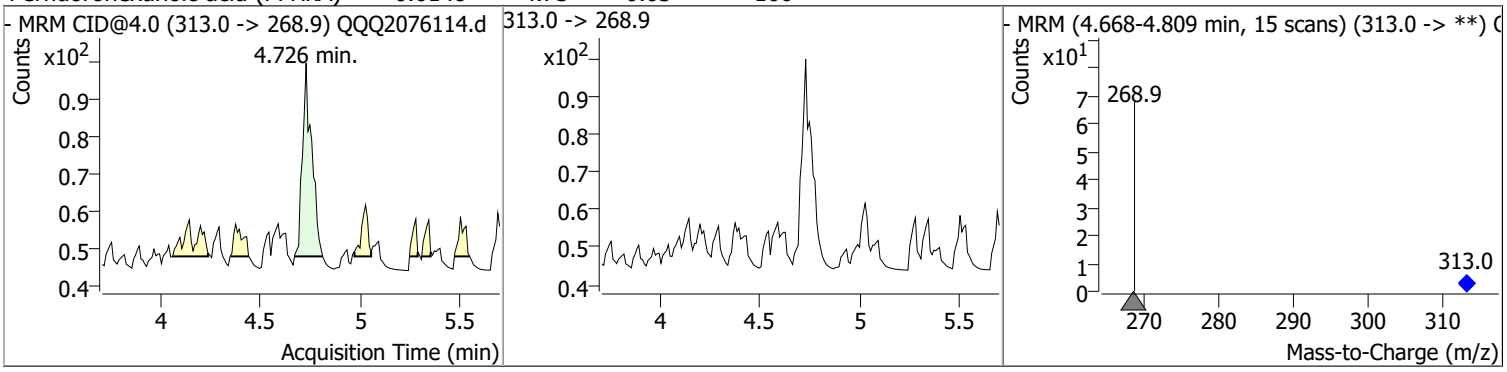
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0054	4.65	0.02	8				



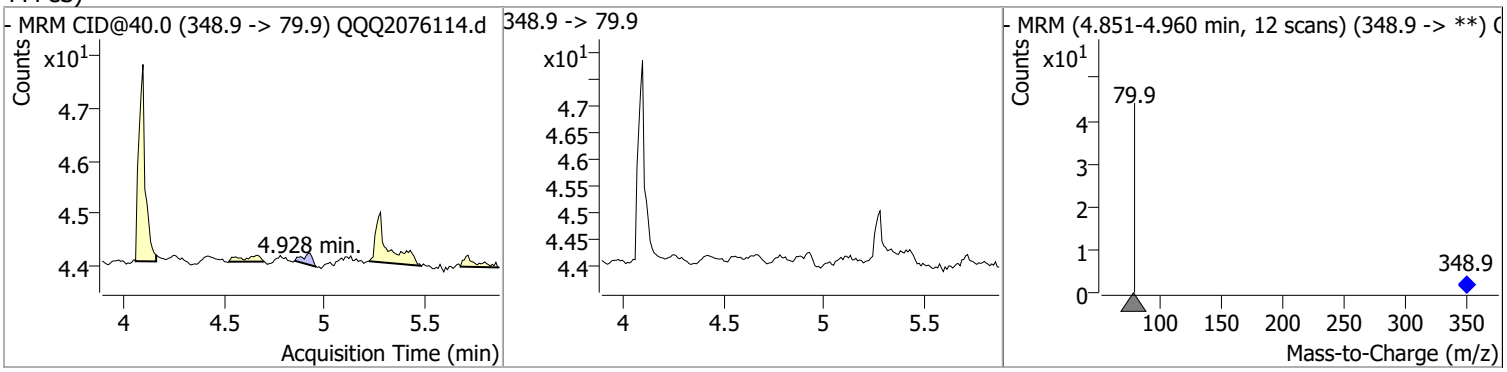
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5060	4.71	0.01	23968				



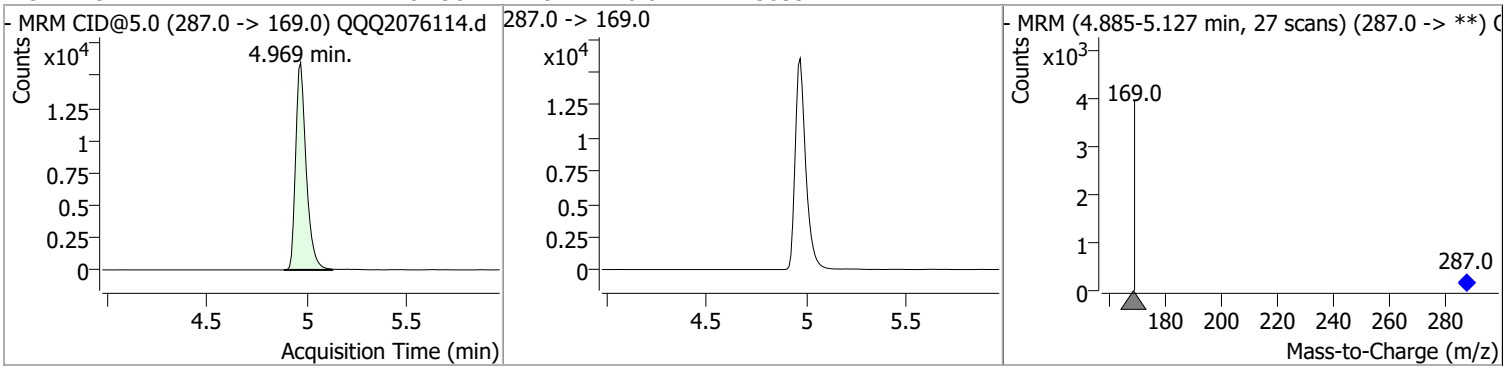
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0148	4.73	0.03	166				



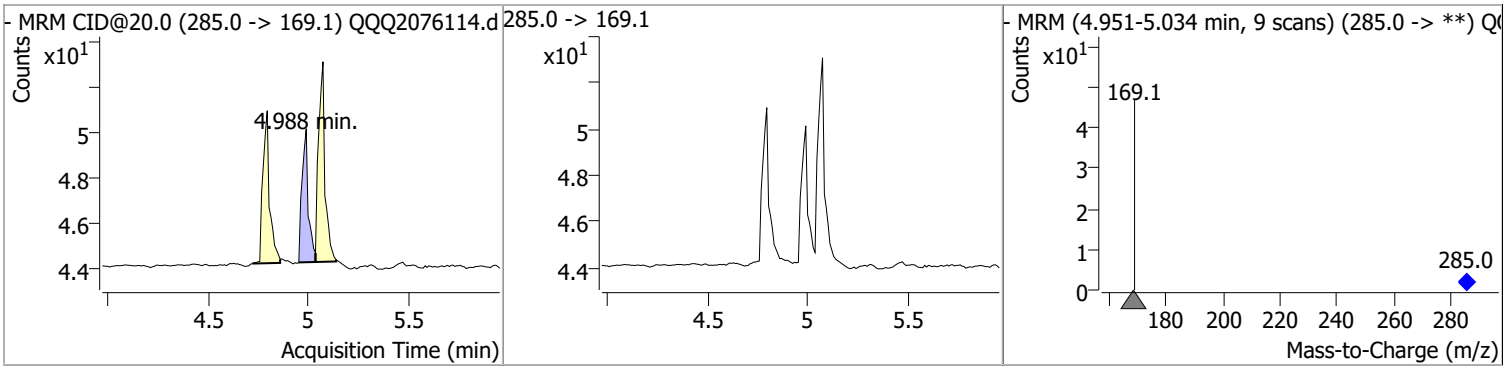
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0002	4.93	0.05	1				



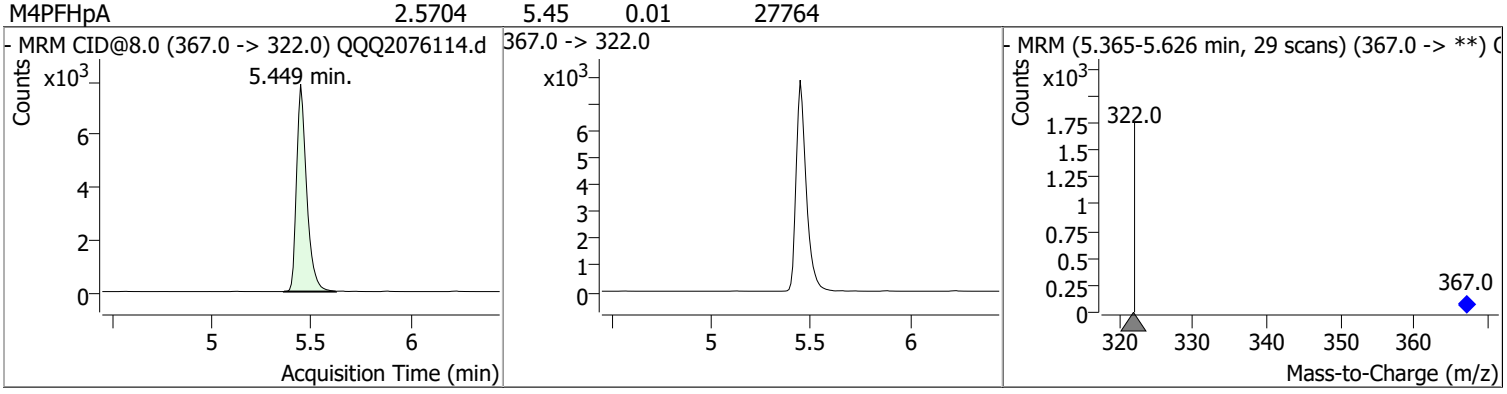
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.4987	4.97	0.01	58552				



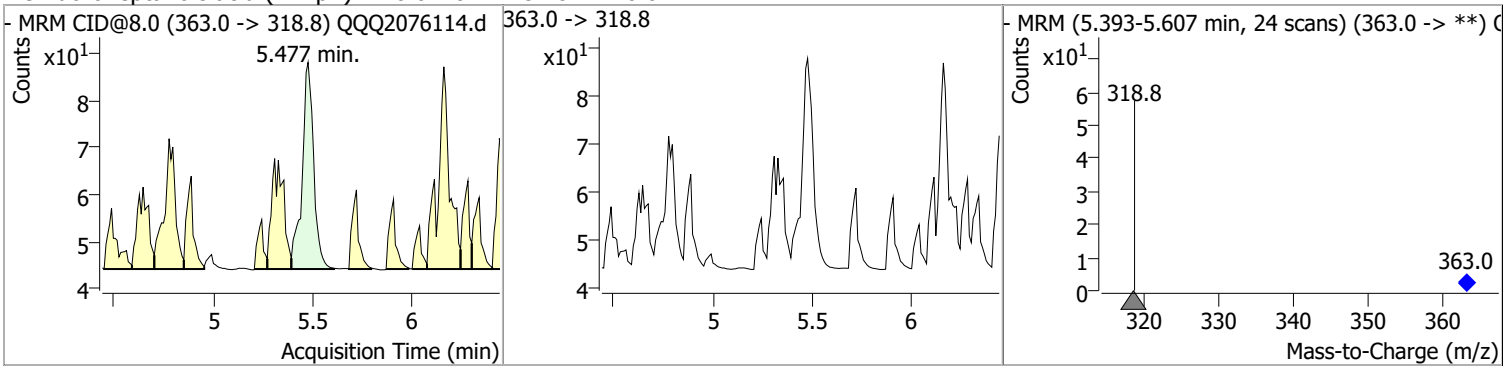
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0245	4.99	0.03	12				



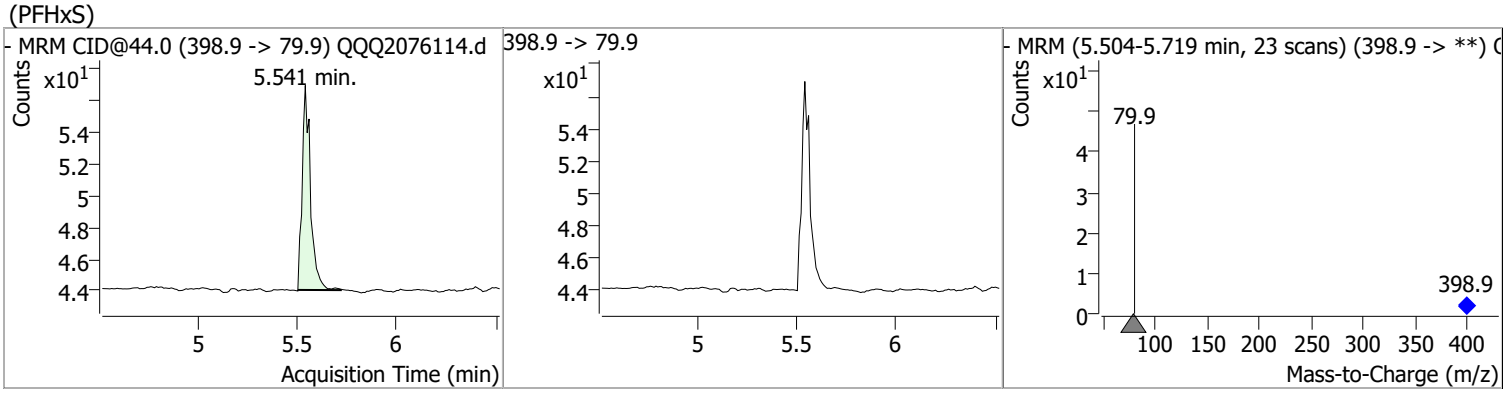
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5704	5.45	0.01	27764				



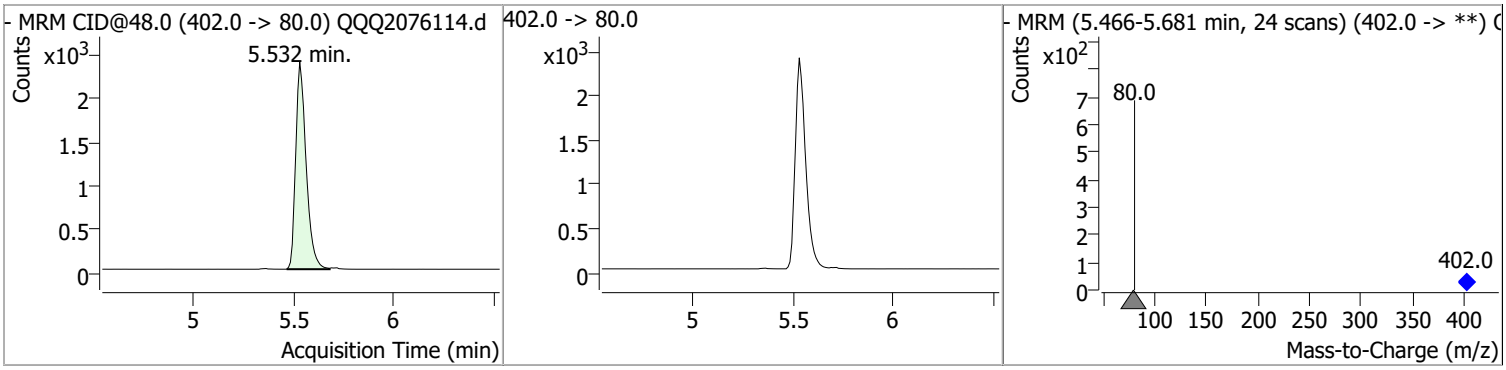
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0118	5.48	0.04	177				



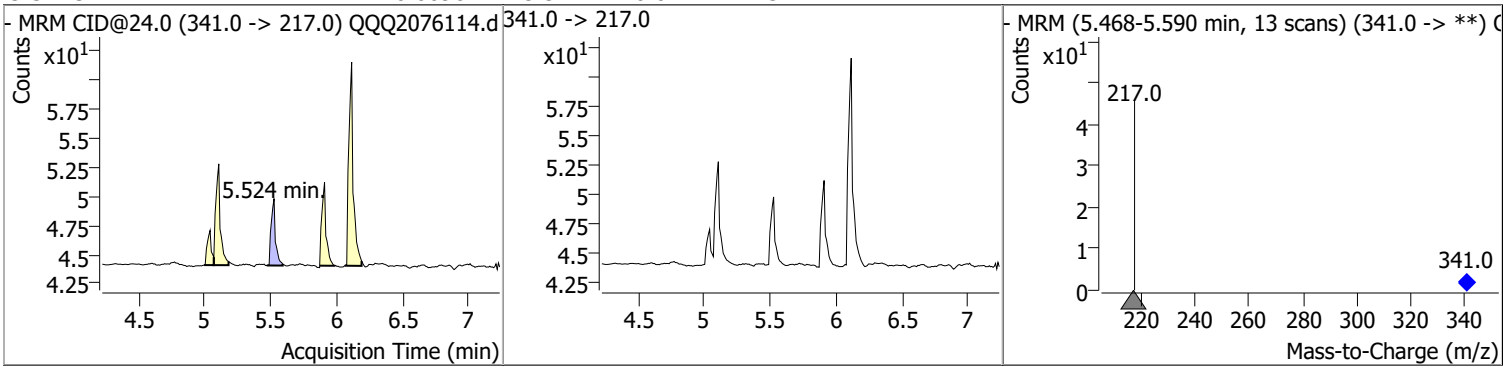
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0074	5.54	0.02	36				



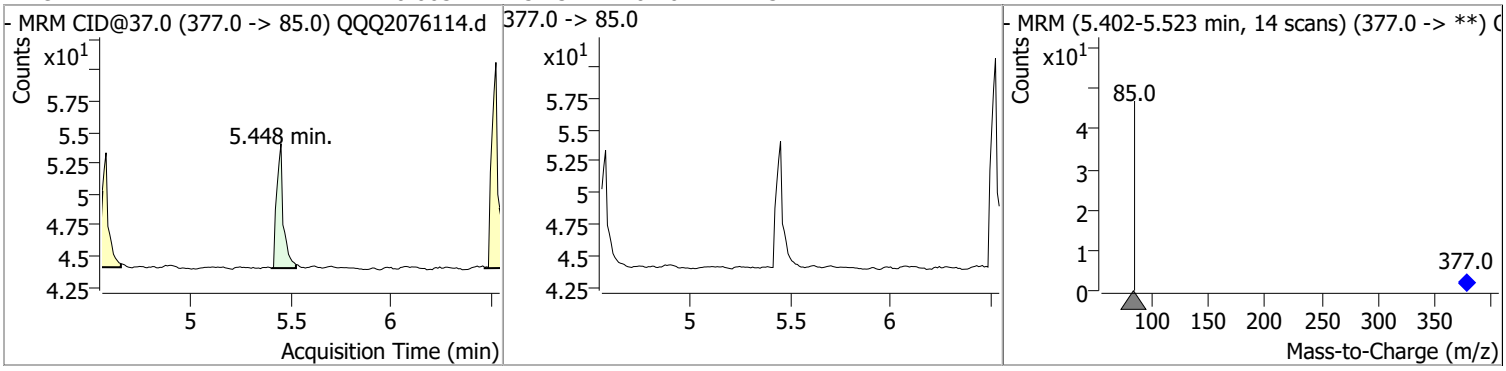
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.3749	5.53	0.00	8647				



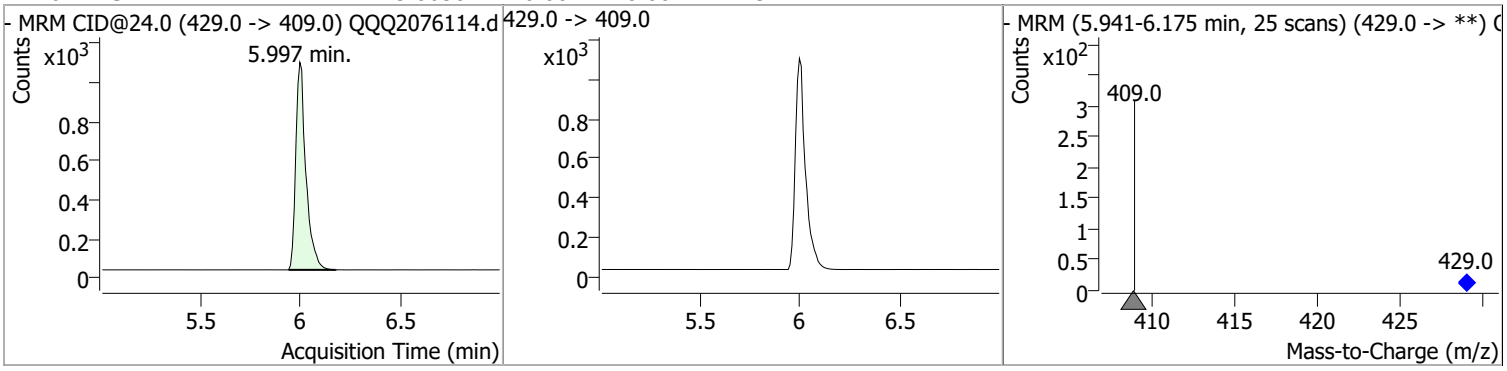
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	0.0098	5.52	-0.01	13				



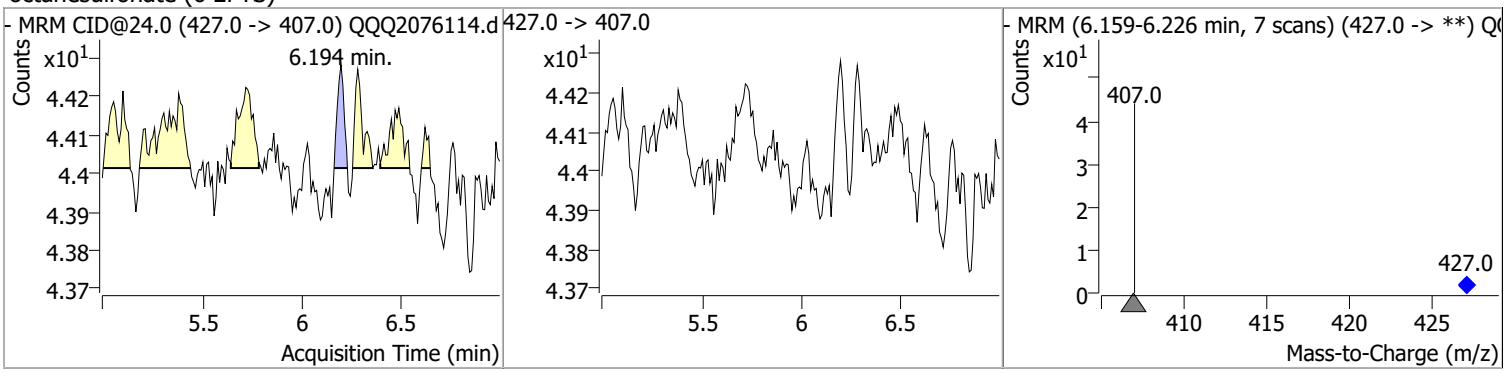
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0031	5.45	-0.10	23				



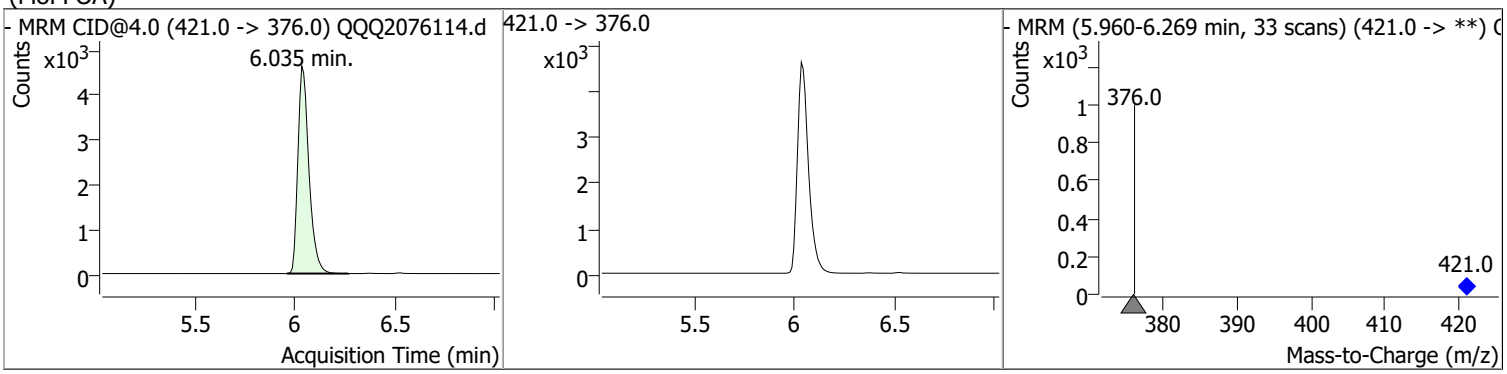
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	3.8658	6.00	0.00	3721				



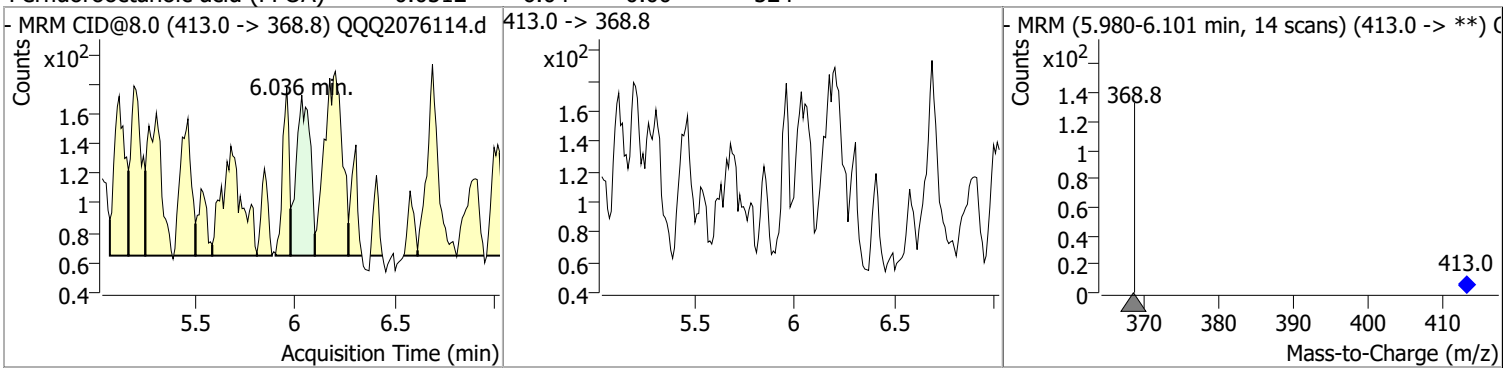
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0007	6.19	0.20	1				



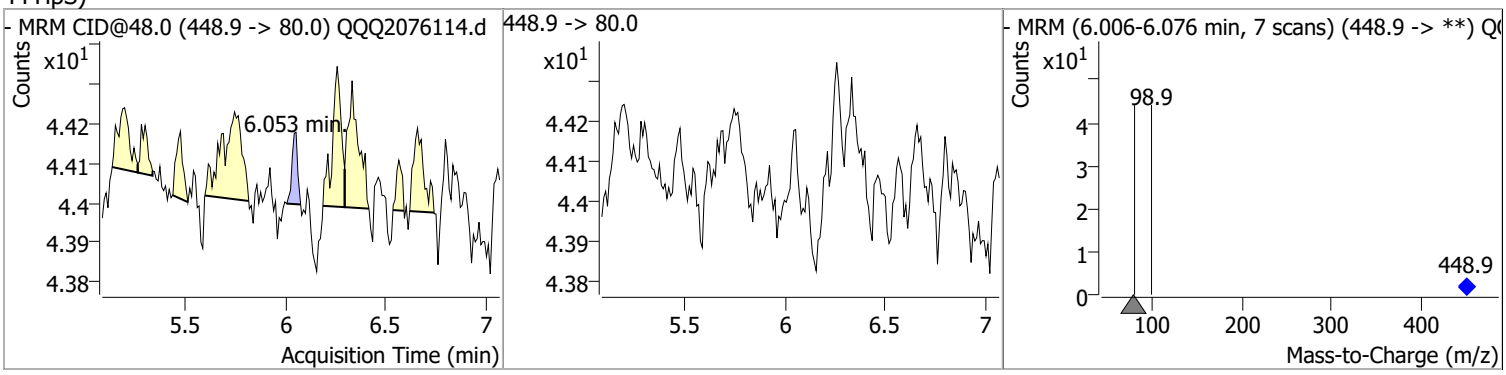
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.3638	6.04	0.00	17758				



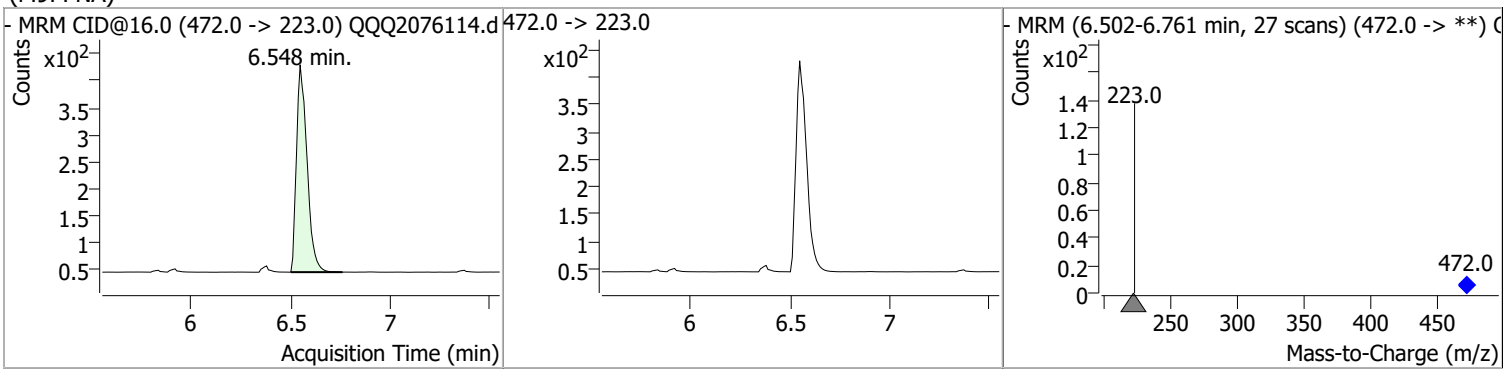
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0512	6.04	0.00	524				



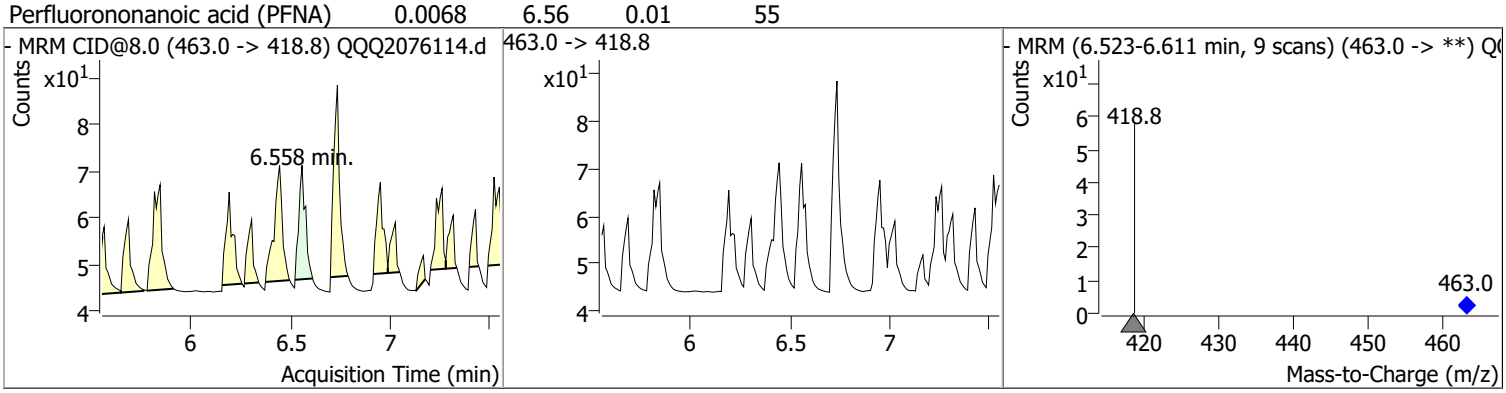
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0001	6.05	-0.03	0				



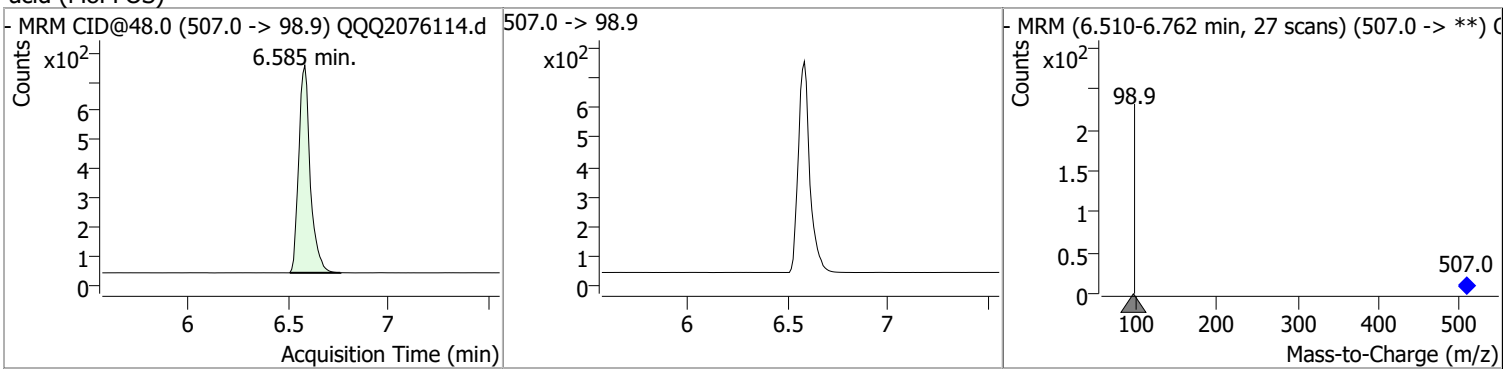
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.1121	6.55	0.01	1412				



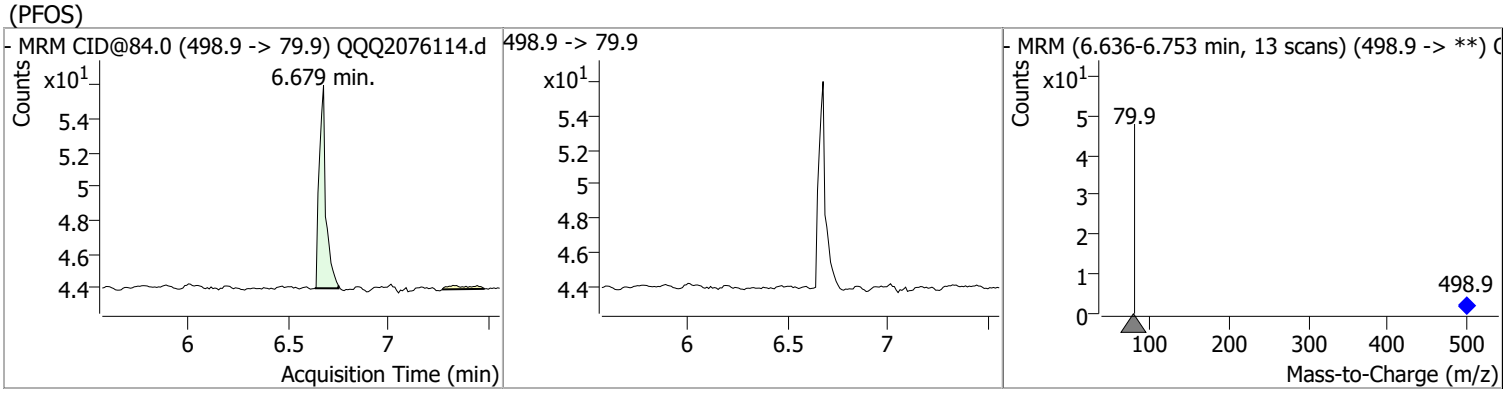
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0068	6.56	0.01	55				



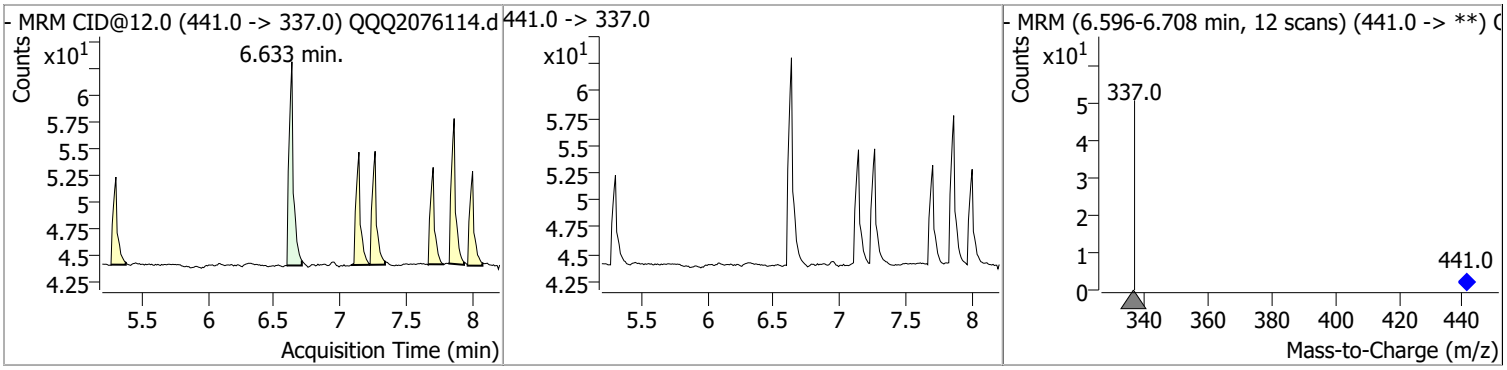
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.2612	6.58	0.02	2832				



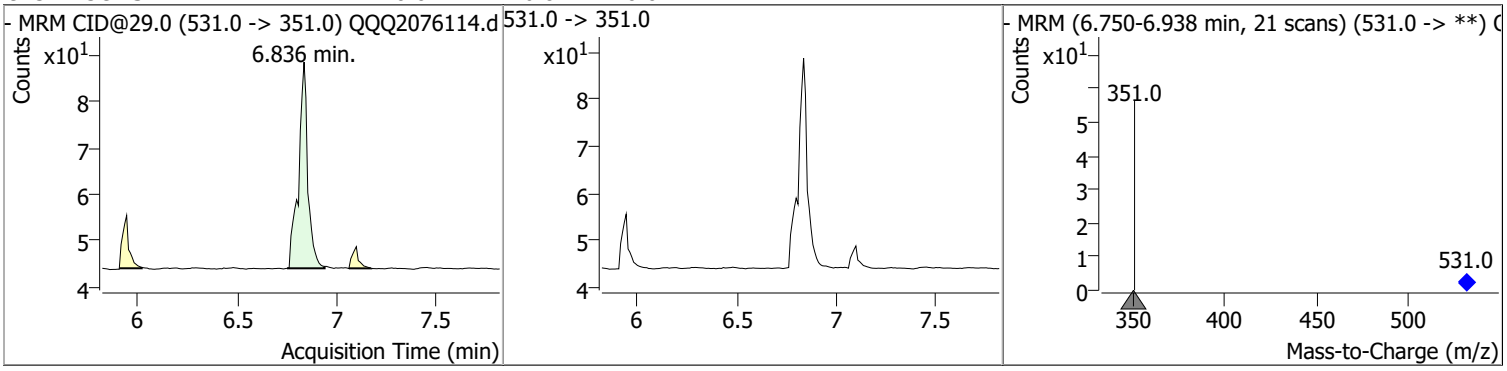
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0195	6.68	0.11	28				



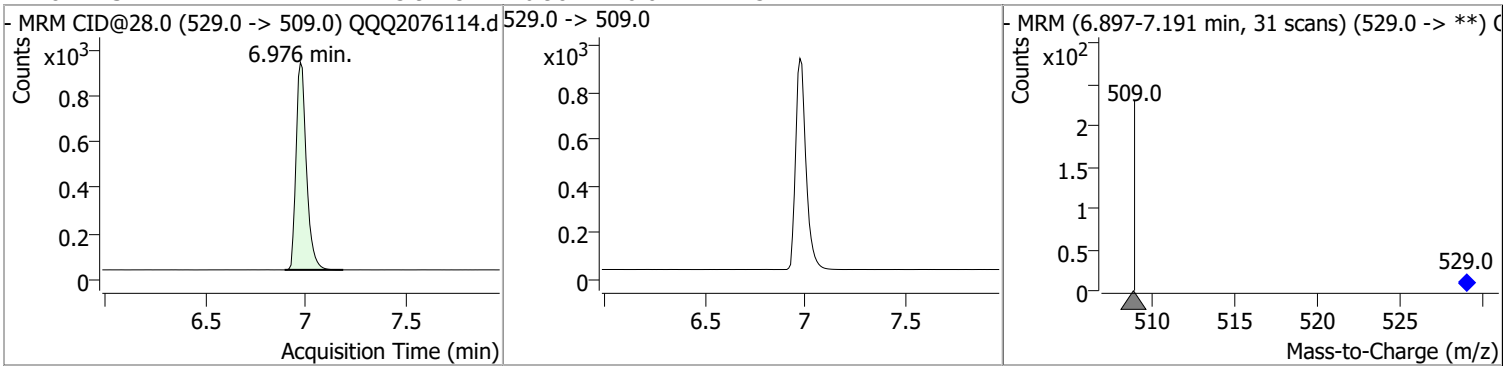
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.0202	6.63	-0.06	42				



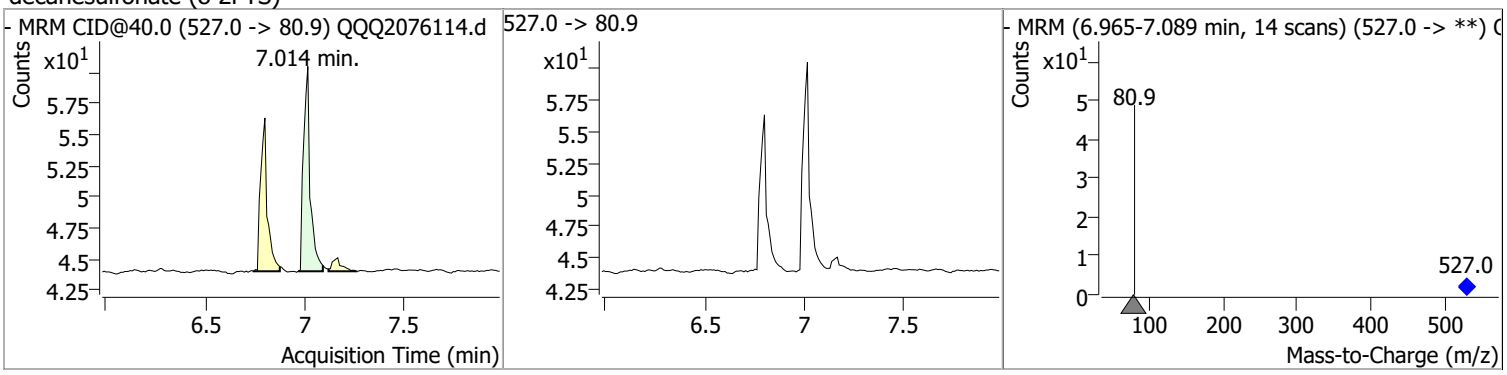
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0174	6.84	0.02	144				



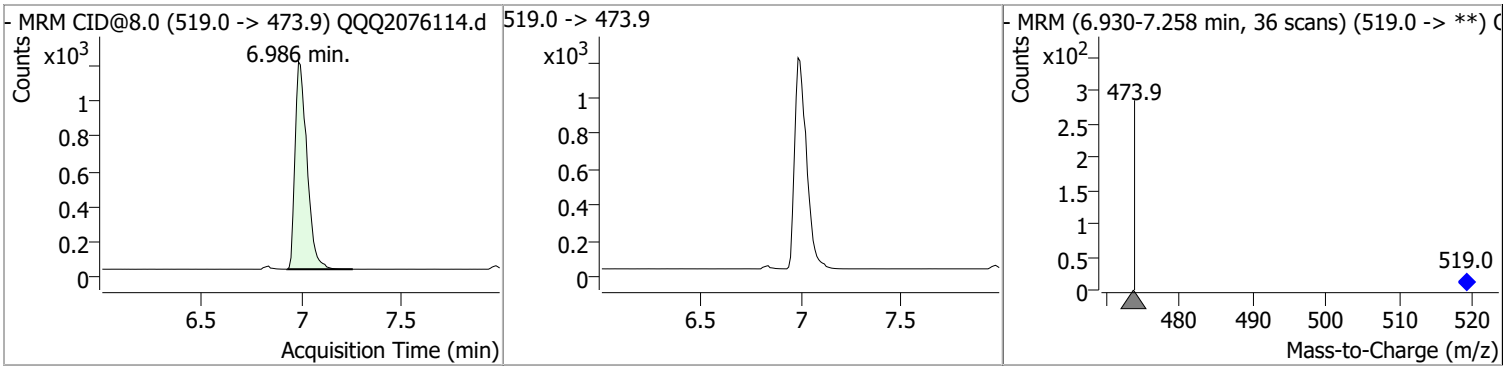
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	3.9215	6.98	0.01	3244				



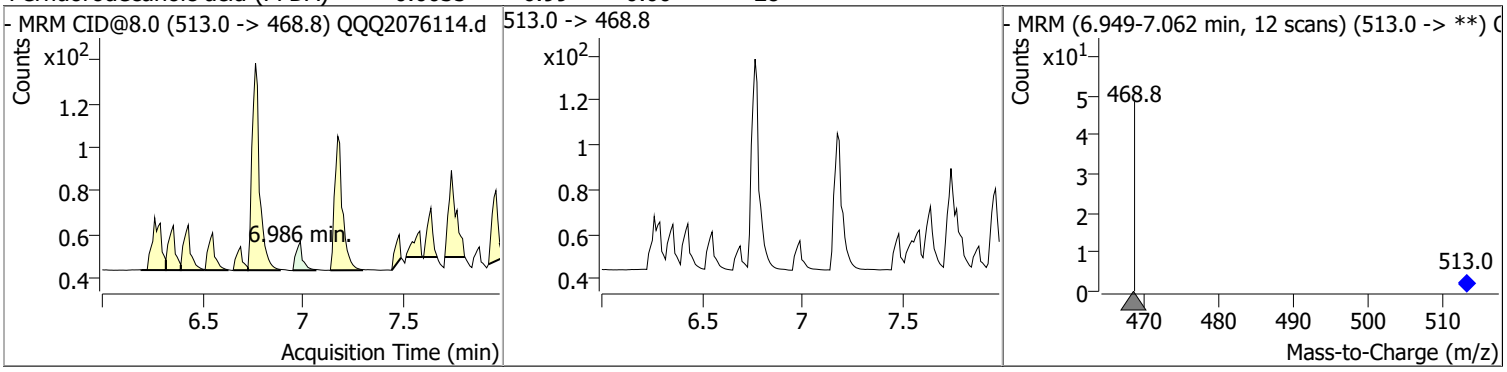
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0457	7.01	0.04	39				



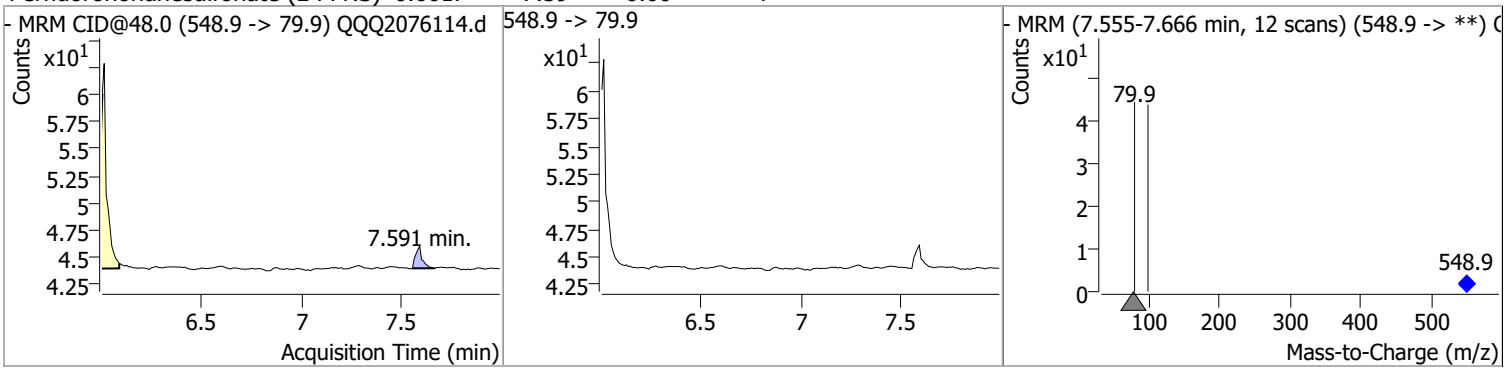
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.1888	6.99	0.00	4898				



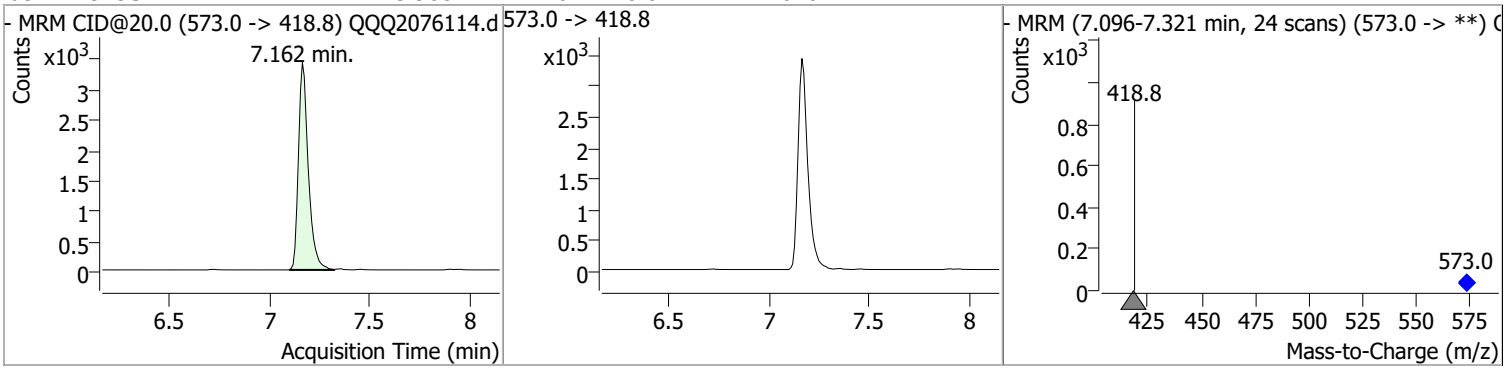
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0035	6.99	0.00	28				



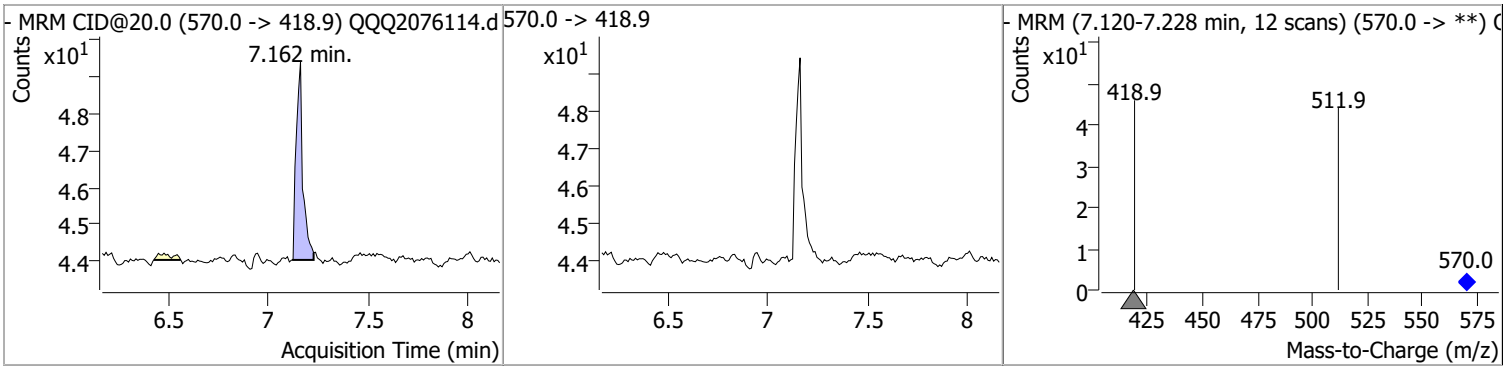
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0017	7.59	0.60	4				



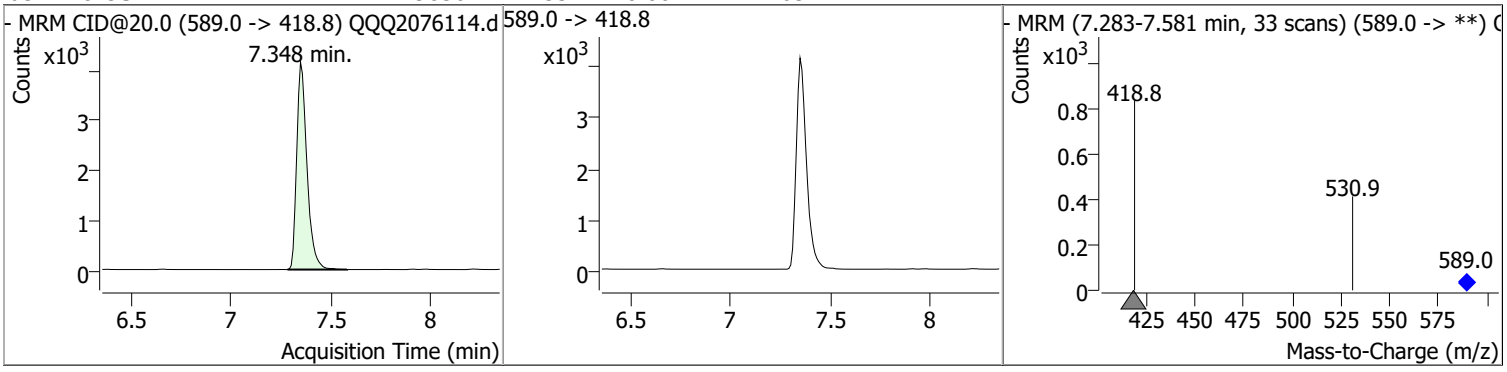
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.9881	7.16	0.01	11670				



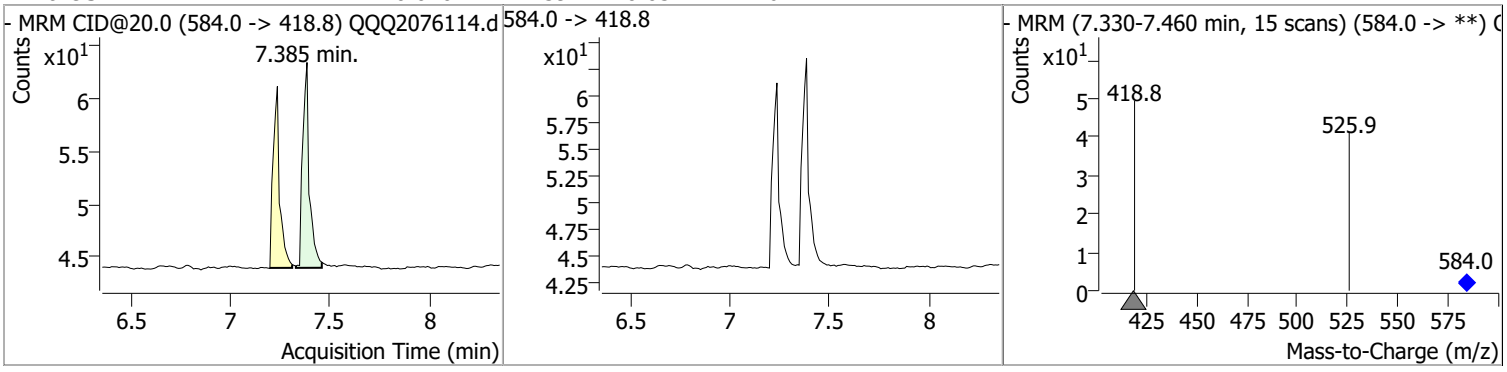
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0079	7.16	0.00	12				



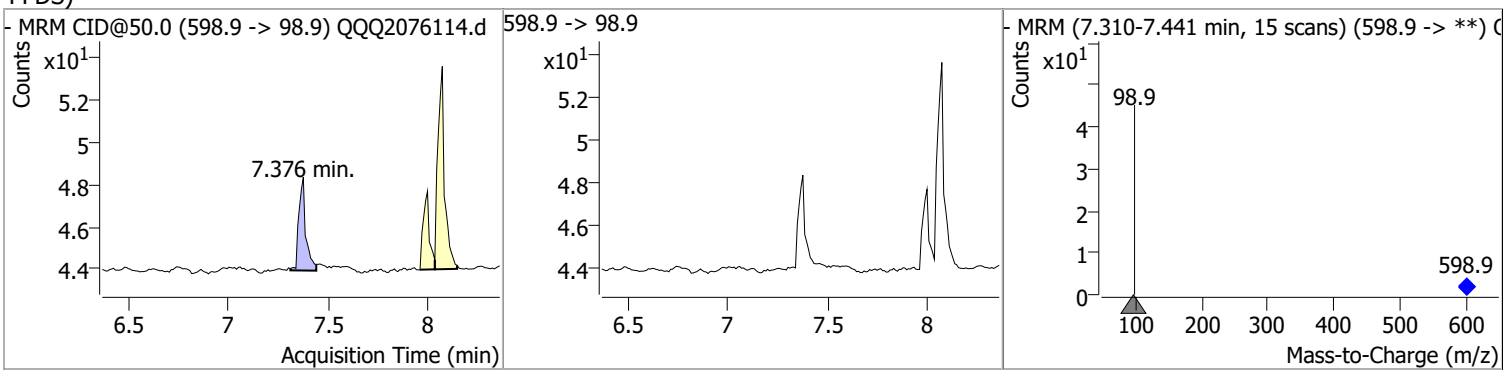
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.9836	7.35	0.00	14654				



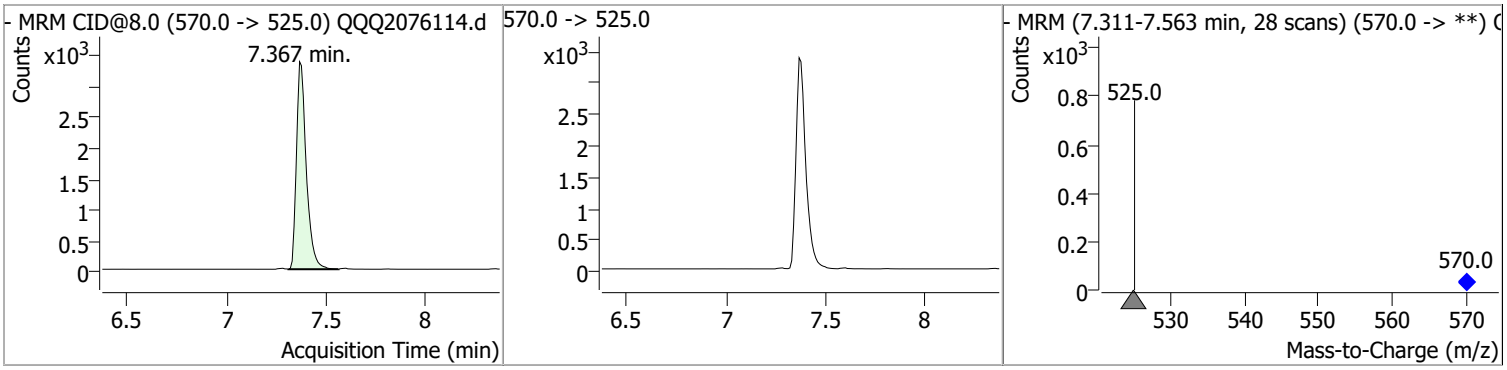
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0207	7.39	0.03	46				



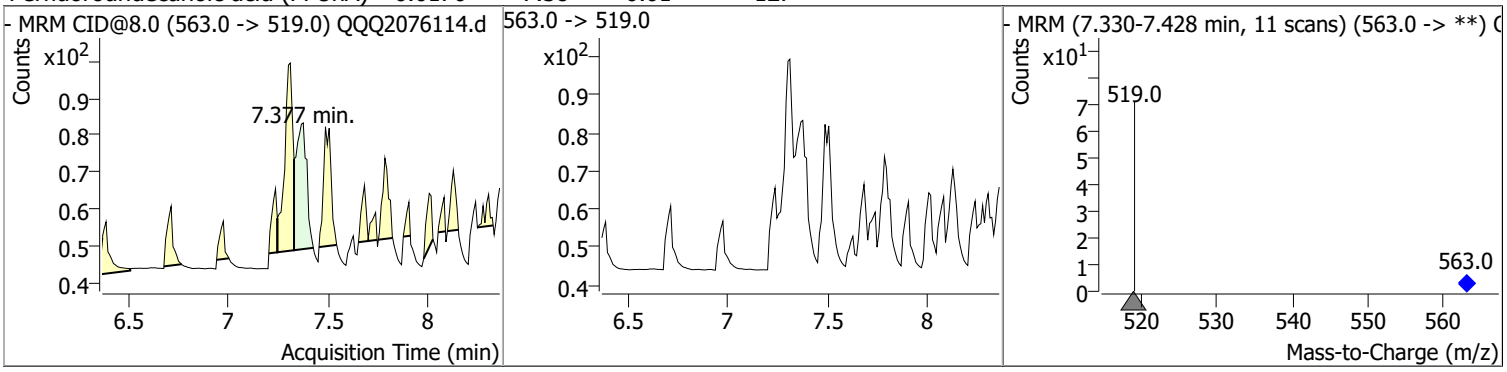
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0095	7.38	0.01	11				



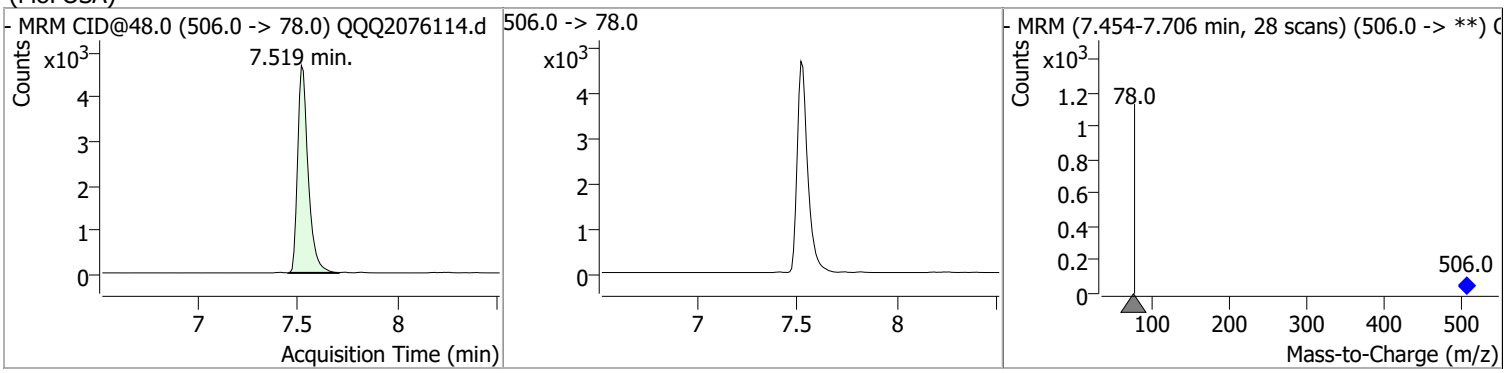
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.4136	7.37	0.00	11544				



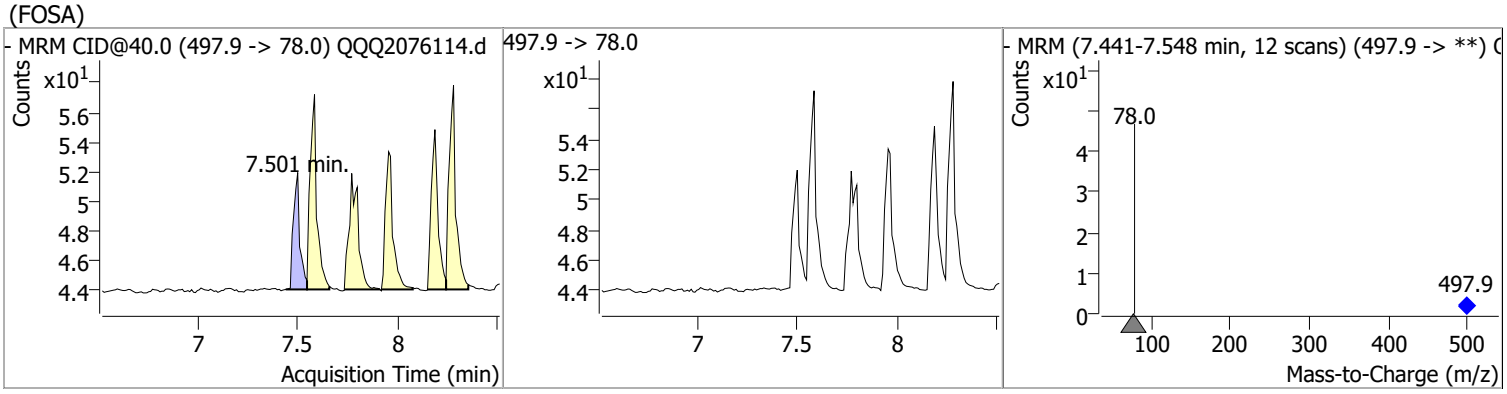
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0170	7.38	0.01	127				



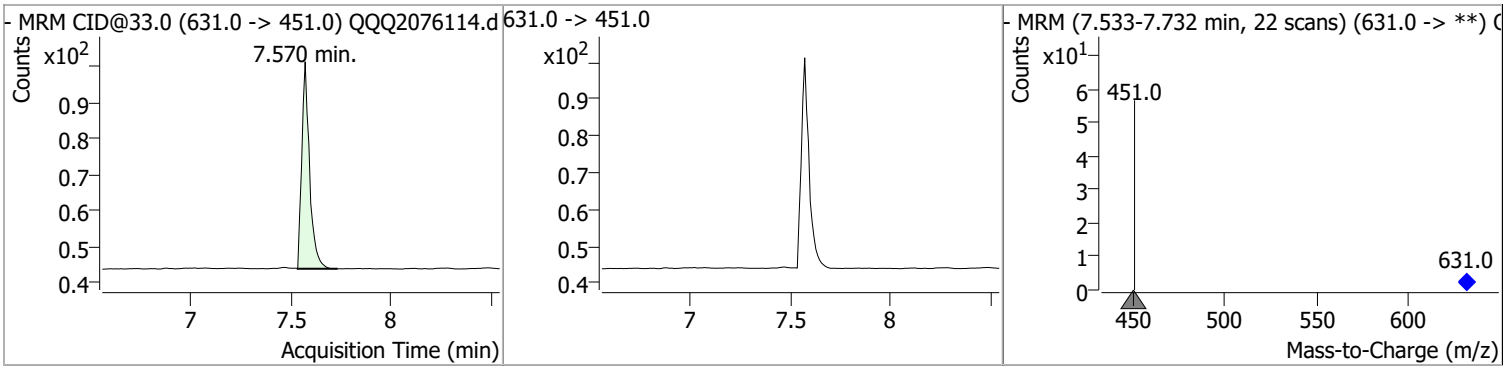
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.4150	7.52	0.00	17149				



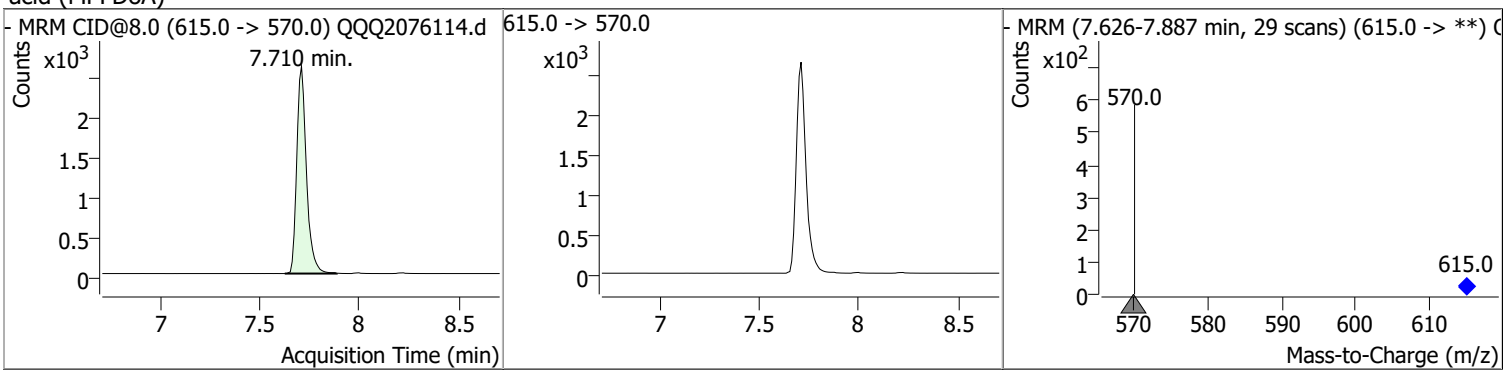
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0015	7.50	-0.02	18				



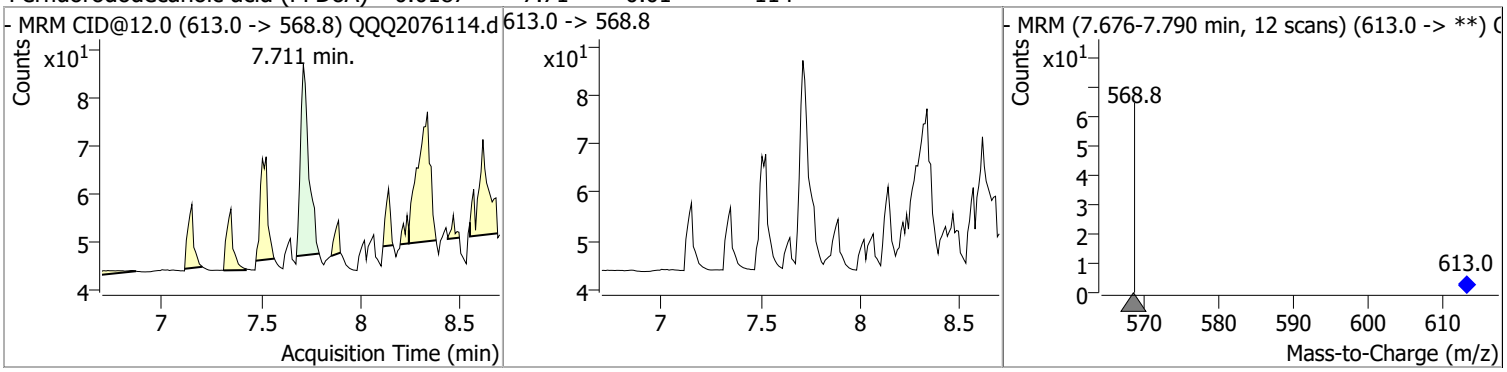
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.0482	7.57	0.02	155				



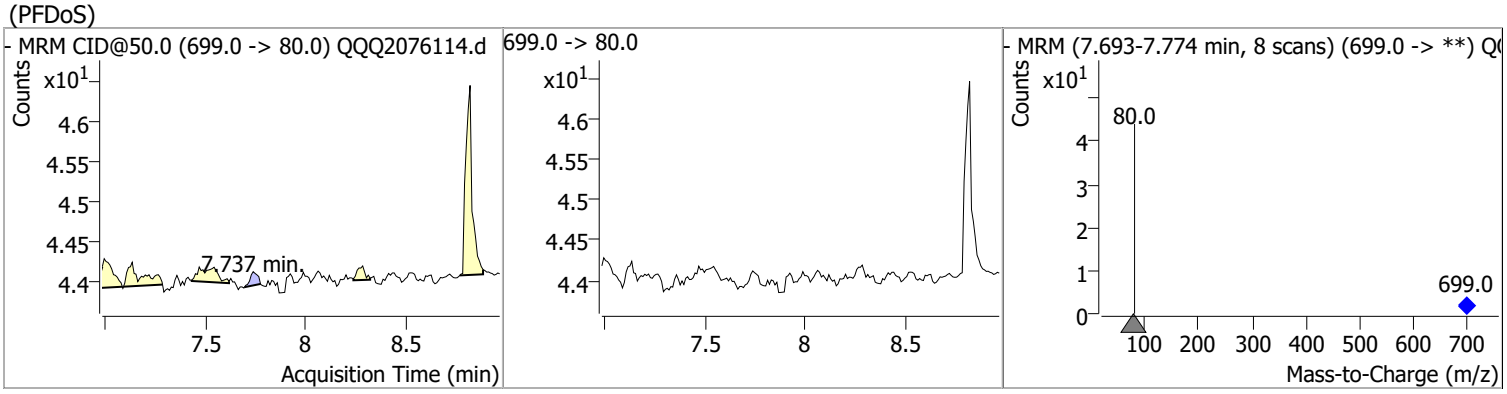
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.2973	7.71	0.01	8819				



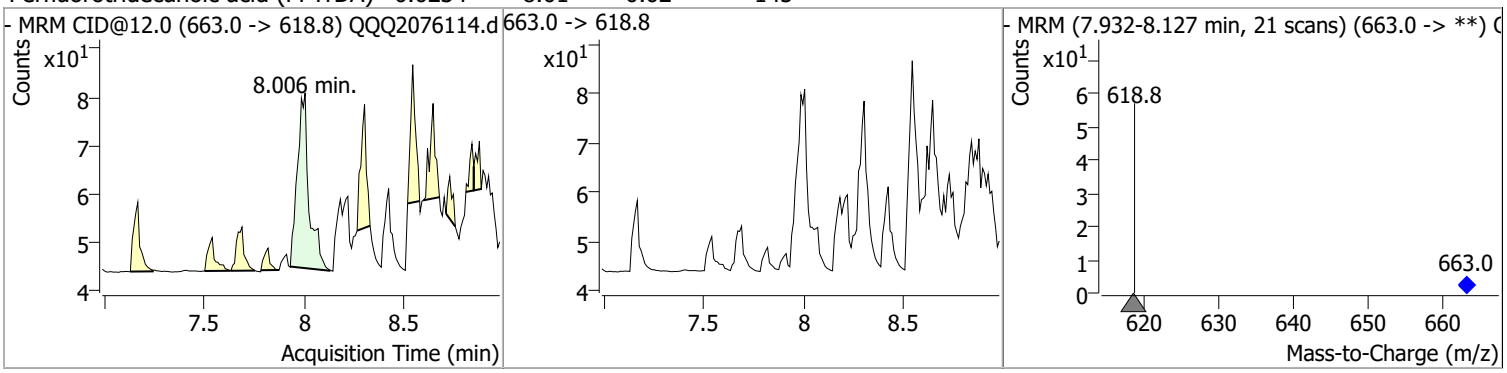
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0187	7.71	0.01	114				



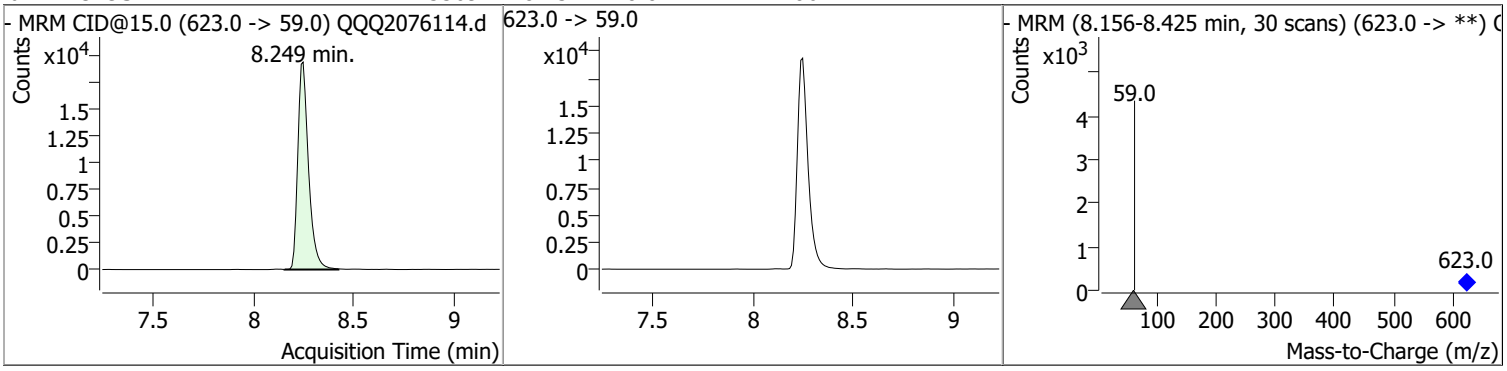
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0004	7.74	-0.24	0				



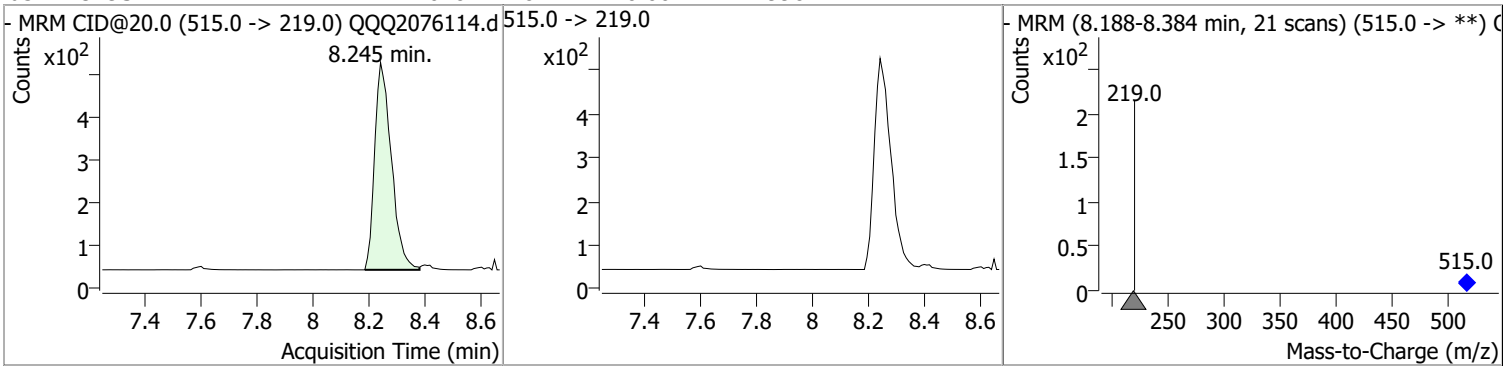
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0234	8.01	0.02	145				



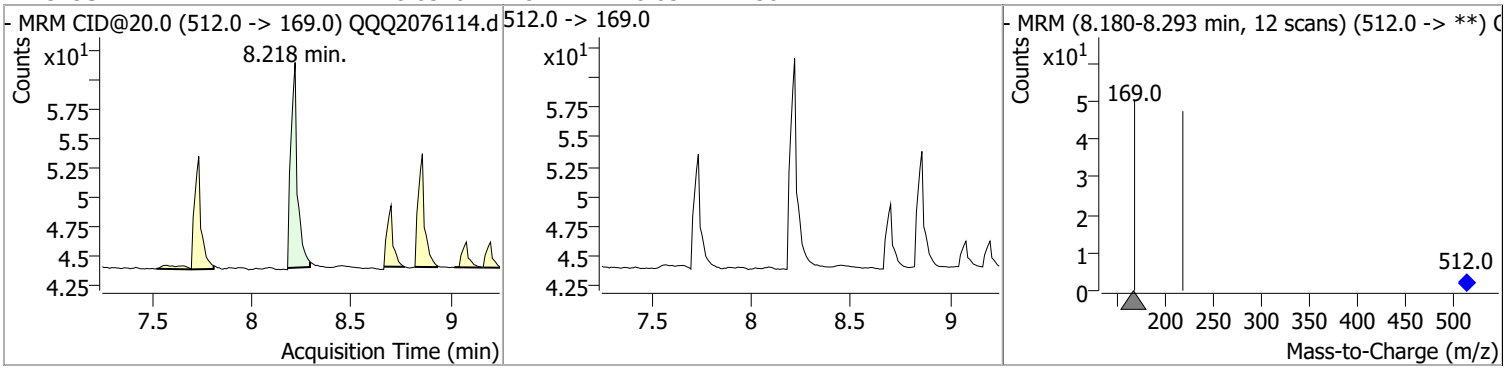
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	24.5569	8.25	0.01	72206				



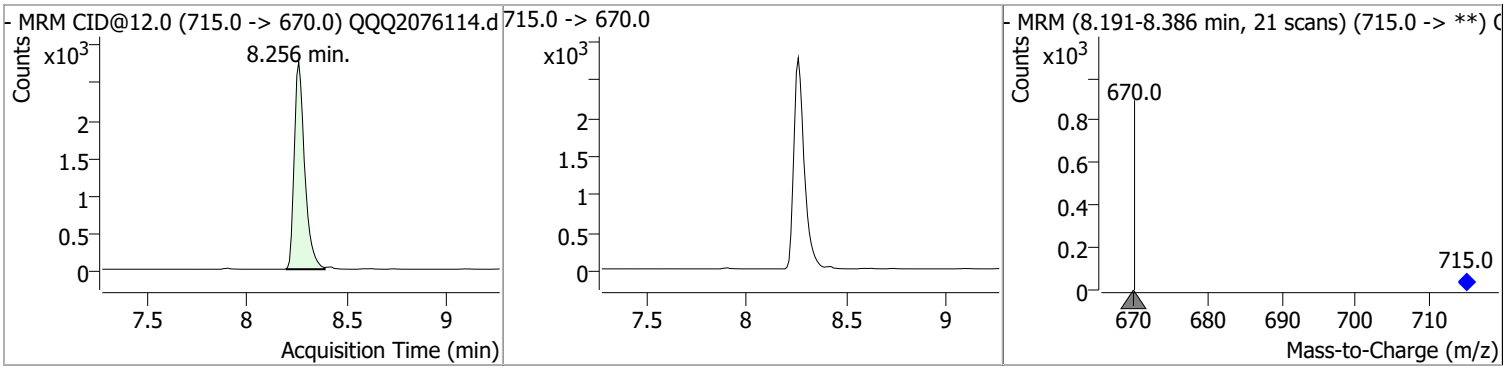
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.2028	8.24	0.00	1998				



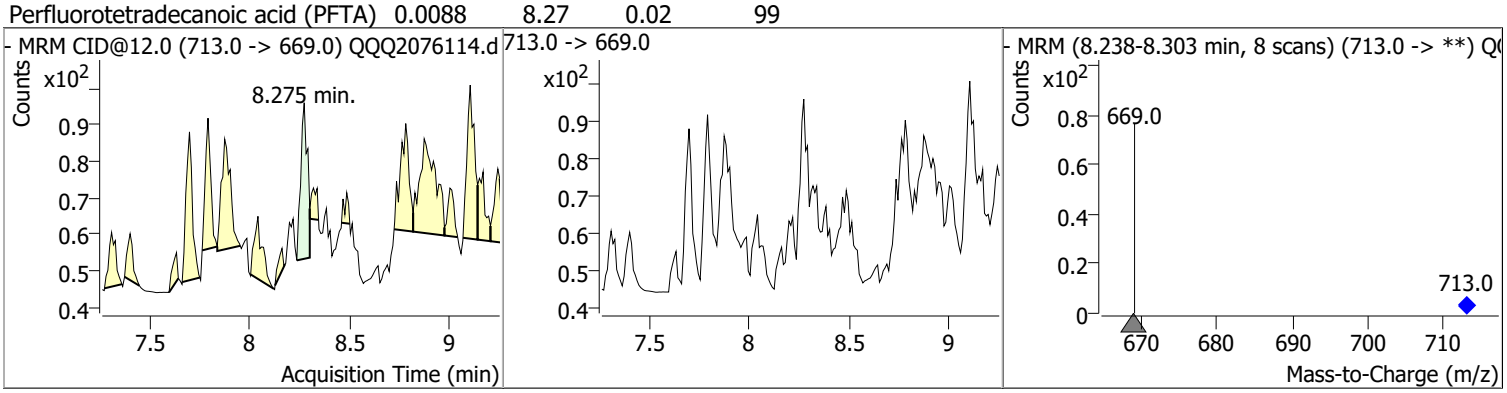
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.0340	8.22	-0.03	38				



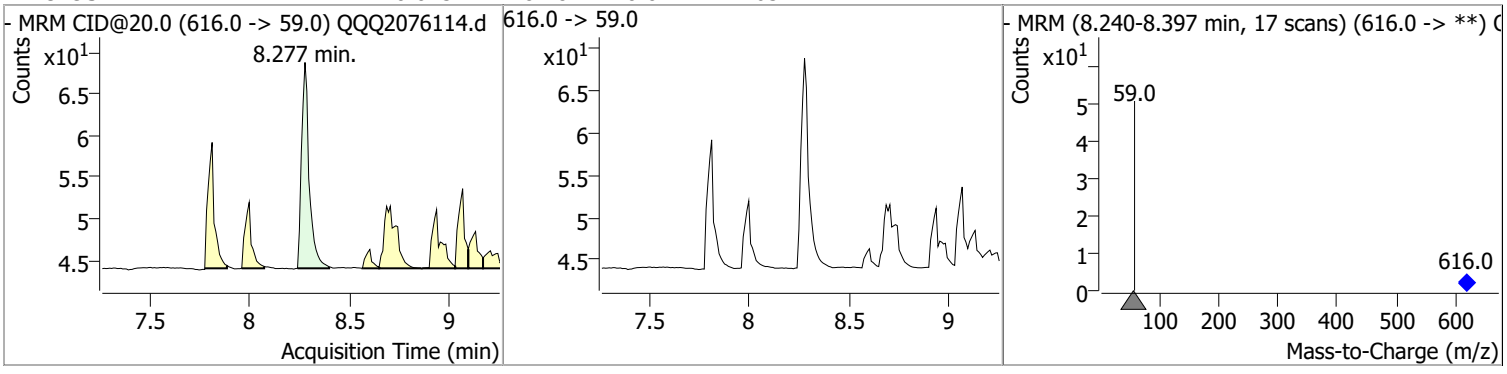
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.3858	8.26	0.00	9942				



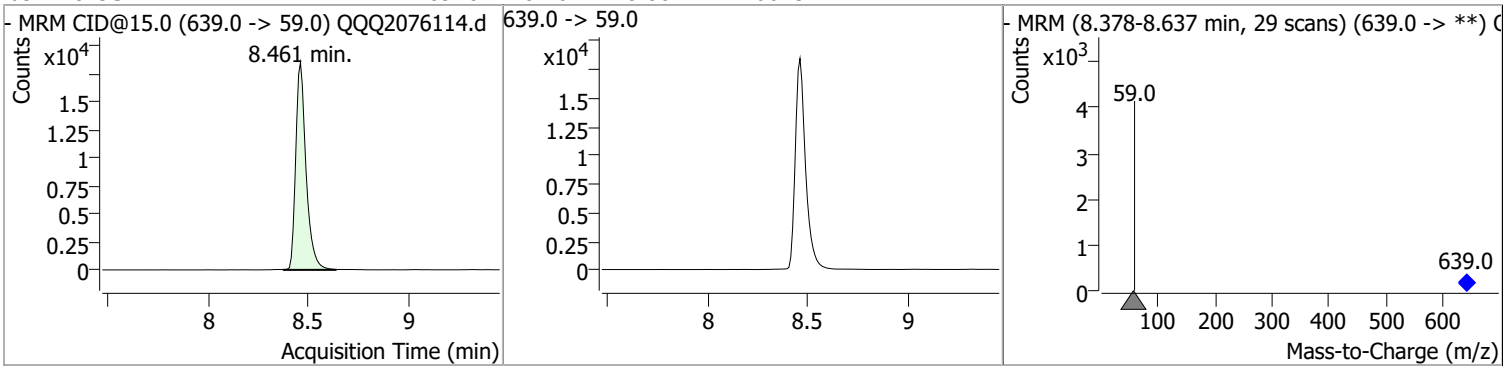
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0088	8.27	0.02	99				



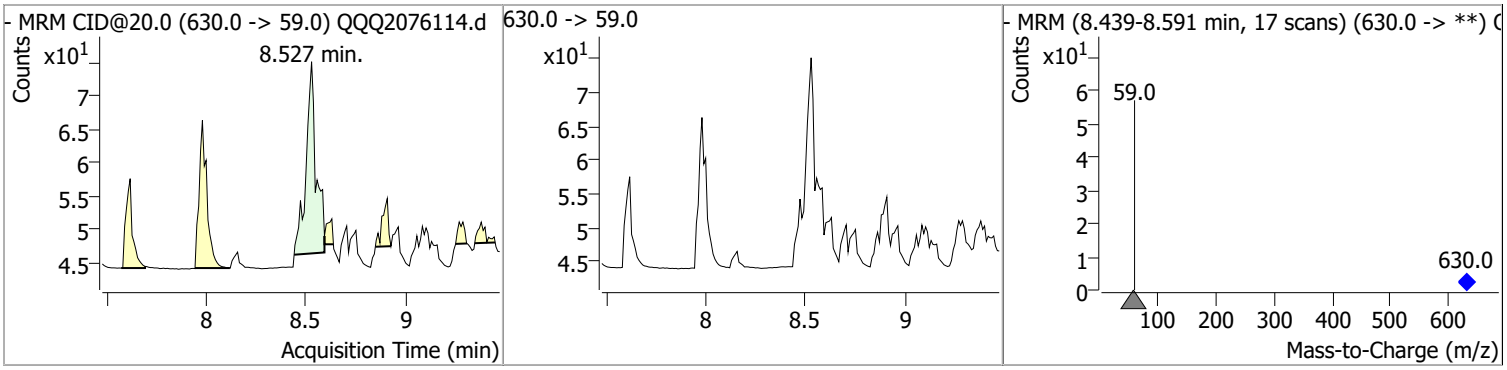
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	0.0252	8.28	0.02	65				



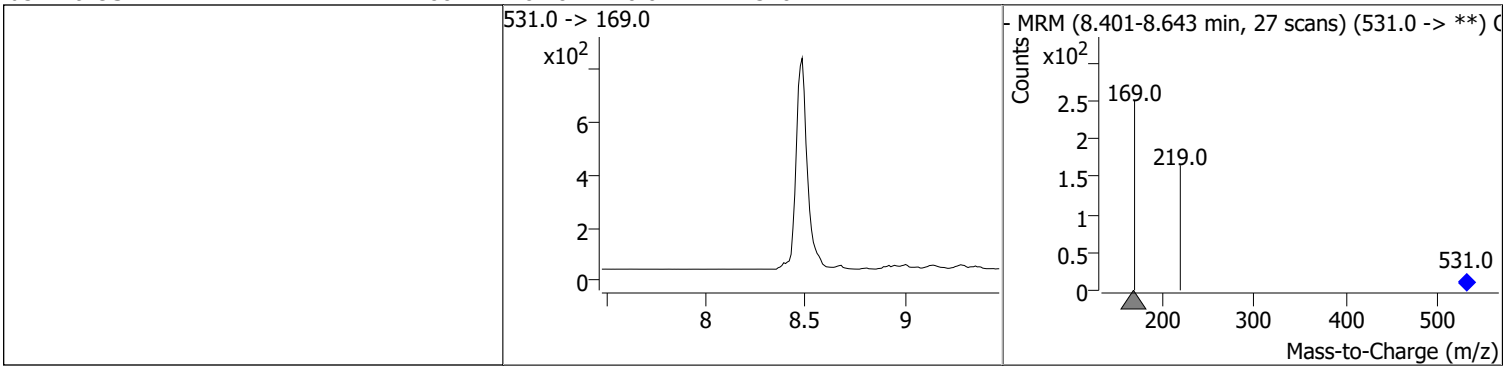
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	22.8910	8.46	0.00	66152				



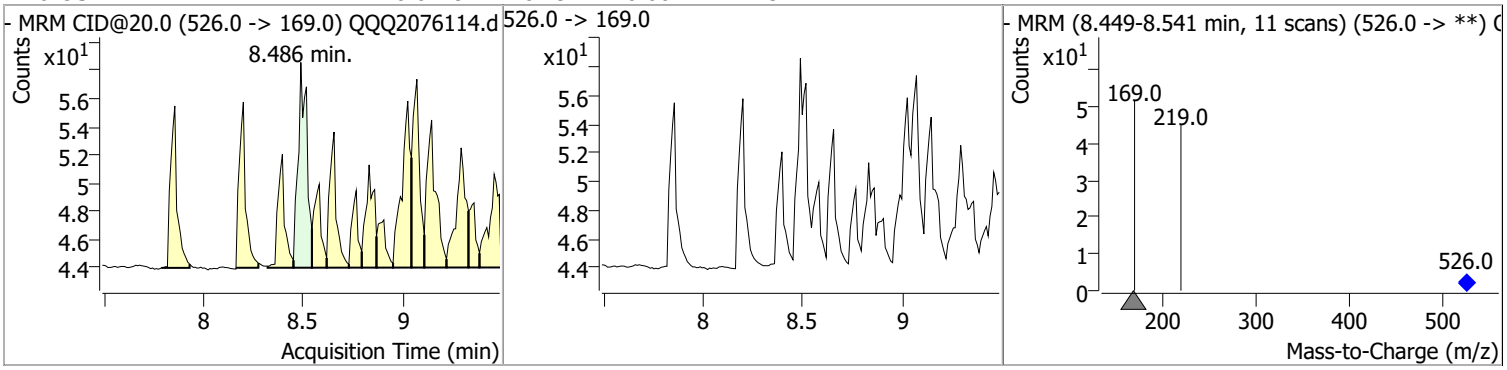
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	0.0326	8.53	0.06	103				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.4882	8.48	0.01	3102				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.0429	8.49	0.00	45				



Data File	QQQ2076115.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 11:57:17 AM
Sample Name	SEQ-CAL1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	0.20 - 5.0 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

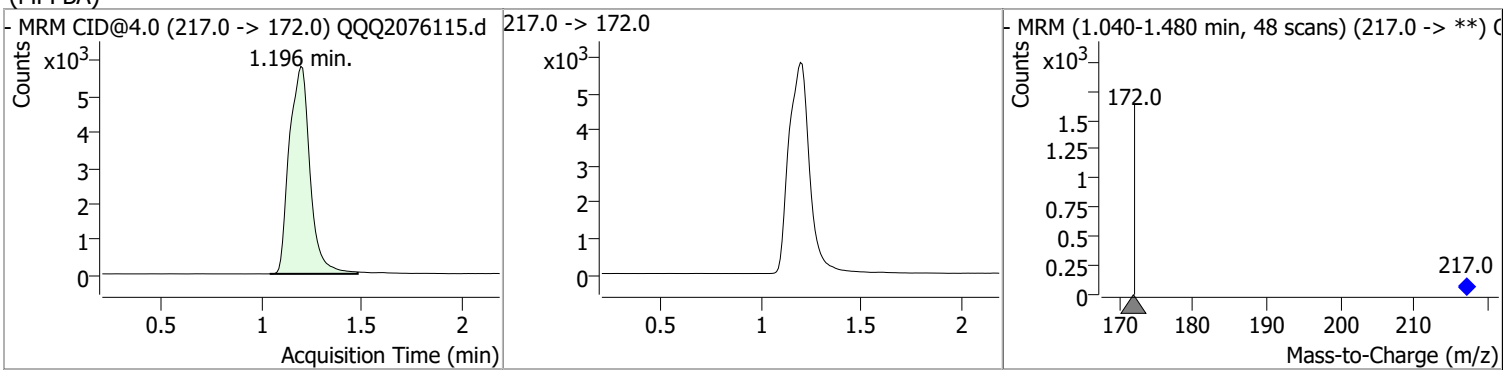
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.198	216.0 -> 172.0	30168	5.0000	ng/ml	-0.009
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.196	217.0 -> 172.0	41825	10.0000	ng/ml	-0.009
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.387	268.0 -> 223.0	22576	5.0000	ng/ml	0.000
MPFHxA	4.698	315.0 -> 269.8	29224	2.5000	ng/ml	0.000
MPFHxS	5.531	403.0 -> 103.0	2635	2.3700	ng/ml	0.009
M3PFBS-EIS	3.892	302.0 -> 79.9	8053	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	20243	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.631	329.0 -> 309.0	6049	4.6900	ng/ml	0.000
M3PFHxS-EIS	5.532	402.0 -> 80.0	6878	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	48519	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.449	367.0 -> 322.0	21213	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	3202	4.7550	ng/ml	0.000
MPFOA	6.036	417.0 -> 372.0	26090	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	15297	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.566	507.0 -> 98.9	2048	2.3950	ng/ml	0.000
MPFNA	6.539	468.0 -> 423.0	9862	1.2500	ng/ml	0.000
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.539	472.0 -> 223.0	1396	1.2500	ng/ml	0.000
MPFOS	6.576	503.0 -> 80.0	7156	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.976	529.0 -> 509.0	2754	4.8000	ng/ml	0.010
MPFDA	6.986	515.0 -> 469.8	9953	1.2500	ng/ml	0.000
M6PFDA-EIS	6.986	519.0 -> 473.9	4111	1.2500	ng/ml	0.000
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	9924	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	11272	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.376	570.0 -> 525.0	8382	1.2500	ng/ml	0.009
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	13812	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	7149	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.256	715.0 -> 670.0	7627	1.2500	ng/ml	0.000
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1818	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	57925	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.461	639.0 -> 59.0	56699	25.0000	ng/ml	0.000
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2299	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.196	217.0 -> 172.0	41825	10.1215	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.387	268.0 -> 223.0	22576	4.7713	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	8053	2.2981	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.631	329.0 -> 309.0	6049	4.2163	ng/ml	0.000

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	20243	2.5645	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	48519	10.5407	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	21213	2.3795	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	6878	2.3365	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.997	429.0 -> 409.0	3202	4.1144	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	15297	2.6596	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.539	472.0 -> 223.0	1396	1.3750	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.566	507.0 -> 98.9	2048	1.9771	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.976	529.0 -> 509.0	2754	4.1166	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.986	519.0 -> 473.9	4111	1.0642	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	9924	4.0993	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	11272	4.6338	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.376	570.0 -> 525.0	8382	1.0947	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	13812	2.3512	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	7149	1.1216	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	57925	23.8122	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	1818	2.4232	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.256	715.0 -> 670.0	7627	1.1337	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.461	639.0 -> 59.0	56699	23.7153	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2299	2.2291	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.200	213.0 -> 168.9	4236	0.8028	ng/ml	100
PFMPA	2.052	229.0 -> 85.0	1383	0.3994	ng/ml	100
3:3FTCA	3.296	241.0 -> 177.0	289	1.0491	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.397	263.0 -> 219.0	1967	0.3983	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.884	298.9 -> 79.9	697	0.1695	ng/ml	100
PFMBA	3.923	279.0 -> 85.0	1947	0.3781	ng/ml	100
PFEESA	4.382	315.0 -> 135.0	4390	0.3371	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	2072	0.3589	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.631	327.0 -> 307.0	1067	0.8724	ng/ml	100

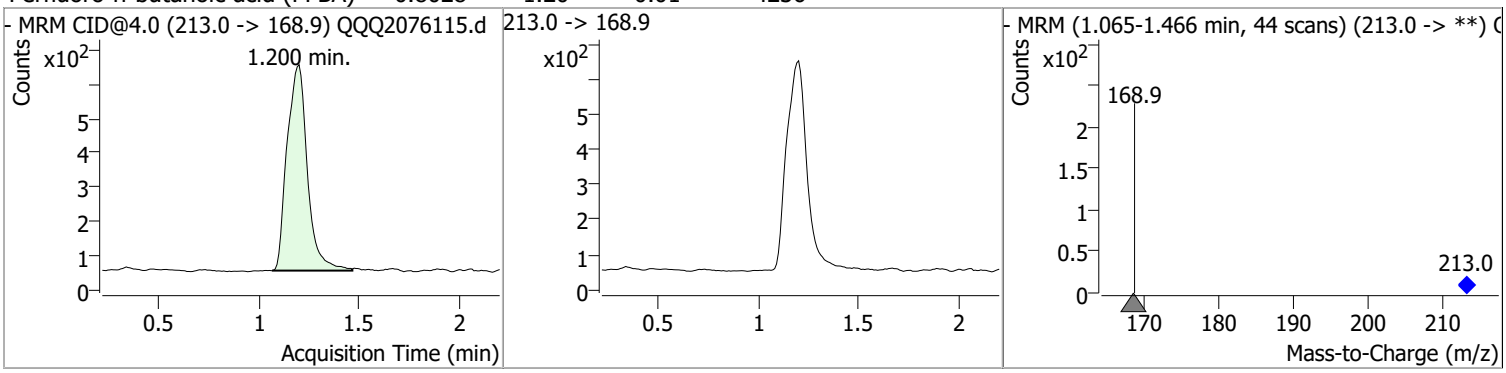
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.698	313.0 -> 268.9	2223	0.2334	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	739	0.1910	ng/ml		100
HFPO-DA	4.951	285.0 -> 169.1	125	0.3035	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	2621	0.2295	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.532	398.9 -> 79.9	545	0.1379	ng/ml	m	100
5-3FTCA	5.534	341.0 -> 217.0	5909	5.2323	ng/ml		100
ADONA	5.561	377.0 -> 85.0	4562	0.7276	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	729	1.0597	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	2107	0.2388	ng/ml	m	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	643	0.3124	ng/ml		100
Perfluorononanoic acid (PFNA)	6.558	463.0 -> 418.8	1423	0.1784	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.576	498.9 -> 79.9	289	0.2780	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	8492	4.8422	ng/ml		100
9-Cl-PF3ONS	6.817	531.0 -> 351.0	6272	0.9106	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.986	527.0 -> 80.9	761	1.0713	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.996	513.0 -> 468.8	1428	0.2080	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	7.004	548.9 -> 79.9	243	0.1266	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	250	0.1858	ng/ml	m	100
N-EtFOSAA	7.367	584.0 -> 418.8	483	0.2834	ng/ml		100
Perfluoro-1-decanesulfonate (L-PFDS)	7.366	598.9 -> 98.9	26	0.0318	ng/ml	m	100
Perfluoroundecanoic acid (PFUnA)	7.377	563.0 -> 519.0	1455	0.2681	ng/ml	m	100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	1694	0.1740	ng/ml		100
11-Cl-PF3OUdS	7.561	631.0 -> 451.0	1913	0.7189	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	1368	0.2775	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.969	699.0 -> 80.0	158	0.2038	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	8.006	663.0 -> 618.8	738	0.1548	ng/ml		100
NMeFOSA	8.255	512.0 -> 169.0	248	0.2409	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.256	713.0 -> 669.0	2007	0.2334	ng/ml		100
NMeFOSE	8.268	616.0 -> 59.0	3398	1.6516	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	5107	1.8903	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	179	0.2322	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.1215	1.20	-0.01	41825				



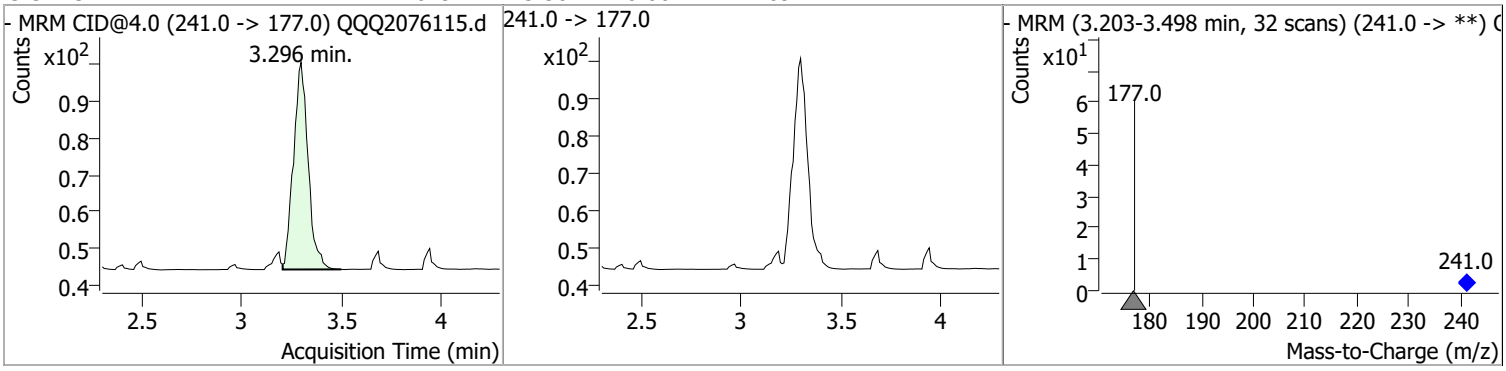
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.8028	1.20	-0.01	4236				



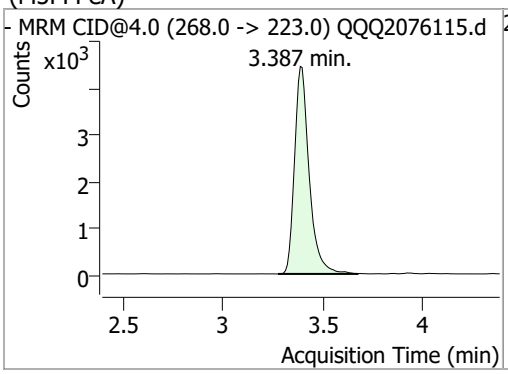
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.3994	2.05	-0.02	1383				

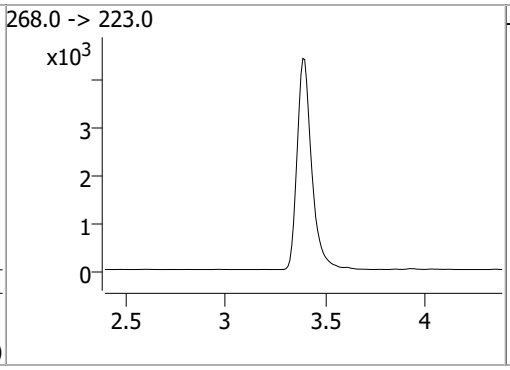


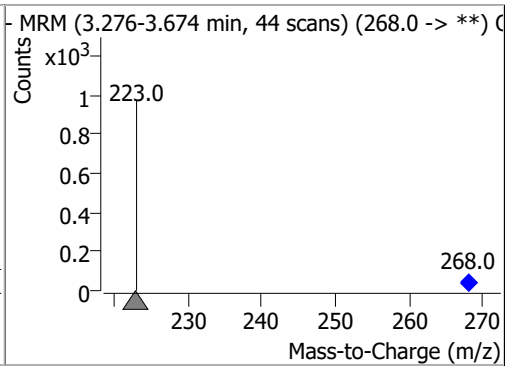
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	1.0491	3.30	0.00	289				



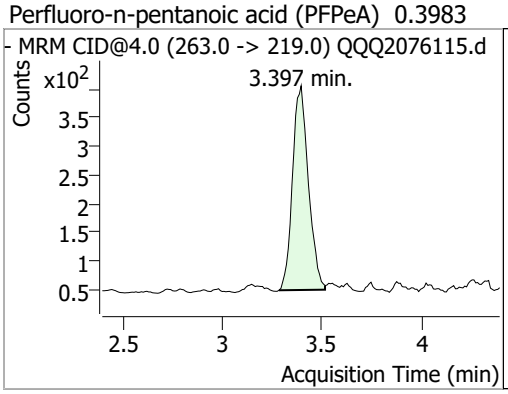
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.7713	3.39	0.00	22576				

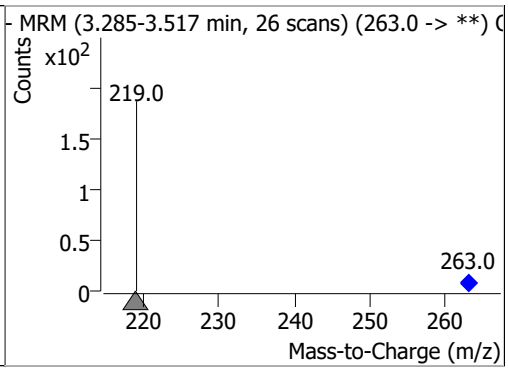




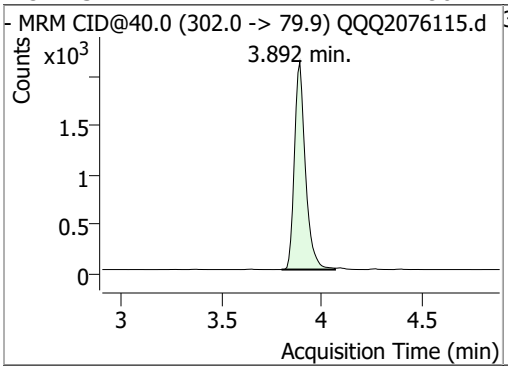


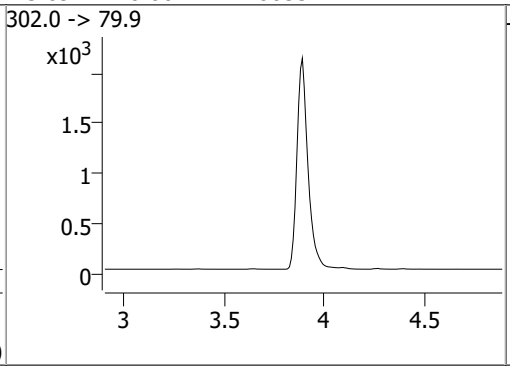
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.3983	3.40	0.00	1967				

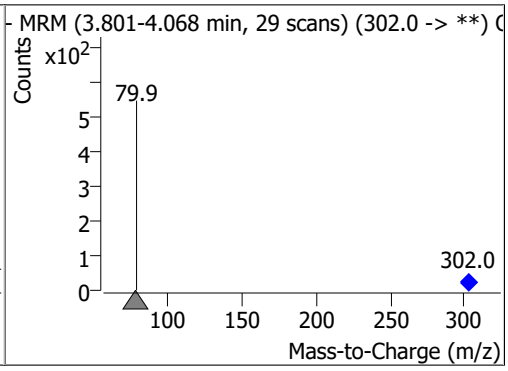




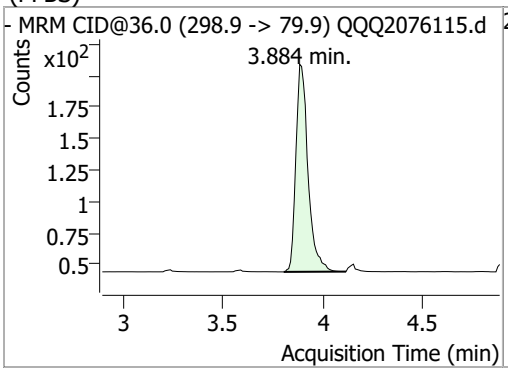
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.2981	3.89	0.00	8053				

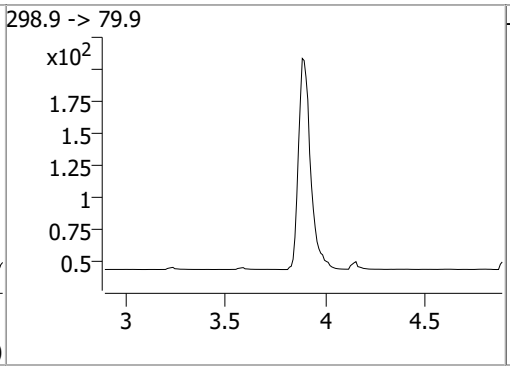


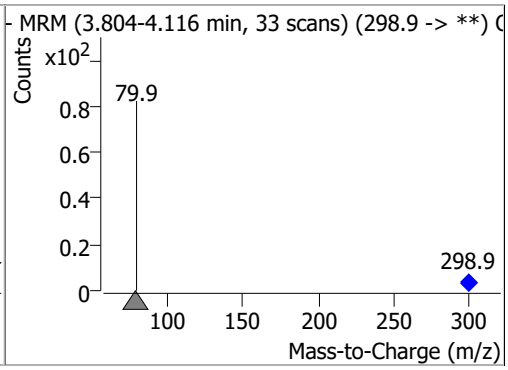




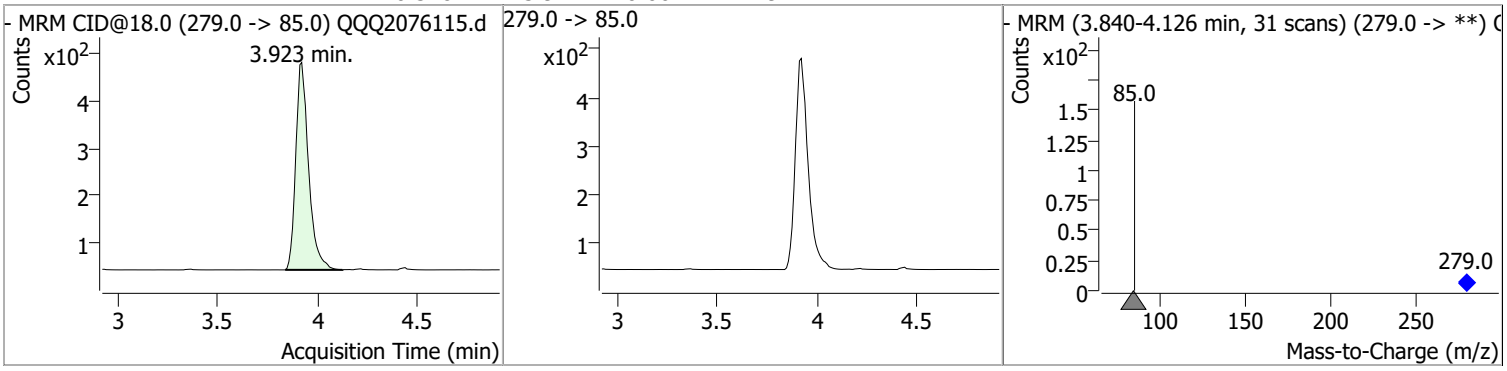
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.1695	3.88	-0.01	697				



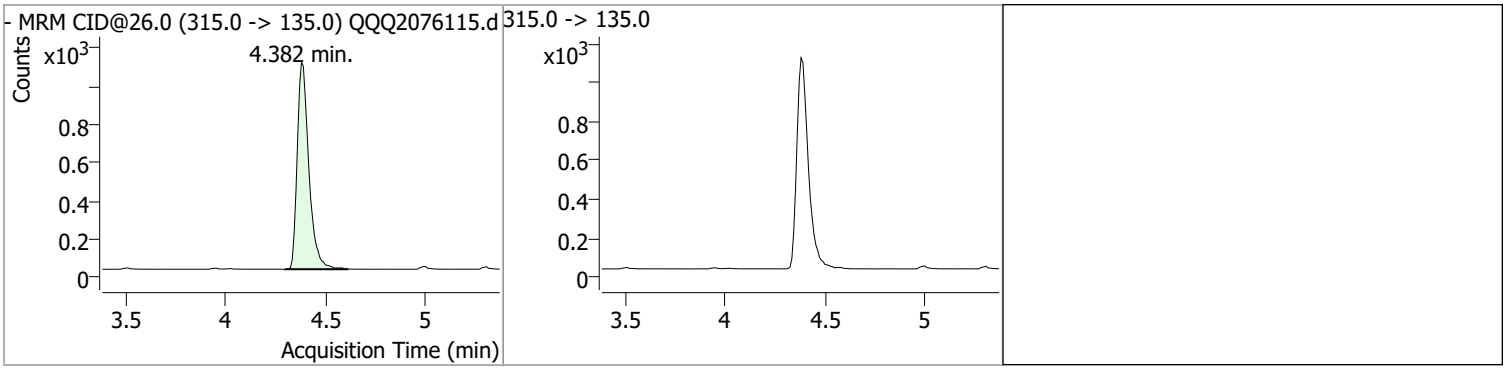




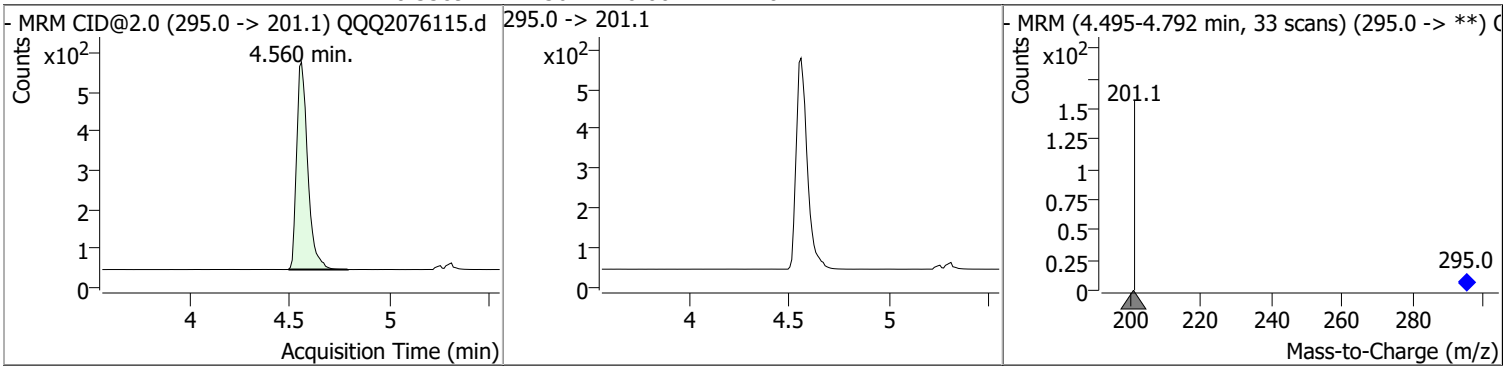
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.3781	3.92	0.00	1947				



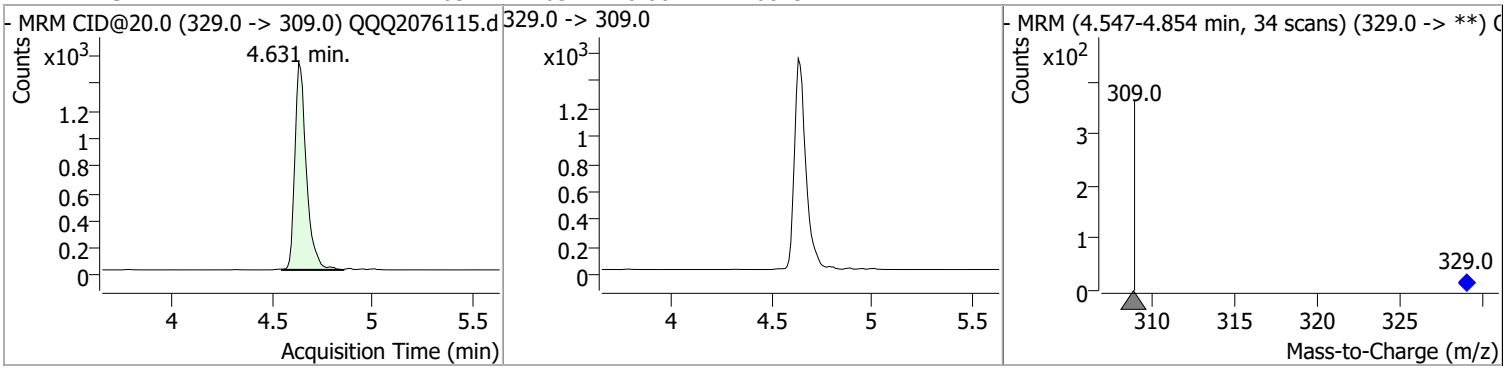
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.3371	4.38	0.00	4390				



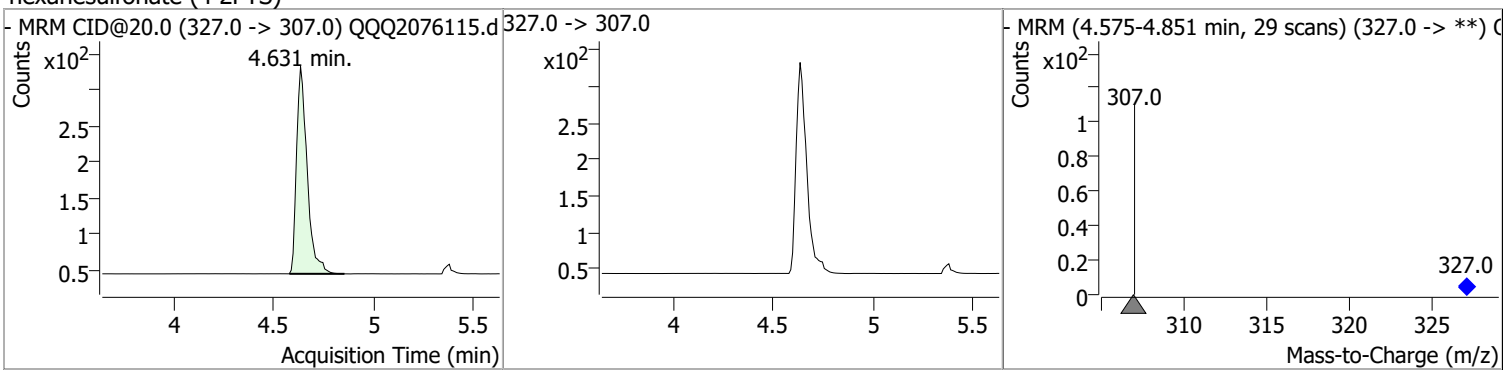
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.3589	4.56	0.00	2072				



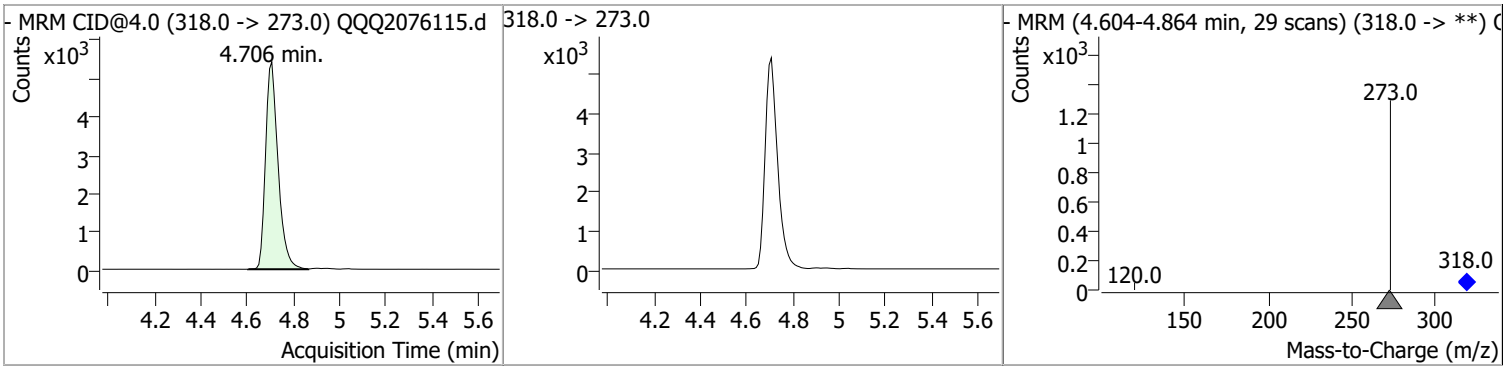
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.2163	4.63	0.00	6049				



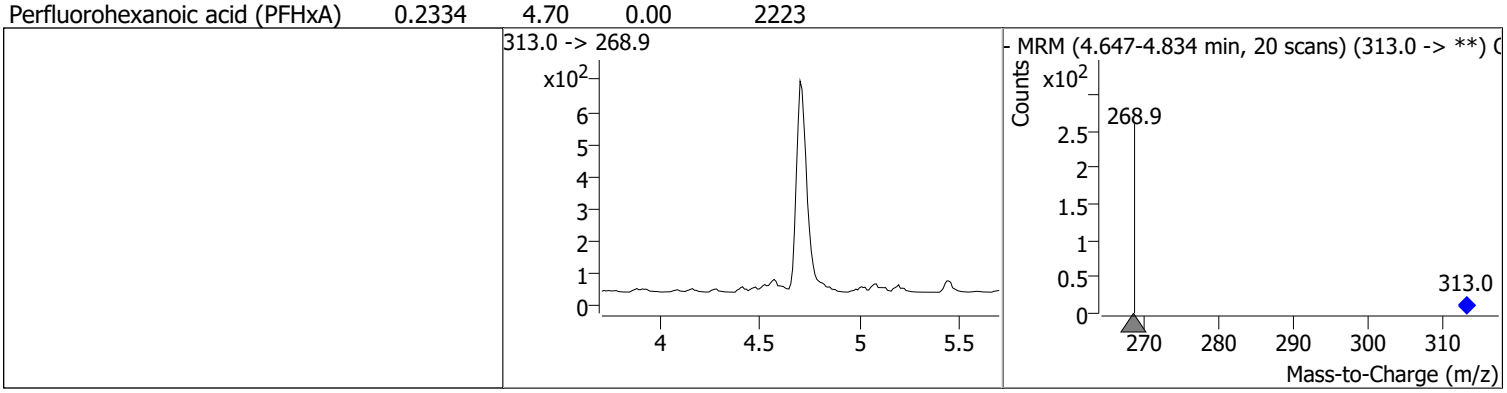
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.8724	4.63	0.00	1067				



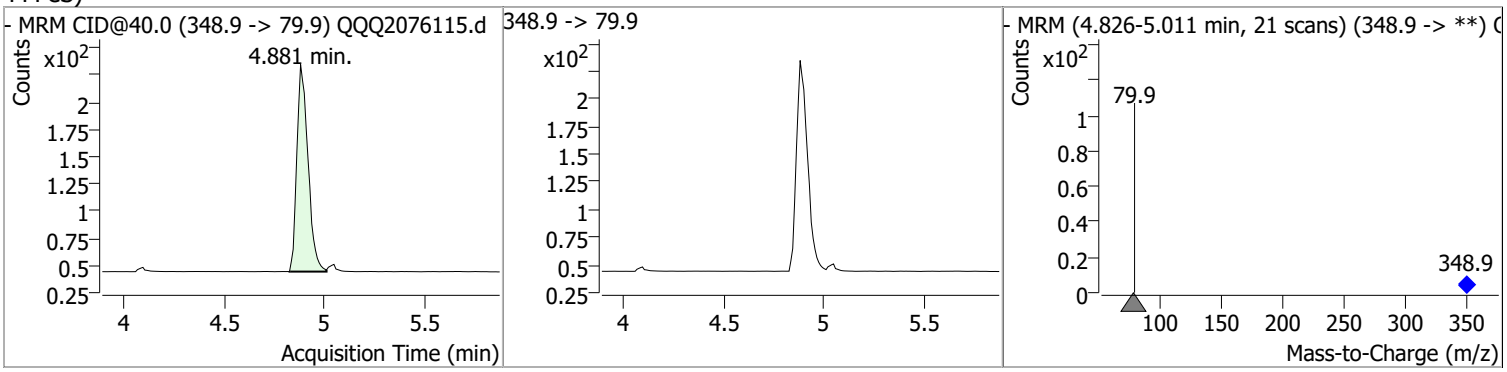
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5645	4.71	0.01	20243				



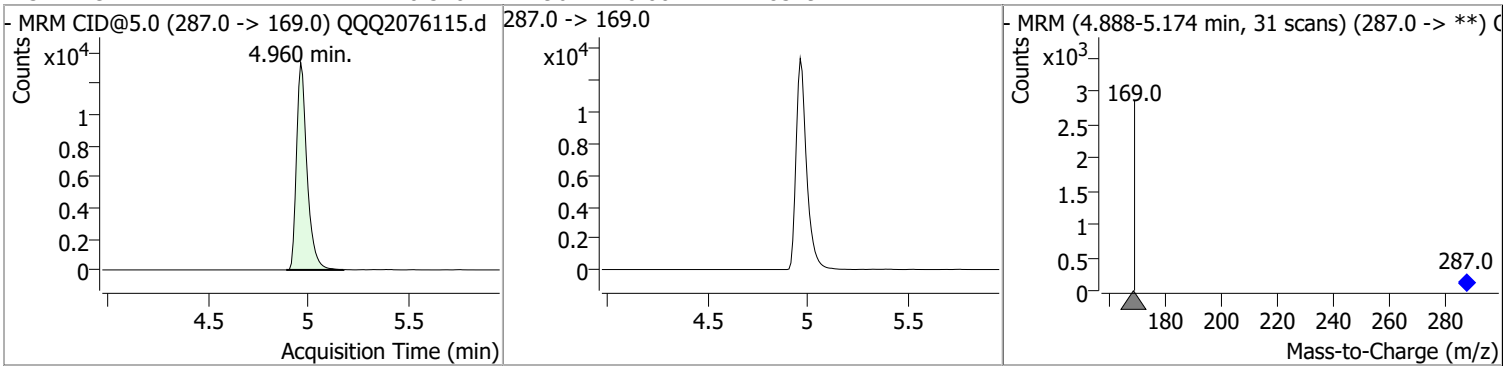
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.2334	4.70	0.00	2223				



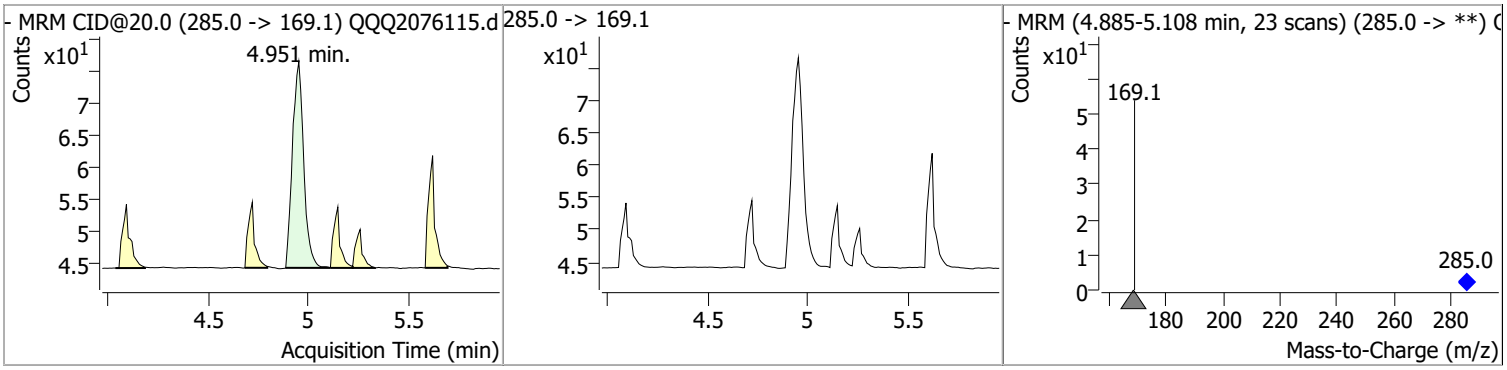
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.1910	4.88	0.00	739				



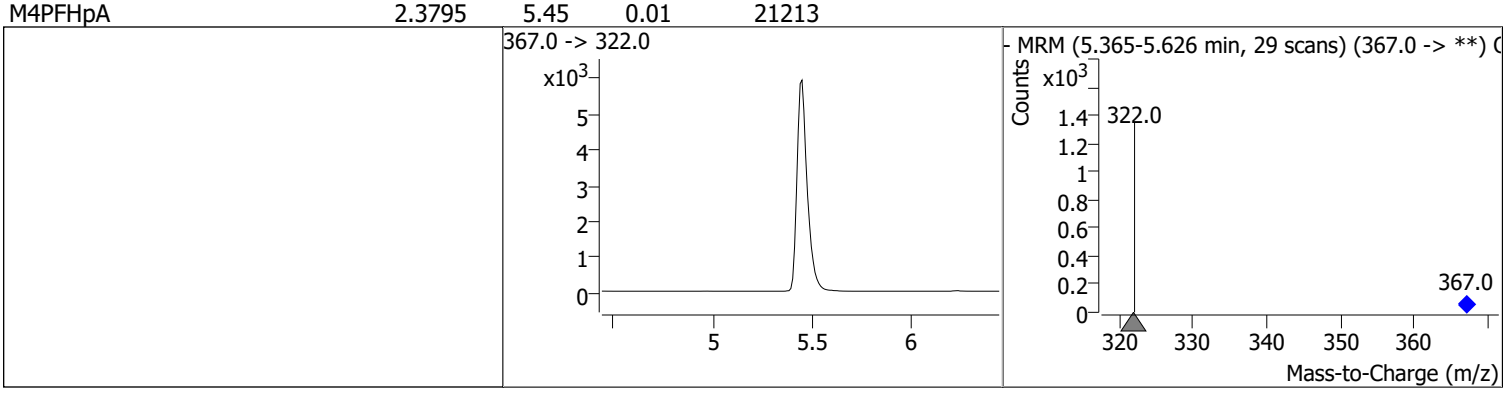
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.5407	4.96	0.00	48519				



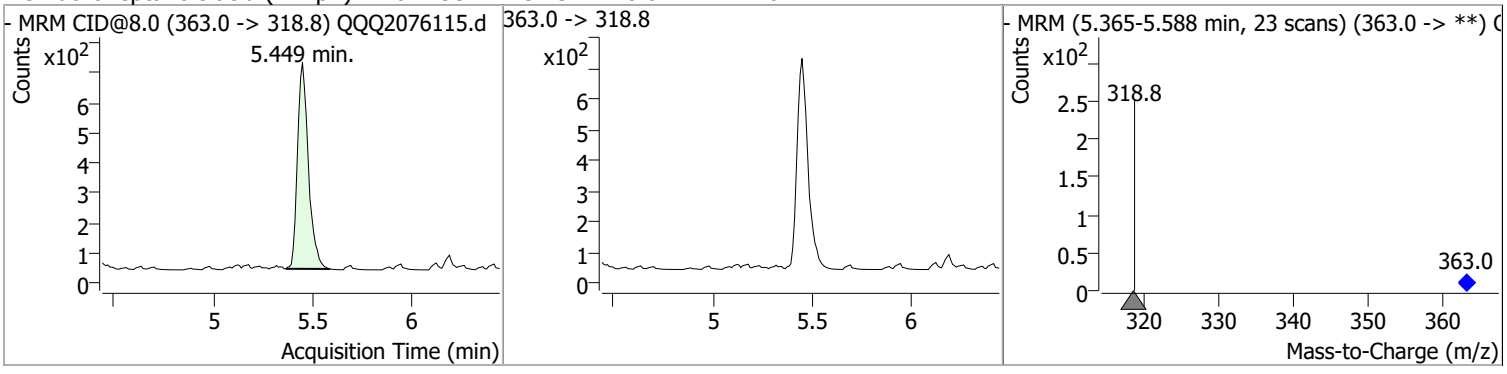
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.3035	4.95	-0.01	125				



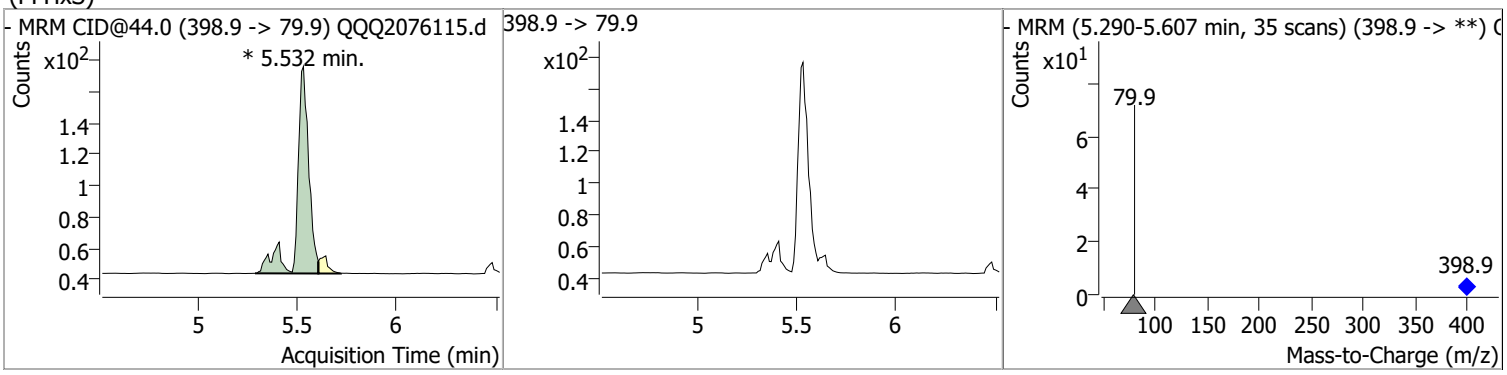
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.3795	5.45	0.01	21213				



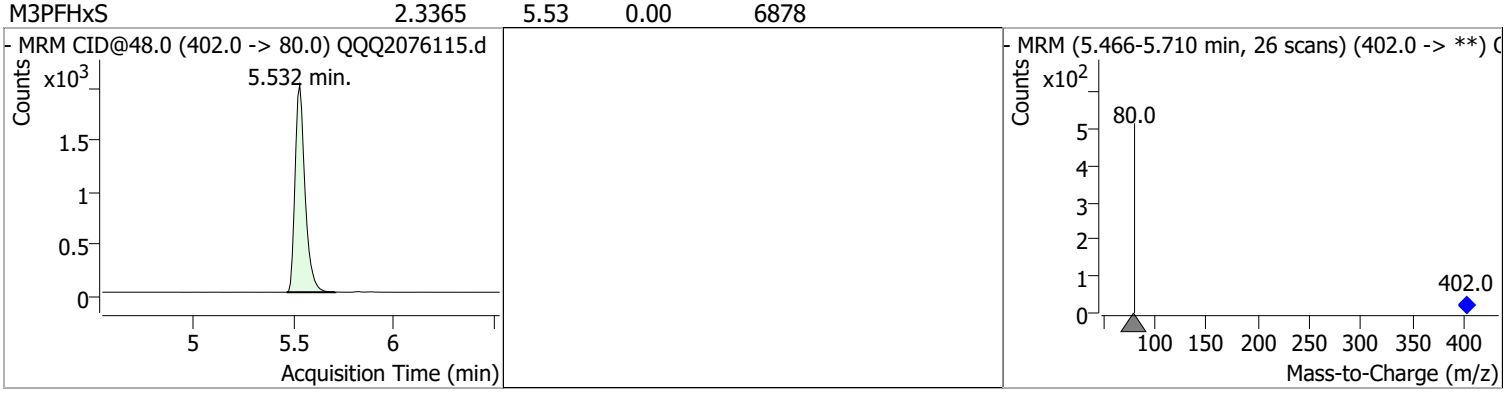
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.2295	5.45	0.01	2621				



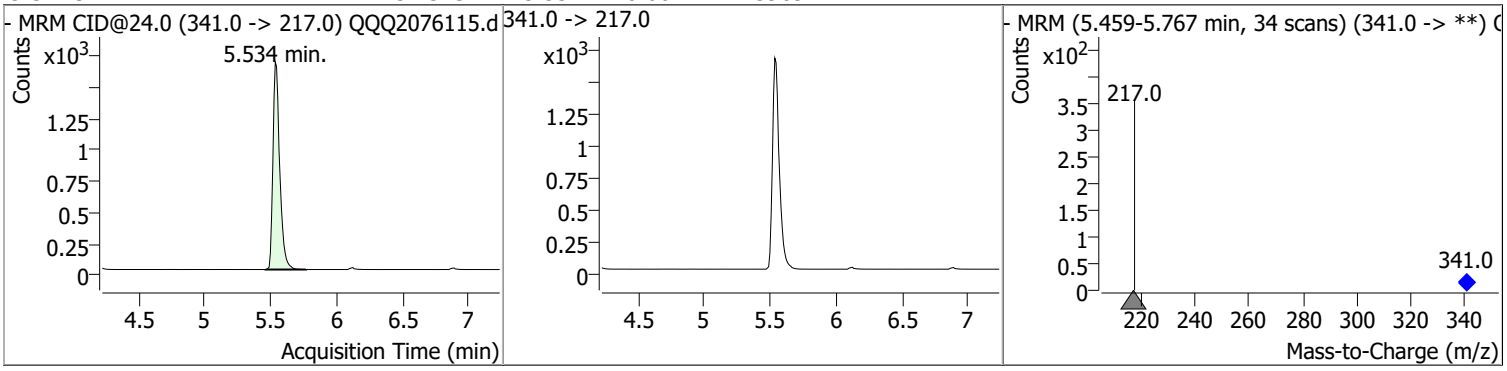
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.1379	5.53	0.01	545 (m)				



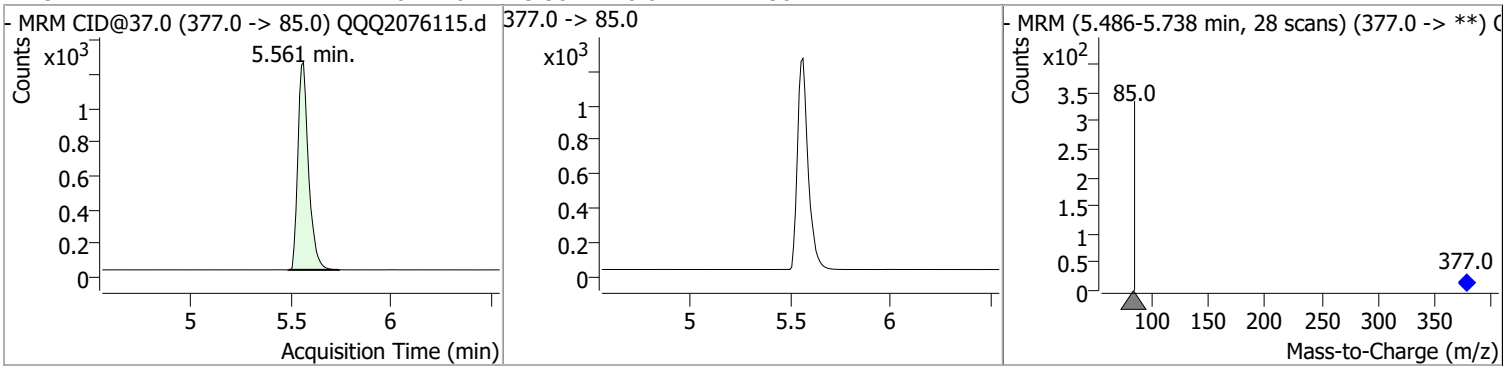
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.3365	5.53	0.00	6878				



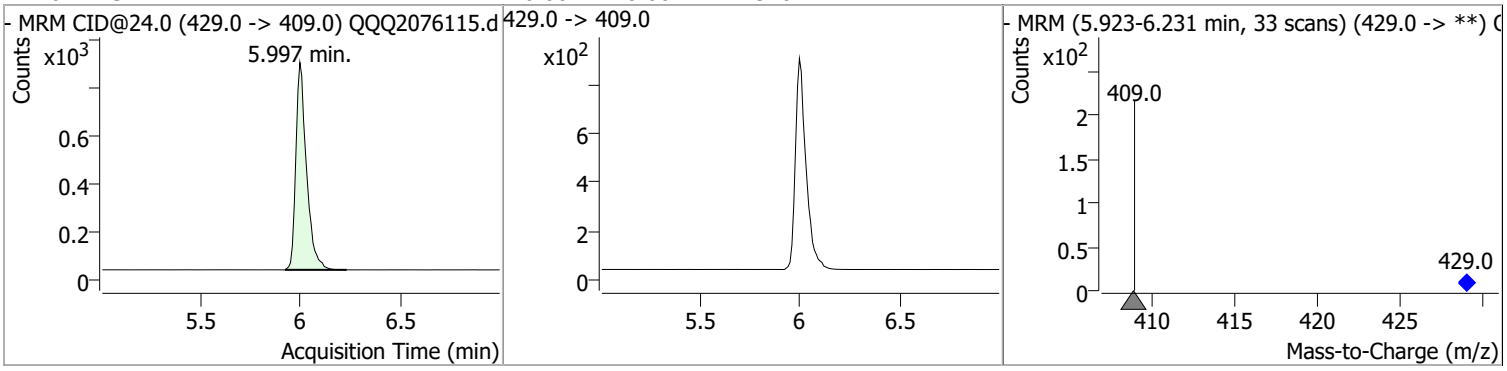
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	5.2323	5.53	0.00	5909				



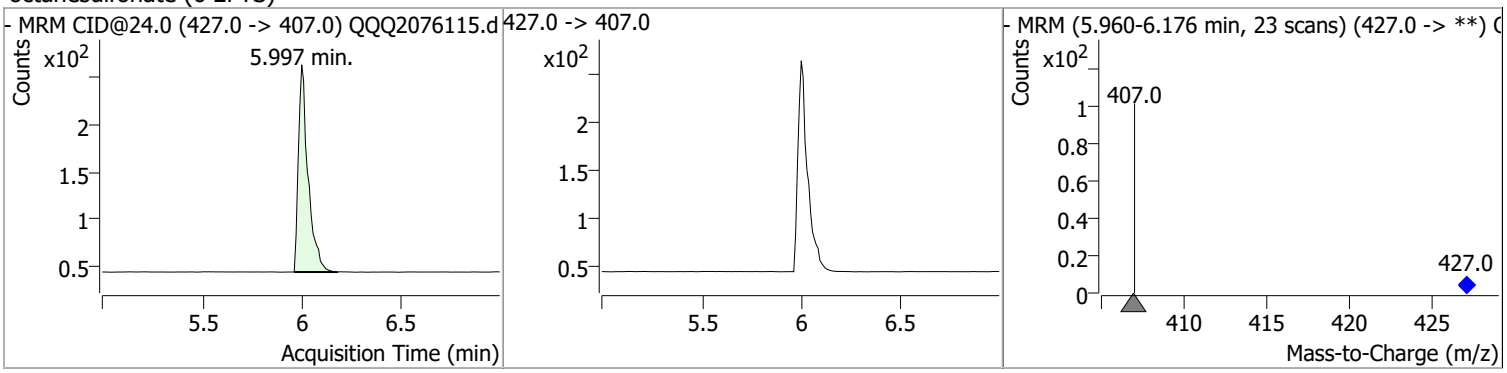
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.7276	5.56	0.01	4562				



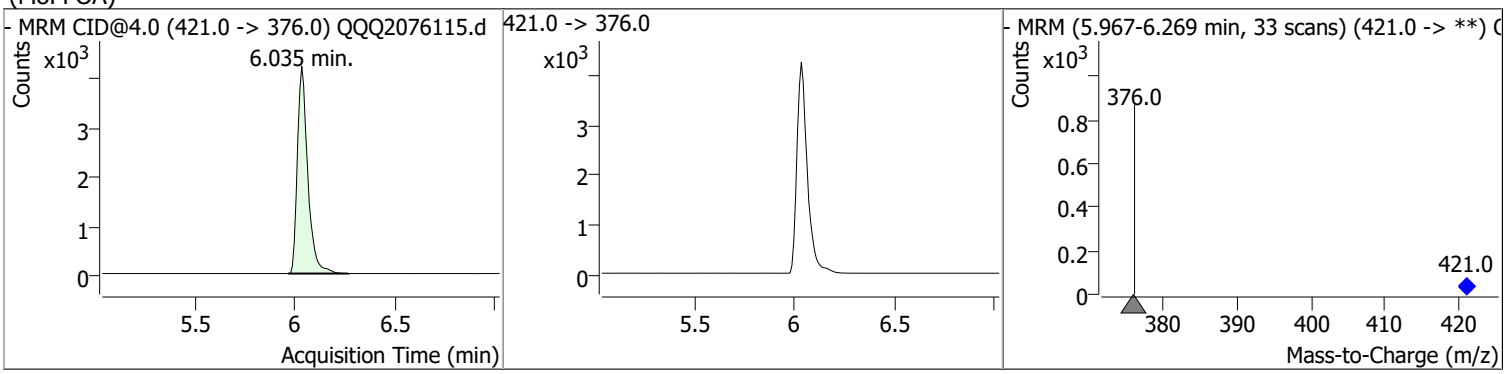
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.1144	6.00	0.00	3202				



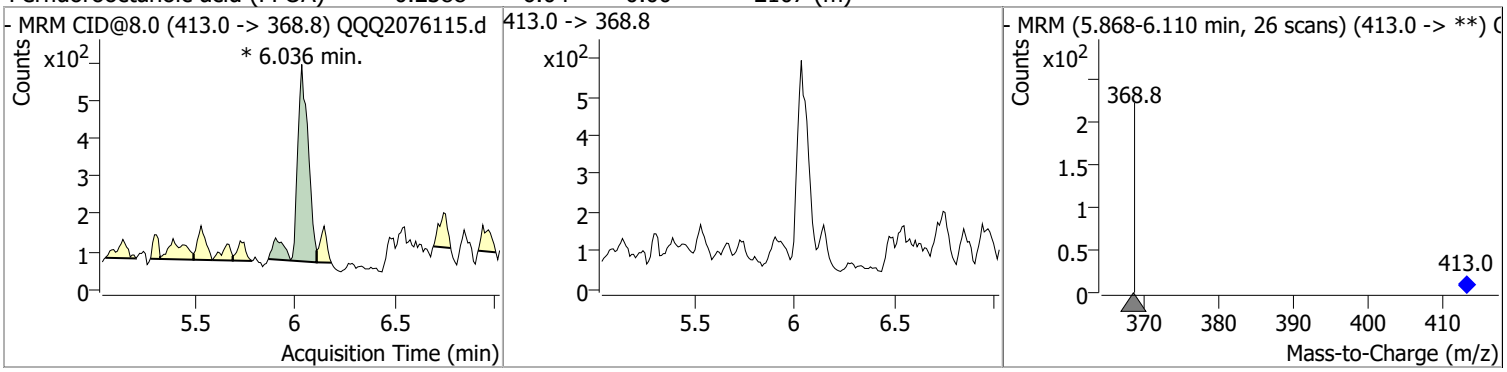
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	1.0597	6.00	0.00	729				



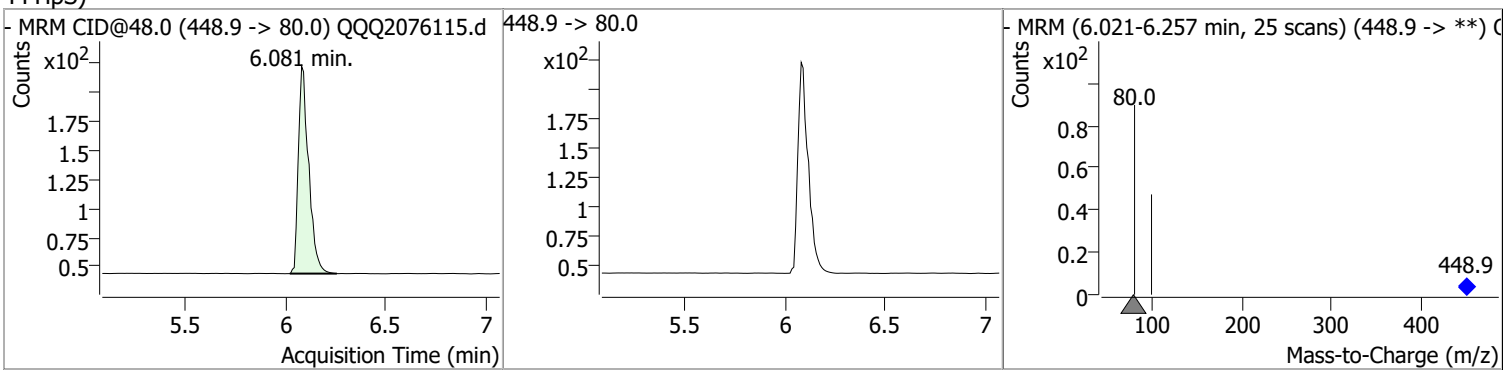
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.6596	6.04	0.00	15297				



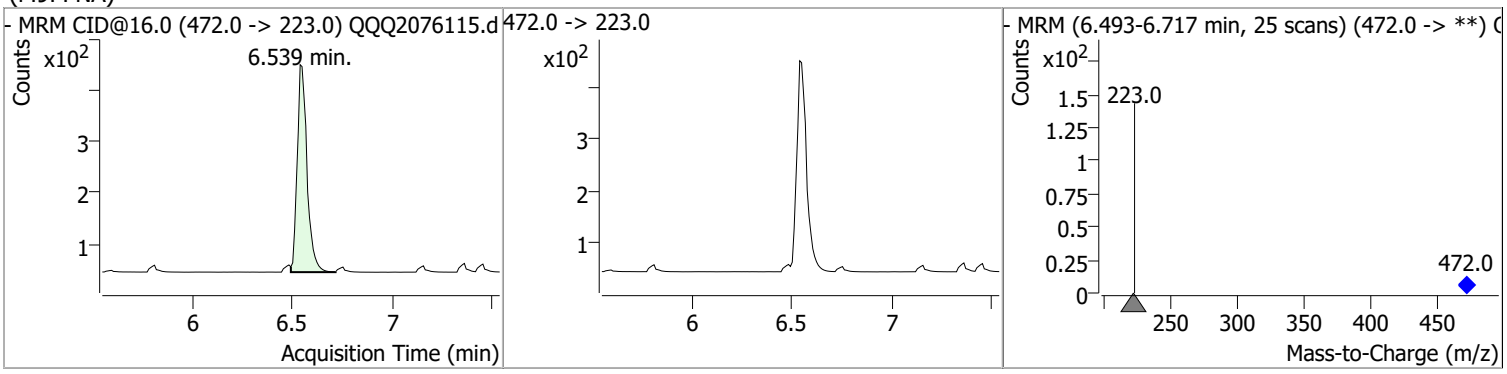
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.2388	6.04	0.00	2107 (m)				



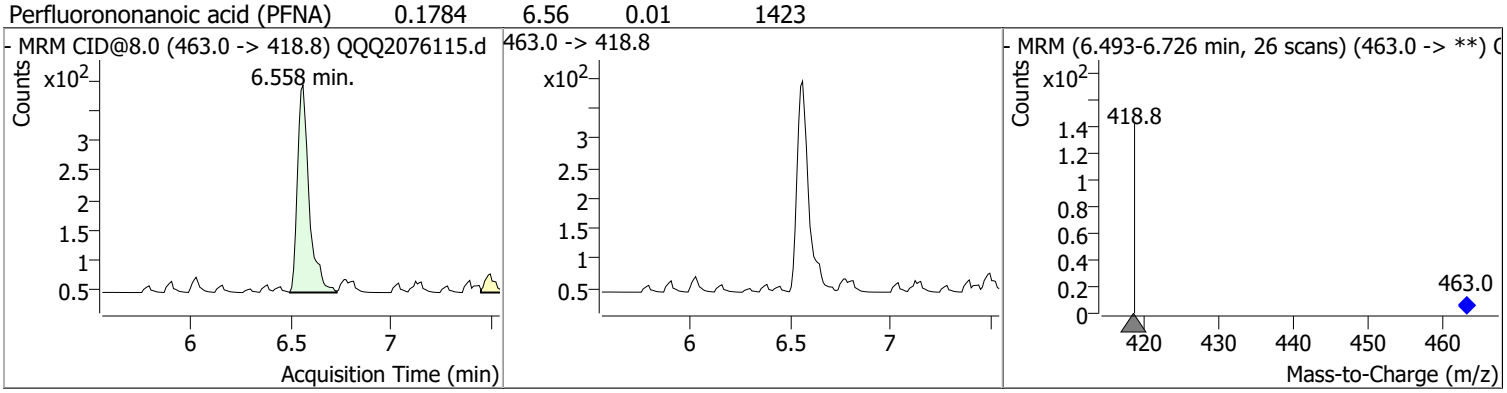
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.3124	6.08	0.00	643				



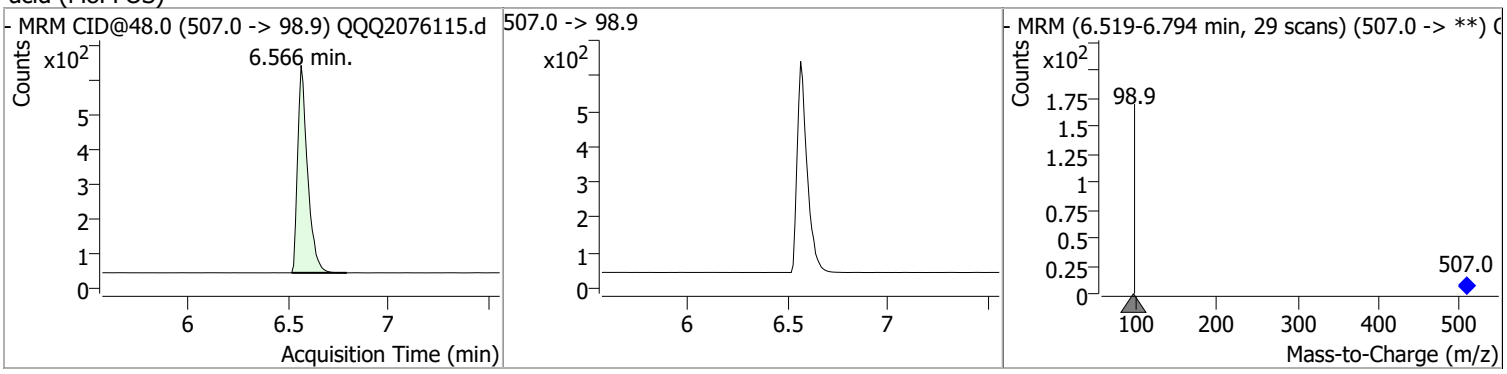
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3750	6.54	0.00	1396				



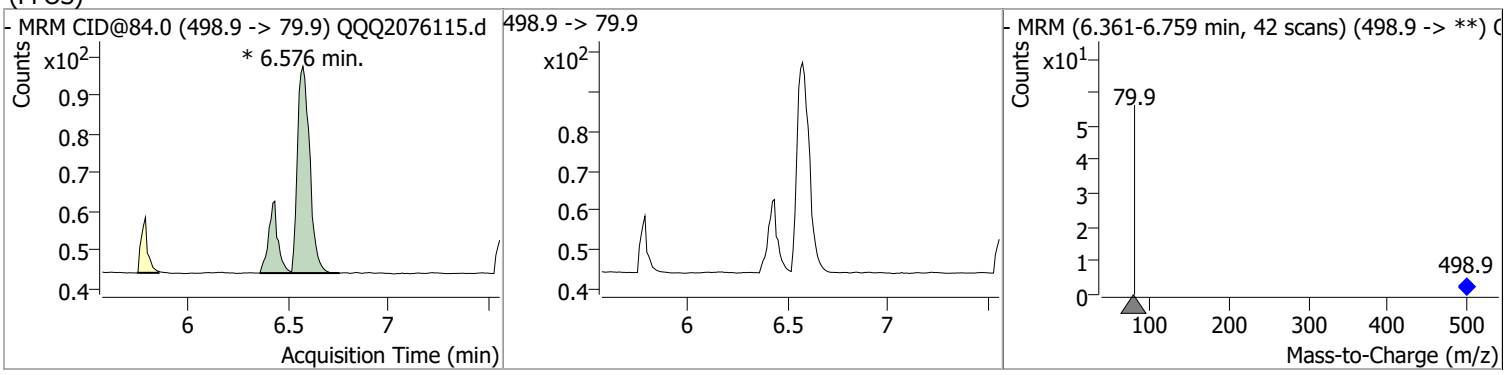
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.1784	6.56	0.01	1423				



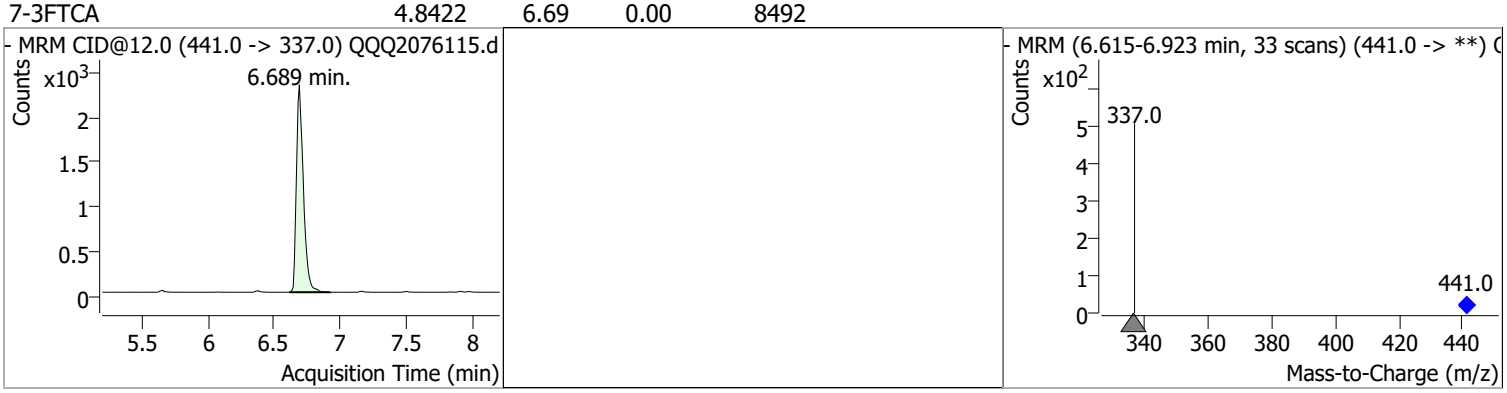
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	1.9771	6.57	0.00	2048				



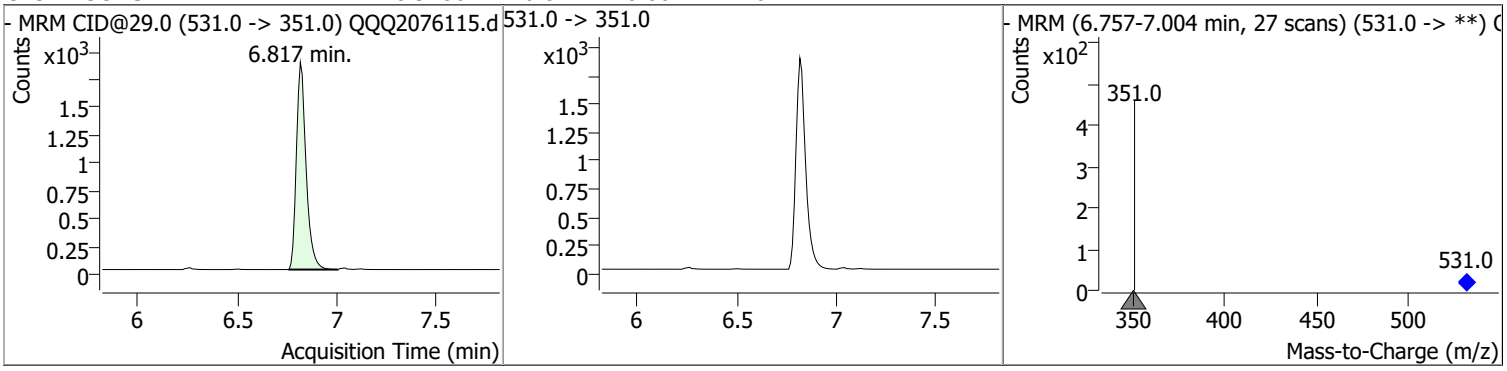
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.2780	6.58	0.01	289 (m)				



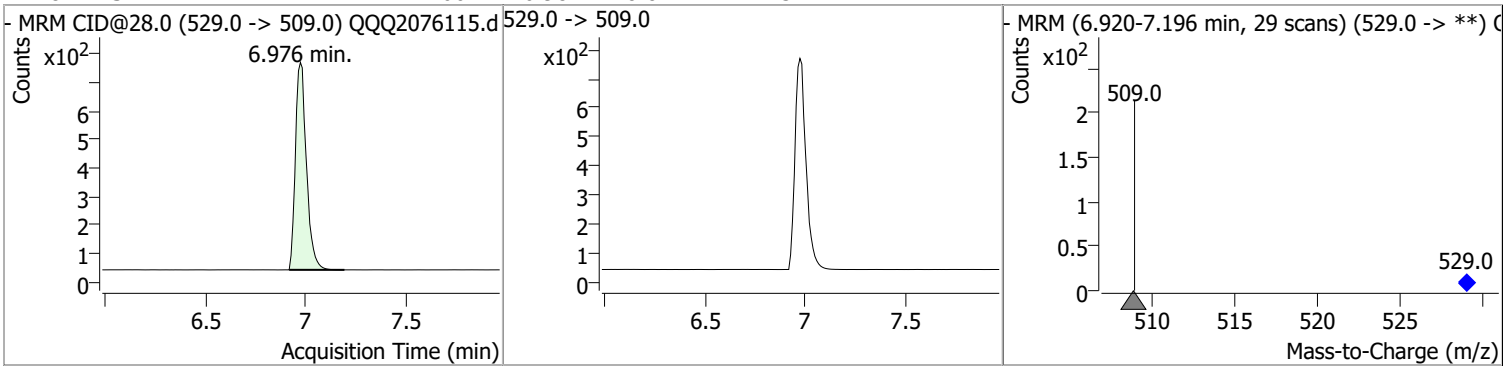
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	4.8422	6.69	0.00	8492				



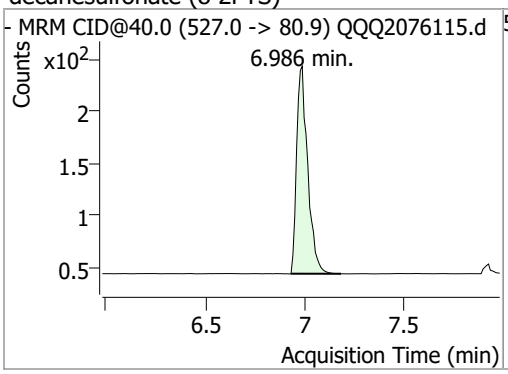
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.9106	6.82	0.00	6272				

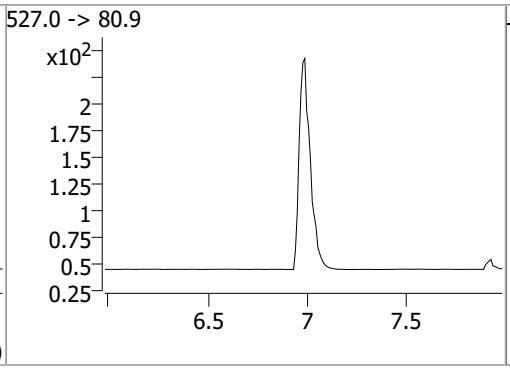


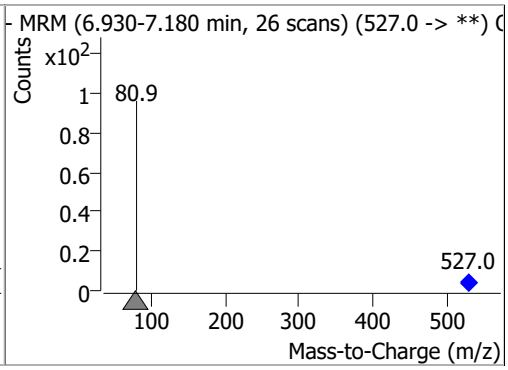
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.1166	6.98	0.01	2754				



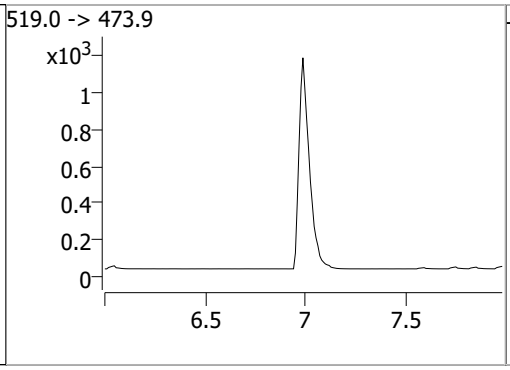
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	1.0713	6.99	0.01	761				

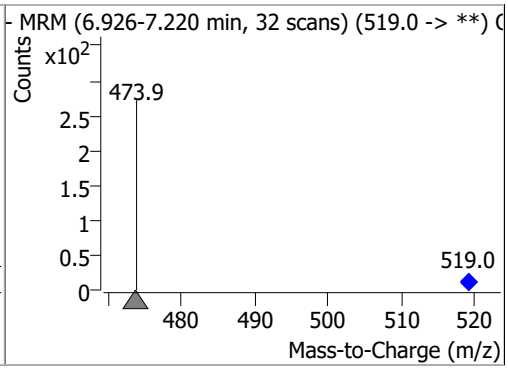




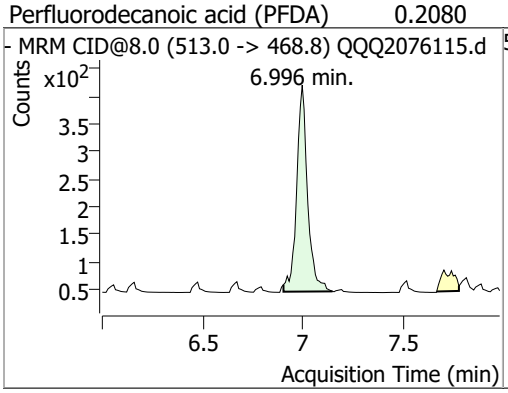


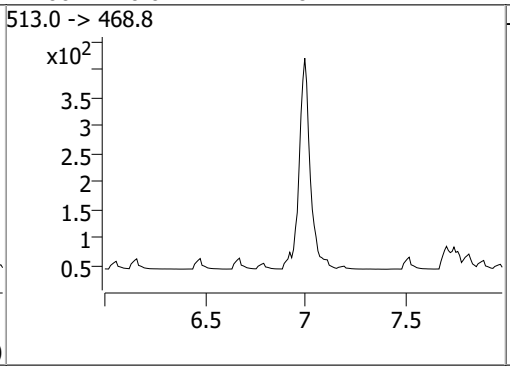
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.0642	6.99	0.00	4111				

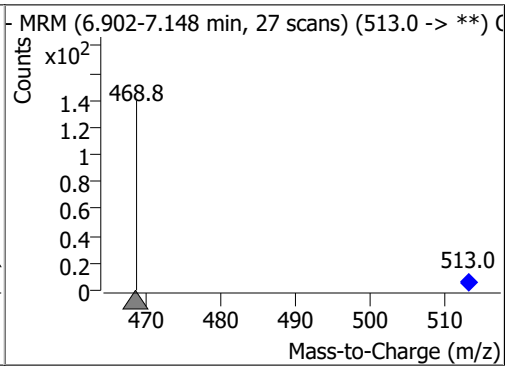




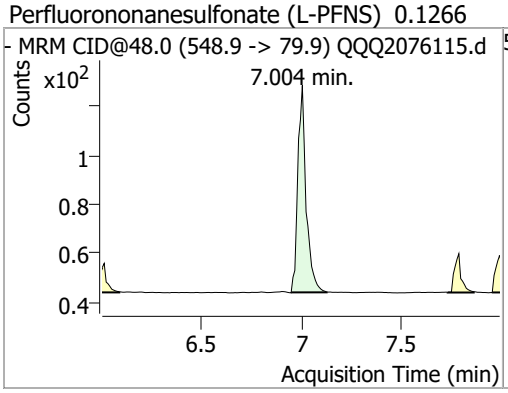
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.2080	7.00	0.01	1428				

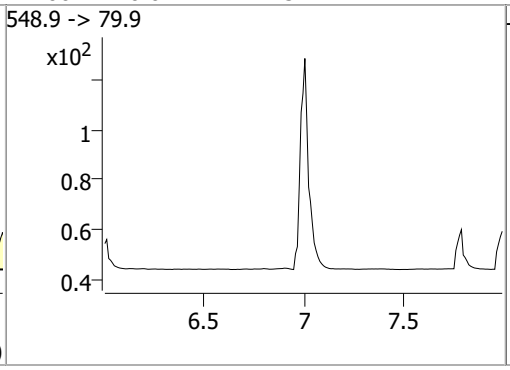


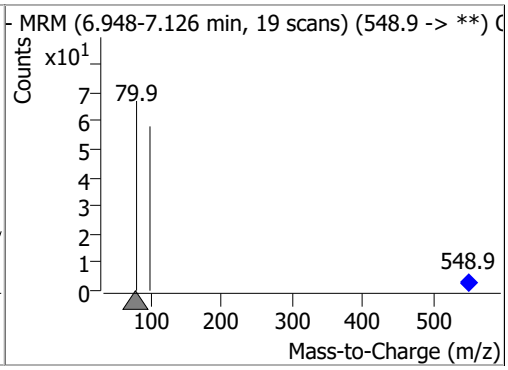




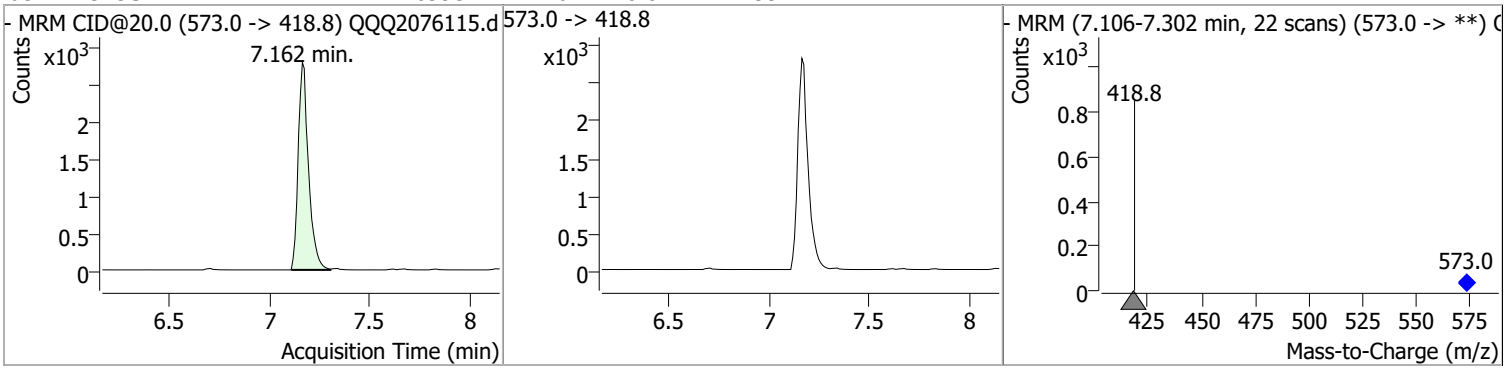
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.1266	7.00	0.01	243				



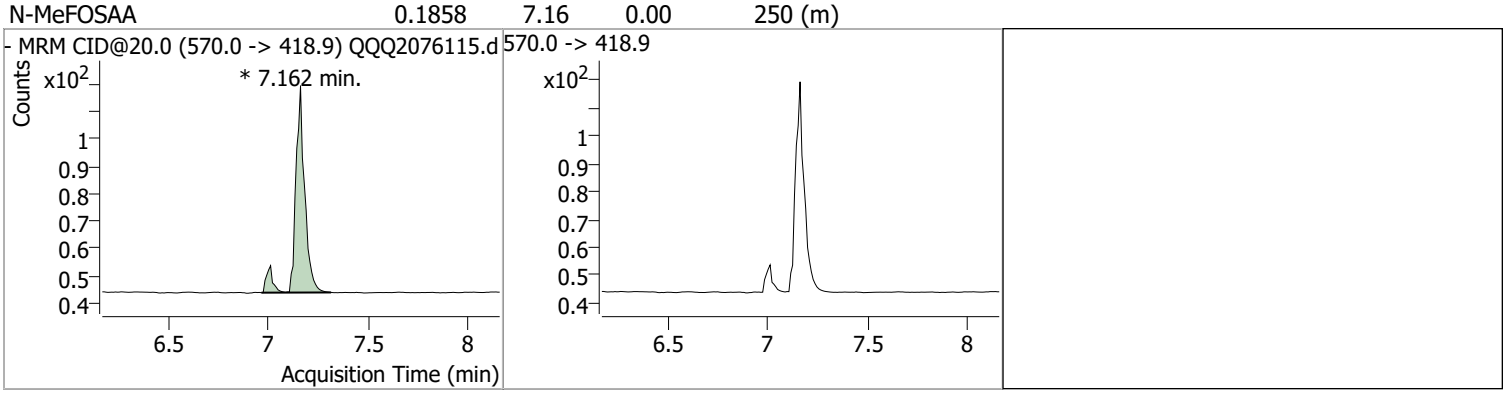




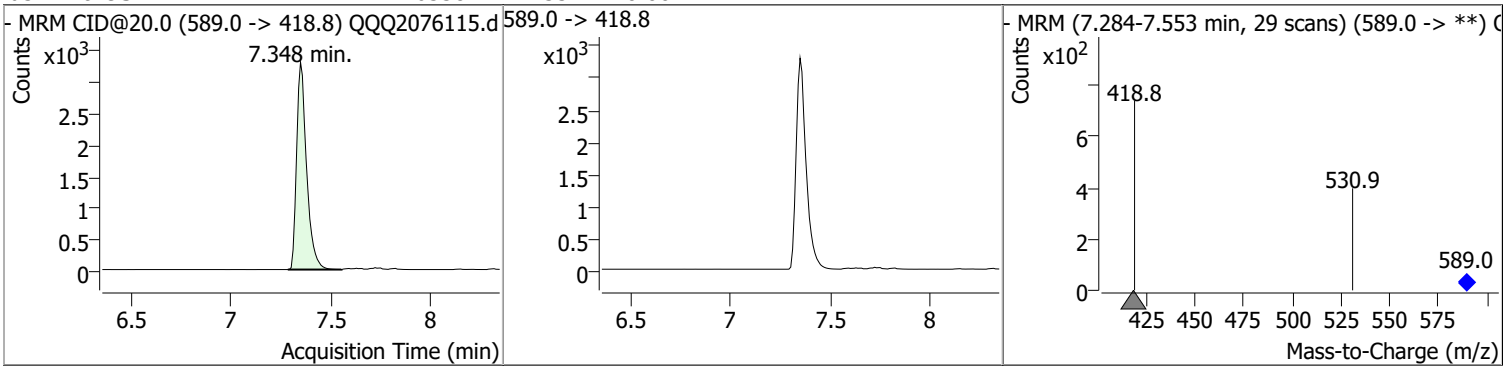
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.0993	7.16	0.01	9924				



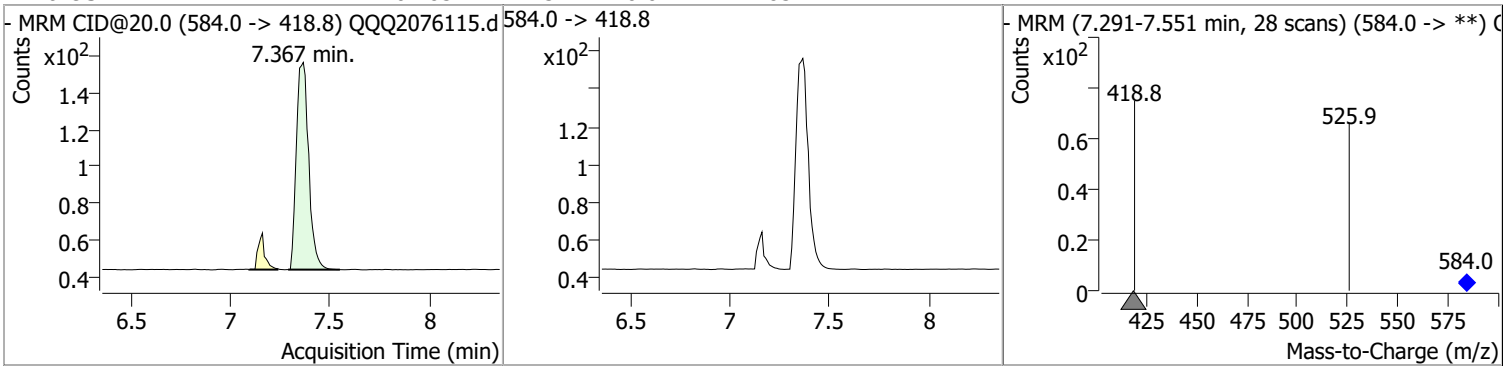
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.1858	7.16	0.00	250 (m)				



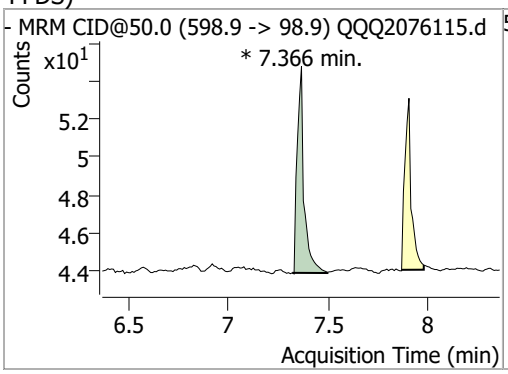
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.6338	7.35	0.00	11272				

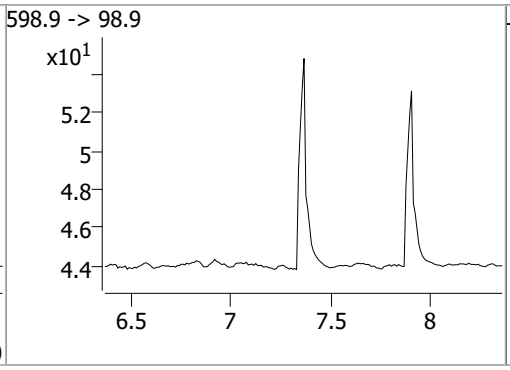


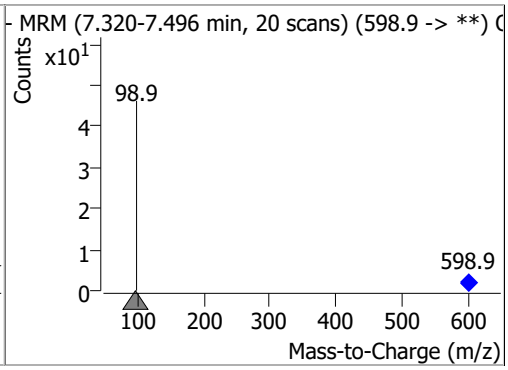
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.2834	7.37	0.01	483				



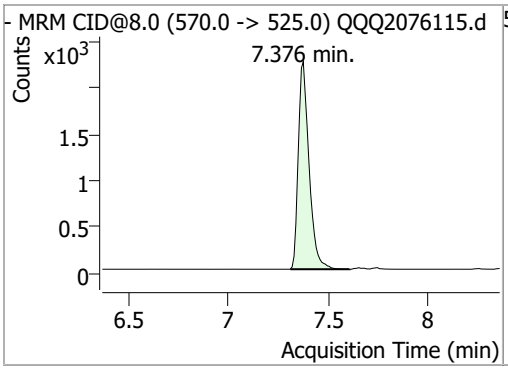
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0318	7.37	0.00	26 (m)				

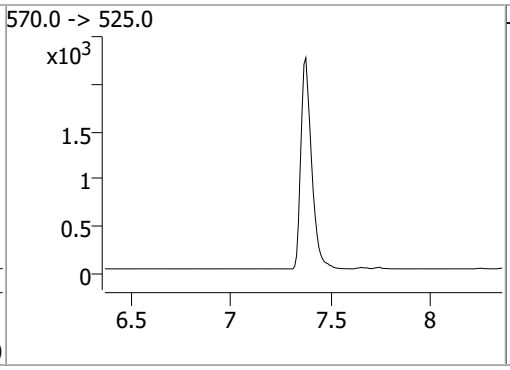


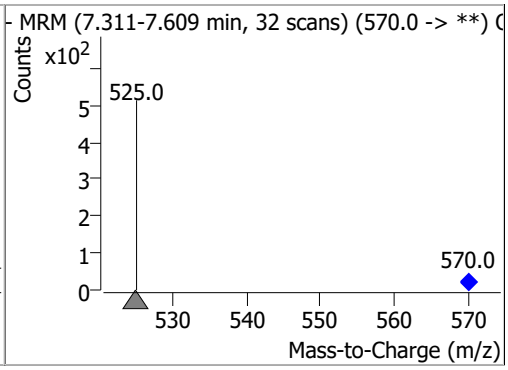




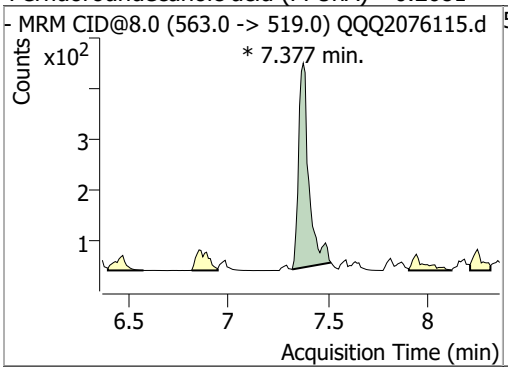
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.0947	7.38	0.01	8382				

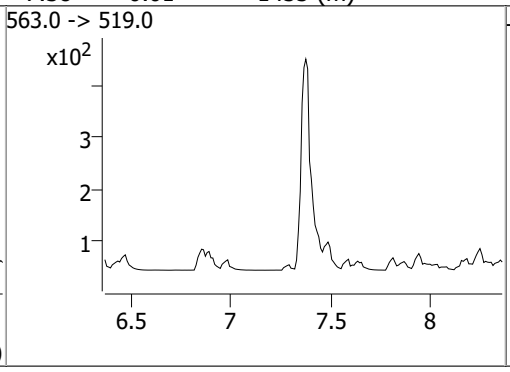


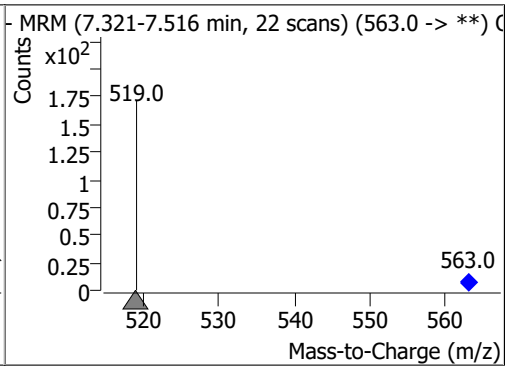




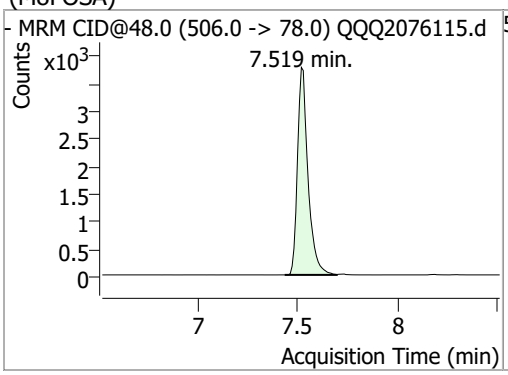
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.2681	7.38	0.01	1455 (m)				

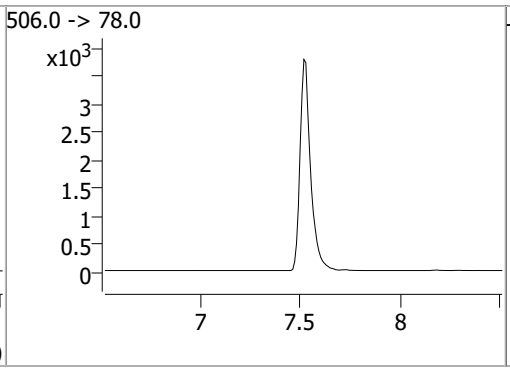


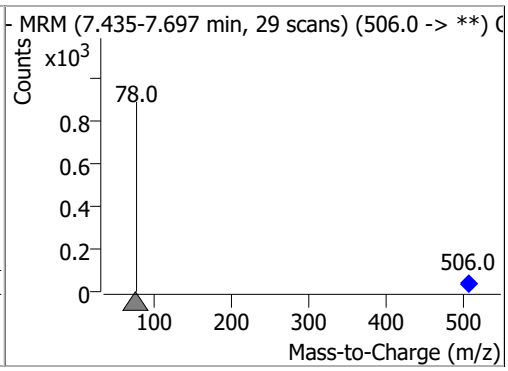




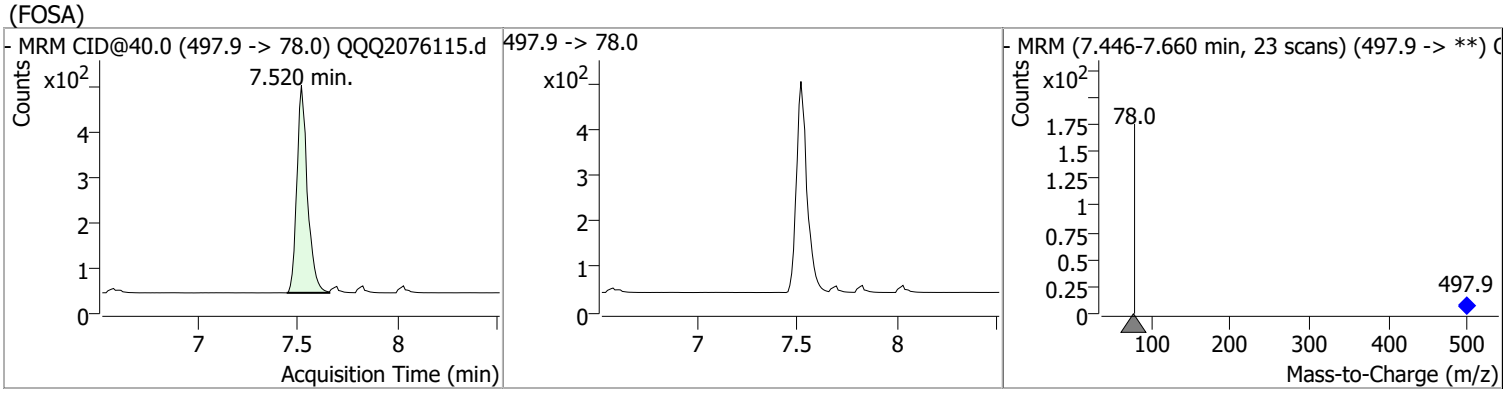
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.3512	7.52	0.00	13812				



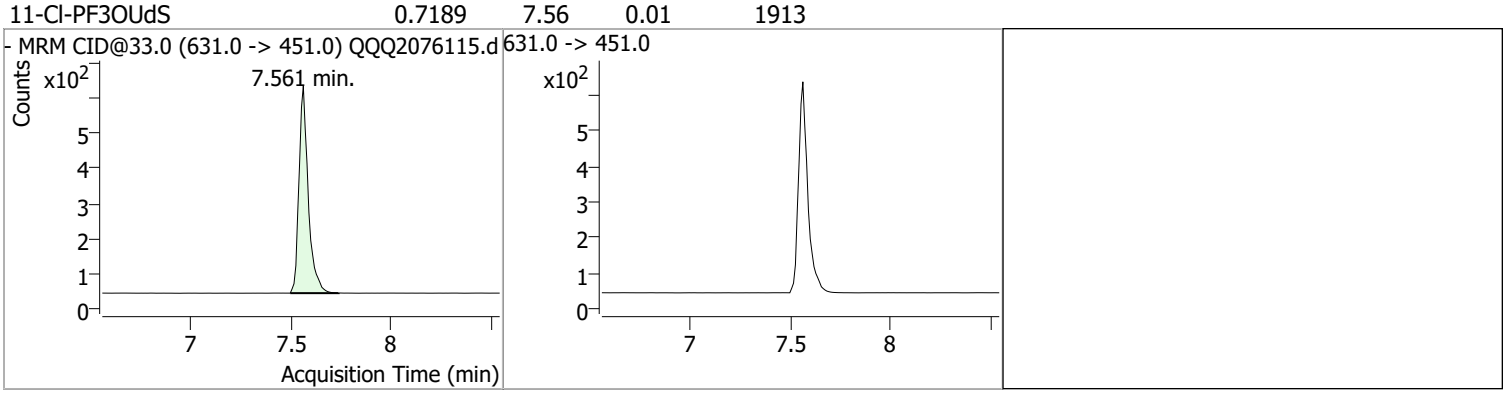




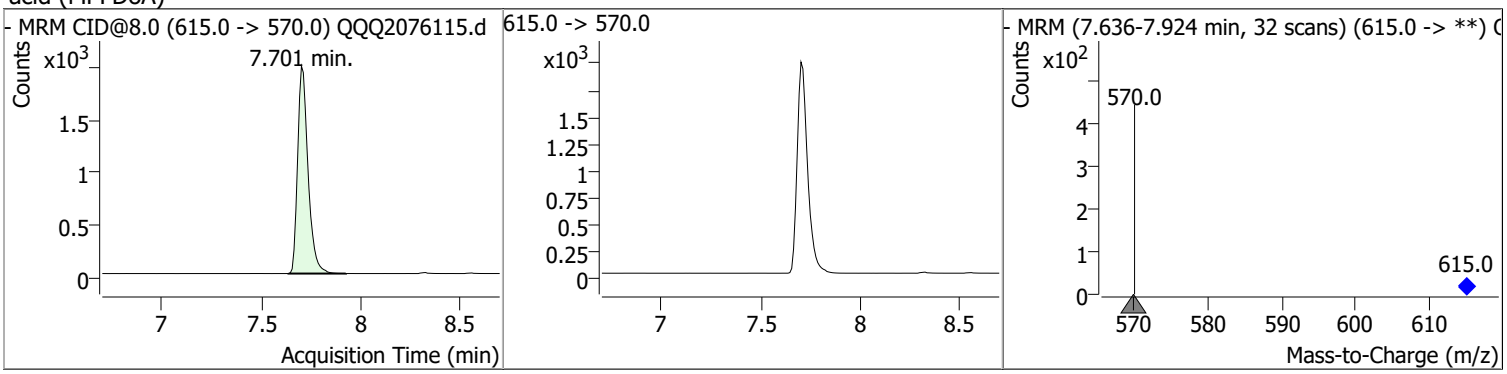
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.1740	7.52	0.00	1694				



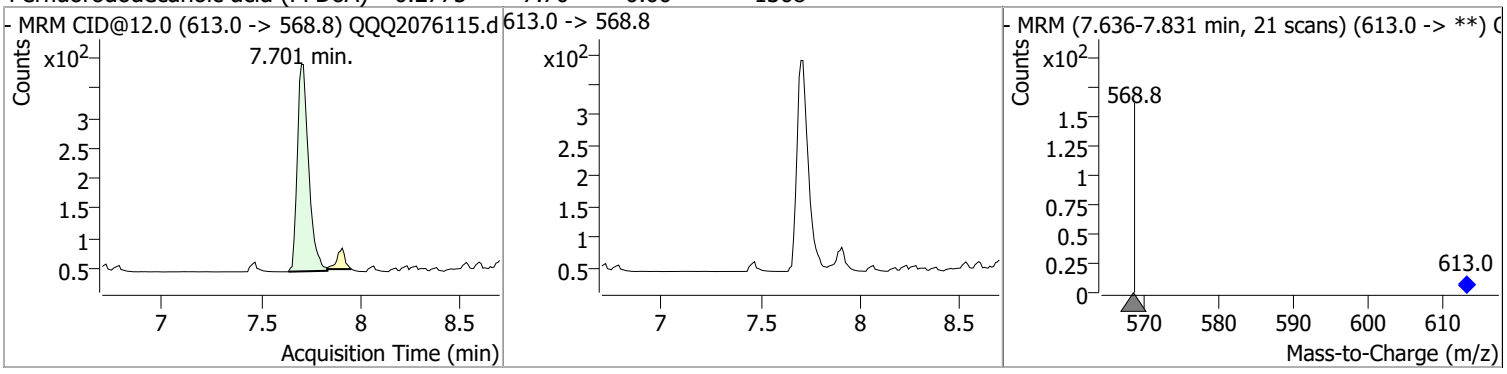
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.7189	7.56	0.01	1913				



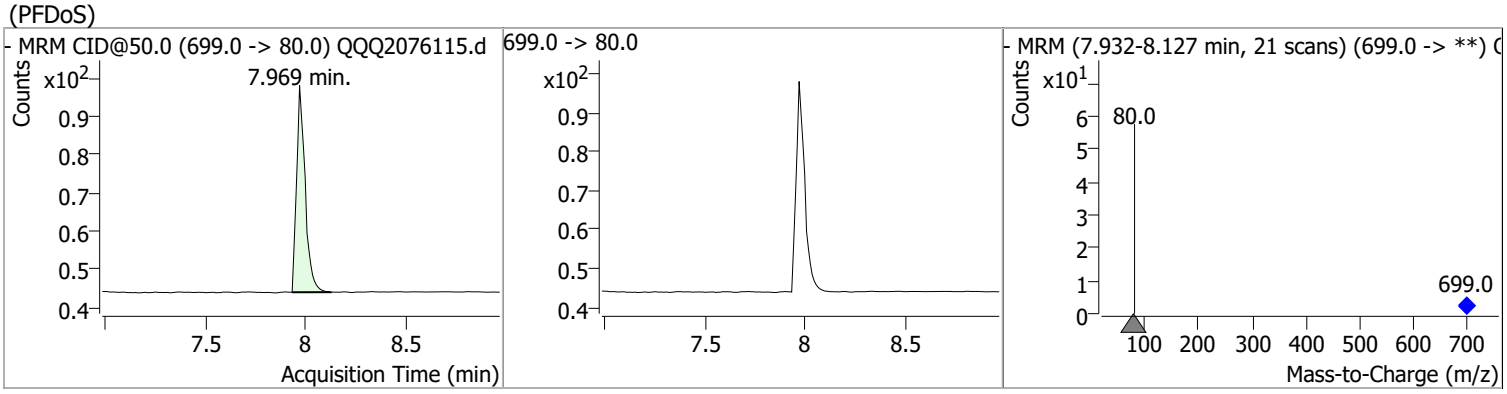
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.1216	7.70	0.00	7149				



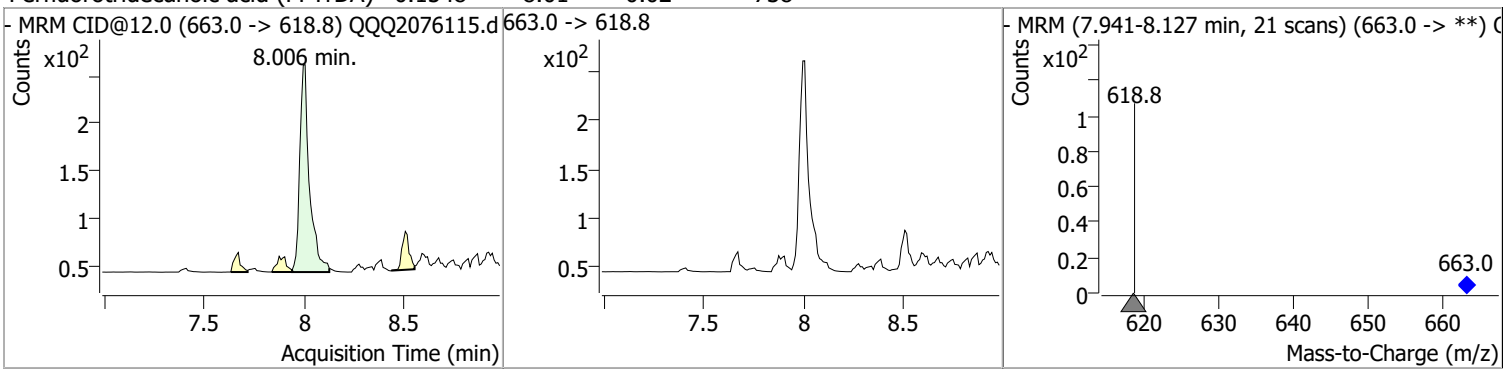
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.2775	7.70	0.00	1368				



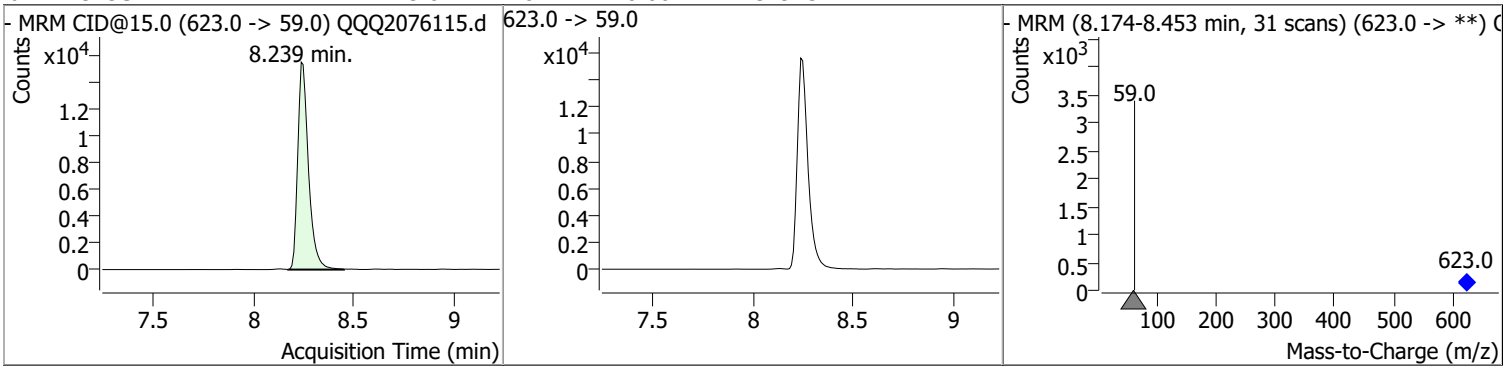
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.2038	7.97	-0.01	158				



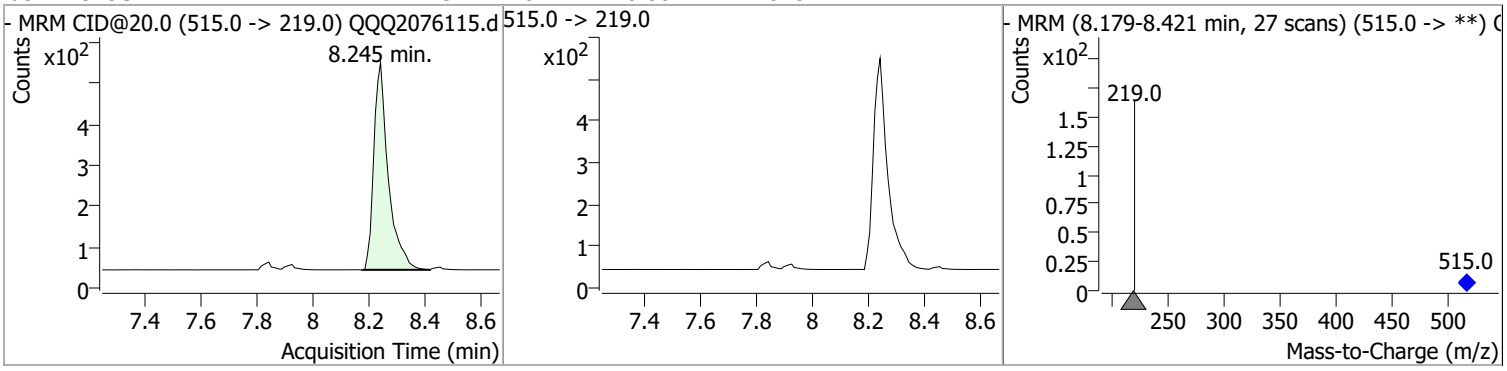
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.1548	8.01	0.02	738				



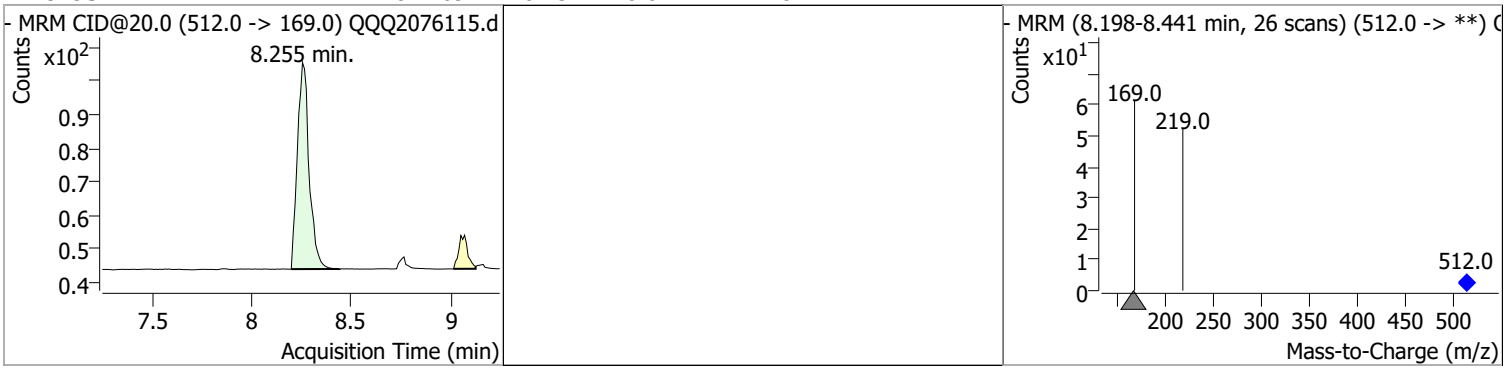
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	23.8122	8.24	0.00	57925				



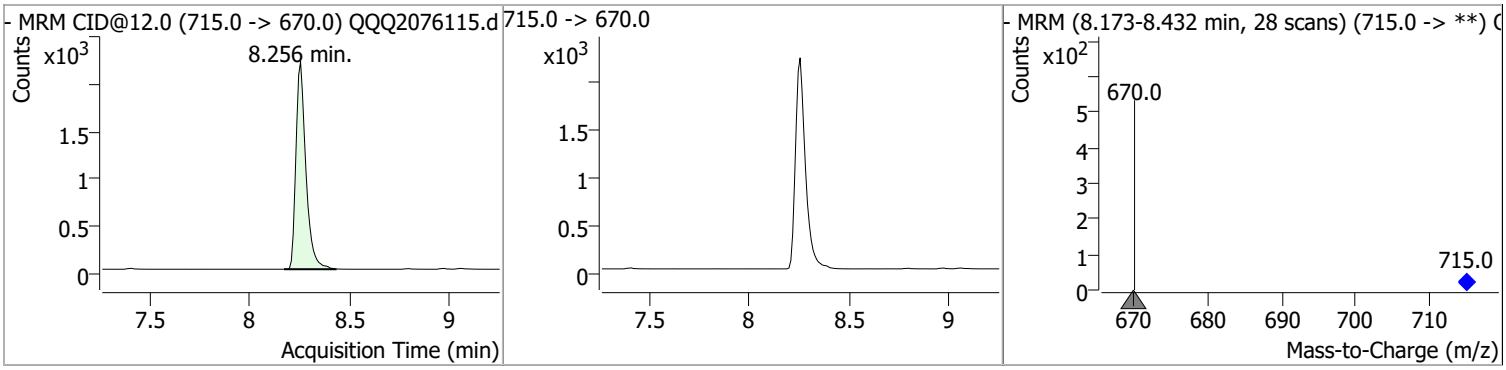
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.4232	8.24	0.00	1818				



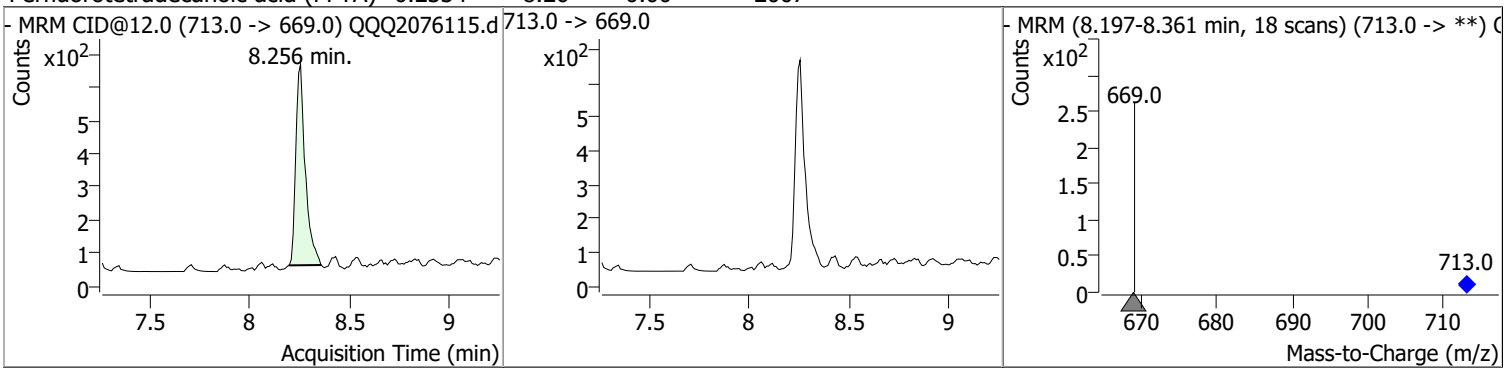
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.2409	8.25	0.01	248				



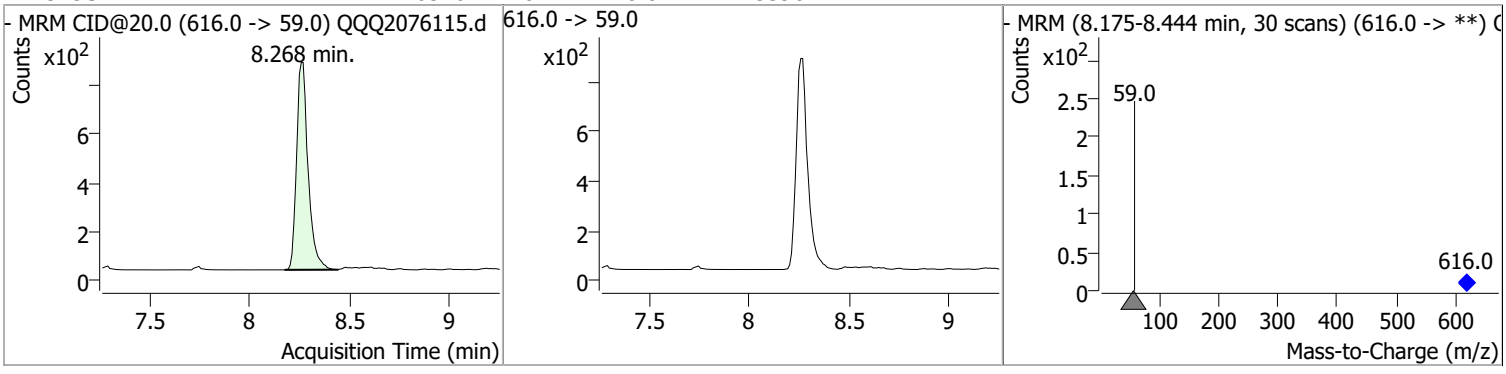
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.1337	8.26	0.00	7627				



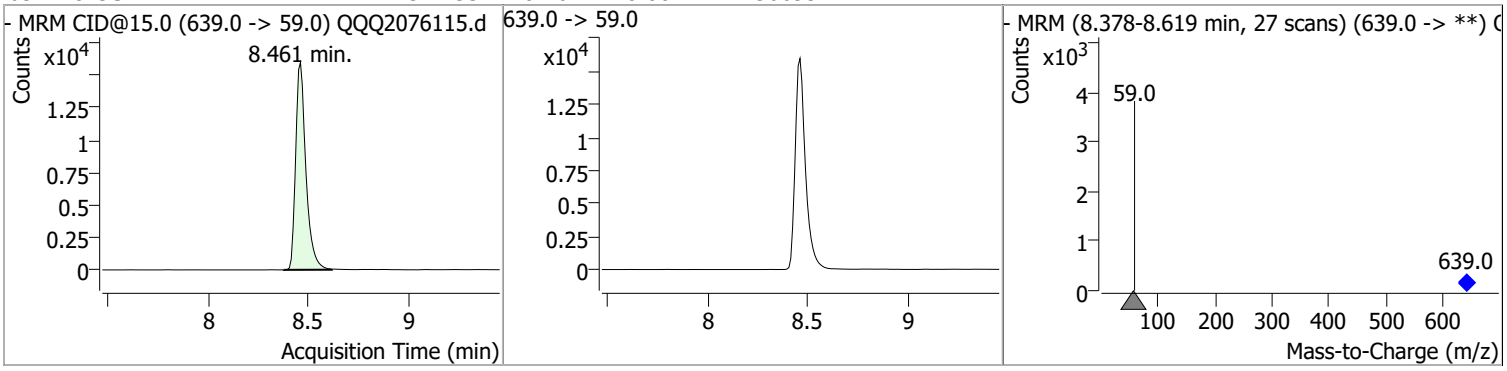
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.2334	8.26	0.00	2007				



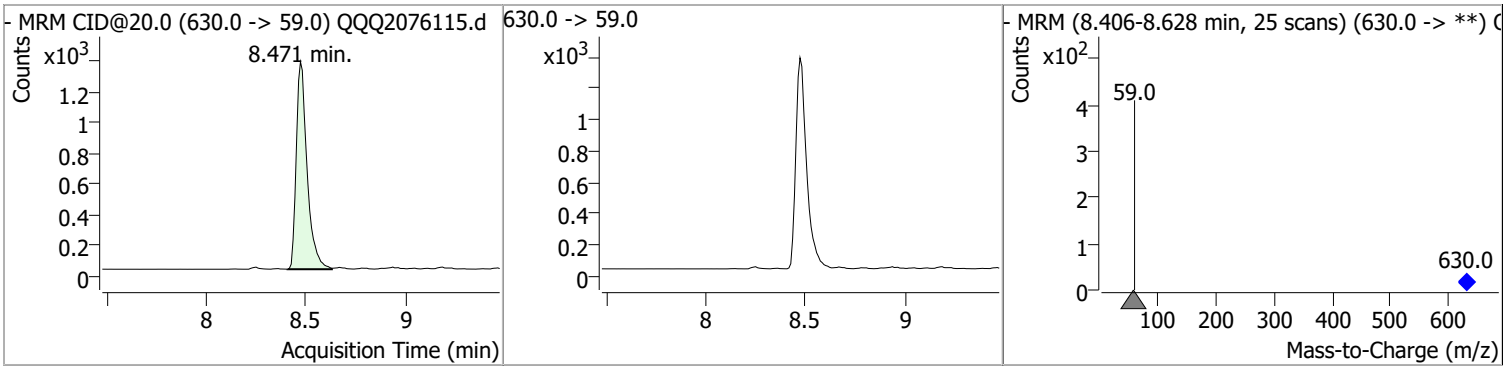
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	1.6516	8.27	0.01	3398				



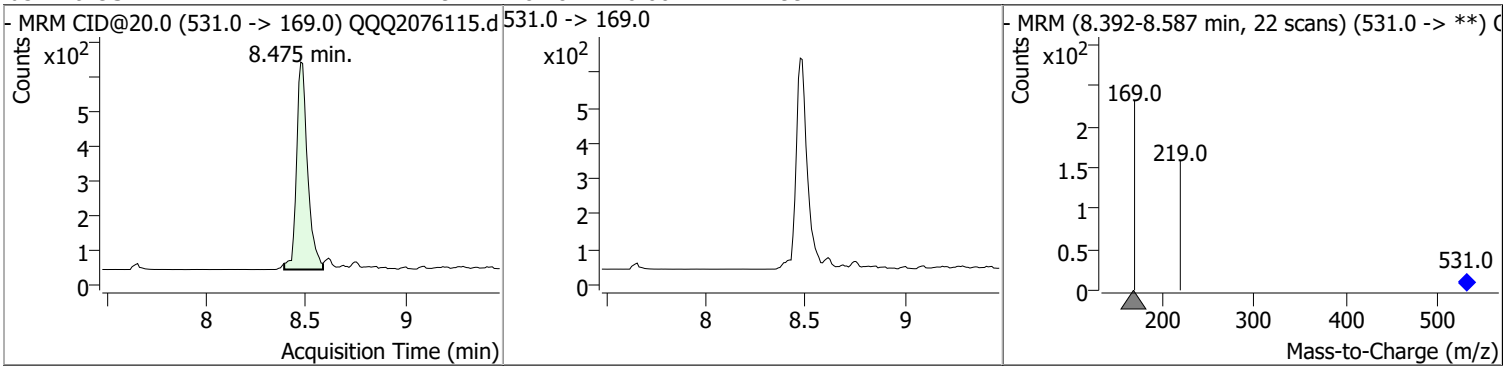
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	23.7153	8.46	0.00	56699				



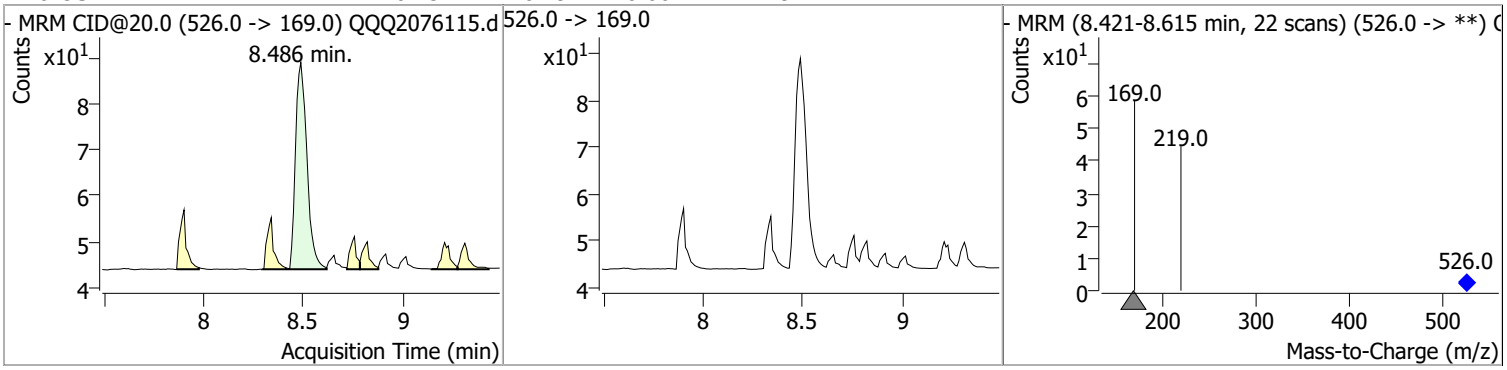
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	1.8903	8.47	0.00	5107				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.2291	8.48	0.00	2299				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.2322	8.49	0.00	179				



Quantitation Results Report (Not Reviewed)

Data File	QQQ2076116.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 12:09:34 PM
Sample Name	SEQ-CAL2	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	0.50 - 12.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

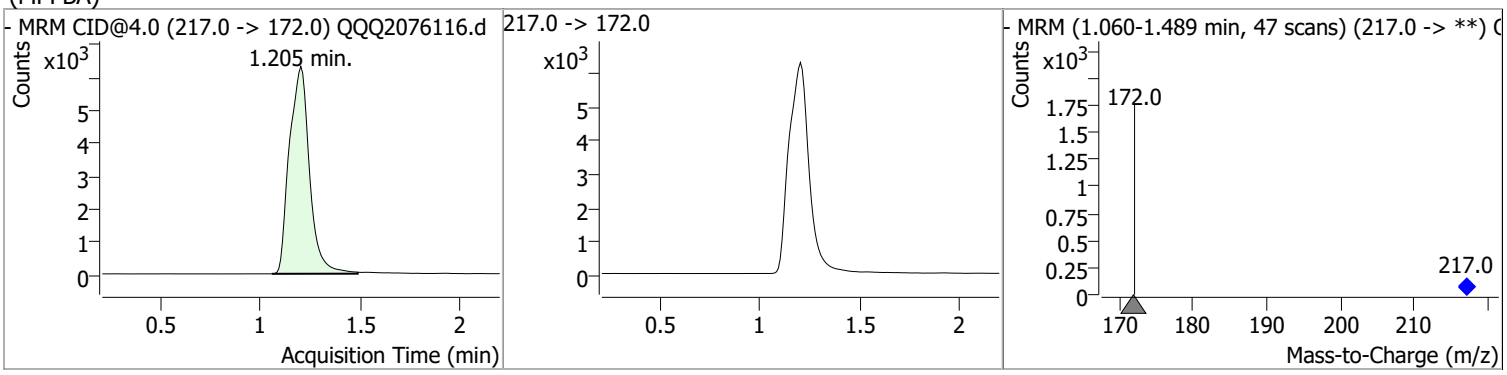
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.207	216.0 -> 172.0	30775	5.0000	ng/ml	0.000
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.205	217.0 -> 172.0	44019	10.0000	ng/ml	0.000
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.396	268.0 -> 223.0	23856	5.0000	ng/ml	0.009
MPFHxA	4.707	315.0 -> 269.8	26468	2.5000	ng/ml	0.010
MPFHxS	5.531	403.0 -> 103.0	2608	2.3700	ng/ml	0.009
M3PFBS-EIS	3.892	302.0 -> 79.9	8414	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	20398	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.631	329.0 -> 309.0	6226	4.6900	ng/ml	0.000
M3PFHxS-EIS	5.532	402.0 -> 80.0	8396	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	48544	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.449	367.0 -> 322.0	23743	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	3596	4.7550	ng/ml	0.000
MPFOA	6.036	417.0 -> 372.0	27471	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	16658	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.575	507.0 -> 98.9	2945	2.3950	ng/ml	0.009
MPFNA	6.549	468.0 -> 423.0	10249	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.548	472.0 -> 223.0	1404	1.2500	ng/ml	0.009
MPFOS	6.576	503.0 -> 80.0	7360	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.976	529.0 -> 509.0	3095	4.8000	ng/ml	0.010
MPFDA	6.986	515.0 -> 469.8	7905	1.2500	ng/ml	0.000
M6PFDA-EIS	6.995	519.0 -> 473.9	4279	1.2500	ng/ml	0.009
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	10286	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	13393	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.367	570.0 -> 525.0	8499	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	14093	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	7354	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.256	715.0 -> 670.0	7186	1.2500	ng/ml	0.000
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1894	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	63098	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.461	639.0 -> 59.0	63836	25.0000	ng/ml	0.000
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2488	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.205	217.0 -> 172.0	44019	10.4424	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.396	268.0 -> 223.0	23856	5.5667	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	8414	2.4250	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.631	329.0 -> 309.0	6226	4.3828	ng/ml	0.000

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	20398	2.8532	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	48544	11.6440	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	23743	2.9406	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	8396	2.8806	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.997	429.0 -> 409.0	3596	4.6671	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	16658	2.7505	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.548	472.0 -> 223.0	1404	1.3310	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.575	507.0 -> 98.9	2945	2.7637	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.976	529.0 -> 509.0	3095	4.6727	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.995	519.0 -> 473.9	4279	1.3947	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	10286	4.1315	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	13393	5.3532	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	8499	1.3977	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	14093	2.3326	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	7354	1.4528	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	63098	25.2213	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	1894	2.4543	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.256	715.0 -> 670.0	7186	1.3450	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.461	639.0 -> 59.0	63836	25.9616	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2488	2.3449	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.200	213.0 -> 168.9	10398	1.8721	ng/ml	100
PFMPA	2.079	229.0 -> 85.0	3739	1.0216	ng/ml	100
3:3FTCA	3.305	241.0 -> 177.0	738	2.5297	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.397	263.0 -> 219.0	4799	0.9195	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	2139	0.4975	ng/ml	100
PFMBA	3.923	279.0 -> 85.0	5364	0.9861	ng/ml	100
PFEESA	4.391	315.0 -> 135.0	11953	0.9115	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	5632	0.9688	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.631	327.0 -> 307.0	2844	2.2695	ng/ml	100

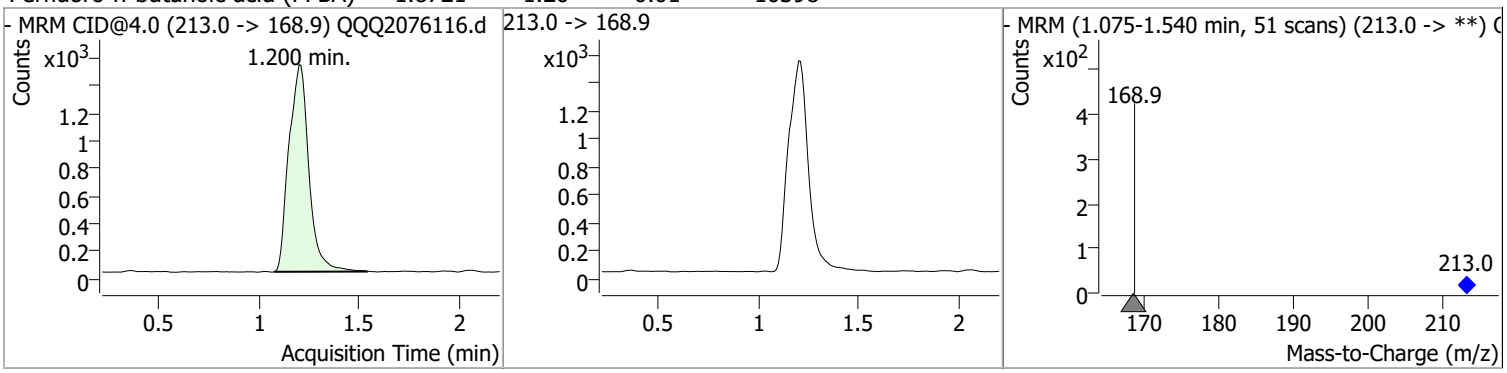
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.698	313.0 -> 268.9	4591	0.4781	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	1774	0.3755	ng/ml		100
HFPO-DA	4.969	285.0 -> 169.1	932	2.2567	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	5645	0.4415	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.532	398.9 -> 79.9	2473	0.5128	ng/ml	m	100
5-3FTCA	5.534	341.0 -> 217.0	16667	14.6766	ng/ml		100
ADONA	5.551	377.0 -> 85.0	12213	1.9457	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	1600	2.0853	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	5458	0.5678	ng/ml	m	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	1478	0.4988	ng/ml		100
Perfluorononanoic acid (PFNA)	6.549	463.0 -> 418.8	3159	0.3940	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.576	498.9 -> 79.9	1163	0.7734	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	24042	13.6322	ng/ml		100
9-Cl-PF3ONS	6.826	531.0 -> 351.0	13614	1.9747	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.967	527.0 -> 80.9	1326	1.6688	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	3762	0.5267	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	7.004	548.9 -> 79.9	1267	0.4594	ng/ml		100
N-MeFOSAA	7.172	570.0 -> 418.9	706	0.5061	ng/ml		100
N-EtFOSAA	7.358	584.0 -> 418.8	868	0.4288	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.366	598.9 -> 98.9	765	0.6454	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.368	563.0 -> 519.0	3777	0.6843	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	5101	0.5136	ng/ml		100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	5196	1.9519	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	2572	0.5075	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.988	699.0 -> 80.0	517	0.4629	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.997	663.0 -> 618.8	2546	0.5676	ng/ml		100
NMeFOSA	8.255	512.0 -> 169.0	315	0.2934	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.256	713.0 -> 669.0	4468	0.5515	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	10666	4.7638	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	13550	4.4566	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	565	0.6750	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

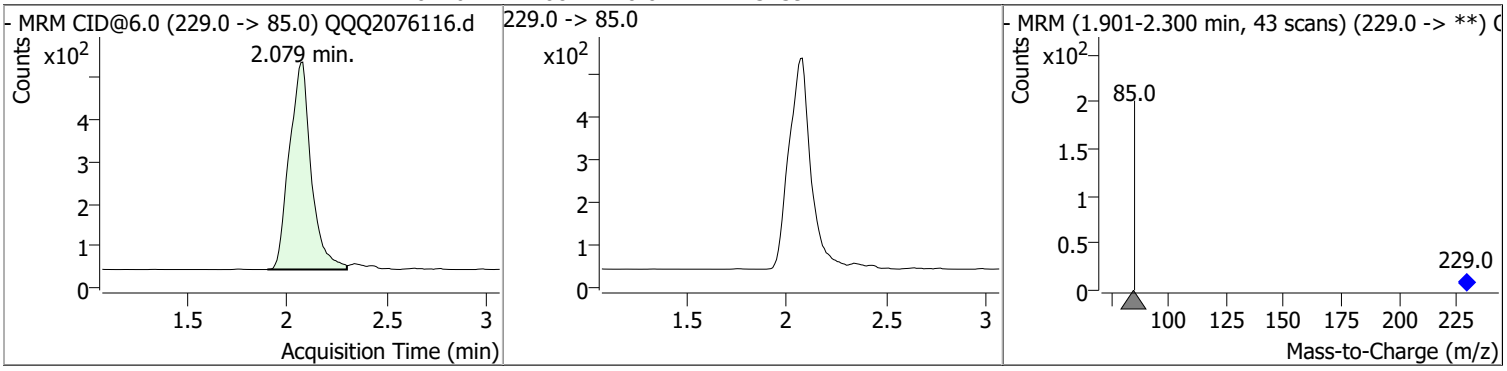
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.4424	1.20	0.00	44019				



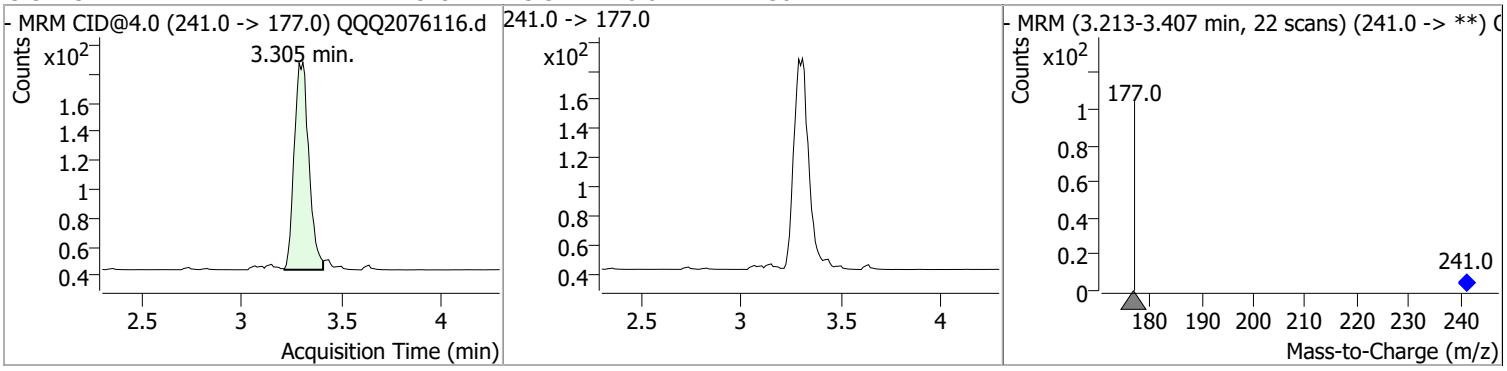
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	1.8721	1.20	-0.01	10398				



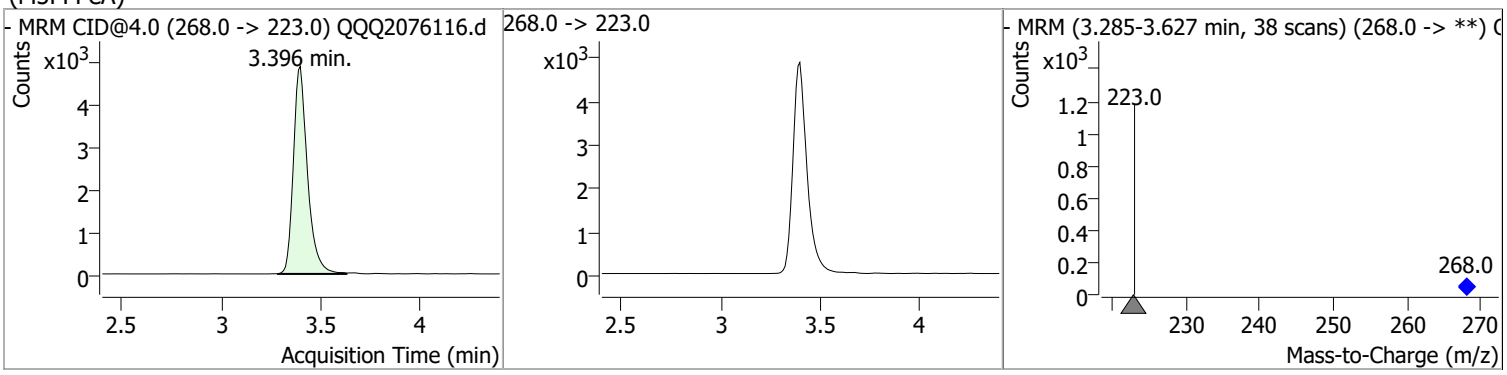
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	1.0216	2.08	0.01	3739				



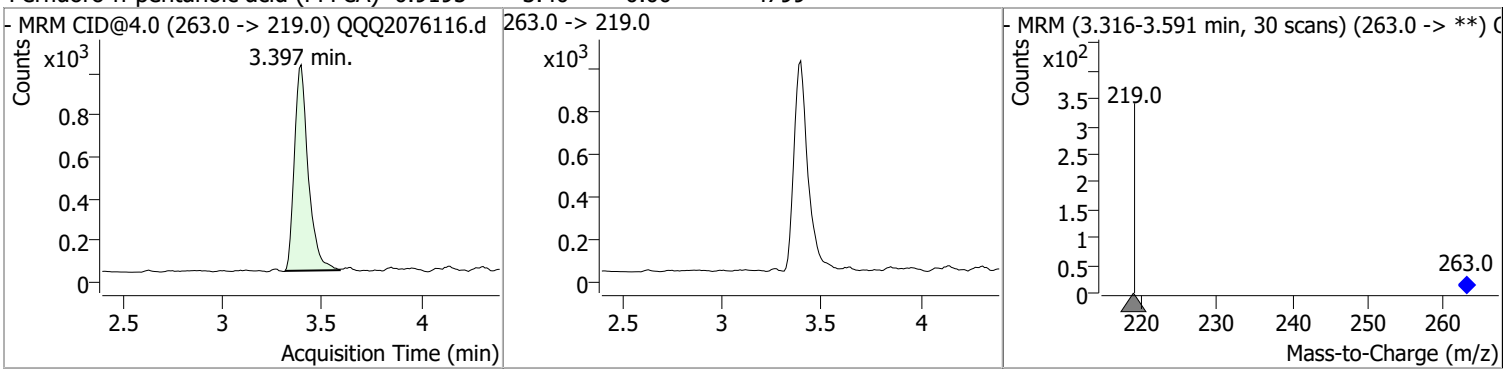
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	2.5297	3.31	0.01	738				



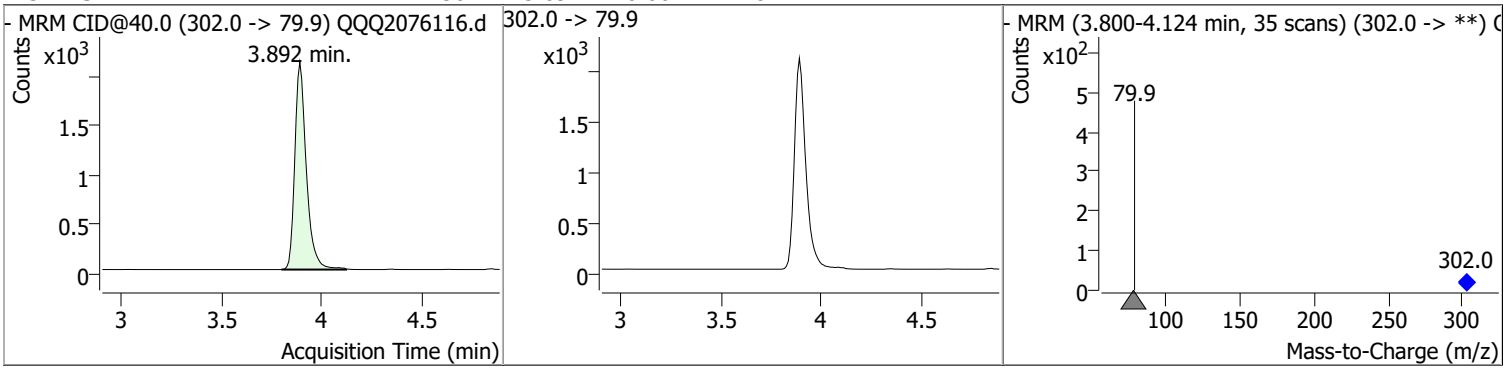
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.5667	3.40	0.01	23856				



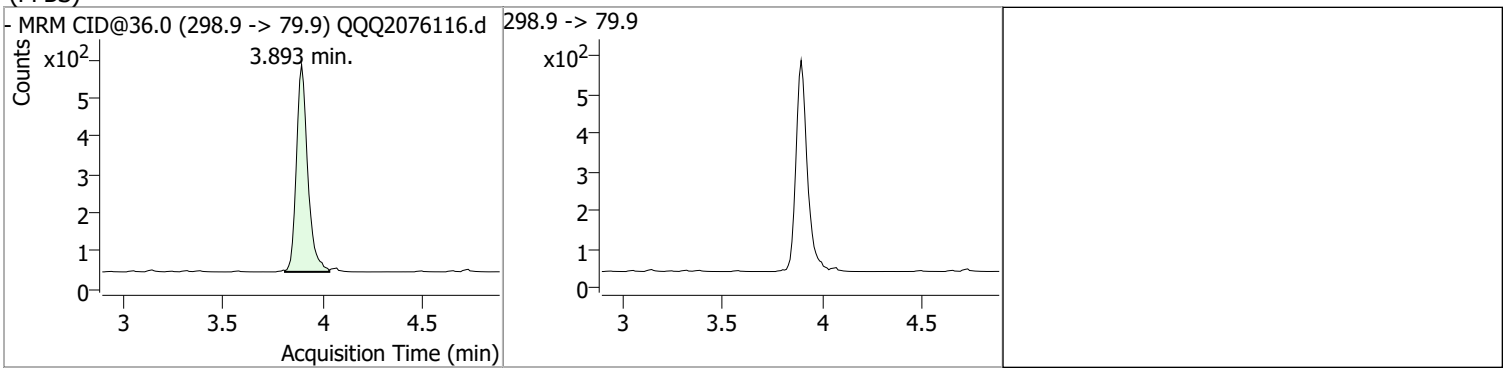
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.9195	3.40	0.00	4799				



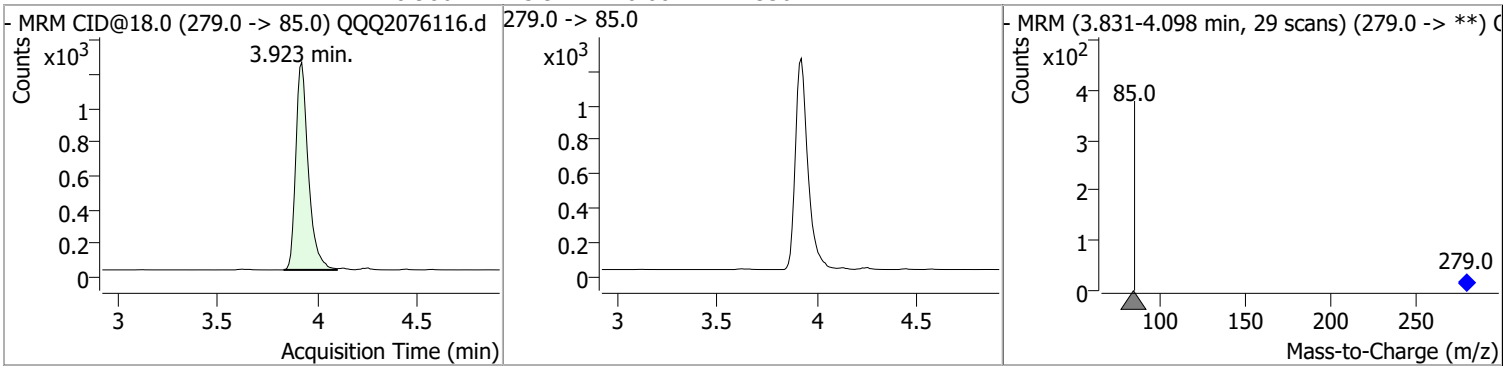
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.4250	3.89	0.00	8414				



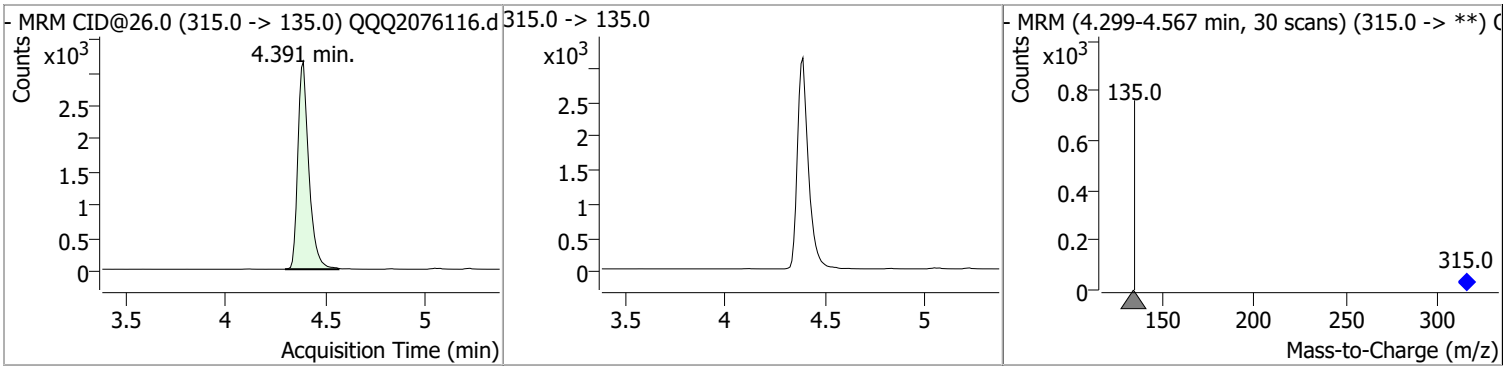
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.4975	3.89	0.00	2139				



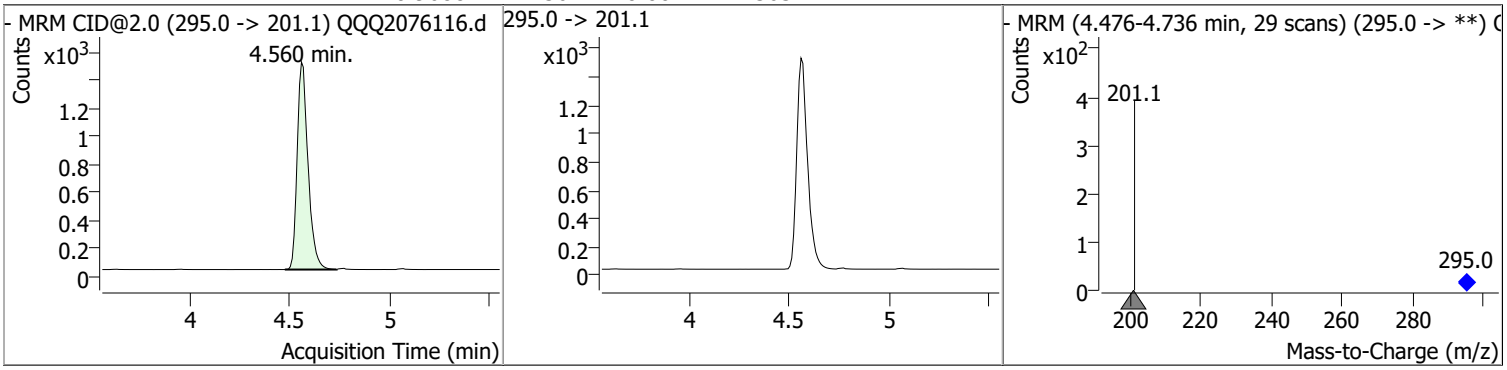
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.9861	3.92	0.00	5364				



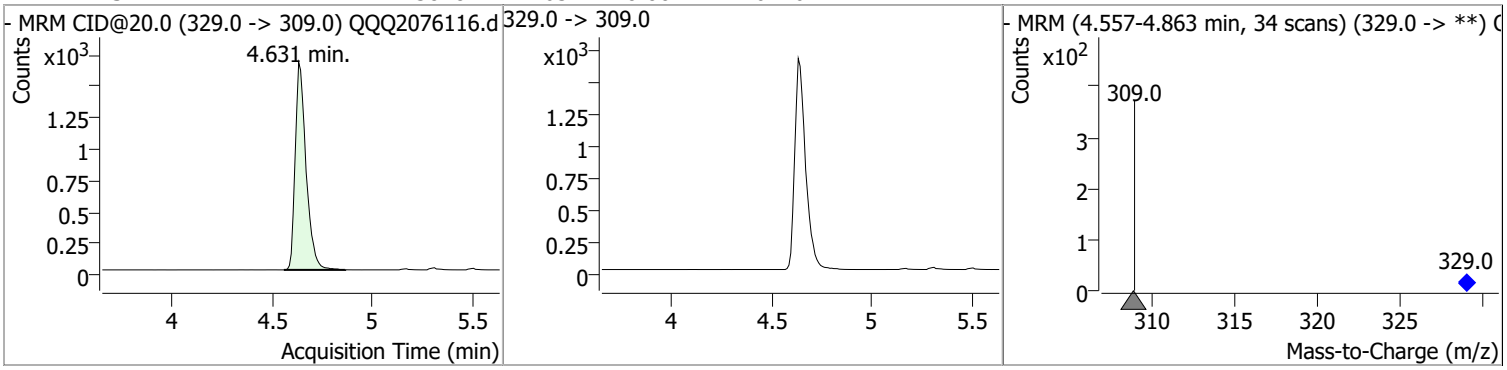
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.9115	4.39	0.01	11953				



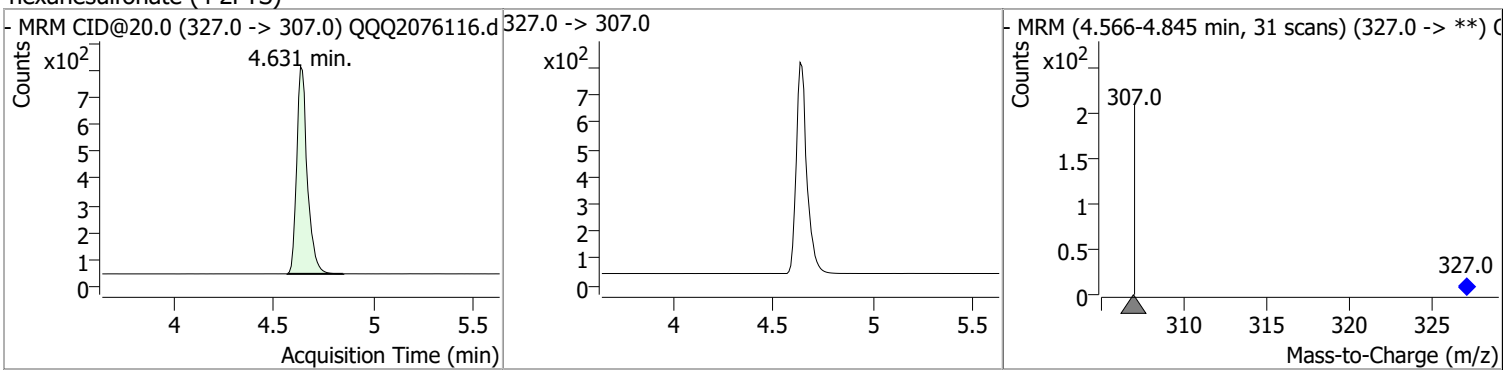
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.9688	4.56	0.00	5632				



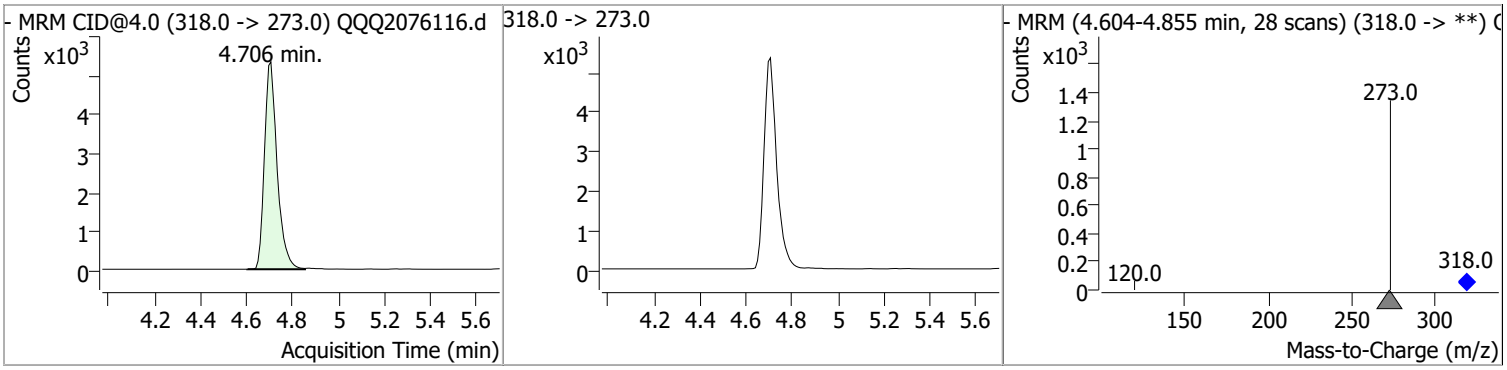
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.3828	4.63	0.00	6226				



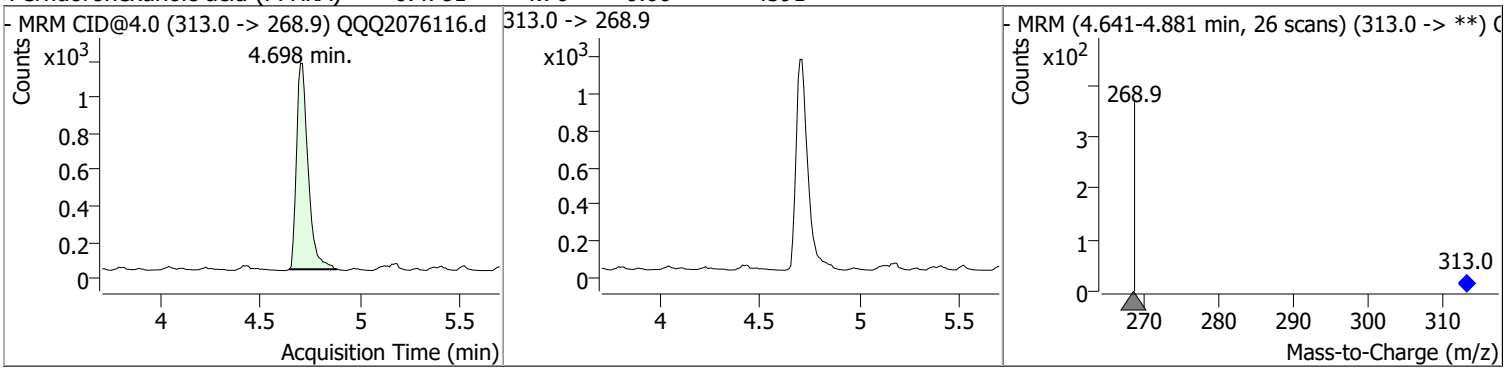
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	2.2695	4.63	0.00	2844				



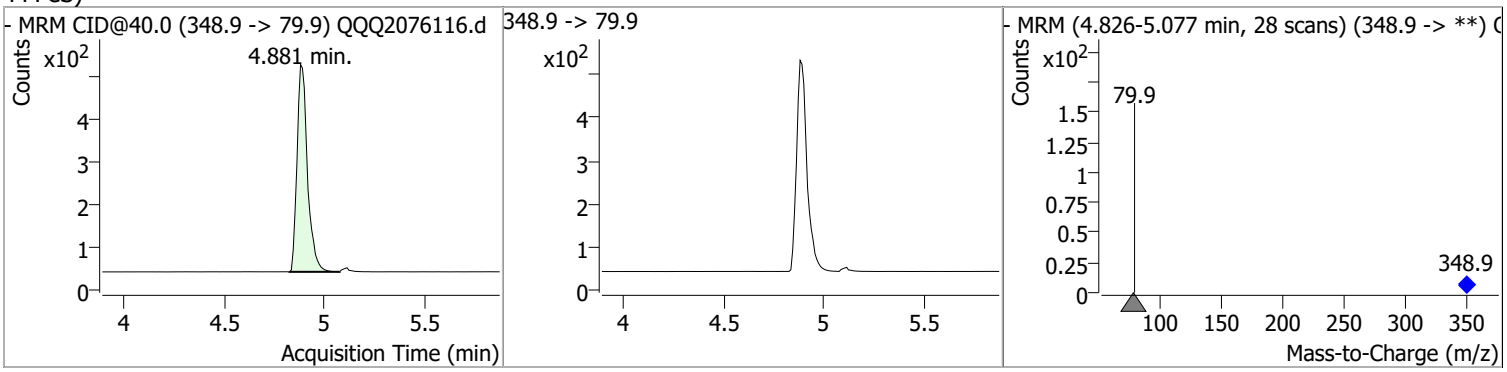
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.8532	4.71	0.01	20398				



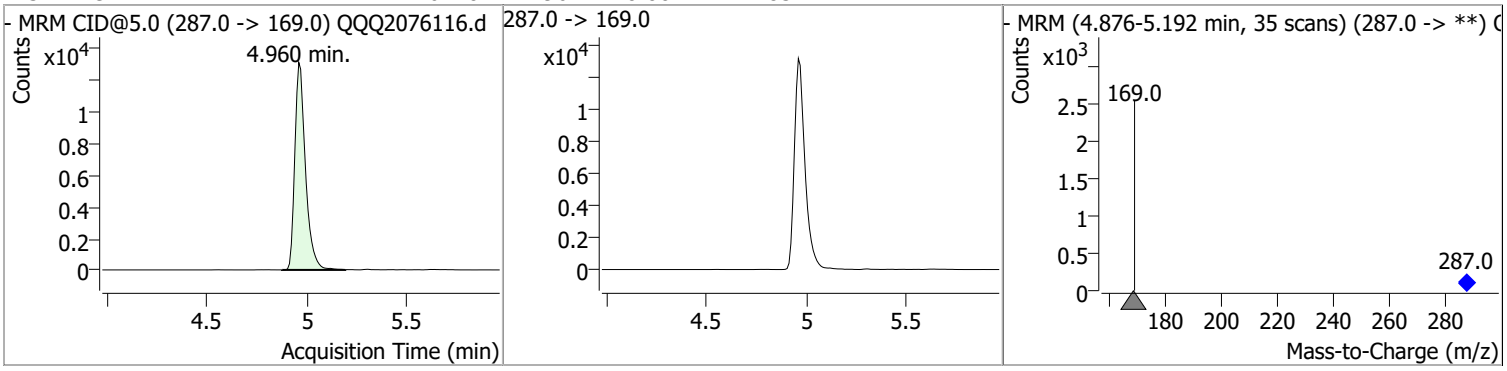
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.4781	4.70	0.00	4591				



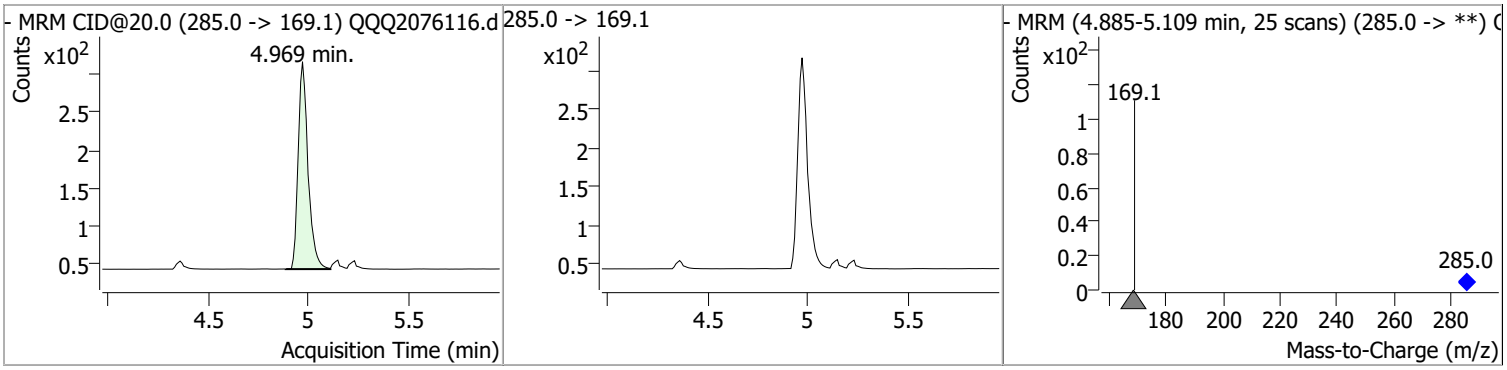
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.3755	4.88	0.00	1774				



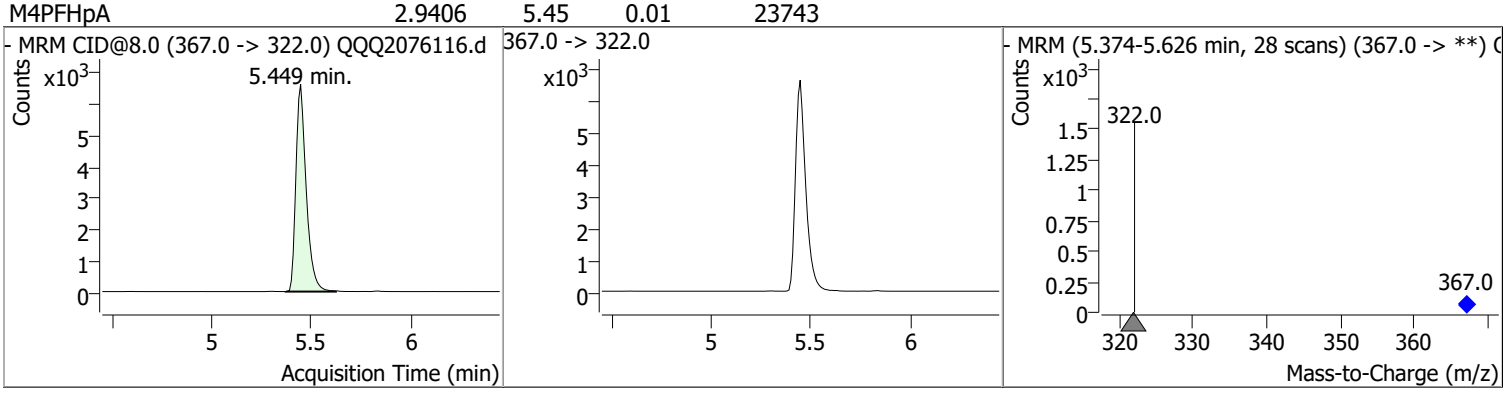
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.6440	4.96	0.00	48544				



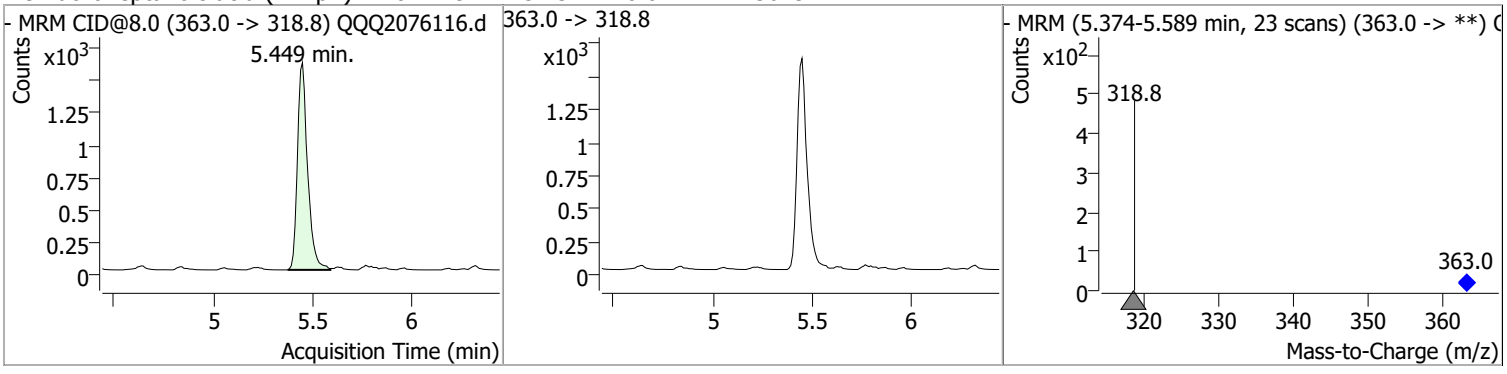
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	2.2567	4.97	0.01	932				



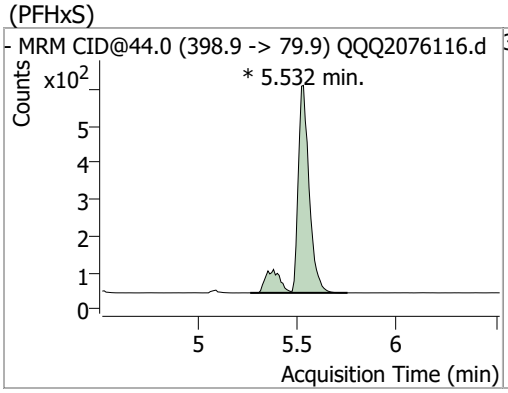
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.9406	5.45	0.01	23743				

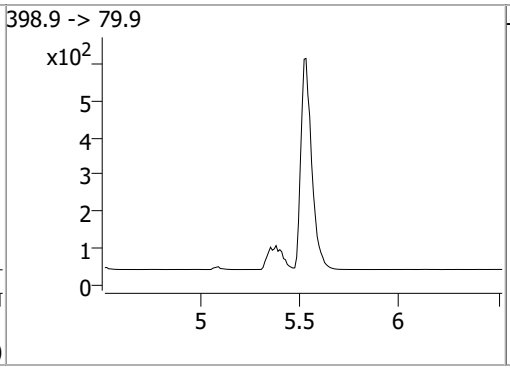


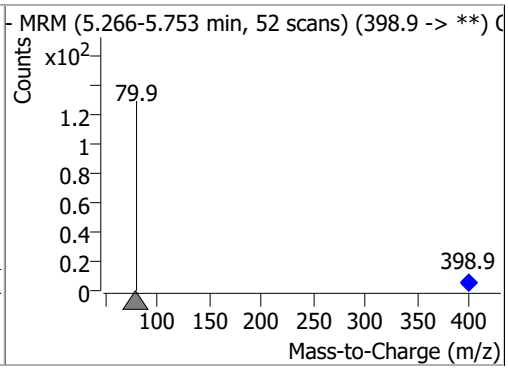
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.4415	5.45	0.01	5645				



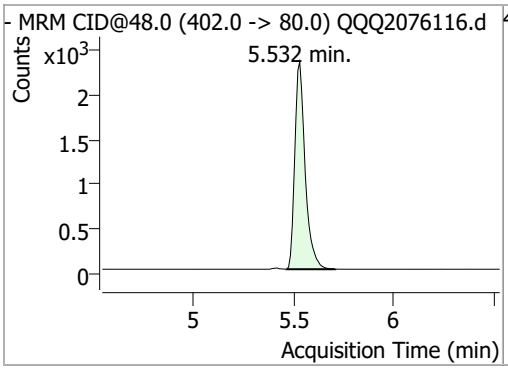
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.5128	5.53	0.01	2473 (m)				

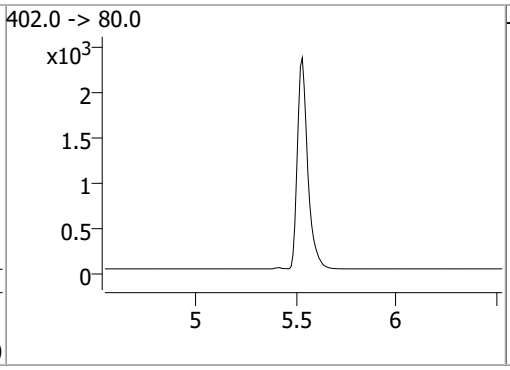


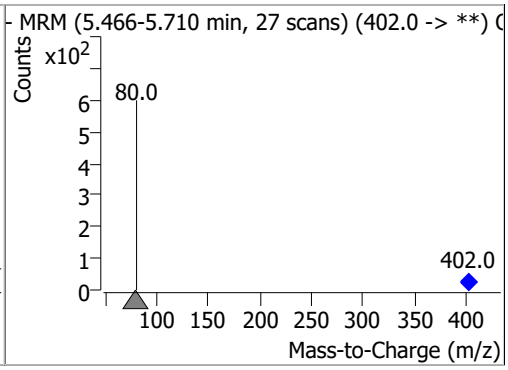




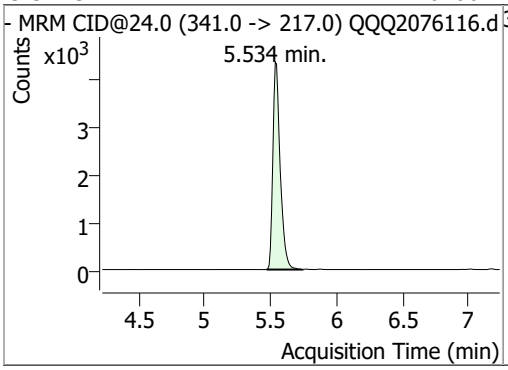
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.8806	5.53	0.00	8396				

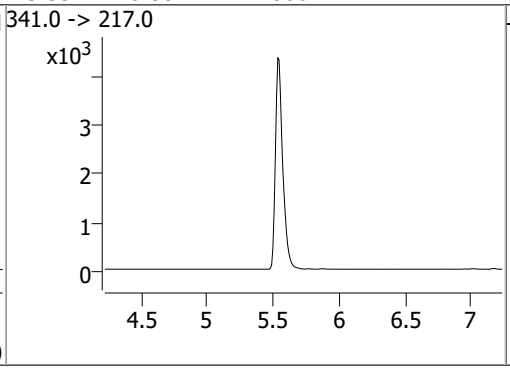


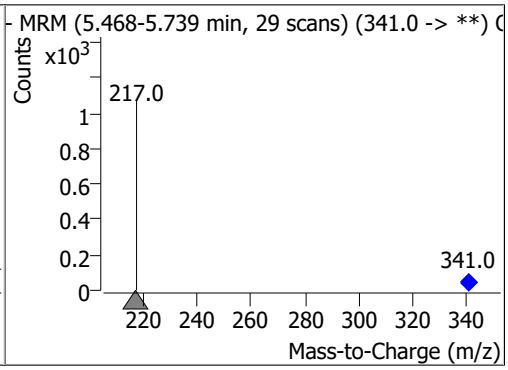




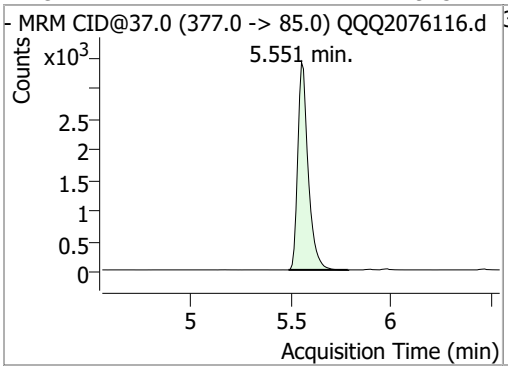
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	14.6766	5.53	0.00	16667				

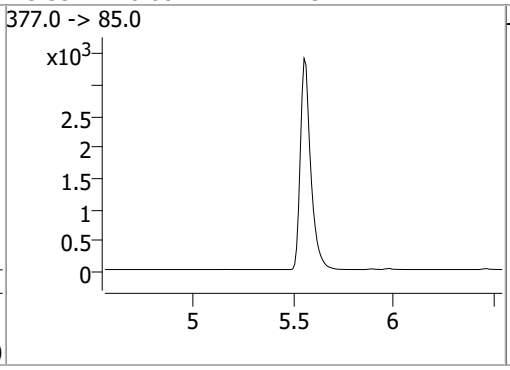


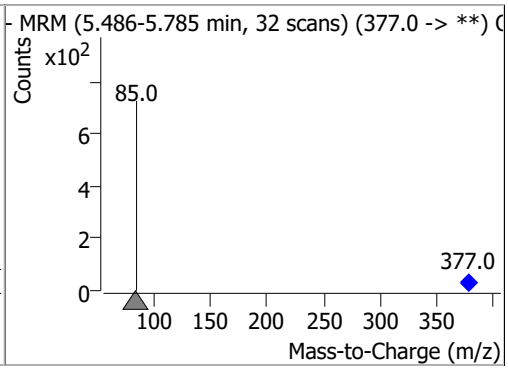




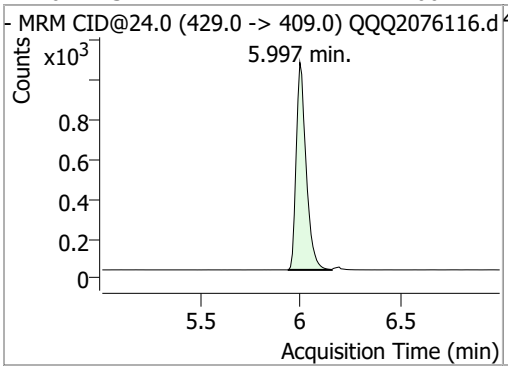
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	1.9457	5.55	0.00	12213				

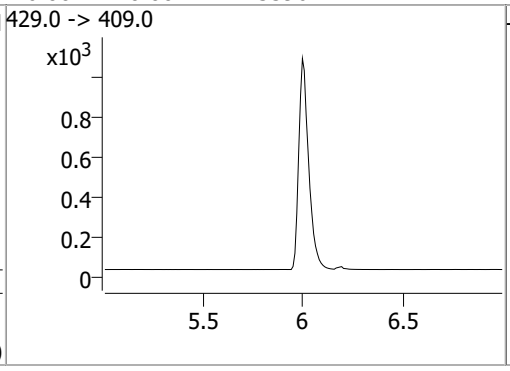


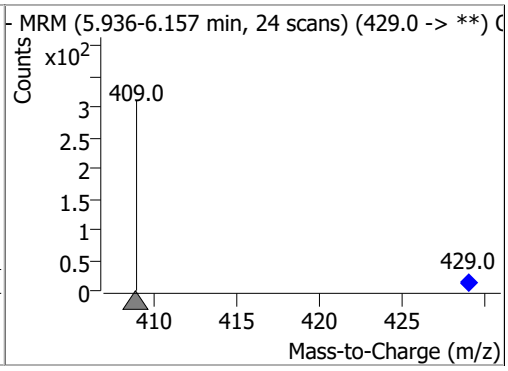




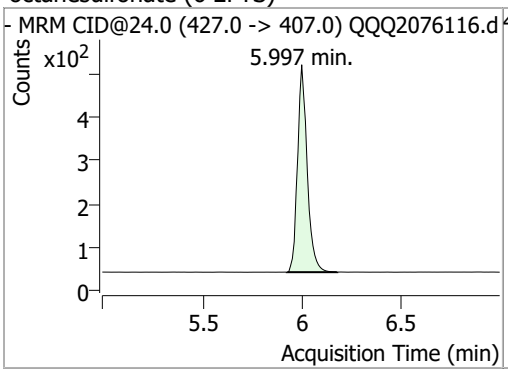
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.6671	6.00	0.00	3596				

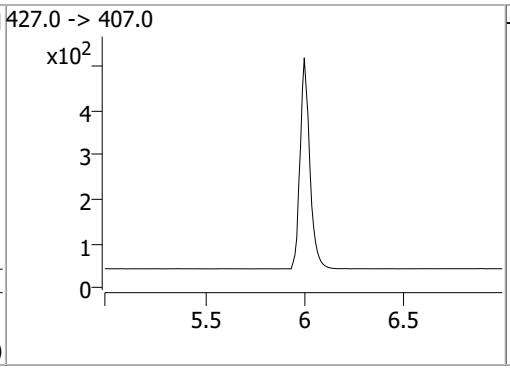


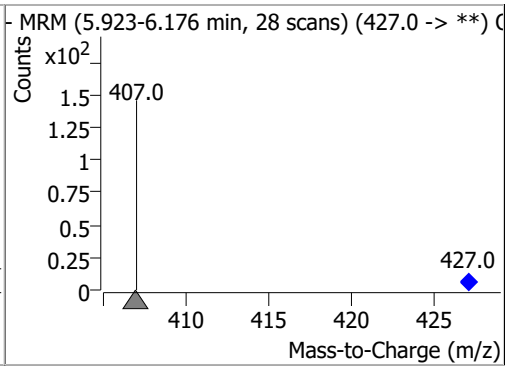




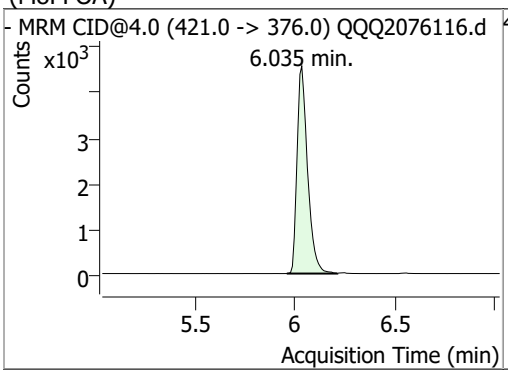
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	2.0853	6.00	0.00	1600				

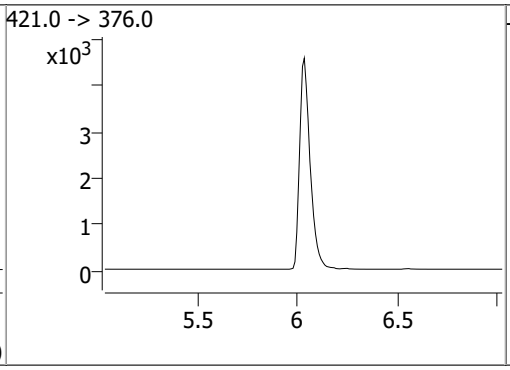


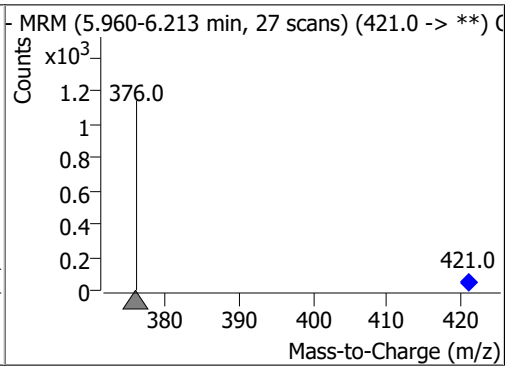




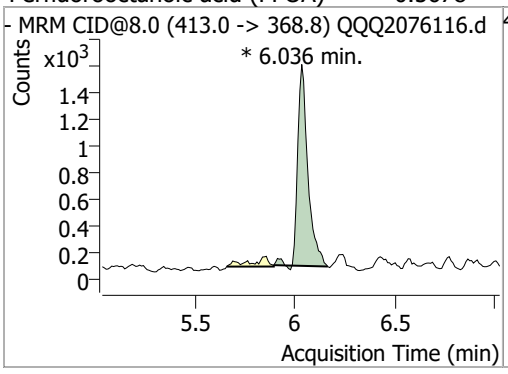
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.7505	6.04	0.00	16658				

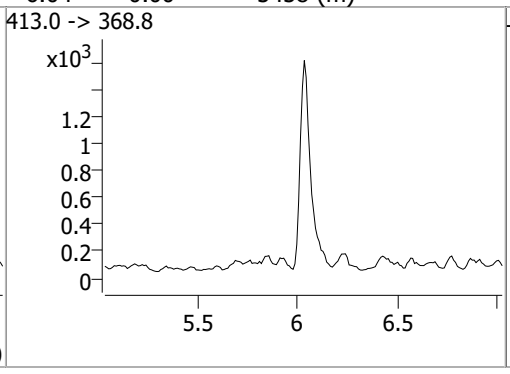


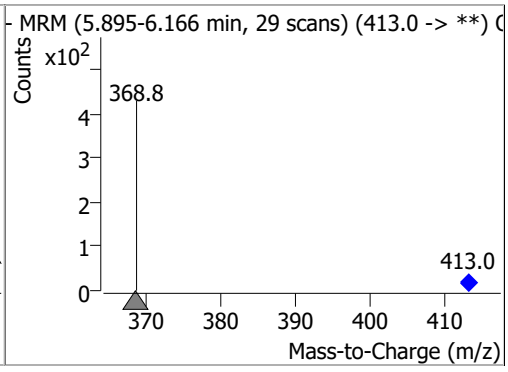




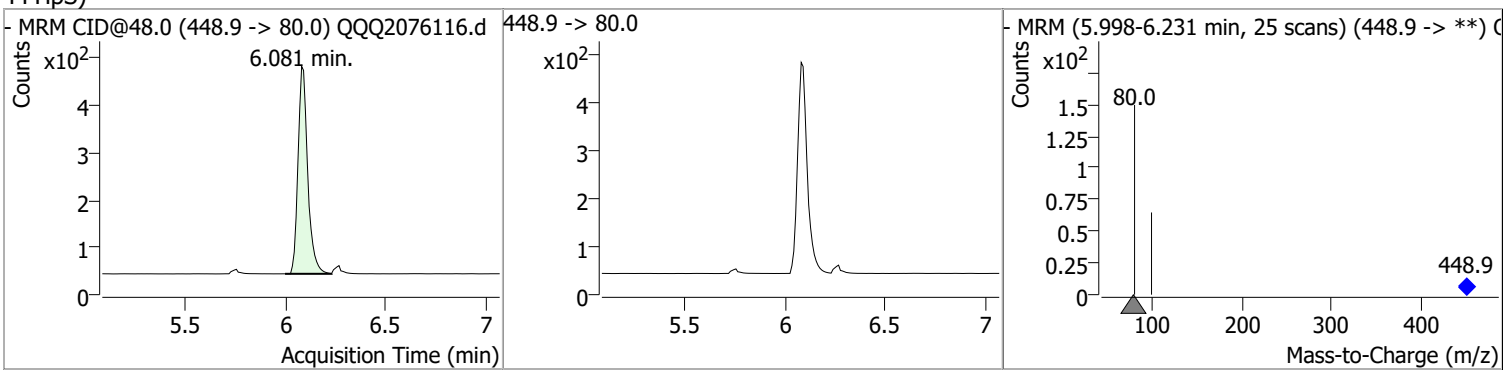
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.5678	6.04	0.00	5458 (m)				



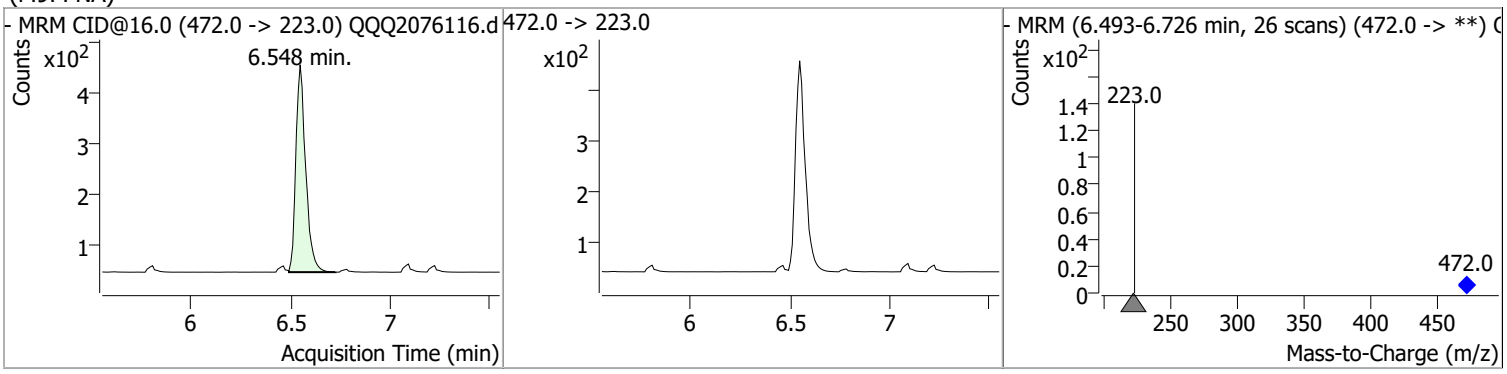




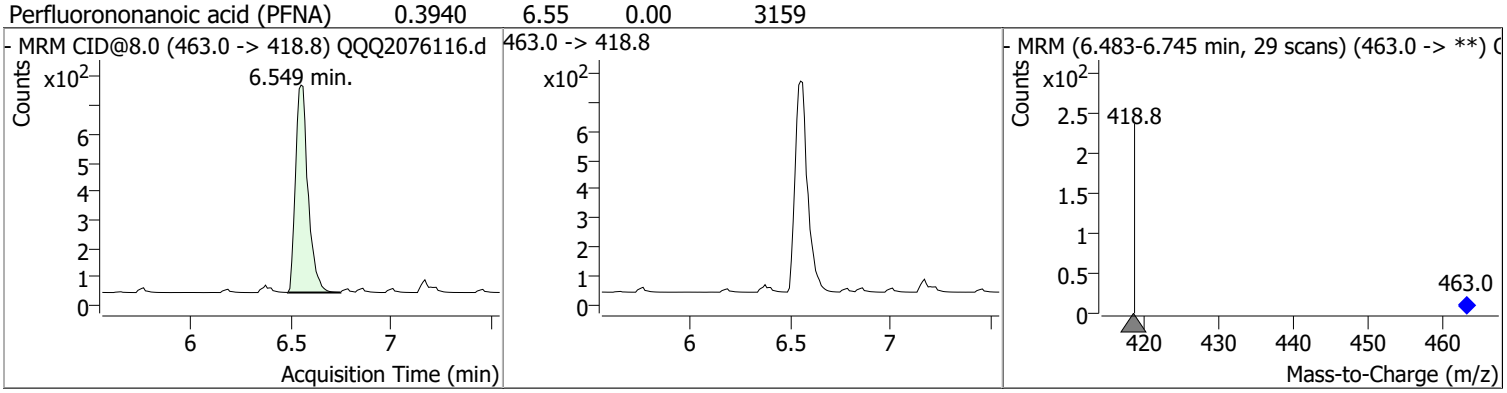
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.4988	6.08	0.00	1478				



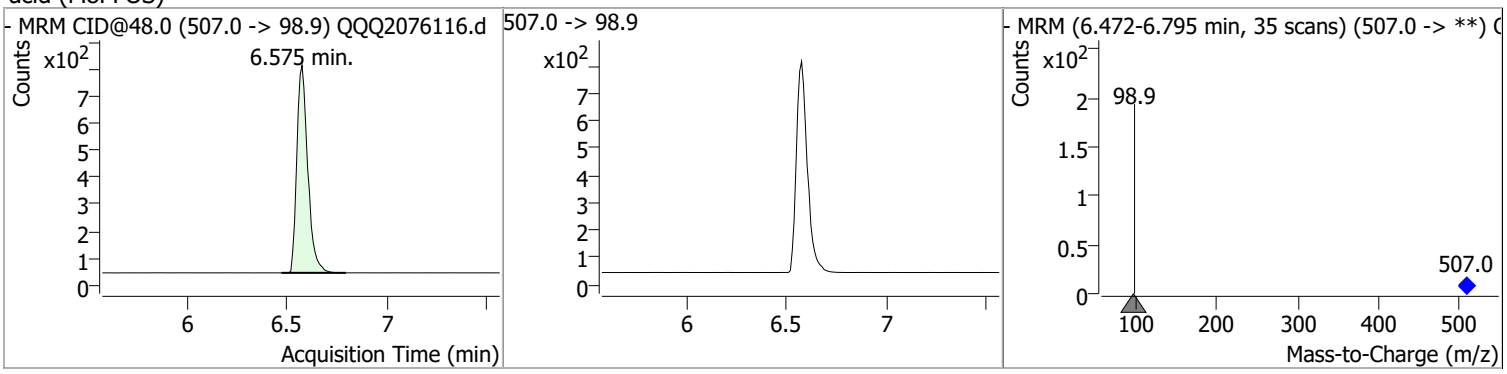
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3310	6.55	0.01	1404				



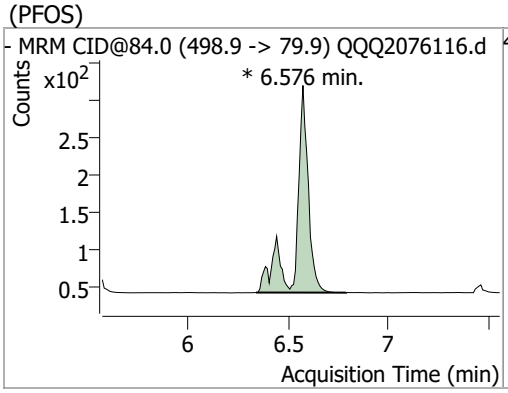
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.3940	6.55	0.00	3159				

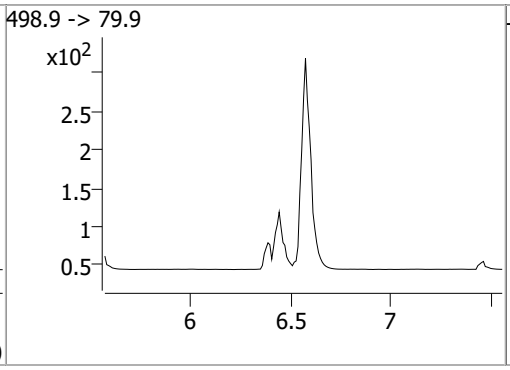


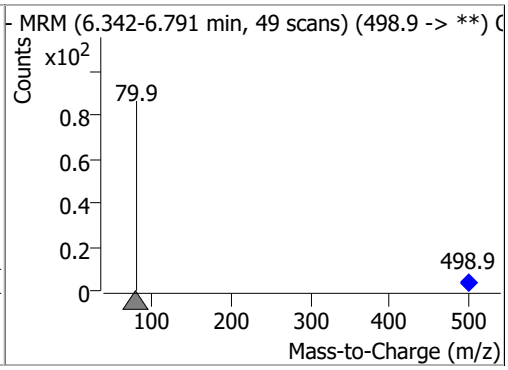
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.7637	6.58	0.01	2945				



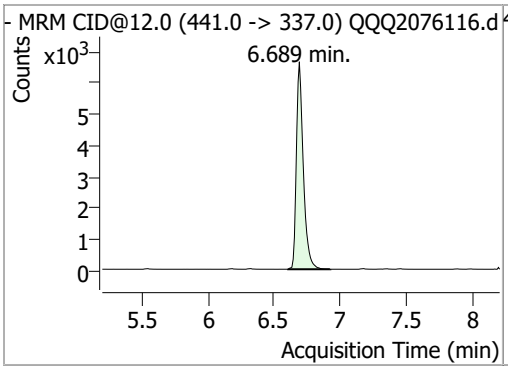
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.7734	6.58	0.01	1163 (m)				

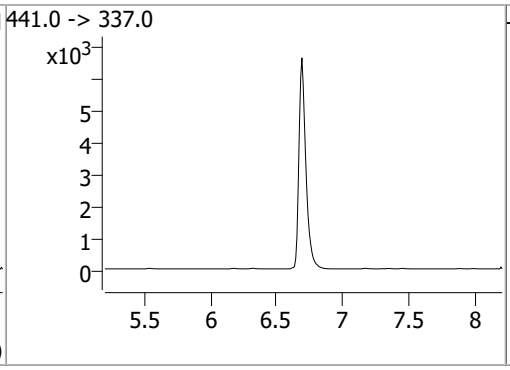


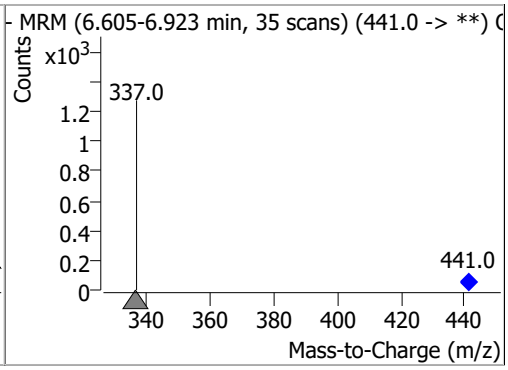




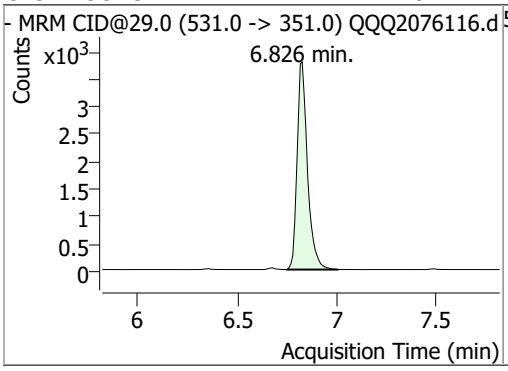
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	13.6322	6.69	0.00	24042				

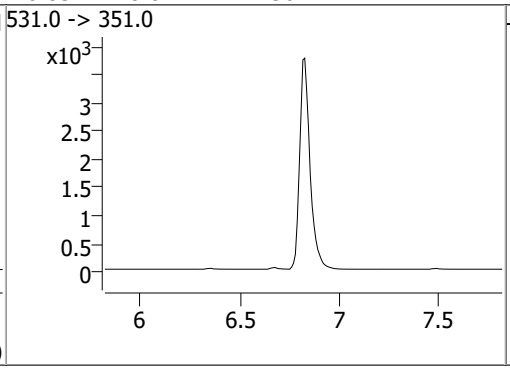


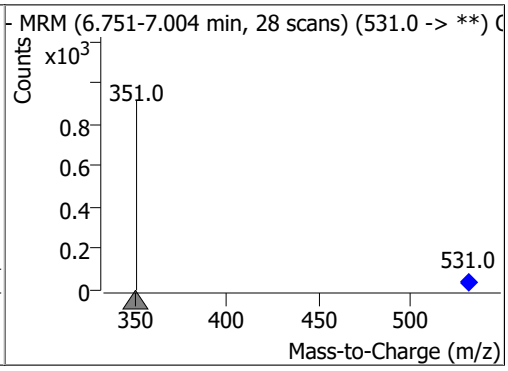




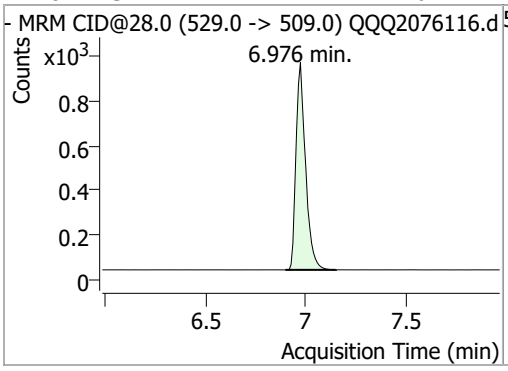
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	1.9747	6.83	0.01	13614				

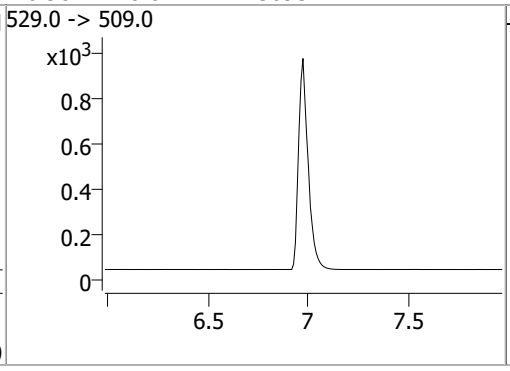


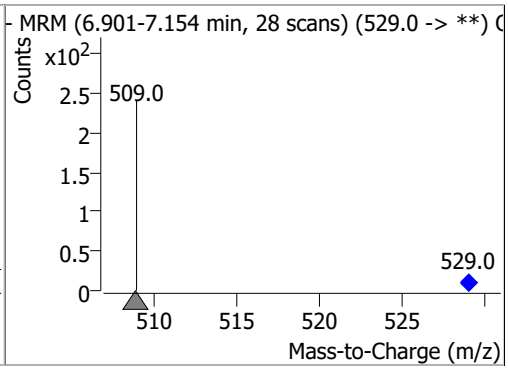




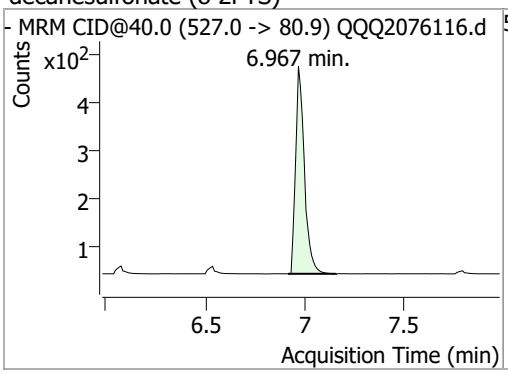
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.6727	6.98	0.01	3095				

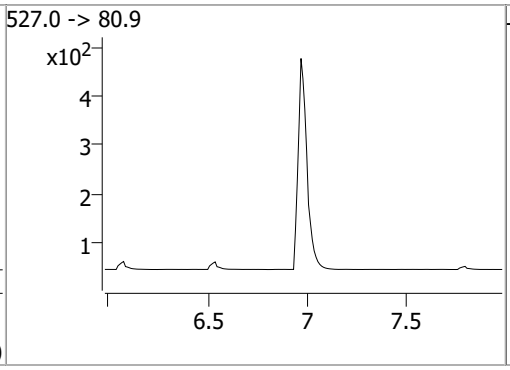


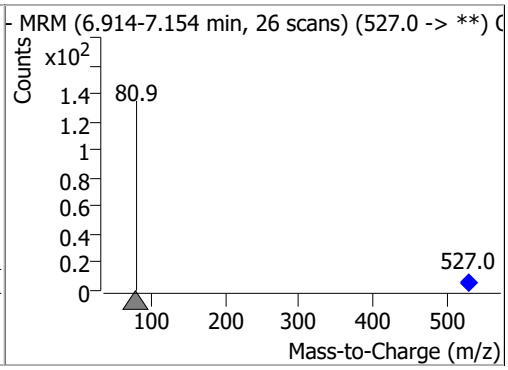




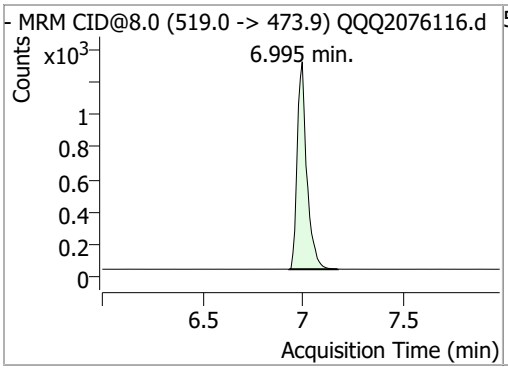
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	1.6688	6.97	-0.01	1326				

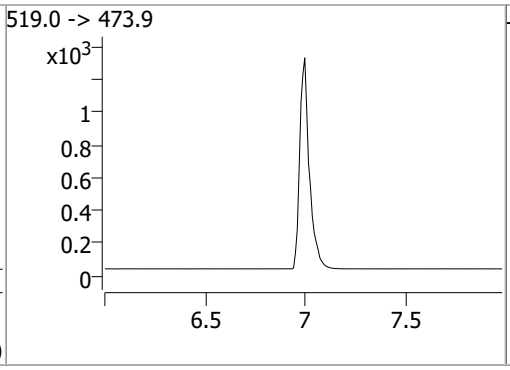


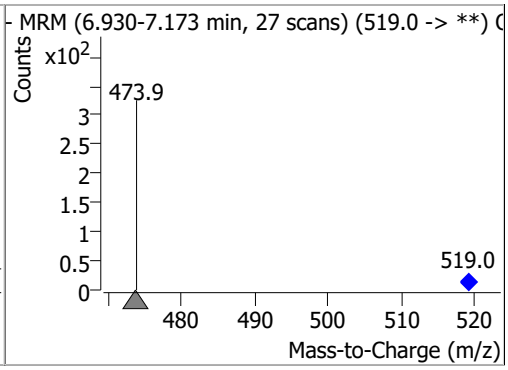




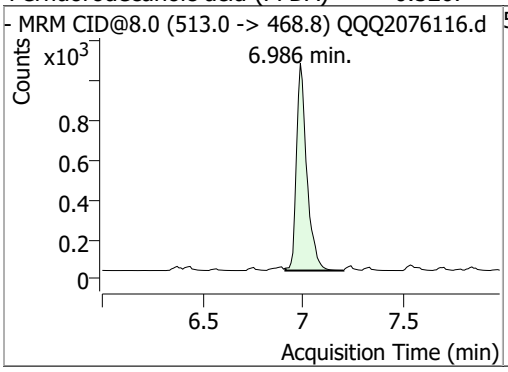
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.3947	7.00	0.01	4279				

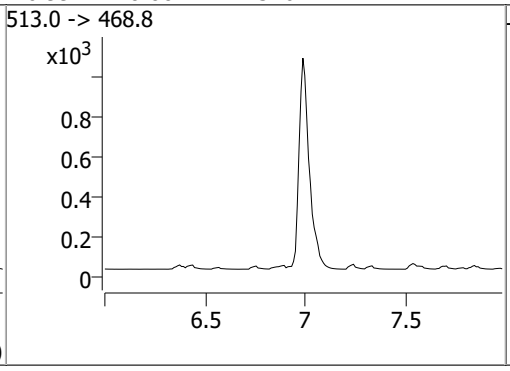


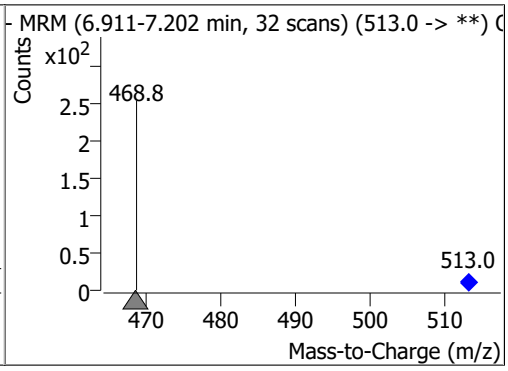




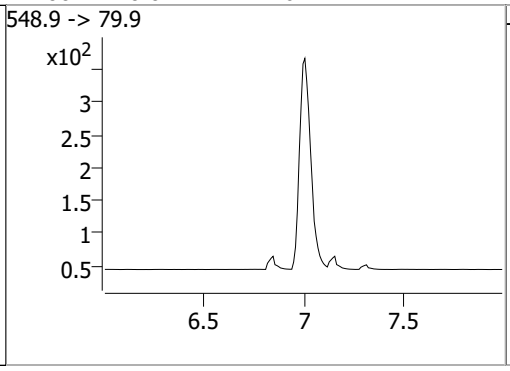
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.5267	6.99	0.00	3762				

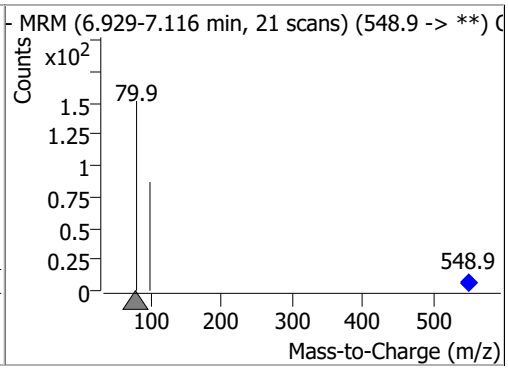




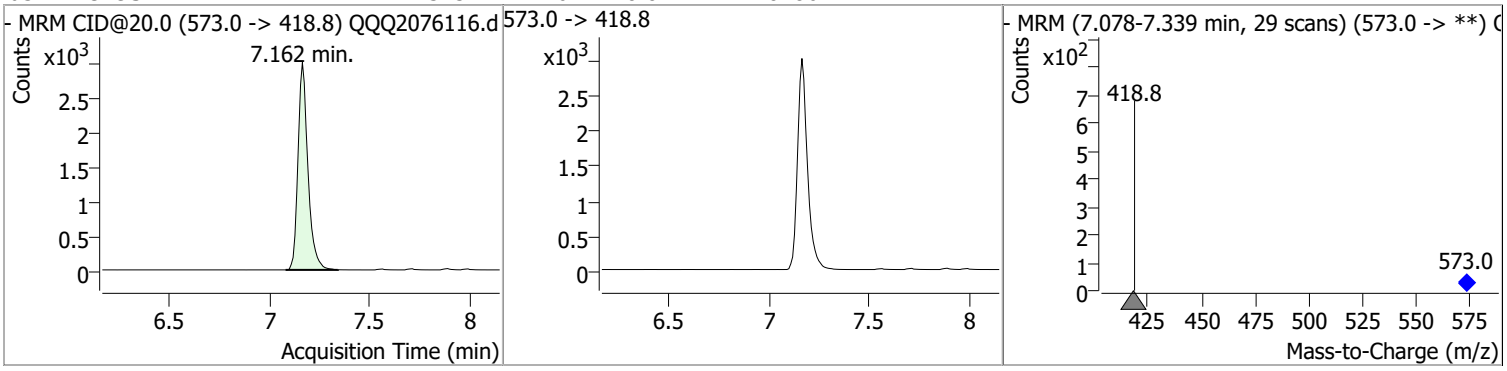


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.4594	7.00	0.01	1267				

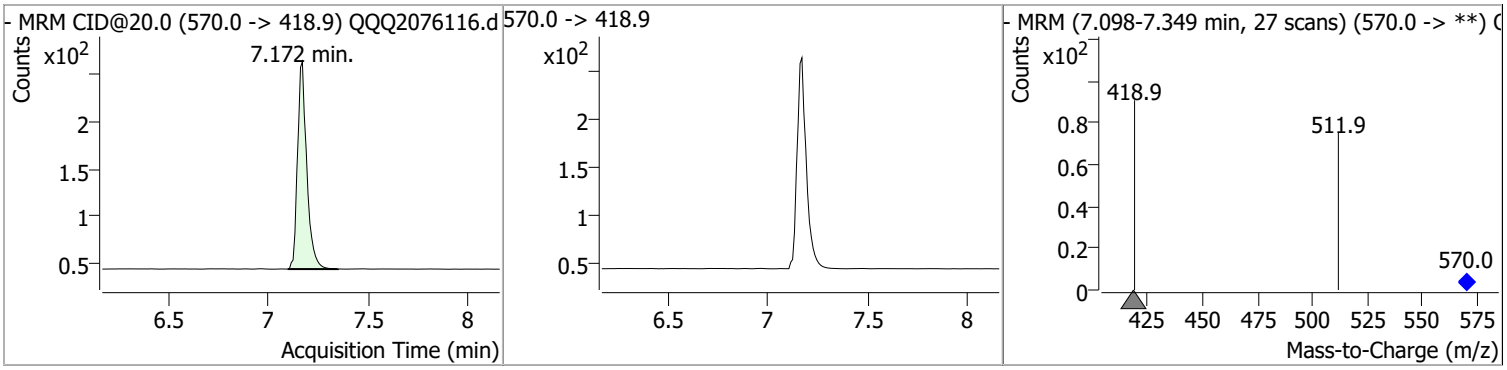




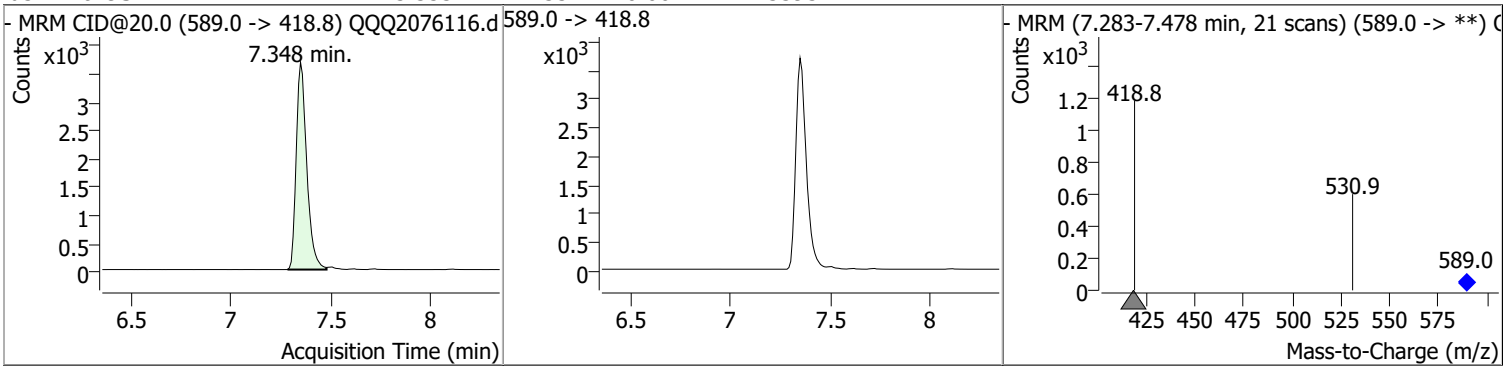
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.1315	7.16	0.01	10286				



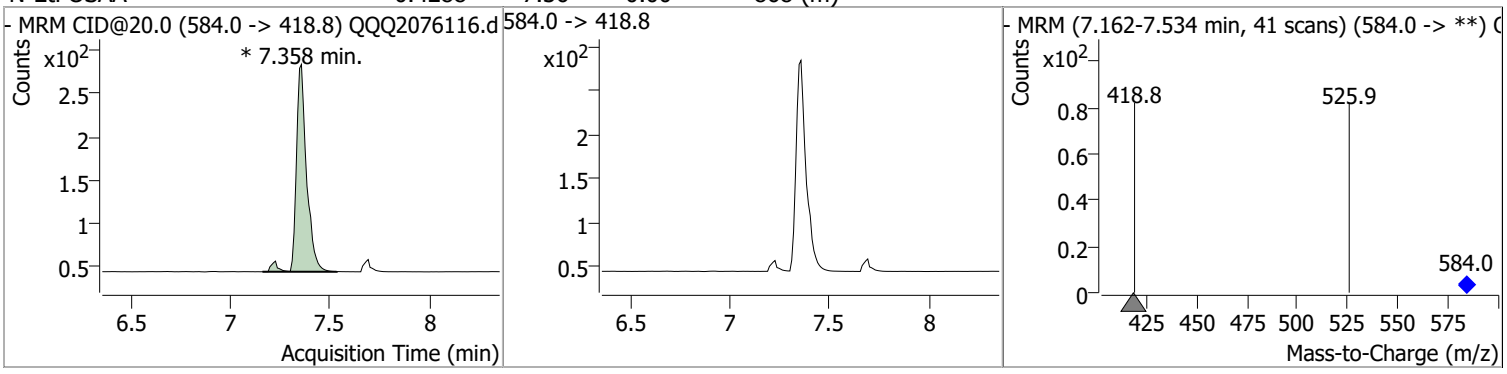
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.5061	7.17	0.01	706				



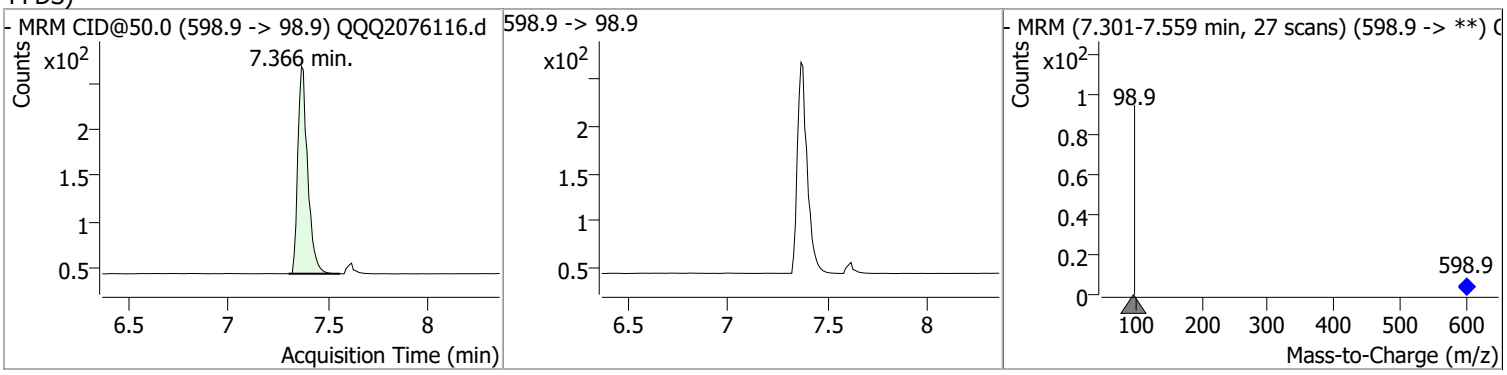
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.3532	7.35	0.00	13393				



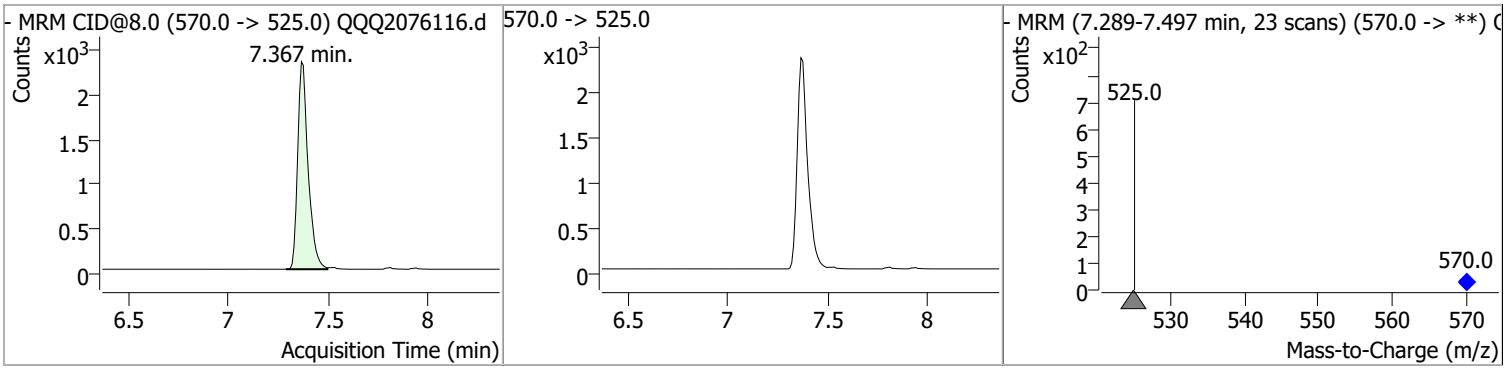
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.4288	7.36	0.00	868 (m)				



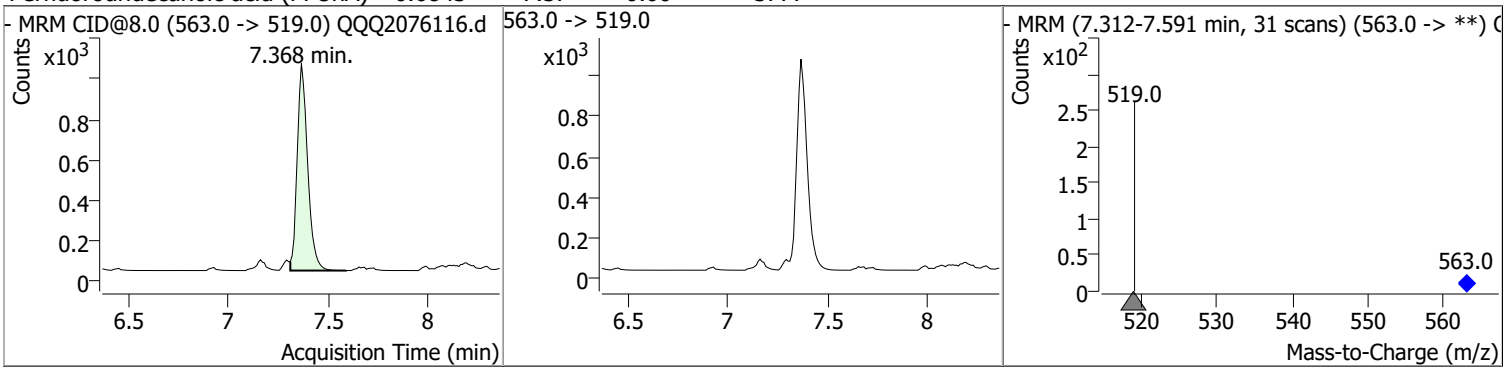
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.6454	7.37	0.00	765				



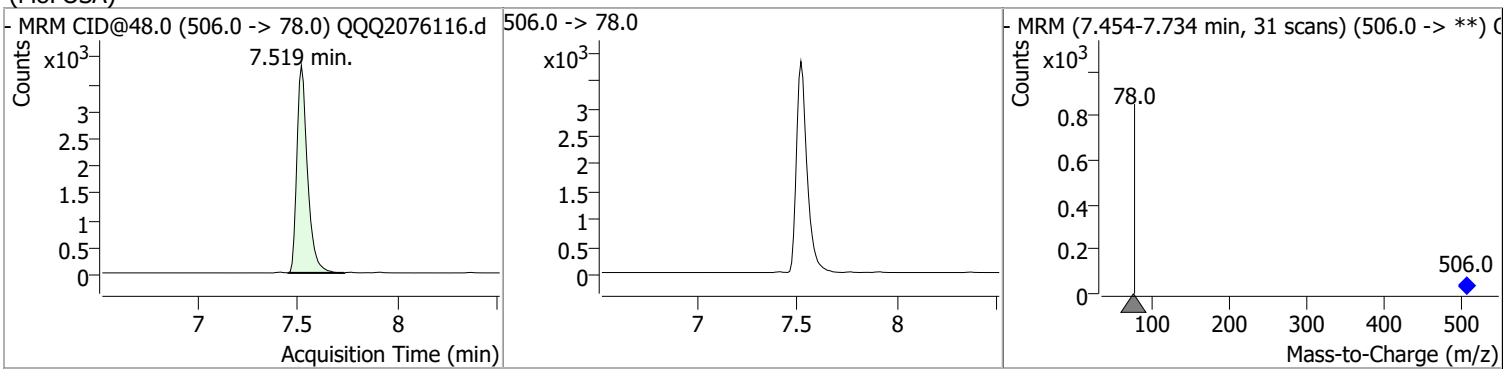
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.3977	7.37	0.00	8499				



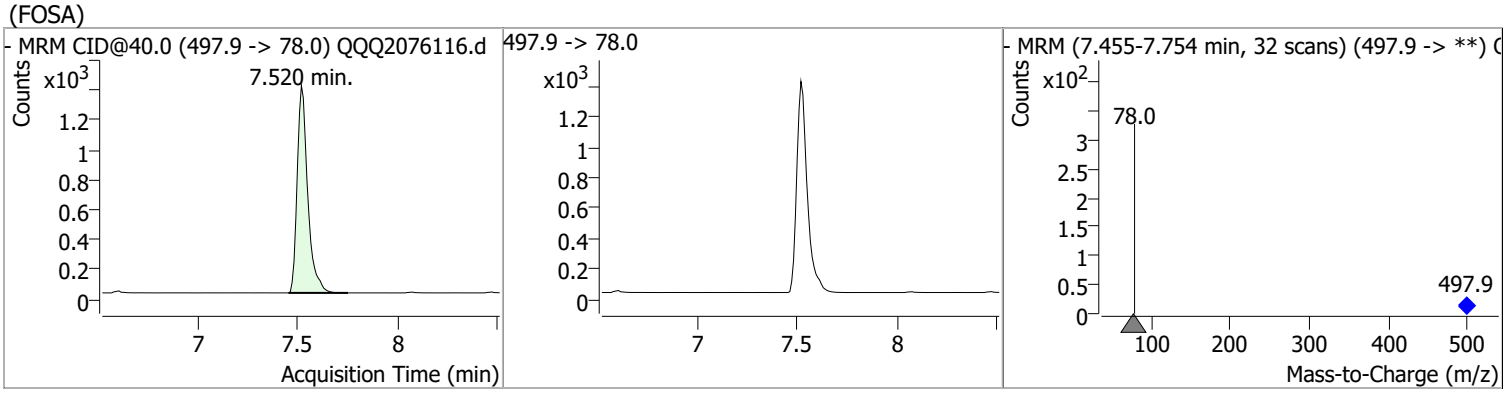
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.6843	7.37	0.00	3777				



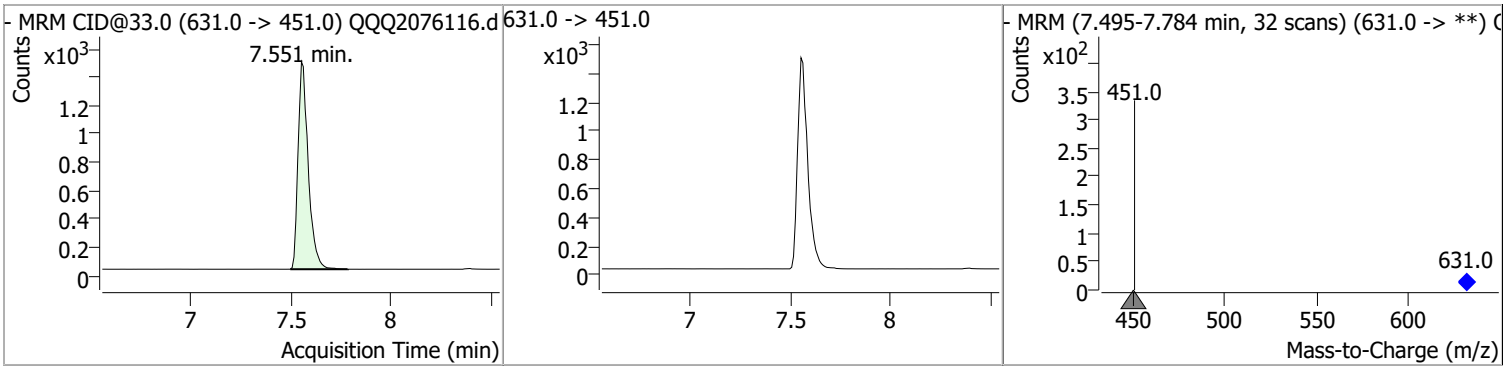
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.3326	7.52	0.00	14093				



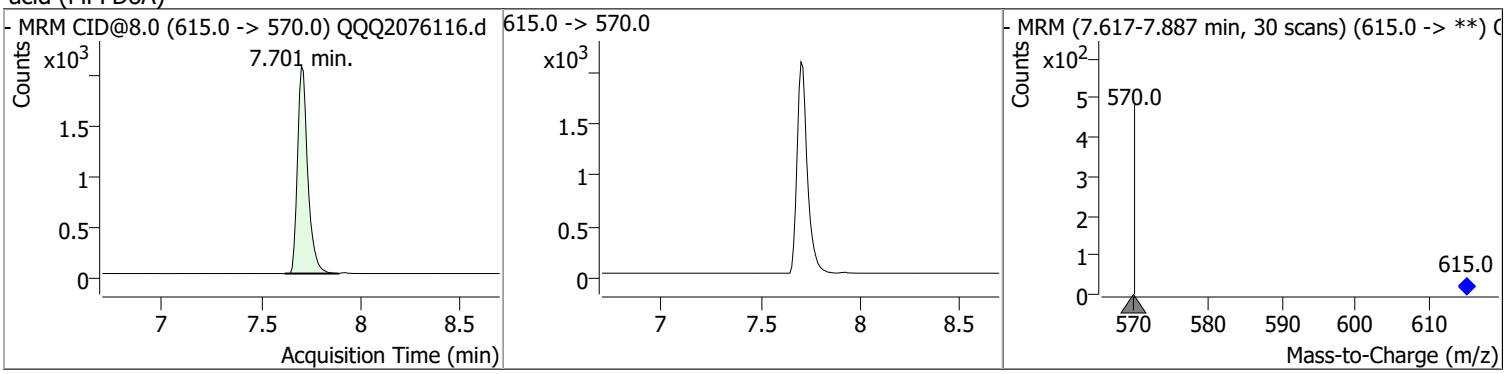
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.5136	7.52	0.00	5101				



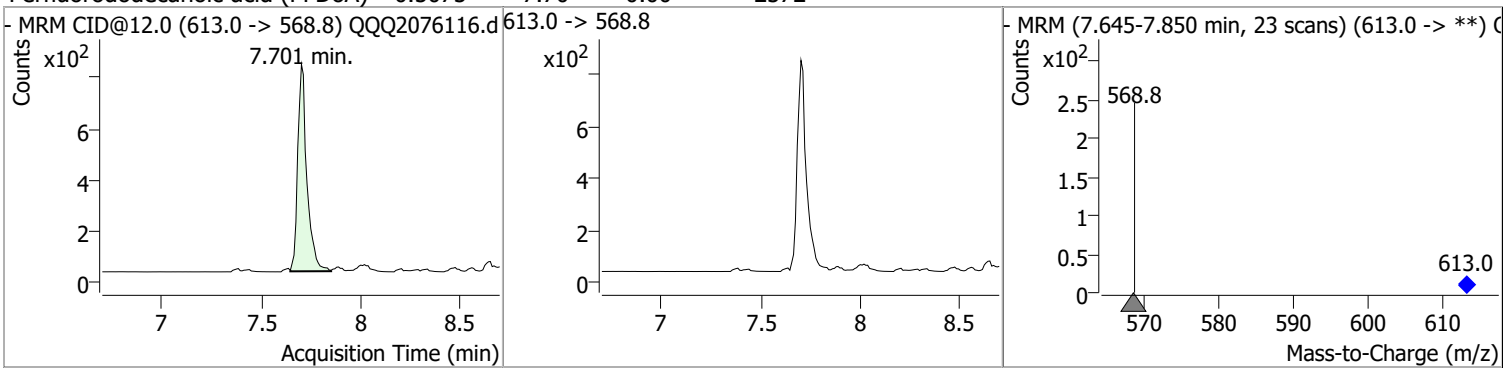
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	1.9519	7.55	0.00	5196				



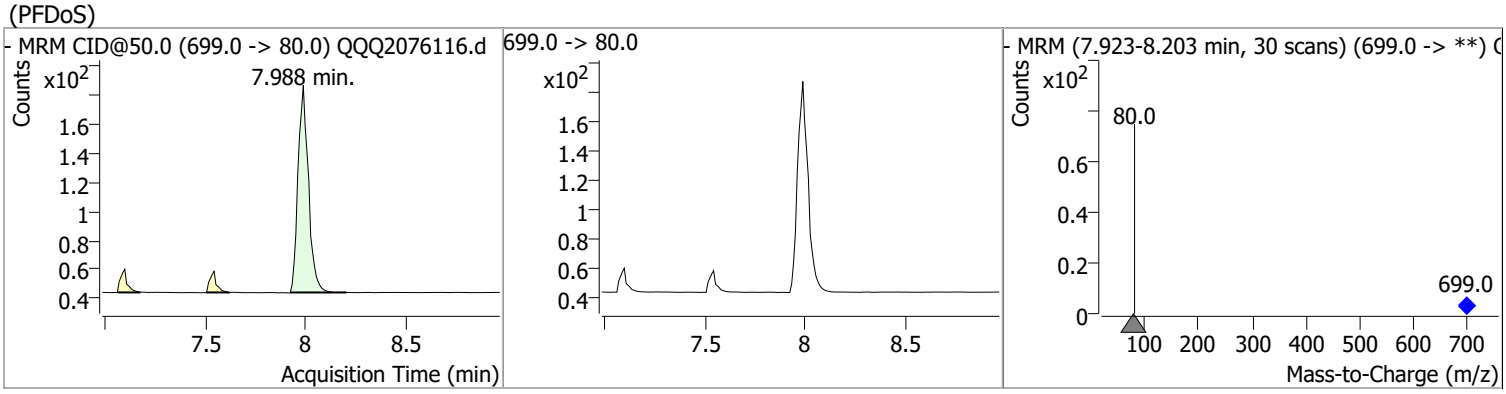
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.4528	7.70	0.00	7354				



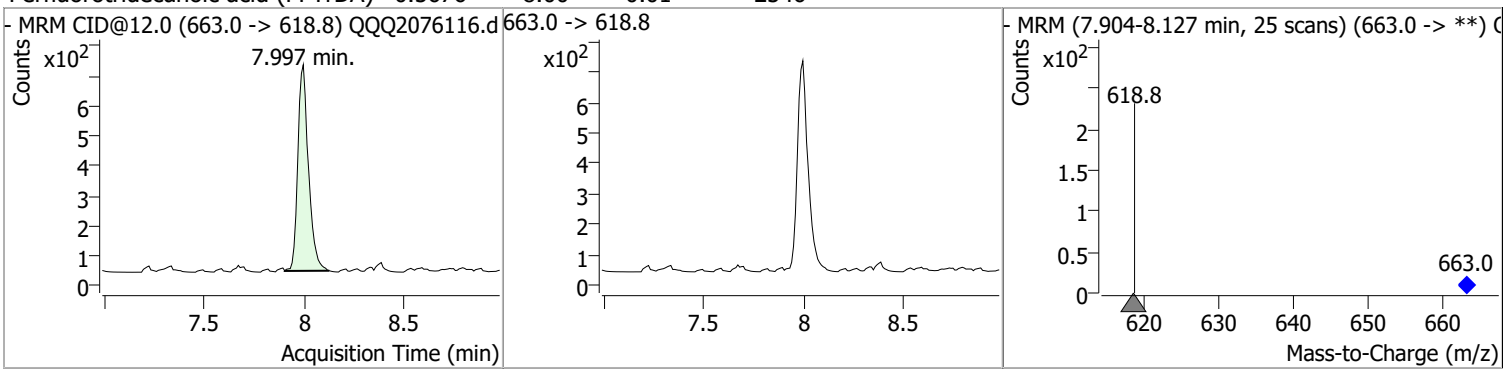
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.5075	7.70	0.00	2572				



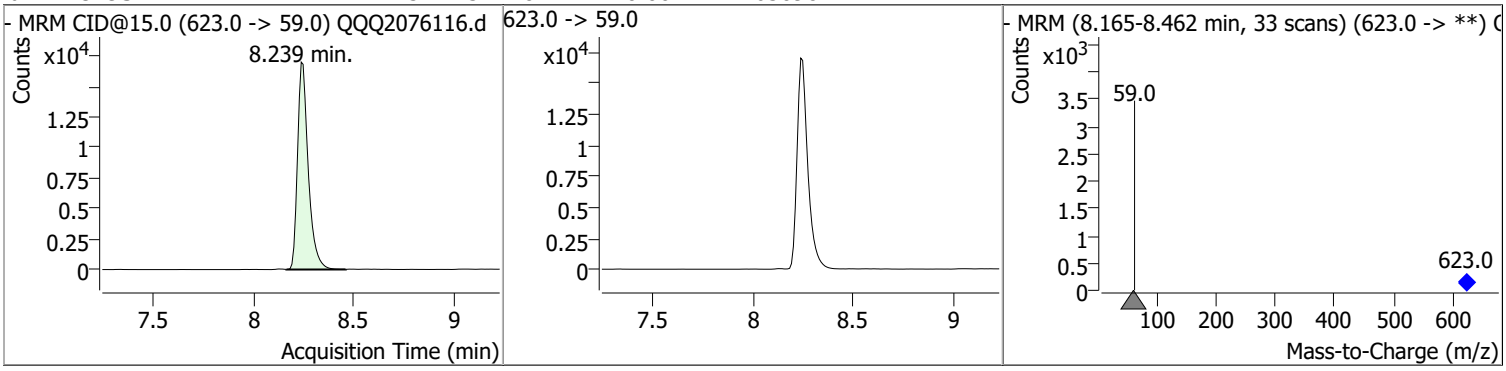
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.4629	7.99	0.01	517				



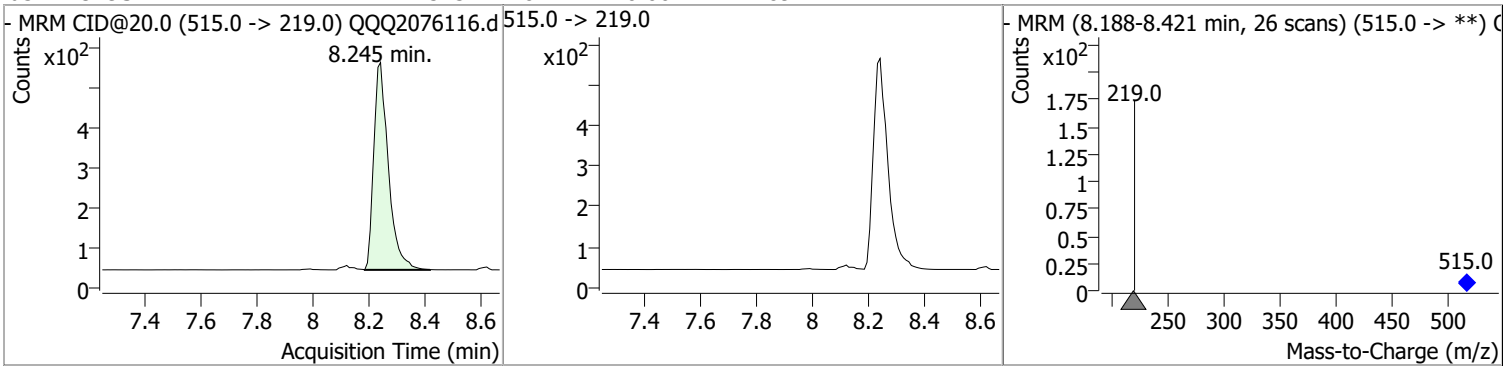
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.5676	8.00	0.01	2546				



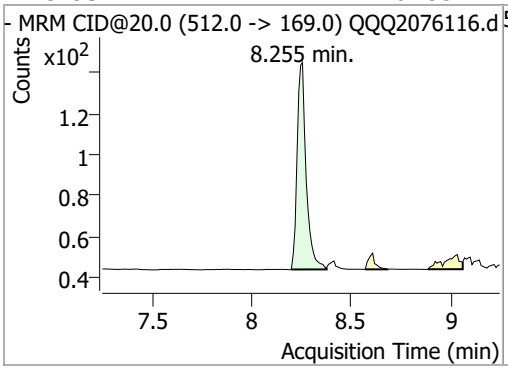
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	25.2213	8.24	0.00	63098				

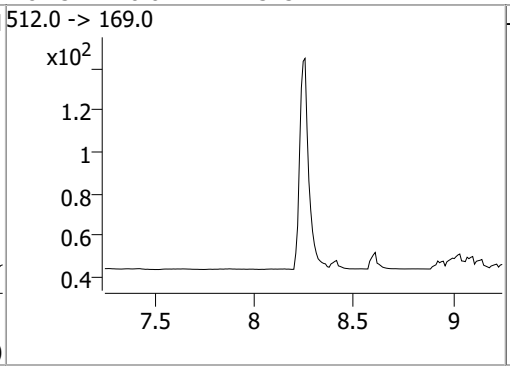


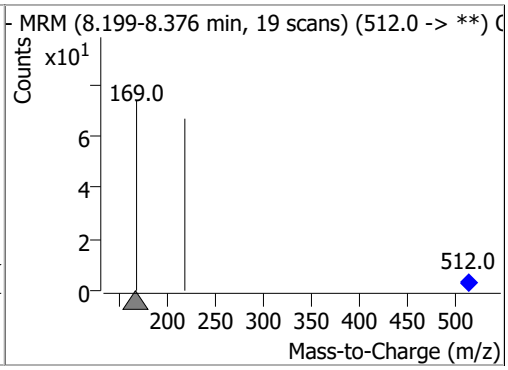
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.4543	8.24	0.00	1894				



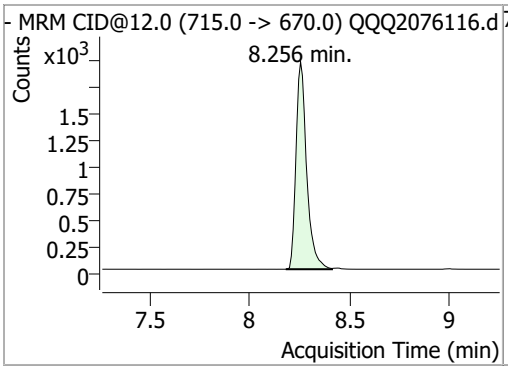
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.2934	8.25	0.01	315				

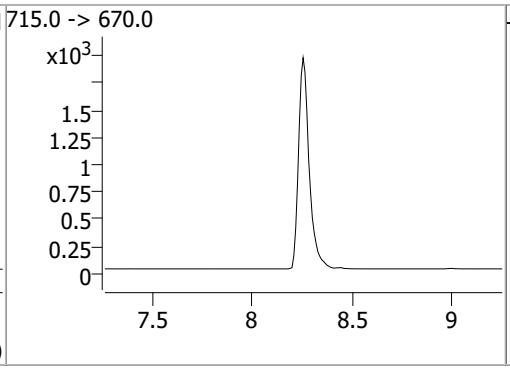


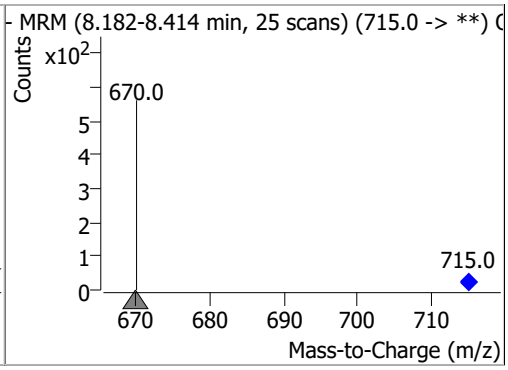




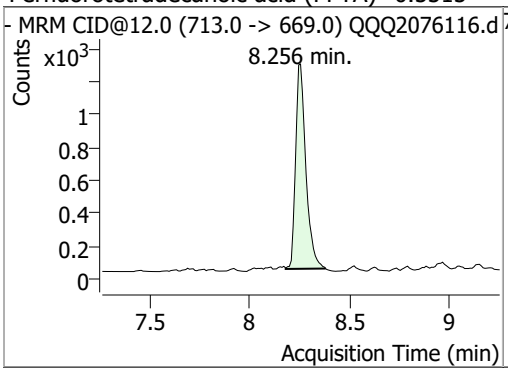
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.3450	8.26	0.00	7186				

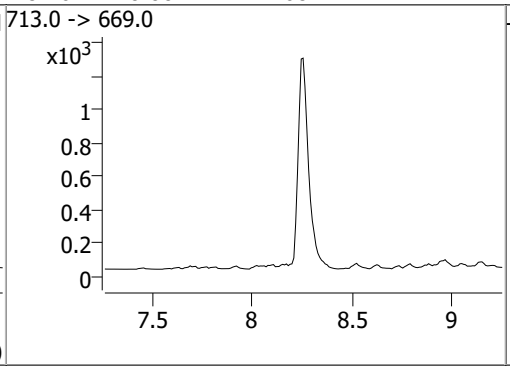


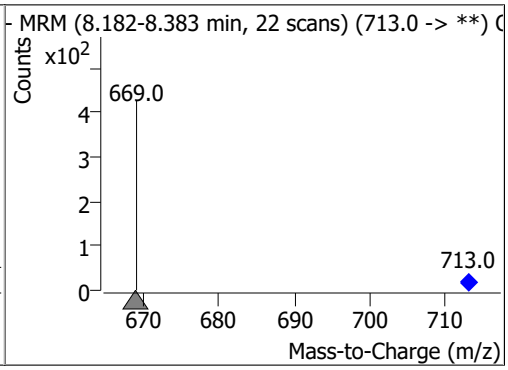




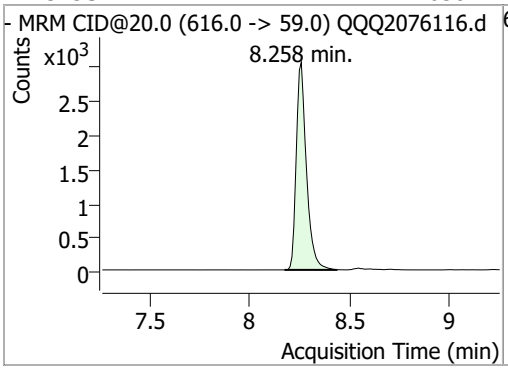
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.5515	8.26	0.00	4468				

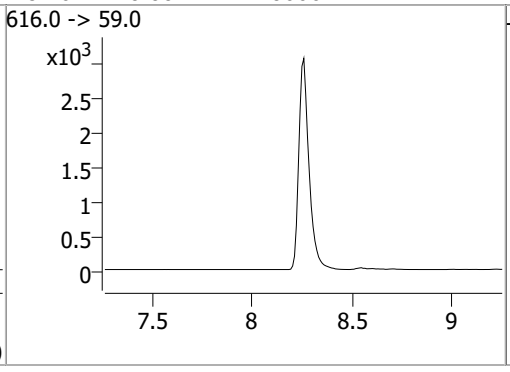


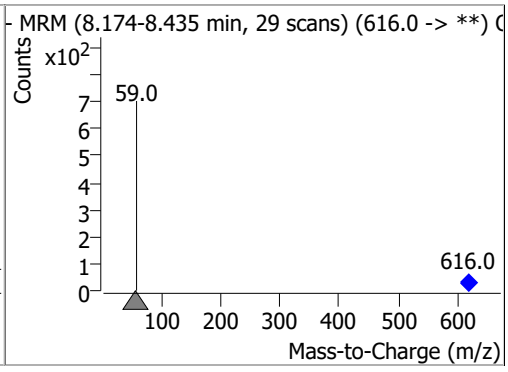




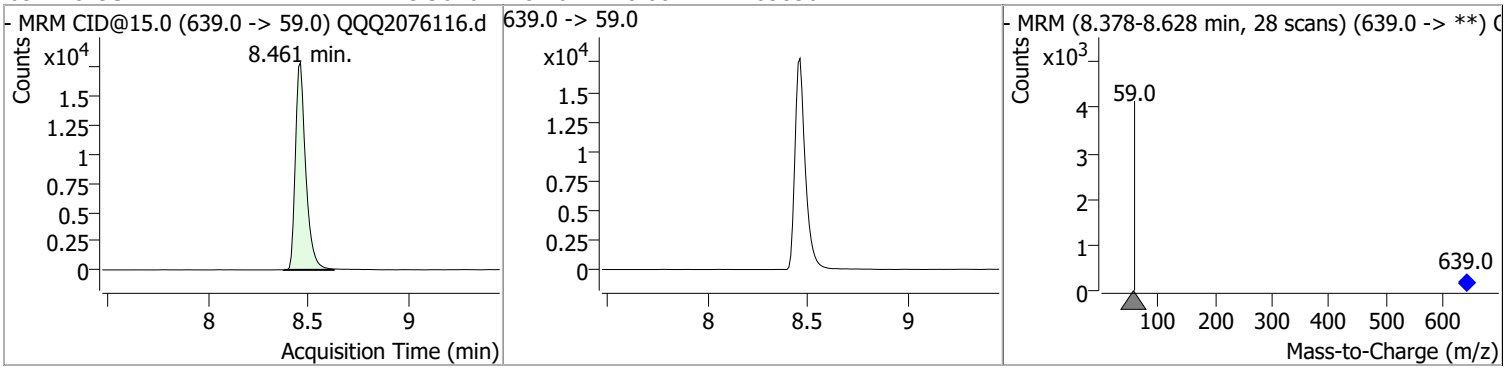
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	4.7638	8.26	0.00	10666				



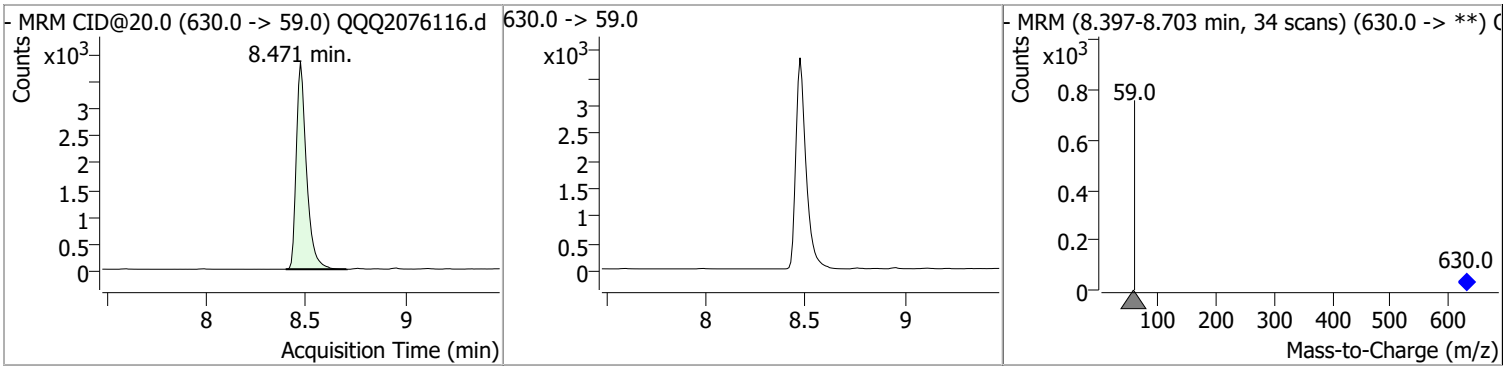




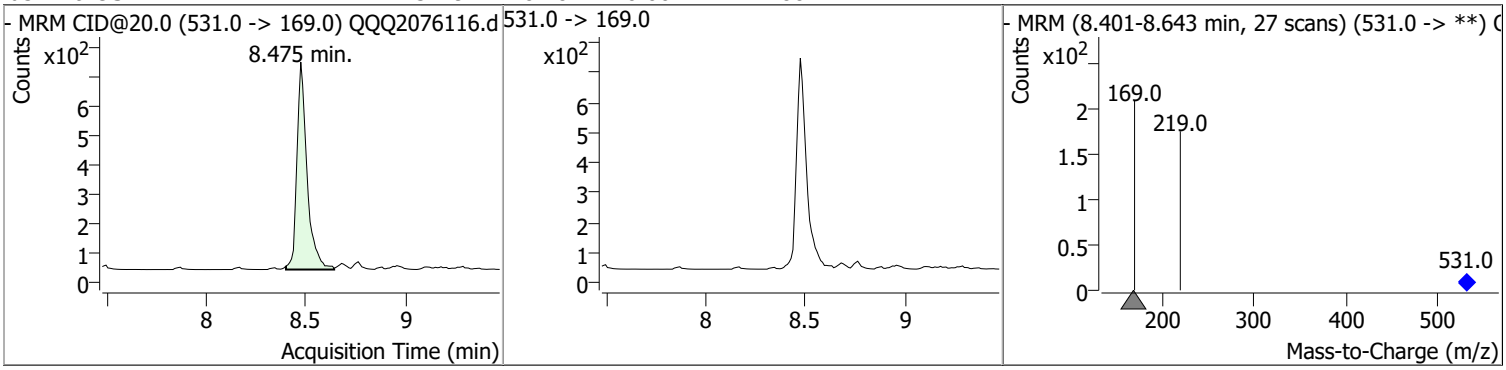
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	25.9616	8.46	0.00	63836				



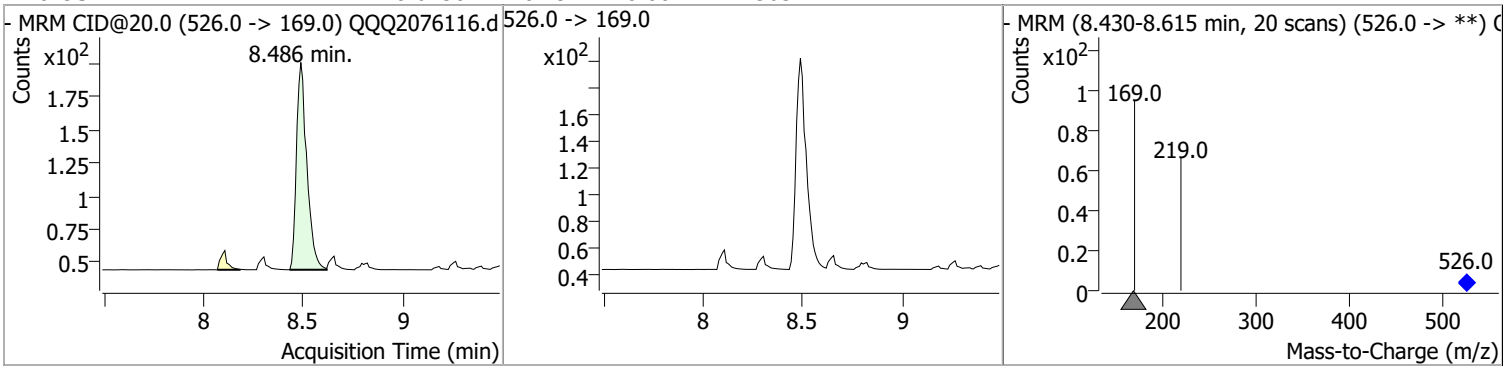
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	4.4566	8.47	0.00	13550				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.3449	8.48	0.00	2488				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.6750	8.49	0.00	565				



Data File	QQQ2076117.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 12:21:51 PM
Sample Name	SEQ-CAL3	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	1.25 - 31.6 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

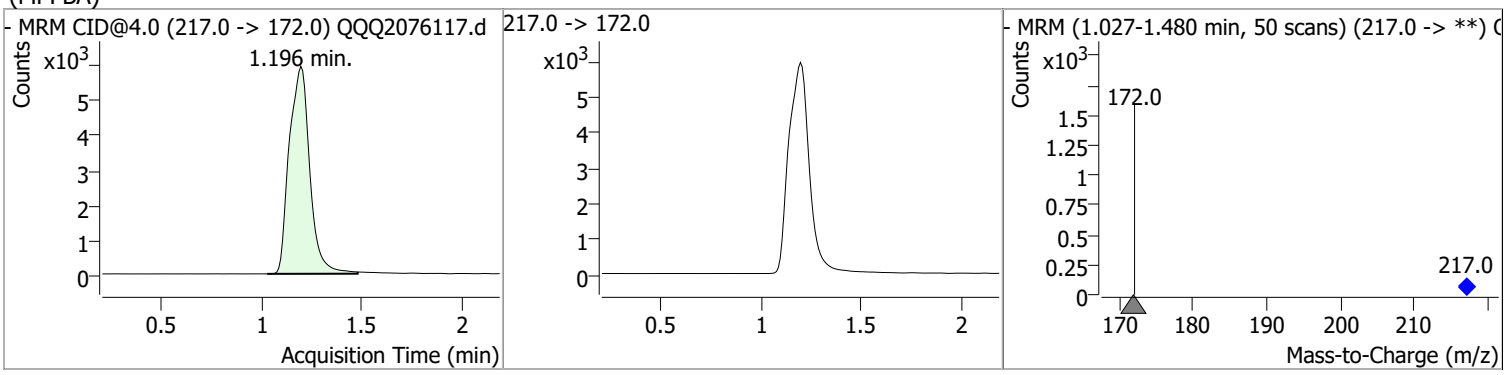
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.198	216.0 -> 172.0	30585	5.0000	ng/ml	-0.009
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.196	217.0 -> 172.0	42383	10.0000	ng/ml	-0.009
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.387	268.0 -> 223.0	25010	5.0000	ng/ml	0.000
MPFHxA	4.707	315.0 -> 269.8	28755	2.5000	ng/ml	0.010
MPFHxS	5.531	403.0 -> 103.0	2239	2.3700	ng/ml	0.009
M3PFBS-EIS	3.892	302.0 -> 79.9	7563	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	18838	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.640	329.0 -> 309.0	6747	4.6900	ng/ml	0.009
M3PFHxS-EIS	5.532	402.0 -> 80.0	7204	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	48826	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.449	367.0 -> 322.0	23897	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	3114	4.7550	ng/ml	0.000
MPFOA	6.036	417.0 -> 372.0	27088	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	14836	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.575	507.0 -> 98.9	2306	2.3950	ng/ml	0.009
MPFNA	6.549	468.0 -> 423.0	8493	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.548	472.0 -> 223.0	1093	1.2500	ng/ml	0.009
MPFOS	6.576	503.0 -> 80.0	7077	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.967	529.0 -> 509.0	3606	4.8000	ng/ml	0.000
MPFDA	6.986	515.0 -> 469.8	8549	1.2500	ng/ml	0.000
M6PFDA-EIS	6.995	519.0 -> 473.9	4765	1.2500	ng/ml	0.009
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	9802	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	10578	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.367	570.0 -> 525.0	9156	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	14149	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	6956	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.256	715.0 -> 670.0	7420	1.2500	ng/ml	0.000
d3-NMeFOSA-EIS	8.254	515.0 -> 219.0	1853	2.5000	ng/ml	0.009
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	57564	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.461	639.0 -> 59.0	59391	25.0000	ng/ml	0.000
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2568	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.196	217.0 -> 172.0	42383	10.1167	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.387	268.0 -> 223.0	25010	5.3720	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	7563	2.5393	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.640	329.0 -> 309.0	6747	5.5327	ng/ml	0.009

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	18838	2.4254	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	48826	10.7802	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	23897	2.7243	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	7204	2.8792	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.997	429.0 -> 409.0	3114	4.7087	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	14836	2.4843	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.548	472.0 -> 223.0	1093	1.2503	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.575	507.0 -> 98.9	2306	2.2509	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.967	529.0 -> 509.0	3606	6.3427	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.995	519.0 -> 473.9	4765	1.4360	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	9802	4.0946	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	10578	4.3975	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	9156	1.3922	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	14149	2.4356	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	6956	1.2705	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	57564	23.9303	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.254	515.0 -> 219.0	1853	2.4970	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.256	715.0 -> 670.0	7420	1.2842	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.461	639.0 -> 59.0	59391	25.1210	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2568	2.5178	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.200	213.0 -> 168.9	25846	4.8324	ng/ml	100
PFMPA	2.061	229.0 -> 85.0	8700	2.2663	ng/ml	100
3:3FTCA	3.286	241.0 -> 177.0	1772	5.7891	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.388	263.0 -> 219.0	11843	2.1642	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	5034	1.3004	ng/ml	100
PFMBA	3.922	279.0 -> 85.0	12433	2.1827	ng/ml	100
PFEESA	4.382	315.0 -> 135.0	28253	2.3363	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	13565	2.5292	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.631	327.0 -> 307.0	6644	4.9338	ng/ml	100

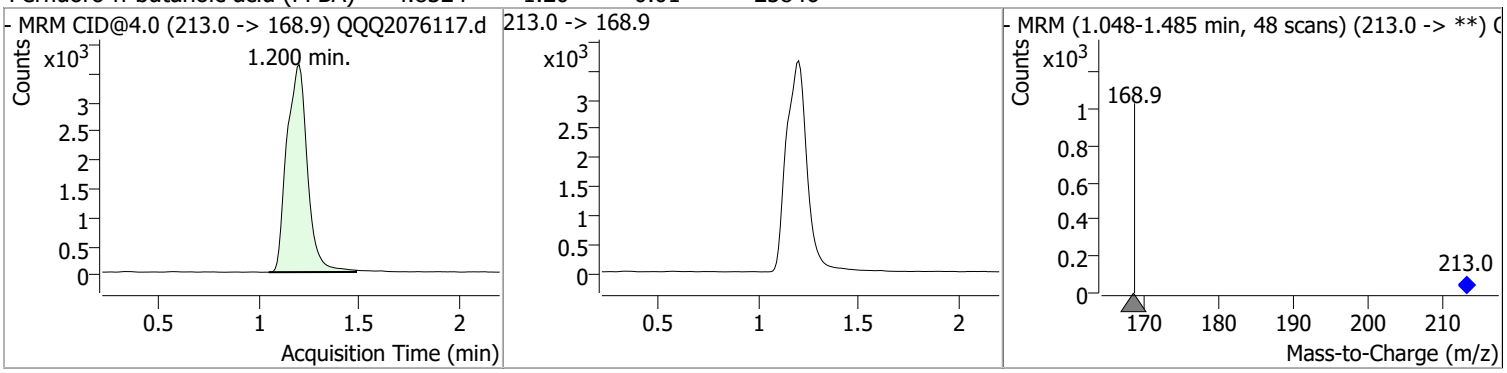
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.707	313.0 -> 268.9	11227	1.2644	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	3222	0.7926	ng/ml		100
HFPO-DA	4.969	285.0 -> 169.1	1702	4.0935	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	14273	1.1094	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.532	398.9 -> 79.9	4663	1.1260	ng/ml	m	100
5-3FTCA	5.534	341.0 -> 217.0	40175	38.5117	ng/ml		100
ADONA	5.561	377.0 -> 85.0	33298	5.2676	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	3792	5.8496	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	11724	1.3679	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	3755	1.6060	ng/ml		100
Perfluorononanoic acid (PFNA)	6.549	463.0 -> 418.8	8500	1.3677	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.567	498.9 -> 79.9	1909	1.6052	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	52253	32.2208	ng/ml		100
9-Cl-PF3ONS	6.826	531.0 -> 351.0	36419	5.2463	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.967	527.0 -> 80.9	3084	3.3773	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	7971	1.0026	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	7.004	548.9 -> 79.9	2733	1.2632	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	2451	1.8366	ng/ml	m	100
N-EtFOSAA	7.348	584.0 -> 418.8	2503	1.5616	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.376	598.9 -> 98.9	1566	1.6856	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.368	563.0 -> 519.0	8789	1.4701	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	12627	1.2675	ng/ml		100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	11806	4.4082	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	5666	1.1840	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.978	699.0 -> 80.0	1228	1.3963	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.988	663.0 -> 618.8	6592	1.4261	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	1325	1.2647	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.256	713.0 -> 669.0	9706	1.1607	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	24867	12.2011	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	36506	12.9264	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	1346	1.5516	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

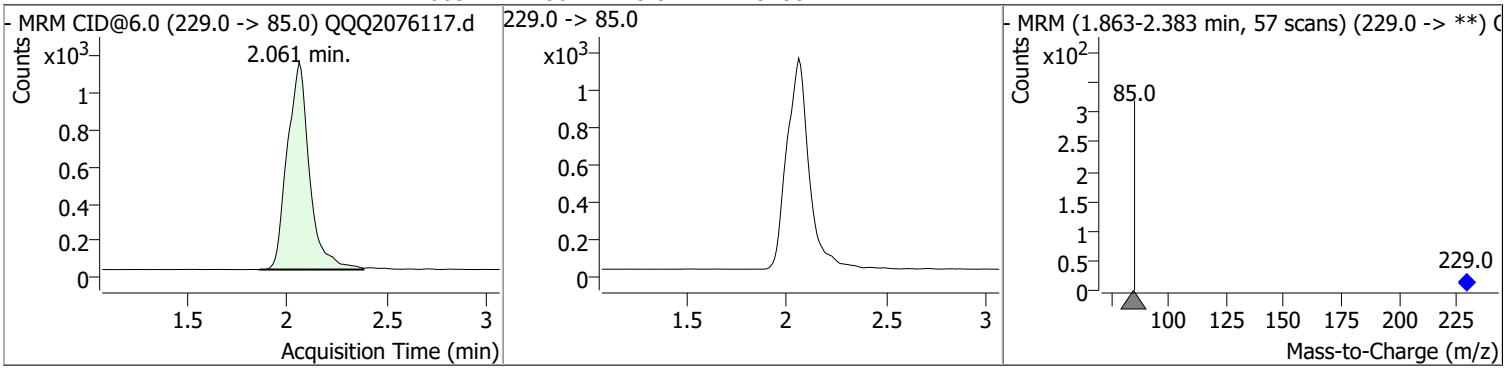
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.1167	1.20	-0.01	42383				



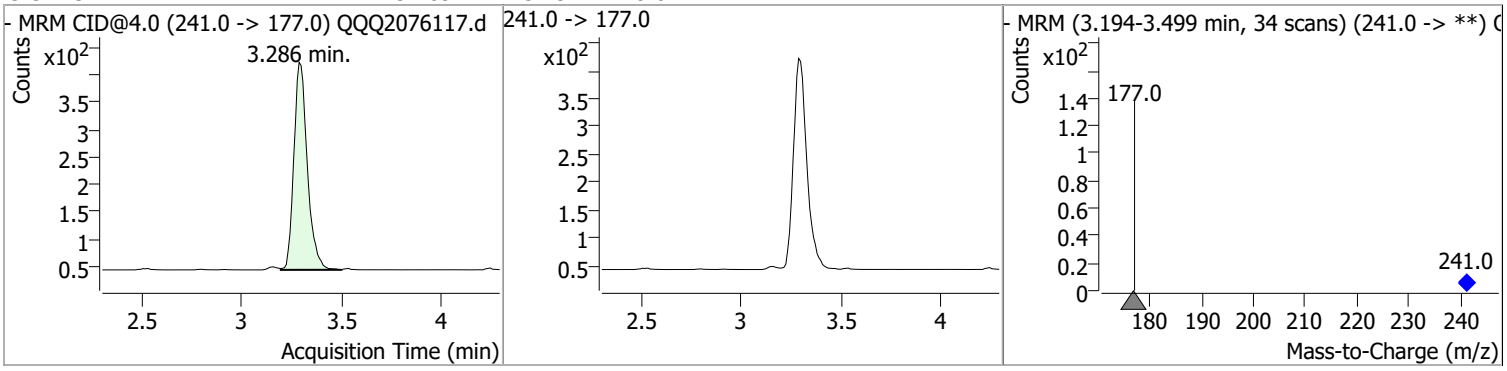
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	4.8324	1.20	-0.01	25846				



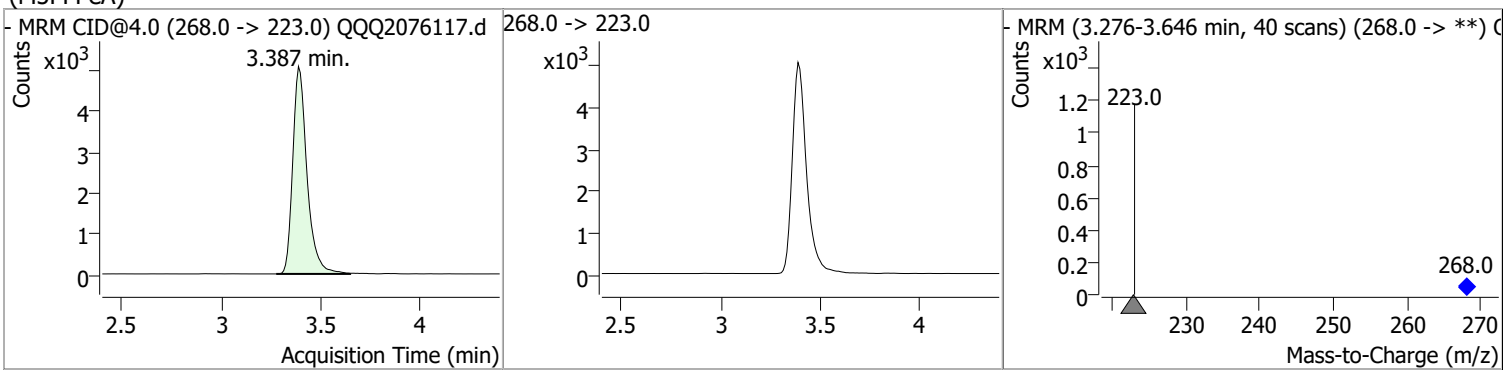
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	2.2663	2.06	-0.01	8700				



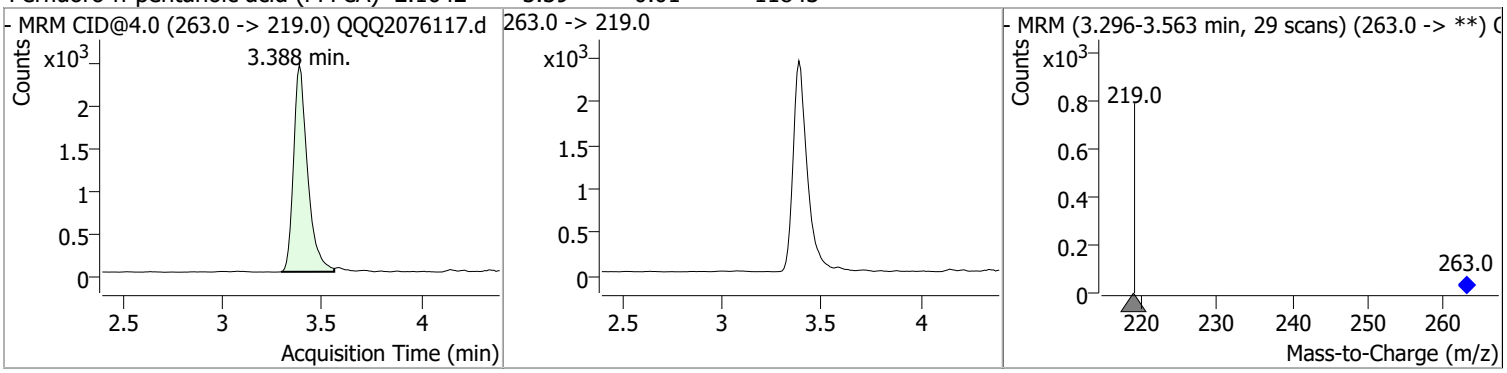
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	5.7891	3.29	-0.01	1772				



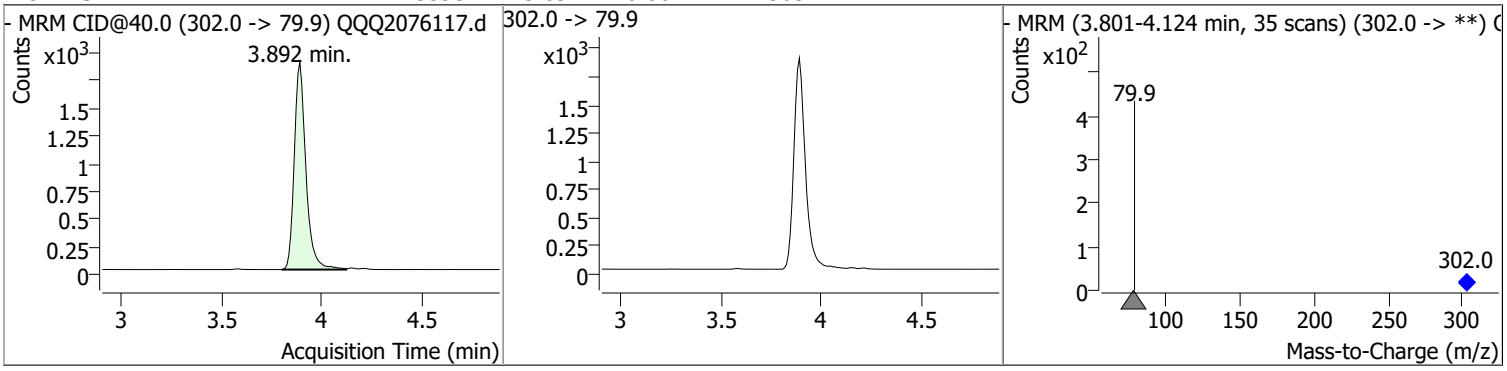
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.3720	3.39	0.00	25010				



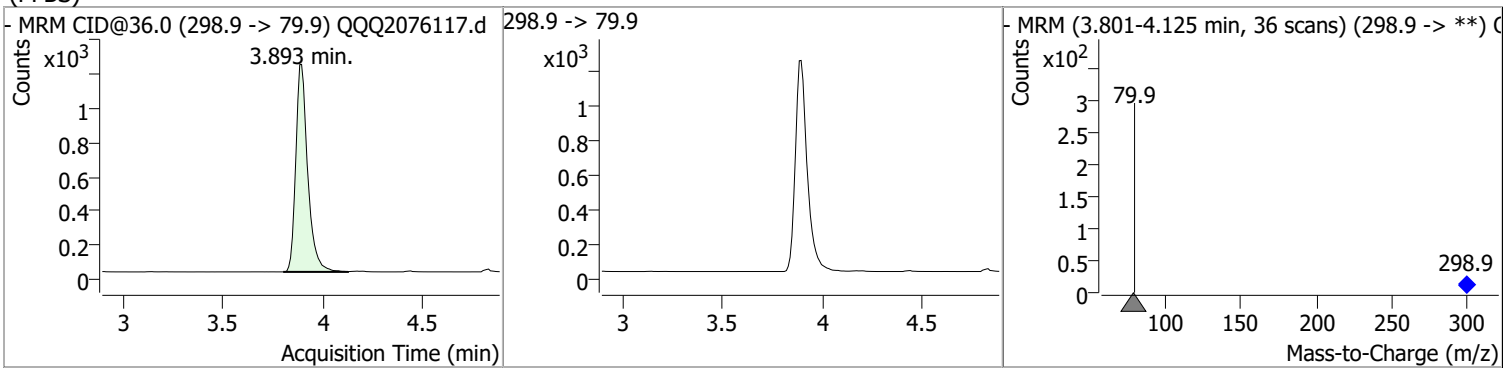
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	2.1642	3.39	-0.01	11843				



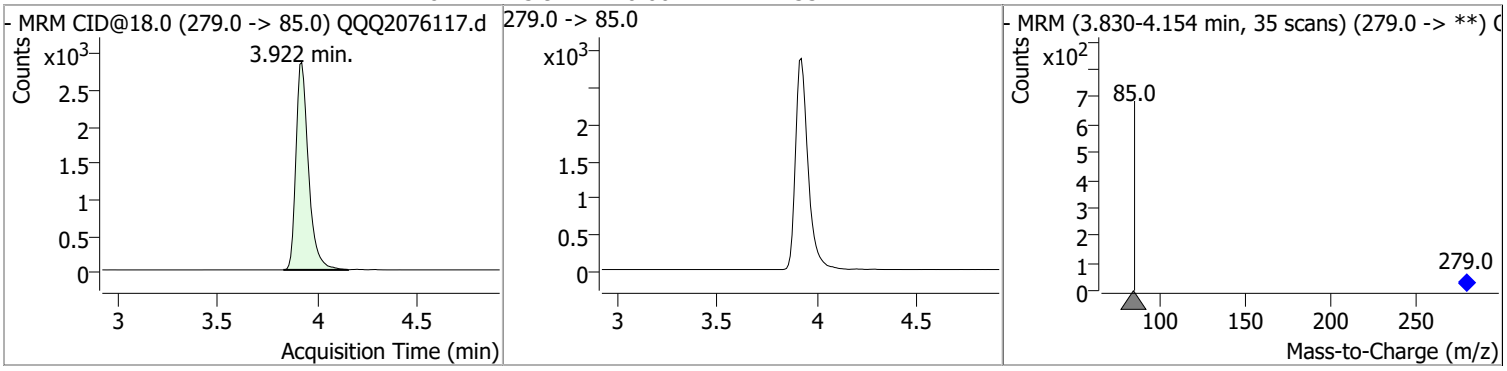
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.5393	3.89	0.00	7563				



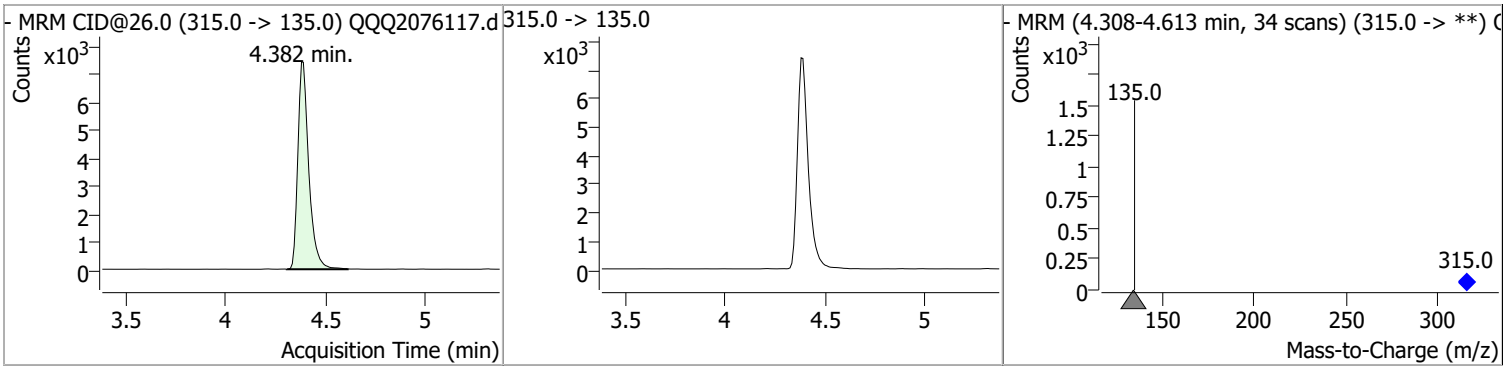
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	1.3004	3.89	0.00	5034				



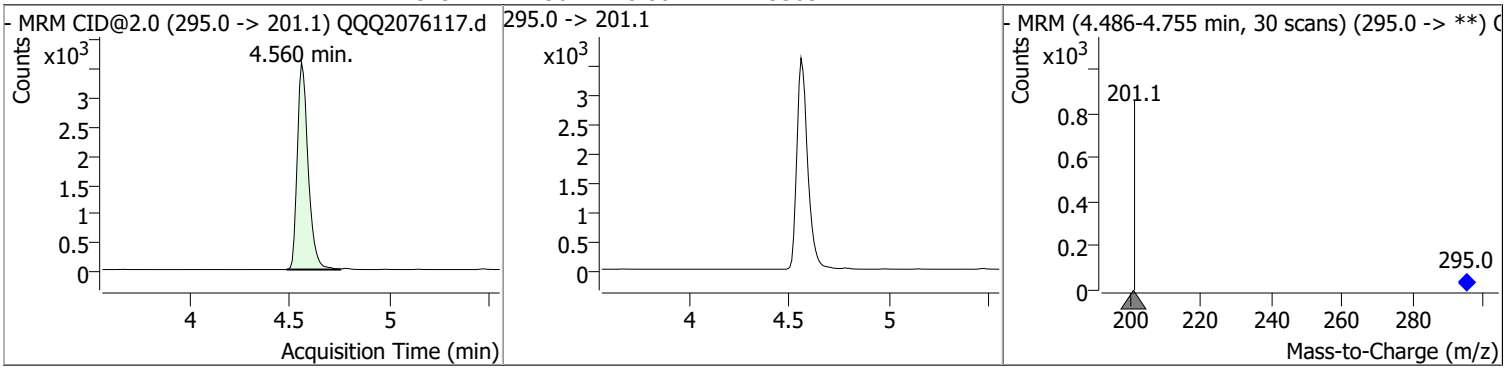
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	2.1827	3.92	0.00	12433				



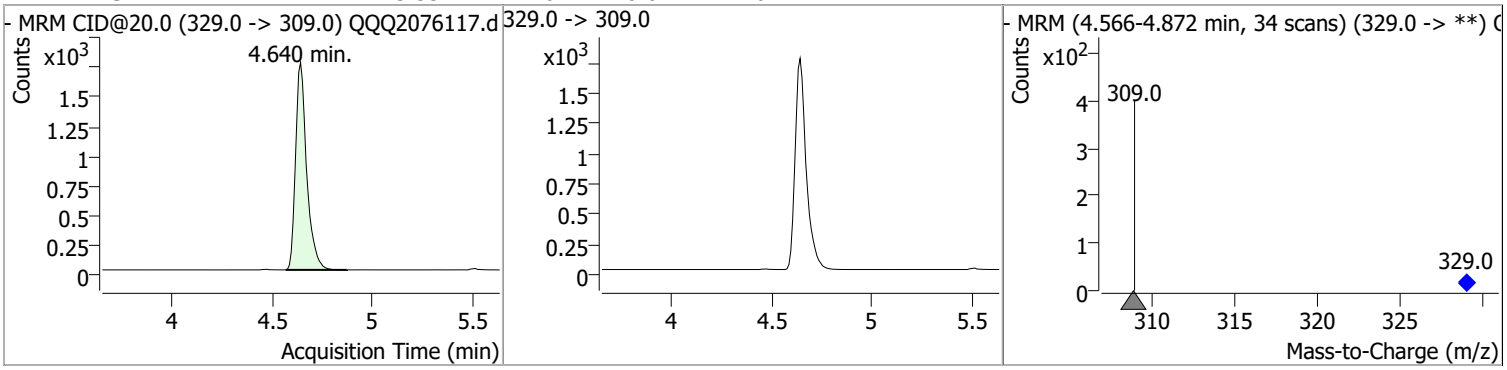
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	2.3363	4.38	0.00	28253				



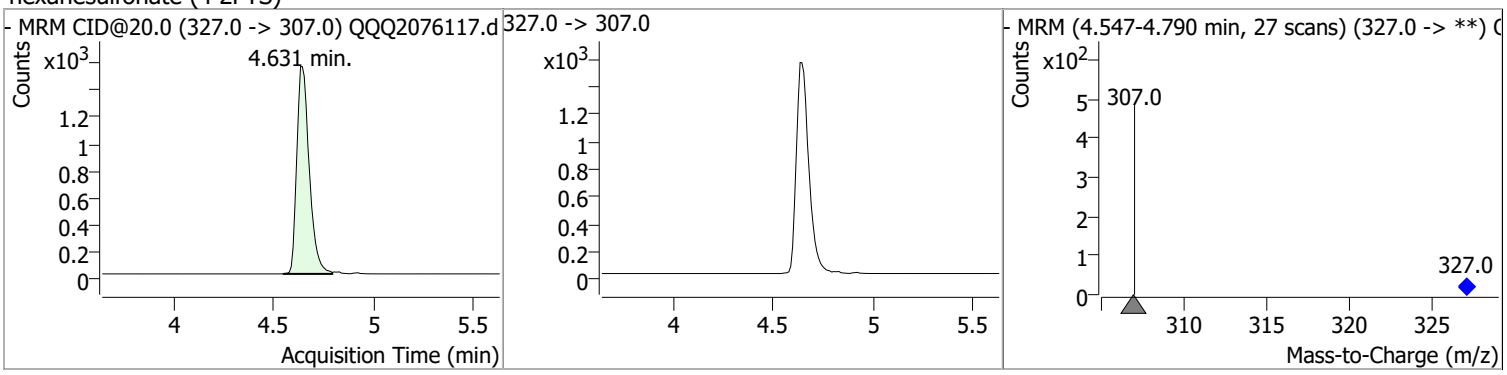
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	2.5292	4.56	0.00	13565				



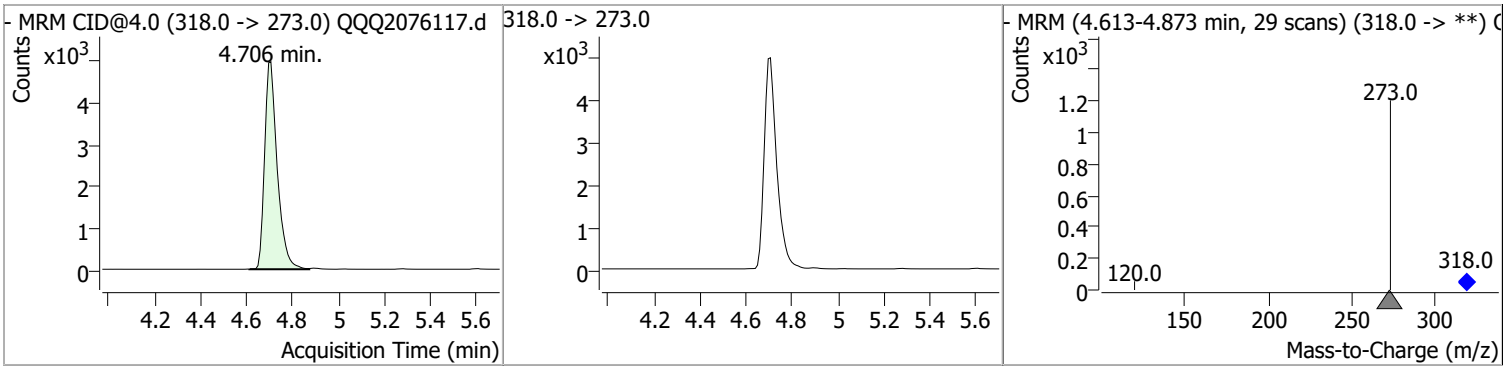
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.5327	4.64	0.01	6747				



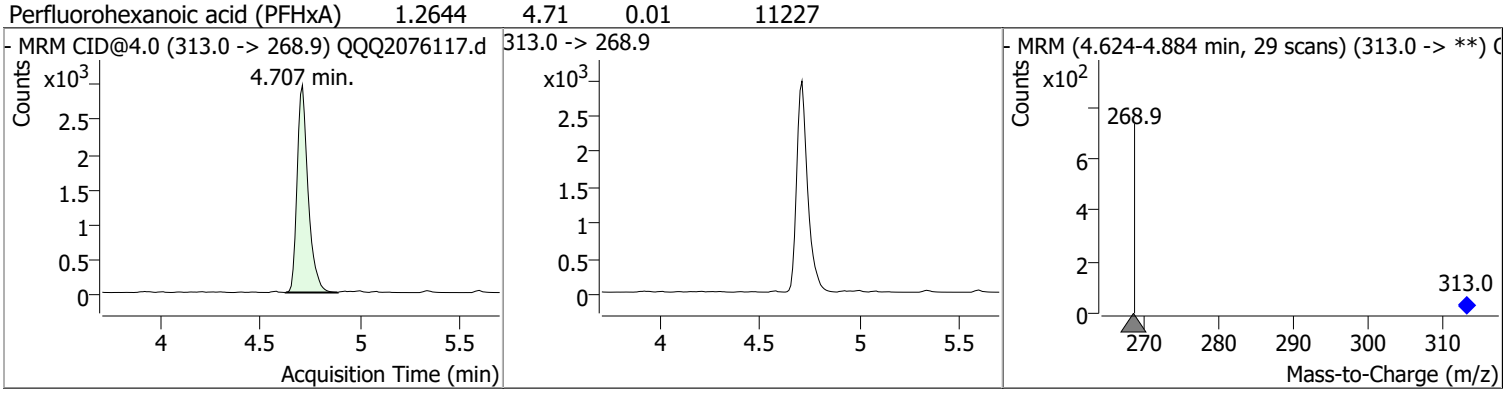
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.9338	4.63	0.00	6644				



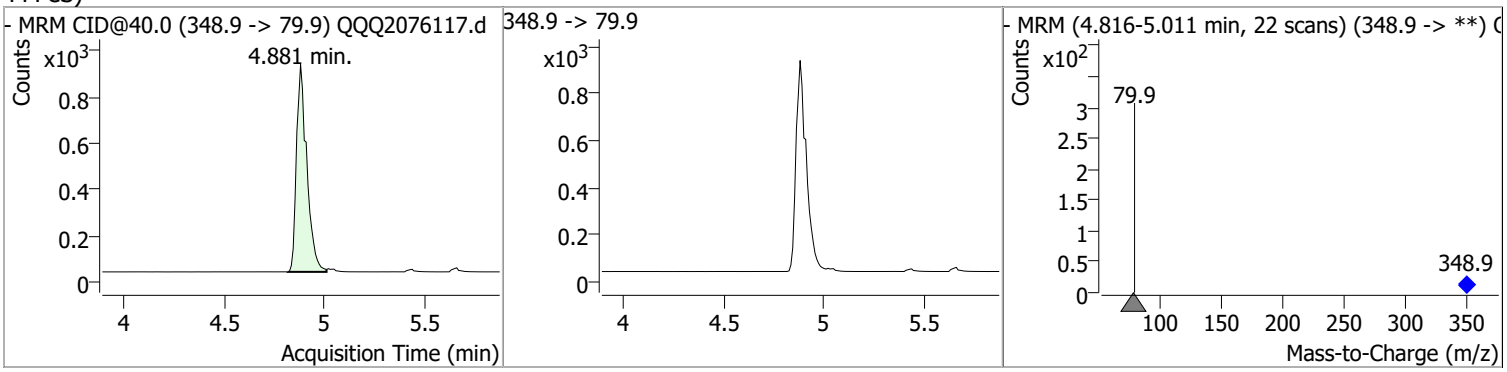
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4254	4.71	0.01	18838				



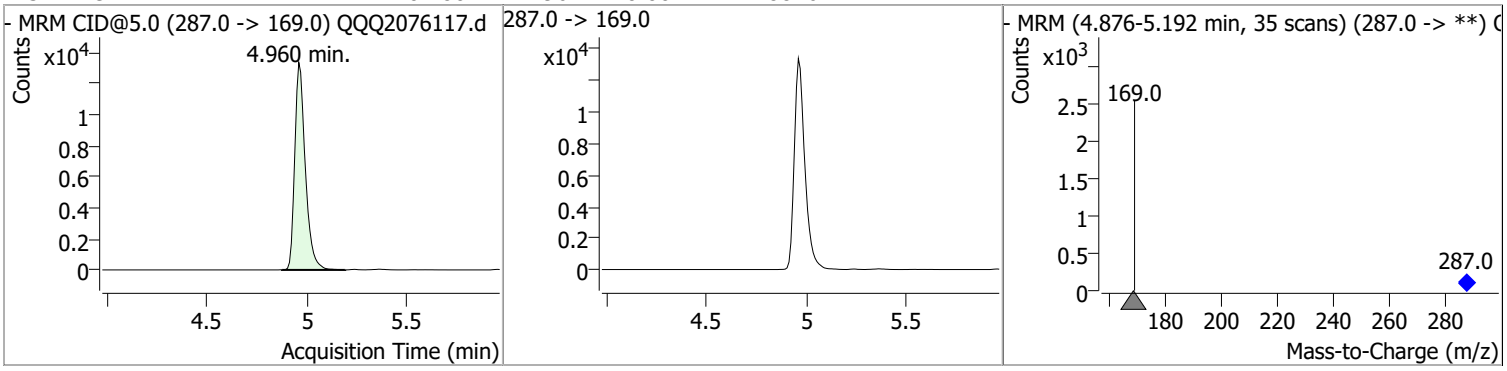
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	1.2644	4.71	0.01	11227				



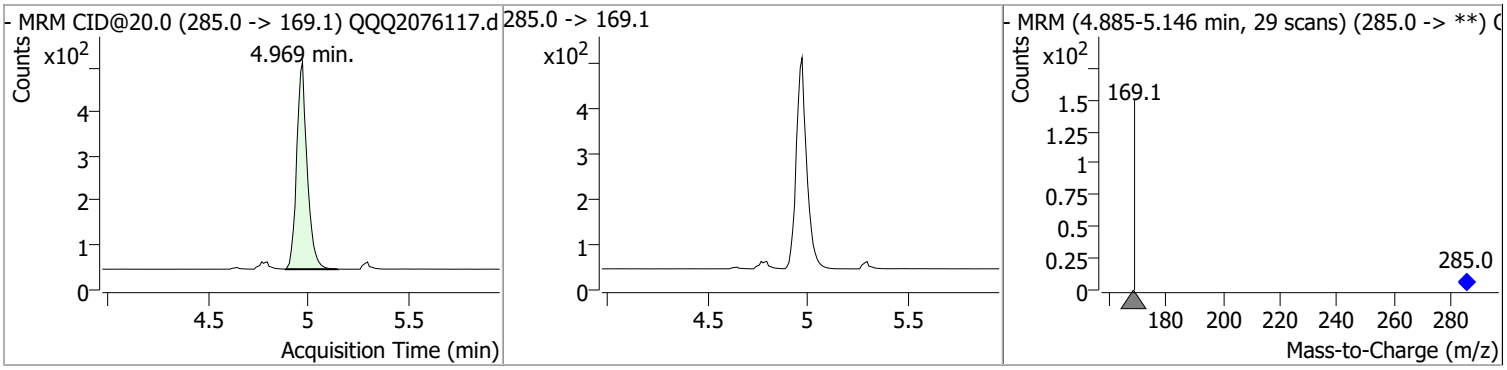
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.7926	4.88	0.00	3222				



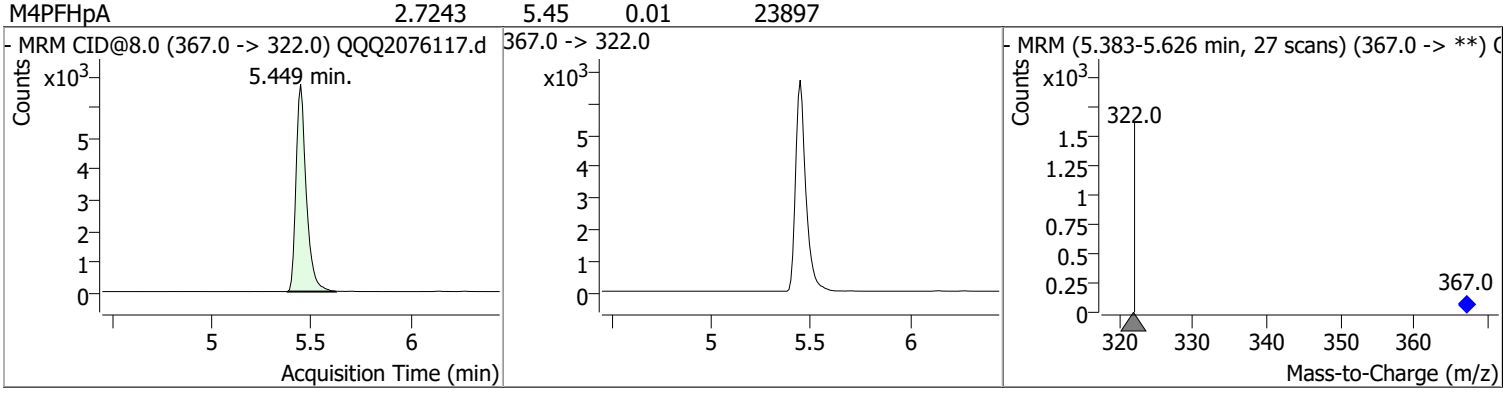
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.7802	4.96	0.00	48826				



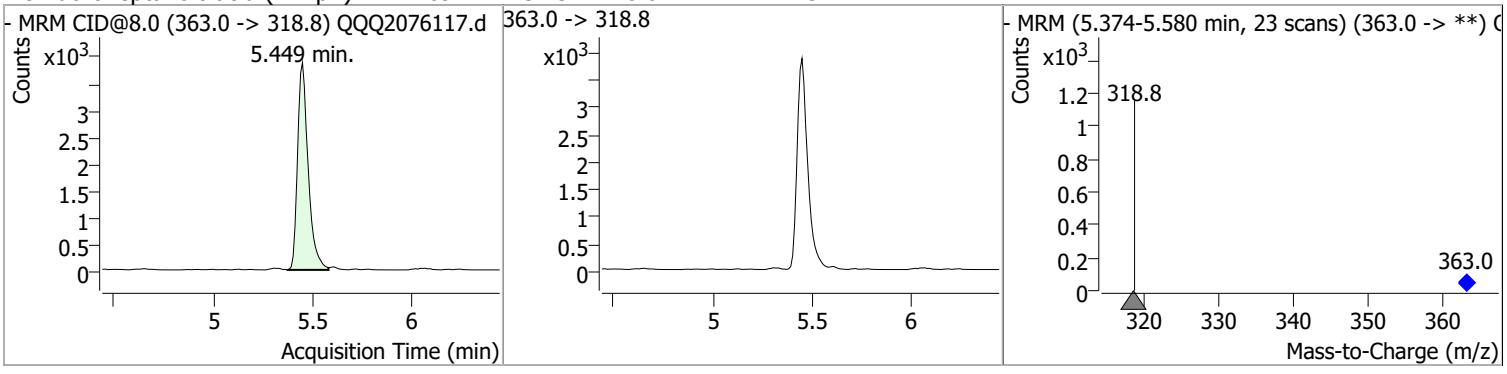
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	4.0935	4.97	0.01	1702				



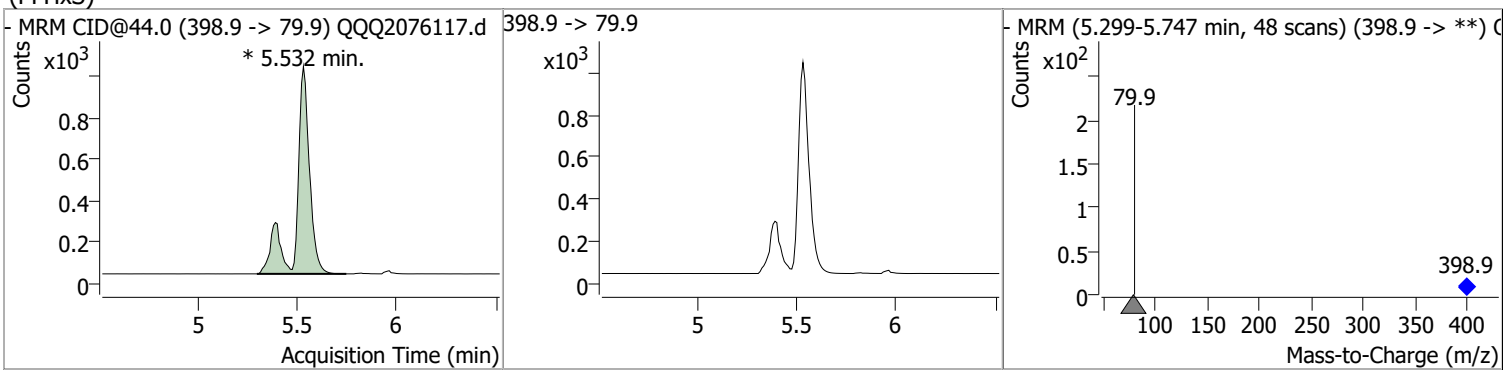
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.7243	5.45	0.01	23897				



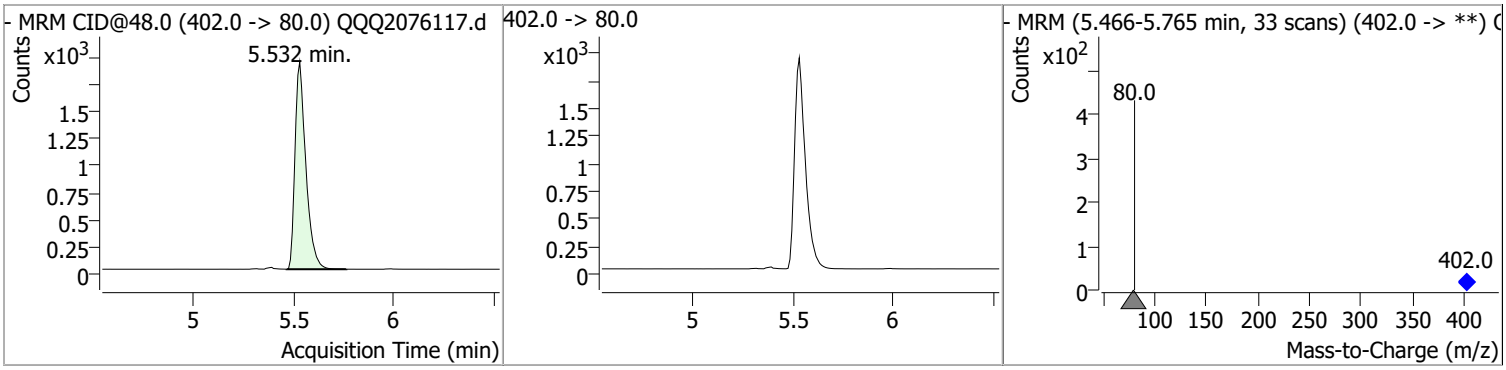
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	1.1094	5.45	0.01	14273				



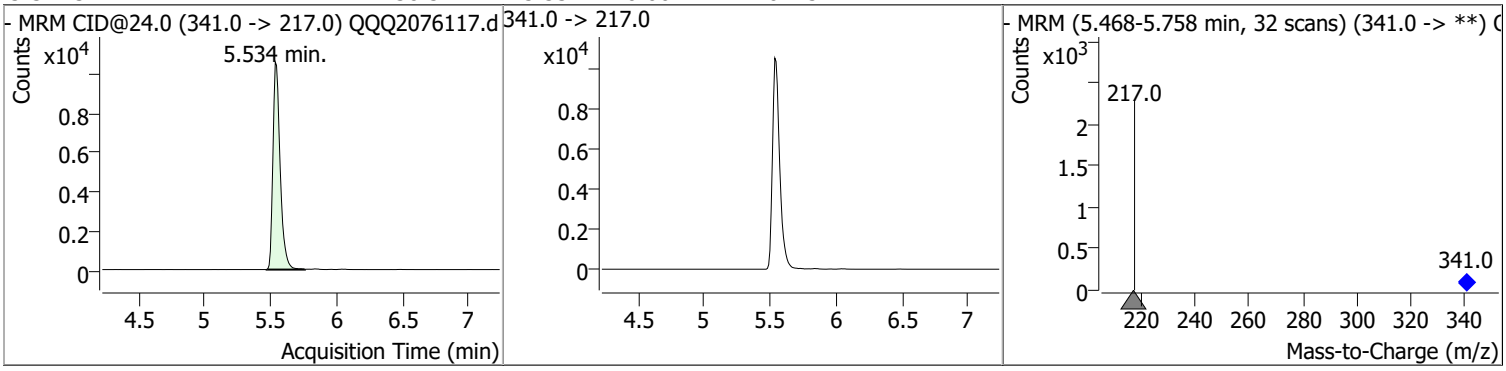
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	1.1260	5.53	0.01	4663 (m)				



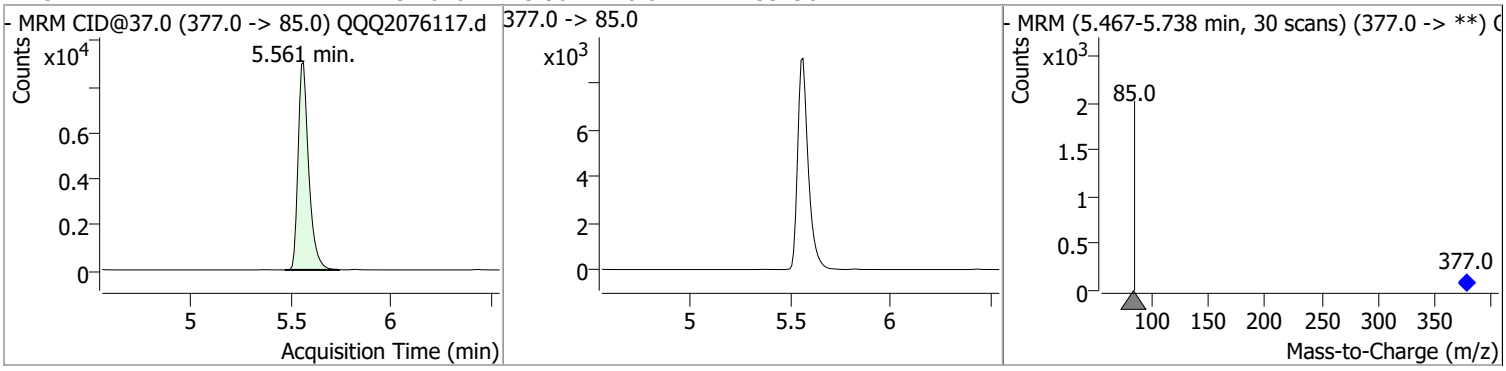
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.8792	5.53	0.00	7204				



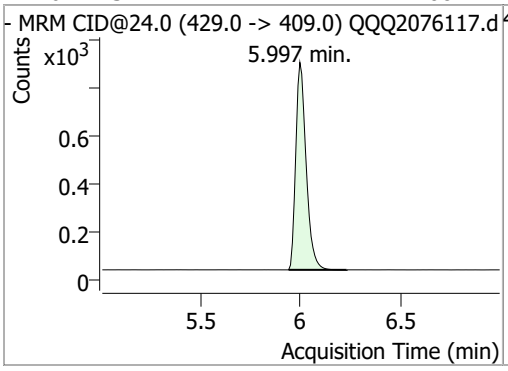
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	38.5117	5.53	0.00	40175				

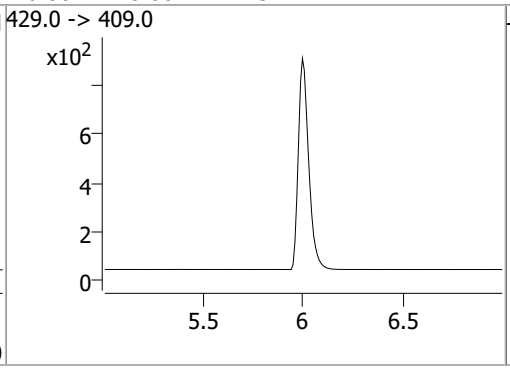


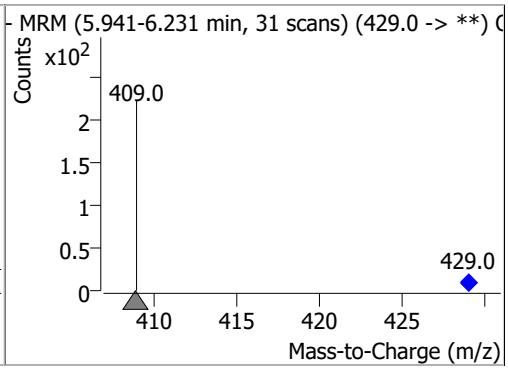
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	5.2676	5.56	0.01	33298				



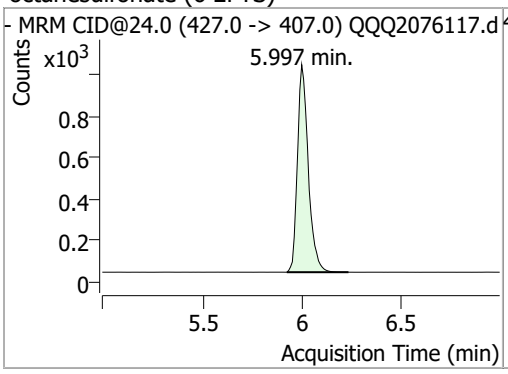
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.7087	6.00	0.00	3114				

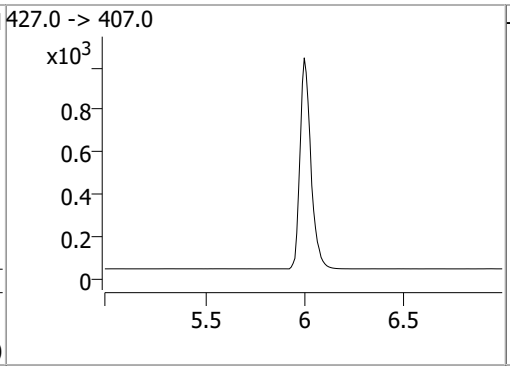


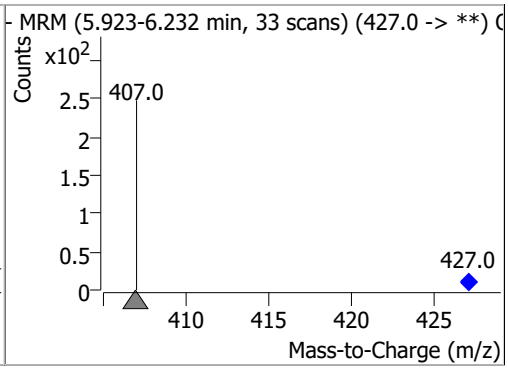




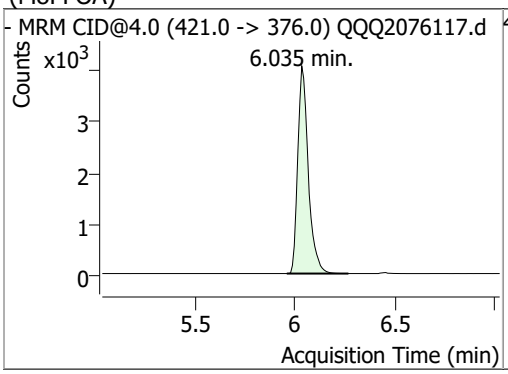
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.8496	6.00	0.00	3792				

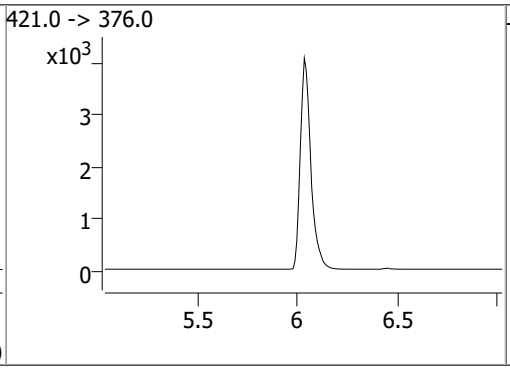


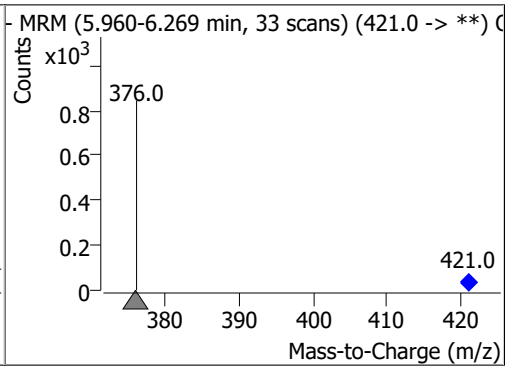




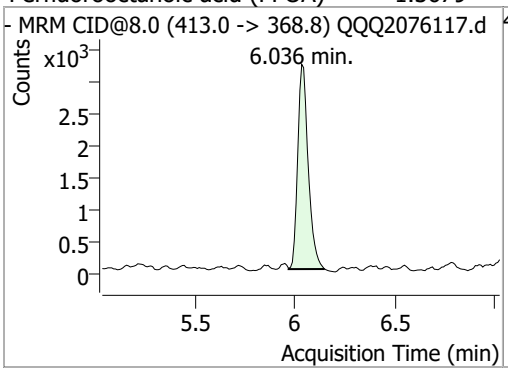
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.4843	6.04	0.00	14836				

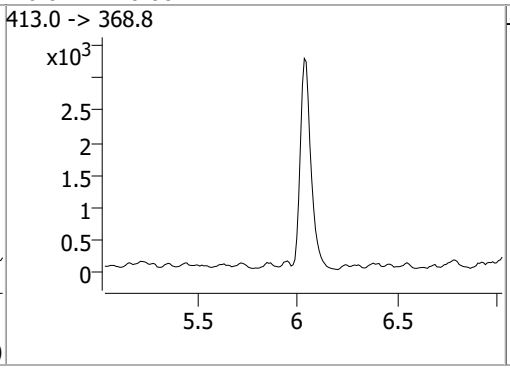


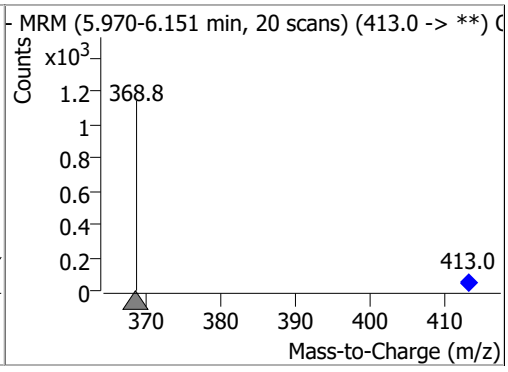




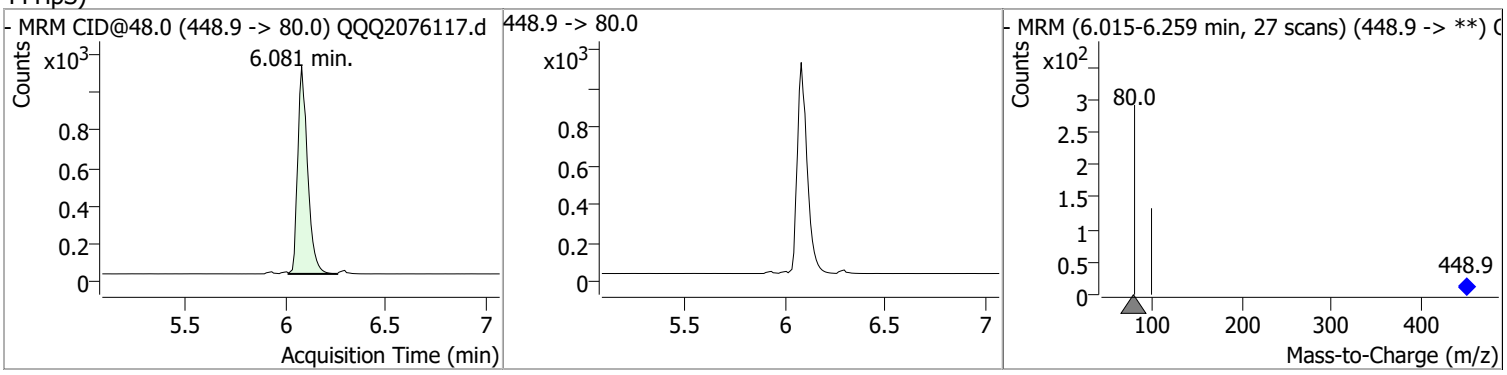
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	1.3679	6.04	0.00	11724				



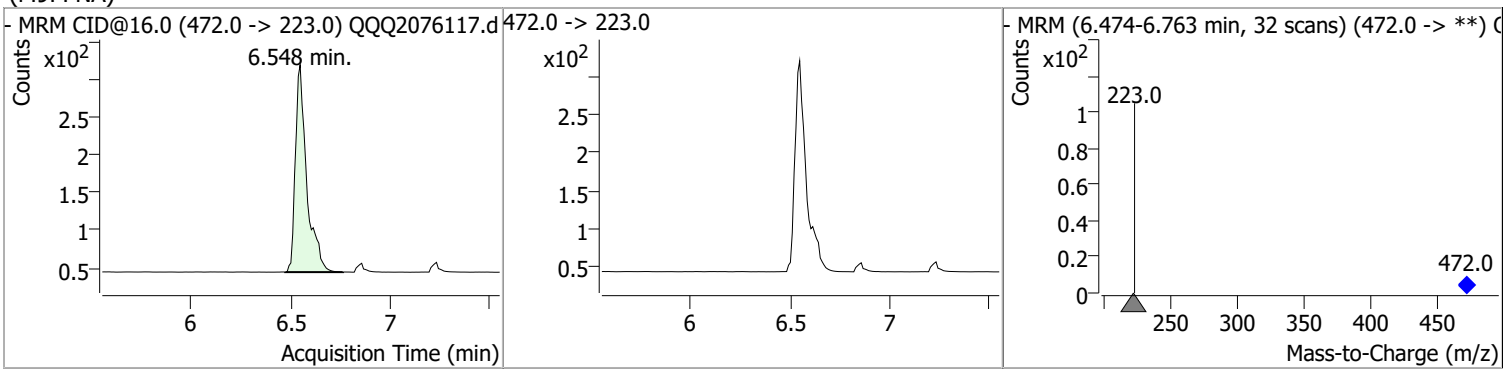




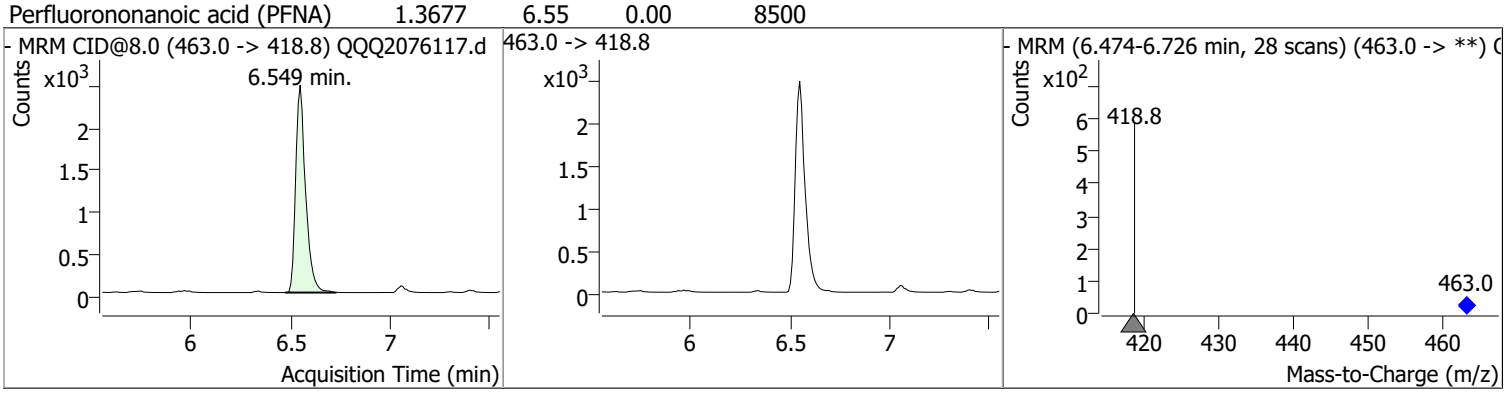
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	1.6060	6.08	0.00	3755				



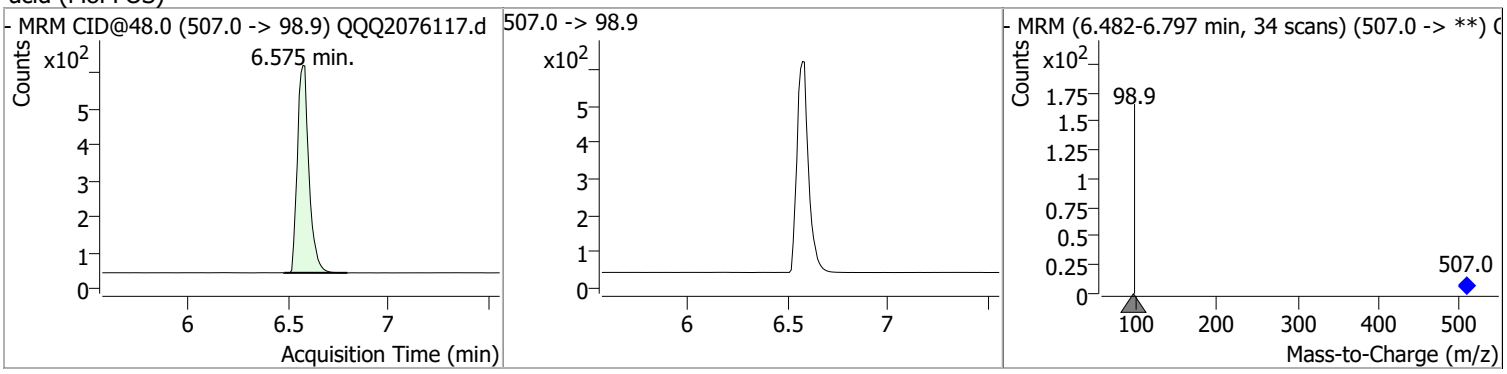
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.2503	6.55	0.01	1093				



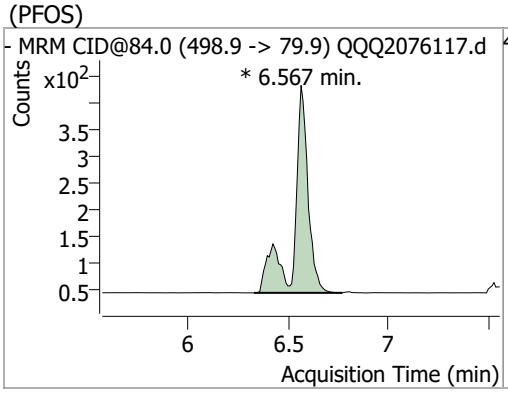
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	1.3677	6.55	0.00	8500				

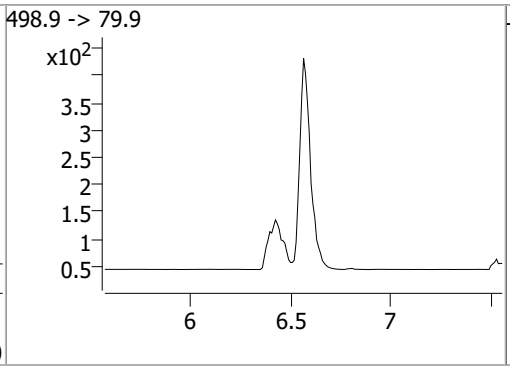


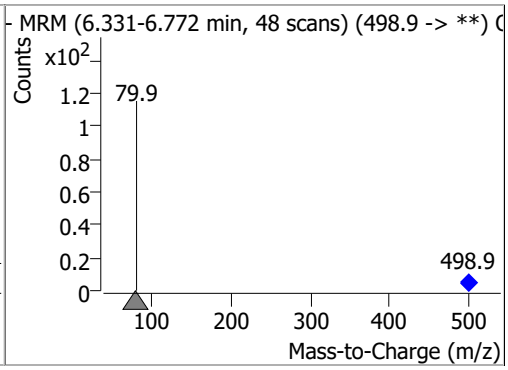
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.2509	6.58	0.01	2306				



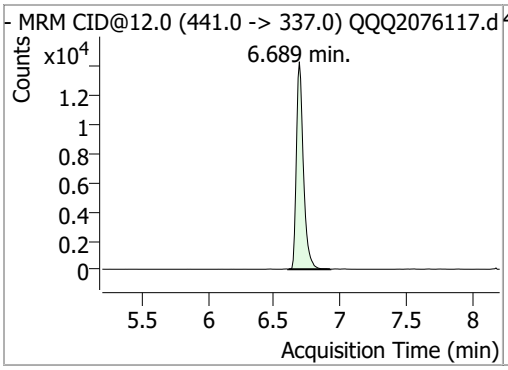
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	1.6052	6.57	0.00	1909 (m)				

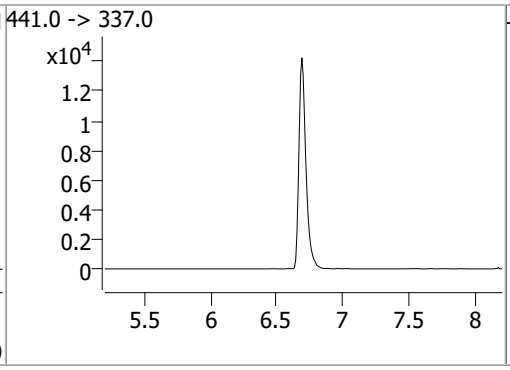


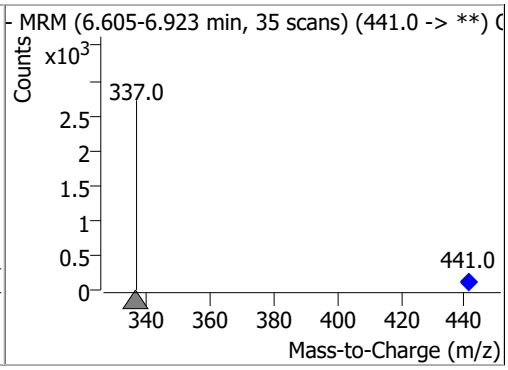




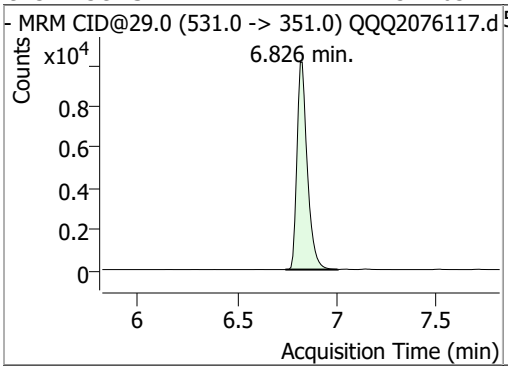
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	32.2208	6.69	0.00	52253				

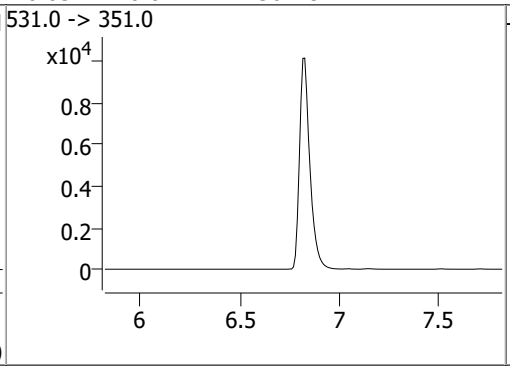


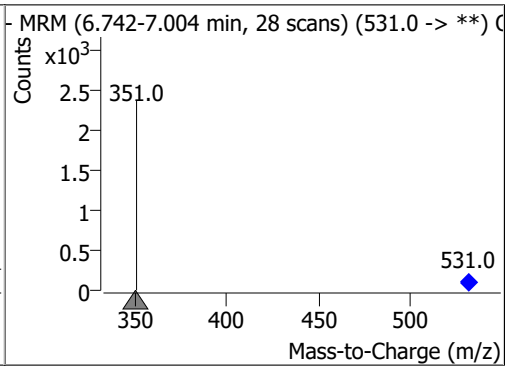




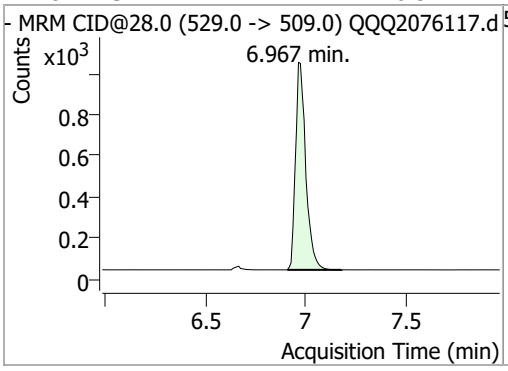
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	5.2463	6.83	0.01	36419				

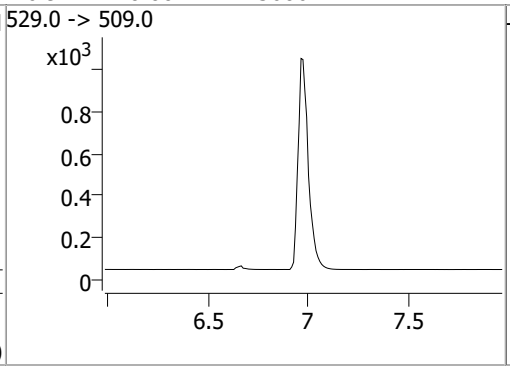


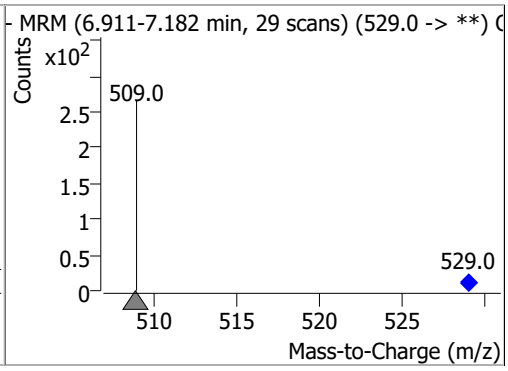




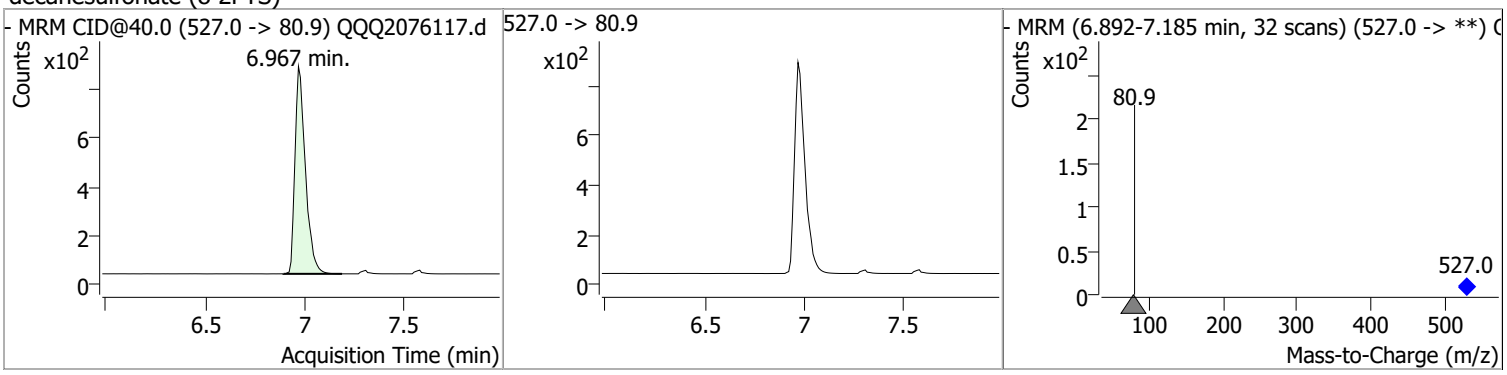
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	6.3427	6.97	0.00	3606				



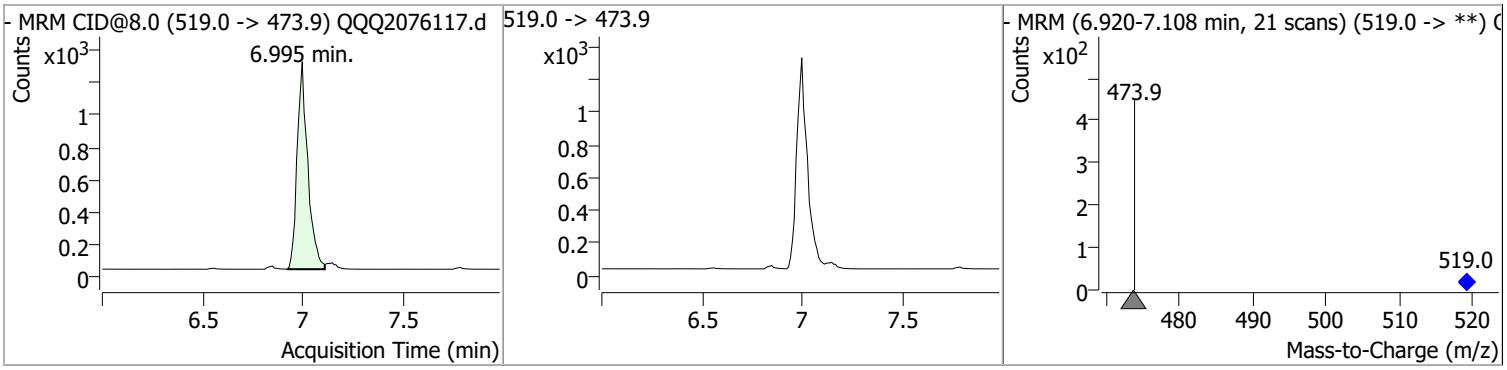




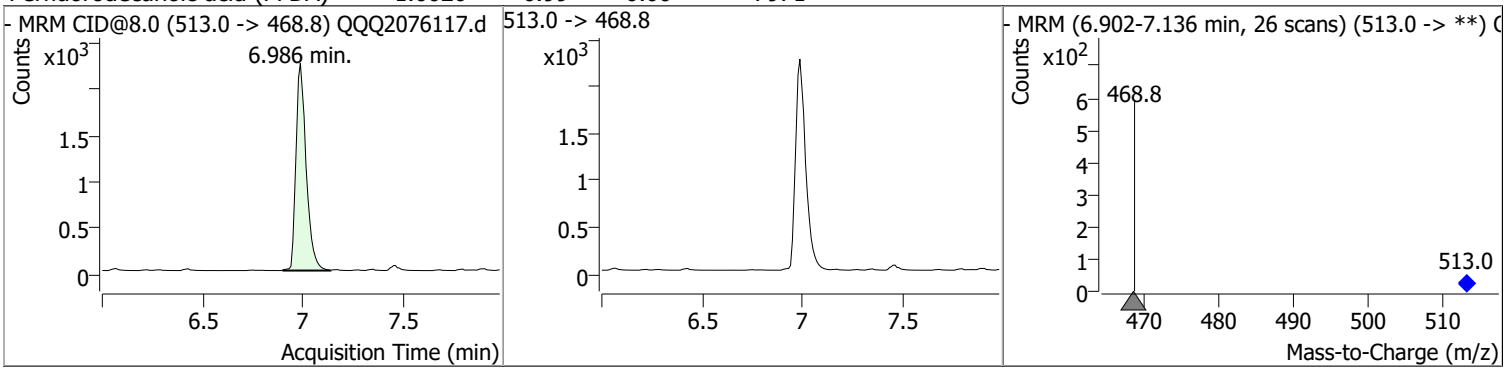
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	3.3773	6.97	-0.01	3084				



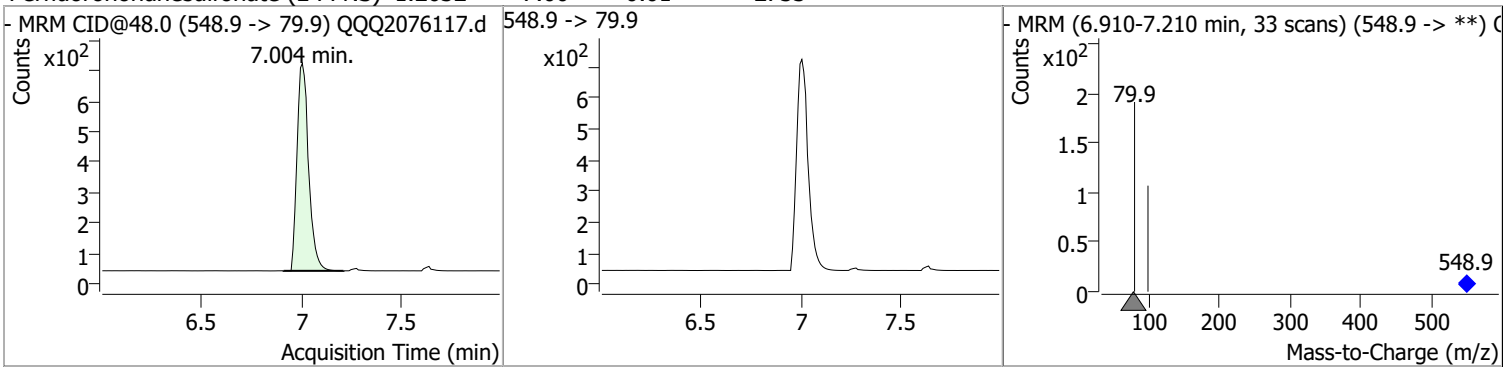
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.4360	7.00	0.01	4765				



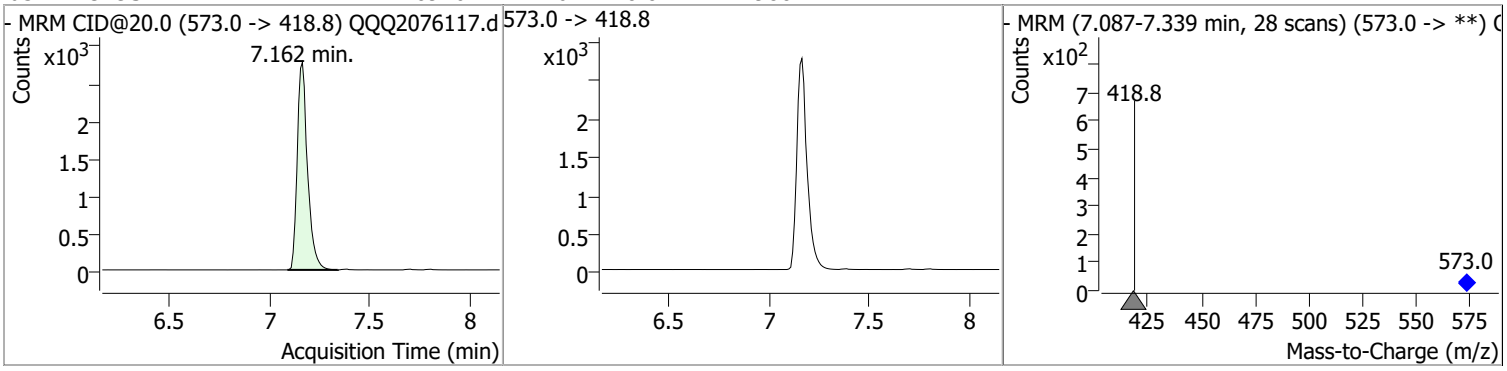
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	1.0026	6.99	0.00	7971				



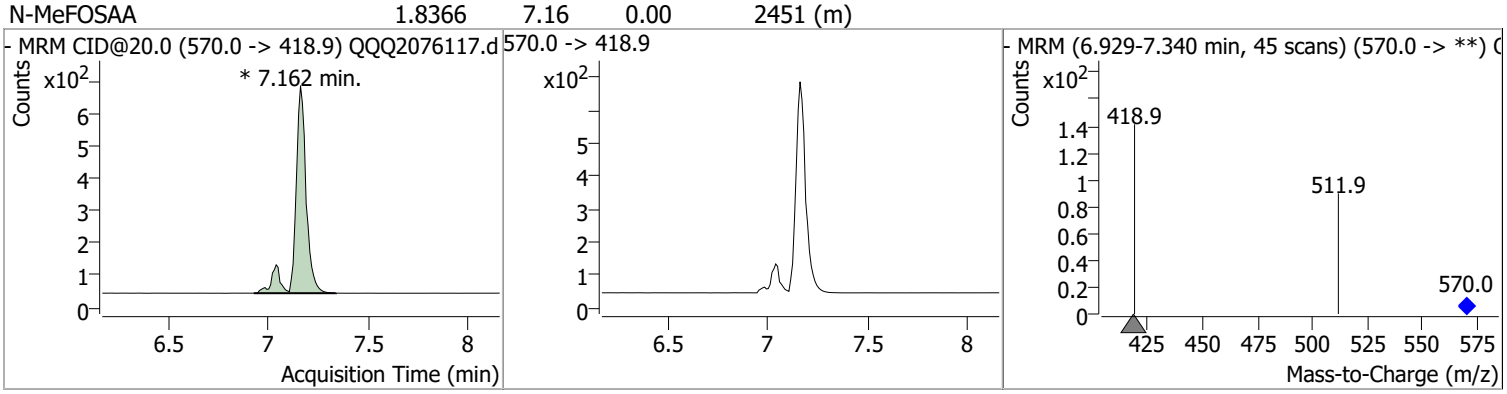
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	1.2632	7.00	0.01	2733				



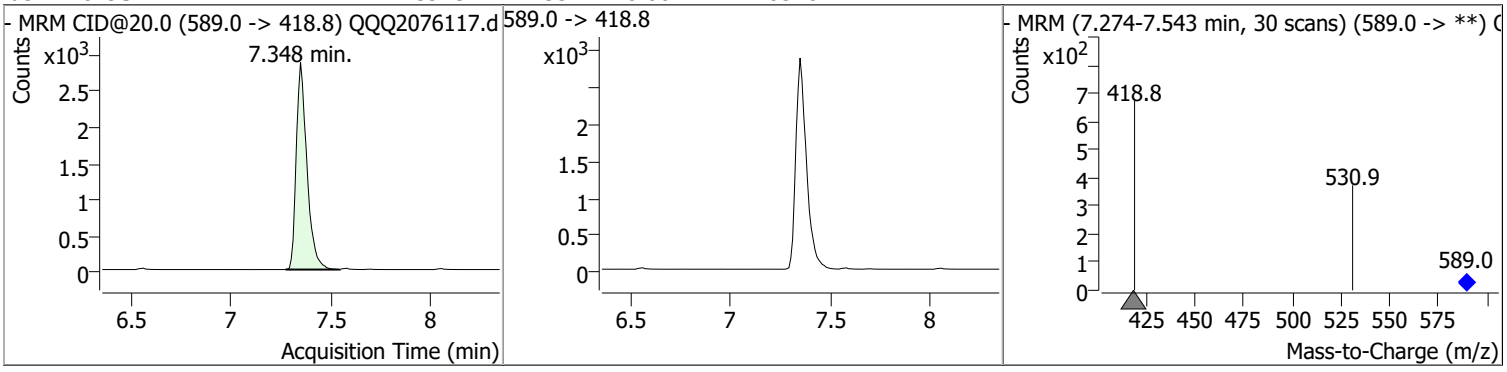
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.0946	7.16	0.01	9802				



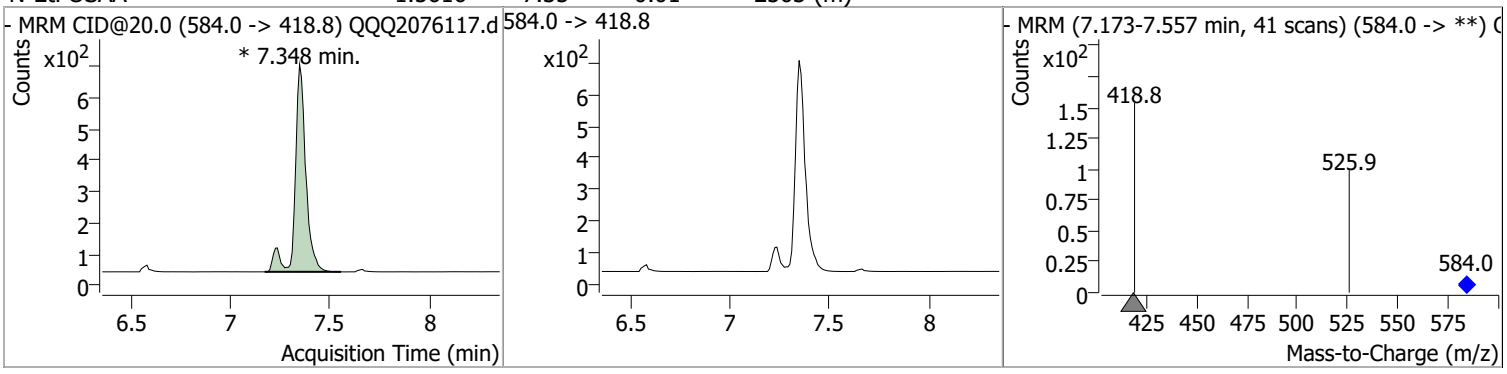
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	1.8366	7.16	0.00	2451 (m)				



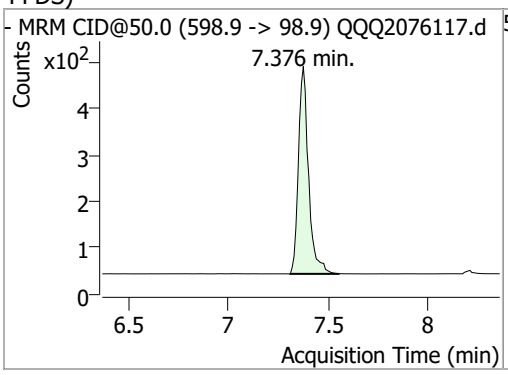
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.3975	7.35	0.00	10578				

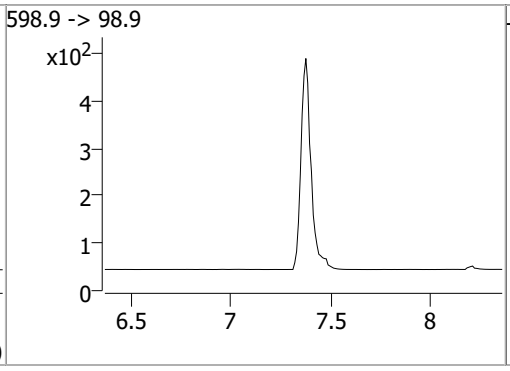


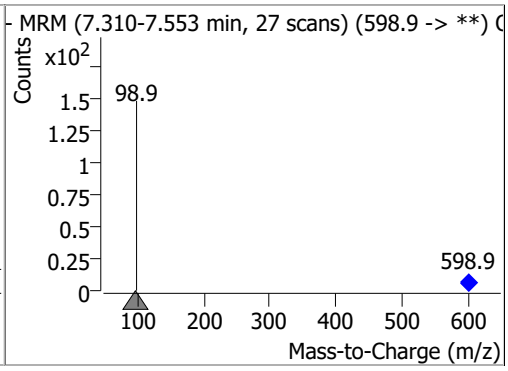
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	1.5616	7.35	-0.01	2503 (m)				



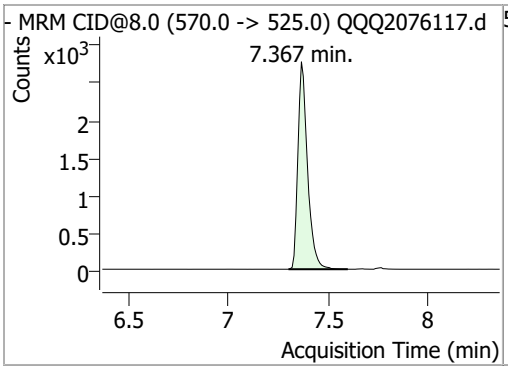
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	1.6856	7.38	0.01	1566				

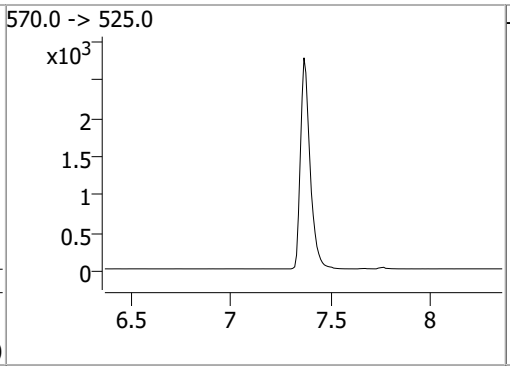


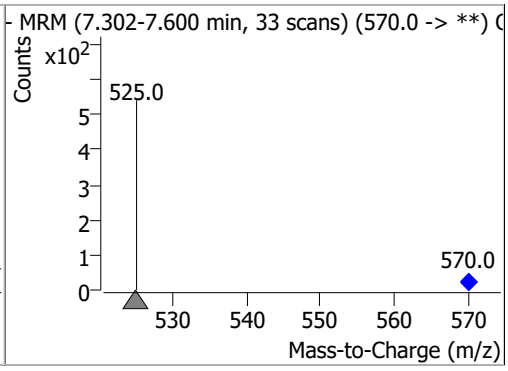




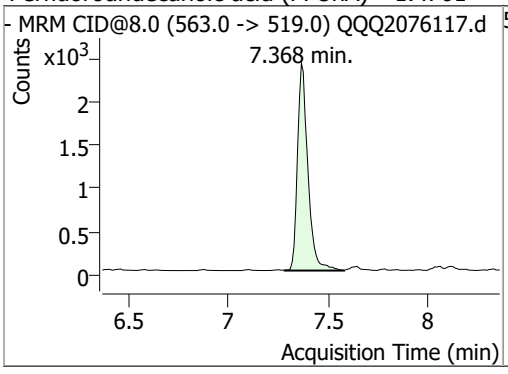
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.3922	7.37	0.00	9156				

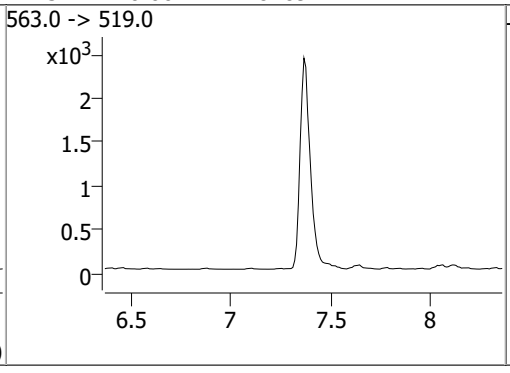


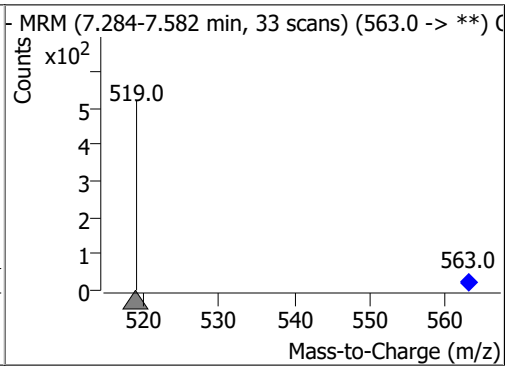




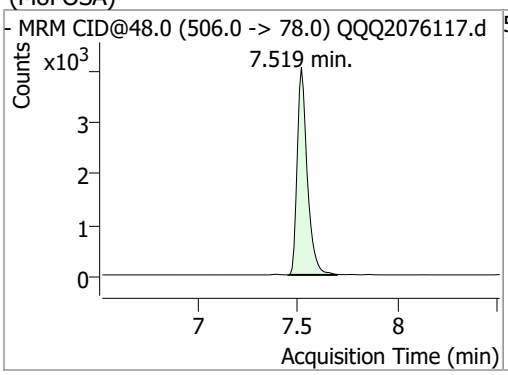
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	1.4701	7.37	0.00	8789				

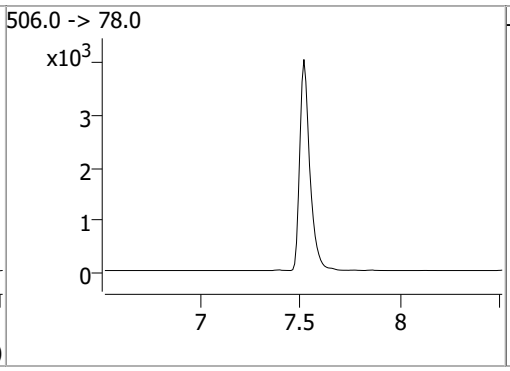


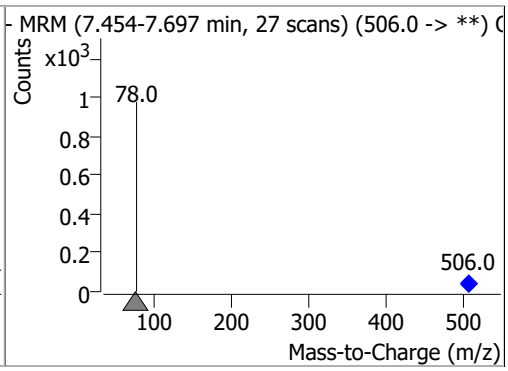




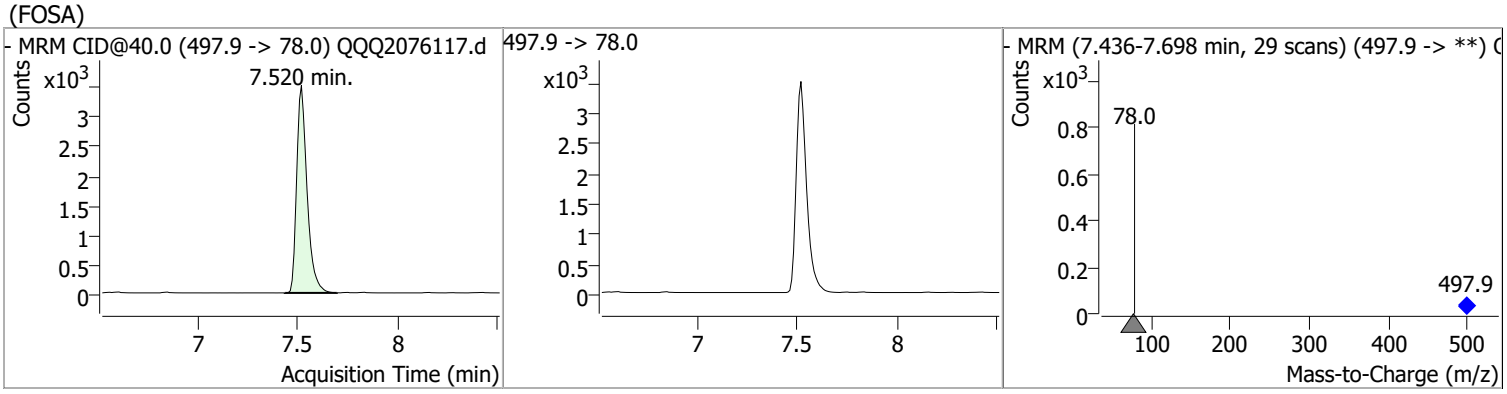
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.4356	7.52	0.00	14149				



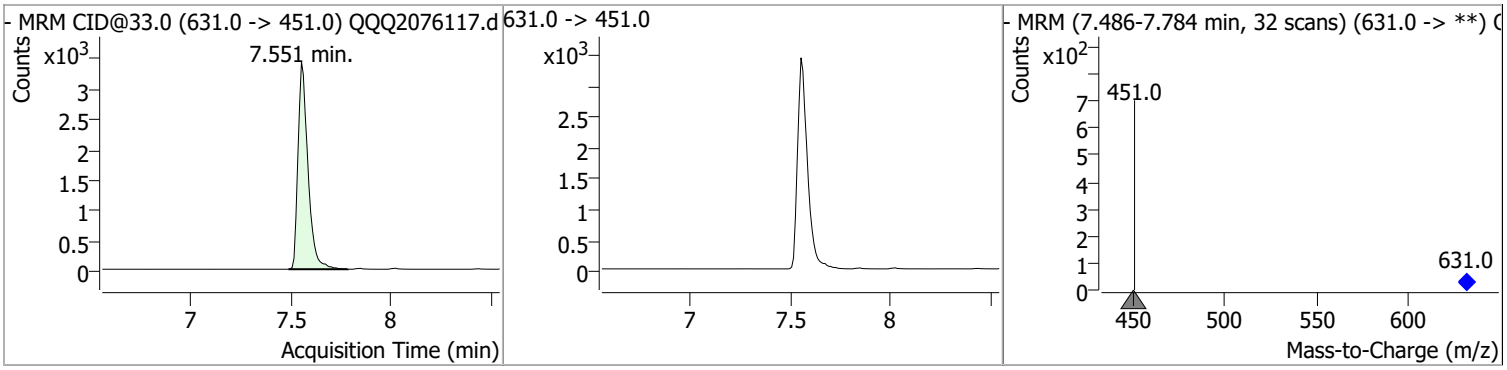




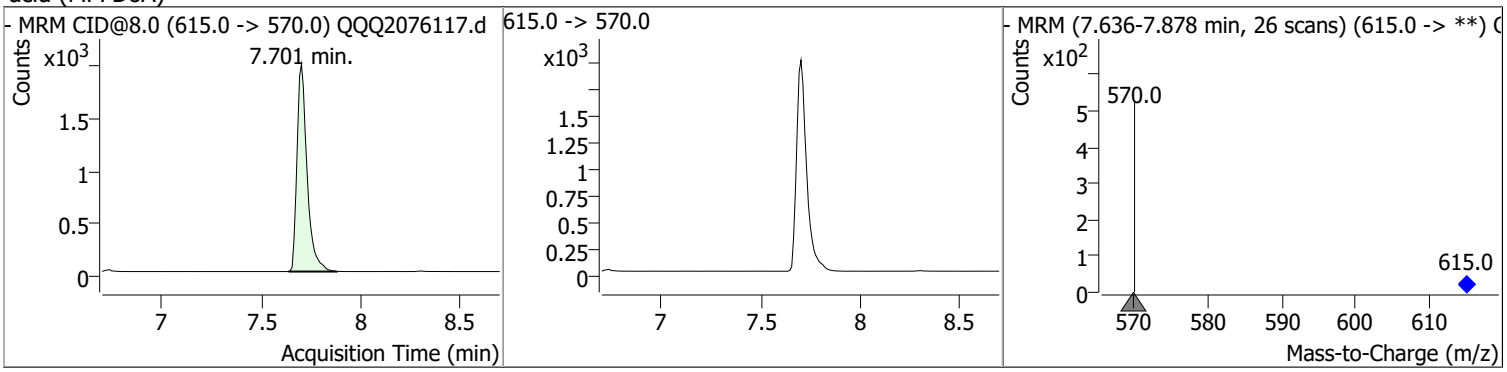
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	1.2675	7.52	0.00	12627				



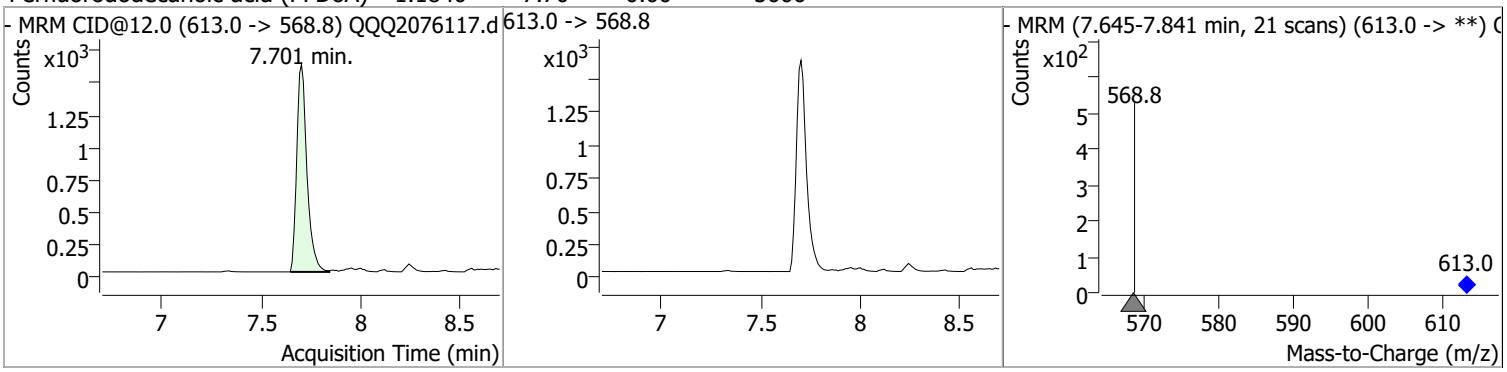
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	4.4082	7.55	0.00	11806				



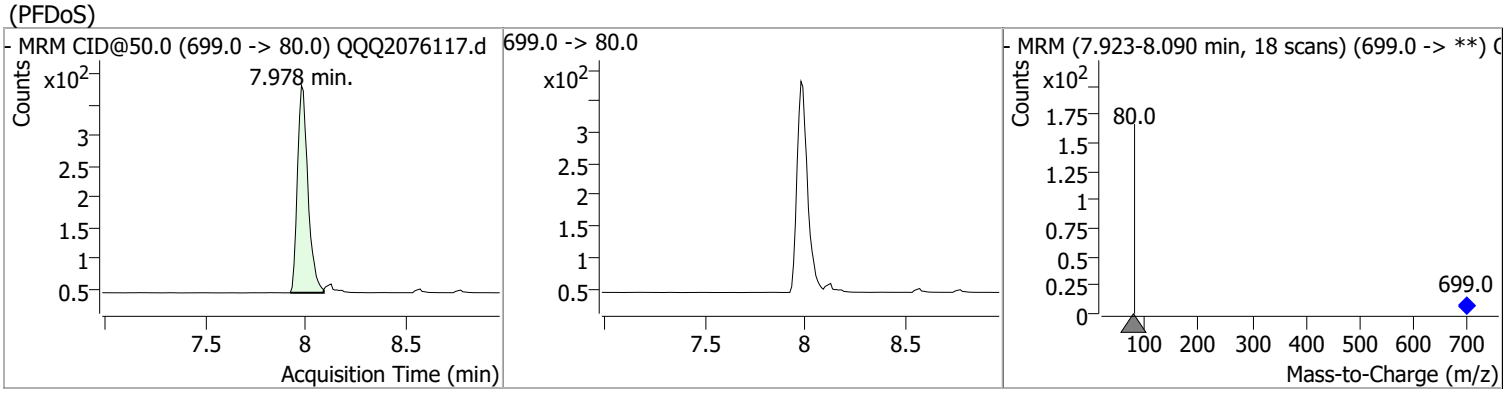
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.2705	7.70	0.00	6956				



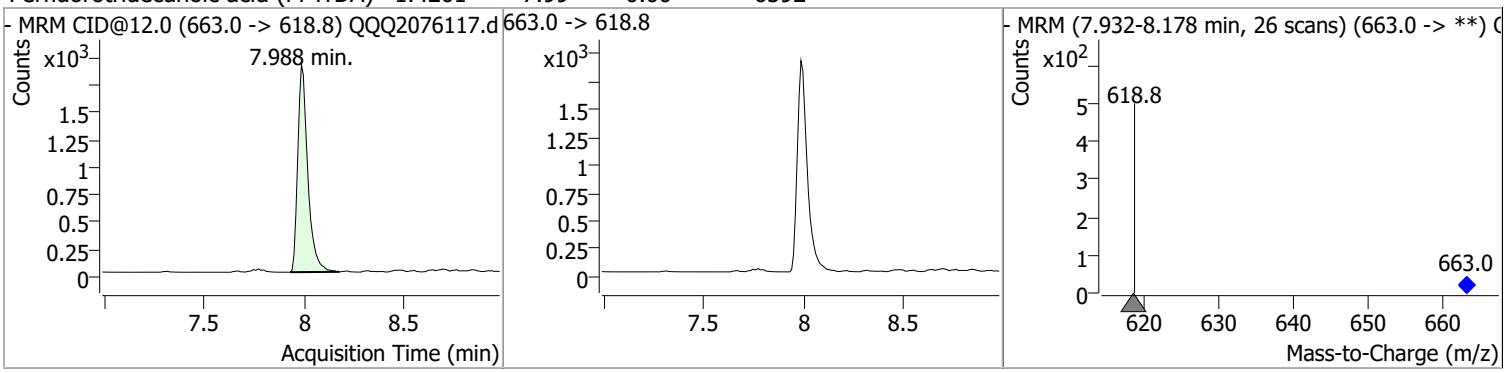
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	1.1840	7.70	0.00	5666				



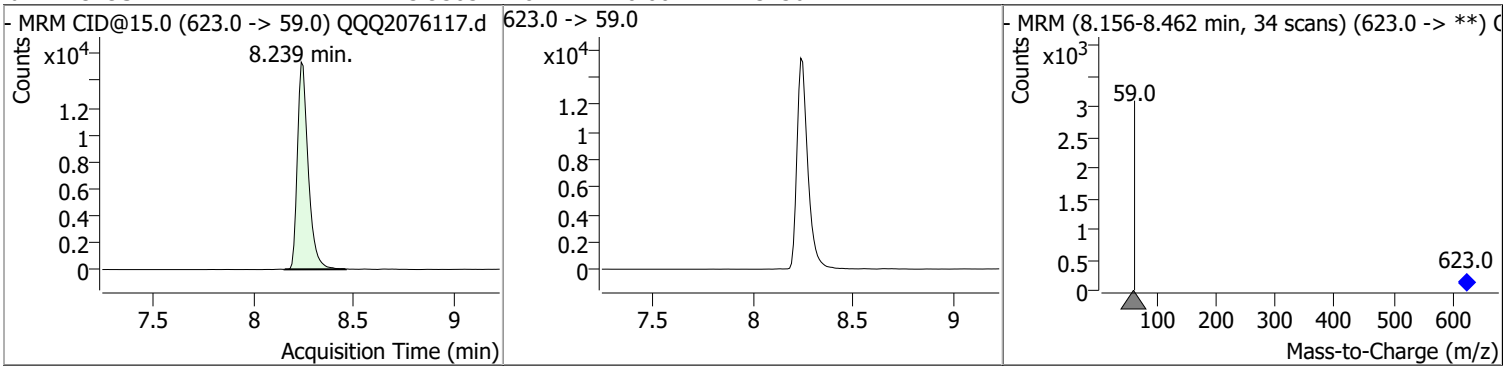
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	1.3963	7.98	0.00	1228				



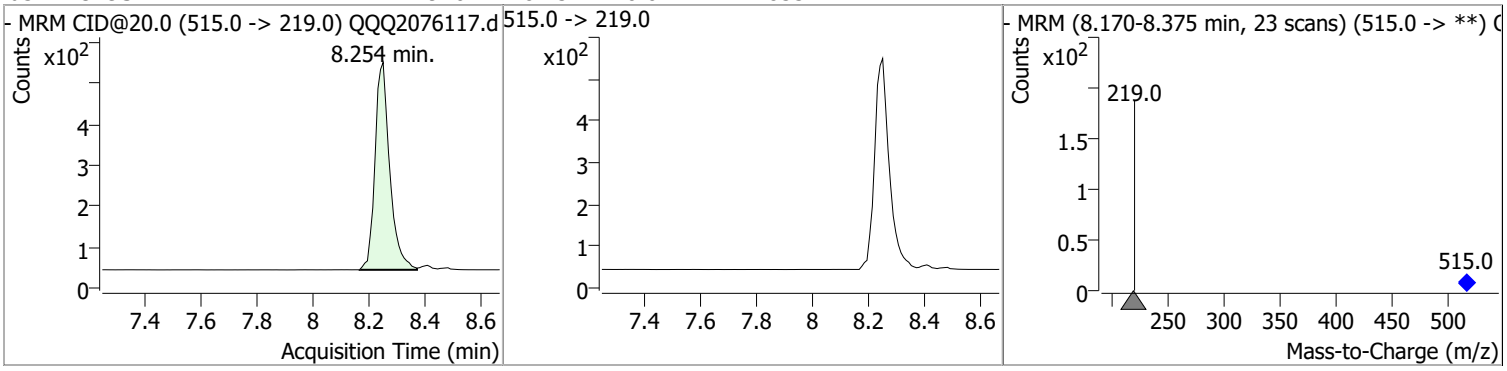
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	1.4261	7.99	0.00	6592				



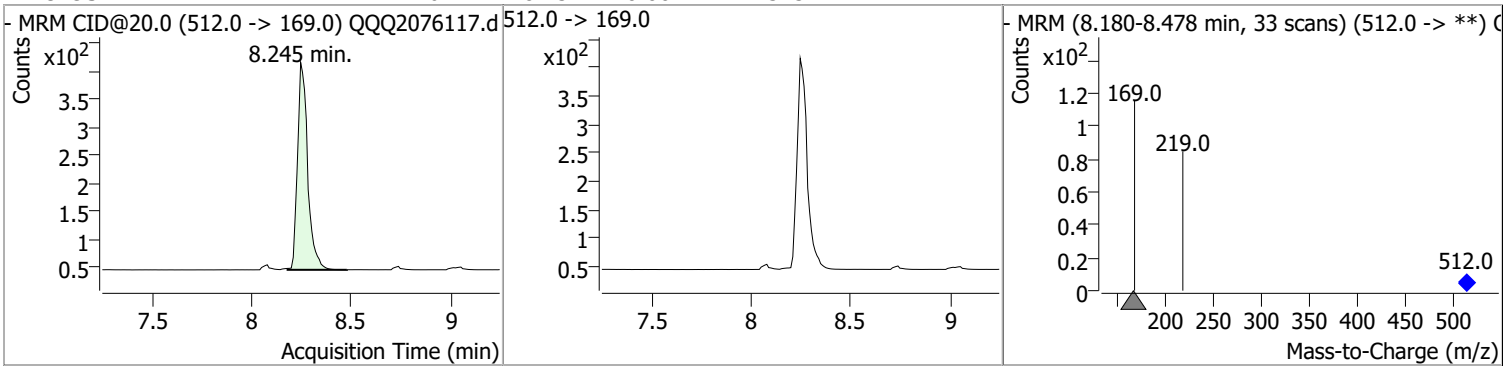
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	23.9303	8.24	0.00	57564				



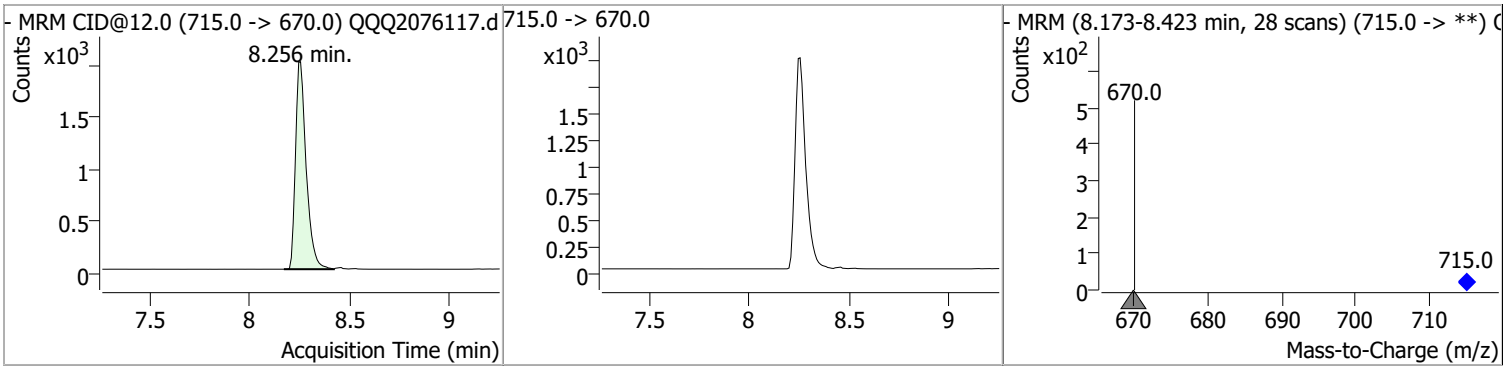
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.4970	8.25	0.01	1853				



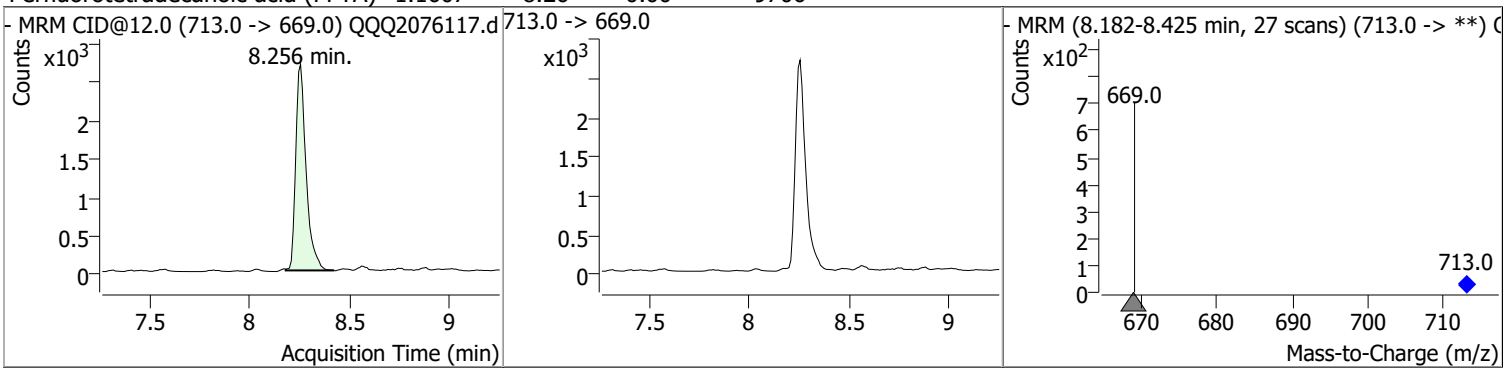
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	1.2647	8.25	0.00	1325				



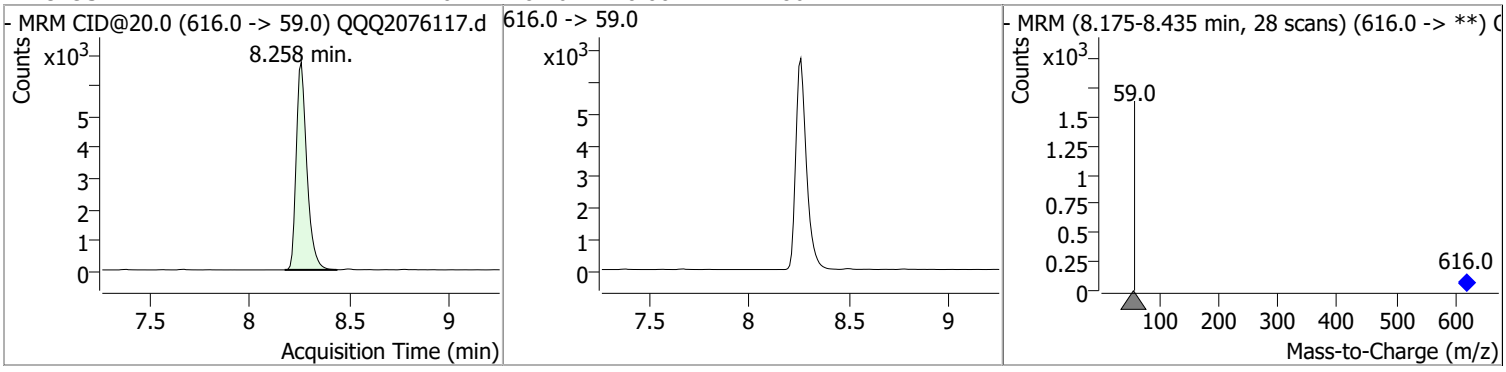
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.2842	8.26	0.00	7420				



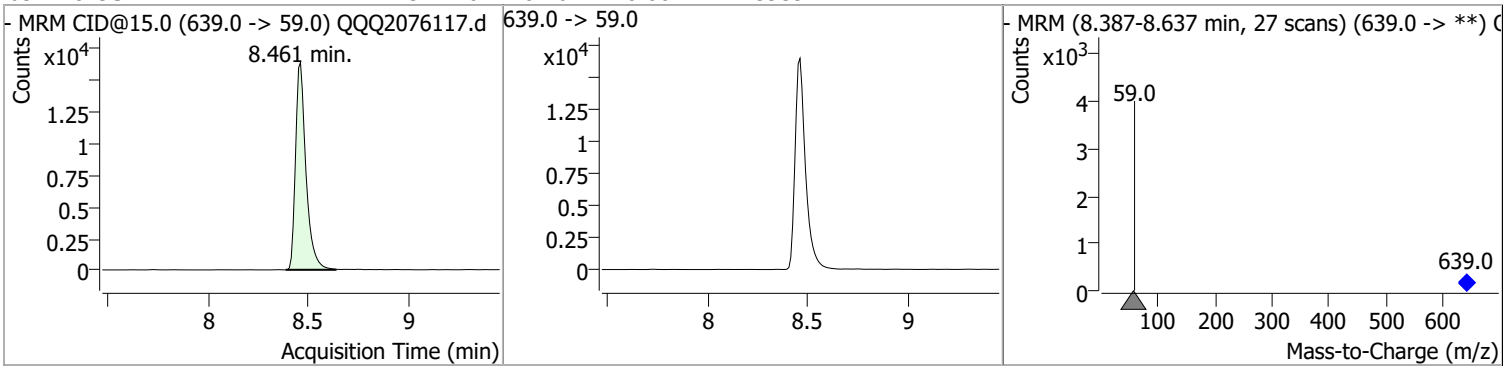
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	1.1607	8.26	0.00	9706				



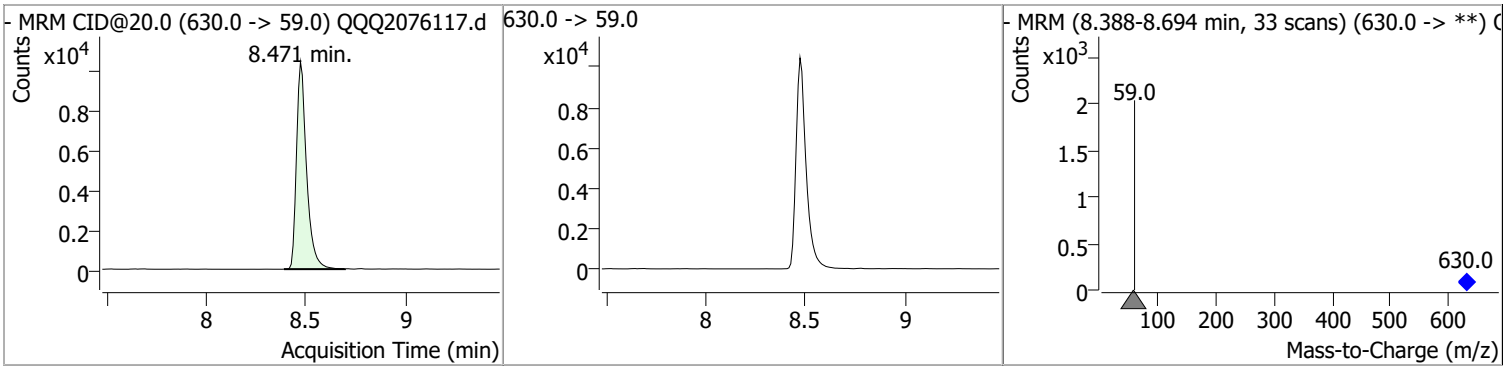
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	12.2011	8.26	0.00	24867				



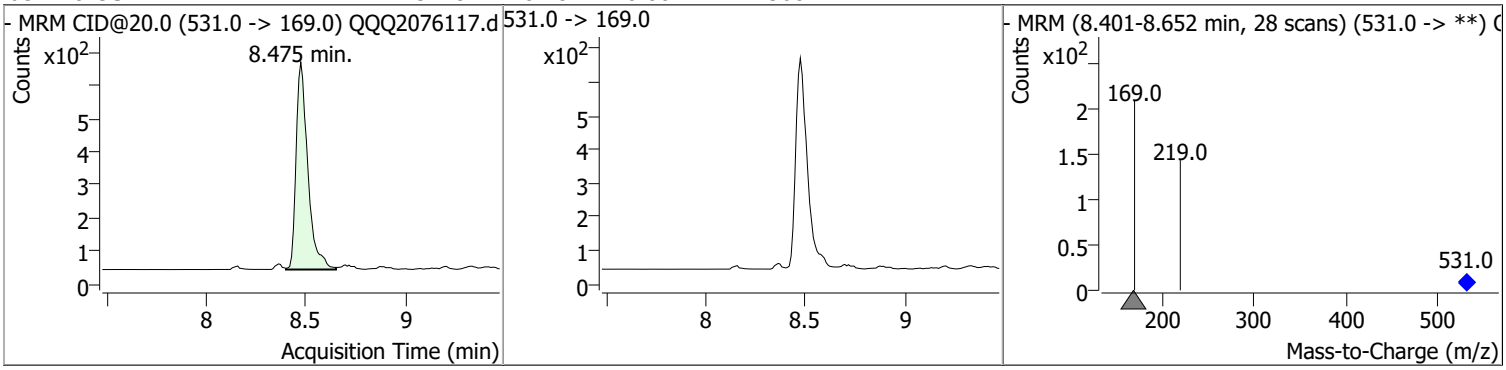
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	25.1210	8.46	0.00	59391				



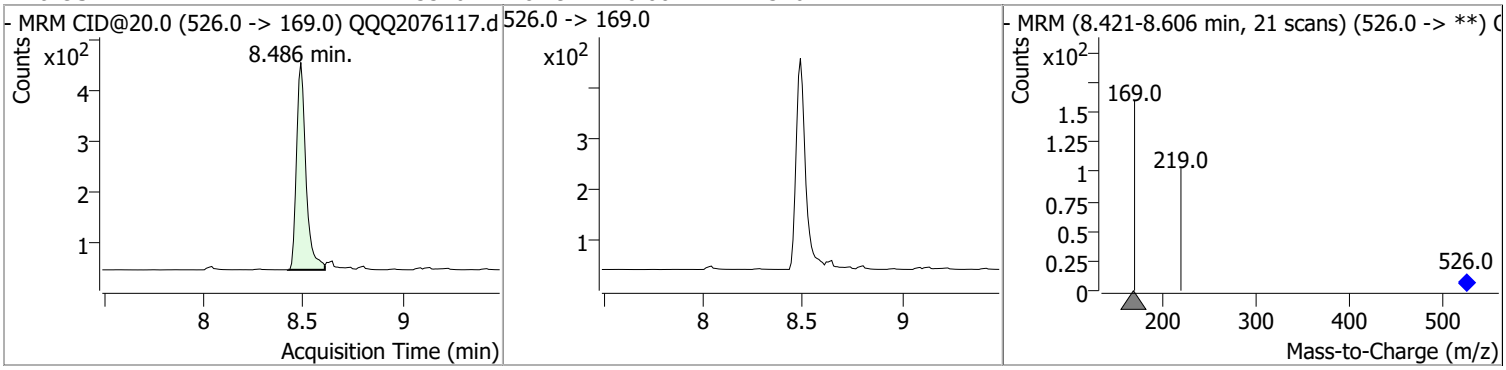
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	12.9264	8.47	0.00	36506				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.5178	8.48	0.00	2568				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.5516	8.49	0.00	1346				



Quantitation Results Report (Not Reviewed)

Data File	QQQ2076118.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 12:34:08 PM
Sample Name	SEQ-CAL4	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

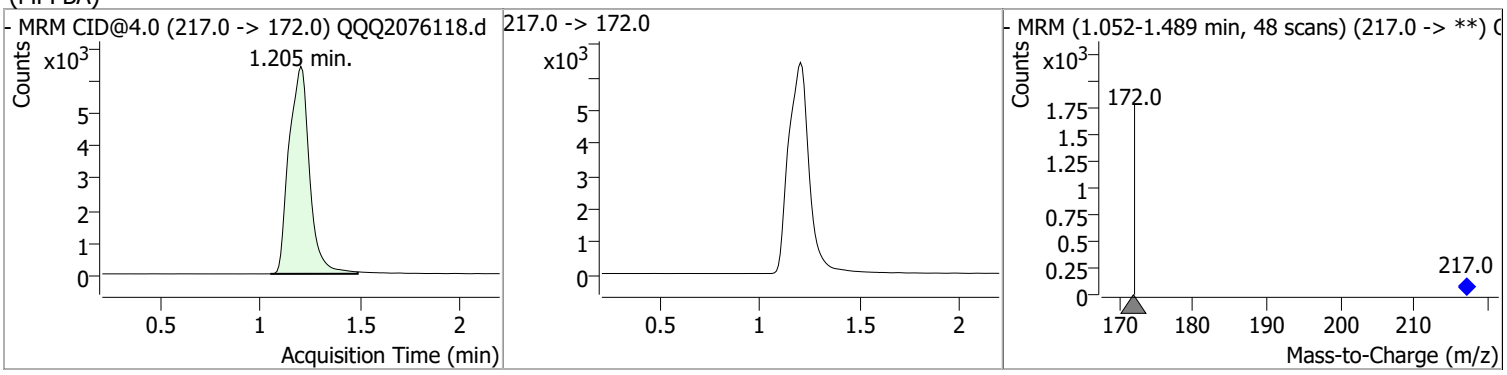
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.207	216.0 -> 172.0	32460	5.0000	ng/ml	0.000
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.205	217.0 -> 172.0	45857	10.0000	ng/ml	0.000
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.387	268.0 -> 223.0	25953	5.0000	ng/ml	0.000
MPFHxA	4.698	315.0 -> 269.8	31387	2.5000	ng/ml	0.000
MPFHxS	5.522	403.0 -> 103.0	2665	2.3700	ng/ml	0.000
M3PFBS-EIS	3.892	302.0 -> 79.9	8830	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.697	318.0 -> 273.0	20537	2.5000	ng/ml	0.000
M2-4-2FTS-EIS	4.631	329.0 -> 309.0	6965	4.6900	ng/ml	0.000
M3PFHxS-EIS	5.532	402.0 -> 80.0	7759	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	53697	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.439	367.0 -> 322.0	23336	2.5000	ng/ml	0.000
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	3959	4.7550	ng/ml	0.000
MPFOA	6.036	417.0 -> 372.0	28787	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	15642	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.566	507.0 -> 98.9	2510	2.3950	ng/ml	0.000
MPFNA	6.539	468.0 -> 423.0	10073	1.2500	ng/ml	0.000
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.539	472.0 -> 223.0	1272	1.2500	ng/ml	0.000
MPFOS	6.576	503.0 -> 80.0	7284	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.967	529.0 -> 509.0	3896	4.8000	ng/ml	0.000
MPFDA	6.986	515.0 -> 469.8	8726	1.2500	ng/ml	0.000
M6PFDA-EIS	6.986	519.0 -> 473.9	4936	1.2500	ng/ml	0.000
d3-N-MeFOSAA-EIS	7.153	573.0 -> 418.8	12819	5.0000	ng/ml	0.000
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	12042	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.367	570.0 -> 525.0	8967	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	14469	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	7262	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.256	715.0 -> 670.0	8598	1.2500	ng/ml	0.000
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1900	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	65673	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.461	639.0 -> 59.0	60325	25.0000	ng/ml	0.000
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2665	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.205	217.0 -> 172.0	45857	10.3137	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.387	268.0 -> 223.0	25953	5.1069	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	8830	2.4906	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.631	329.0 -> 309.0	6965	4.7991	ng/ml	0.000

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.697	318.0 -> 273.0	20537	2.4224	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	53697	10.8614	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.439	367.0 -> 322.0	23336	2.4372	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	7759	2.6051	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.997	429.0 -> 409.0	3959	5.0283	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	15642	2.4647	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.539	472.0 -> 223.0	1272	1.2265	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.566	507.0 -> 98.9	2510	2.3798	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.967	529.0 -> 509.0	3896	5.7565	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.986	519.0 -> 473.9	4936	1.4572	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.153	573.0 -> 418.8	12819	5.2022	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	12042	4.8632	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	8967	1.3359	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	14469	2.4197	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	7262	1.2994	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	65673	26.5235	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	1900	2.4882	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.256	715.0 -> 670.0	8598	1.4578	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.461	639.0 -> 59.0	60325	24.7888	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2665	2.5378	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.209	213.0 -> 168.9	54335	9.3869	ng/ml	100
PFMPA	2.070	229.0 -> 85.0	18830	4.7231	ng/ml	100
3:3FTCA	3.296	241.0 -> 177.0	4040	12.6816	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.397	263.0 -> 219.0	25798	4.5420	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	9478	2.0942	ng/ml	100
PFMBA	3.922	279.0 -> 85.0	27558	4.6729	ng/ml	100
PFEESA	4.382	315.0 -> 135.0	61709	4.6917	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	30606	5.2446	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.631	327.0 -> 307.0	13667	9.9916	ng/ml	100

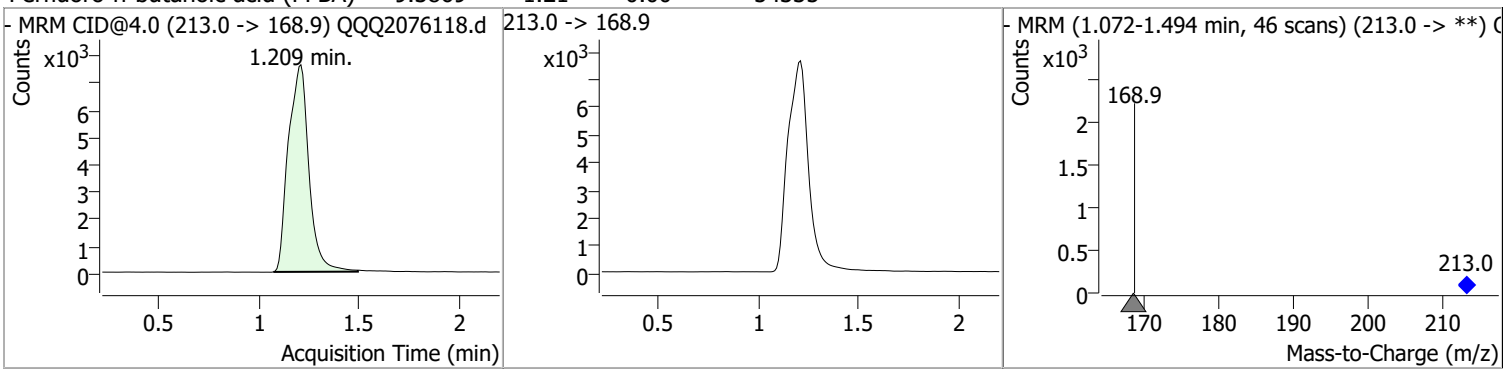
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.698	313.0 -> 268.9	26039	2.6840	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	9003	2.0411	ng/ml		100
HFPO-DA	4.960	285.0 -> 169.1	4440	9.6836	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.439	363.0 -> 318.8	28684	2.2836	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.523	398.9 -> 79.9	9012	2.0185	ng/ml	m	100
5-3FTCA	5.534	341.0 -> 217.0	89783	79.6737	ng/ml		100
ADONA	5.551	377.0 -> 85.0	64479	9.2614	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	8296	10.3796	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	21314	2.3551	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	7607	2.9623	ng/ml		100
Perfluorononanoic acid (PFNA)	6.549	463.0 -> 418.8	15983	2.2191	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.567	498.9 -> 79.9	3669	2.7961	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	122507	69.9043	ng/ml		100
9-Cl-PF3ONS	6.817	531.0 -> 351.0	73752	9.6463	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.976	527.0 -> 80.9	7568	7.9780	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	17190	2.0893	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.994	548.9 -> 79.9	6720	2.8430	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	5114	2.9216	ng/ml	m	100
N-EtFOSAA	7.358	584.0 -> 418.8	4805	2.6286	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.366	598.9 -> 98.9	3011	2.9720	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.368	563.0 -> 519.0	20538	3.4607	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	23636	2.3227	ng/ml		100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	25914	8.7955	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	11092	2.2263	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.978	699.0 -> 80.0	2551	2.6422	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.988	663.0 -> 618.8	12949	2.4234	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	2489	2.3219	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.256	713.0 -> 669.0	20456	2.1123	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	50776	21.8998	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	72570	25.3579	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	2554	2.8222	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

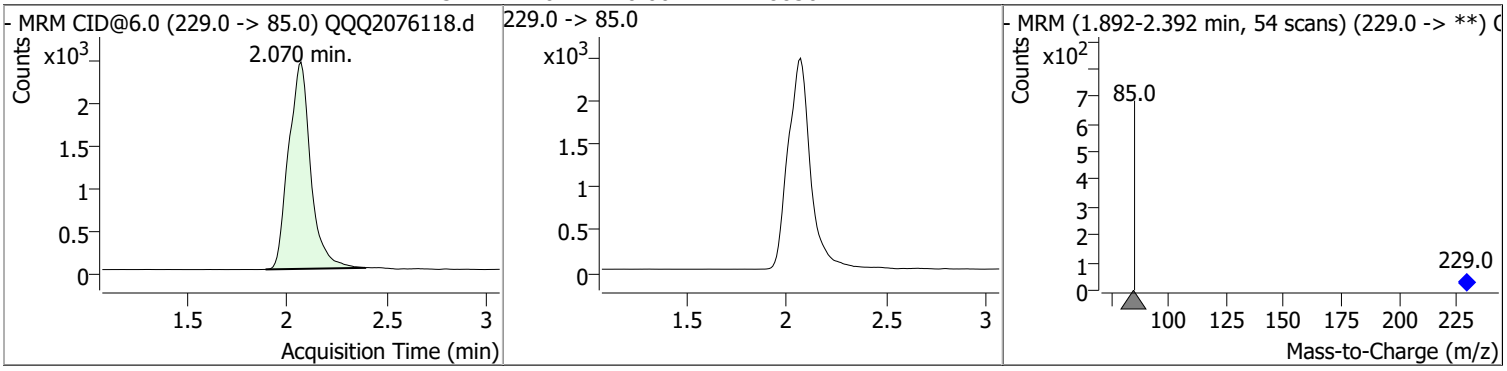
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.3137	1.20	0.00	45857				



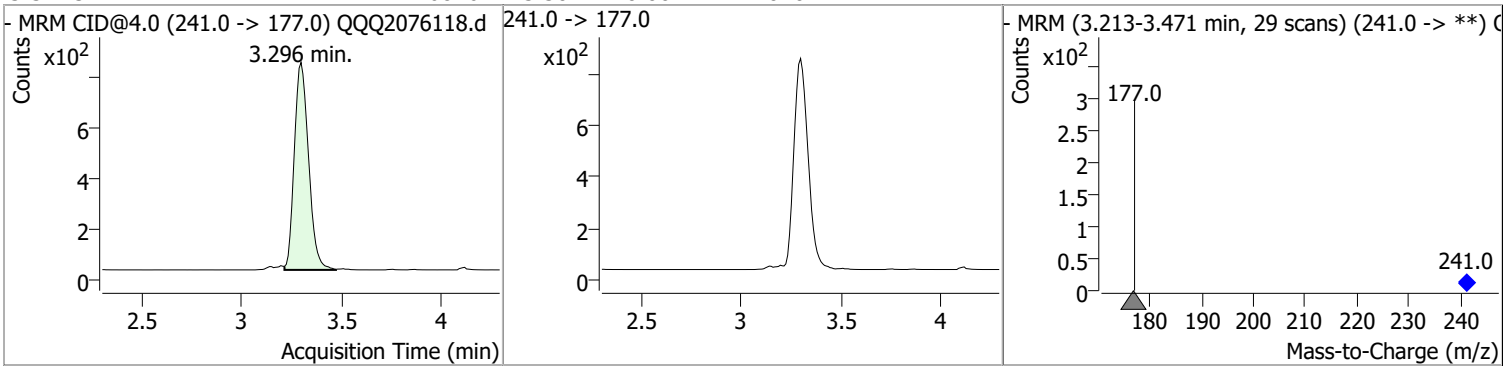
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	9.3869	1.21	0.00	54335				



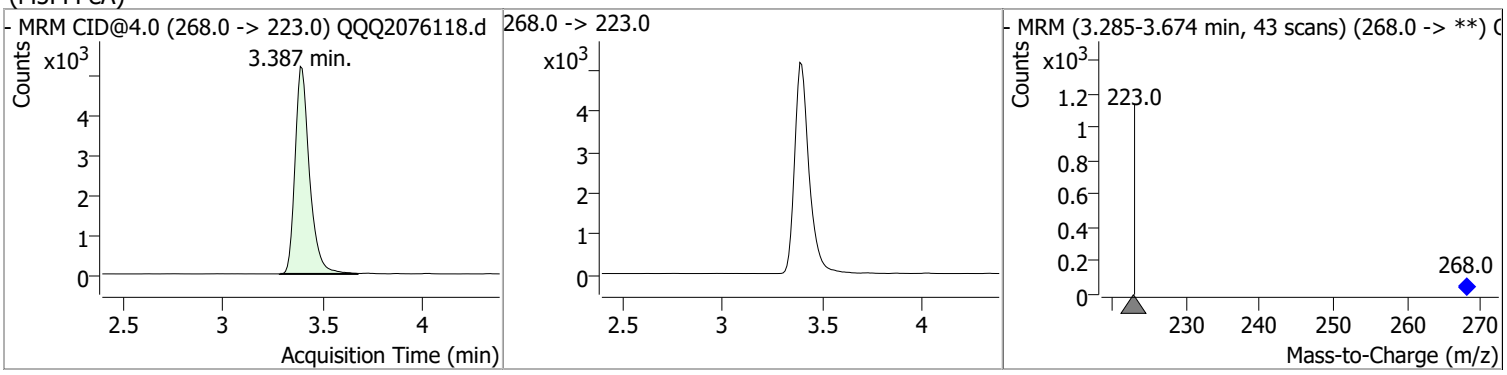
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	4.7231	2.07	0.00	18830				



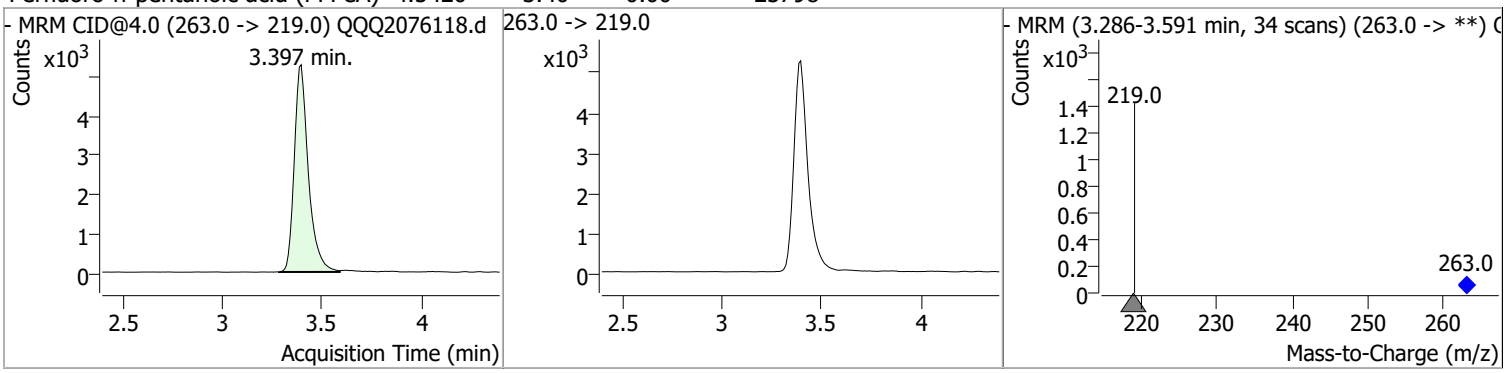
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	12.6816	3.30	0.00	4040				



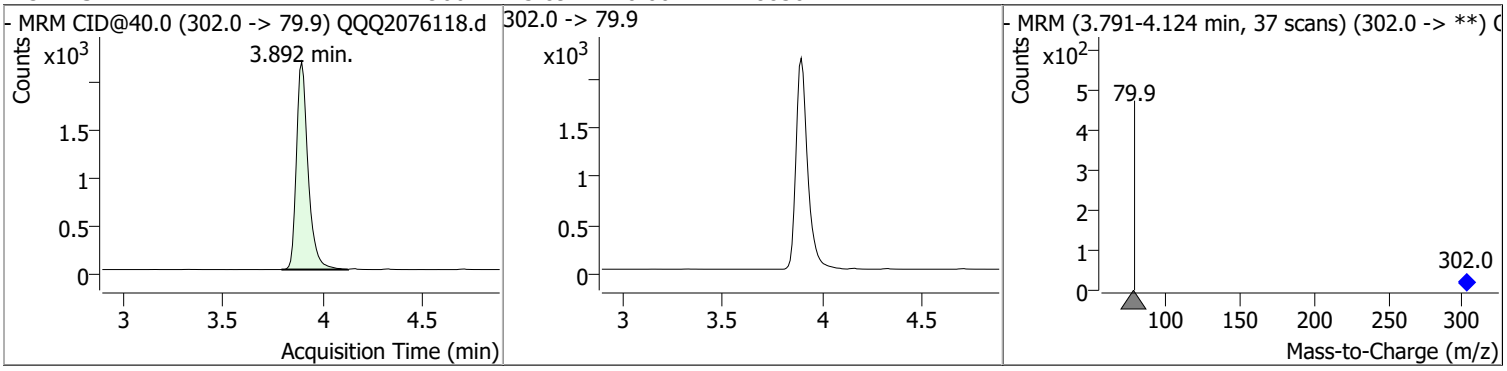
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.1069	3.39	0.00	25953				



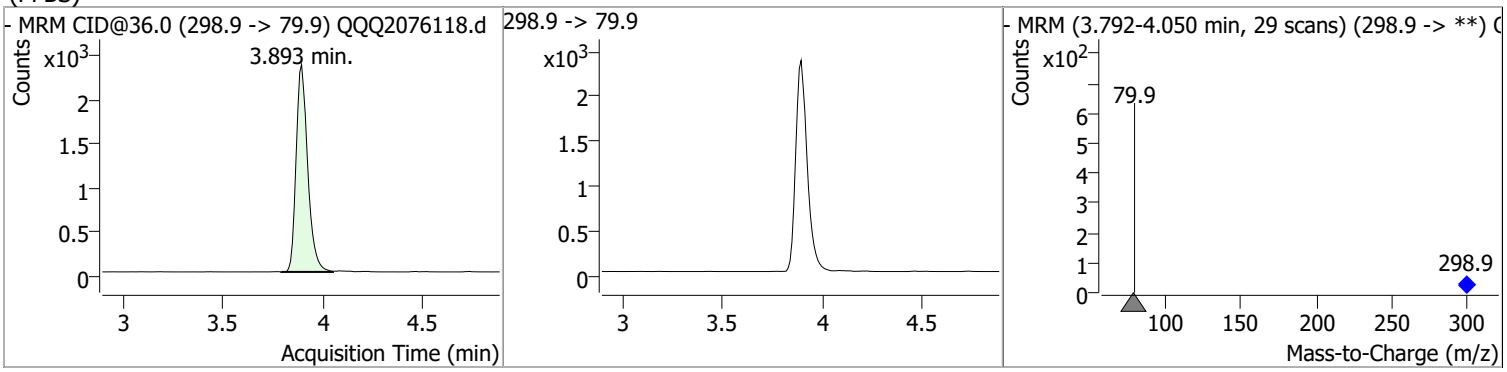
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.5420	3.40	0.00	25798				



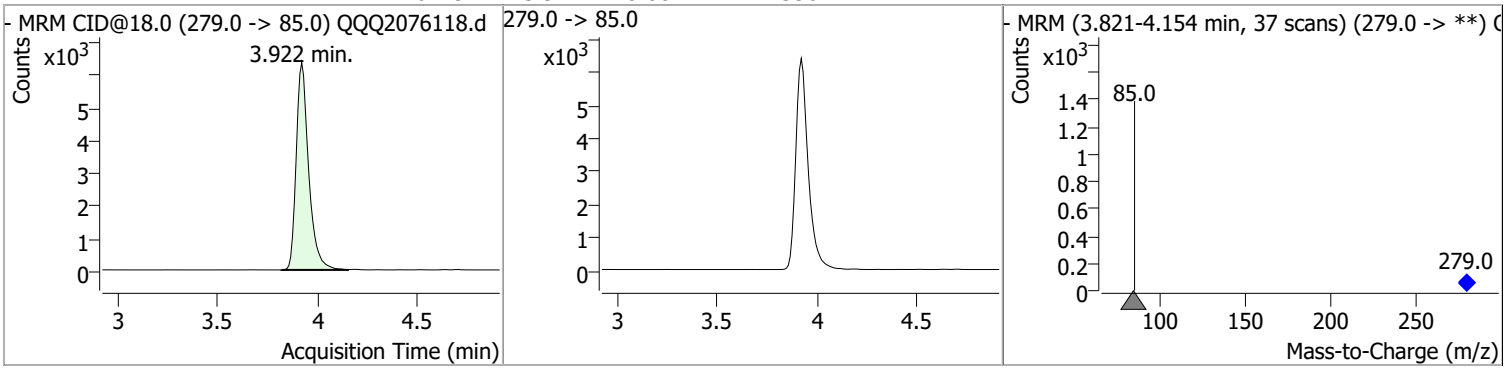
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.4906	3.89	0.00	8830				



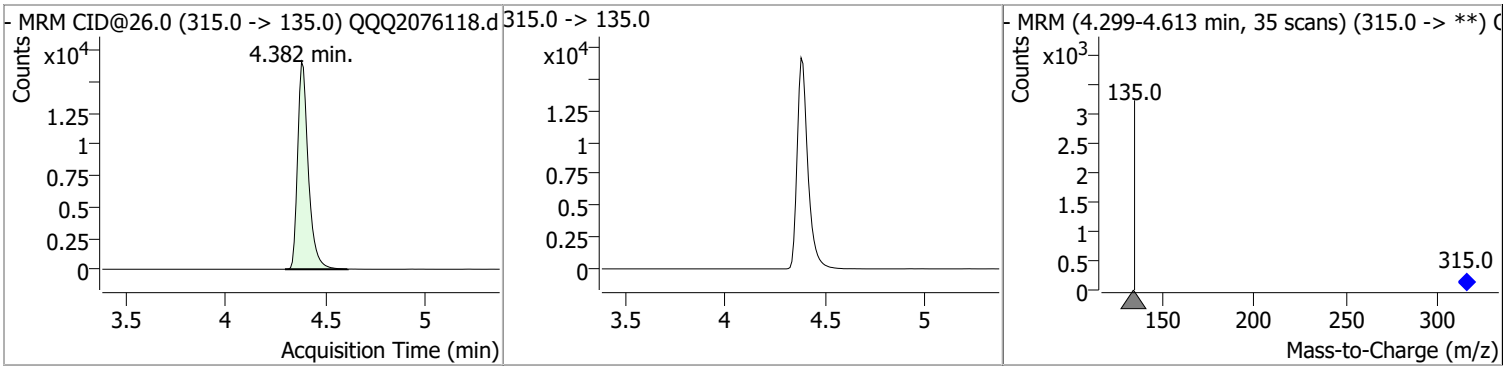
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.0942	3.89	0.00	9478				



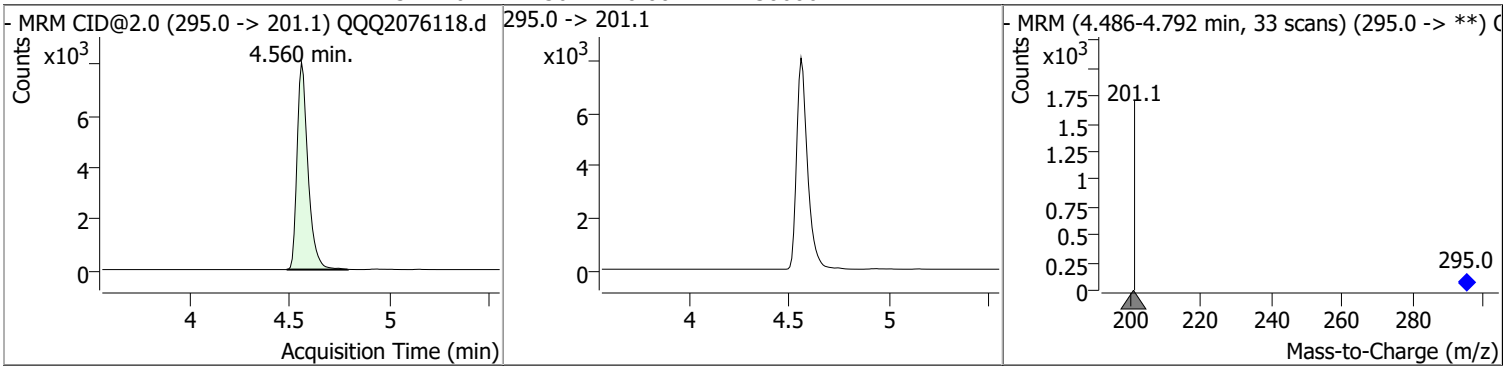
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.6729	3.92	0.00	27558				



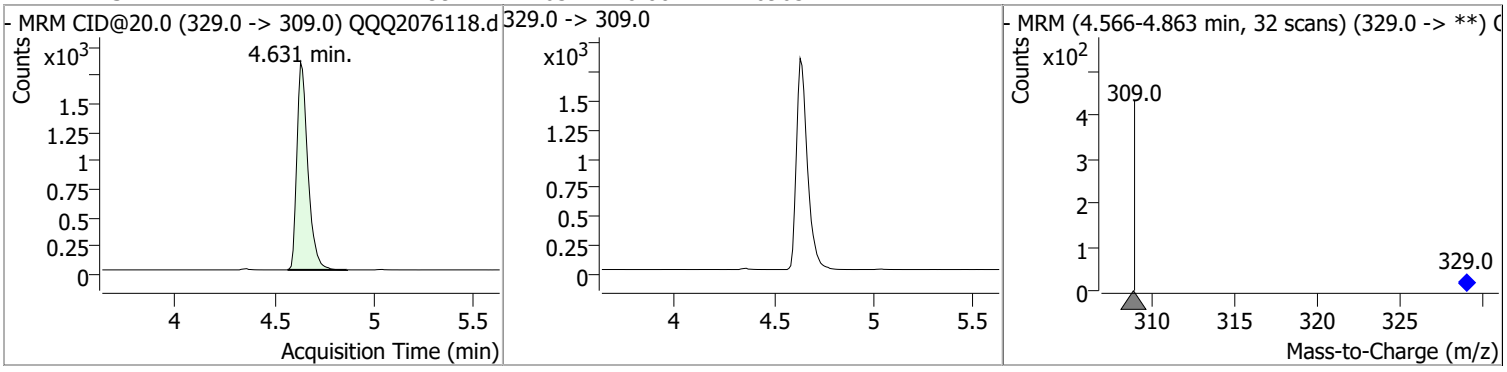
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.6917	4.38	0.00	61709				



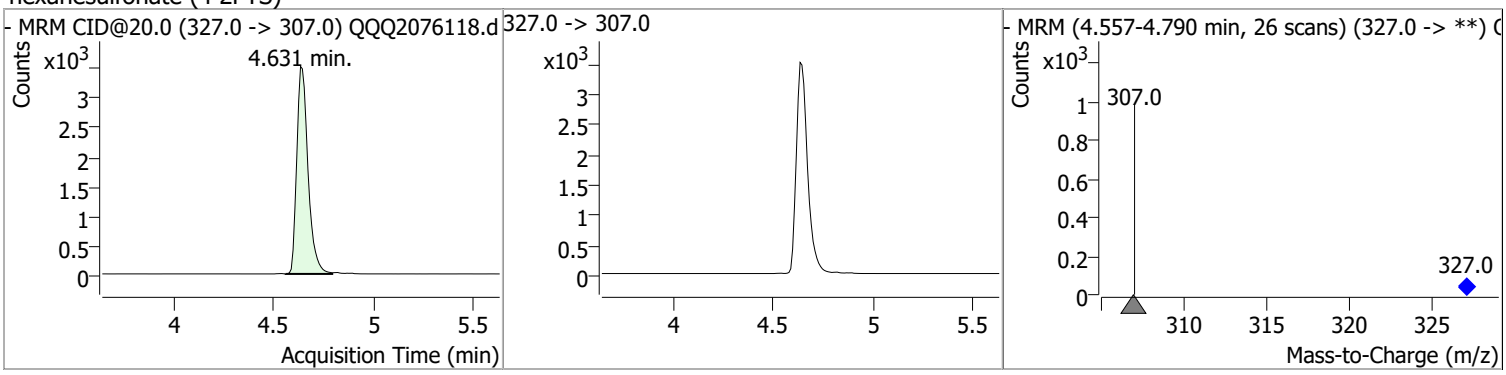
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.2446	4.56	0.00	30606				



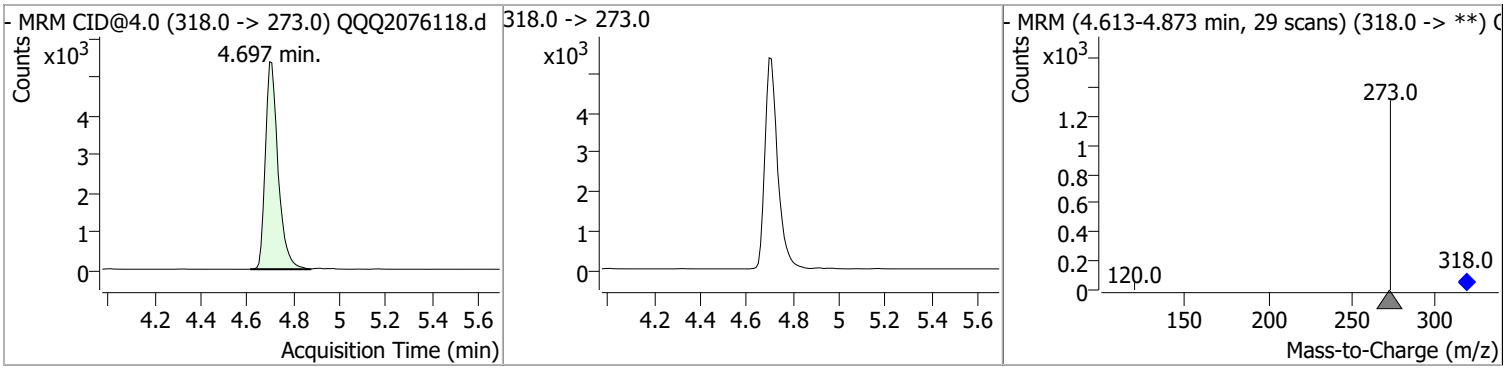
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.7991	4.63	0.00	6965				



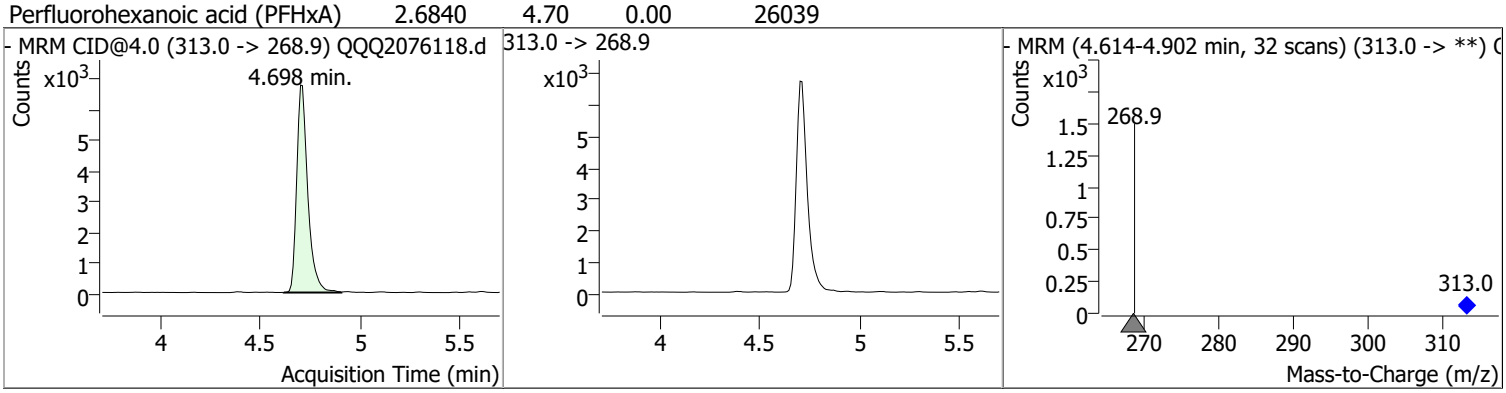
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.9916	4.63	0.00	13667				



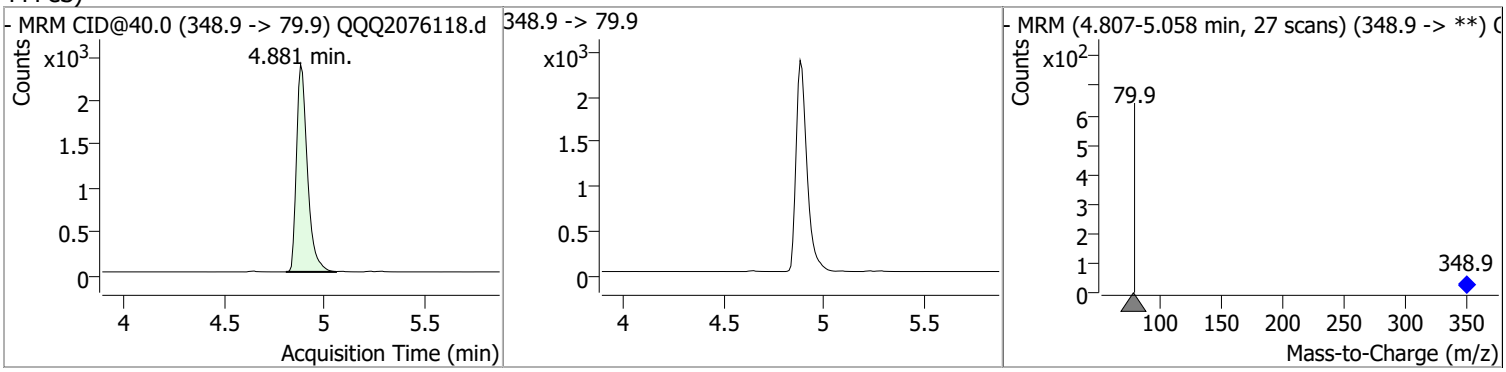
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4224	4.70	0.00	20537				



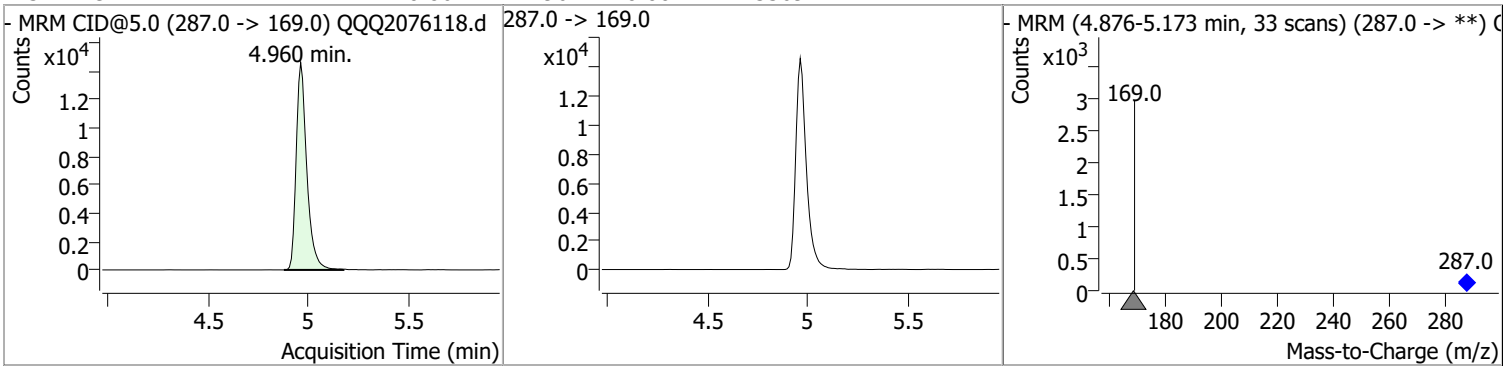
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.6840	4.70	0.00	26039				



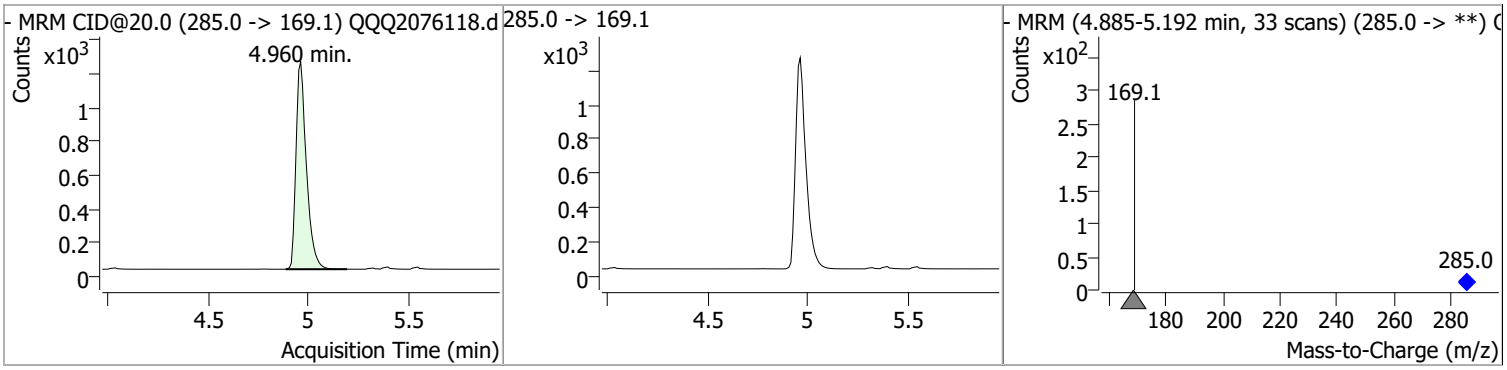
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.0411	4.88	0.00	9003				



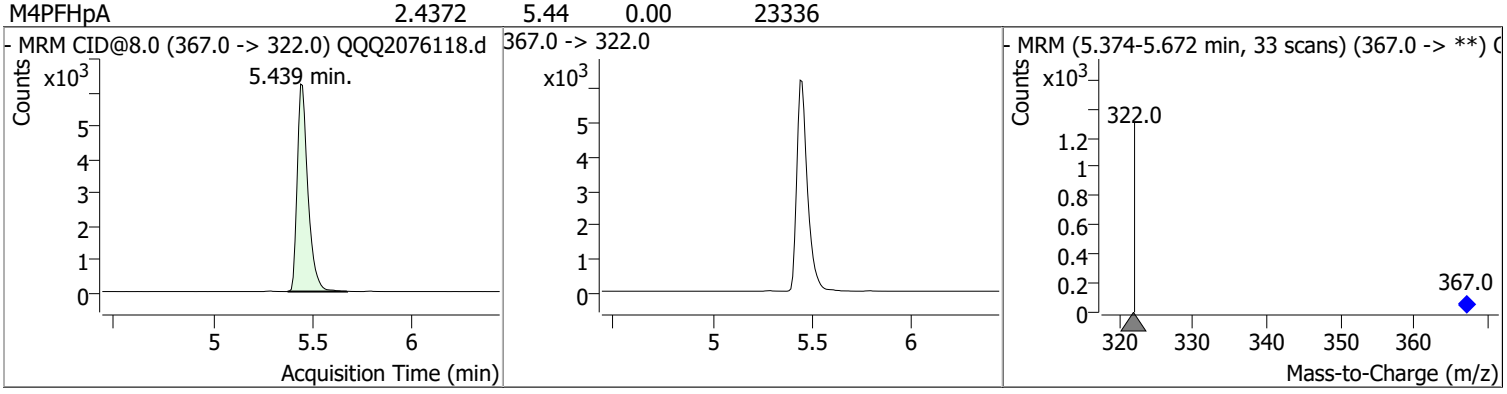
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.8614	4.96	0.00	53697				



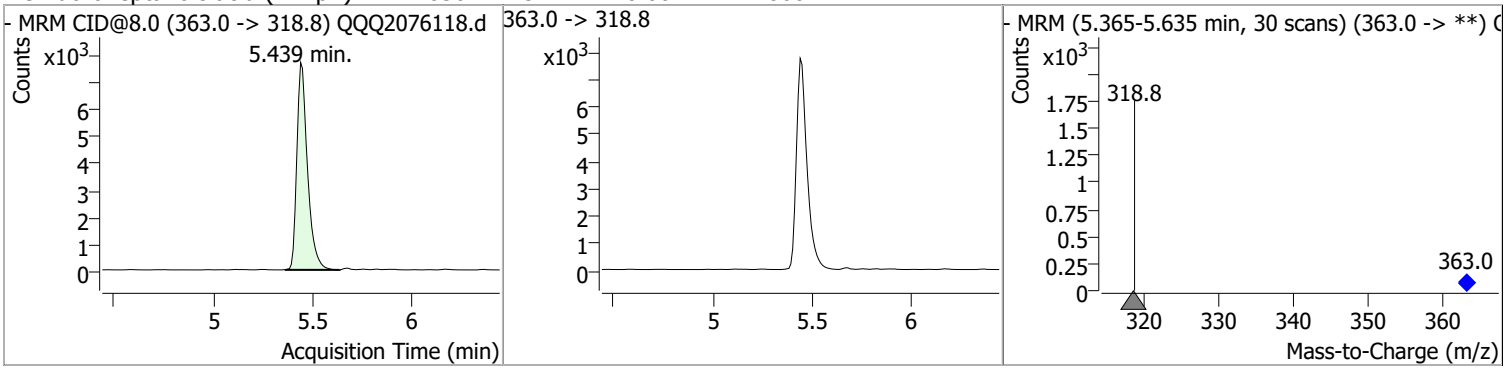
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	9.6836	4.96	0.00	4440				



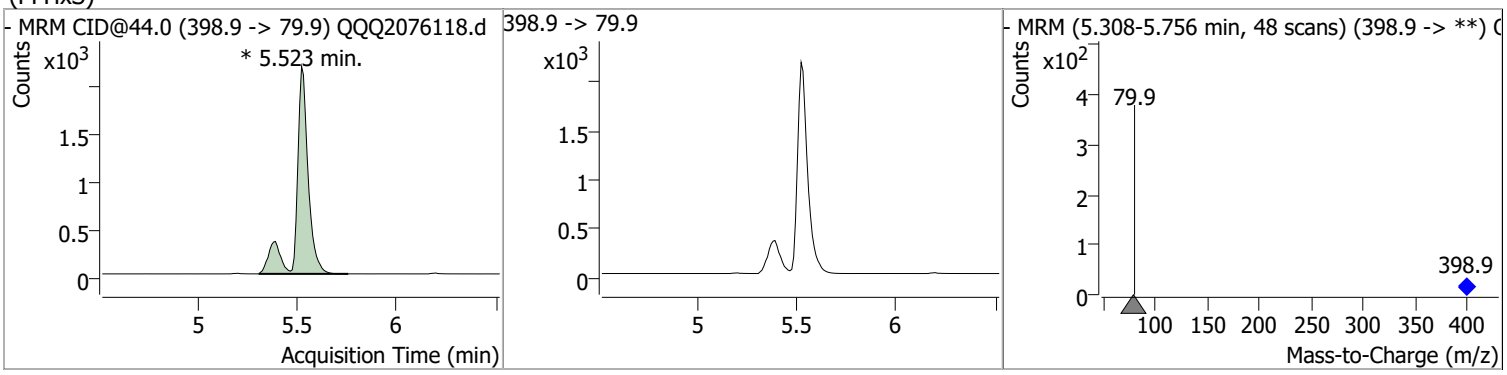
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.4372	5.44	0.00	23336				



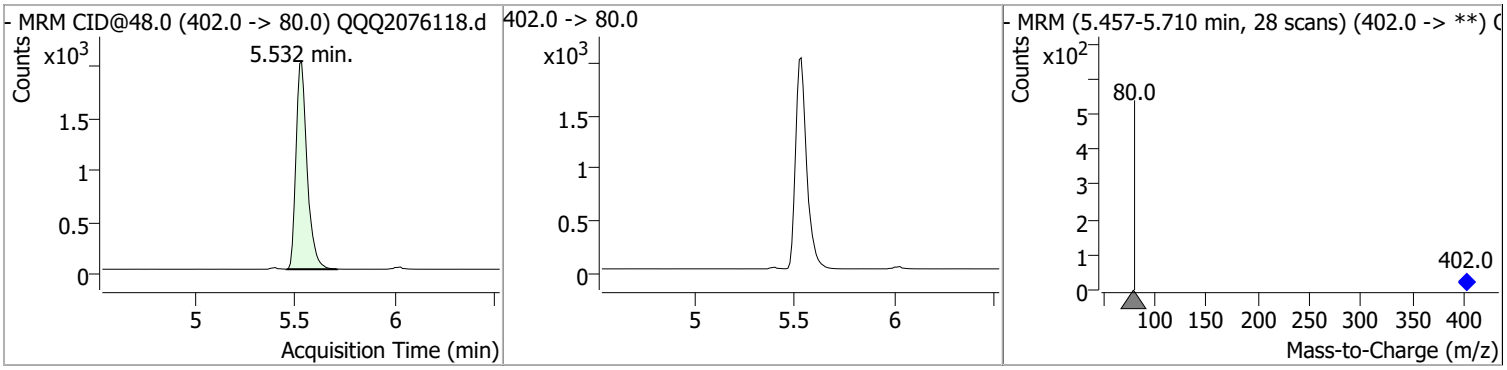
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.2836	5.44	0.00	28684				



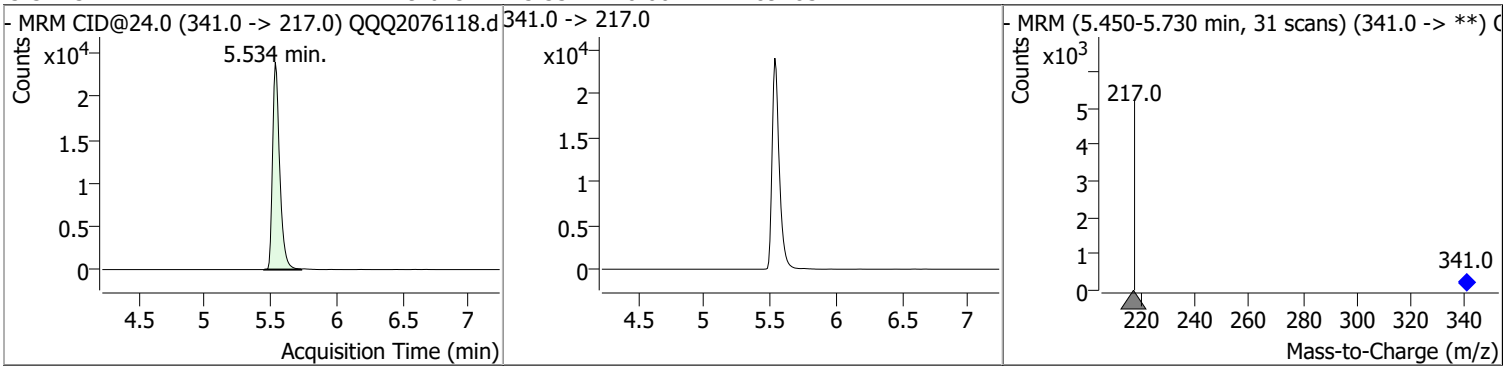
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.0185	5.52	0.00	9012 (m)				



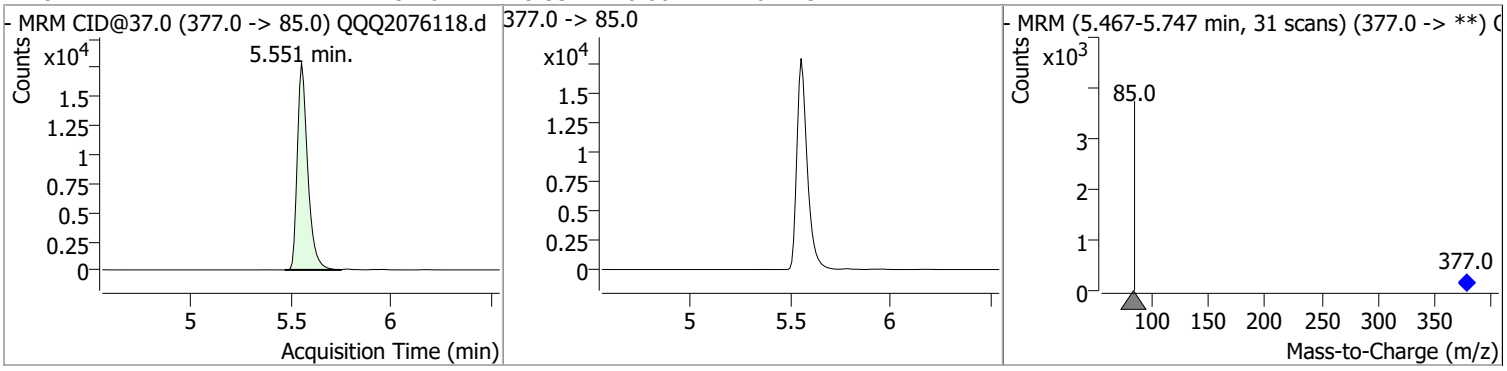
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.6051	5.53	0.00	7759				



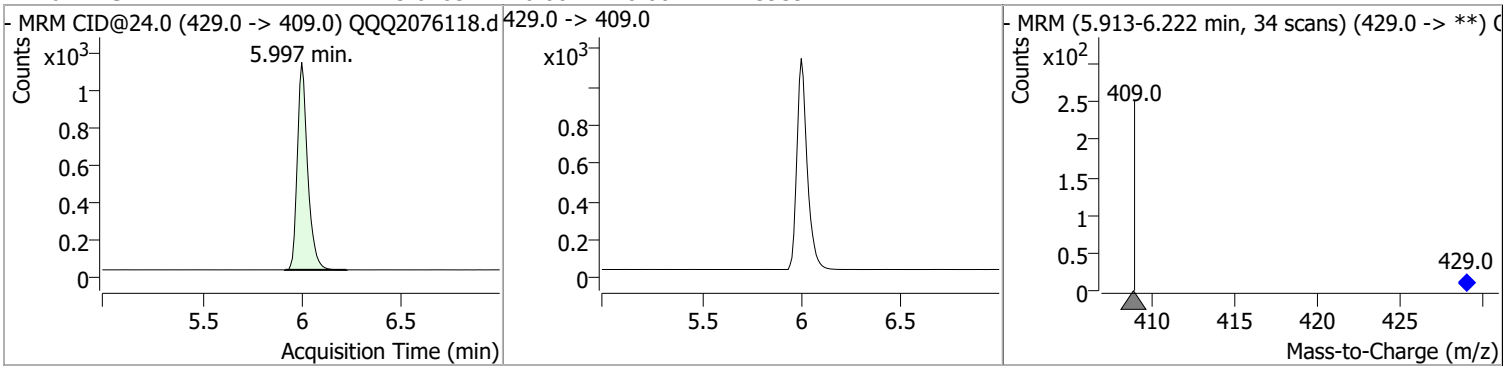
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	79.6737	5.53	0.00	89783				



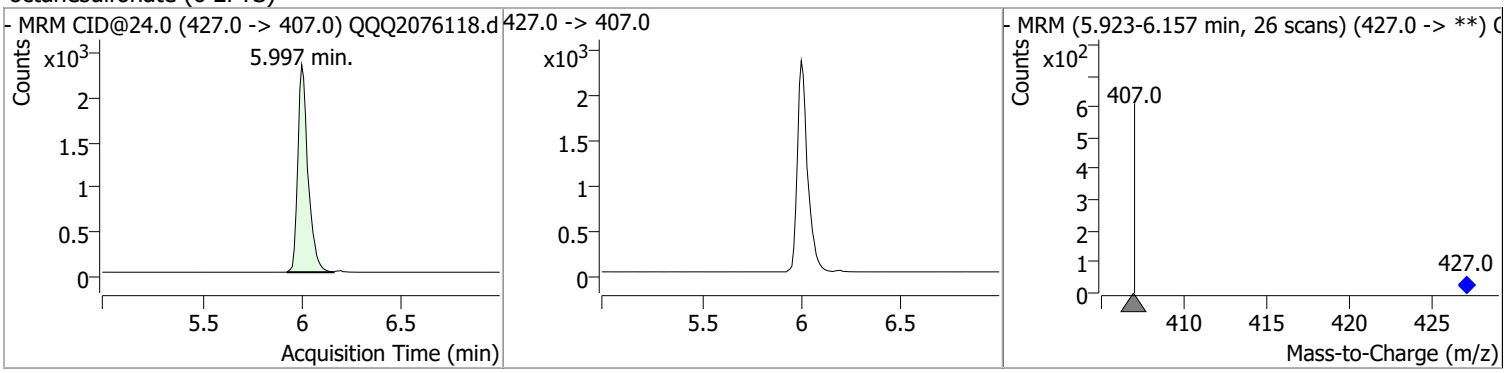
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	9.2614	5.55	0.00	64479				



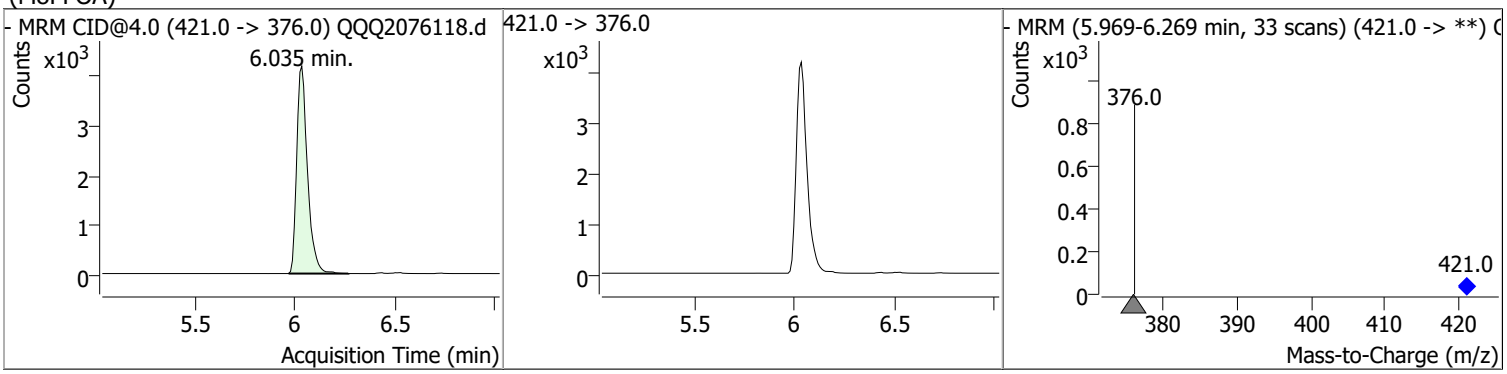
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.0283	6.00	0.00	3959				



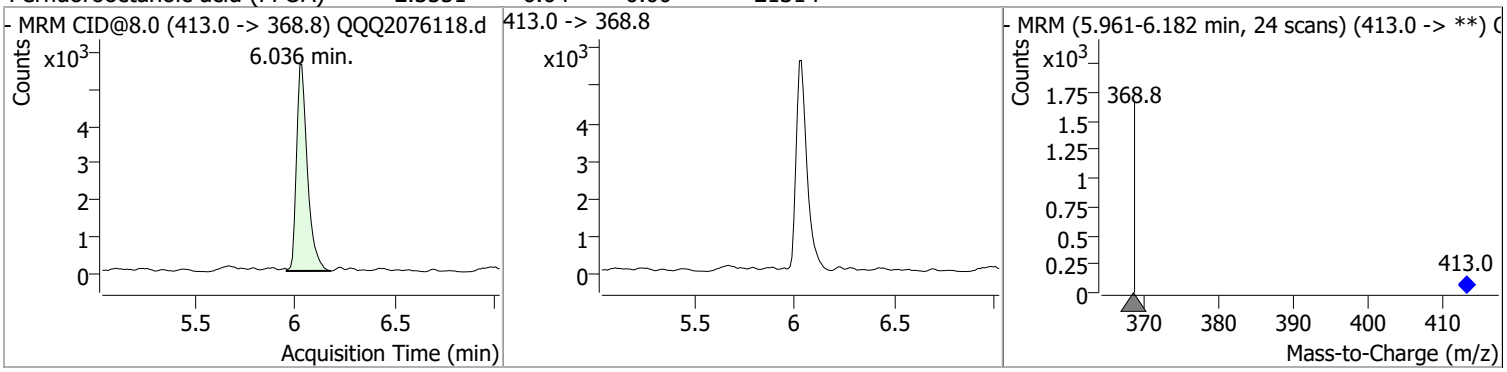
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	10.3796	6.00	0.00	8296				



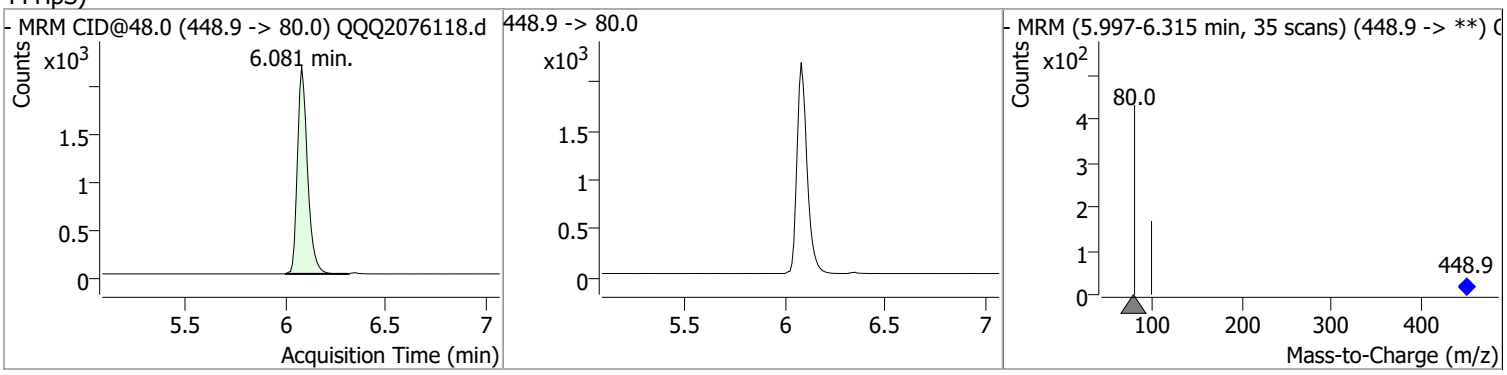
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.4647	6.04	0.00	15642				



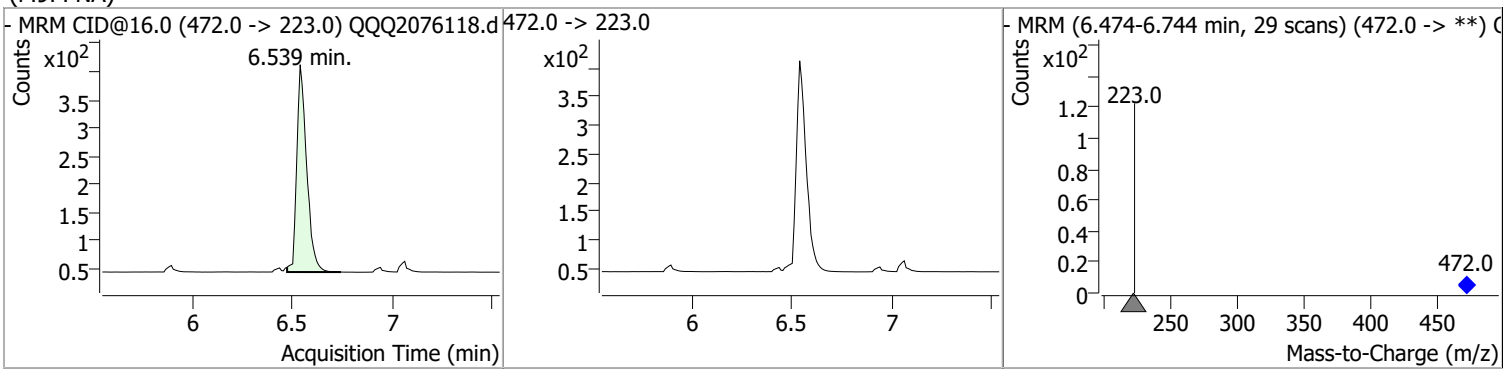
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.3551	6.04	0.00	21314				



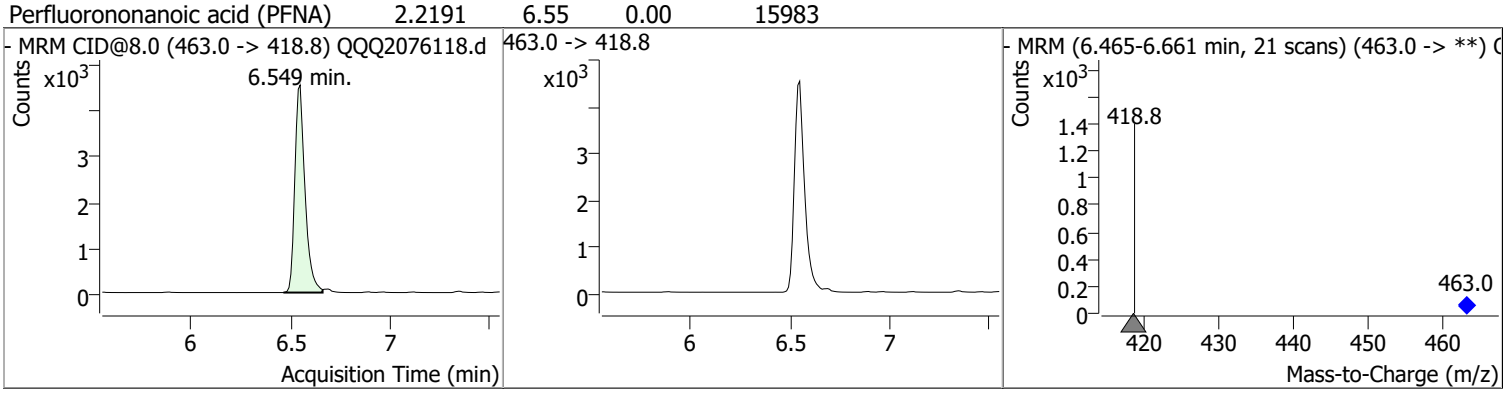
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	2.9623	6.08	0.00	7607				



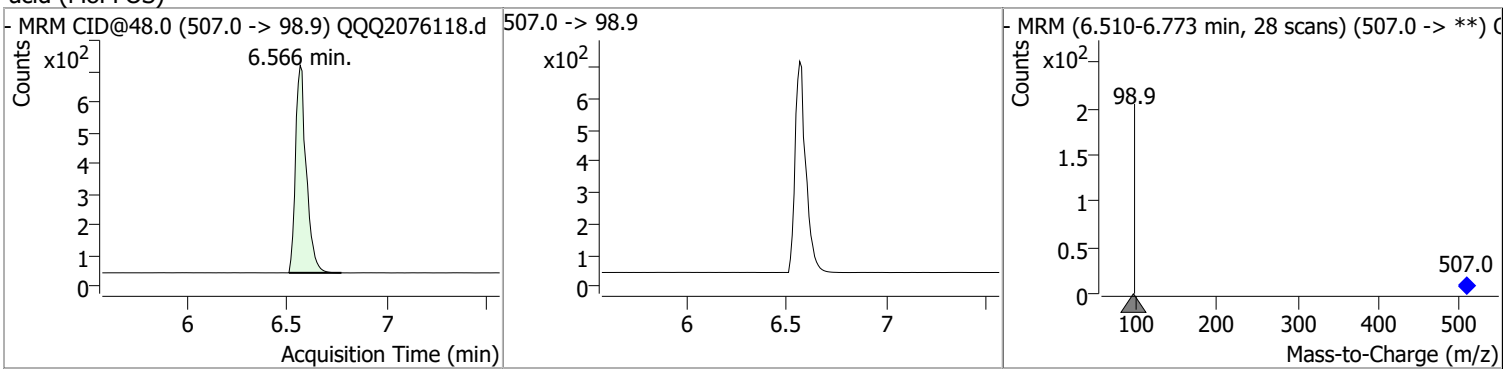
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.2265	6.54	0.00	1272				



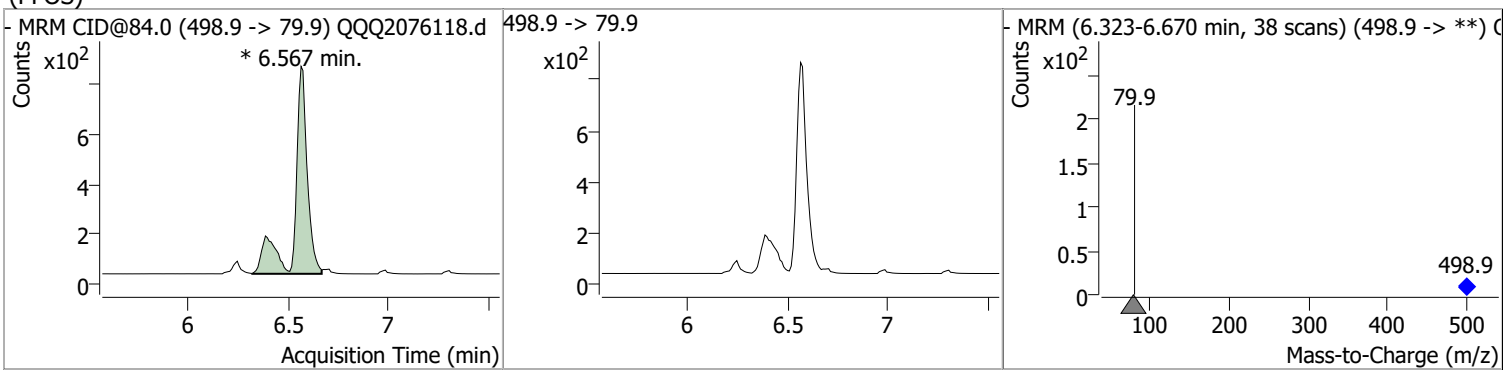
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.2191	6.55	0.00	15983				



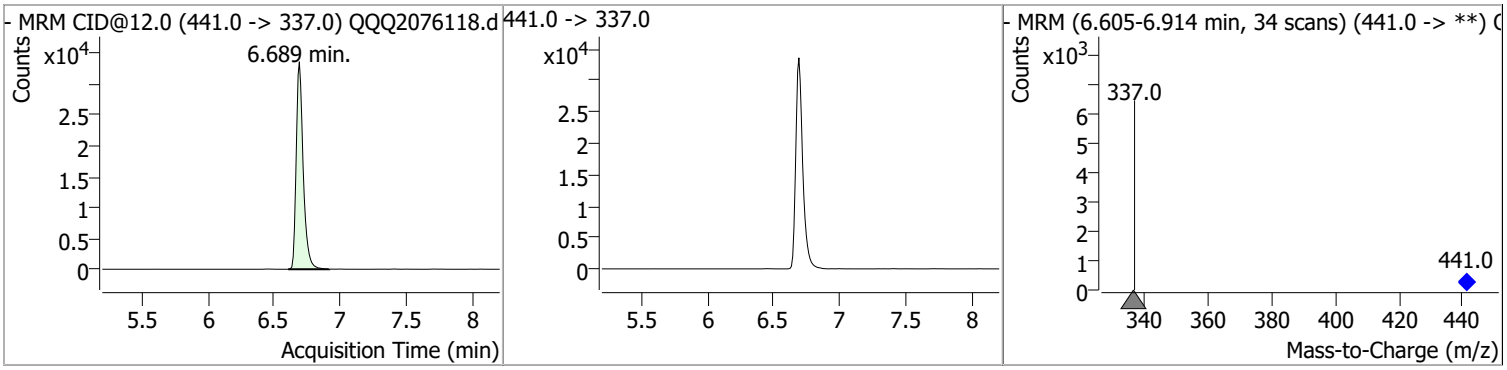
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.3798	6.57	0.00	2510				



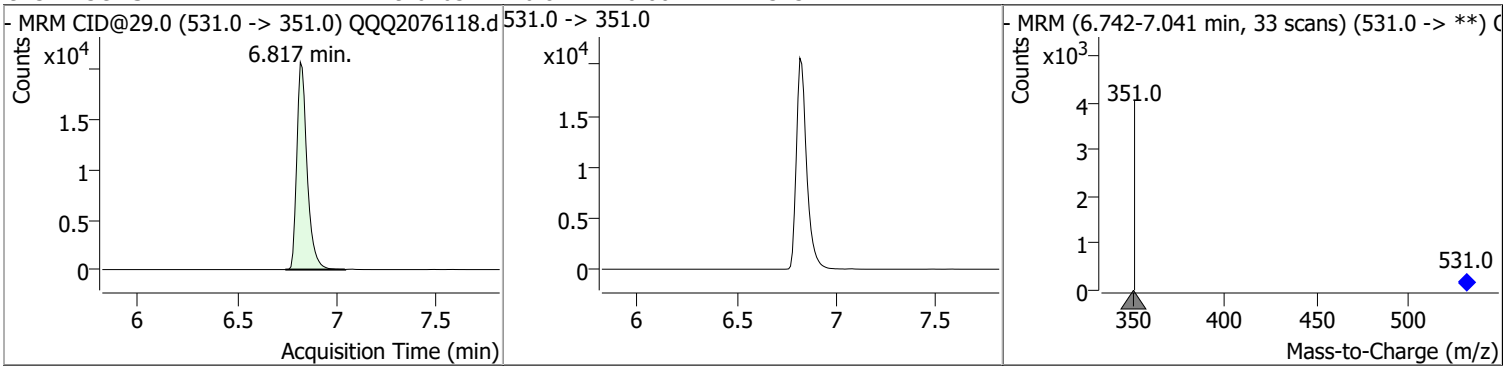
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.7961	6.57	0.00	3669 (m)				



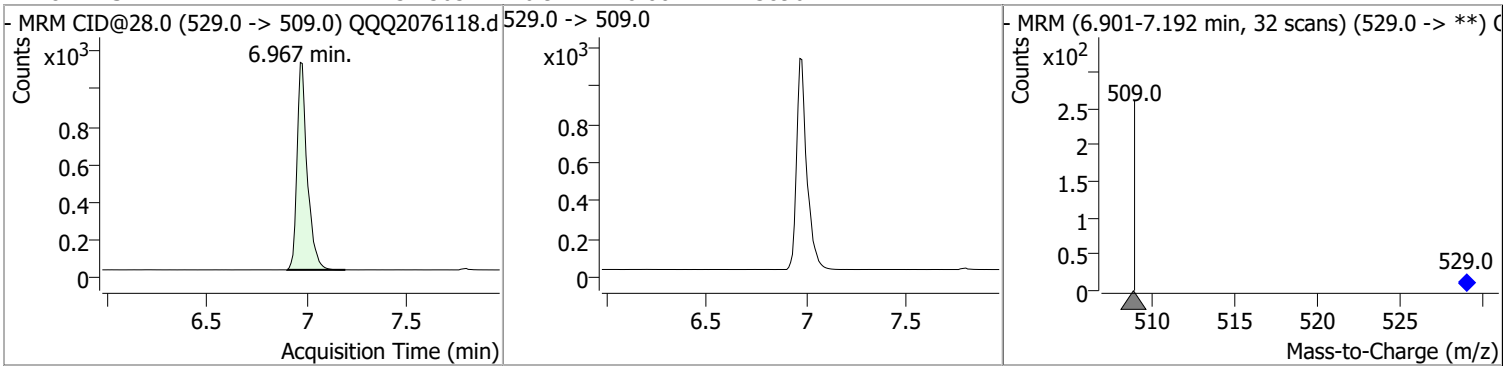
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	69.9043	6.69	0.00	122507				



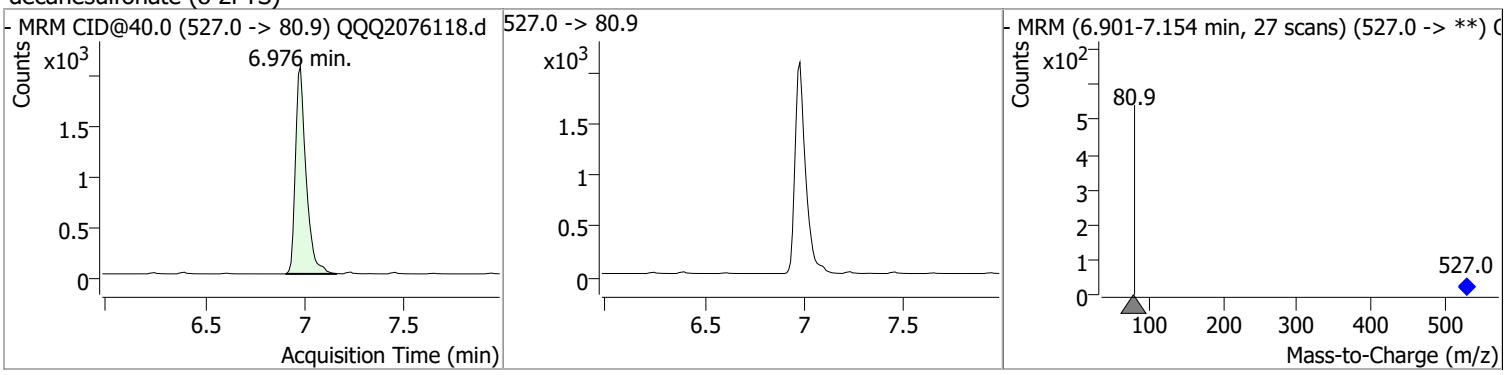
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	9.6463	6.82	0.00	73752				



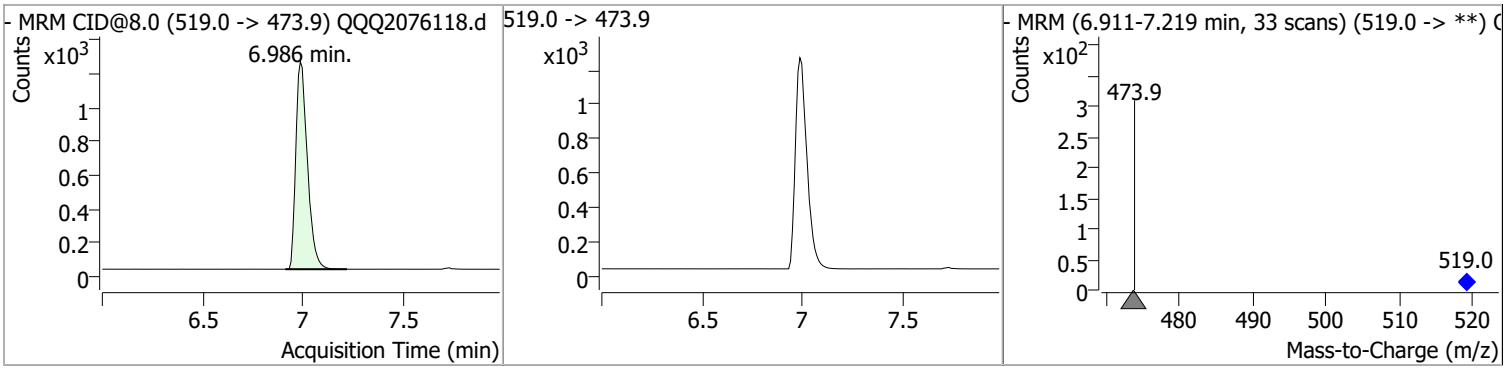
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.7565	6.97	0.00	3896				



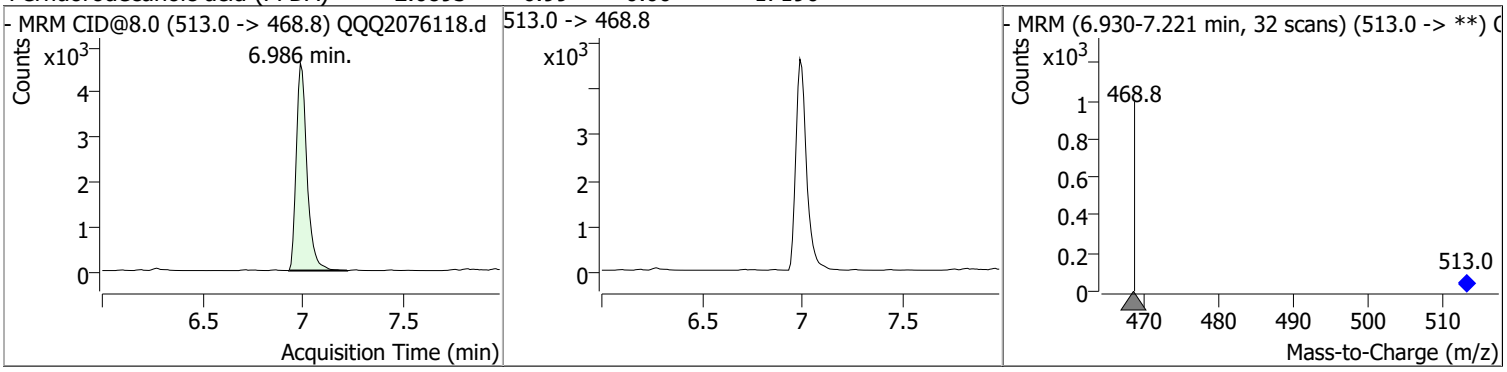
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	7.9780	6.98	0.00	7568				



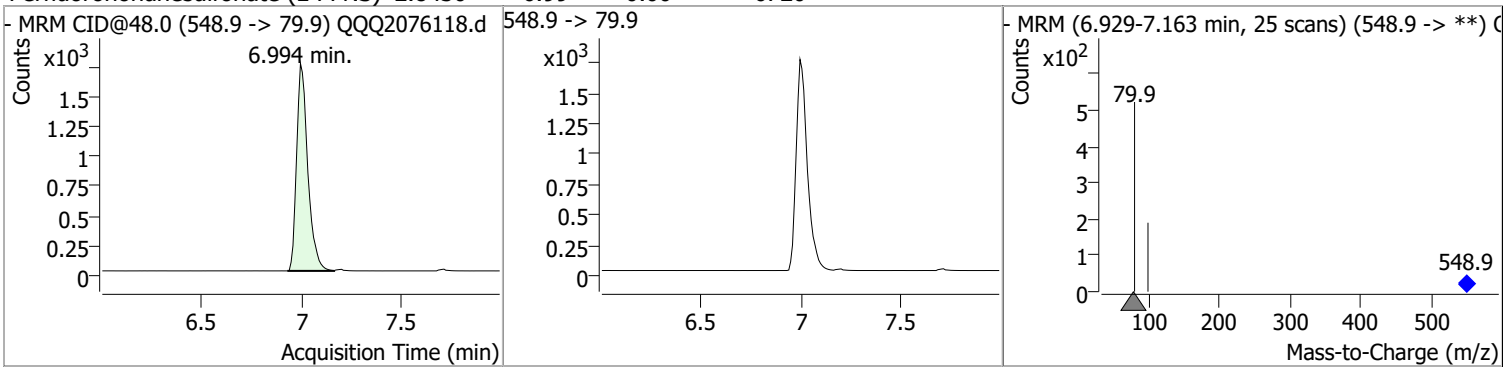
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.4572	6.99	0.00	4936				



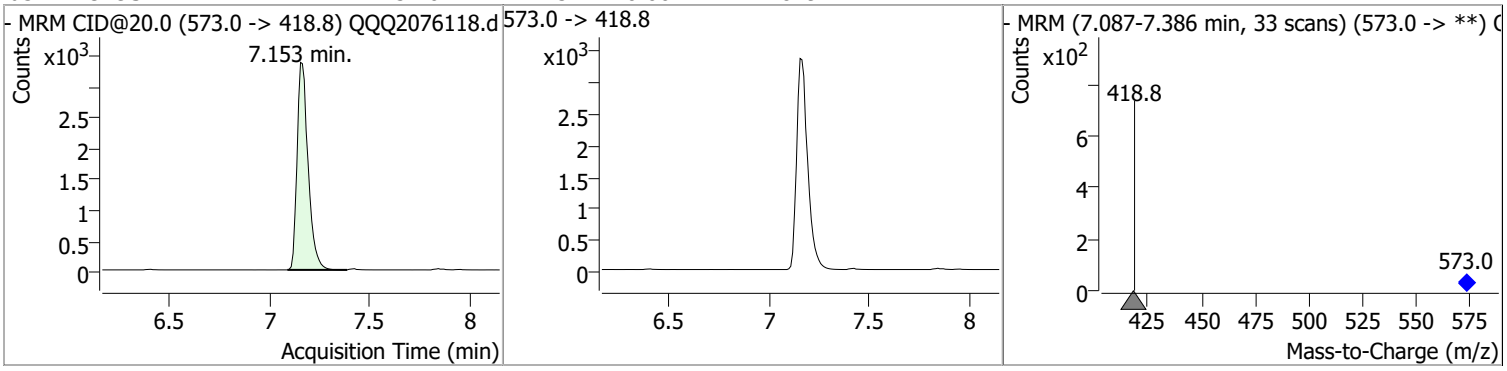
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.0893	6.99	0.00	17190				



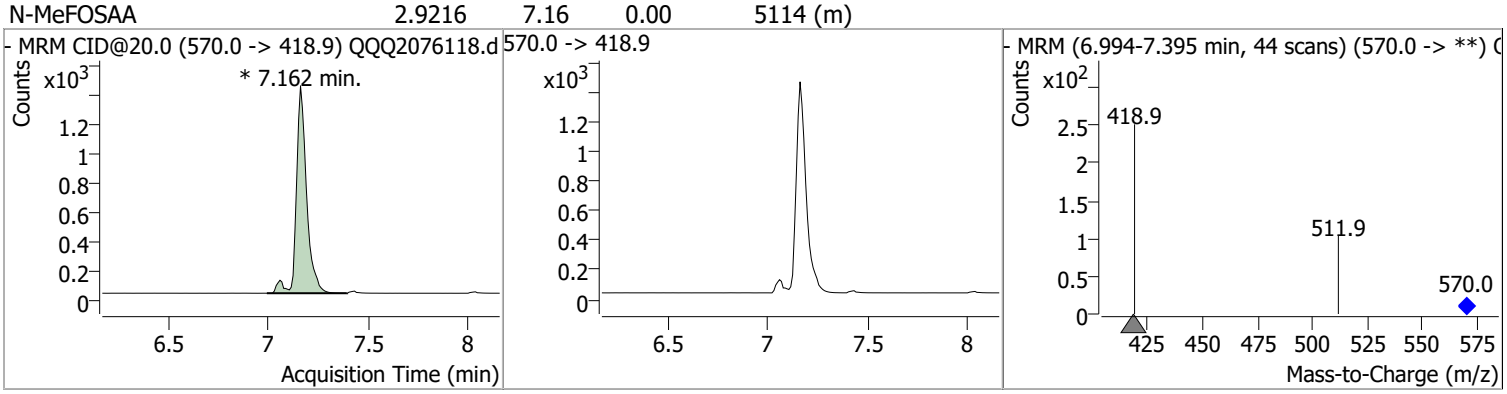
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	2.8430	6.99	0.00	6720				



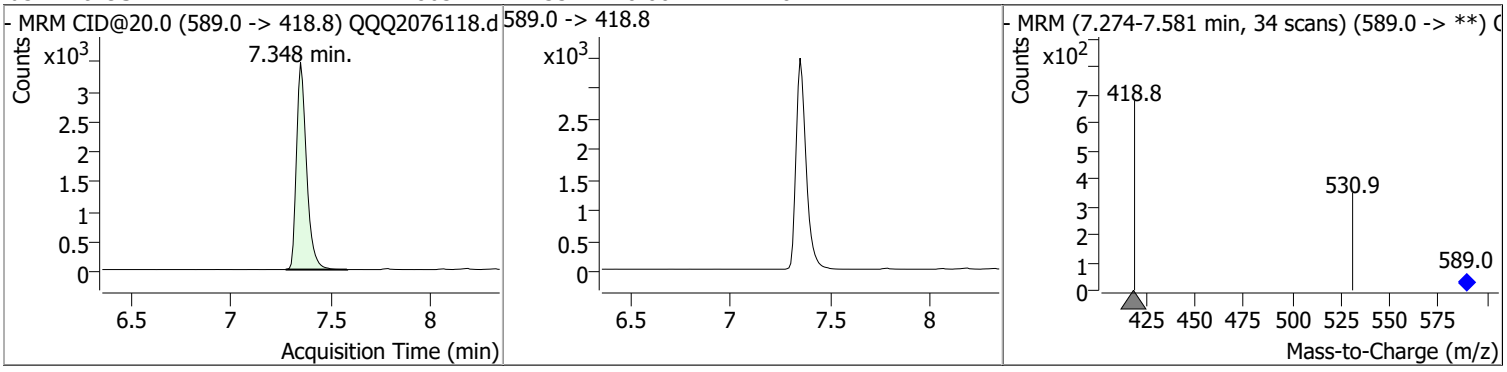
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.2022	7.15	0.00	12819				



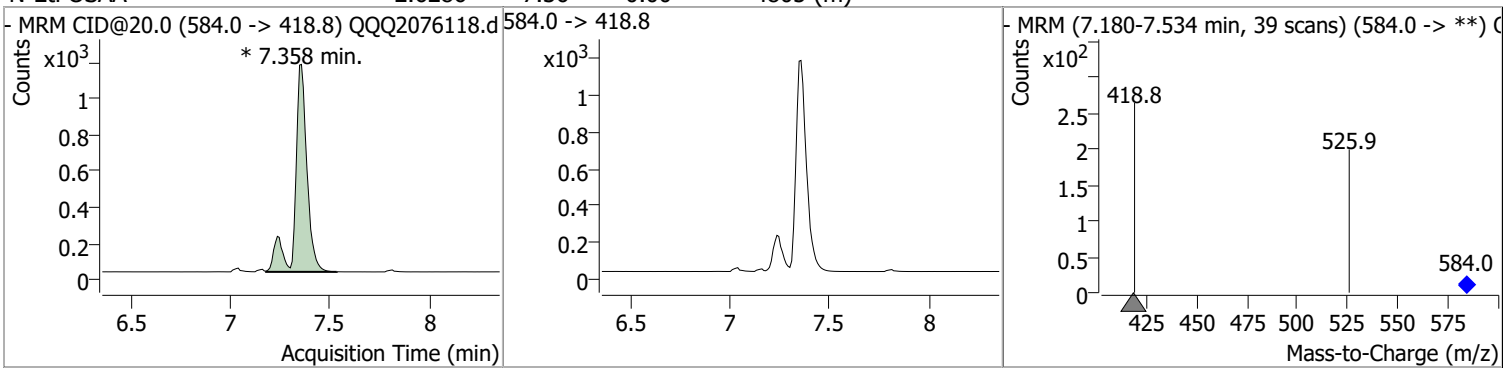
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.9216	7.16	0.00	5114 (m)				



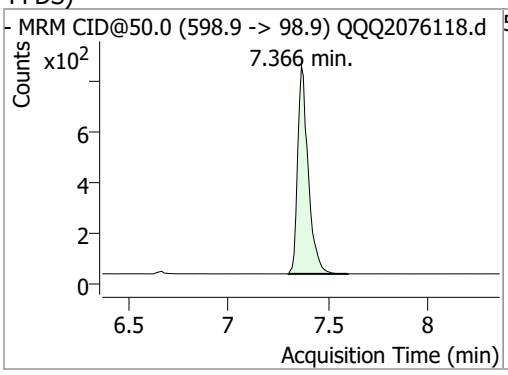
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.8632	7.35	0.00	12042				

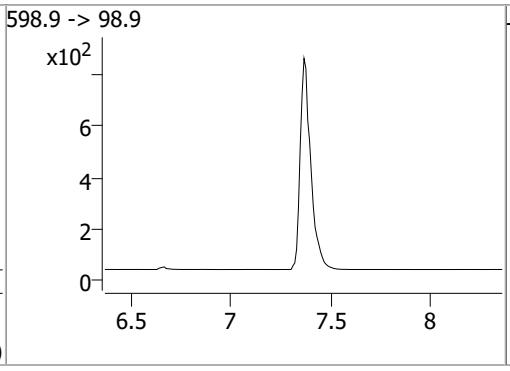


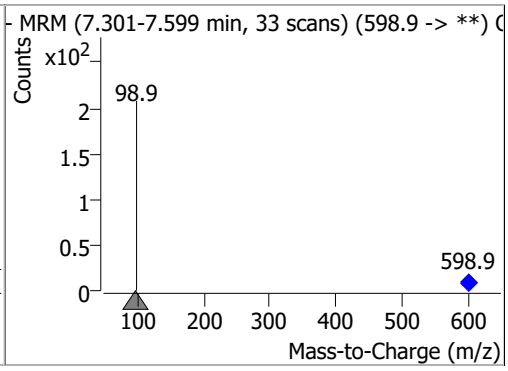
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.6286	7.36	0.00	4805 (m)				



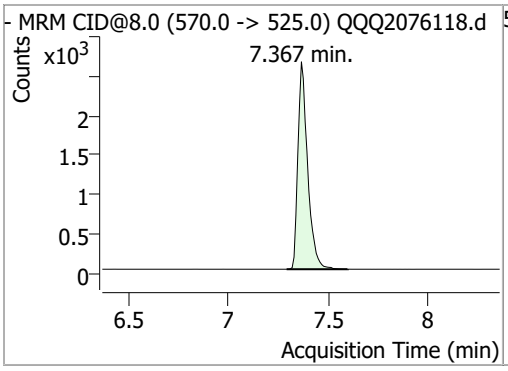
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	2.9720	7.37	0.00	3011				

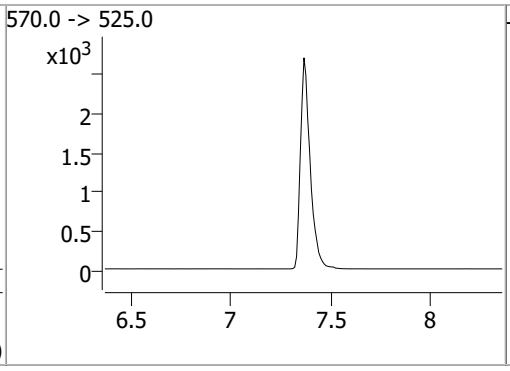


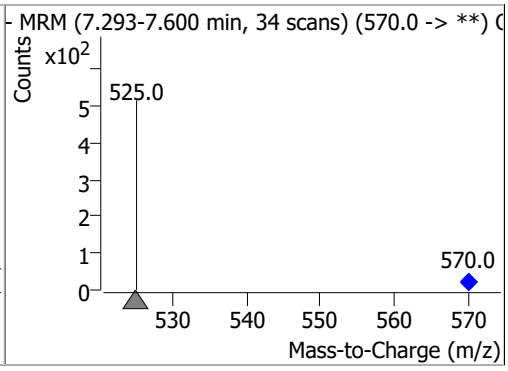




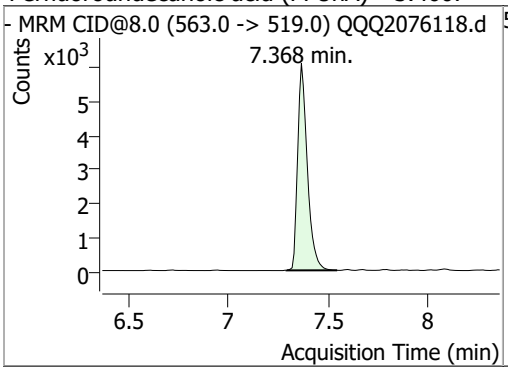
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.3359	7.37	0.00	8967				

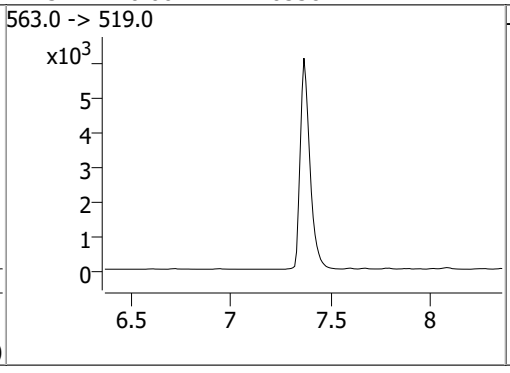


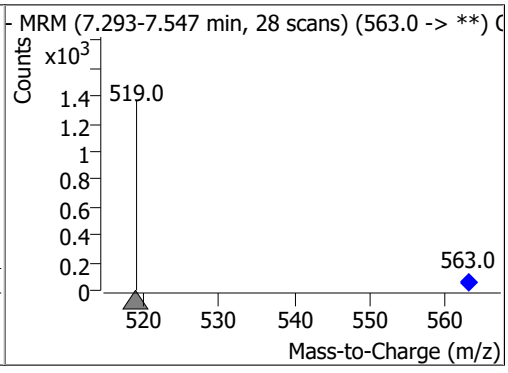




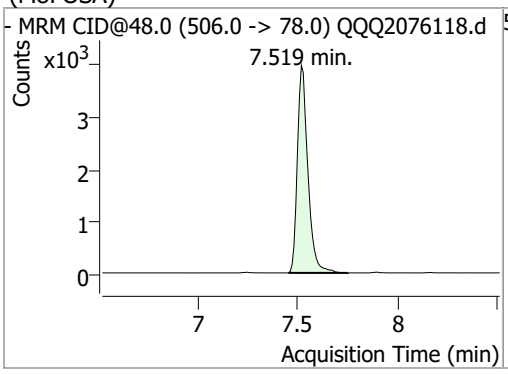
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.4607	7.37	0.00	20538				

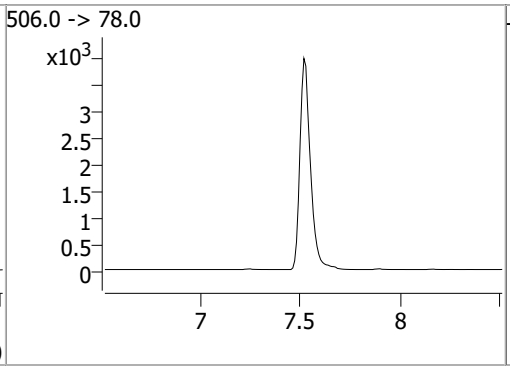


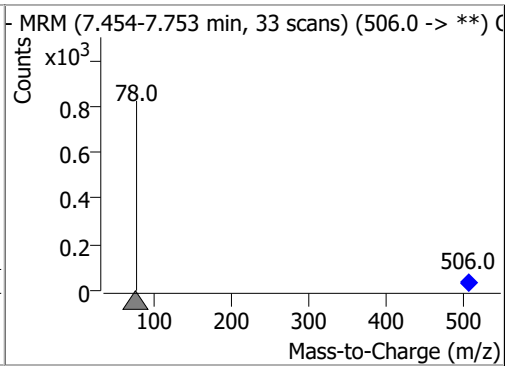




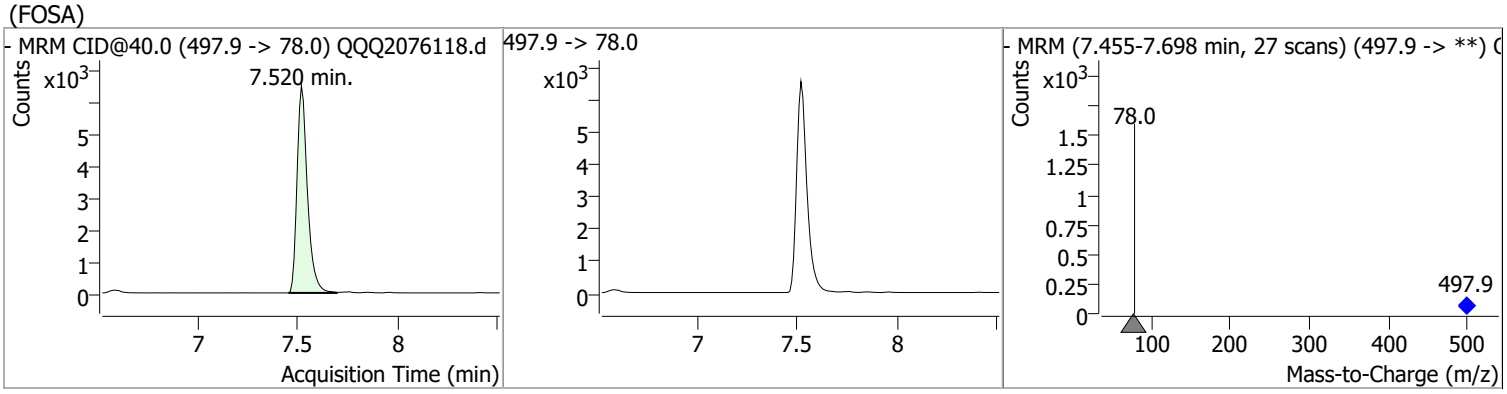
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.4197	7.52	0.00	14469				



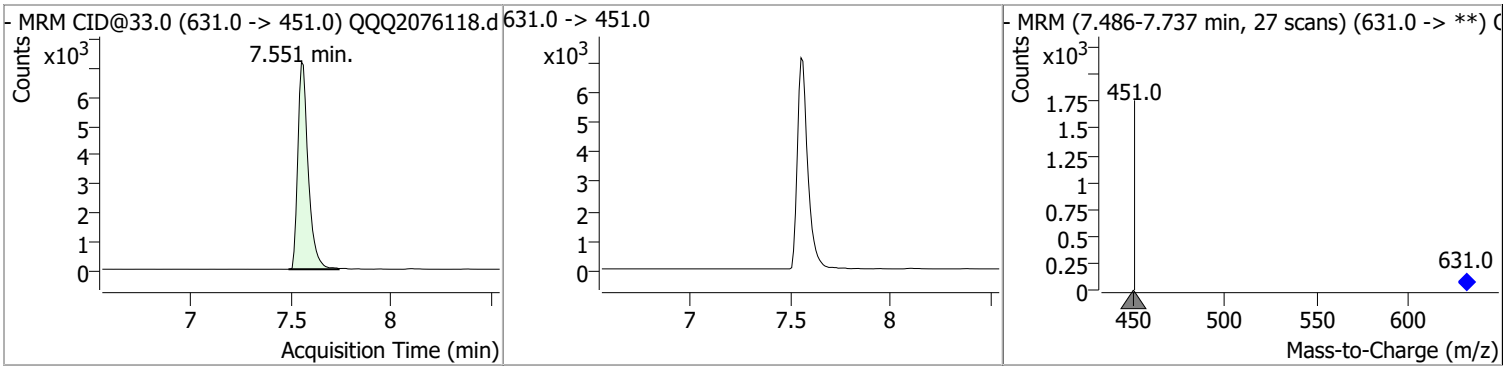




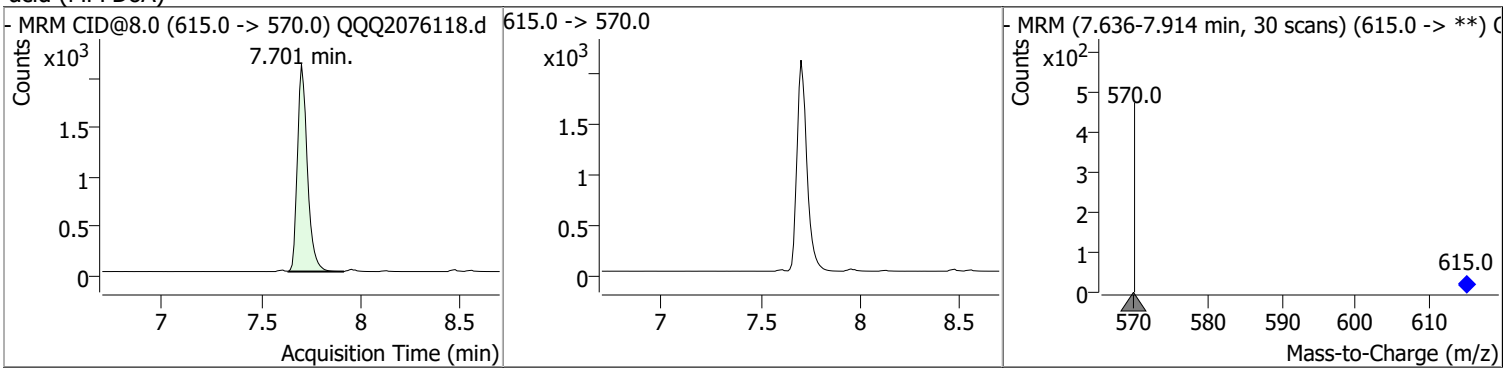
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	2.3227	7.52	0.00	23636				



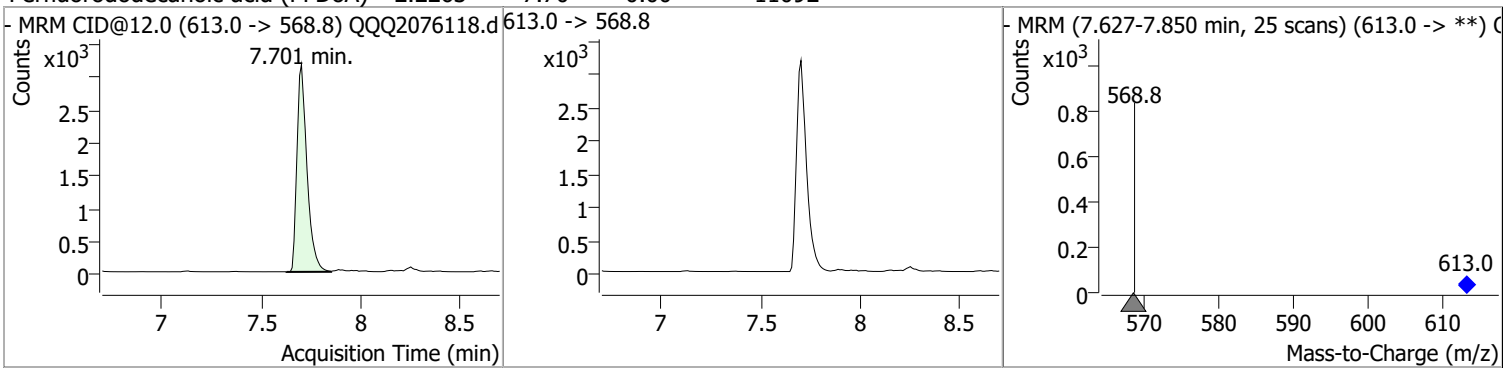
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	8.7955	7.55	0.00	25914				



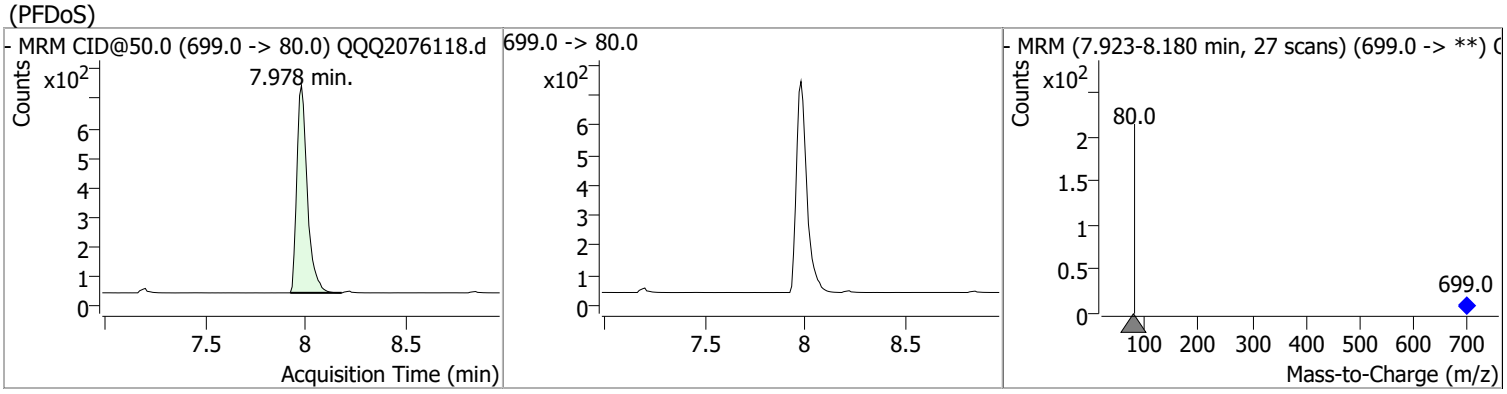
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.2994	7.70	0.00	7262				



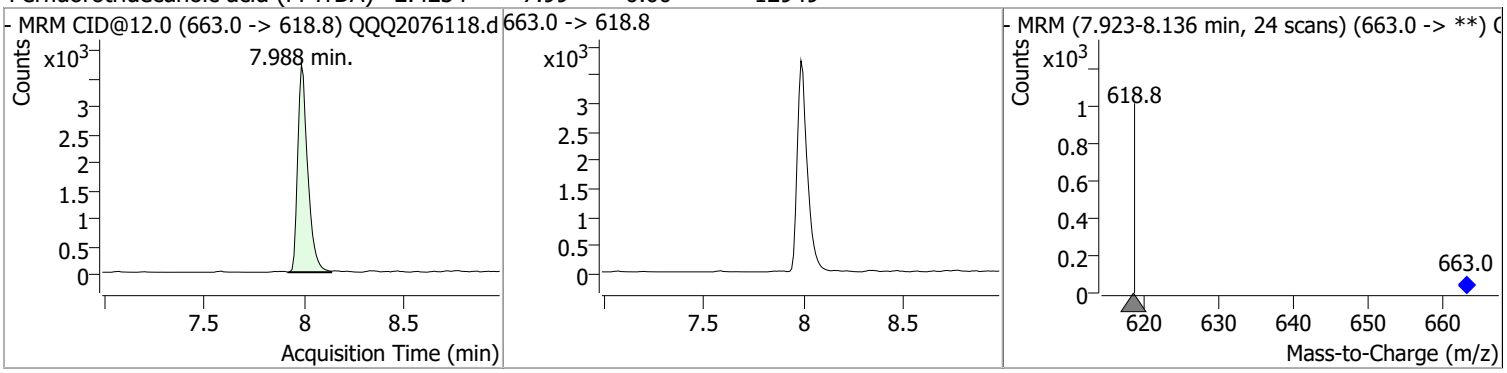
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.2263	7.70	0.00	11092				



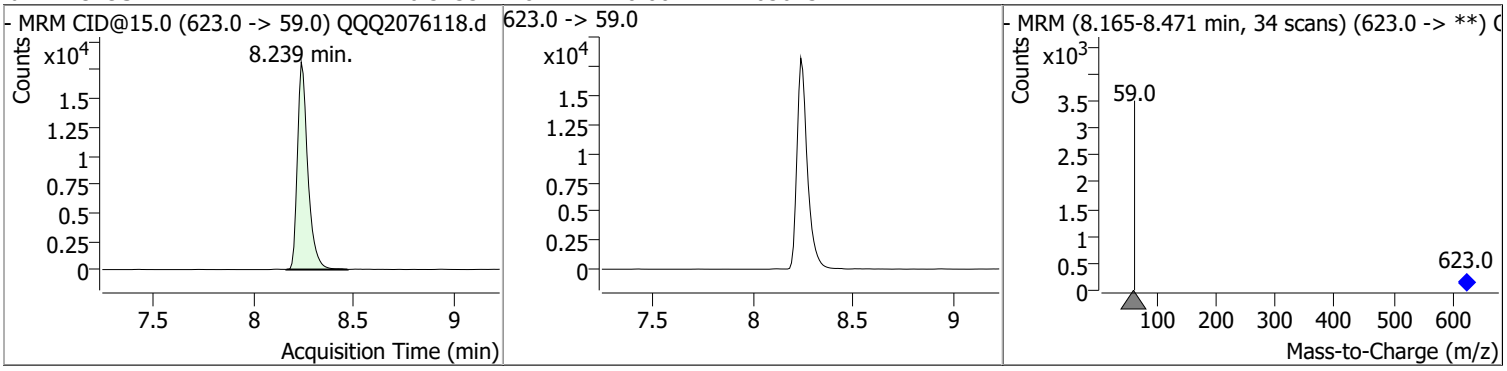
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	2.6422	7.98	0.00	2551				



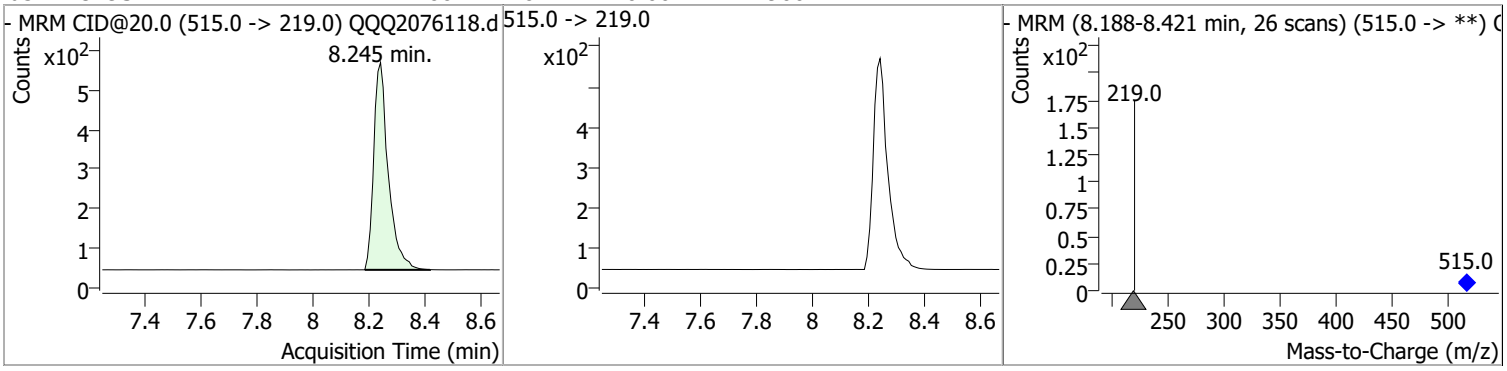
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.4234	7.99	0.00	12949				



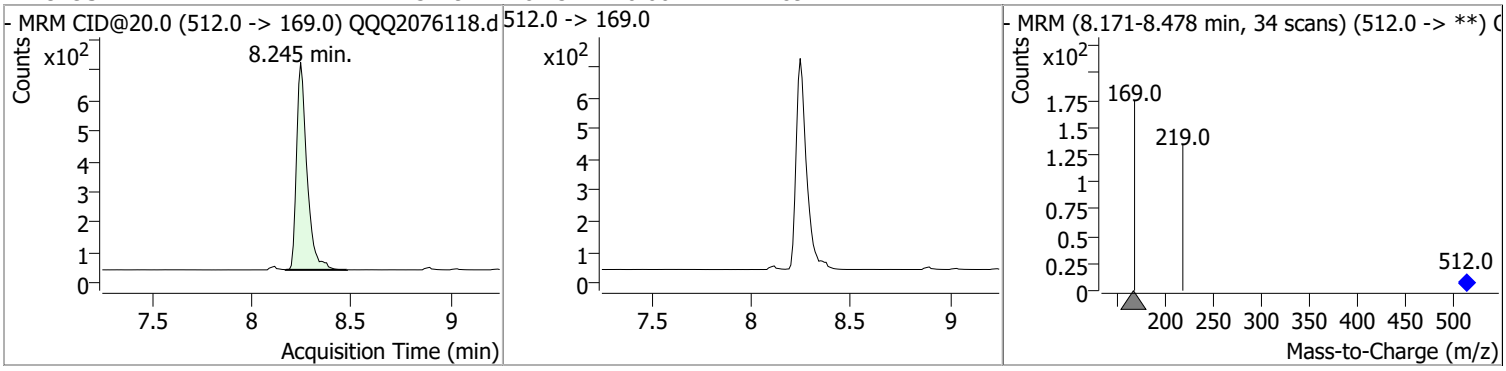
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	26.5235	8.24	0.00	65673				



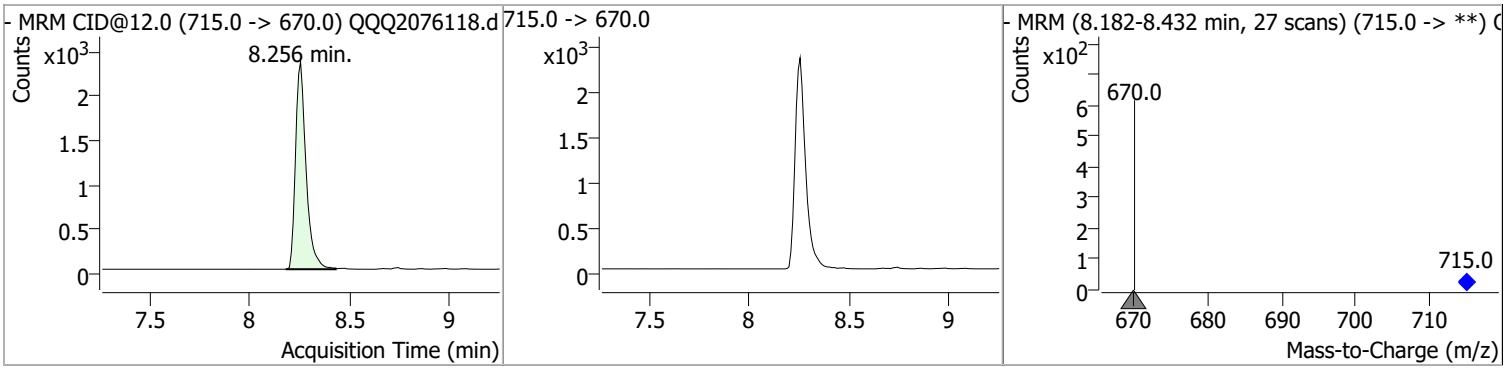
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.4882	8.24	0.00	1900				



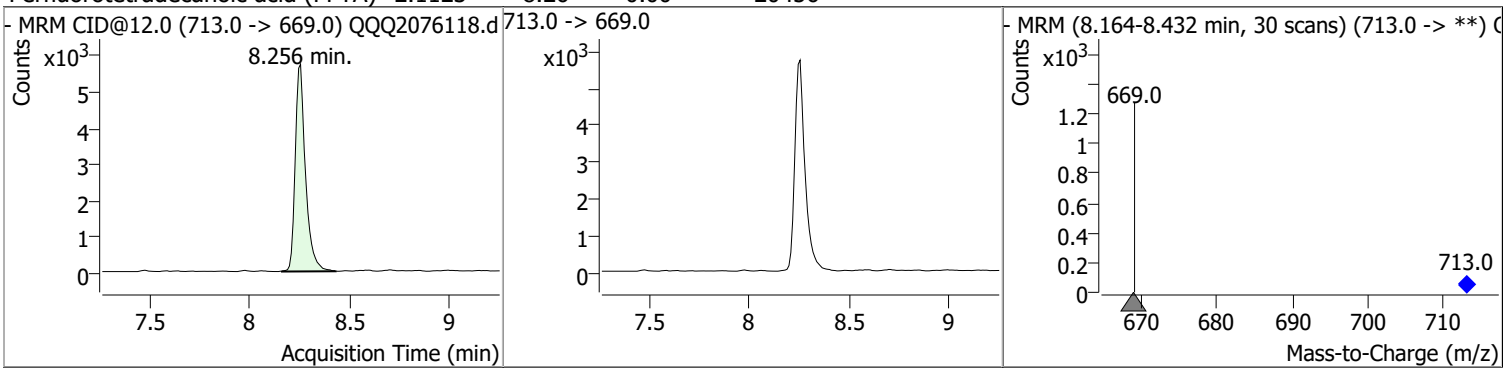
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	2.3219	8.25	0.00	2489				



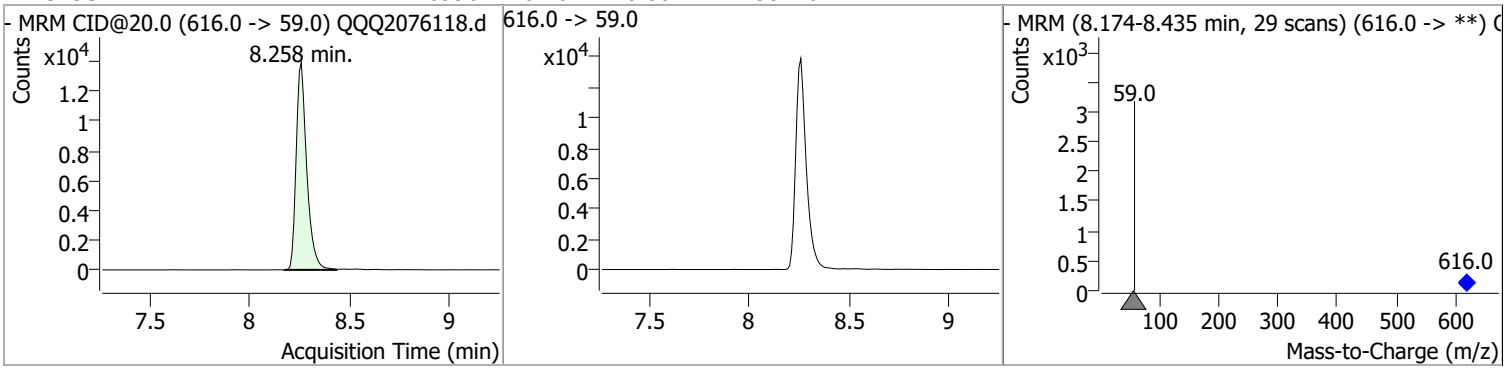
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.4578	8.26	0.00	8598				



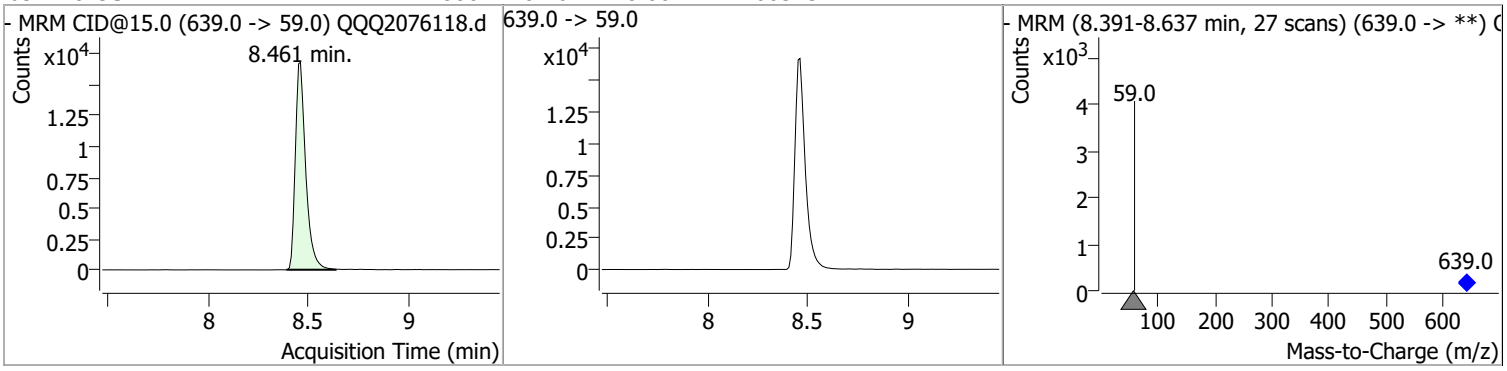
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.1123	8.26	0.00	20456				



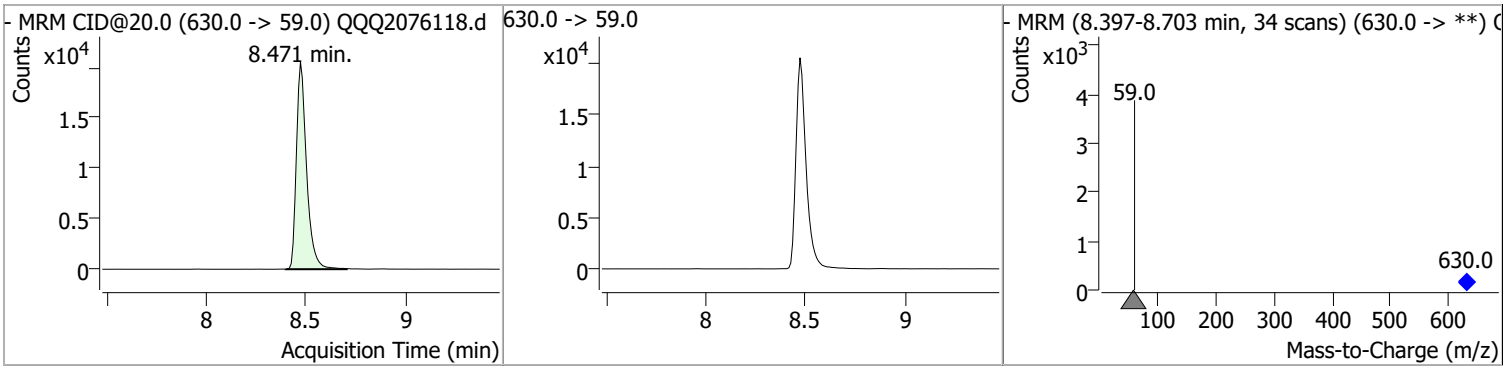
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	21.8998	8.26	0.00	50776				



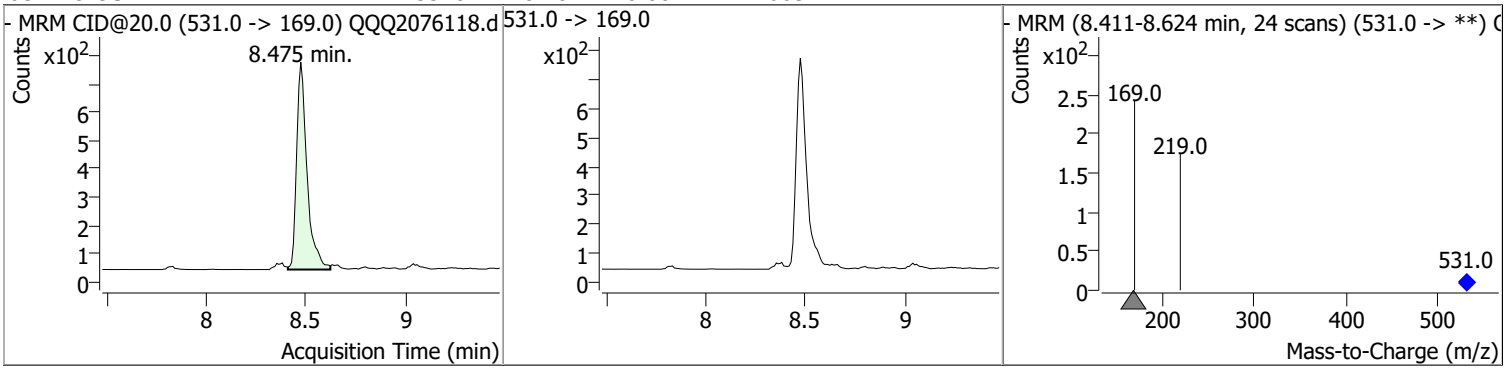
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	24.7888	8.46	0.00	60325				



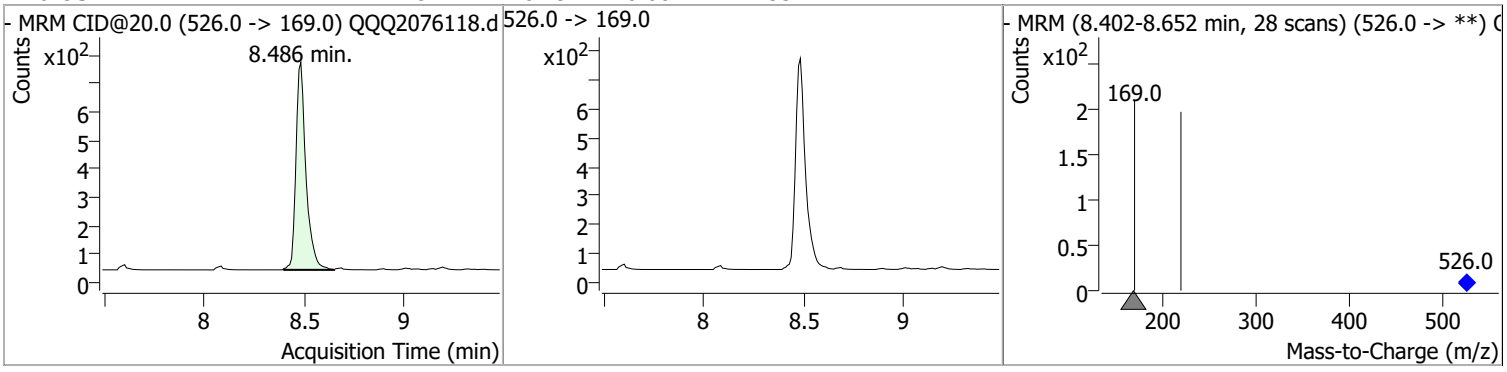
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	25.3579	8.47	0.00	72570				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.5378	8.48	0.00	2665				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	2.8222	8.49	0.00	2554				



Quantitation Results Report (Not Reviewed)

Data File	QQQ2076119.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 12:46:24 PM
Sample Name	SEQ-CAL5	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	5.0 - 125 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

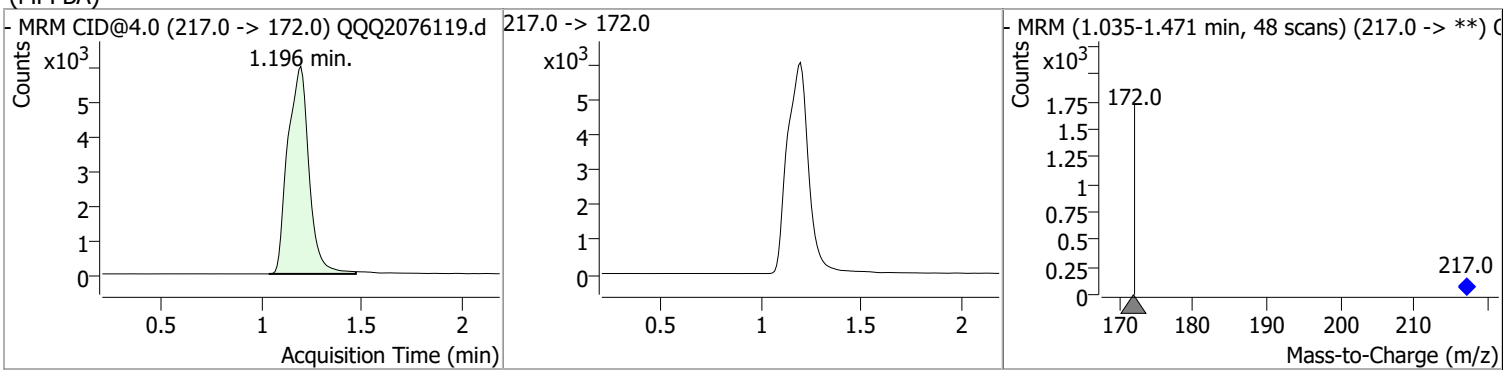
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.198	216.0 -> 172.0	31374	5.0000	ng/ml	-0.009
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.196	217.0 -> 172.0	44313	10.0000	ng/ml	-0.009
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.387	268.0 -> 223.0	25413	5.0000	ng/ml	0.000
MPFHxA	4.707	315.0 -> 269.8	29928	2.5000	ng/ml	0.010
MPFHxS	5.531	403.0 -> 103.0	2651	2.3700	ng/ml	0.009
M3PFBS-EIS	3.892	302.0 -> 79.9	8383	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	20964	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.640	329.0 -> 309.0	7725	4.6900	ng/ml	0.009
M3PFHxS-EIS	5.532	402.0 -> 80.0	6665	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	48563	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.449	367.0 -> 322.0	22063	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	6.006	429.0 -> 409.0	3914	4.7550	ng/ml	0.009
MPFOA	6.036	417.0 -> 372.0	25807	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	15321	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.575	507.0 -> 98.9	2605	2.3950	ng/ml	0.009
MPFNA	6.549	468.0 -> 423.0	10235	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.548	472.0 -> 223.0	869	1.2500	ng/ml	0.009
MPFOS	6.576	503.0 -> 80.0	5931	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.967	529.0 -> 509.0	2519	4.8000	ng/ml	0.000
MPFDA	6.986	515.0 -> 469.8	9055	1.2500	ng/ml	0.000
M6PFDA-EIS	6.986	519.0 -> 473.9	4843	1.2500	ng/ml	0.000
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	11775	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	12017	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.367	570.0 -> 525.0	9890	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	13858	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	6571	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.247	715.0 -> 670.0	7673	1.2500	ng/ml	-0.009
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1743	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	60855	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.461	639.0 -> 59.0	57178	25.0000	ng/ml	0.000
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2454	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.196	217.0 -> 172.0	44313	10.3114	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.387	268.0 -> 223.0	25413	5.2446	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	8383	2.3773	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.640	329.0 -> 309.0	7725	5.3512	ng/ml	0.009

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	20964	2.5934	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	48563	10.3019	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	22063	2.4167	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	6665	2.2501	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	6.006	429.0 -> 409.0	3914	4.9991	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	15321	2.6929	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.548	472.0 -> 223.0	869	0.8251	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.575	507.0 -> 98.9	2605	3.0338	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.967	529.0 -> 509.0	2519	3.7420	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.986	519.0 -> 473.9	4843	1.3778	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	11775	5.8693	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	12017	5.9611	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	9890	1.4199	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	13858	2.8464	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	6571	1.1332	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	60855	30.1876	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	1743	2.8034	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.247	715.0 -> 670.0	7673	1.2537	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.461	639.0 -> 59.0	57178	28.8590	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2454	2.8711	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.191	213.0 -> 168.9	109251	19.5216	ng/ml	100
PFMPA	2.061	229.0 -> 85.0	36732	9.3959	ng/ml	100
3:3FTCA	3.296	241.0 -> 177.0	7806	24.9021	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.388	263.0 -> 219.0	50944	9.1554	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	19304	4.4746	ng/ml	100
PFMBA	3.922	279.0 -> 85.0	54324	9.4490	ng/ml	100
PFEESA	4.391	315.0 -> 135.0	124191	9.2927	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	57981	9.7637	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.641	327.0 -> 307.0	26778	18.1325	ng/ml	100

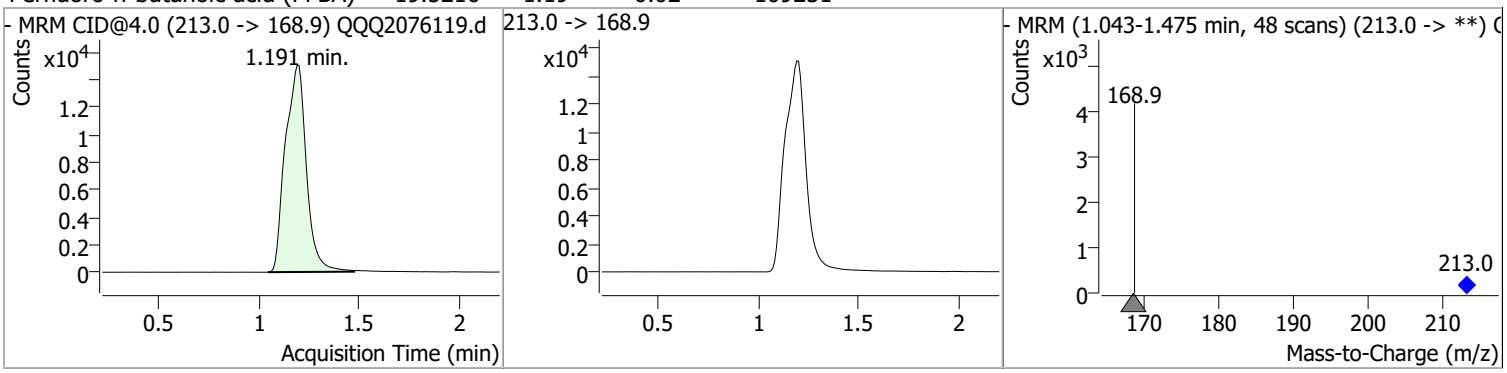
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.707	313.0 -> 268.9	49356	4.9666	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.890	348.9 -> 79.9	18229	4.7340	ng/ml		100
HFPO-DA	4.969	285.0 -> 169.1	9870	23.6304	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	62935	5.3019	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.532	398.9 -> 79.9	18044	4.6908	ng/ml	m	100
5-3FTCA	5.543	341.0 -> 217.0	171671	151.6876	ng/ml		100
ADONA	5.561	377.0 -> 85.0	127340	20.1434	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	13334	17.7662	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	45241	5.0829	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	15166	5.5915	ng/ml		100
Perfluorononanoic acid (PFNA)	6.549	463.0 -> 418.8	32739	6.7864	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.567	498.9 -> 79.9	7997	5.6827	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	237376	134.7382	ng/ml		100
9-Cl-PF3ONS	6.817	531.0 -> 351.0	155666	22.4180	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.976	527.0 -> 80.9	11576	21.3533	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	35465	4.4022	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	7.004	548.9 -> 79.9	14546	5.8842	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	7871	4.8687	ng/ml	m	100
N-EtFOSAA	7.358	584.0 -> 418.8	9007	4.9164	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.376	598.9 -> 98.9	6364	6.0222	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.368	563.0 -> 519.0	35306	5.3268	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	49722	5.1179	ng/ml		100
11-Cl-PF3OUdS	7.561	631.0 -> 451.0	52633	19.7372	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	21711	4.8483	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.978	699.0 -> 80.0	5774	5.6431	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.988	663.0 -> 618.8	22274	4.6984	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	5060	5.1813	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.256	713.0 -> 669.0	42767	4.9566	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	98010	45.9455	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	141973	52.6099	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	5059	5.9876	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

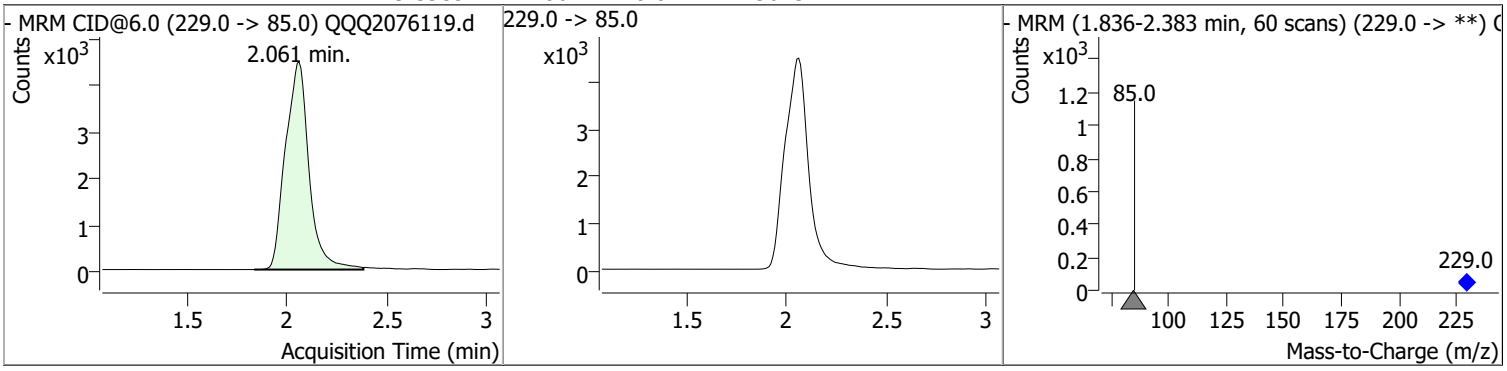
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.3114	1.20	-0.01	44313				



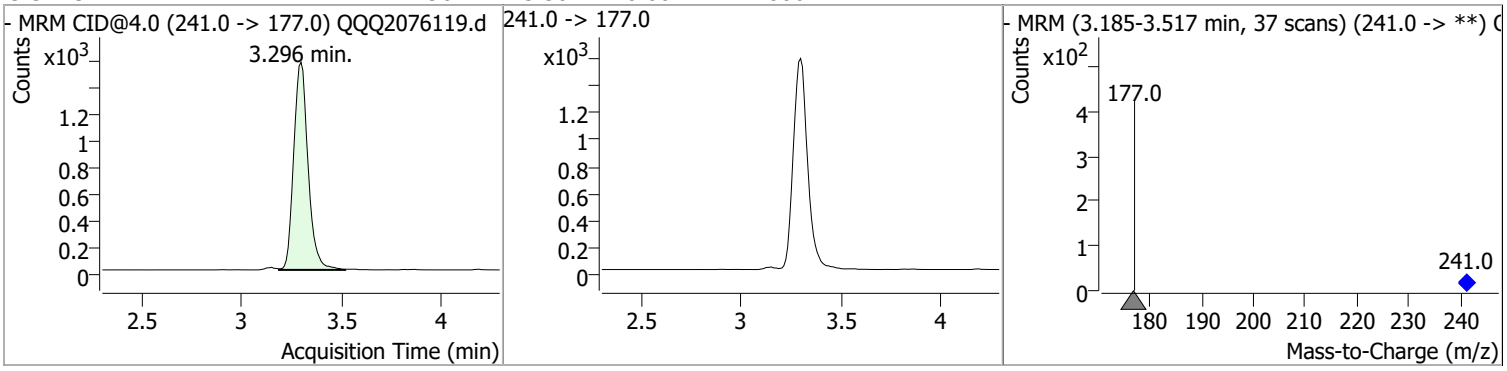
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	19.5216	1.19	-0.02	109251				



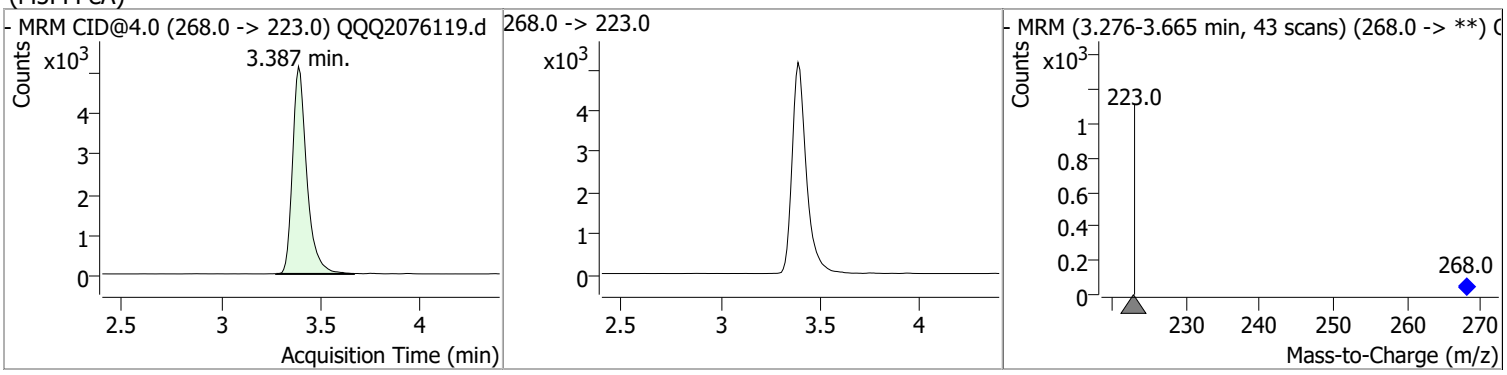
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	9.3959	2.06	-0.01	36732				



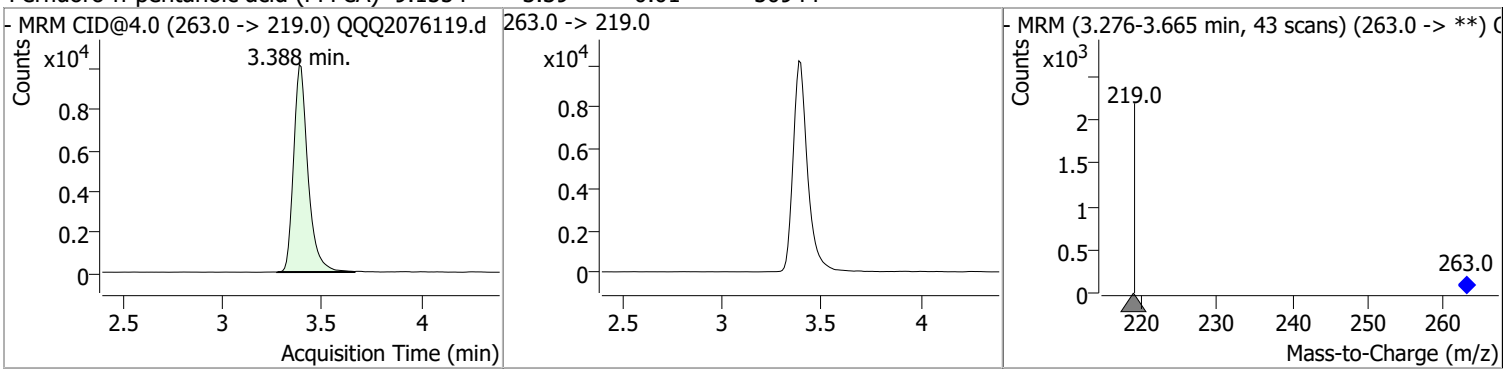
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	24.9021	3.30	0.00	7806				



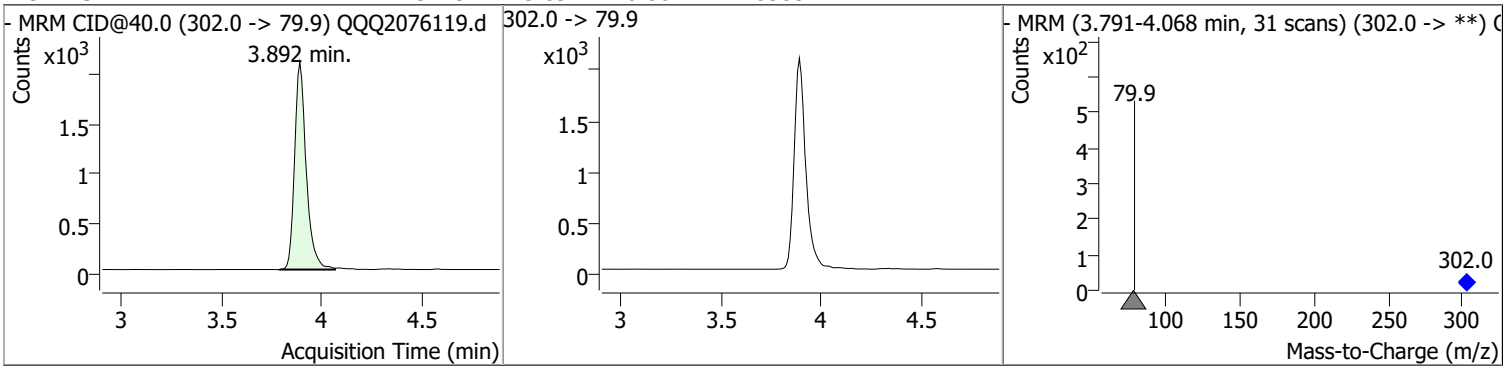
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.2446	3.39	0.00	25413				



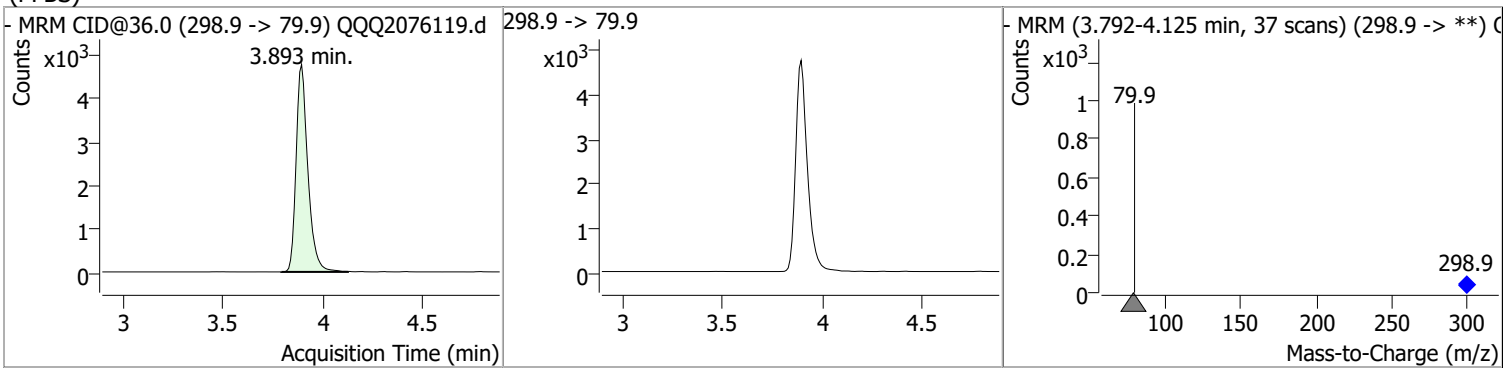
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	9.1554	3.39	-0.01	50944				



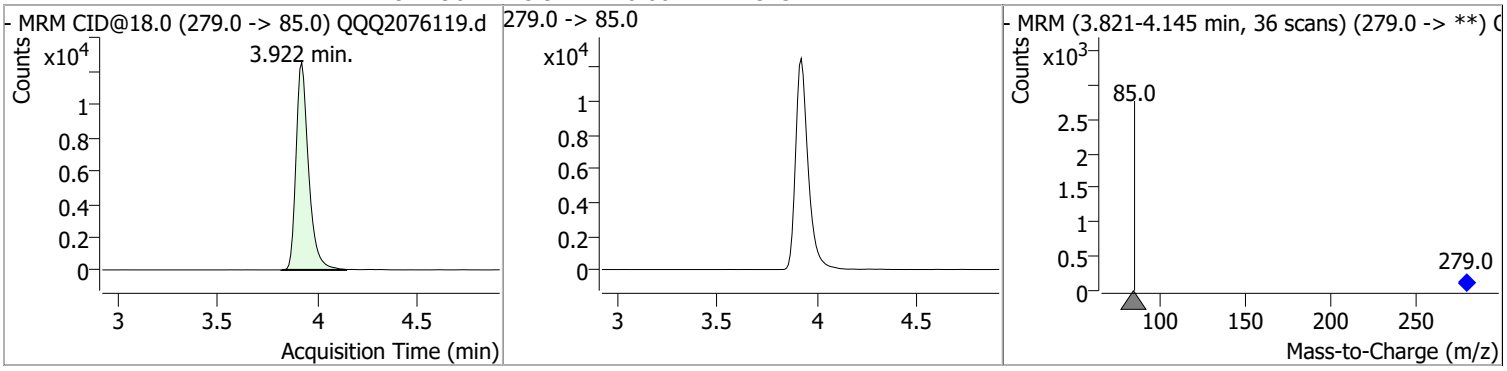
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.3773	3.89	0.00	8383				



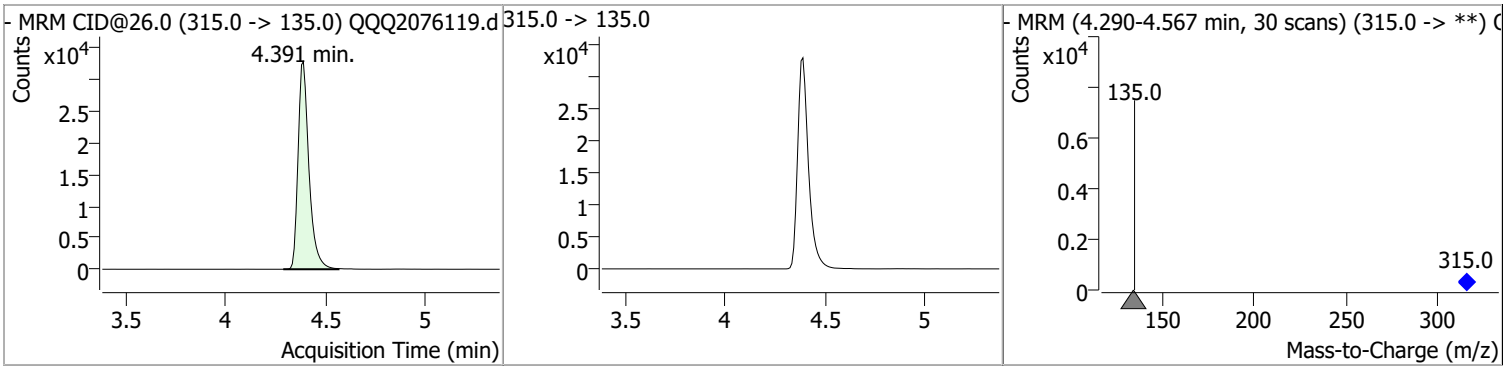
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.4746	3.89	0.00	19304				



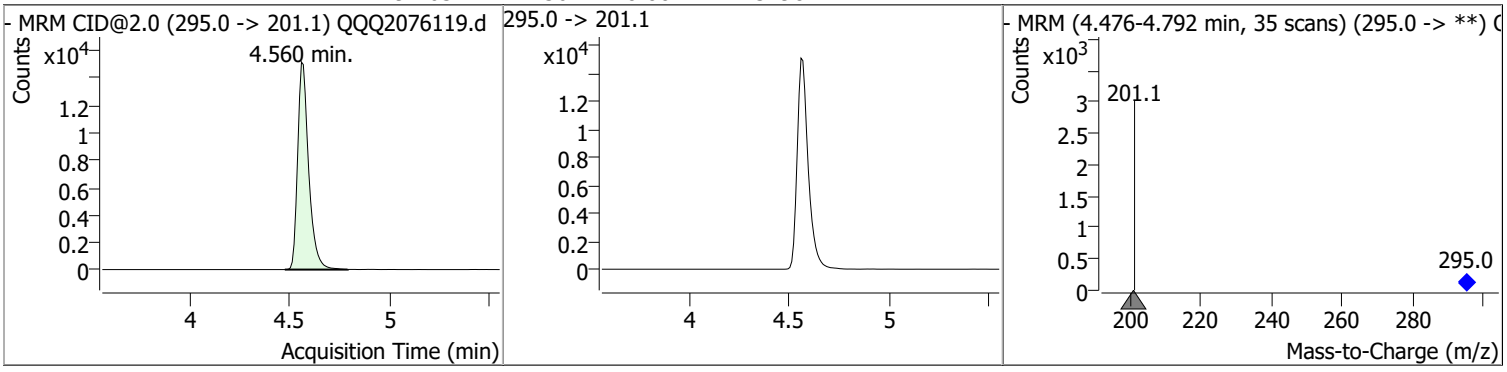
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	9.4490	3.92	0.00	54324				



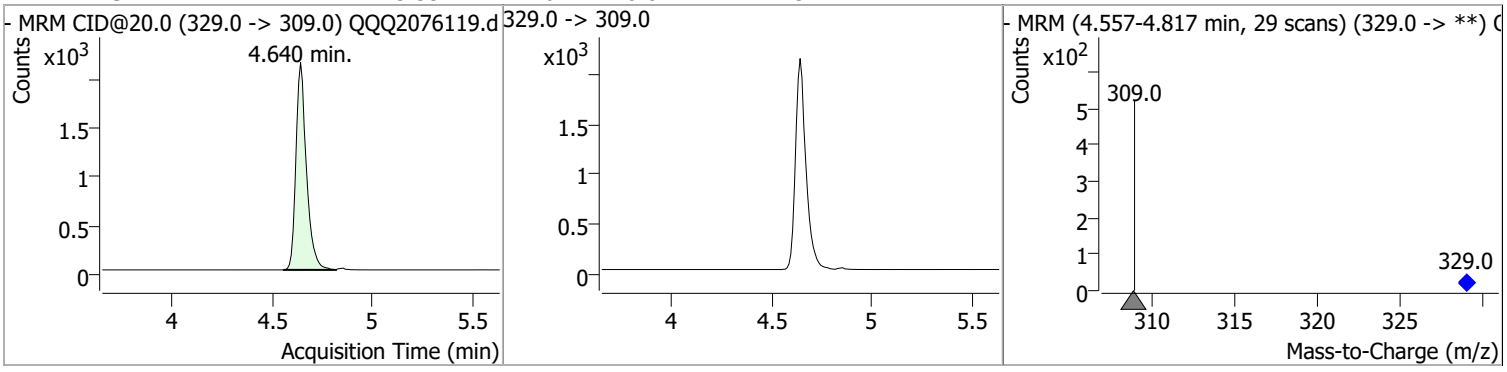
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	9.2927	4.39	0.01	124191				



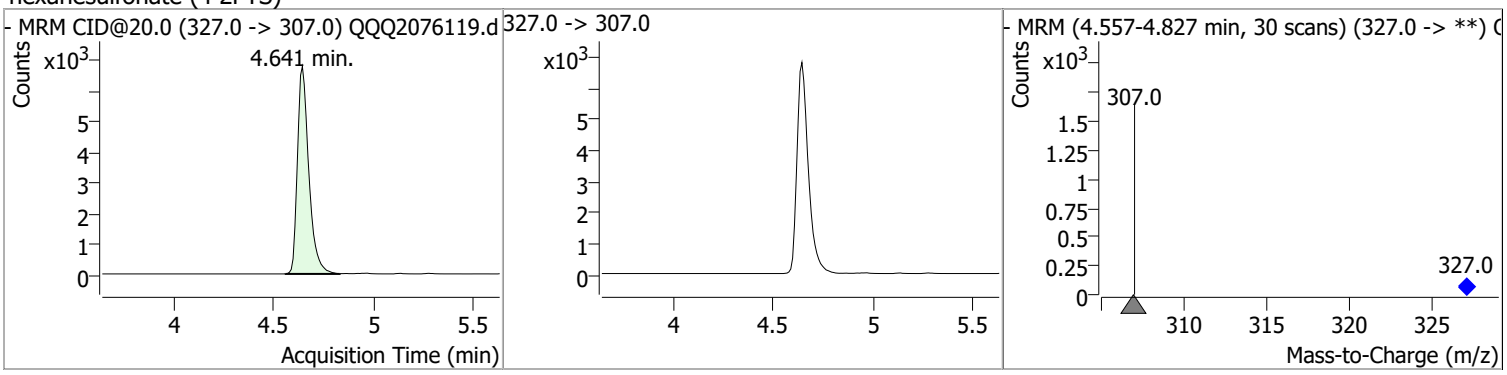
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	9.7637	4.56	0.00	57981				



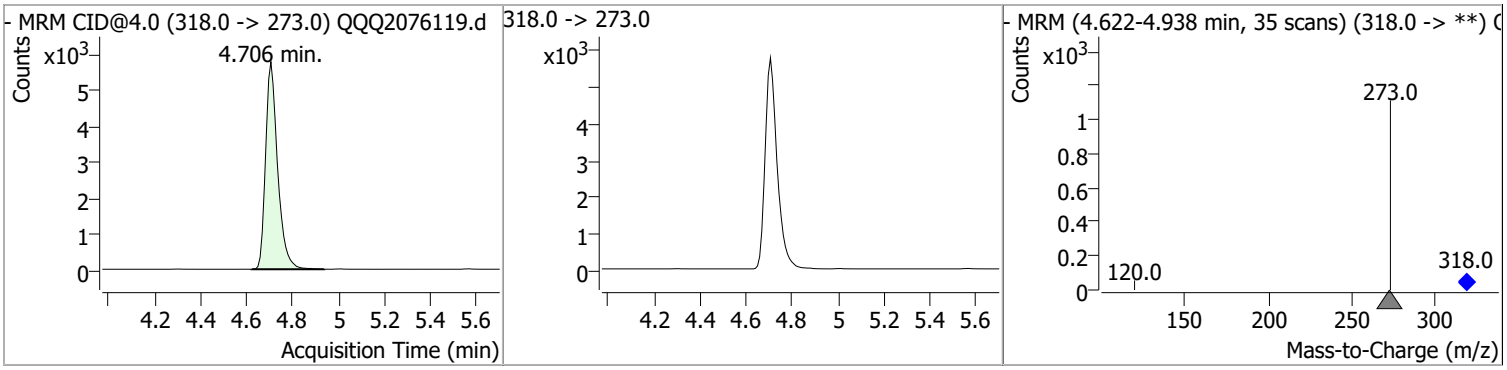
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.3512	4.64	0.01	7725				



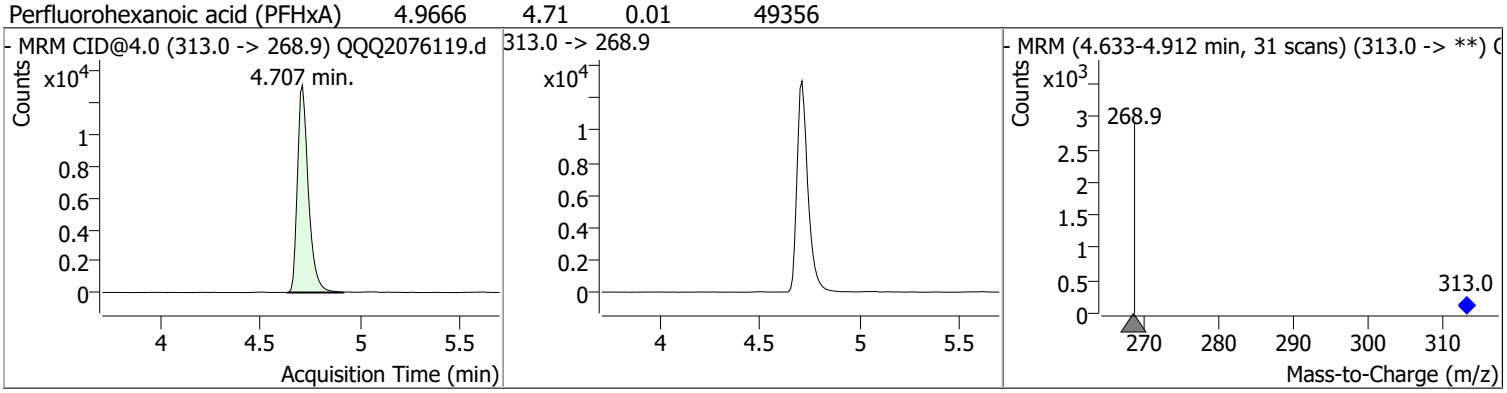
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	18.1325	4.64	0.01	26778				



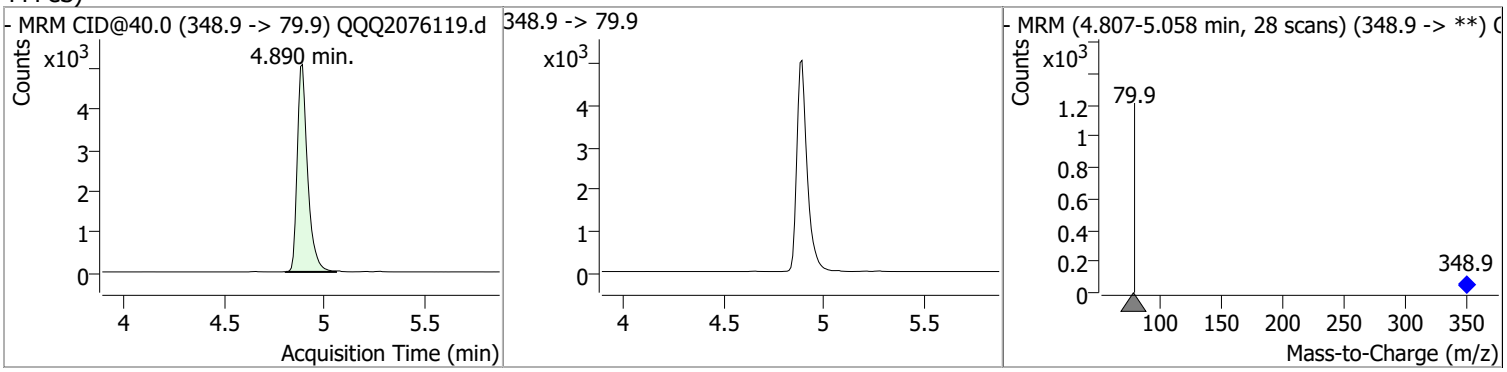
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5934	4.71	0.01	20964				



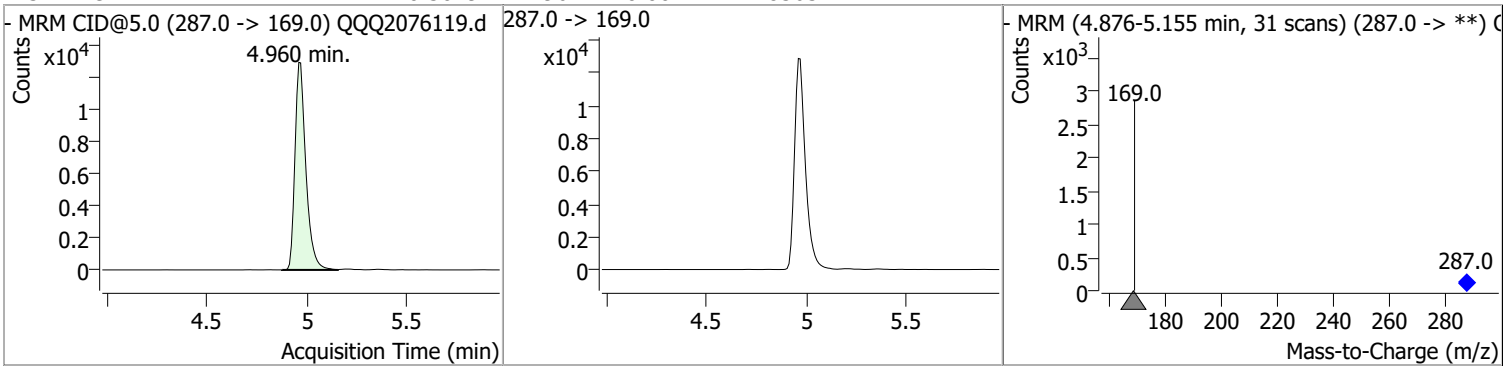
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	4.9666	4.71	0.01	49356				



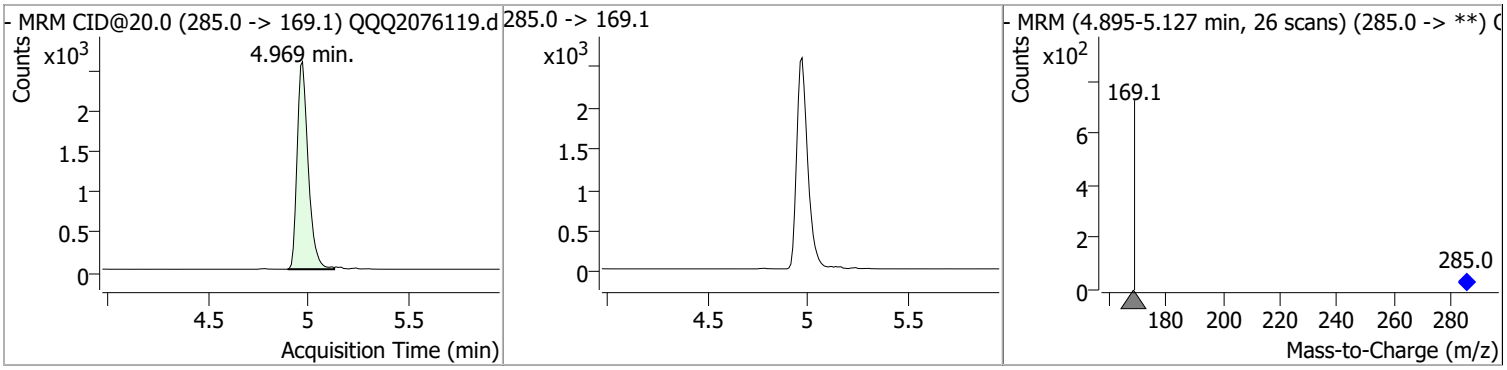
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.7340	4.89	0.01	18229				



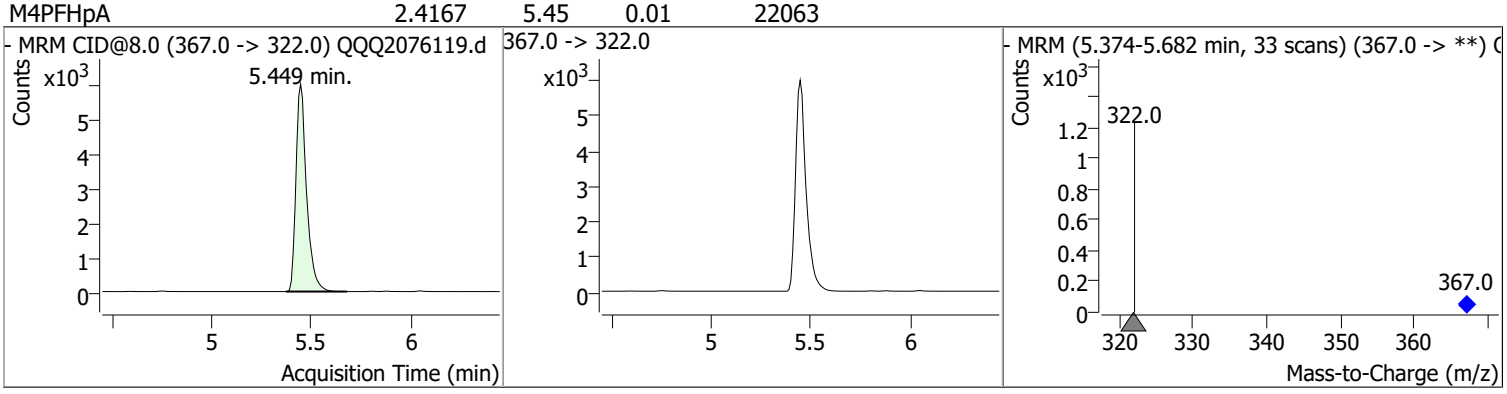
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.3019	4.96	0.00	48563				



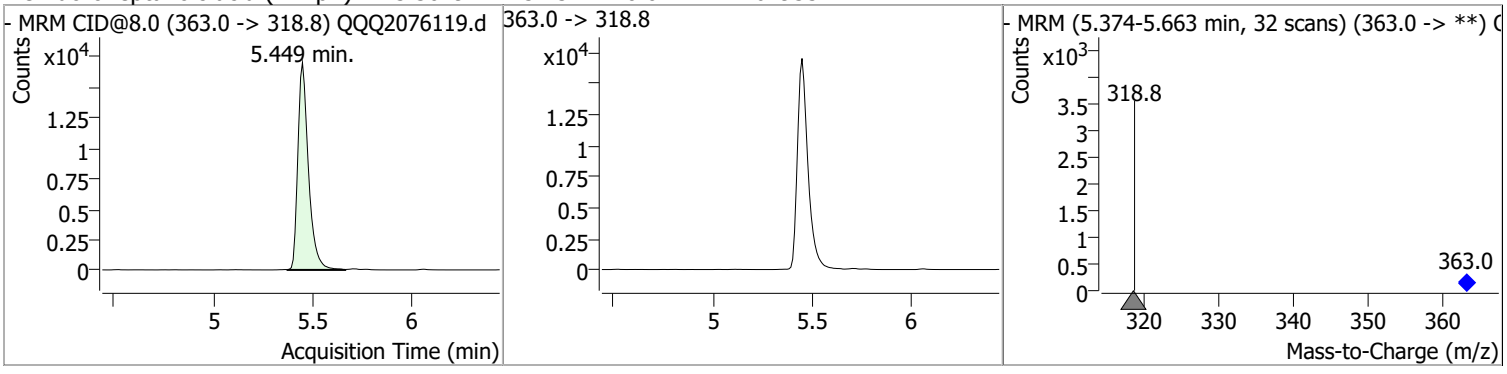
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	23.6304	4.97	0.01	9870				



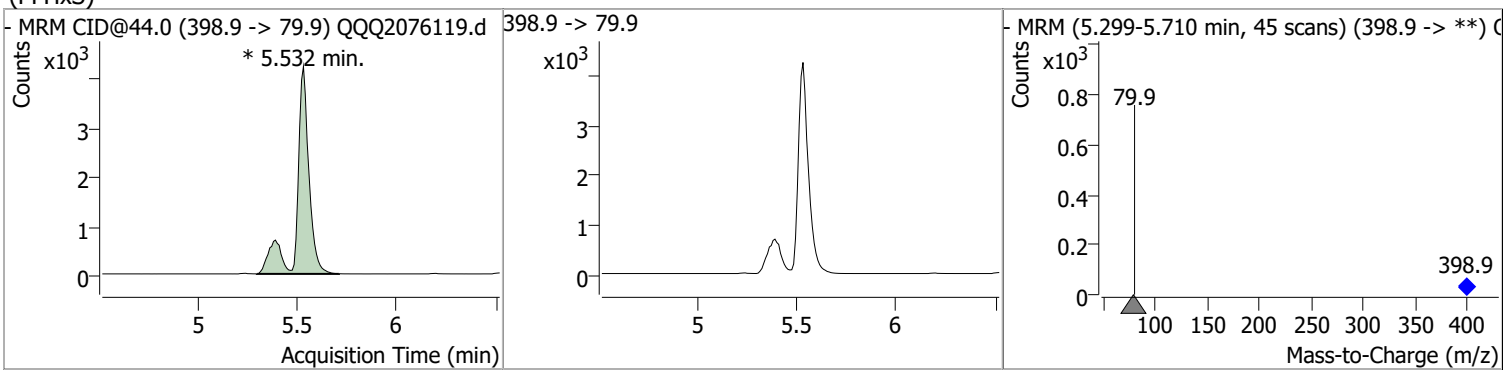
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.4167	5.45	0.01	22063				



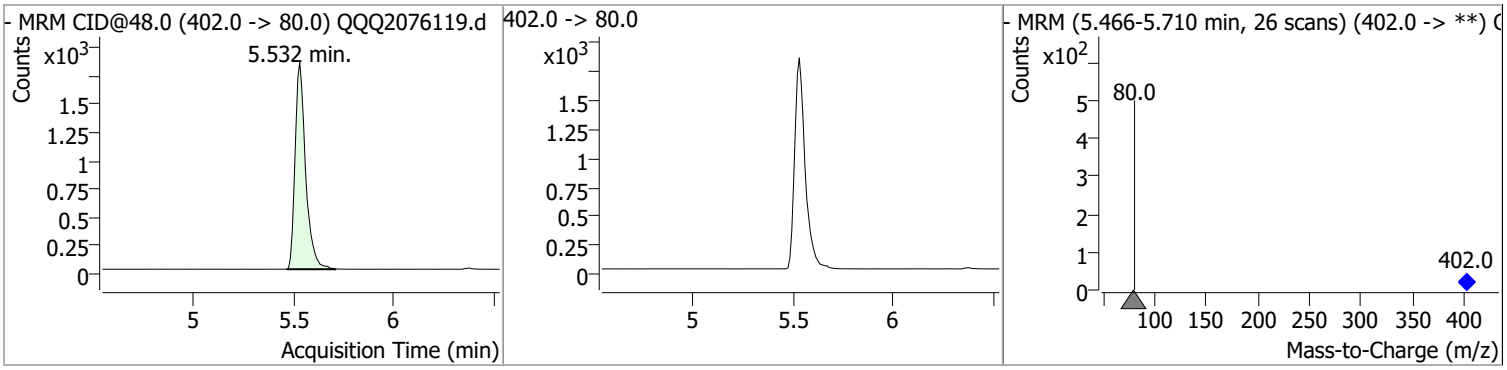
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	5.3019	5.45	0.01	62935				



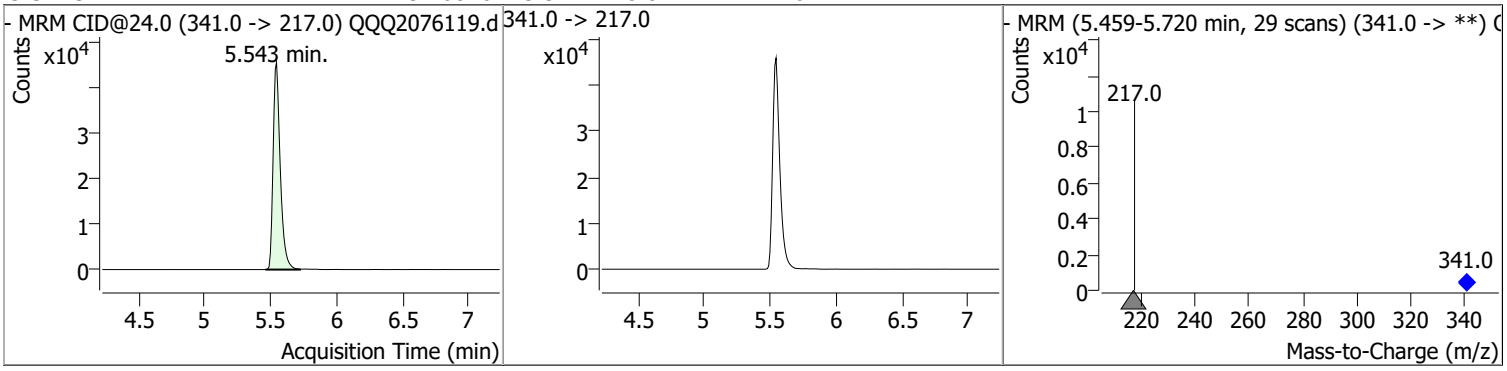
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	4.6908	5.53	0.01	18044 (m)				



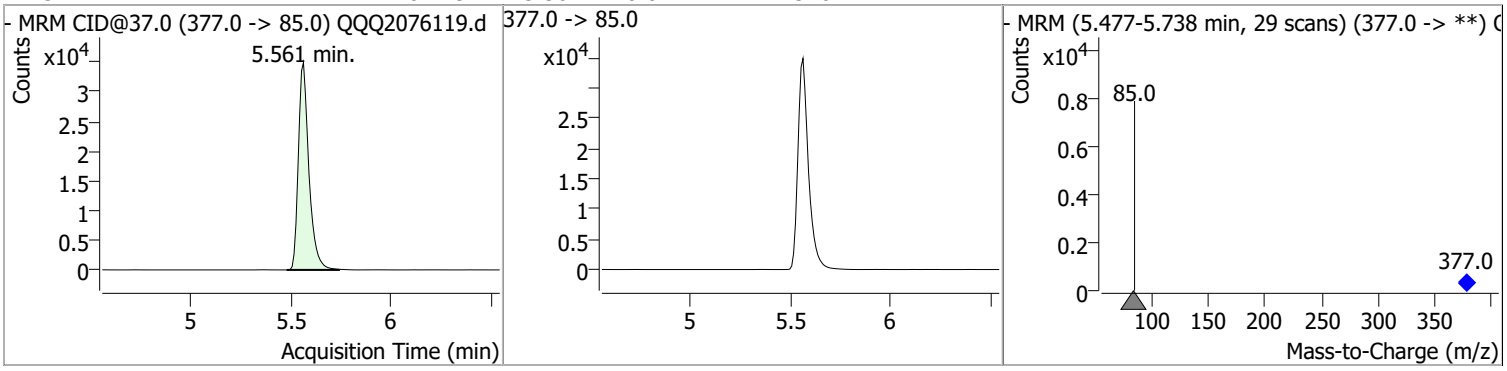
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.2501	5.53	0.00	6665				



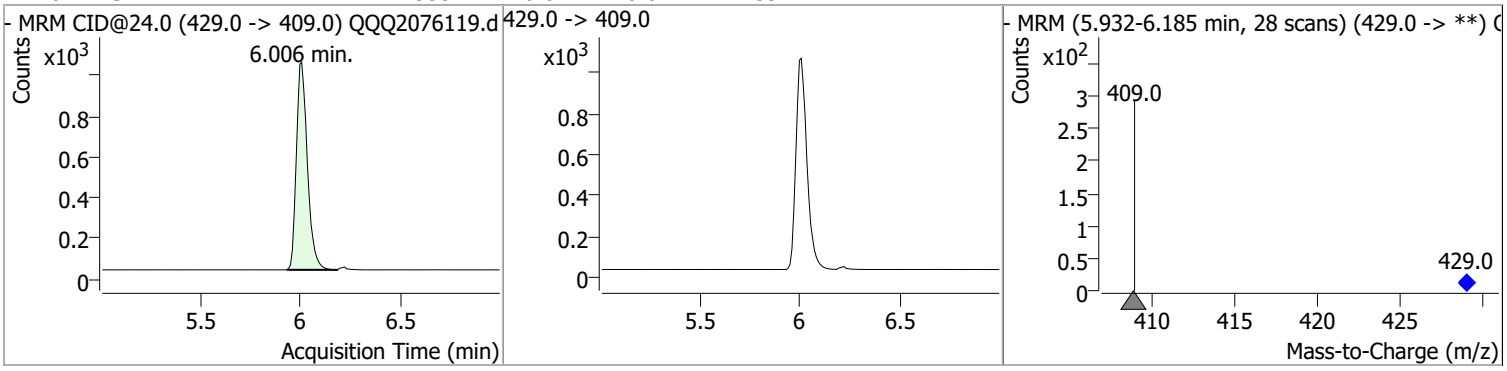
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	151.6876	5.54	0.01	171671				



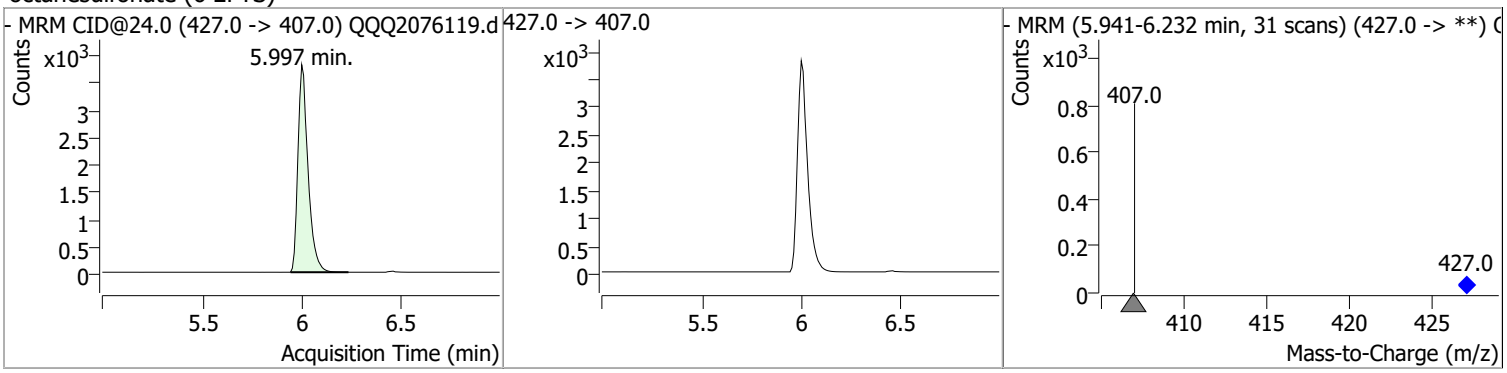
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	20.1434	5.56	0.01	127340				



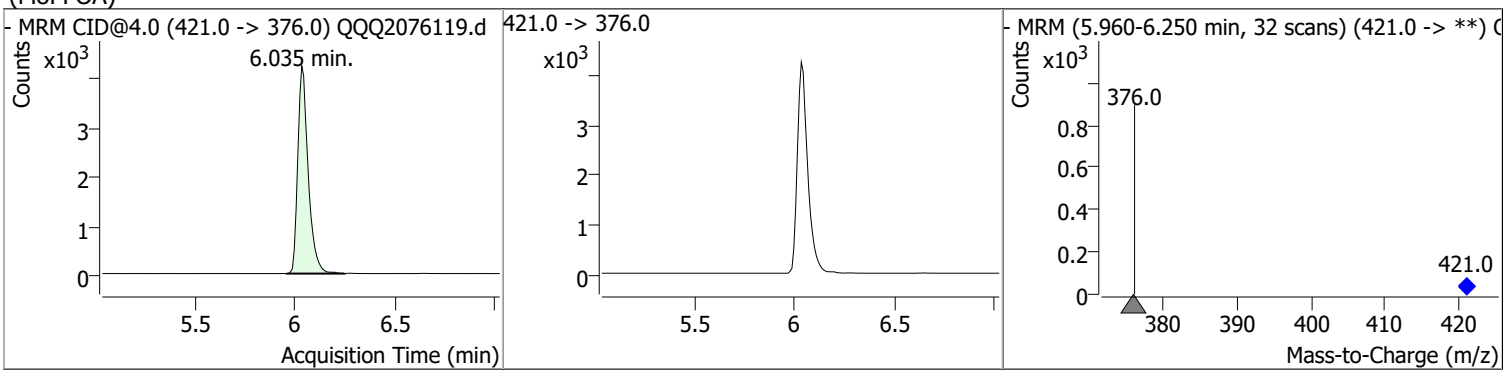
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.9991	6.01	0.01	3914				



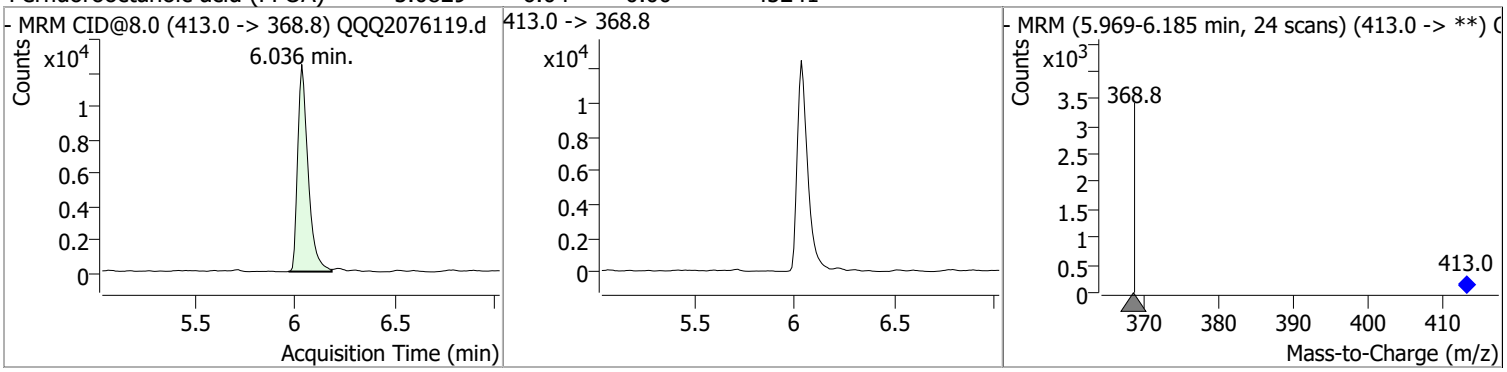
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	17.7662	6.00	0.00	13334				



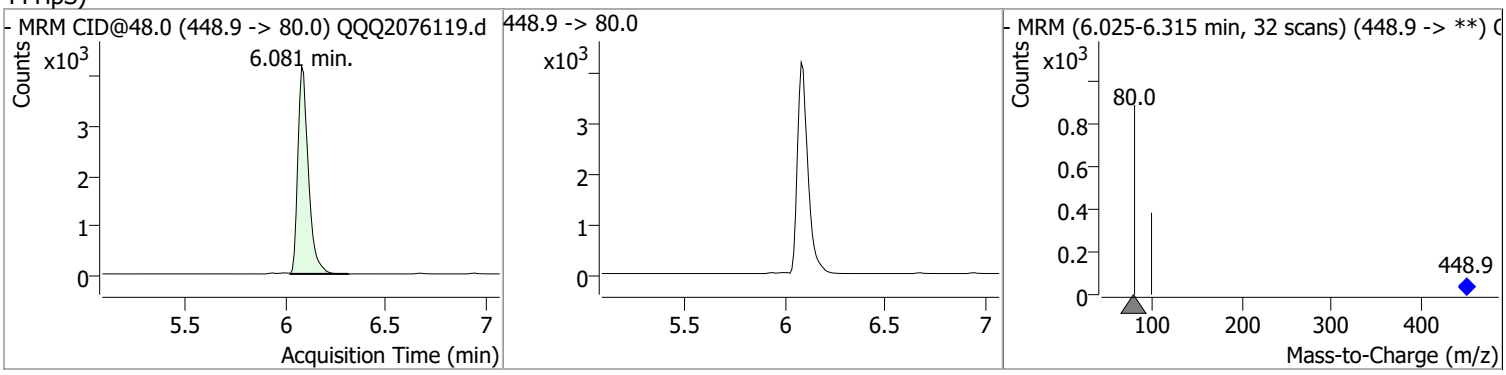
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.6929	6.04	0.00	15321				



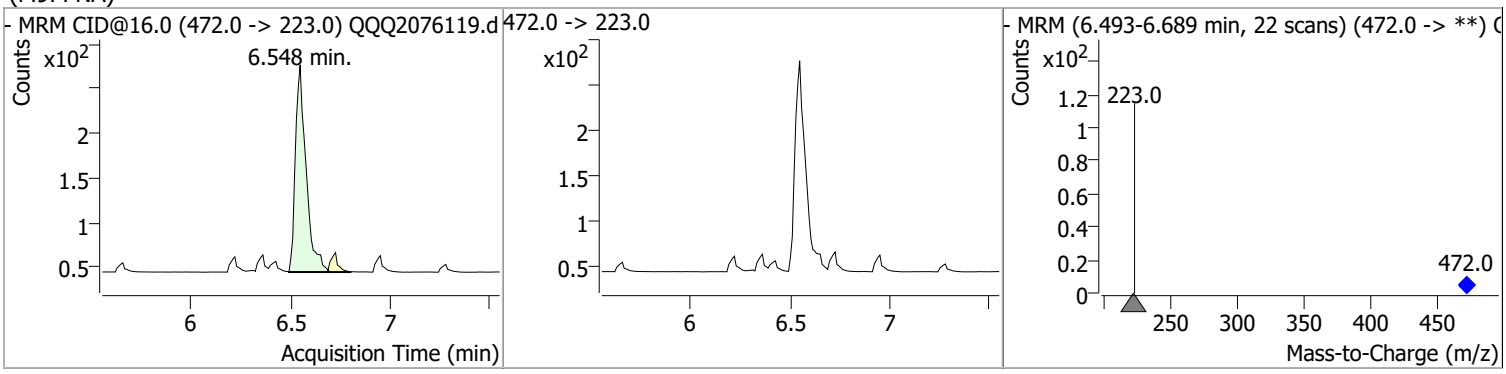
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	5.0829	6.04	0.00	45241				



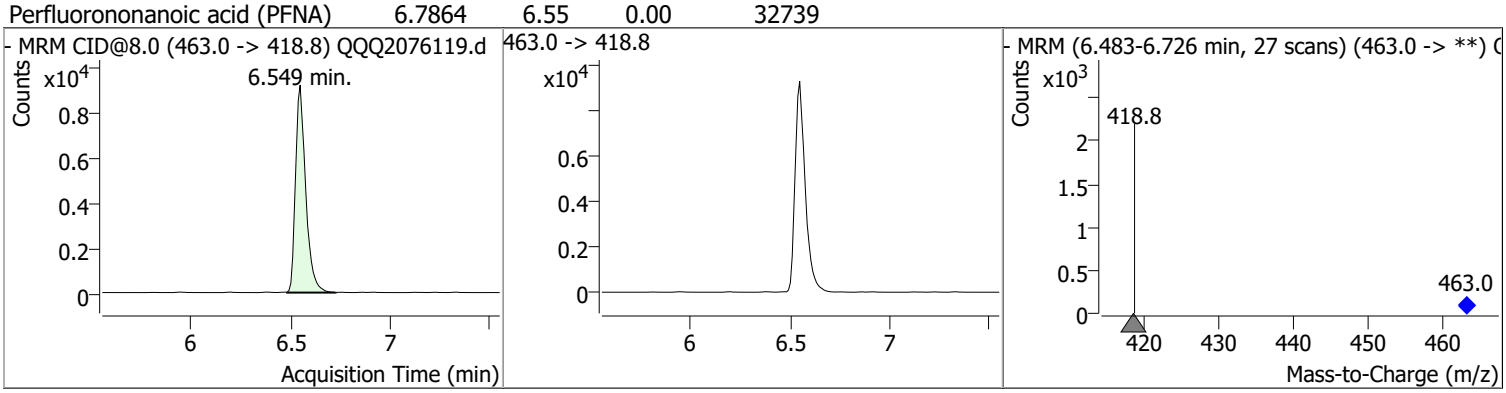
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	5.5915	6.08	0.00	15166				



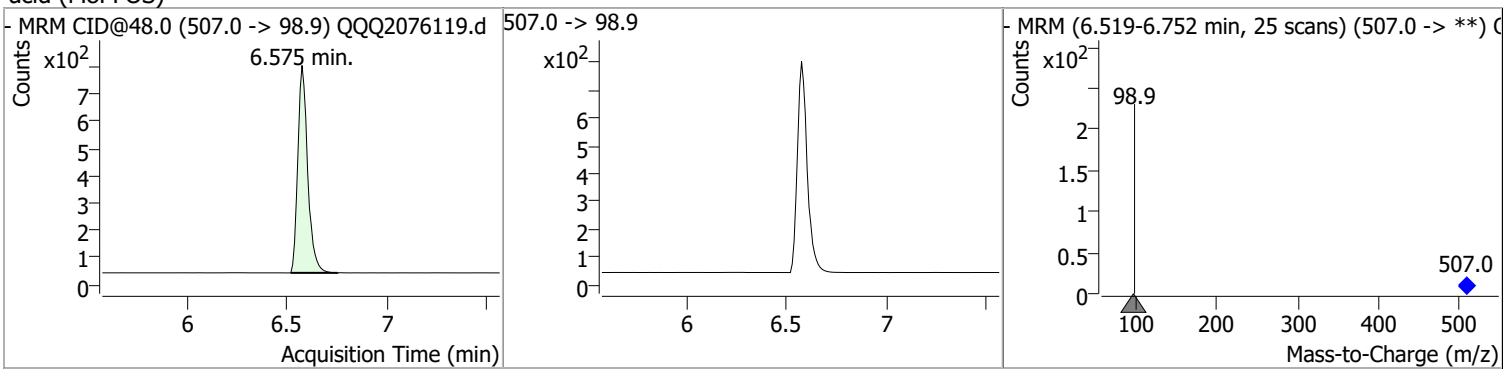
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	0.8251	6.55	0.01	869				



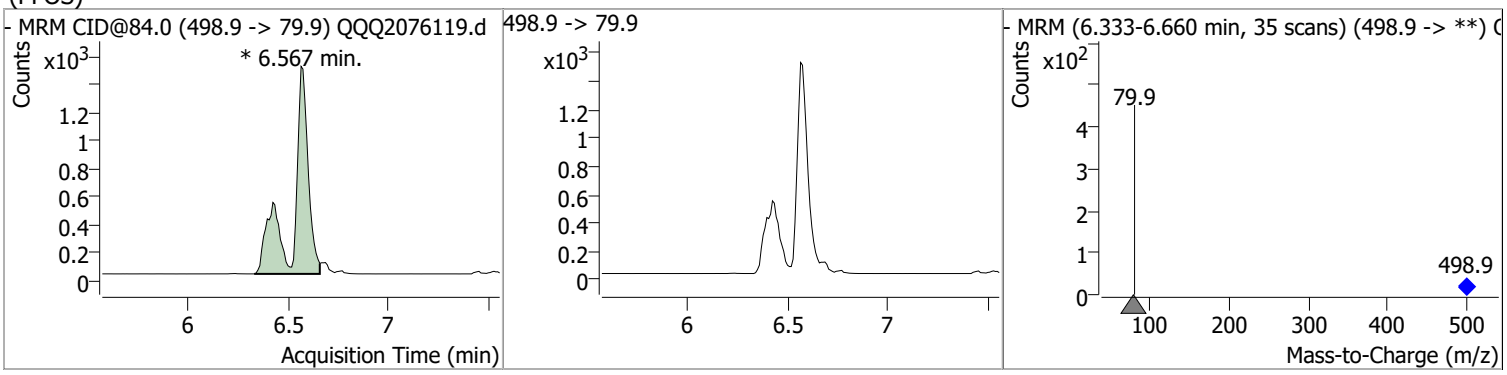
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	6.7864	6.55	0.00	32739				



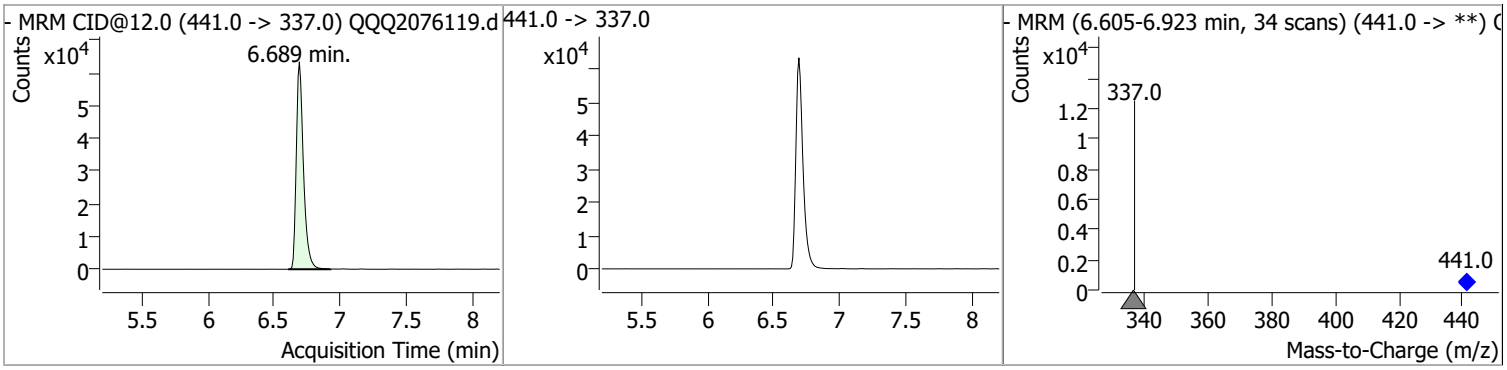
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.0338	6.58	0.01	2605				



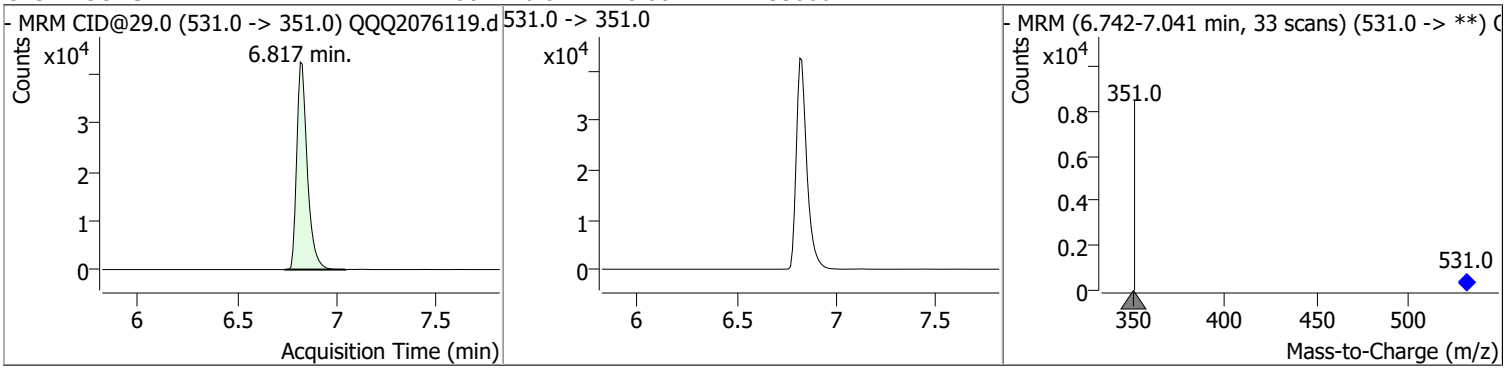
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	5.6827	6.57	0.00	7997 (m)				



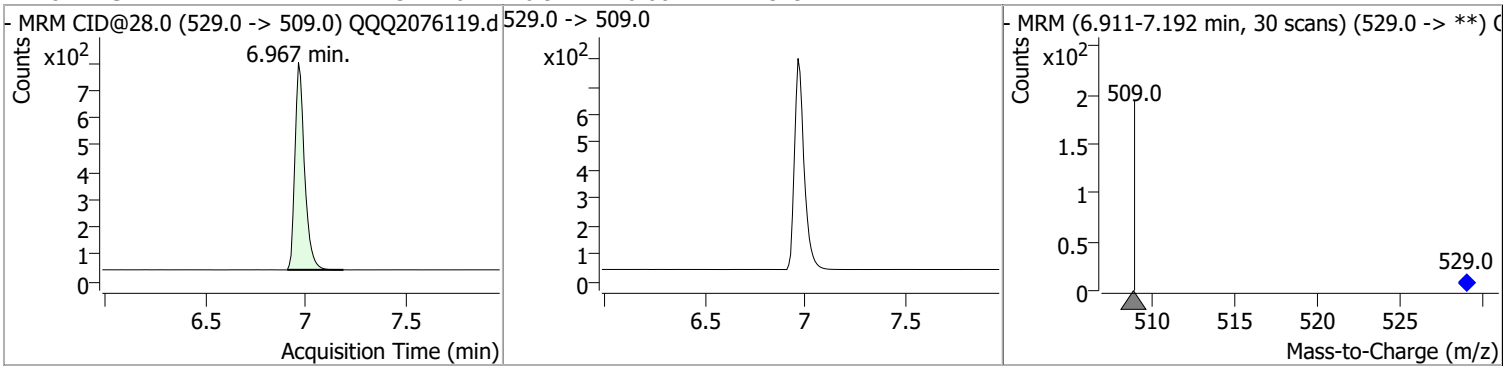
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	134.7382	6.69	0.00	237376				



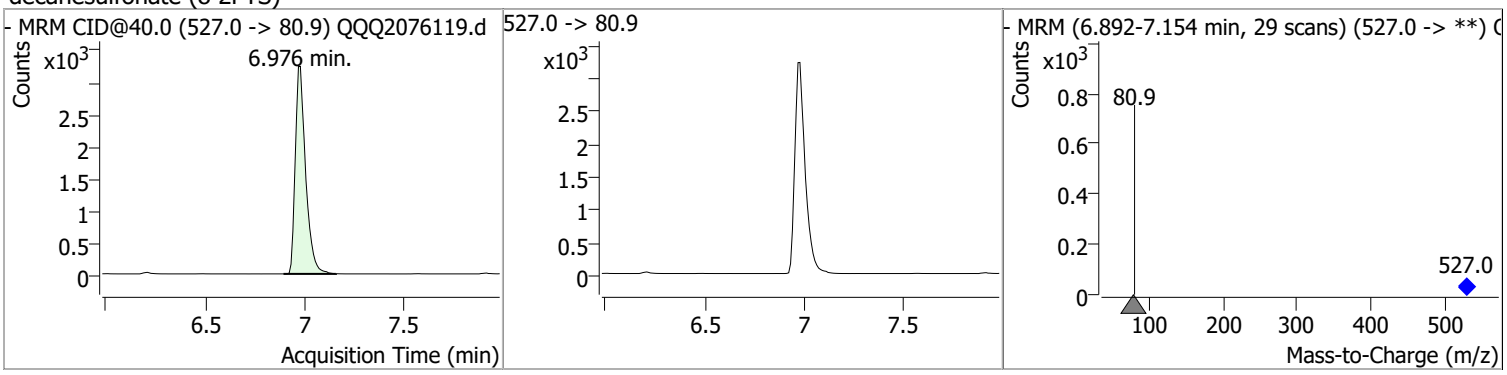
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	22.4180	6.82	0.00	155666				



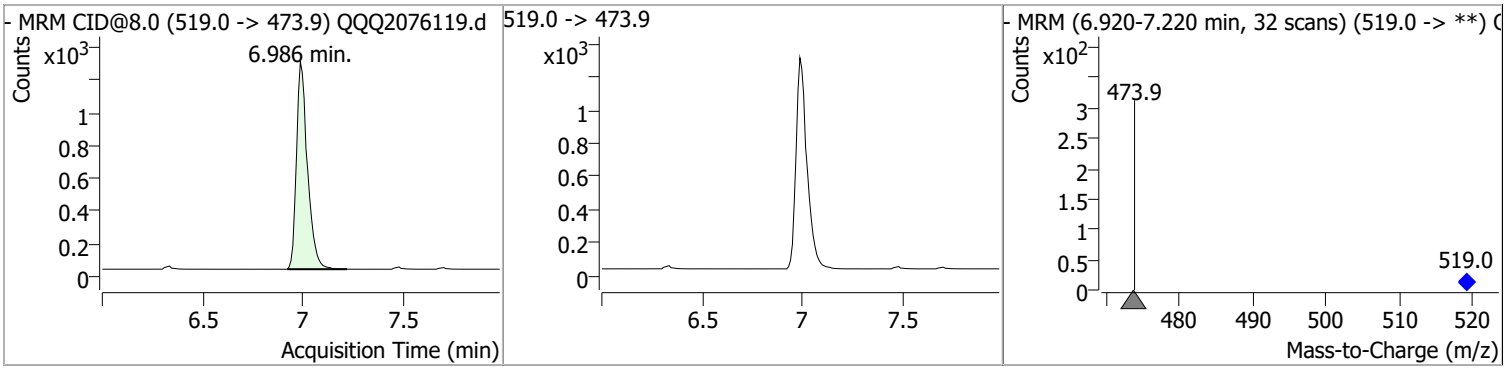
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	3.7420	6.97	0.00	2519				



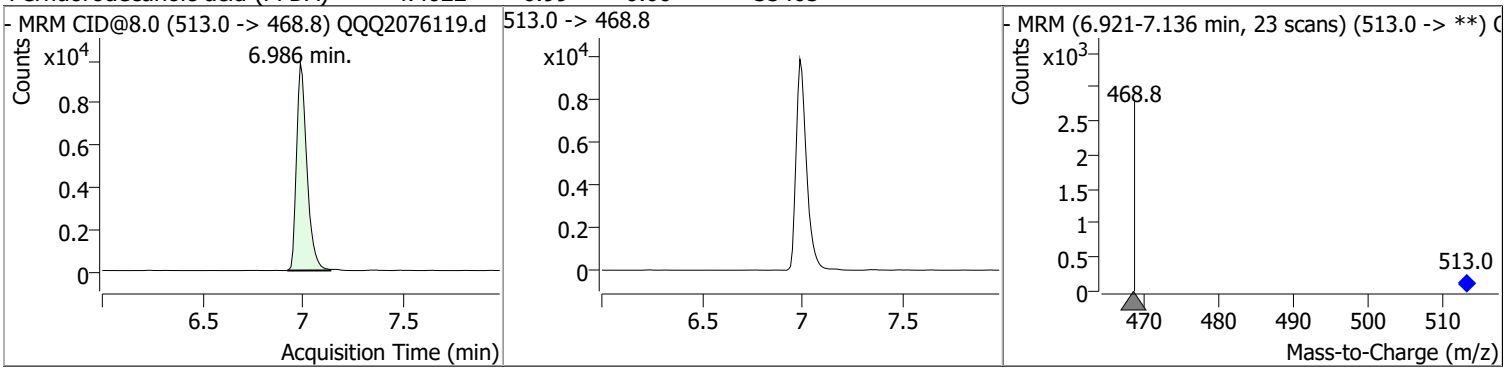
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	21.3533	6.98	0.00	11576				



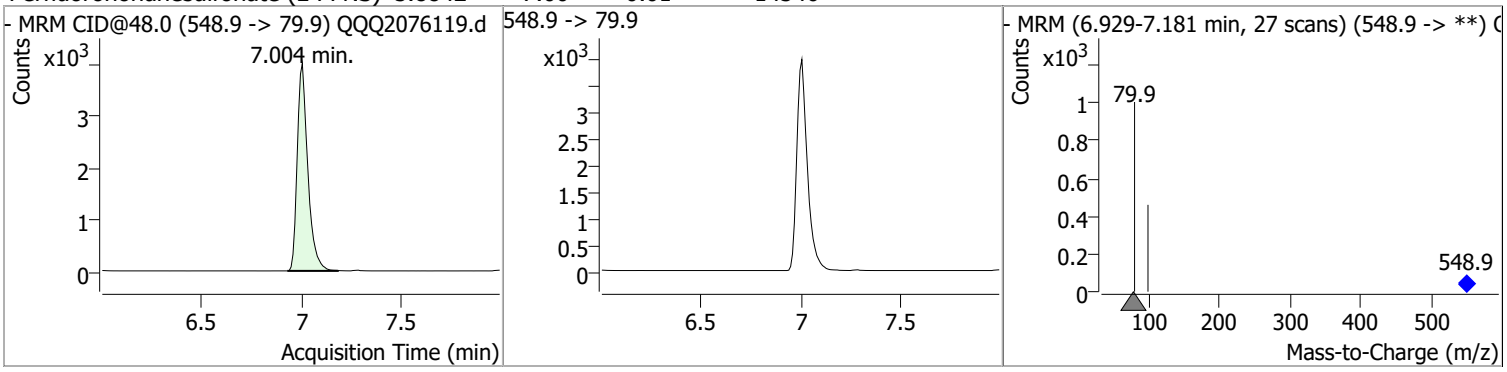
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.3778	6.99	0.00	4843				



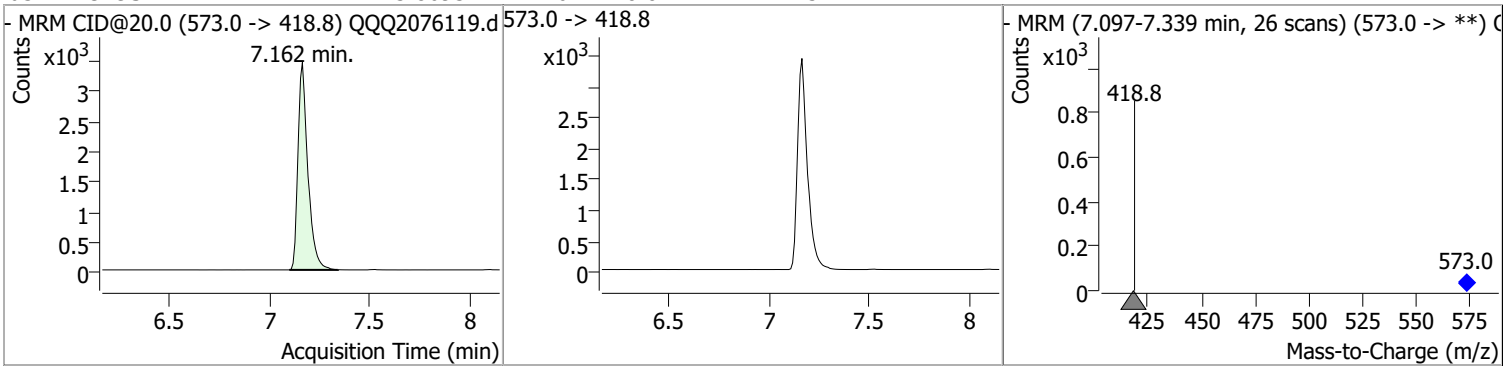
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	4.4022	6.99	0.00	35465				



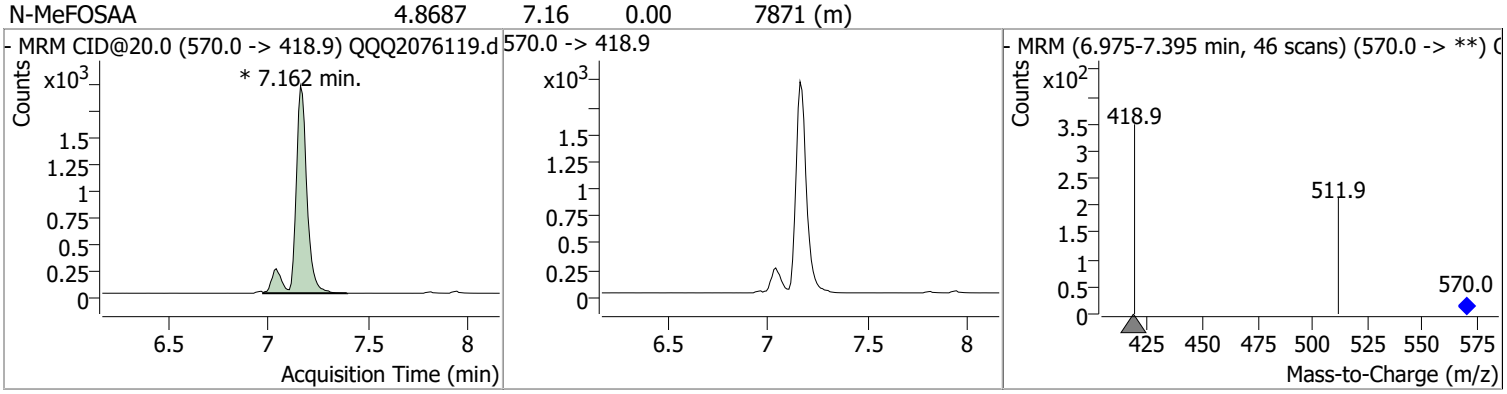
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	5.8842	7.00	0.01	14546				



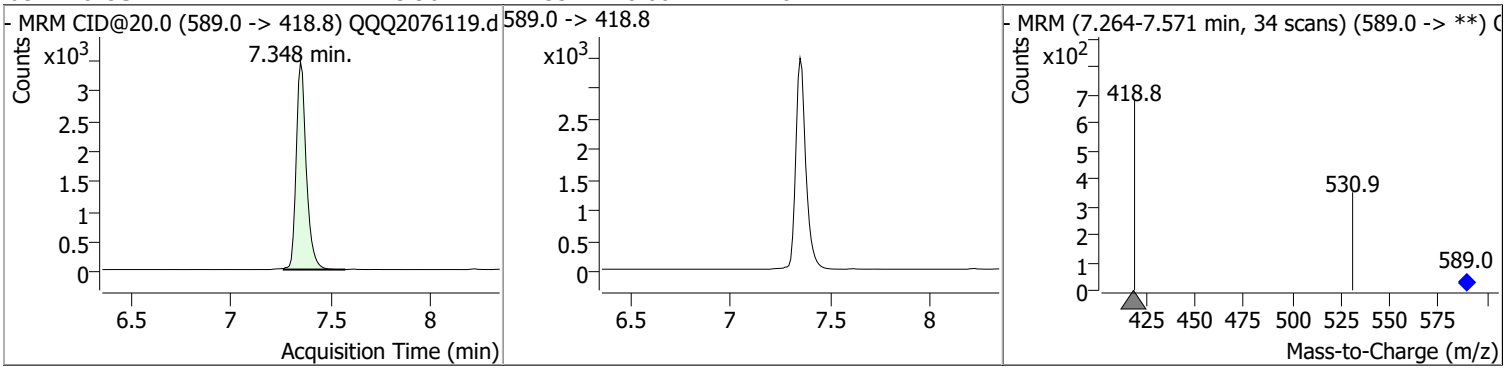
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.8693	7.16	0.01	11775				



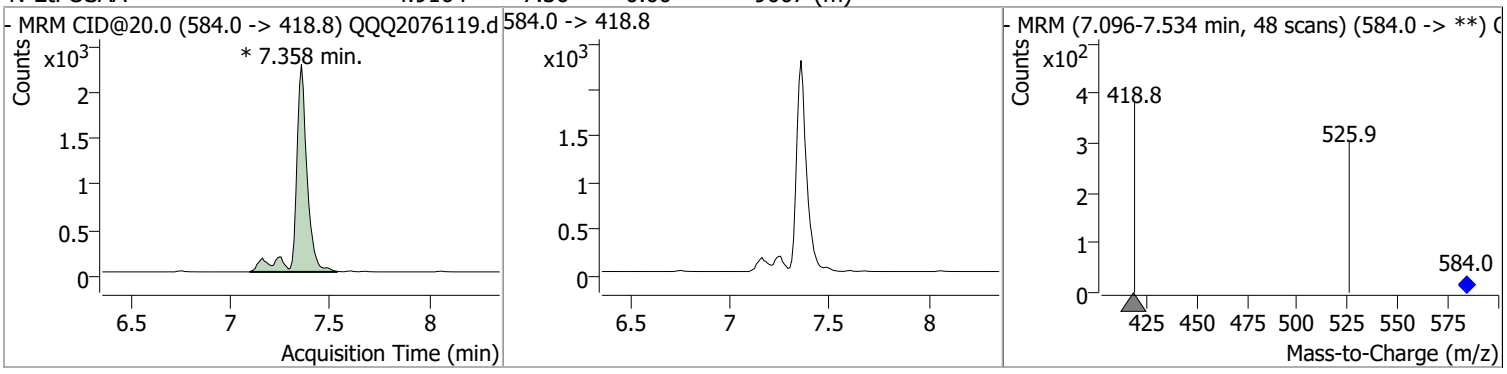
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	4.8687	7.16	0.00	7871 (m)				



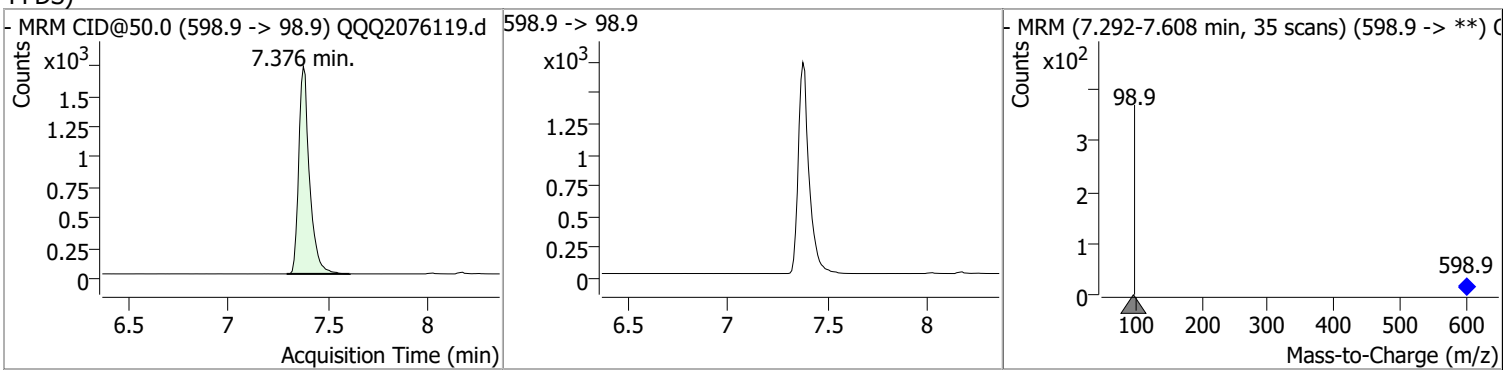
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.9611	7.35	0.00	12017				



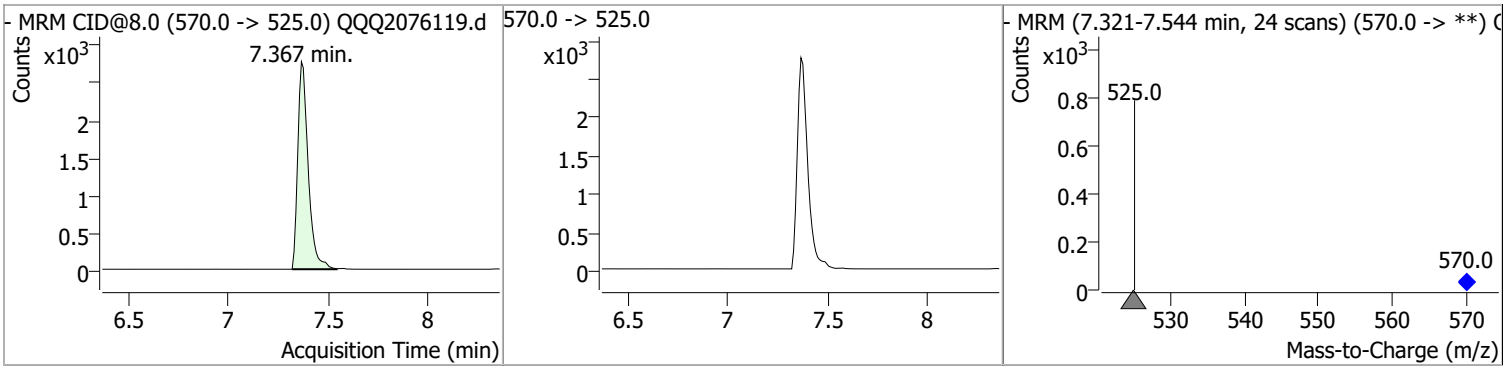
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	4.9164	7.36	0.00	9007 (m)				



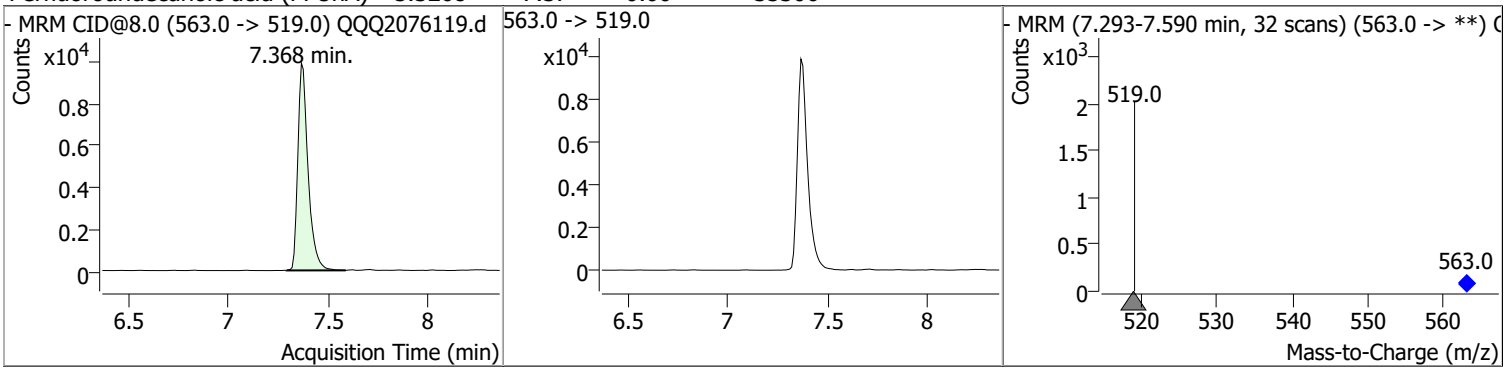
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	6.0222	7.38	0.01	6364				



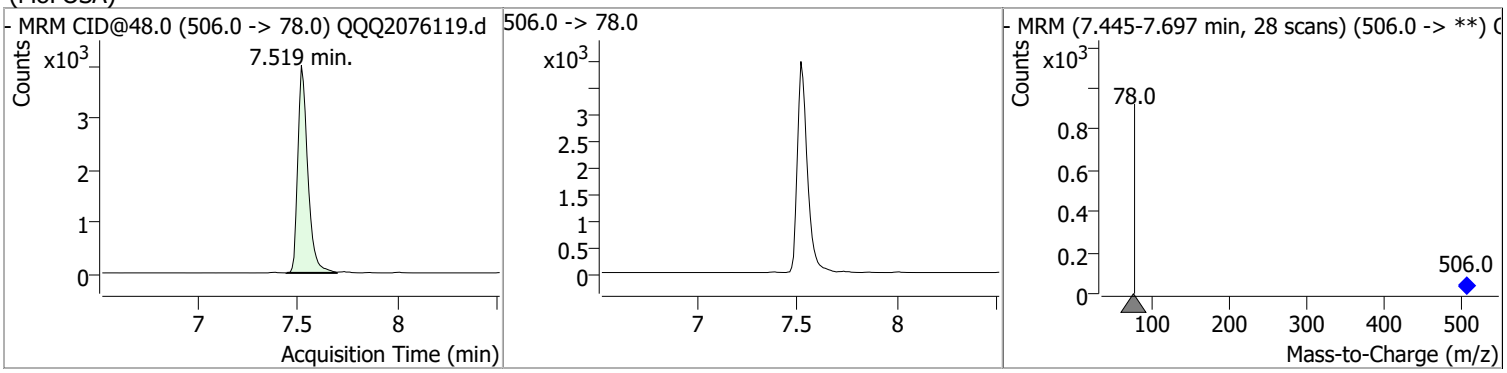
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.4199	7.37	0.00	9890				



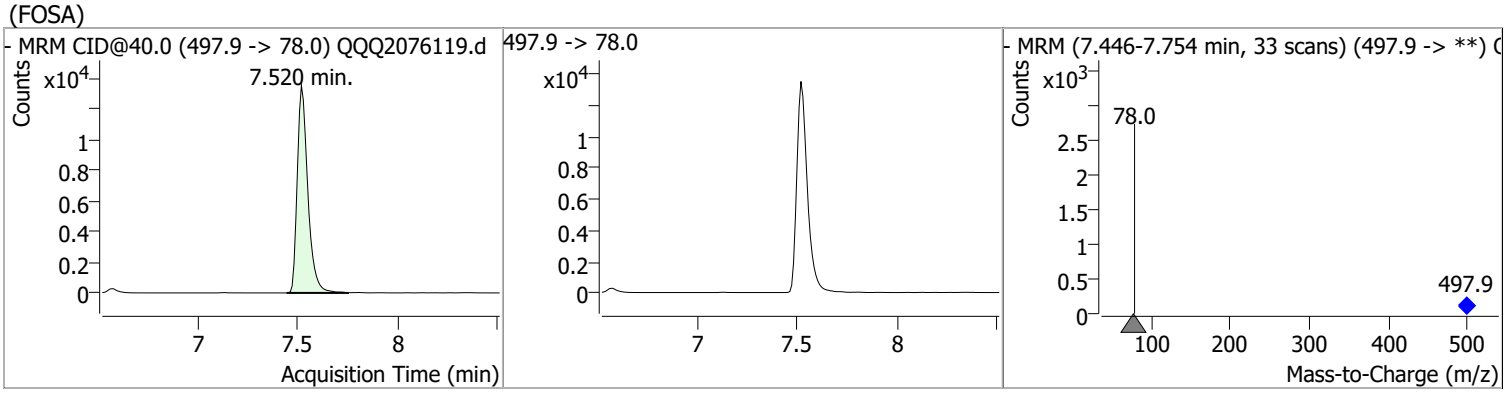
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	5.3268	7.37	0.00	35306				



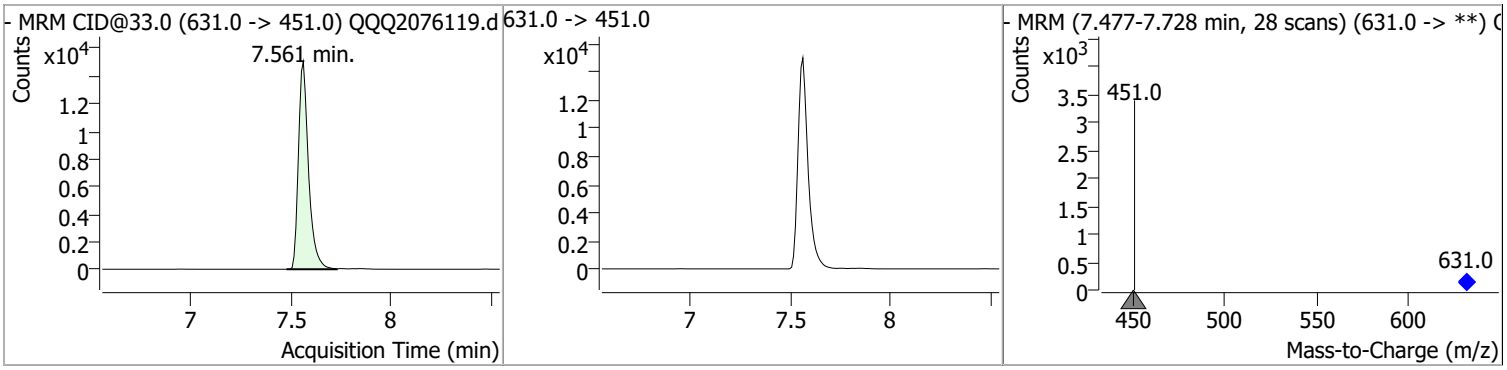
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.8464	7.52	0.00	13858				



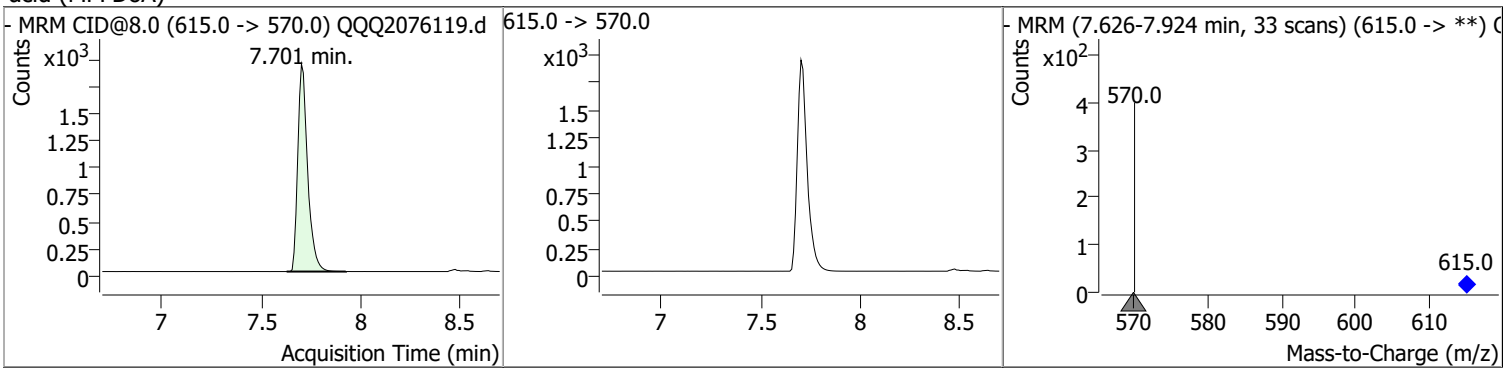
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	5.1179	7.52	0.00	49722				



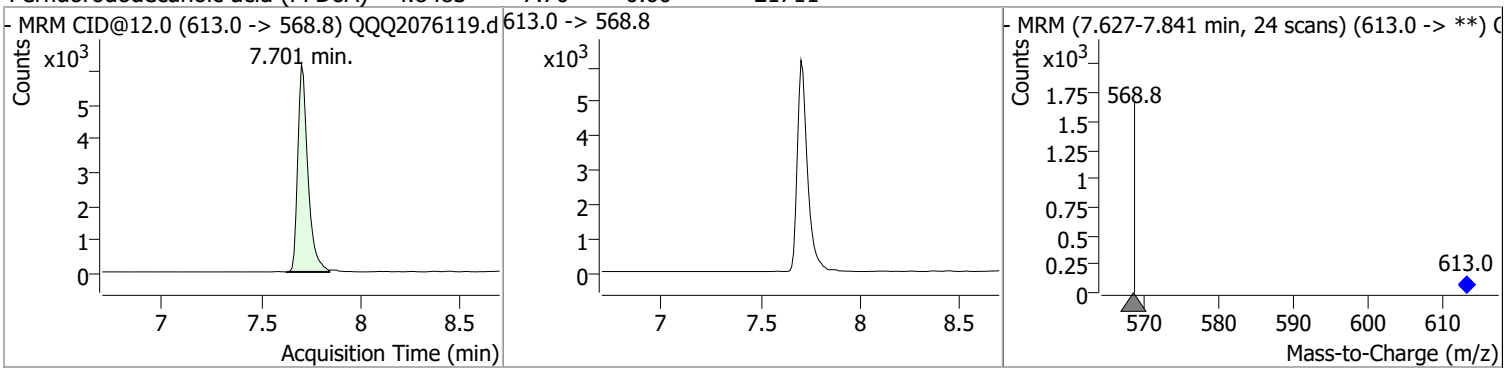
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	19.7372	7.56	0.01	52633				



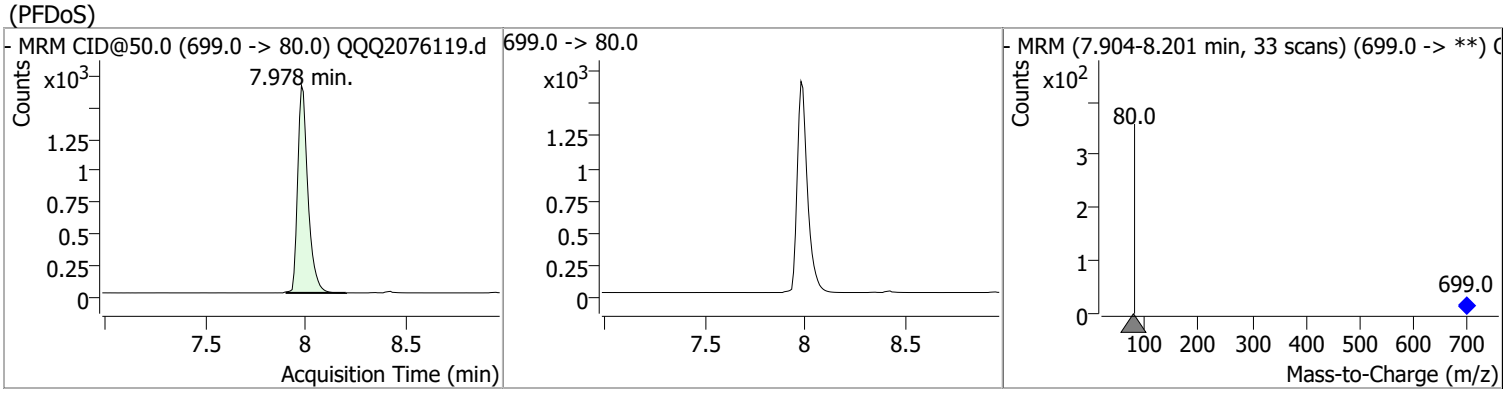
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.1332	7.70	0.00	6571				



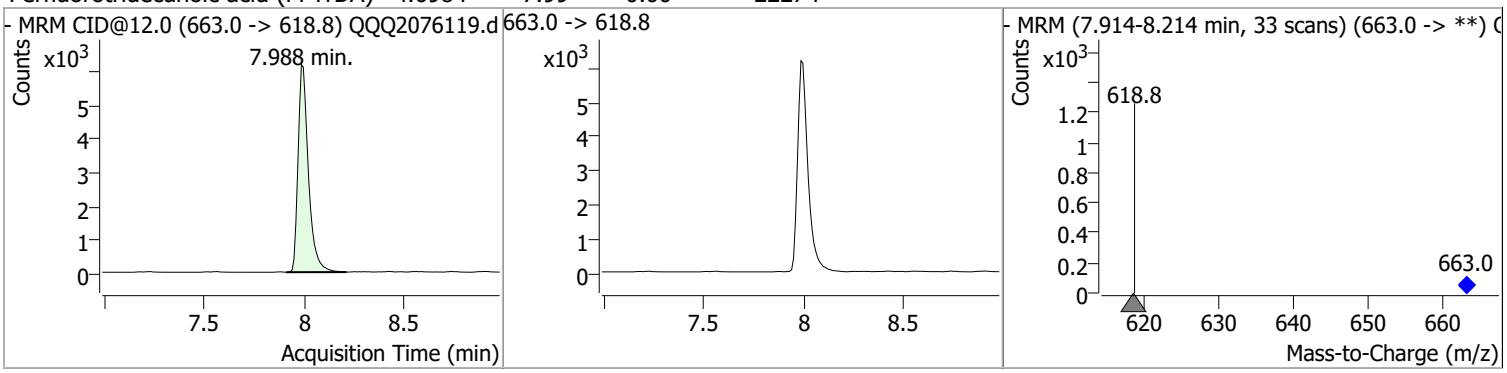
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	4.8483	7.70	0.00	21711				



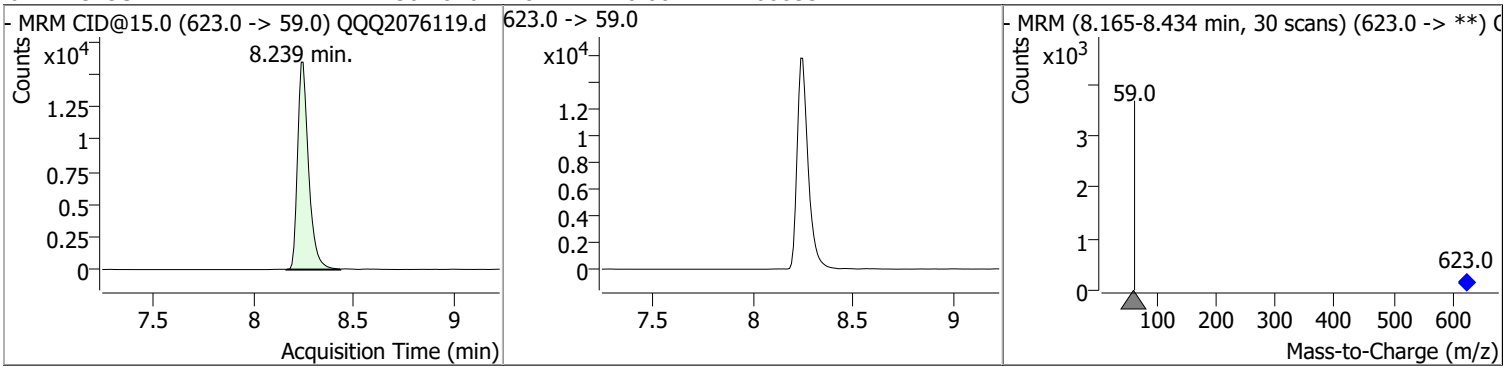
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	5.6431	7.98	0.00	5774				



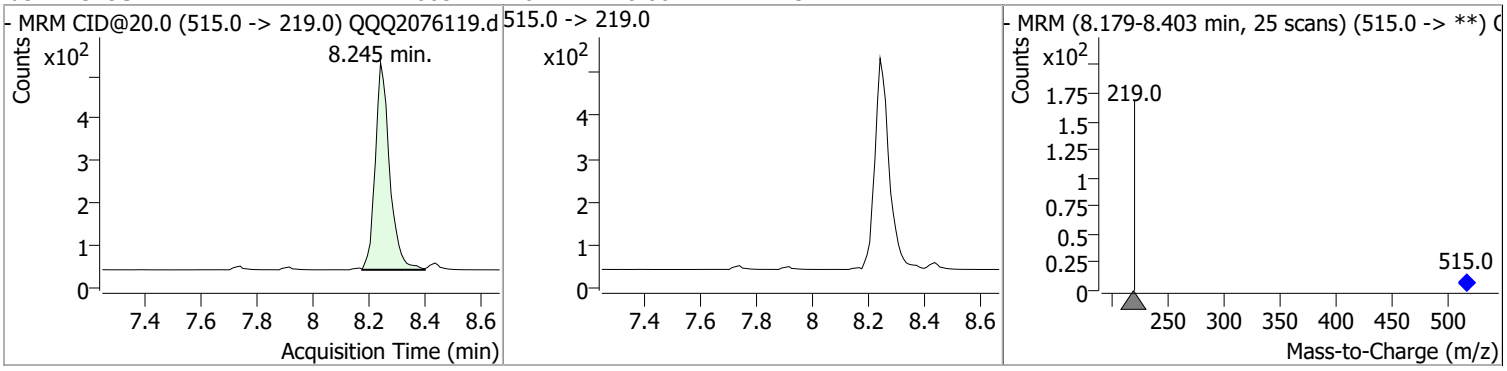
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	4.6984	7.99	0.00	22274				



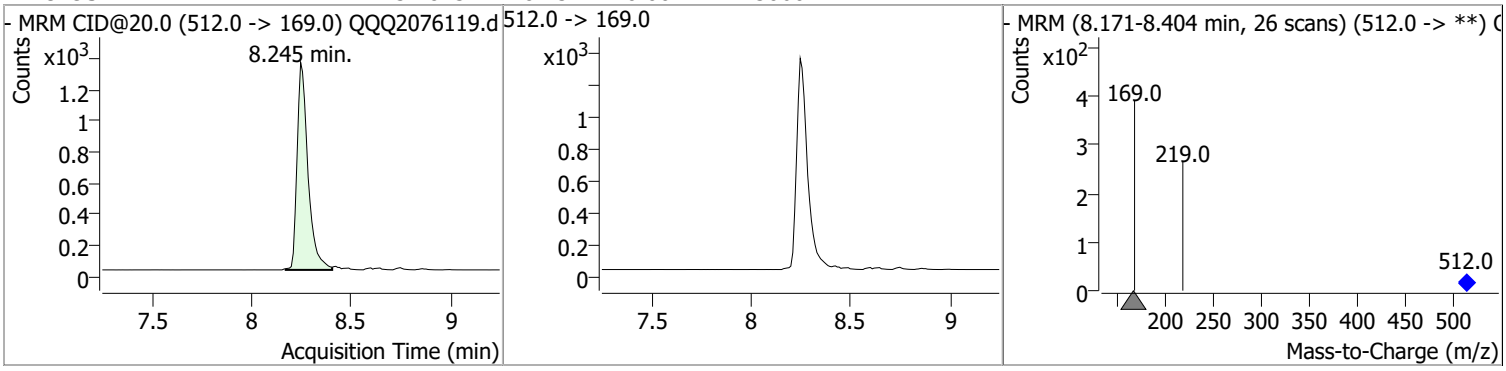
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	30.1876	8.24	0.00	60855				



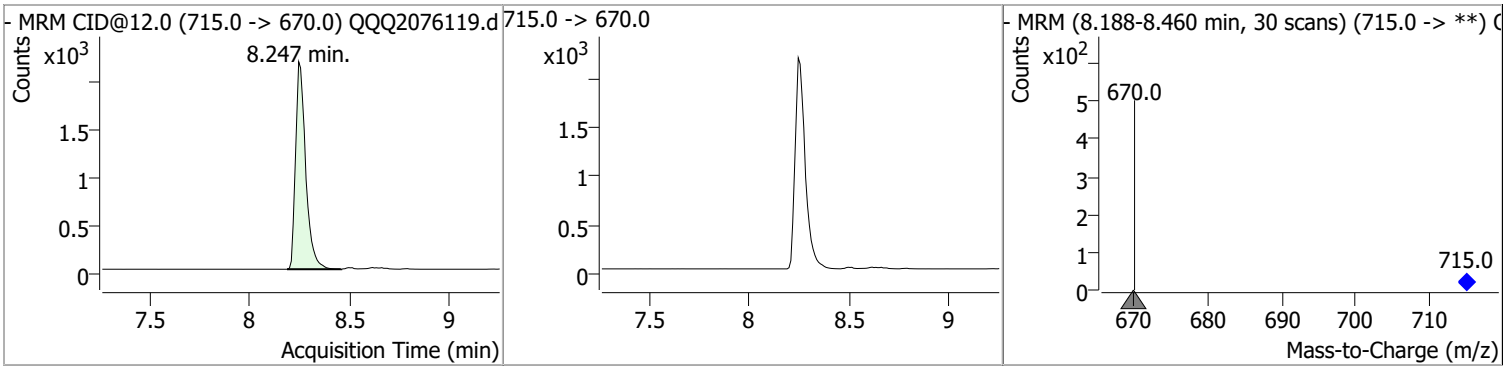
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.8034	8.24	0.00	1743				



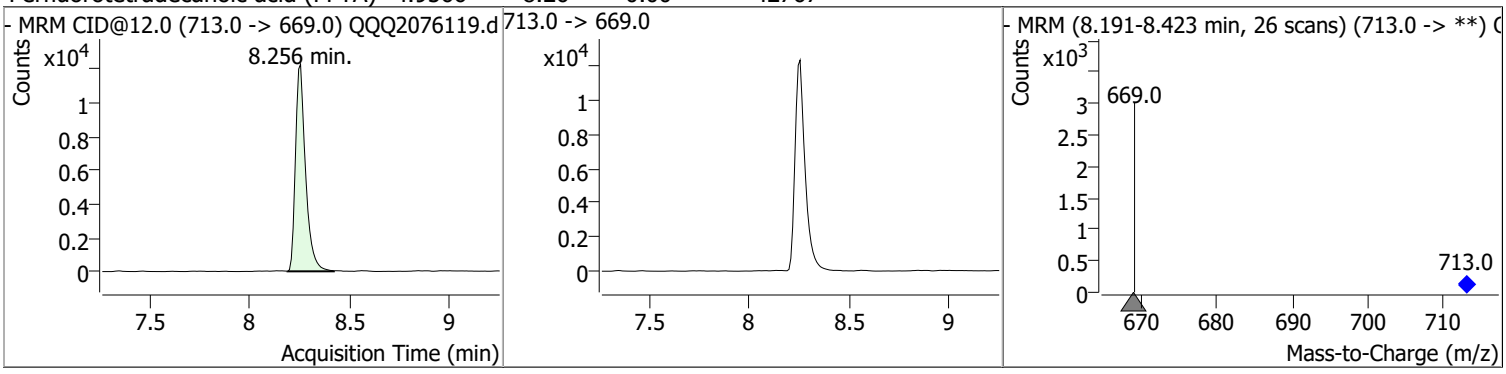
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	5.1813	8.25	0.00	5060				



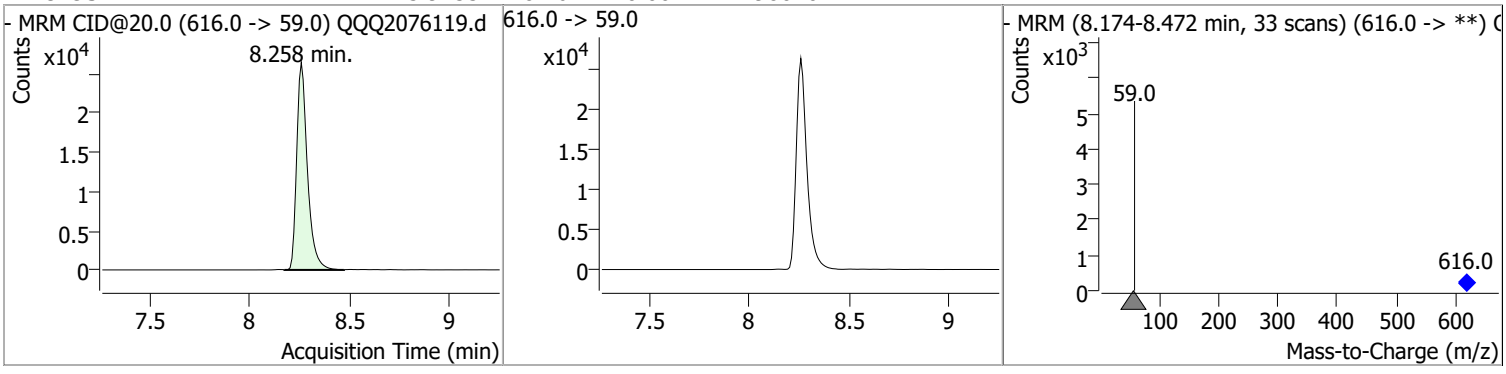
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.2537	8.25	-0.01	7673				



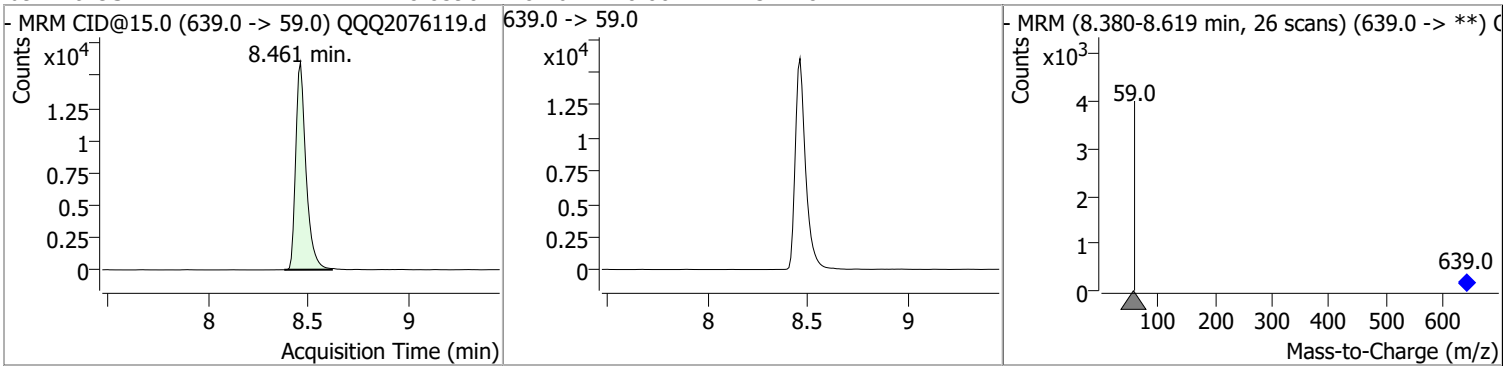
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	4.9566	8.26	0.00	42767				



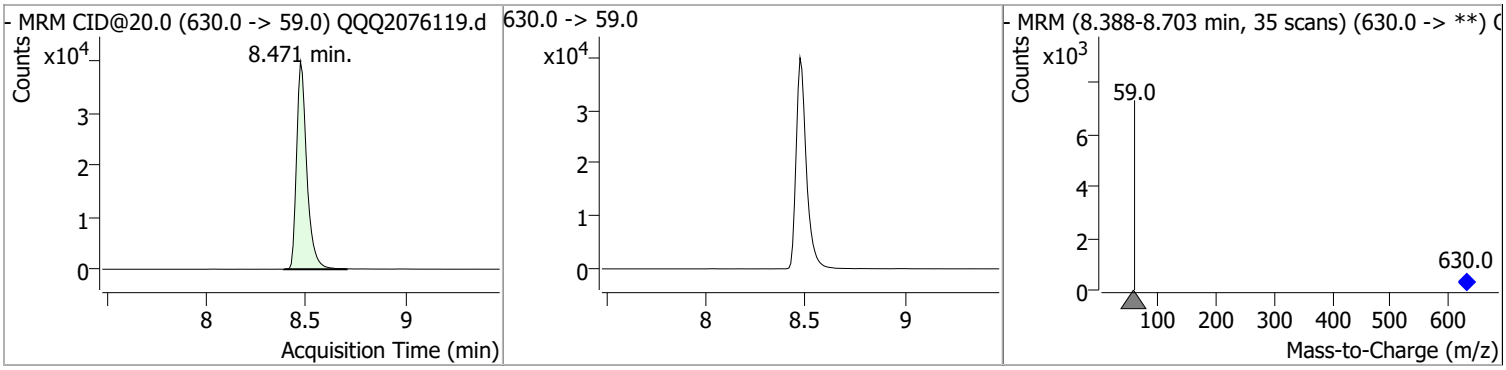
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	45.9455	8.26	0.00	98010				



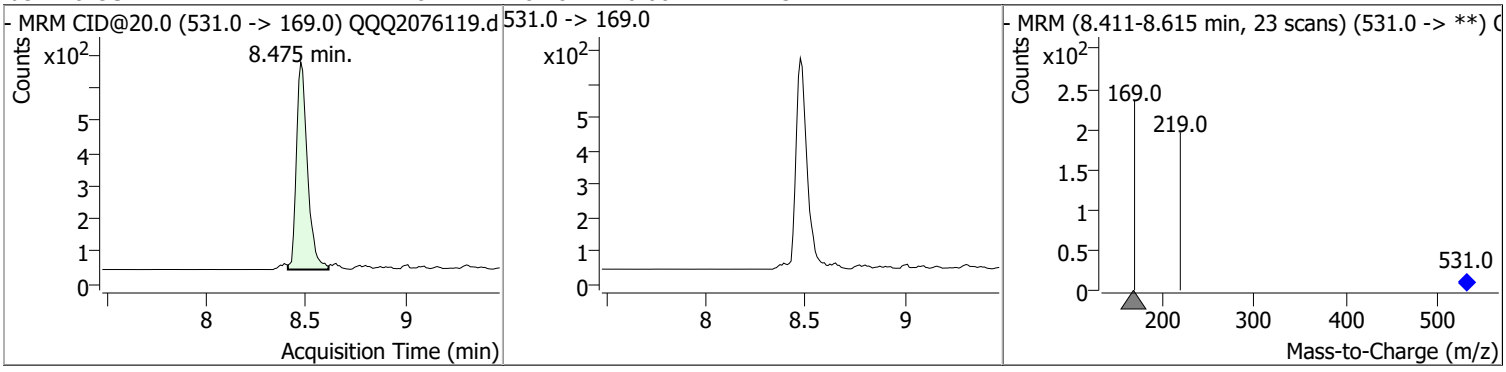
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	28.8590	8.46	0.00	57178				



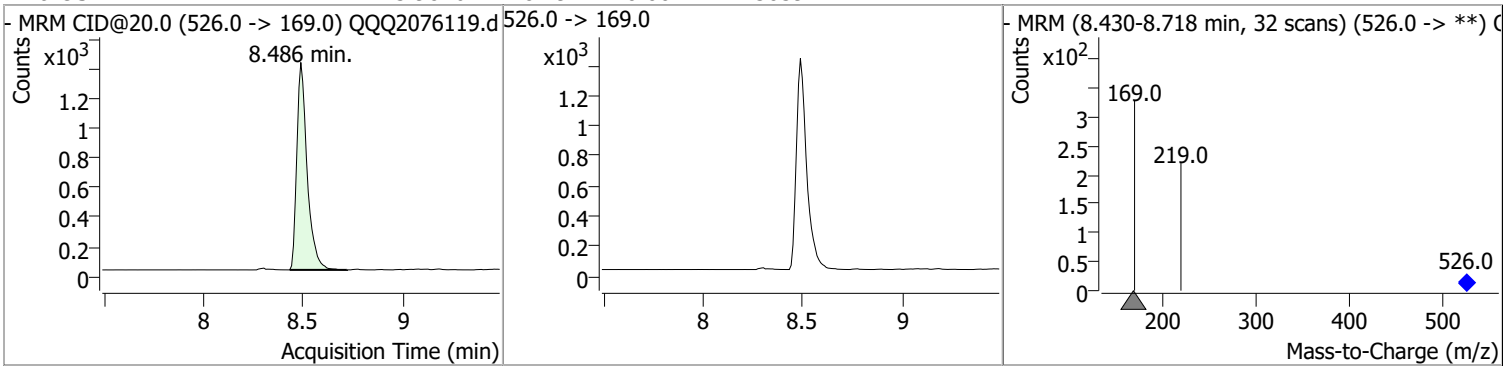
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	52.6099	8.47	0.00	141973				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.8711	8.48	0.00	2454				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	5.9876	8.49	0.00	5059				



Data File	QQQ2076120.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 12:59:48 PM
Sample Name	SEQ-CAL6	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	12.5 - 312 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

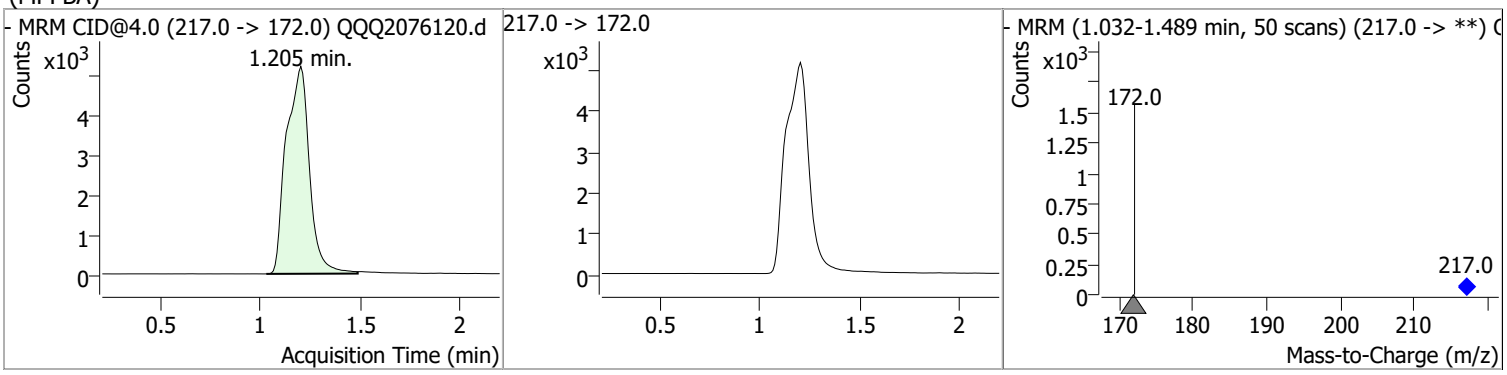
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.207	216.0 -> 172.0	31060	5.0000	ng/ml	0.000
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.205	217.0 -> 172.0	41698	10.0000	ng/ml	0.000
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.396	268.0 -> 223.0	23024	5.0000	ng/ml	0.009
MPFHxA	4.707	315.0 -> 269.8	29967	2.5000	ng/ml	0.010
MPFHxS	5.531	403.0 -> 103.0	2333	2.3700	ng/ml	0.009
M3PFBS-EIS	3.892	302.0 -> 79.9	7777	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	18466	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.640	329.0 -> 309.0	7264	4.6900	ng/ml	0.009
M3PFHxS-EIS	5.532	402.0 -> 80.0	6205	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.969	287.0 -> 169.0	45912	10.0000	ng/ml	0.009
M4PFHpA-EIS	5.449	367.0 -> 322.0	23194	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	6.006	429.0 -> 409.0	4466	4.7550	ng/ml	0.009
MPFOA	6.036	417.0 -> 372.0	26205	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	13569	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.575	507.0 -> 98.9	2237	2.3950	ng/ml	0.009
MPFNA	6.549	468.0 -> 423.0	9949	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.558	472.0 -> 223.0	1529	1.2500	ng/ml	0.019
MPFOS	6.576	503.0 -> 80.0	6370	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.976	529.0 -> 509.0	3180	4.8000	ng/ml	0.010
MPFDA	6.986	515.0 -> 469.8	9332	1.2500	ng/ml	0.000
M6PFDA-EIS	6.986	519.0 -> 473.9	4046	1.2500	ng/ml	0.000
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	11592	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	11323	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.367	570.0 -> 525.0	8155	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	13153	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	6948	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.256	715.0 -> 670.0	6963	1.2500	ng/ml	0.000
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1665	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	54019	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	52862	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2289	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.205	217.0 -> 172.0	41698	9.8010	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.396	268.0 -> 223.0	23024	4.7452	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	7777	2.5065	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.640	329.0 -> 309.0	7264	5.7180	ng/ml	0.009

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	18466	2.2813	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.969	287.0 -> 169.0	45912	9.7267	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	23194	2.5372	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	6205	2.3806	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	6.006	429.0 -> 409.0	4466	6.4824	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	13569	2.3488	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.558	472.0 -> 223.0	1529	1.4936	ng/ml	0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.575	507.0 -> 98.9	2237	2.4255	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.976	529.0 -> 509.0	3180	5.3695	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.986	519.0 -> 473.9	4046	1.1170	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	11592	5.3798	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	11323	5.2293	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	8155	1.1359	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	13153	2.5153	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	6948	1.1626	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	54019	24.9484	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	1665	2.4925	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.256	715.0 -> 670.0	6963	1.1040	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	52862	24.8406	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2289	2.4926	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.209	213.0 -> 168.9	274039	51.9508	ng/ml	100
PFMPA	2.070	229.0 -> 85.0	91667	25.7531	ng/ml	100
3:3FTCA	3.296	241.0 -> 177.0	17195	59.7234	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.397	263.0 -> 219.0	131165	25.9733	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	48435	11.9489	ng/ml	100
PFMBA	3.922	279.0 -> 85.0	132522	25.8358	ng/ml	100
PFEESA	4.391	315.0 -> 135.0	297096	25.6609	ng/ml	100
NFDHA	4.569	295.0 -> 201.1	149387	28.9496	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.641	327.0 -> 307.0	58923	46.9618	ng/ml	100

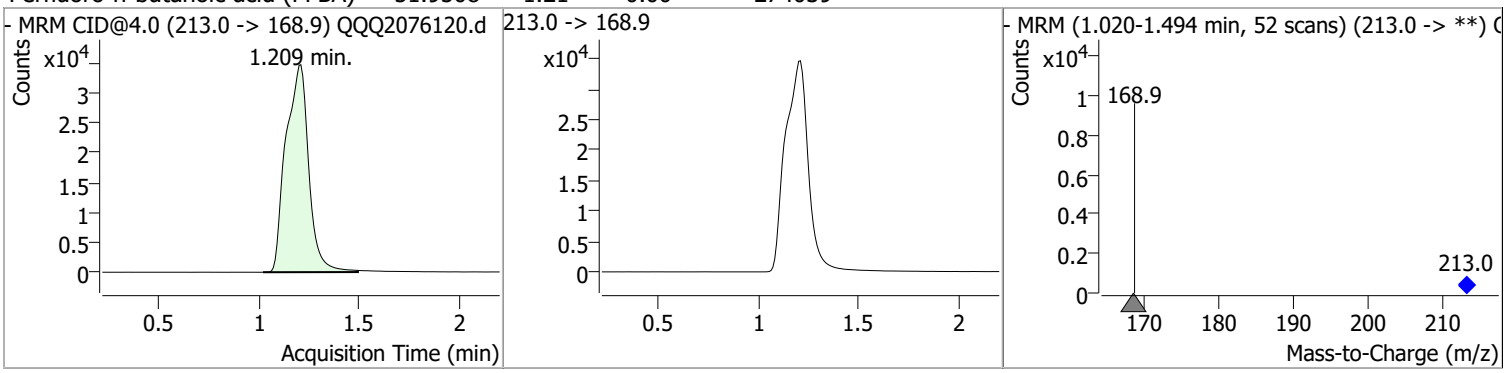
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.707	313.0 -> 268.9	123730	13.9451	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.890	348.9 -> 79.9	45075	12.0519	ng/ml		100
HFPO-DA	4.969	285.0 -> 169.1	20399	50.9322	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	147786	11.8554	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.532	398.9 -> 79.9	43283	11.9919	ng/ml	m	100
5-3FTCA	5.543	341.0 -> 217.0	342222	360.4598	ng/ml		100
ADONA	5.561	377.0 -> 85.0	305997	50.6320	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	32100	47.7793	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	106540	13.3497	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	33716	13.7379	ng/ml		100
Perfluorononanoic acid (PFNA)	6.549	463.0 -> 418.8	93410	11.2292	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.576	498.9 -> 79.9	18704	14.1460	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	503800	341.4722	ng/ml		100
9-Cl-PF3ONS	6.817	531.0 -> 351.0	339364	51.2072	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.976	527.0 -> 80.9	24128	47.2858	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	83073	12.4273	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	7.004	548.9 -> 79.9	34831	16.0062	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	22567	13.8283	ng/ml	m	100
N-EtFOSAA	7.348	584.0 -> 418.8	23837	13.5913	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.376	598.9 -> 98.9	13435	14.6071	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.368	563.0 -> 519.0	89568	15.3634	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	119753	13.1051	ng/ml		100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	126619	50.1088	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	61582	13.3008	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.978	699.0 -> 80.0	13242	14.2333	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.988	663.0 -> 618.8	56582	13.4519	ng/ml		100
NMeFOSA	8.255	512.0 -> 169.0	10858	11.8243	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.247	713.0 -> 669.0	104745	13.4441	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	234522	126.9196	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	322046	131.0293	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	11937	14.6153	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

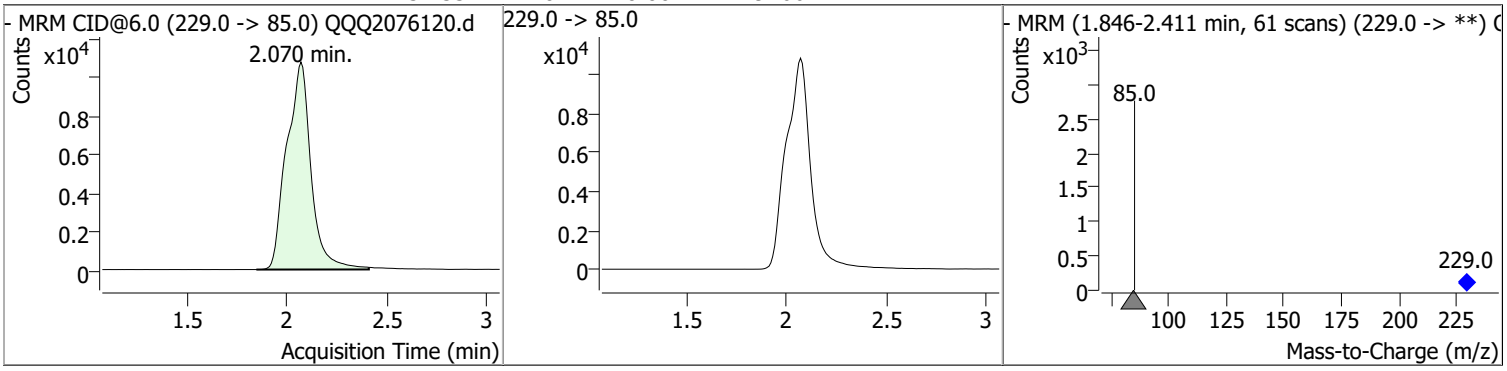
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.8010	1.20	0.00	41698				



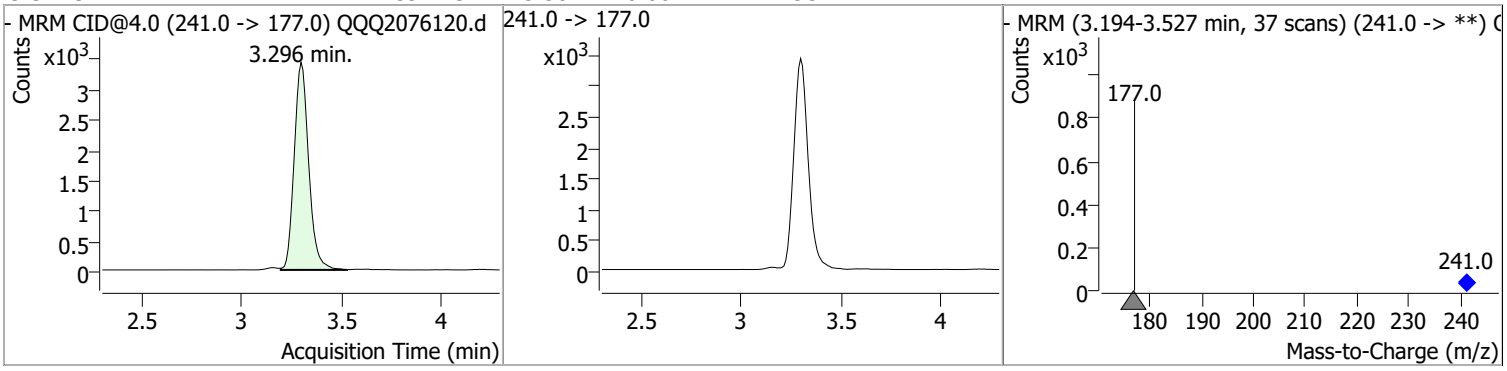
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	51.9508	1.21	0.00	274039				



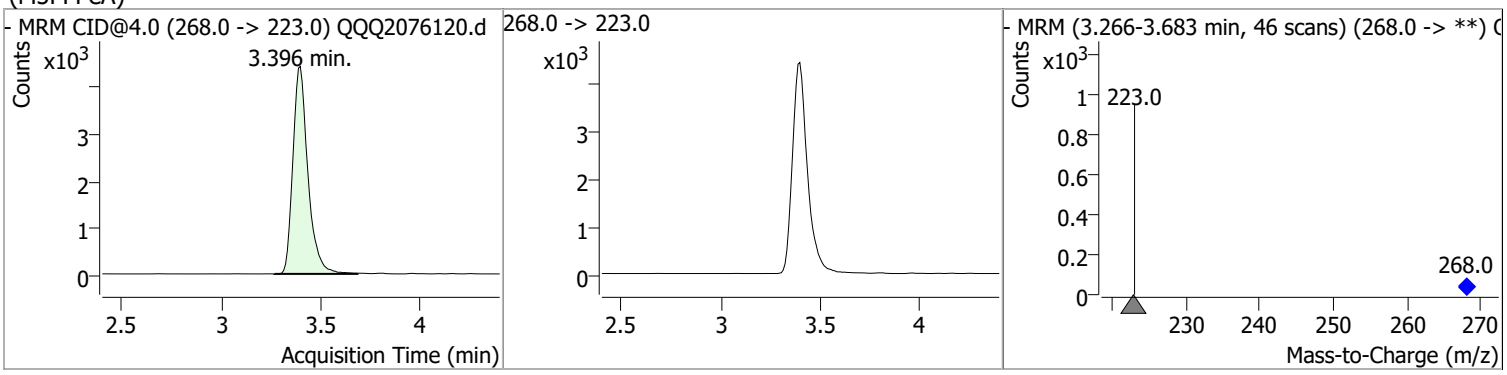
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	25.7531	2.07	0.00	91667				



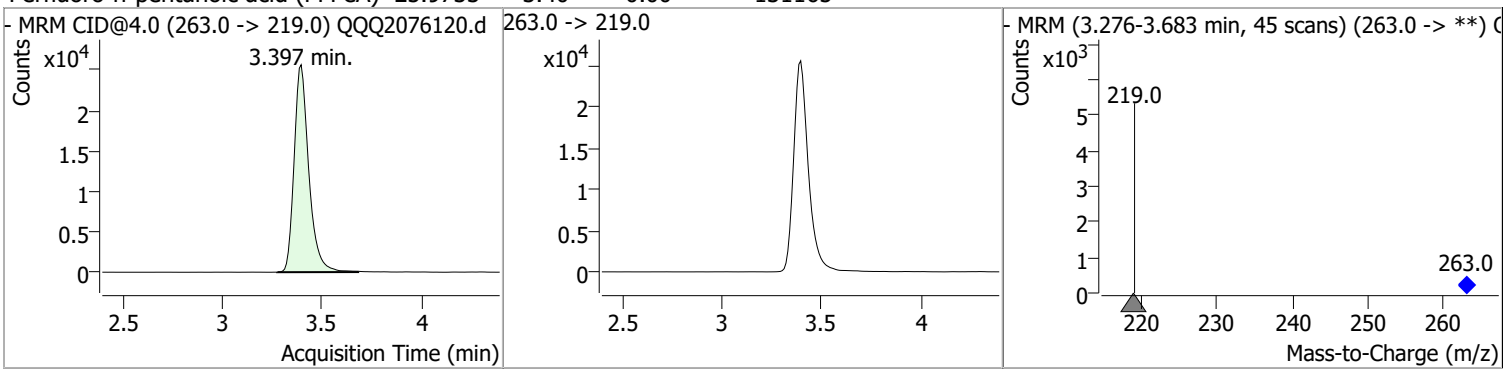
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	59.7234	3.30	0.00	17195				



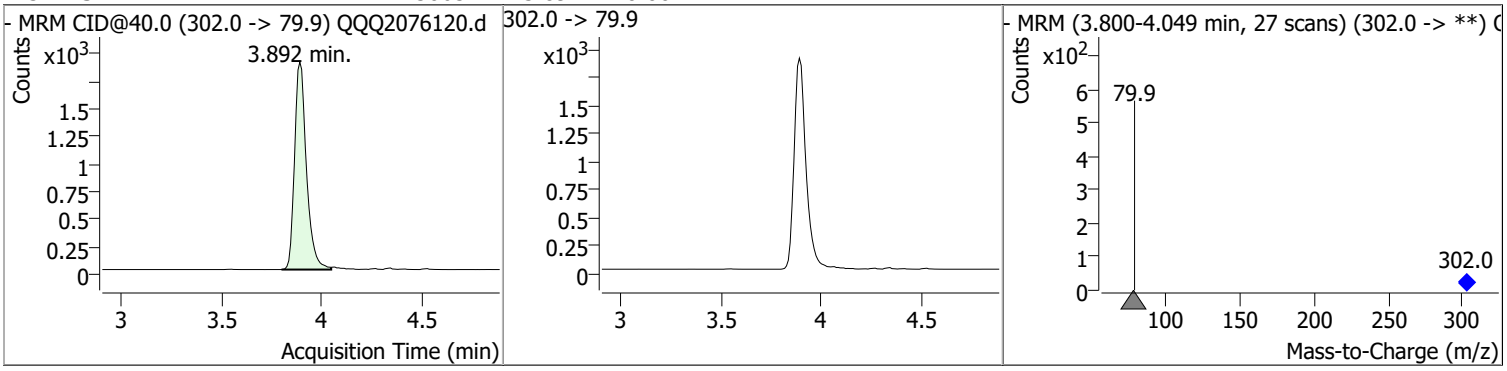
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.7452	3.40	0.01	23024				



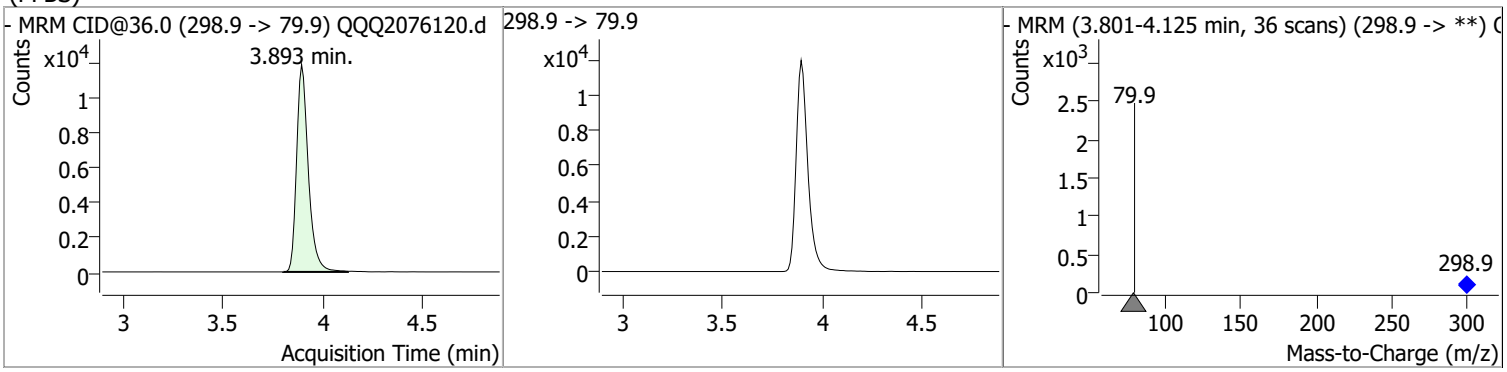
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	25.9733	3.40	0.00	131165				



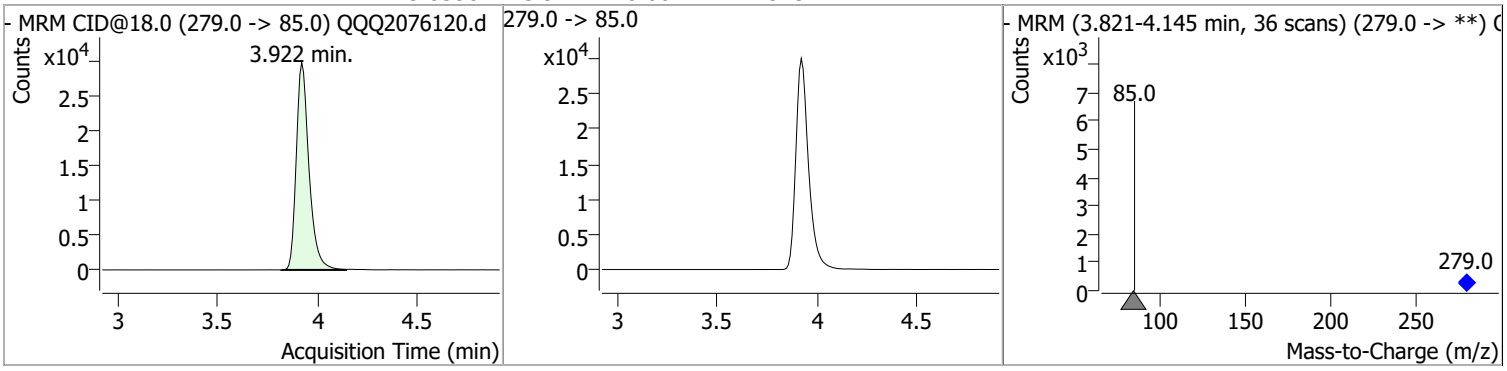
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.5065	3.89	0.00	7777				



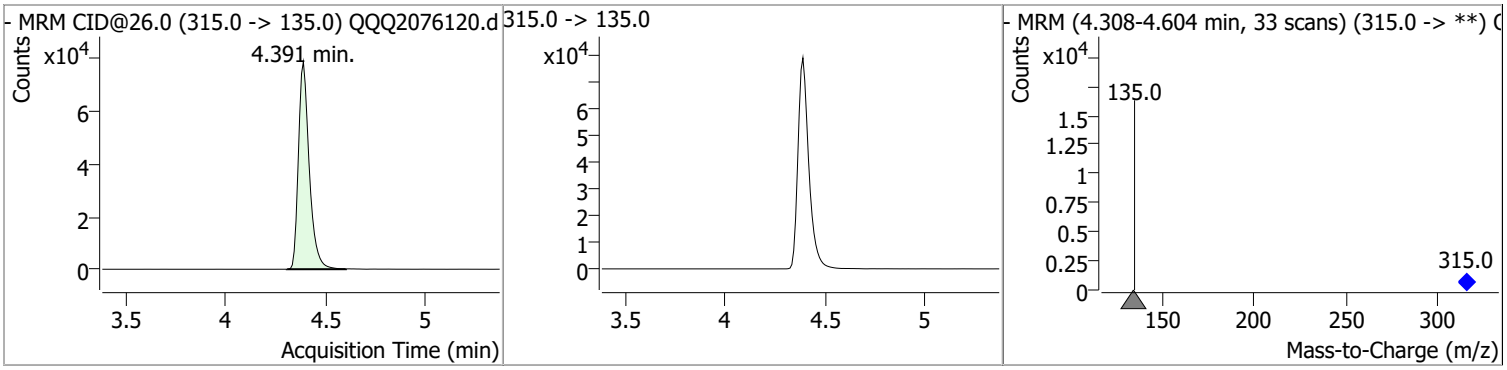
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	11.9489	3.89	0.00	48435				



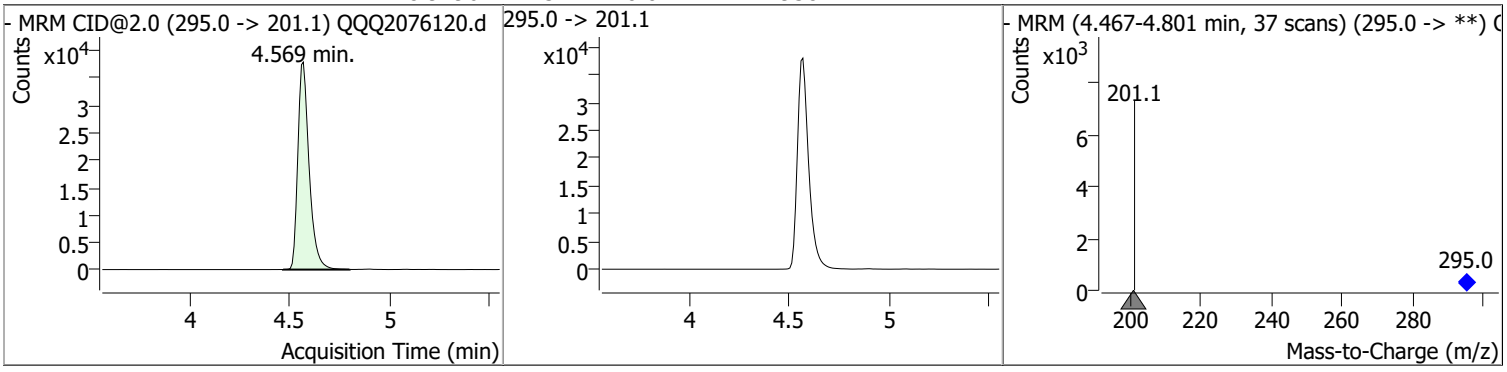
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	25.8358	3.92	0.00	132522				



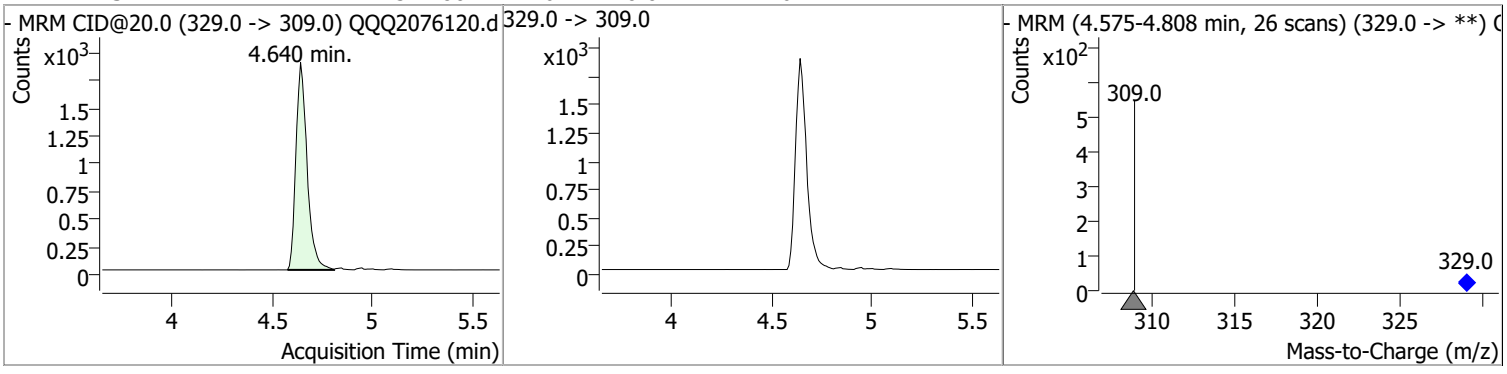
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	25.6609	4.39	0.01	297096				



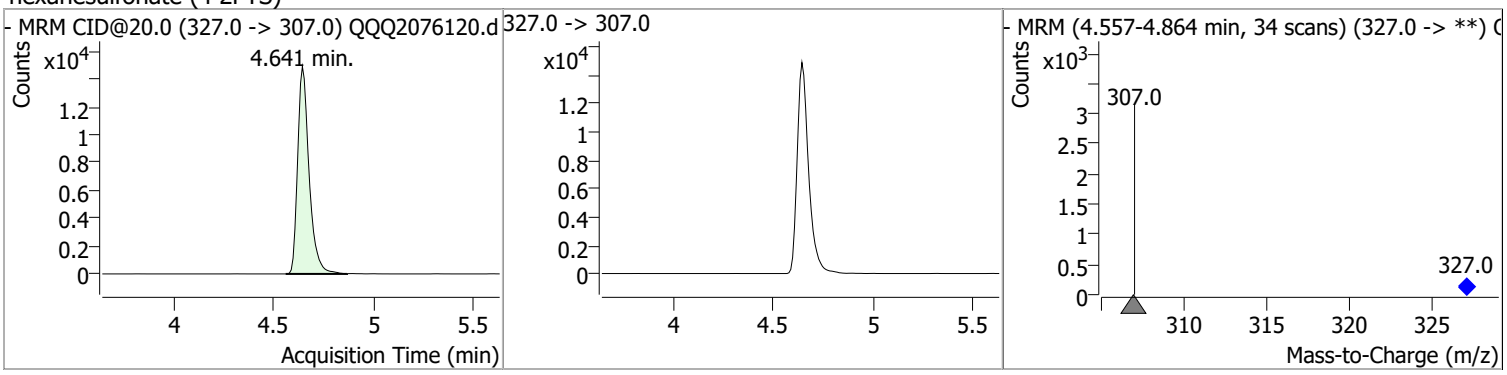
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	28.9496	4.57	0.01	149387				



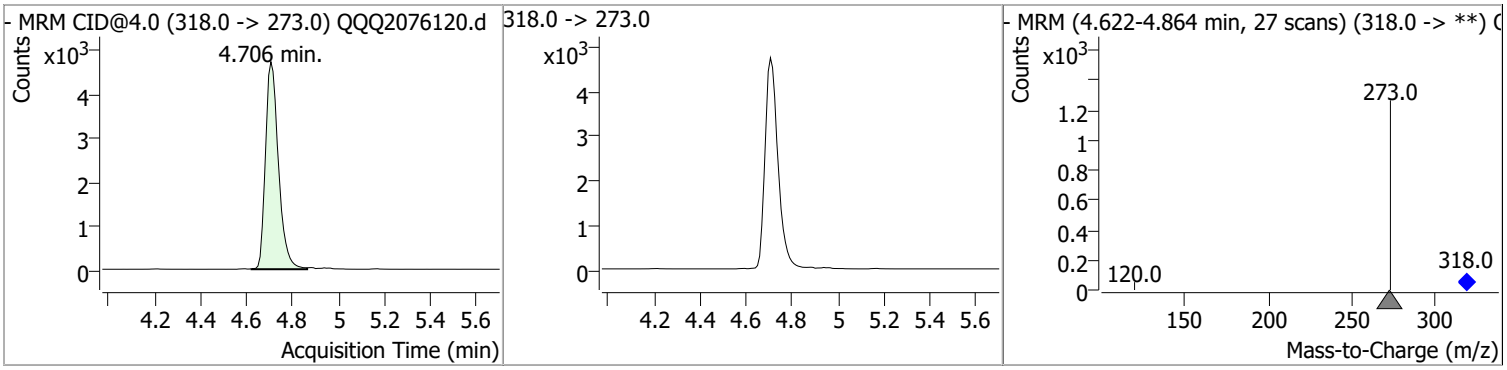
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.7180	4.64	0.01	7264				



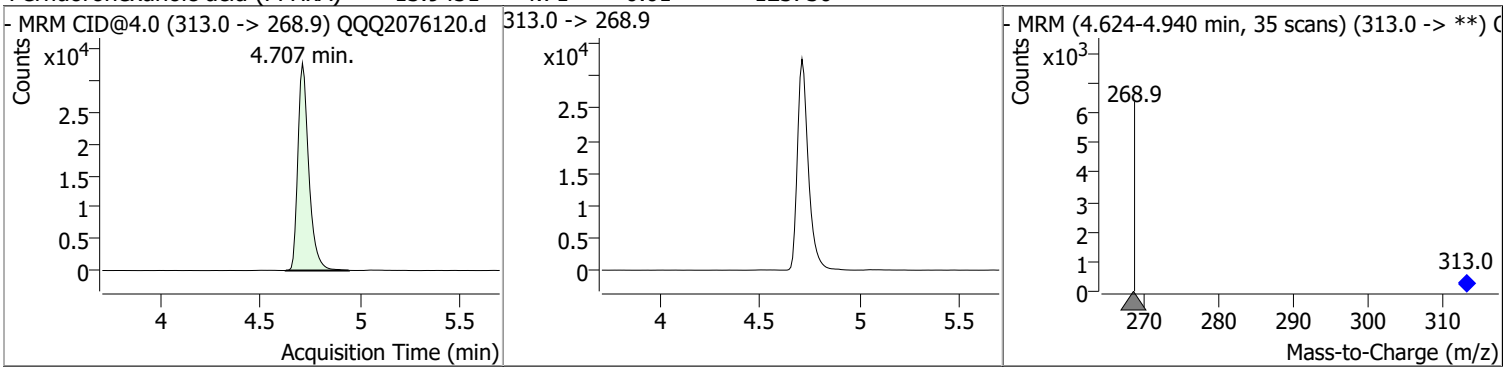
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	46.9618	4.64	0.01	58923				



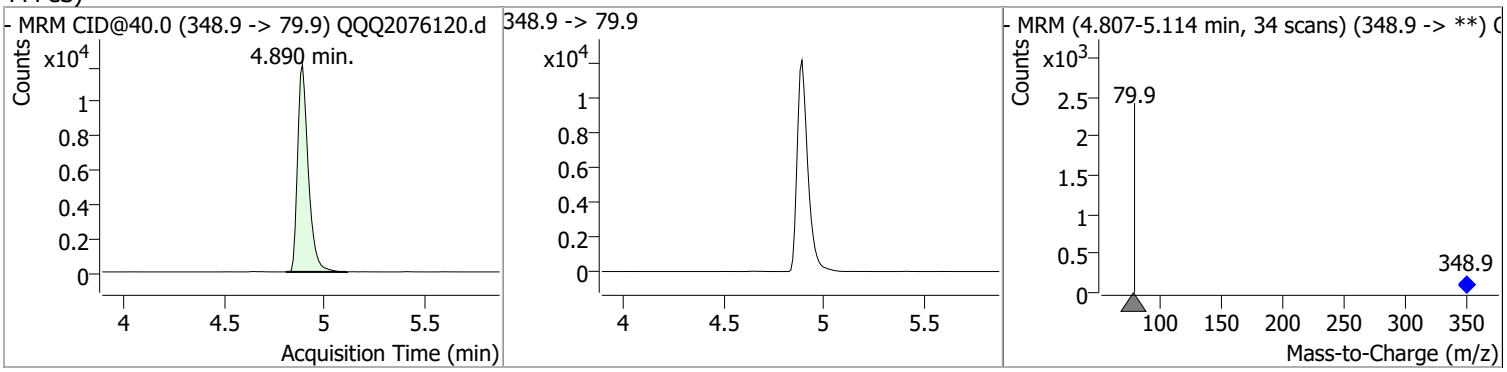
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.2813	4.71	0.01	18466				



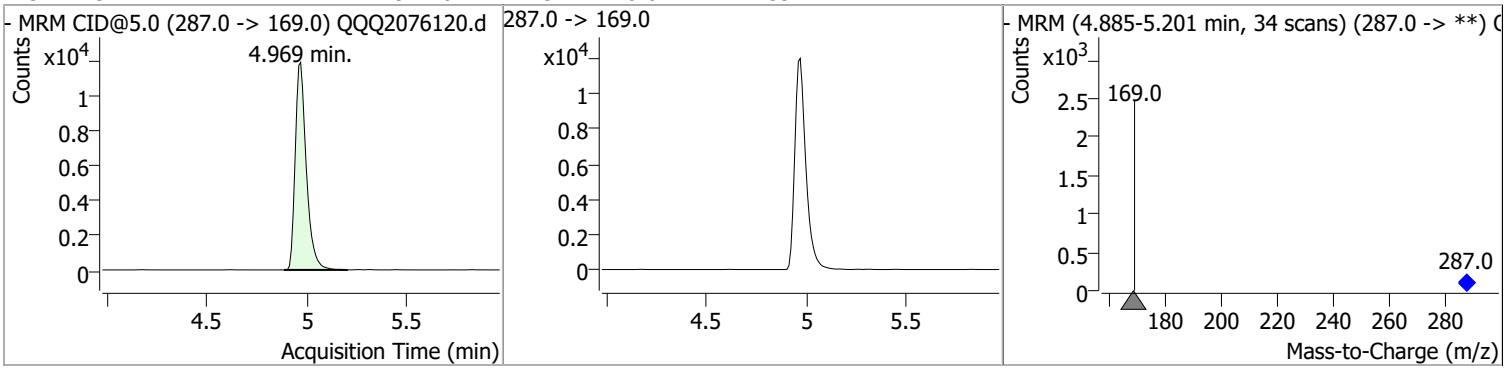
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	13.9451	4.71	0.01	123730				



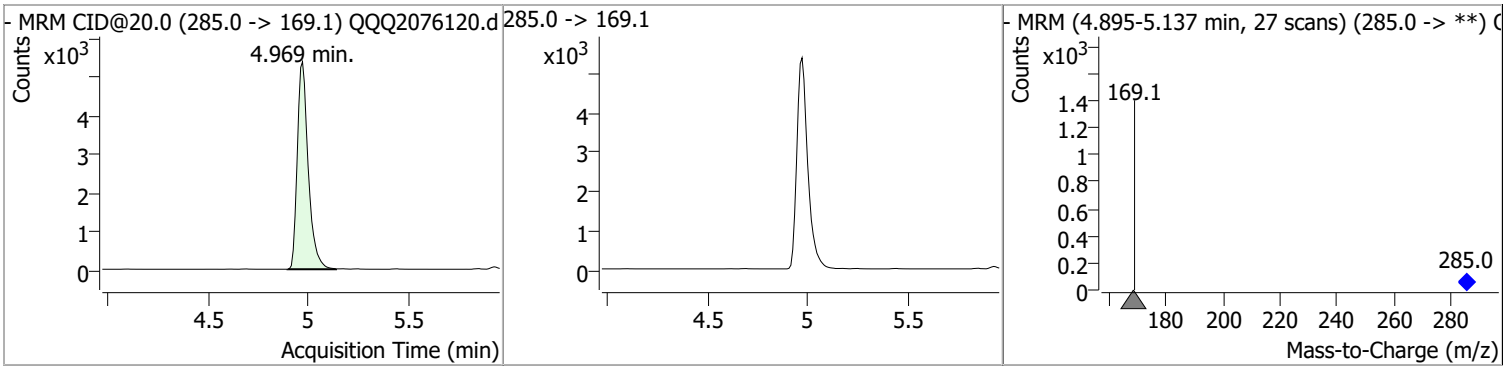
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	12.0519	4.89	0.01	45075				



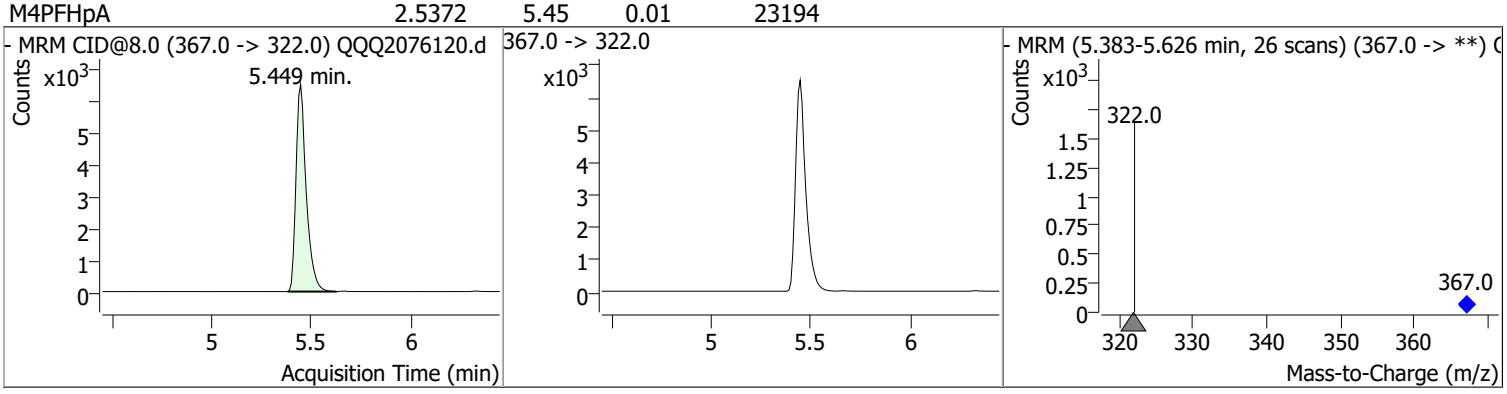
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	9.7267	4.97	0.01	45912				



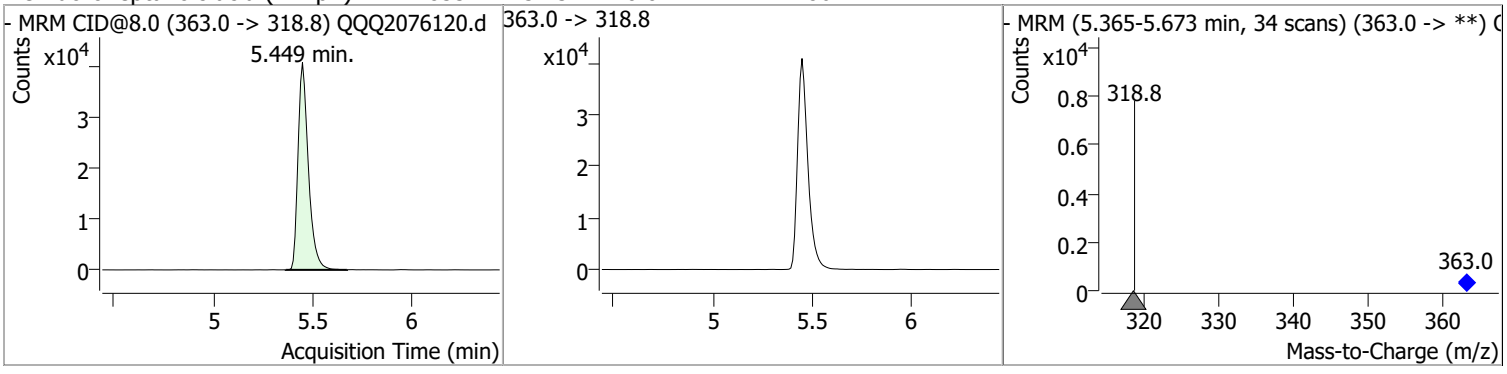
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	50.9322	4.97	0.01	20399				



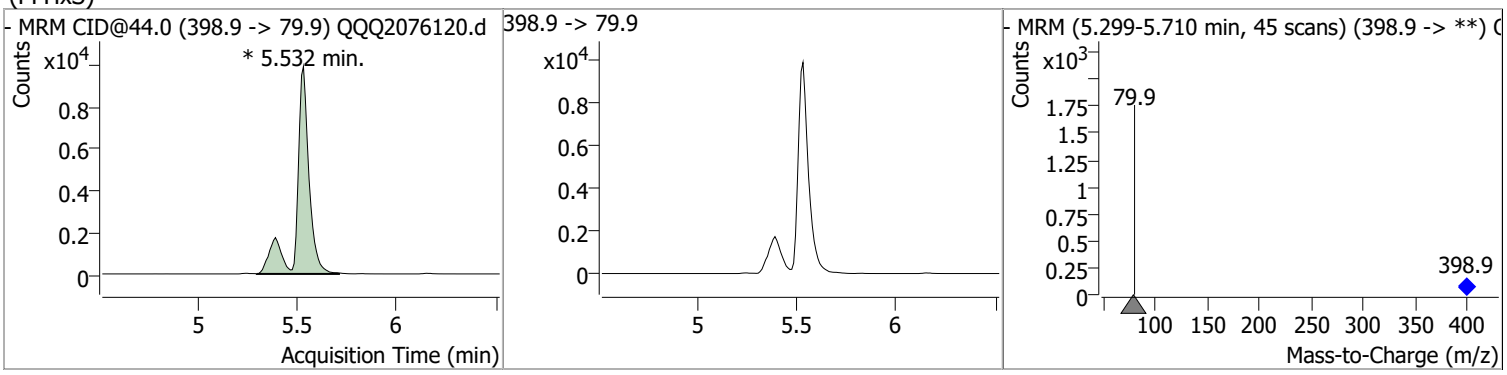
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5372	5.45	0.01	23194				



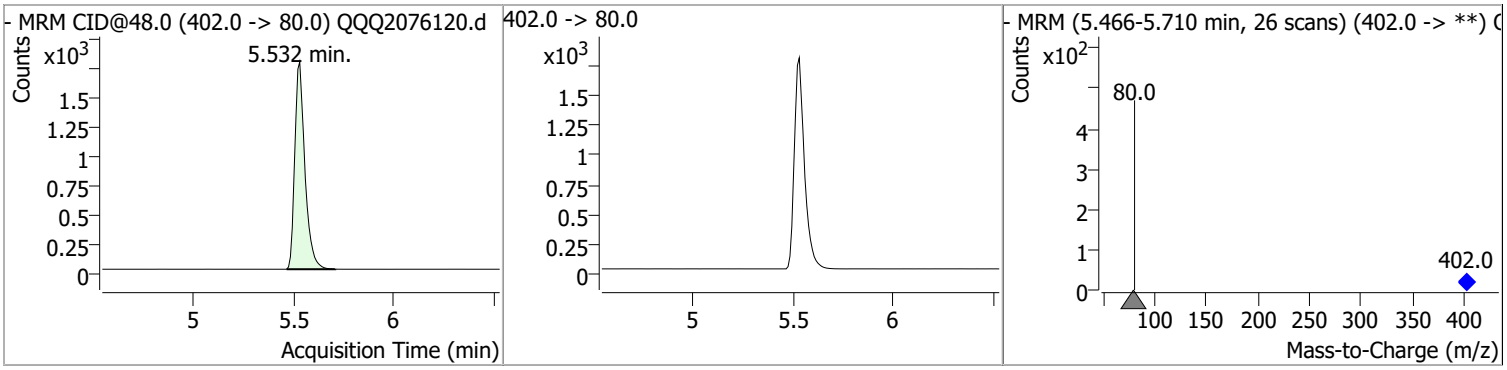
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	11.8554	5.45	0.01	147786				



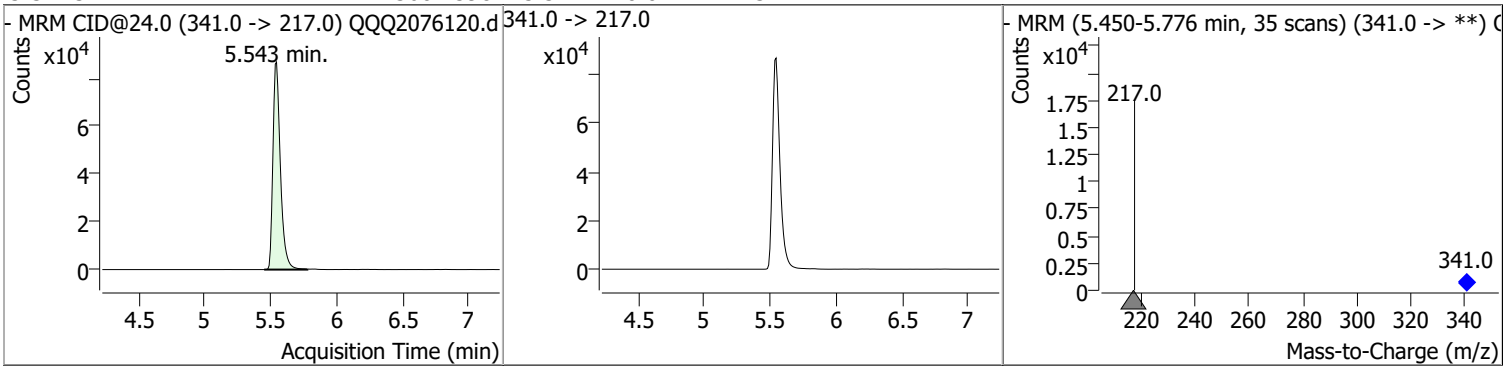
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	11.9919	5.53	0.01	43283 (m)				



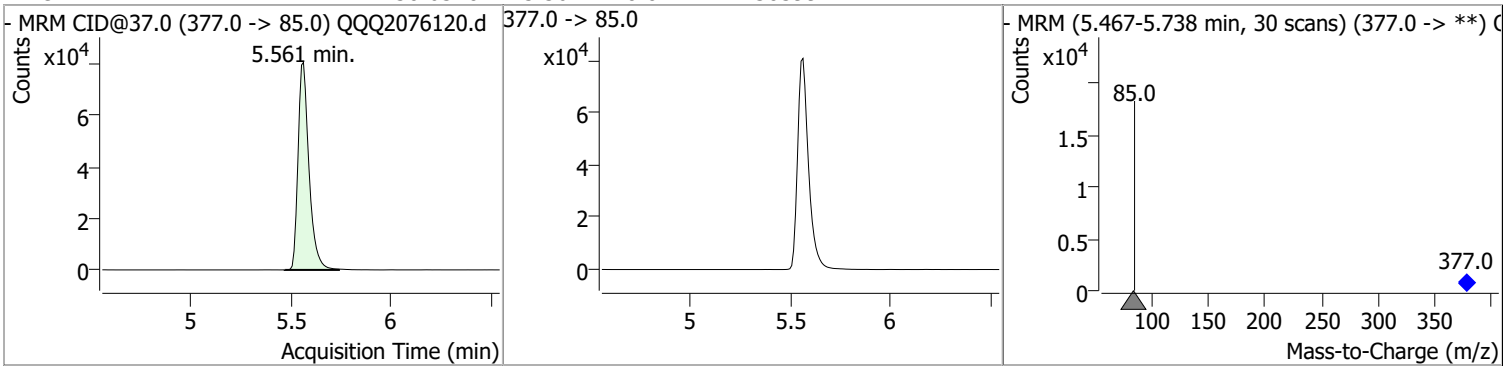
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.3806	5.53	0.00	6205				



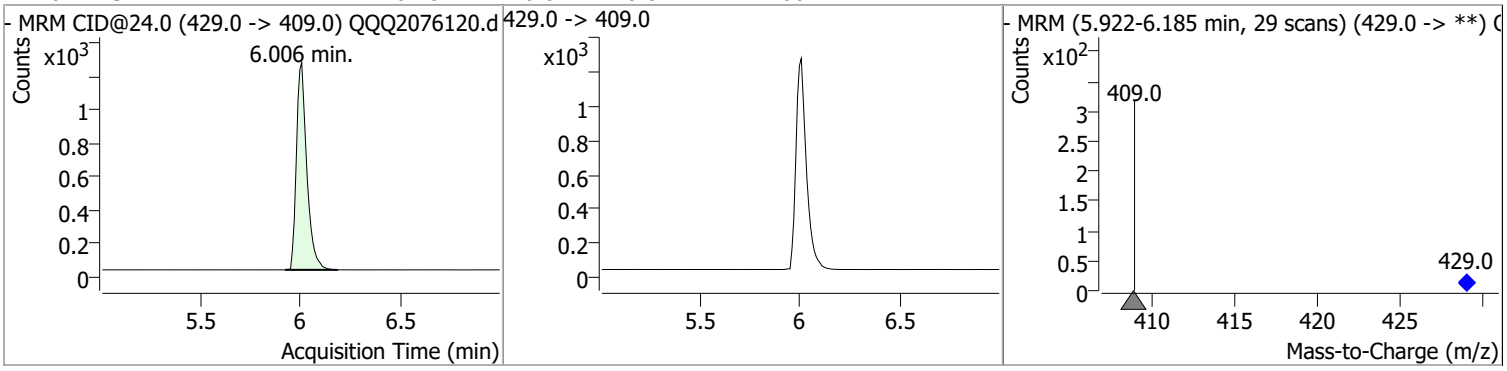
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	360.4598	5.54	0.01	342222				



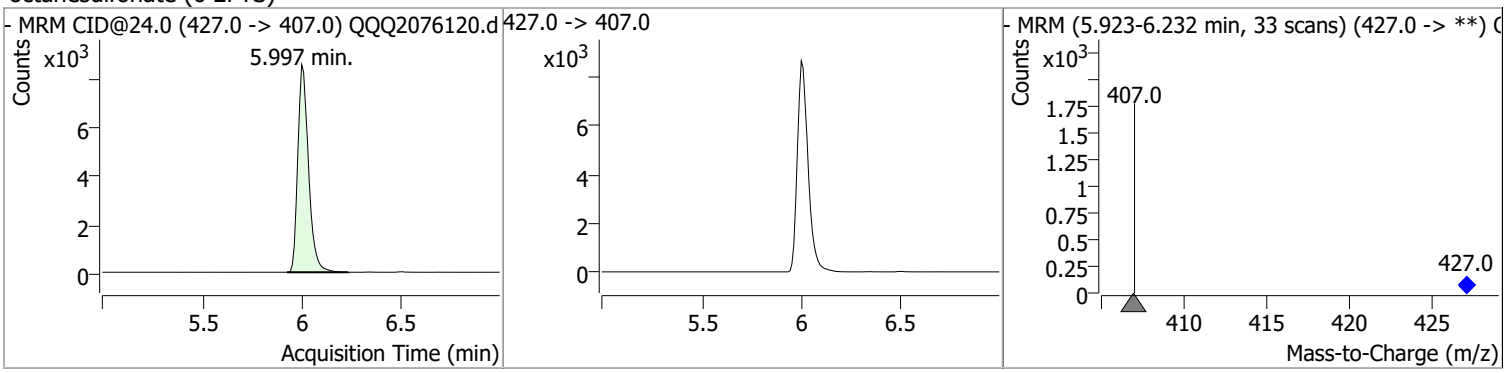
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	50.6320	5.56	0.01	305997				



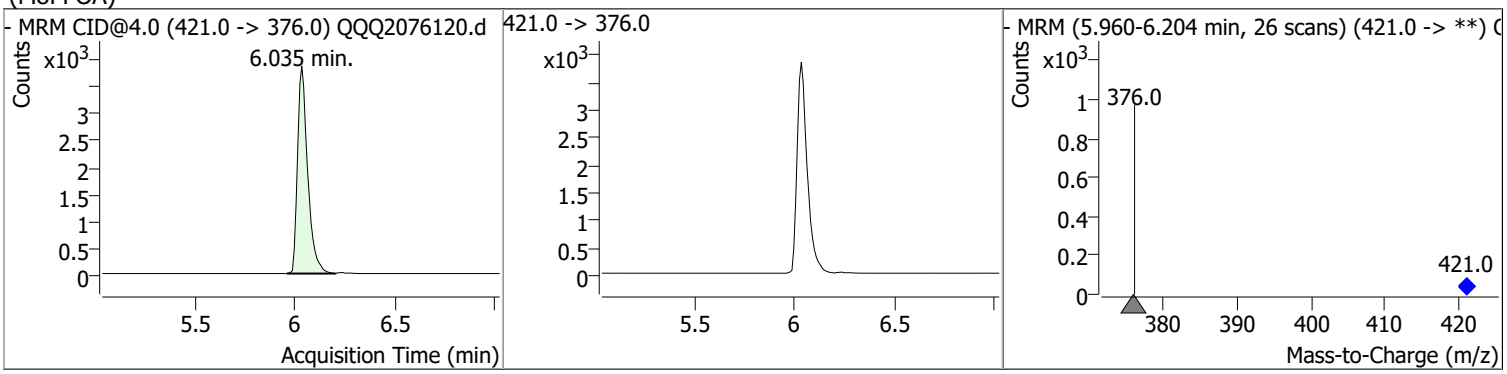
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	6.4824	6.01	0.01	4466				



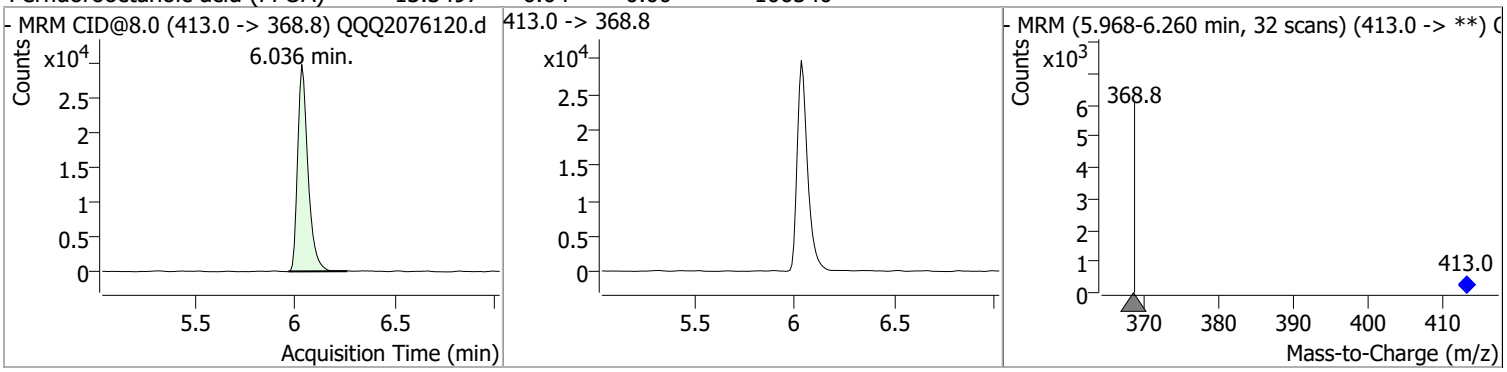
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	47.7793	6.00	0.00	32100				



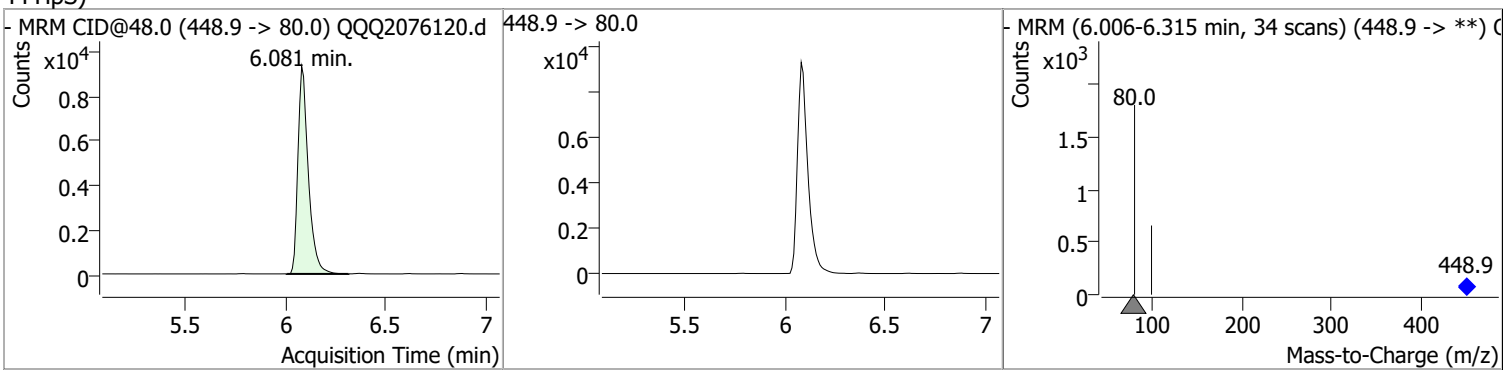
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.3488	6.04	0.00	13569				



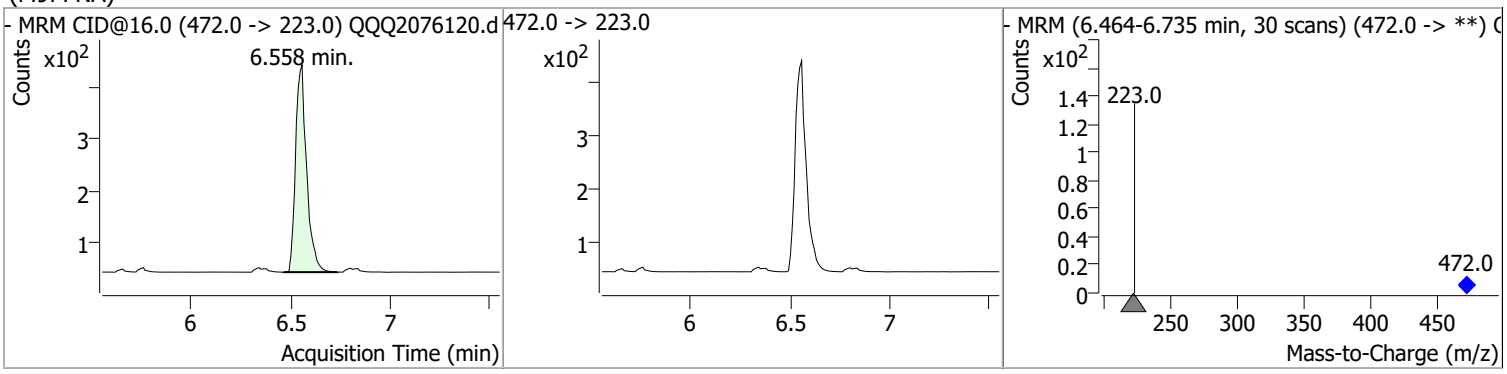
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	13.3497	6.04	0.00	106540				



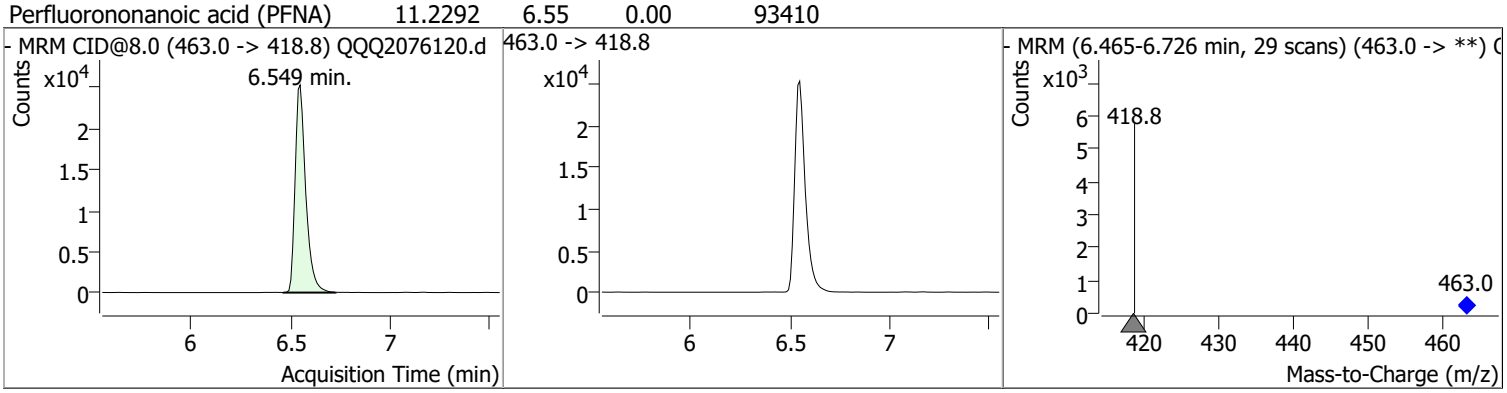
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.7379	6.08	0.00	33716				



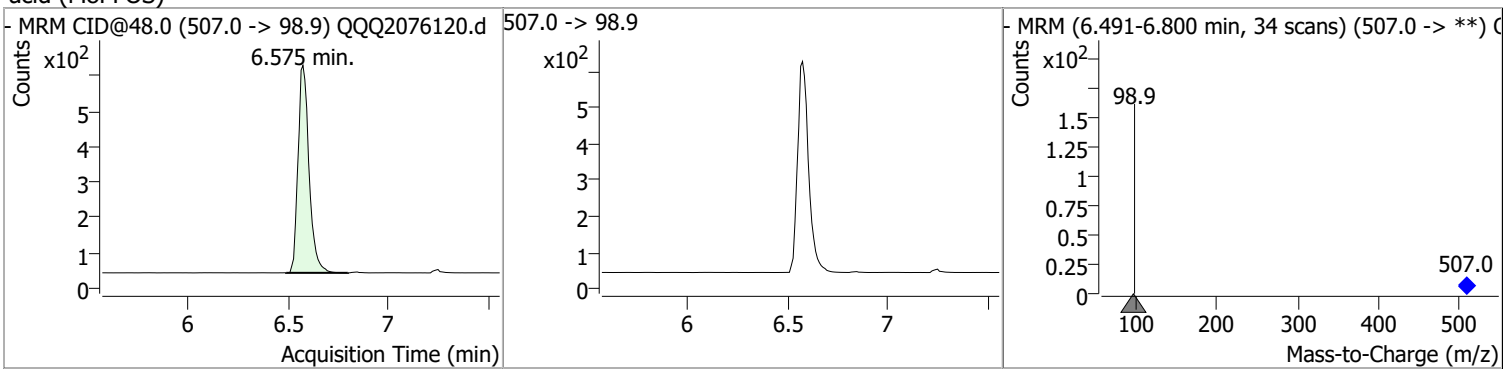
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.4936	6.56	0.02	1529				



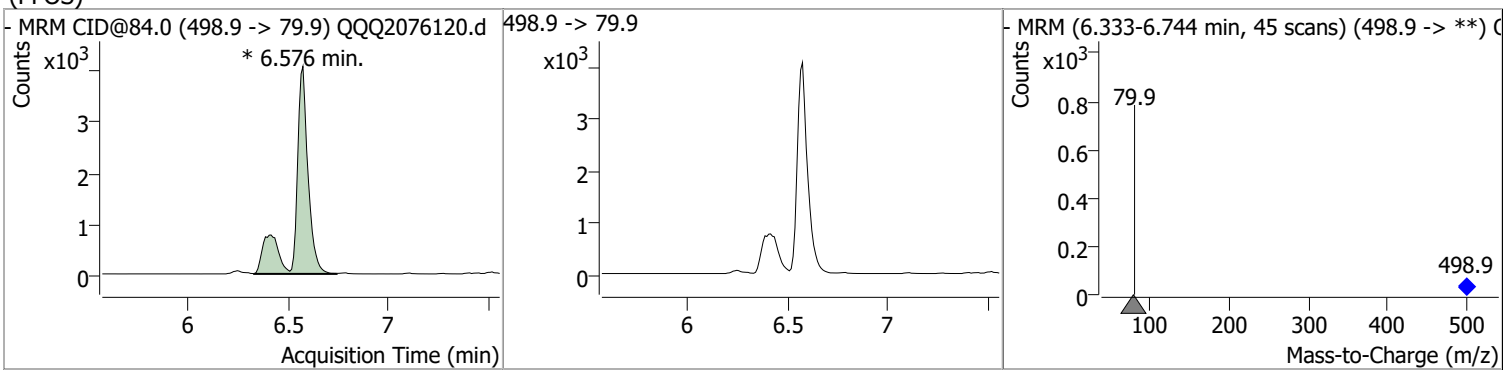
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	11.2292	6.55	0.00	93410				



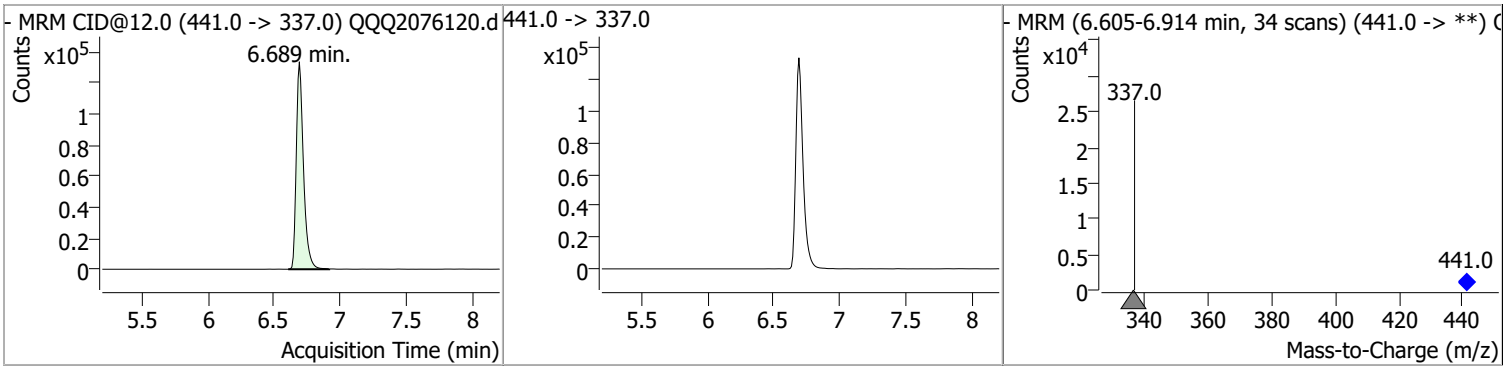
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.4255	6.58	0.01	2237				



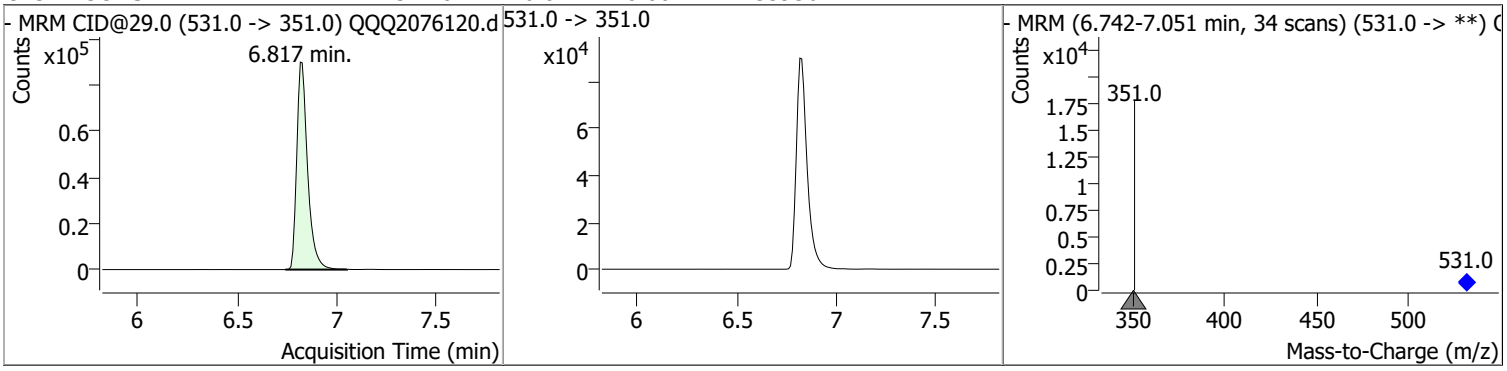
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	14.1460	6.58	0.01	18704 (m)				



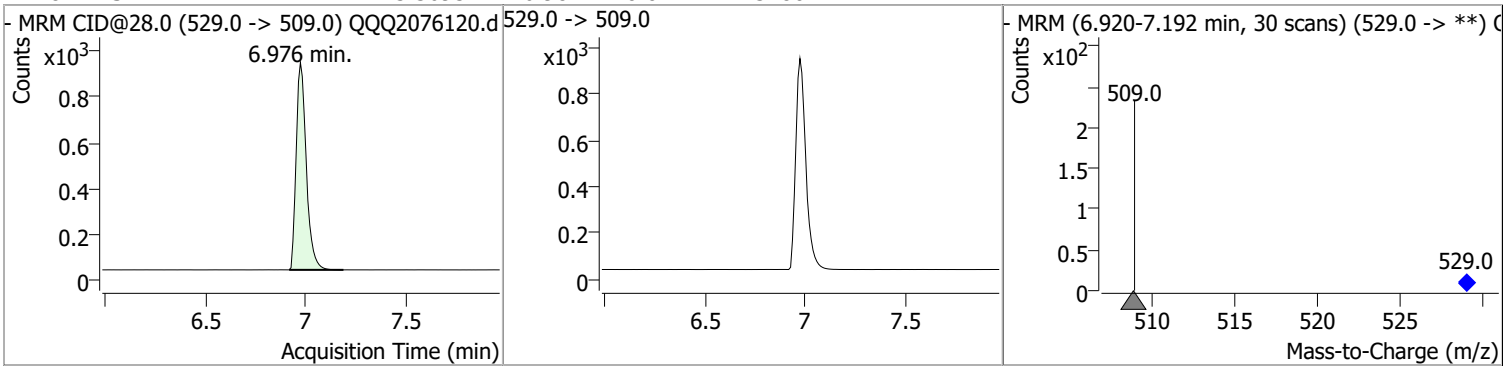
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	341.4722	6.69	0.00	503800				



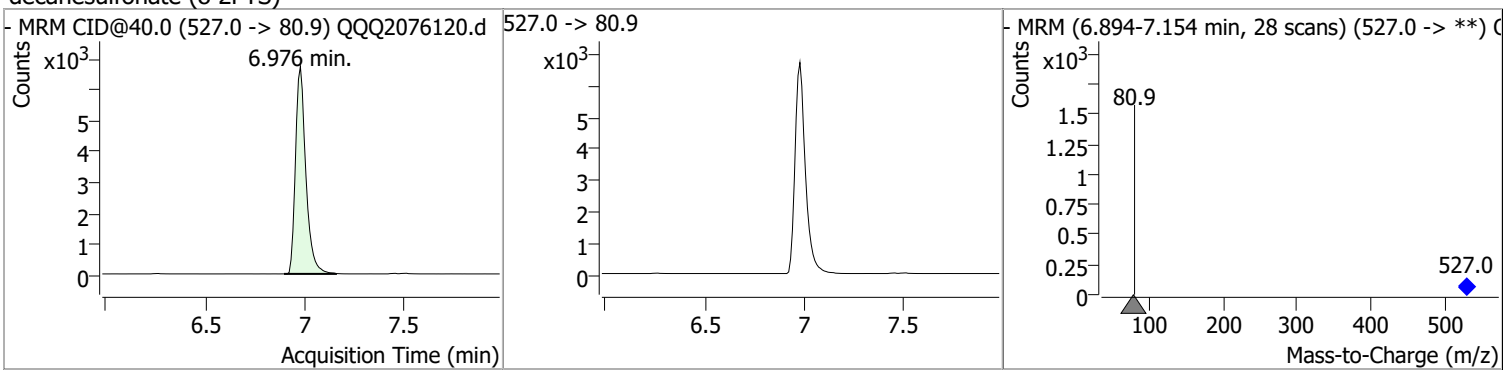
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	51.2072	6.82	0.00	339364				



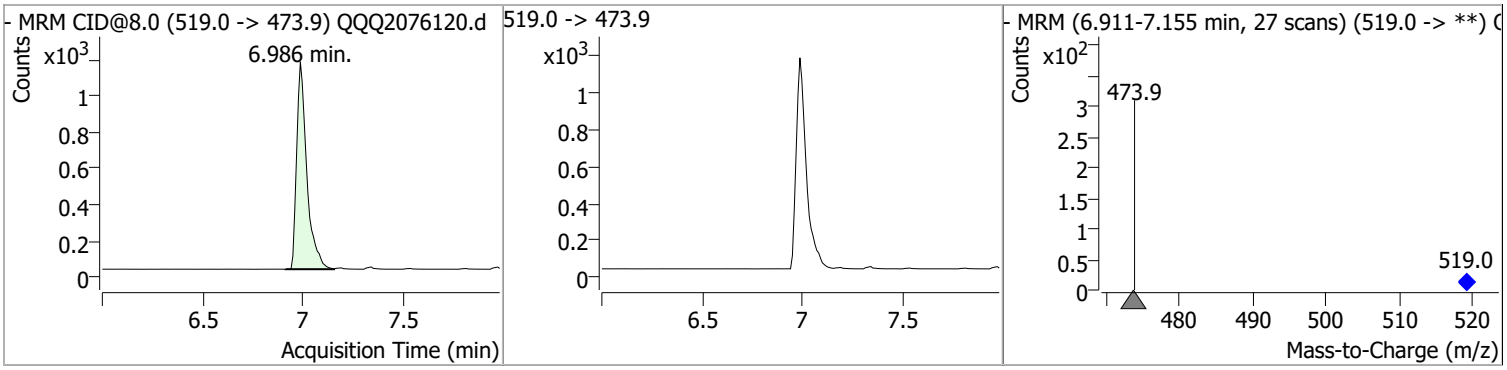
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.3695	6.98	0.01	3180				



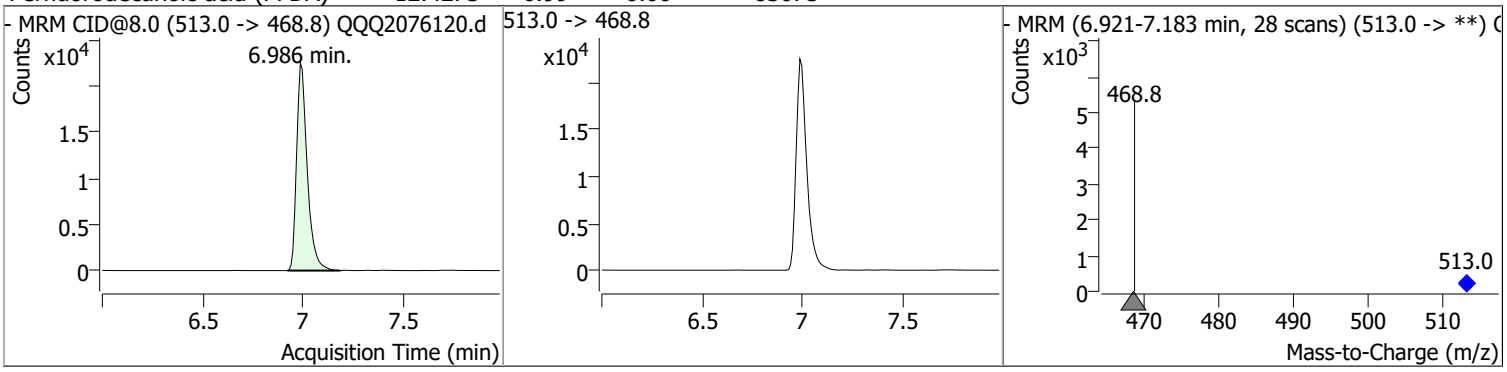
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	47.2858	6.98	0.00	24128				



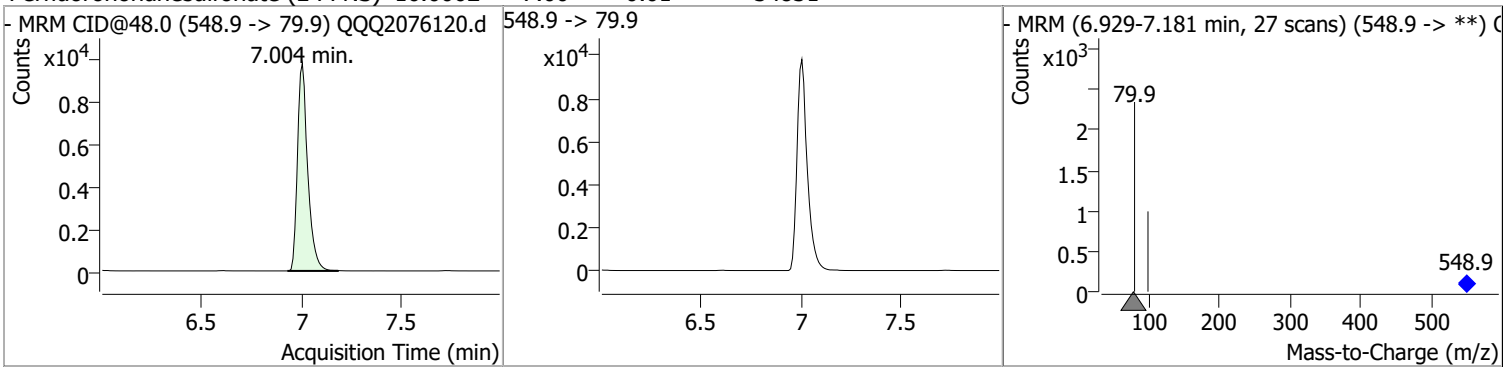
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.1170	6.99	0.00	4046				



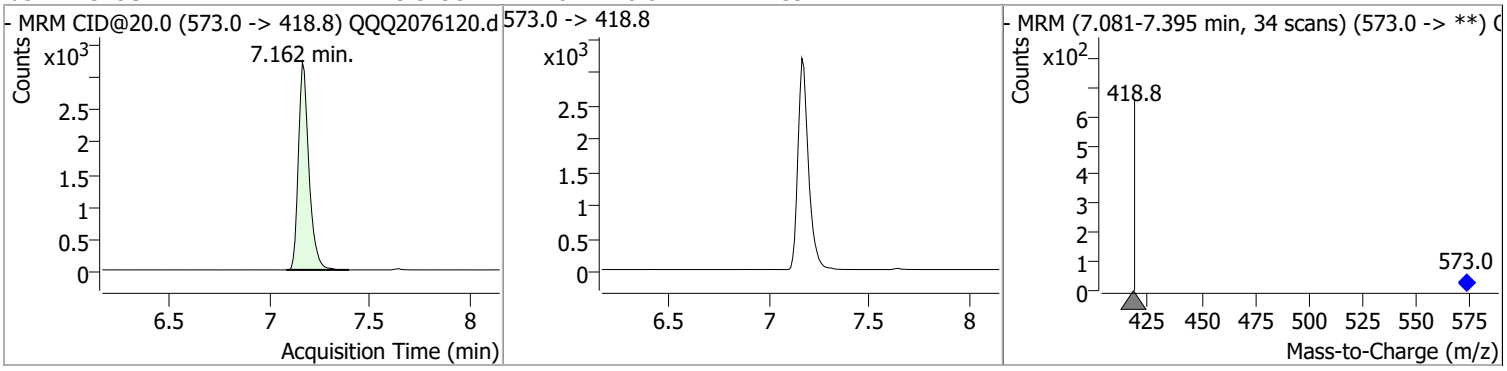
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	12.4273	6.99	0.00	83073				



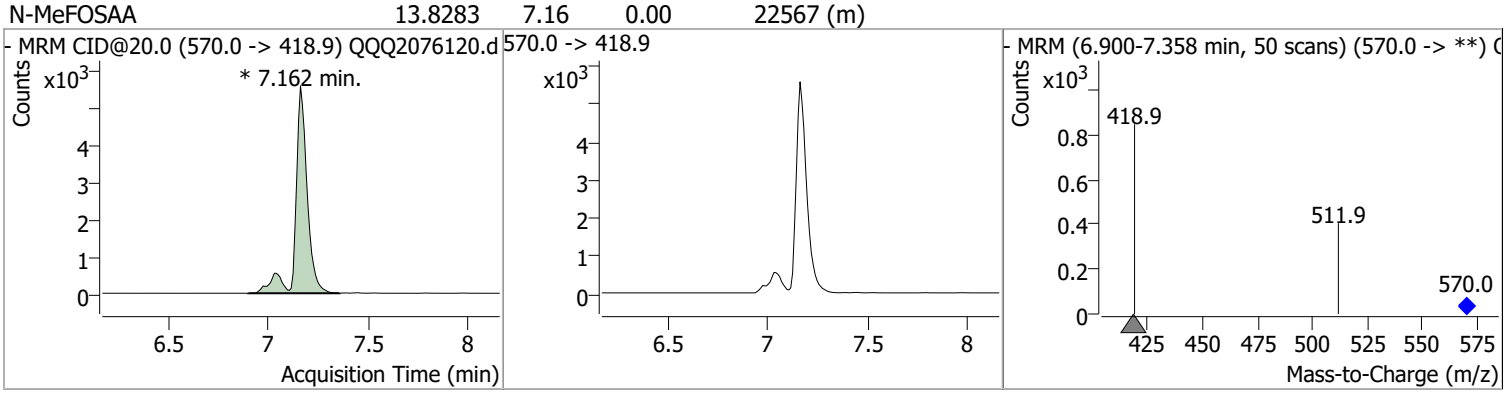
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	16.0062	7.00	0.01	34831				



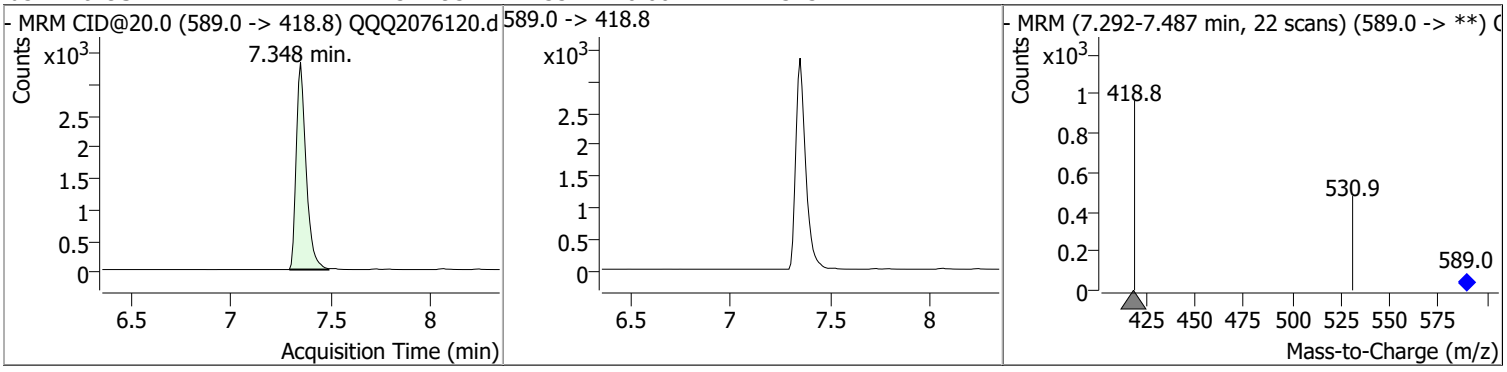
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.3798	7.16	0.01	11592				



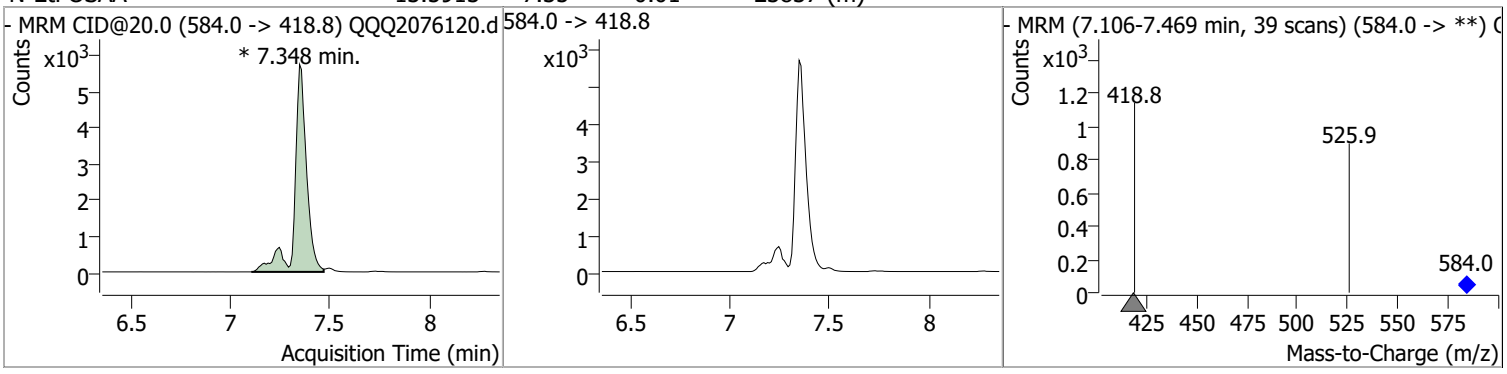
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	13.8283	7.16	0.00	22567 (m)				



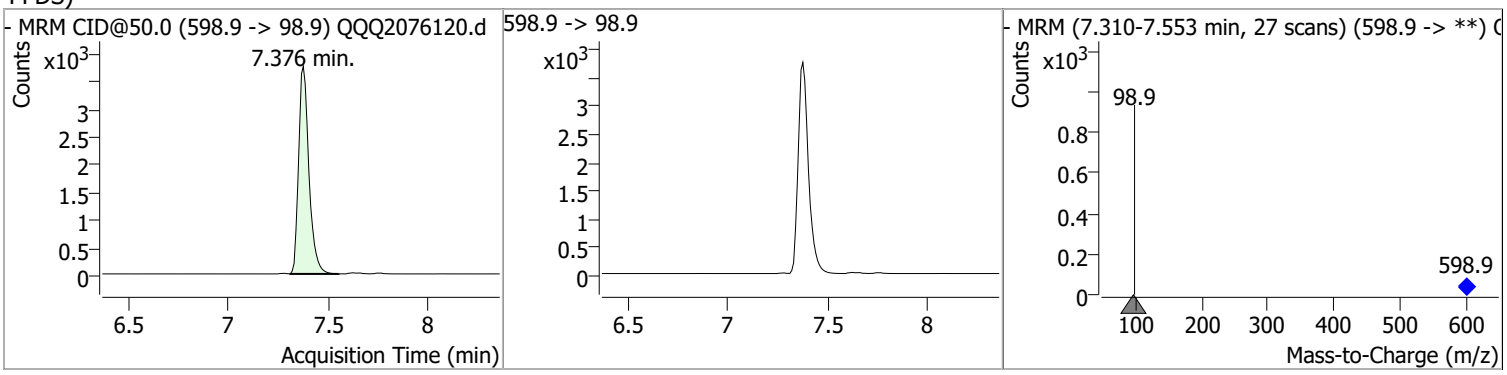
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.2293	7.35	0.00	11323				



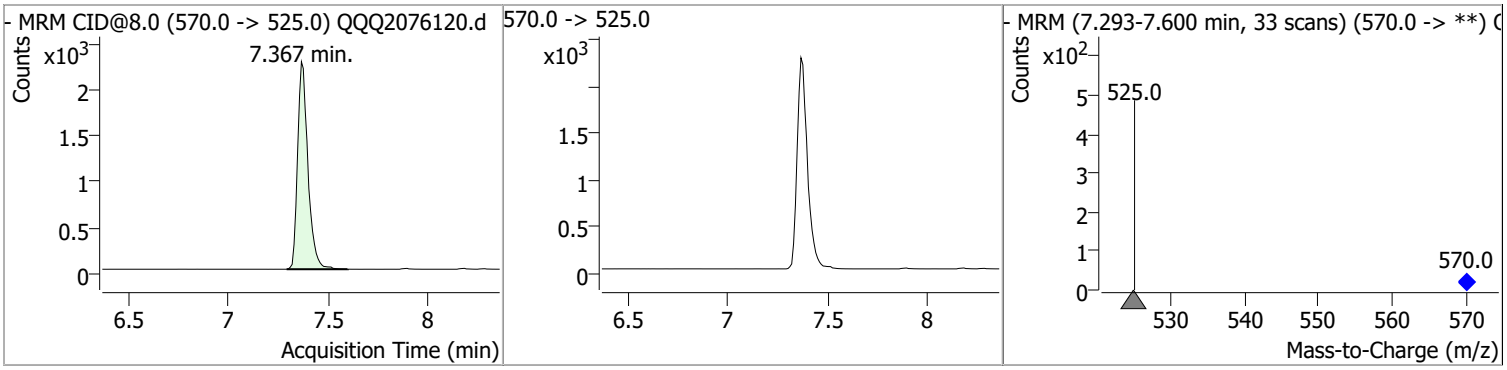
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	13.5913	7.35	-0.01	23837 (m)				



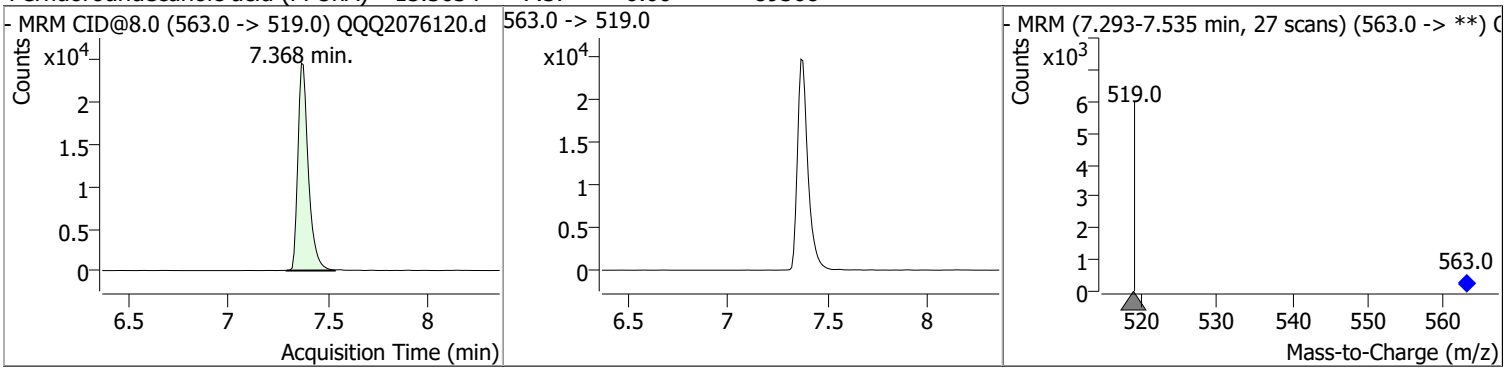
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	14.6071	7.38	0.01	13435				



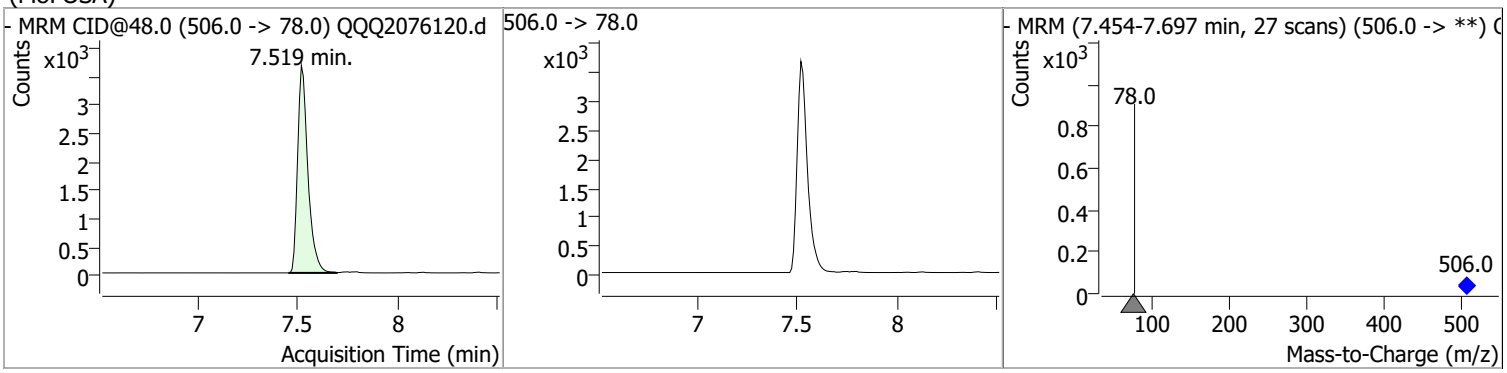
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.1359	7.37	0.00	8155				



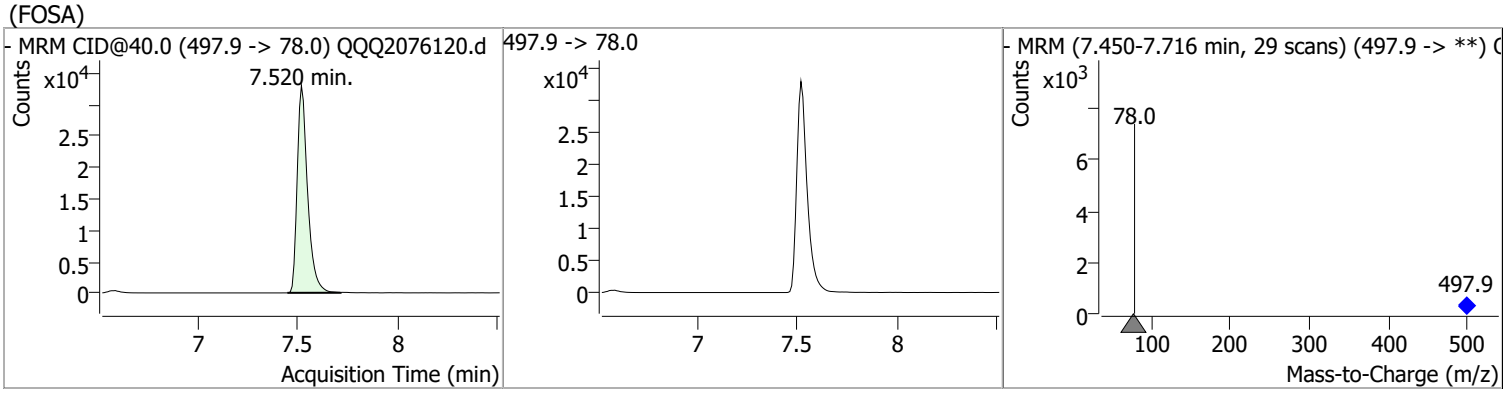
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	15.3634	7.37	0.00	89568				



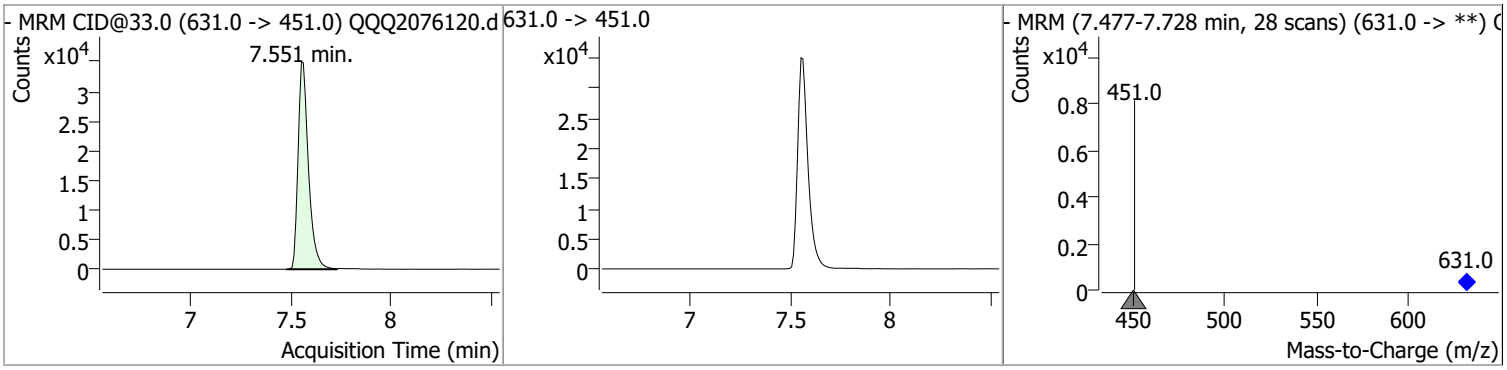
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.5153	7.52	0.00	13153				



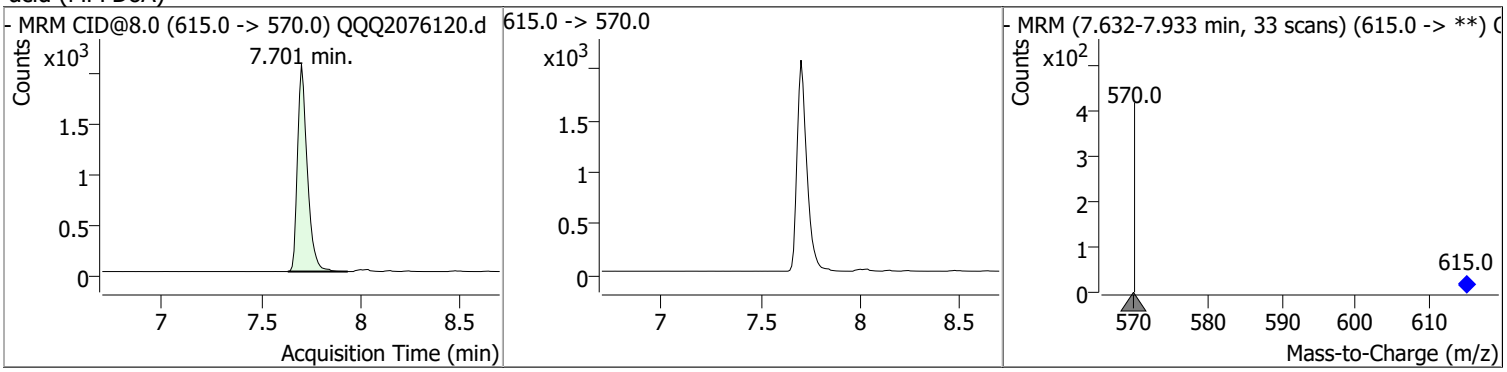
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	13.1051	7.52	0.00	119753				



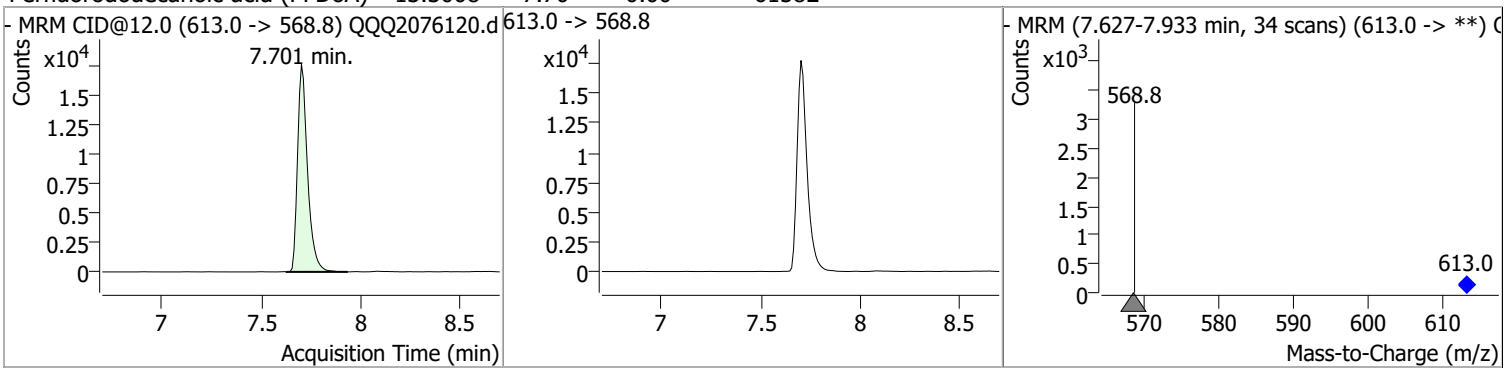
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	50.1088	7.55	0.00	126619				



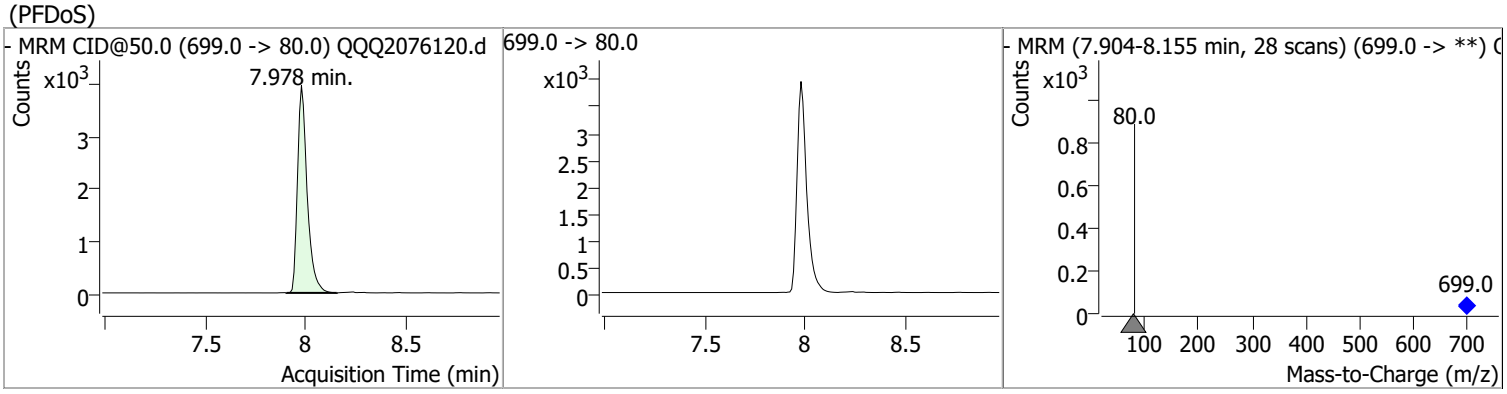
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.1626	7.70	0.00	6948				



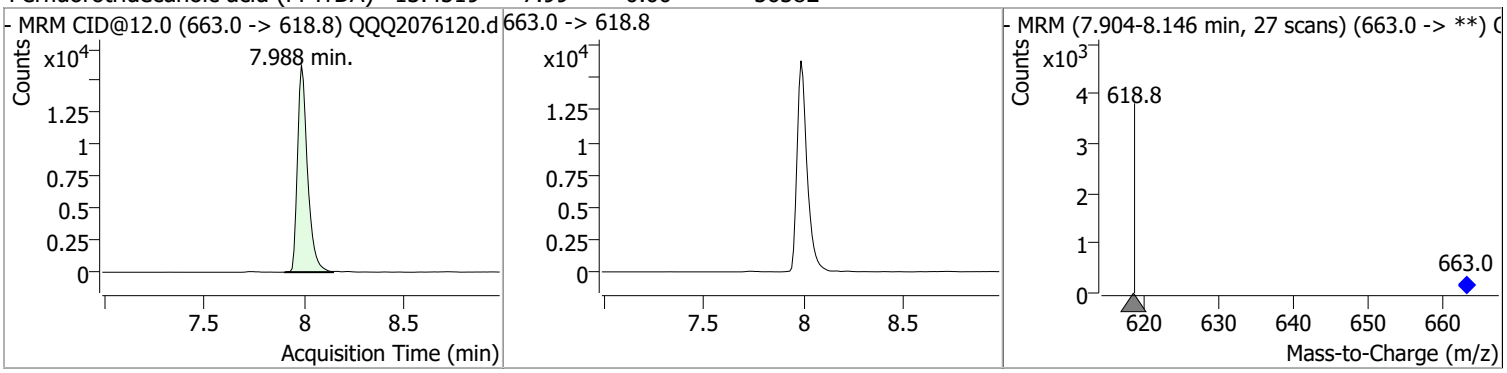
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	13.3008	7.70	0.00	61582				



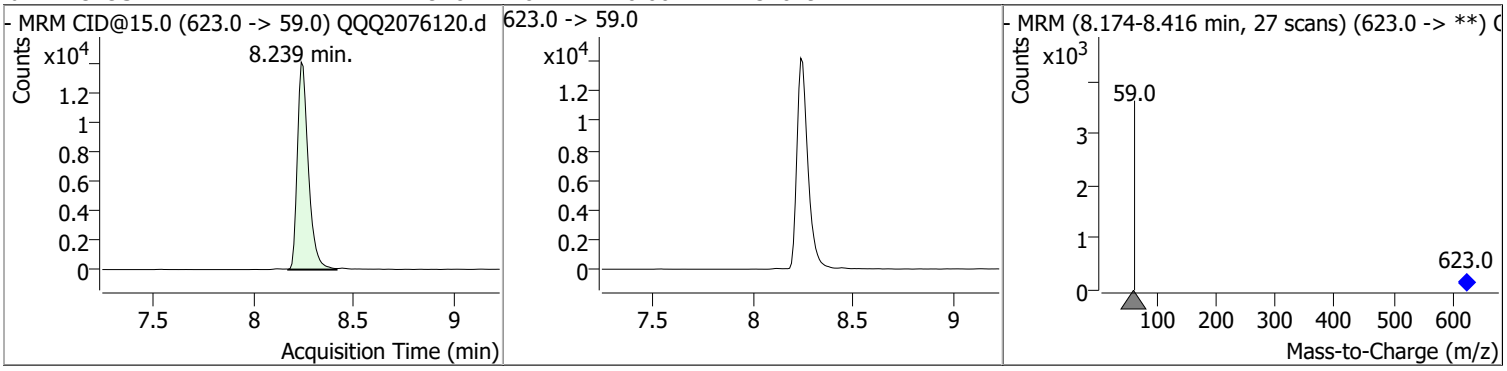
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	14.2333	7.98	0.00	13242				



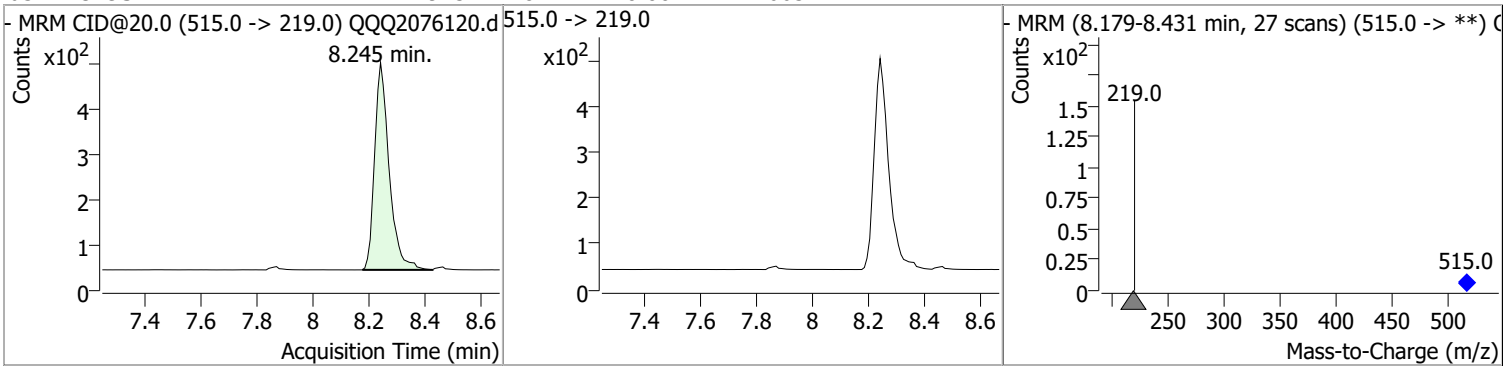
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	13.4519	7.99	0.00	56582				



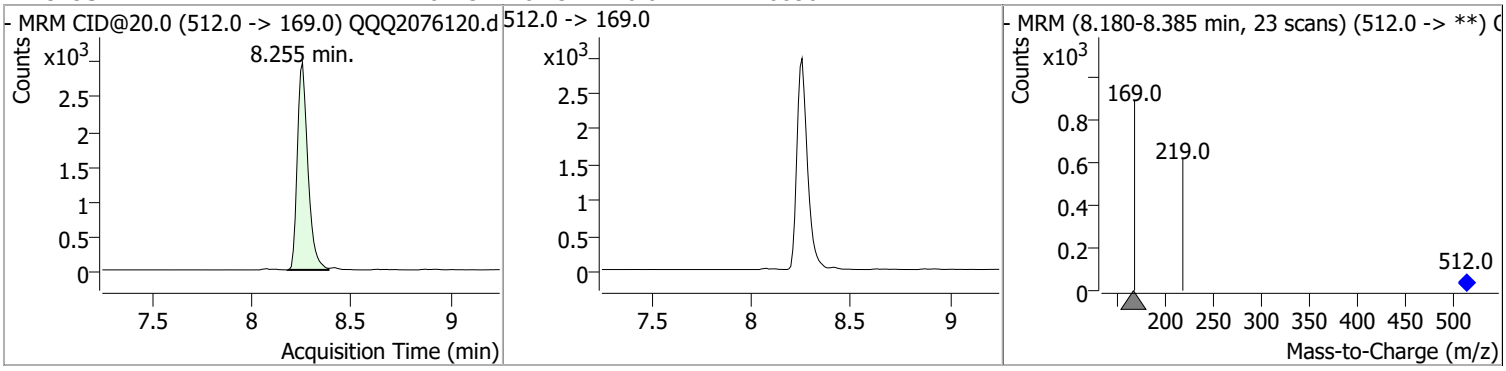
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	24.9484	8.24	0.00	54019				



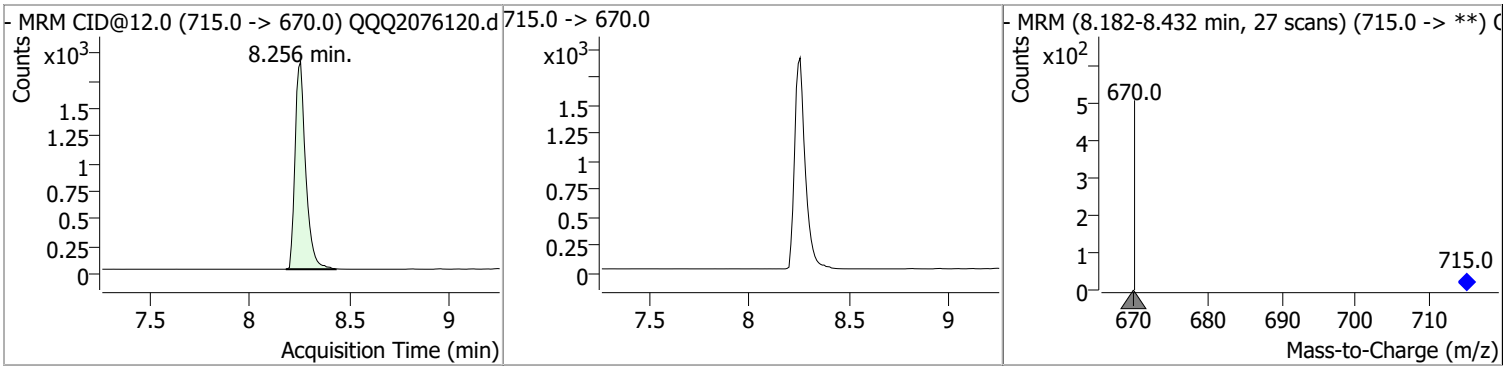
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.4925	8.24	0.00	1665				



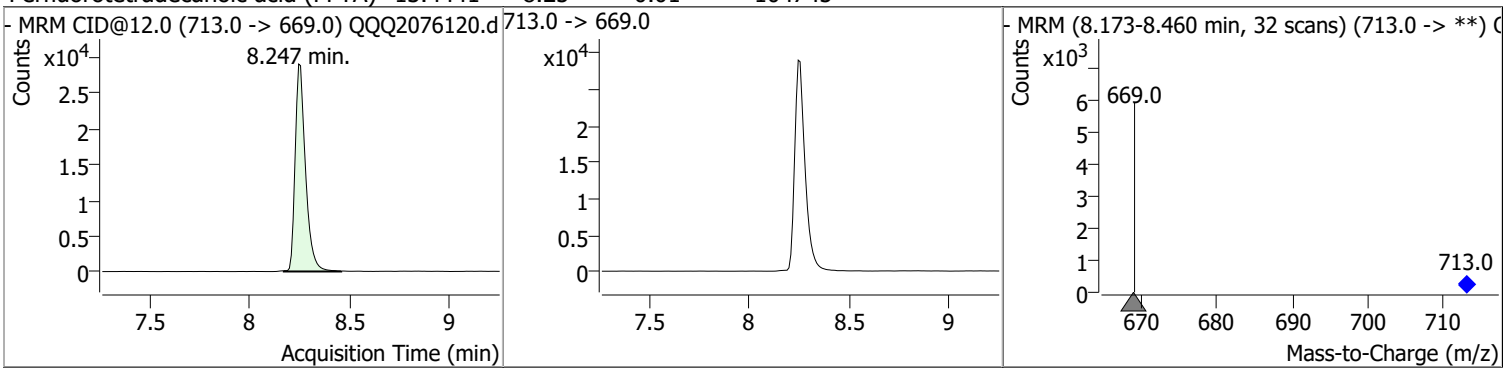
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	11.8243	8.25	0.01	10858				



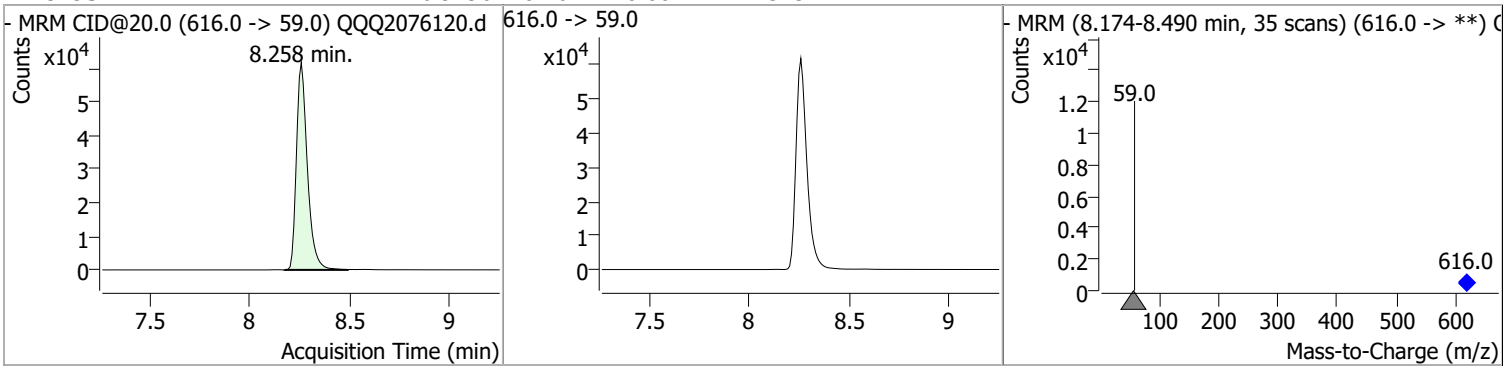
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.1040	8.26	0.00	6963				



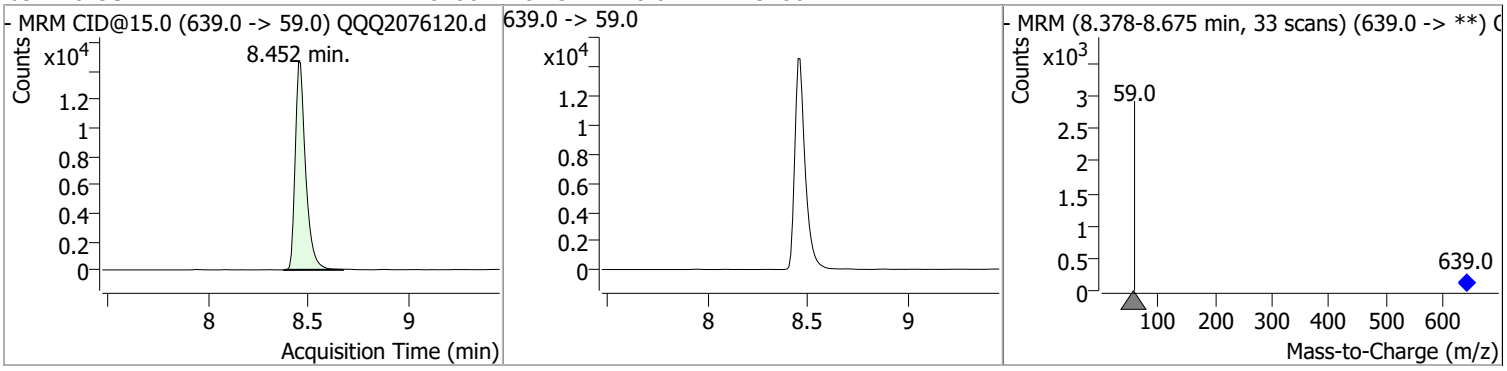
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	13.4441	8.25	-0.01	104745				



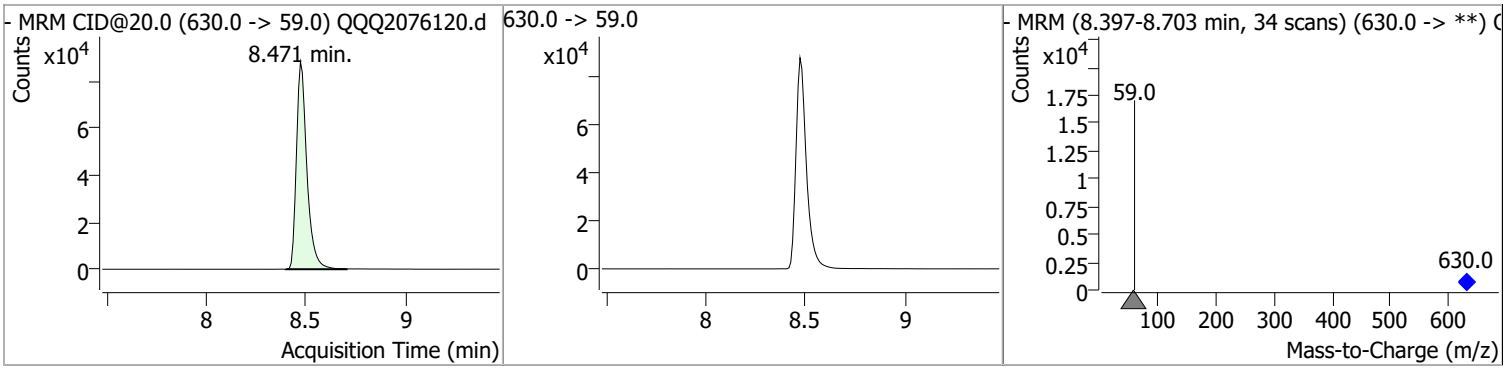
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	126.9196	8.26	0.00	234522				



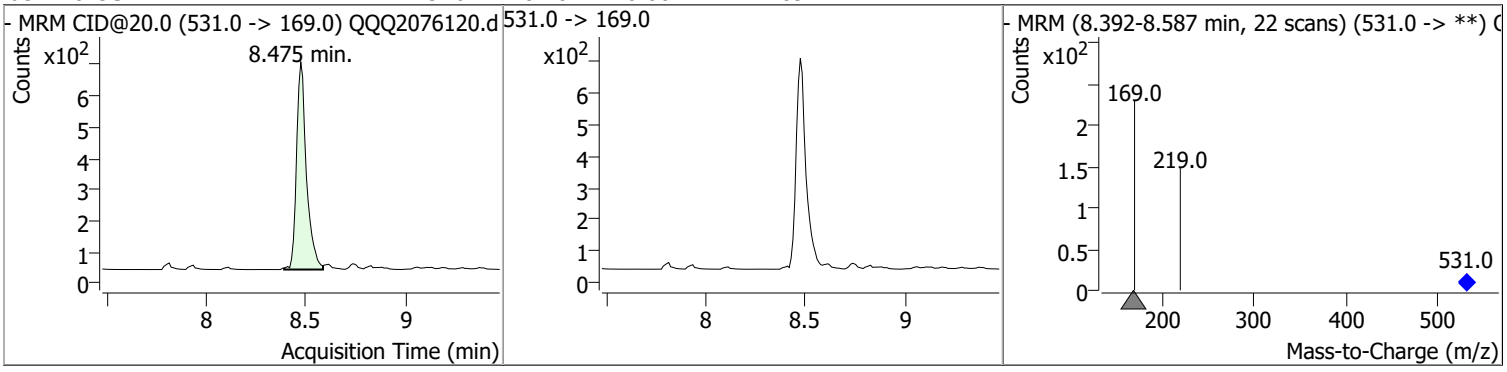
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	24.8406	8.45	-0.01	52862				



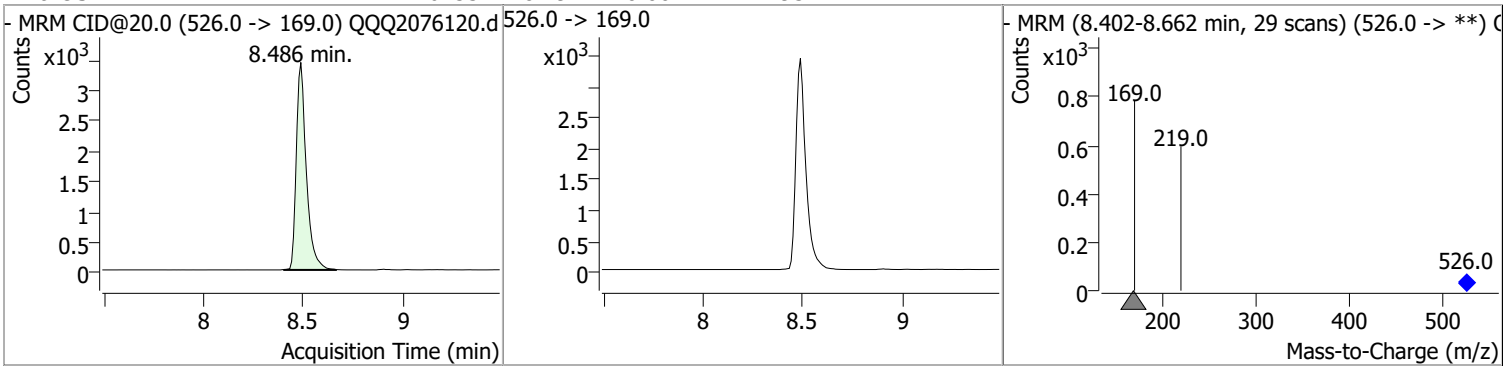
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	131.0293	8.47	0.00	322046				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.4926	8.48	0.00	2289				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	14.6153	8.49	0.00	11937				



Data File	QQQ2076121.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 1:12:05 PM
Sample Name	SEQ-CAL7	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	25 - 620 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

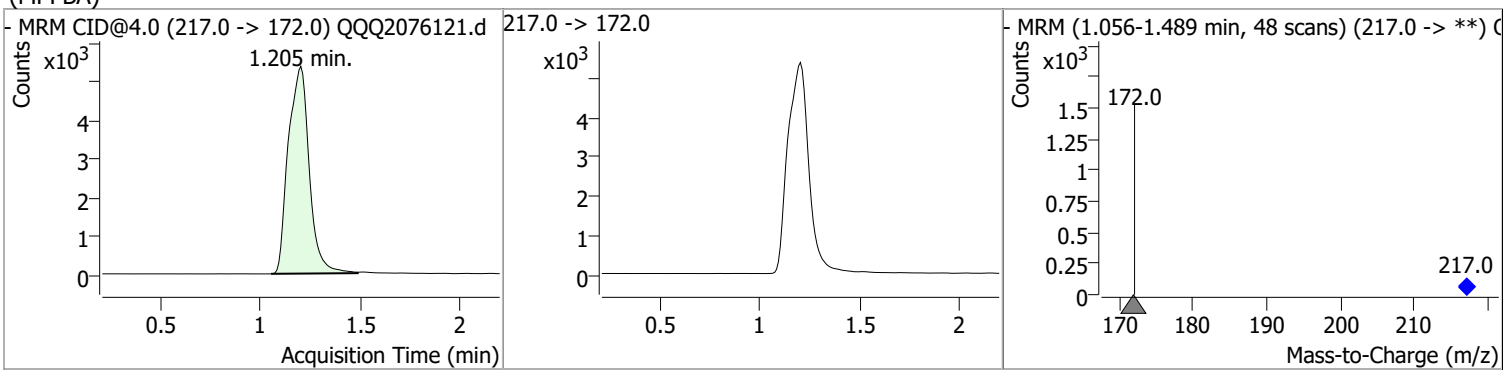
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.207	216.0 -> 172.0	30478	5.0000	ng/ml	0.000
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.205	217.0 -> 172.0	38862	10.0000	ng/ml	0.000
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.387	268.0 -> 223.0	21464	5.0000	ng/ml	0.000
MPFHxA	4.698	315.0 -> 269.8	29922	2.5000	ng/ml	0.000
MPFHxS	5.522	403.0 -> 103.0	2420	2.3700	ng/ml	0.000
M3PFBS-EIS	3.892	302.0 -> 79.9	7352	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.697	318.0 -> 273.0	19488	2.5000	ng/ml	0.000
M2-4-2FTS-EIS	4.640	329.0 -> 309.0	8856	4.6900	ng/ml	0.009
M3PFHxS-EIS	5.523	402.0 -> 80.0	5483	2.3700	ng/ml	-0.009
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	41764	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.439	367.0 -> 322.0	20019	2.5000	ng/ml	0.000
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	4253	4.7550	ng/ml	0.000
MPFOA	6.036	417.0 -> 372.0	26166	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	13559	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.575	507.0 -> 98.9	2494	2.3950	ng/ml	0.009
MPFNA	6.549	468.0 -> 423.0	10318	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.539	472.0 -> 223.0	1174	1.2500	ng/ml	0.000
MPFOS	6.567	503.0 -> 80.0	6180	2.3950	ng/ml	-0.009
M2-8-2FTS-EIS	6.967	529.0 -> 509.0	3965	4.8000	ng/ml	0.000
MPFDA	6.986	515.0 -> 469.8	9614	1.2500	ng/ml	0.000
M6PFDA-EIS	6.986	519.0 -> 473.9	3620	1.2500	ng/ml	0.000
d3-N-MeFOSAA-EIS	7.153	573.0 -> 418.8	10994	5.0000	ng/ml	0.000
d5-N-EtFOSAA-EIS	7.339	589.0 -> 418.8	10353	5.0000	ng/ml	-0.009
M7PFUdA-EIS	7.367	570.0 -> 525.0	8671	1.2500	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	12452	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	6449	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.247	715.0 -> 670.0	6997	1.2500	ng/ml	-0.009
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	1418	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	46366	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	47774	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	2399	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.205	217.0 -> 172.0	38862	9.3087	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.387	268.0 -> 223.0	21464	4.4304	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	7352	2.2837	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.640	329.0 -> 309.0	8856	6.7191	ng/ml	0.009

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.697	318.0 -> 273.0	19488	2.4112	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	41764	8.8614	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.439	367.0 -> 322.0	20019	2.1932	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.523	402.0 -> 80.0	5483	2.0274	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.997	429.0 -> 409.0	4253	5.9489	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	13559	2.3506	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.539	472.0 -> 223.0	1174	1.1056	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.575	507.0 -> 98.9	2494	2.7876	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.967	529.0 -> 509.0	3965	6.4515	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.986	519.0 -> 473.9	3620	0.9701	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.153	573.0 -> 418.8	10994	5.2585	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.339	589.0 -> 418.8	10353	4.9285	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.367	570.0 -> 525.0	8671	1.1725	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	12452	2.4544	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	6449	1.0475	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	46366	22.0715	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	1418	2.1874	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.247	715.0 -> 670.0	6997	1.0768	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	47774	23.1389	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	2399	2.6926	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.200	213.0 -> 168.9	487712	98.9663	ng/ml	100
PFMPA	2.061	229.0 -> 85.0	166272	49.7470	ng/ml	100
3:3FTCA	3.296	241.0 -> 177.0	34849	126.5355	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.388	263.0 -> 219.0	234611	49.7137	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	84156	21.6106	ng/ml	100
PFMBA	3.923	279.0 -> 85.0	232237	49.6843	ng/ml	100
PFEESA	4.382	315.0 -> 135.0	504003	41.9486	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	254307	47.3157	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.631	327.0 -> 307.0	98101	70.1461	ng/ml	100

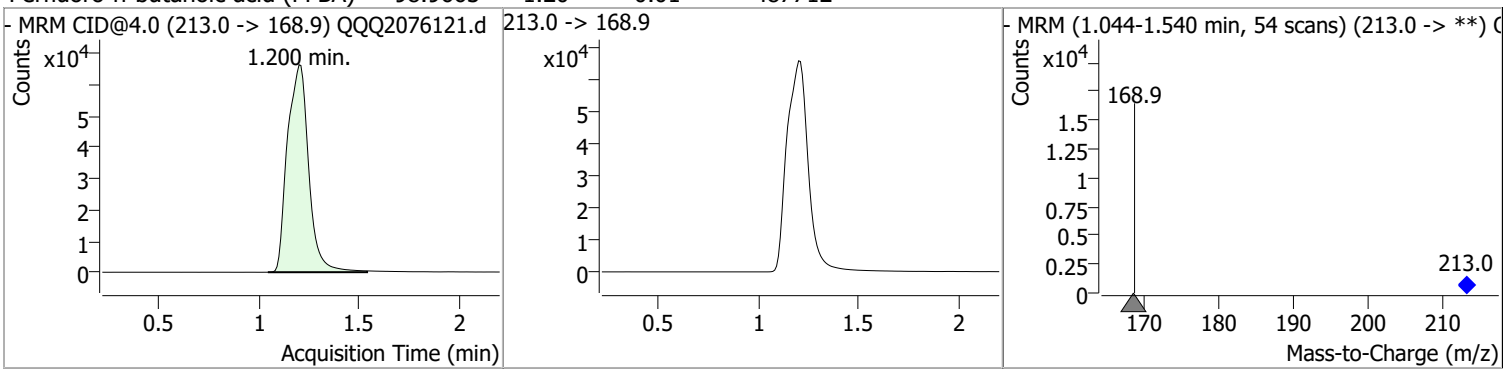
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.698	313.0 -> 268.9	228594	24.0488	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	82366	23.4127	ng/ml		100
HFPO-DA	4.960	285.0 -> 169.1	36757	98.4883	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.439	363.0 -> 318.8	272543	25.3864	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.523	398.9 -> 79.9	72525	22.4859	ng/ml	m	100
5-3FTCA	5.534	341.0 -> 217.0	543816	571.6719	ng/ml		100
ADONA	5.551	377.0 -> 85.0	513015	91.9380	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	54324		ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	198089	24.4384	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	64743	22.4365	ng/ml		100
Perfluorononanoic acid (PFNA)	6.539	463.0 -> 418.8	151418	25.3565	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.567	498.9 -> 79.9	33940	21.4320	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	867723	595.1166	ng/ml		100
9-Cl-PF3ONS	6.817	531.0 -> 351.0	545841	89.4239	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.967	527.0 -> 80.9	44440		ng/ml		100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	149796	25.3280	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.995	548.9 -> 79.9	58434	23.6453	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	38353	24.0990	ng/ml	m	100
N-EtFOSAA	7.348	584.0 -> 418.8	39702	24.2839	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.366	598.9 -> 98.9	22830	22.0061	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.368	563.0 -> 519.0	149908	23.0712	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	209822	24.5755	ng/ml		100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	213294	92.5006	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	102284	24.5350	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.978	699.0 -> 80.0	24920	22.7655	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.988	663.0 -> 618.8	100268	24.4213	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	19263	25.4573	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.247	713.0 -> 669.0	190137	24.4443	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	382497	250.6441	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	531934	244.8372	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	20720	23.3665	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

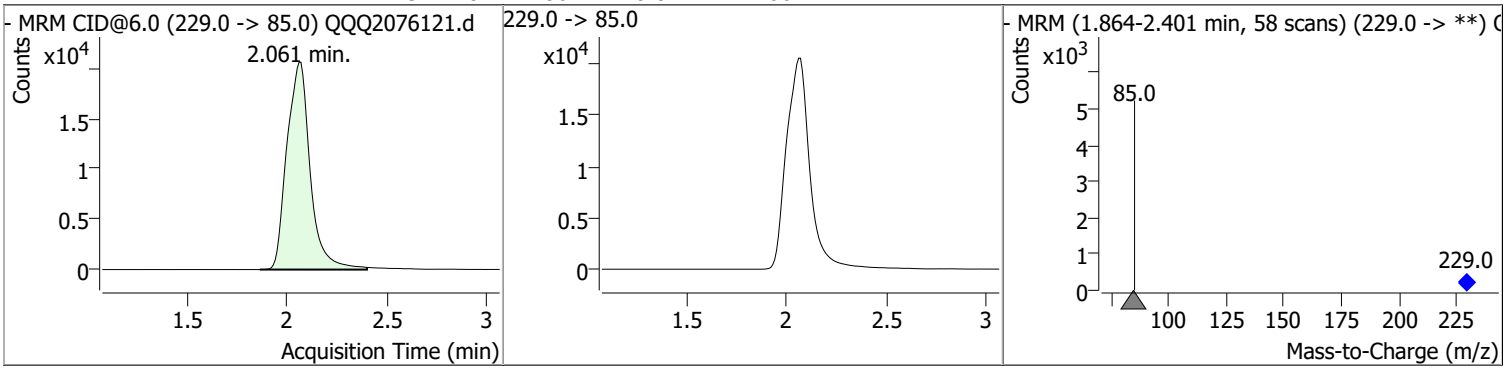
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.3087	1.20	0.00	38862				



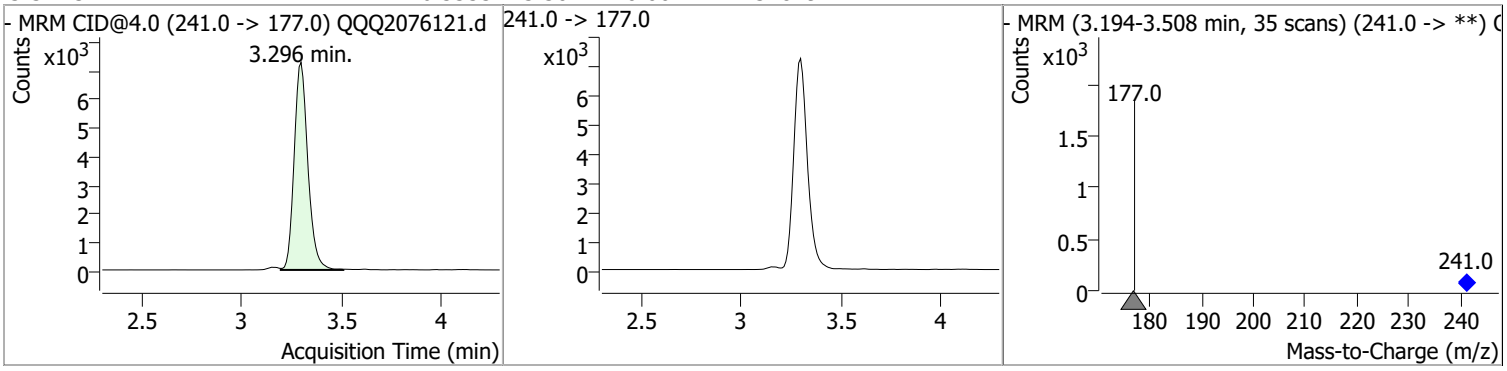
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	98.9663	1.20	-0.01	487712				



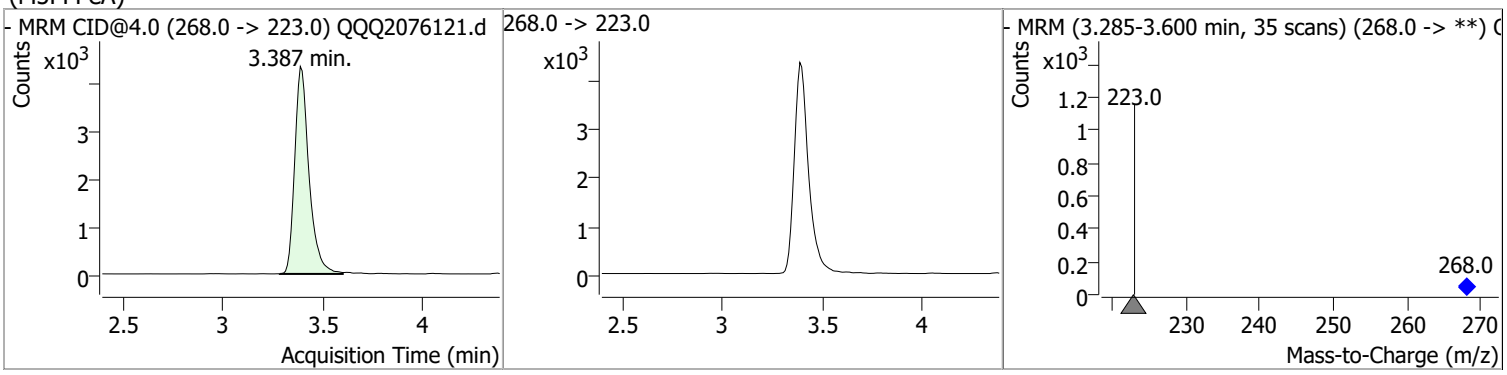
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	49.7470	2.06	-0.01	166272				



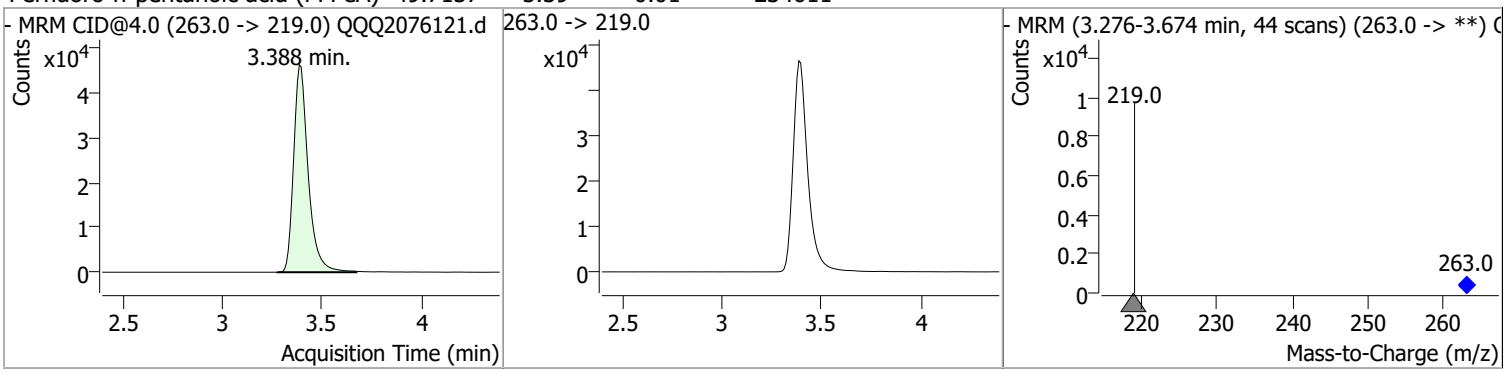
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	126.5355	3.30	0.00	34849				



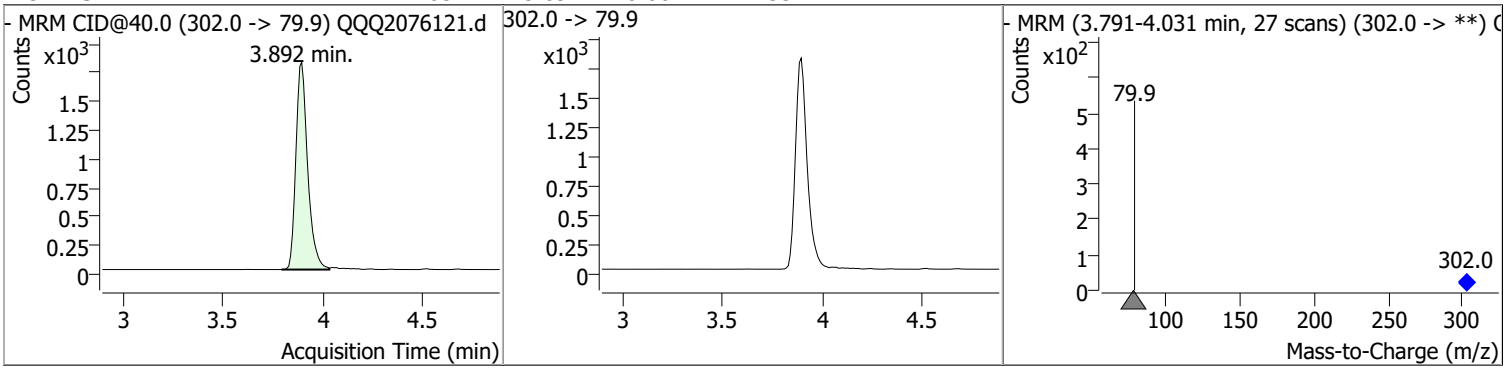
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.4304	3.39	0.00	21464				



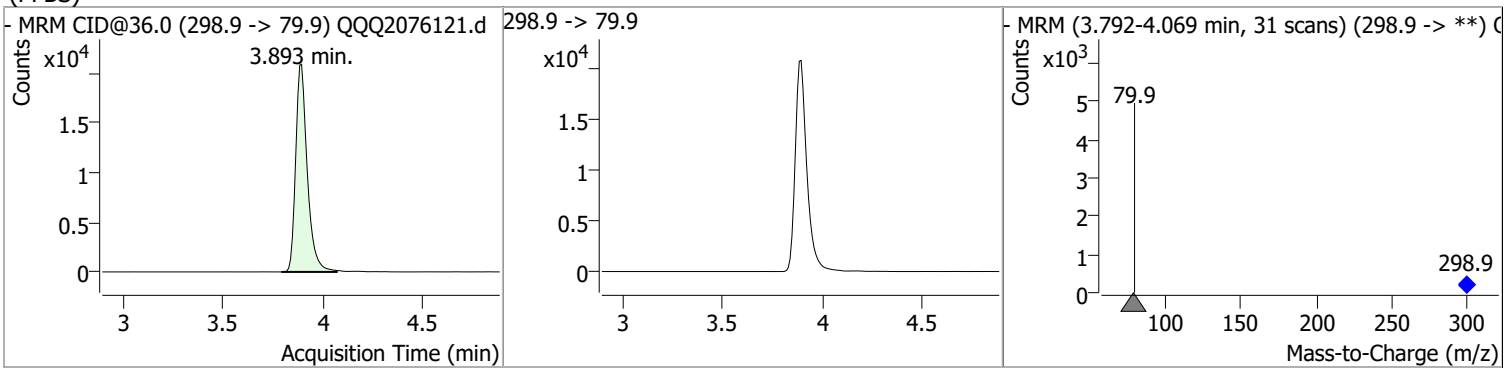
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	49.7137	3.39	-0.01	234611				



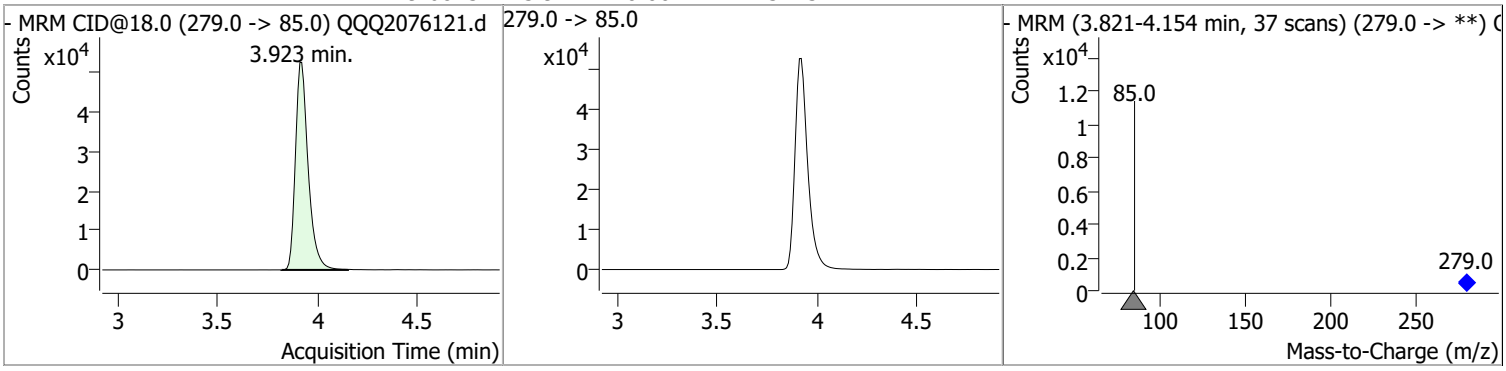
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.2837	3.89	0.00	7352				



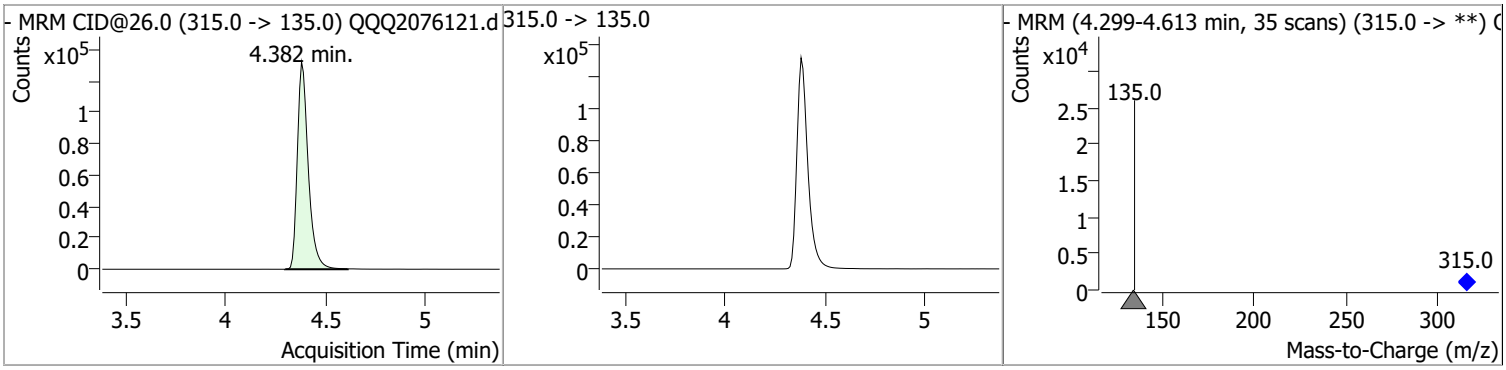
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	21.6106	3.89	0.00	84156				



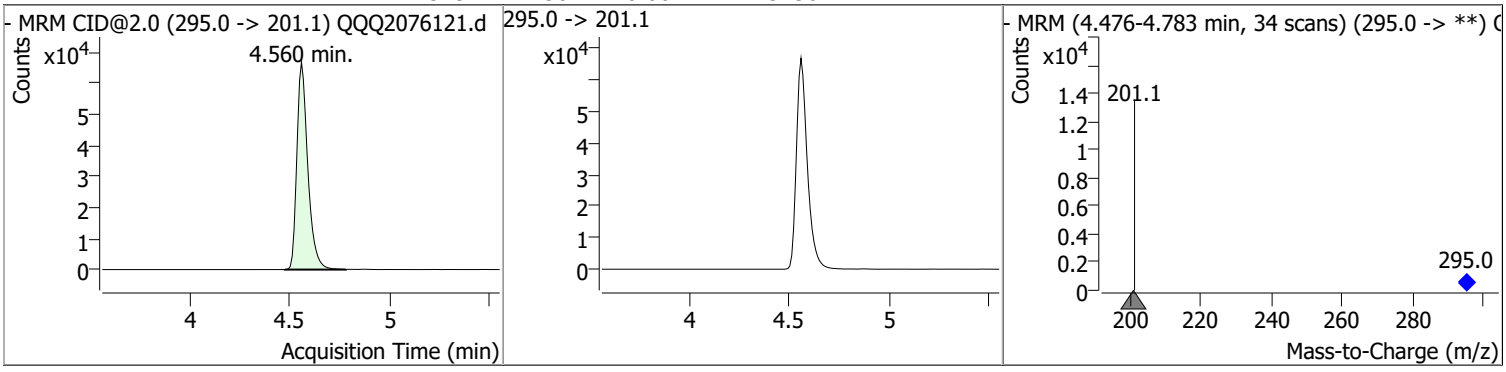
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	49.6843	3.92	0.00	232237				



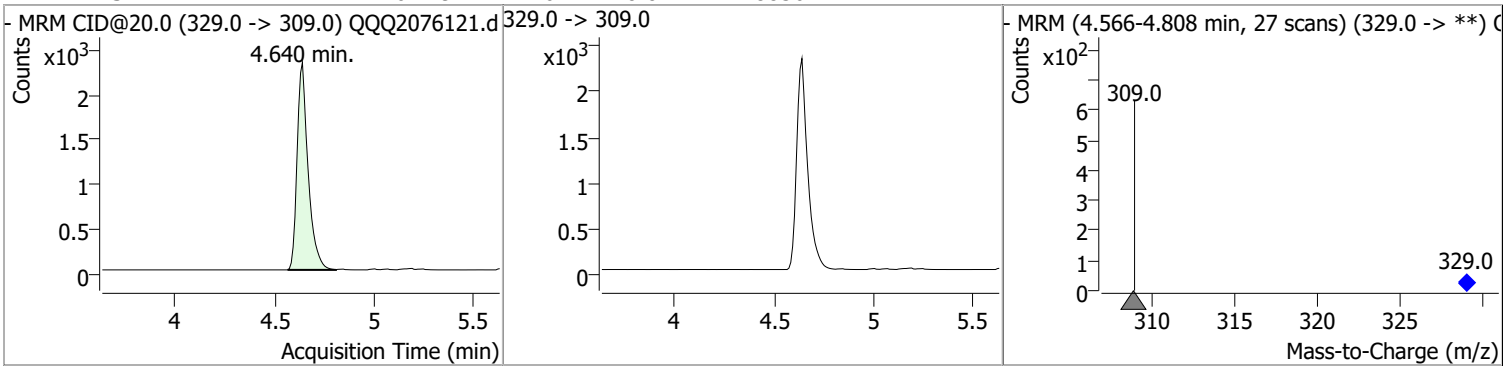
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	41.9486	4.38	0.00	504003				



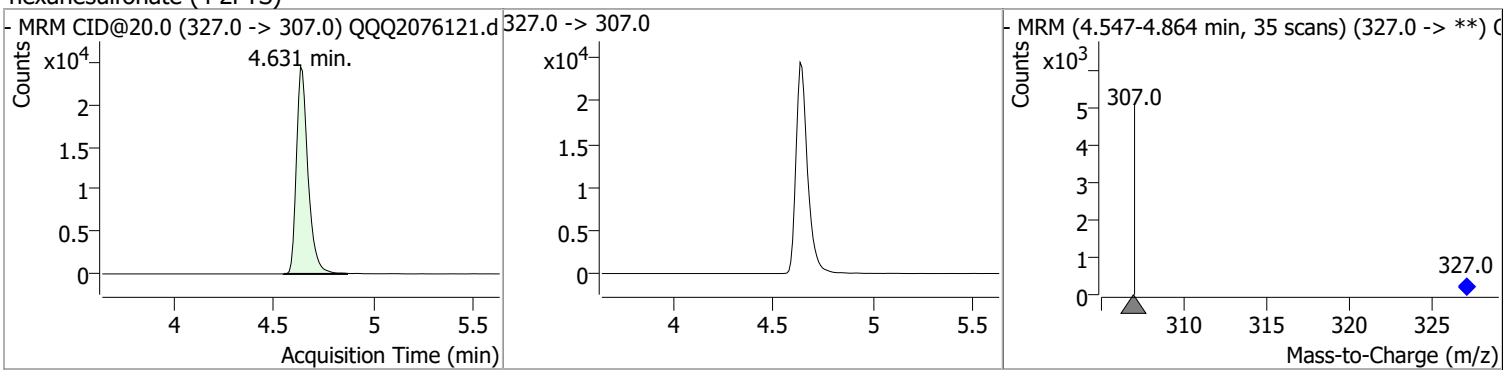
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	47.3157	4.56	0.00	254307				



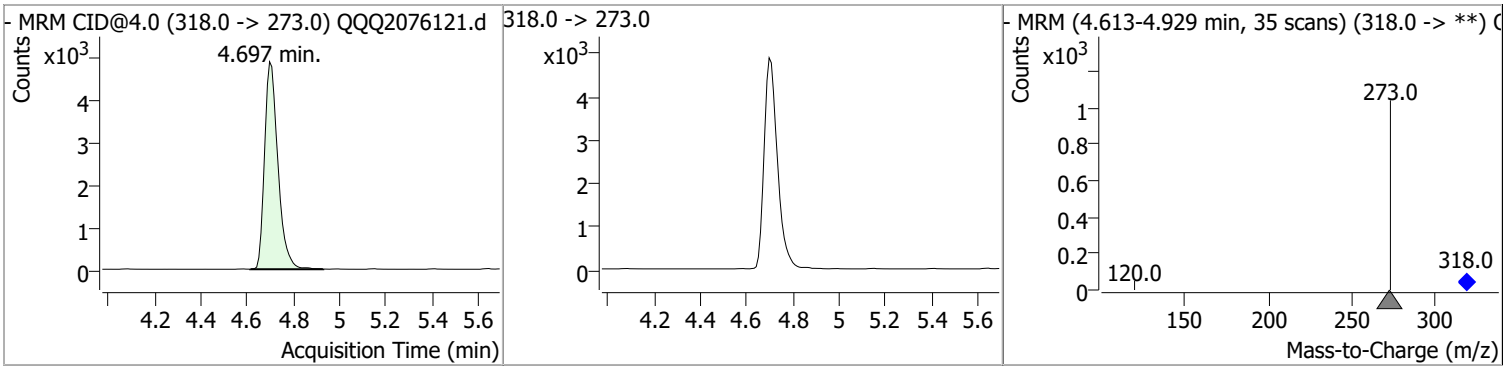
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	6.7191	4.64	0.01	8856				



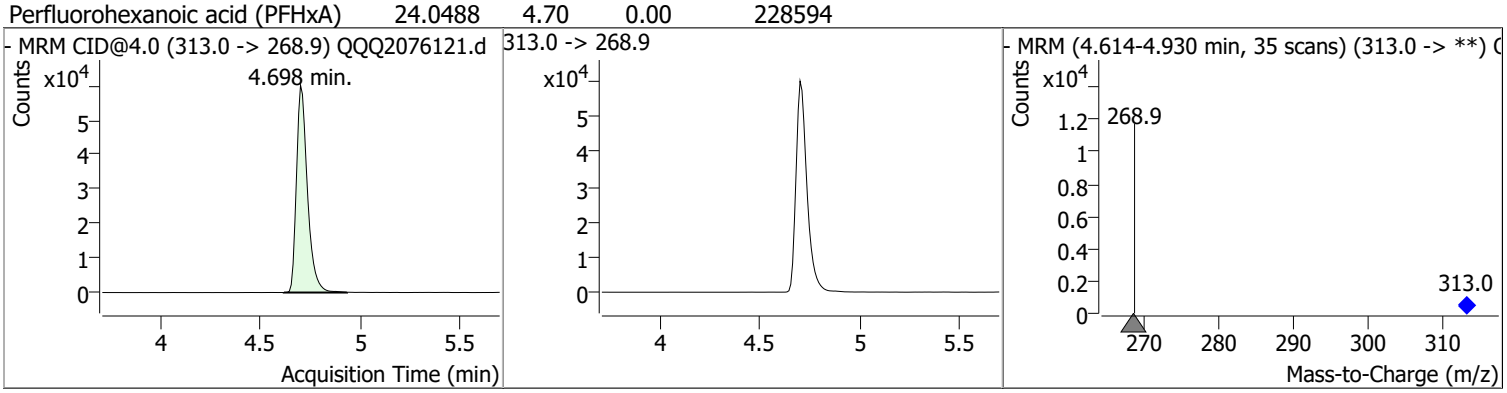
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	70.1461	4.63	0.00	98101				



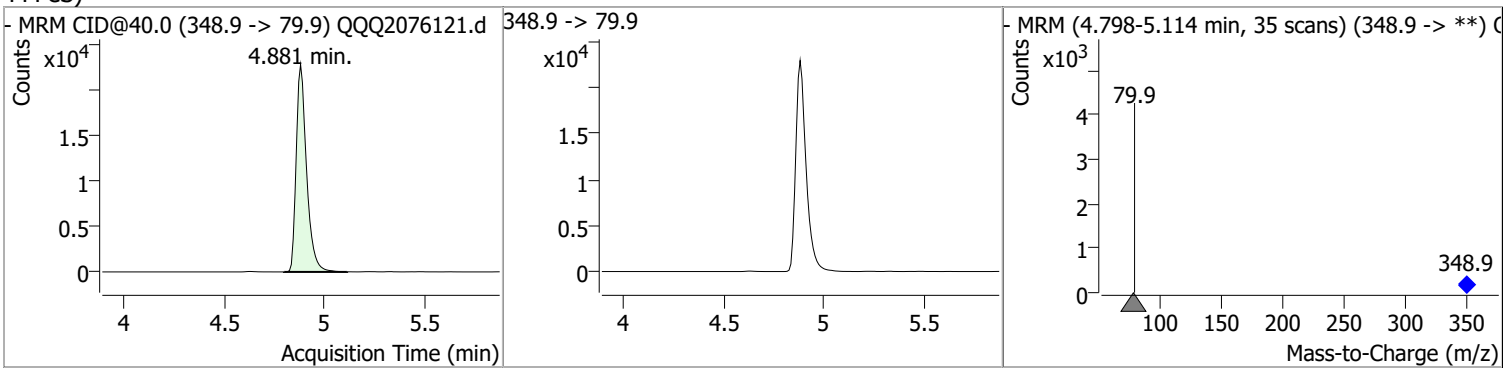
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4112	4.70	0.00	19488				



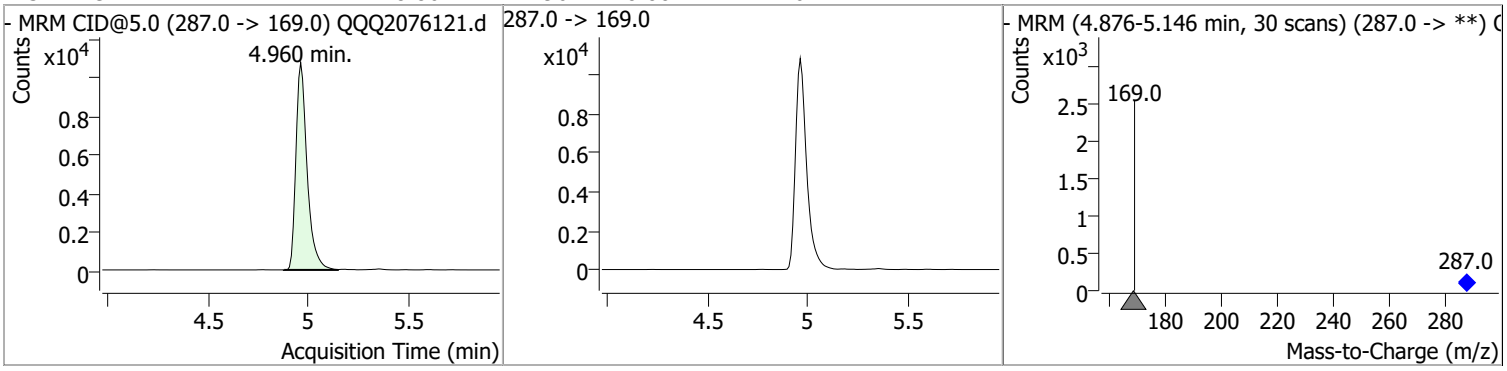
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	24.0488	4.70	0.00	228594				



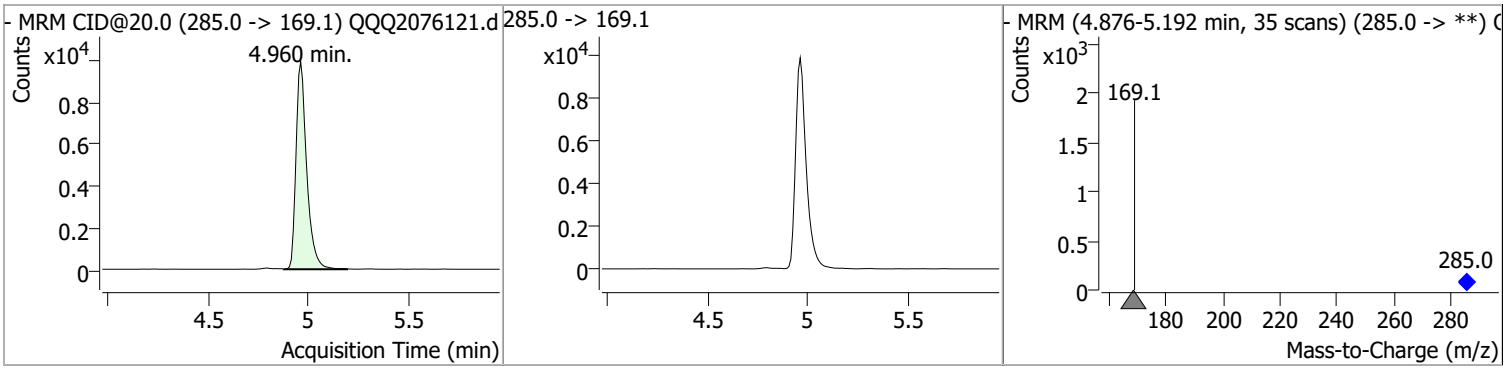
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	23.4127	4.88	0.00	82366				



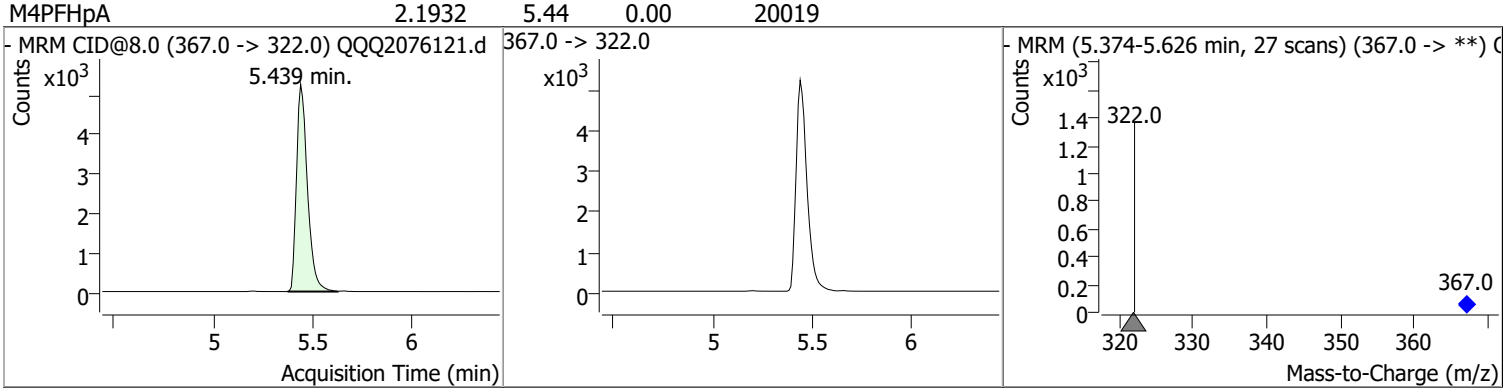
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	8.8614	4.96	0.00	41764				



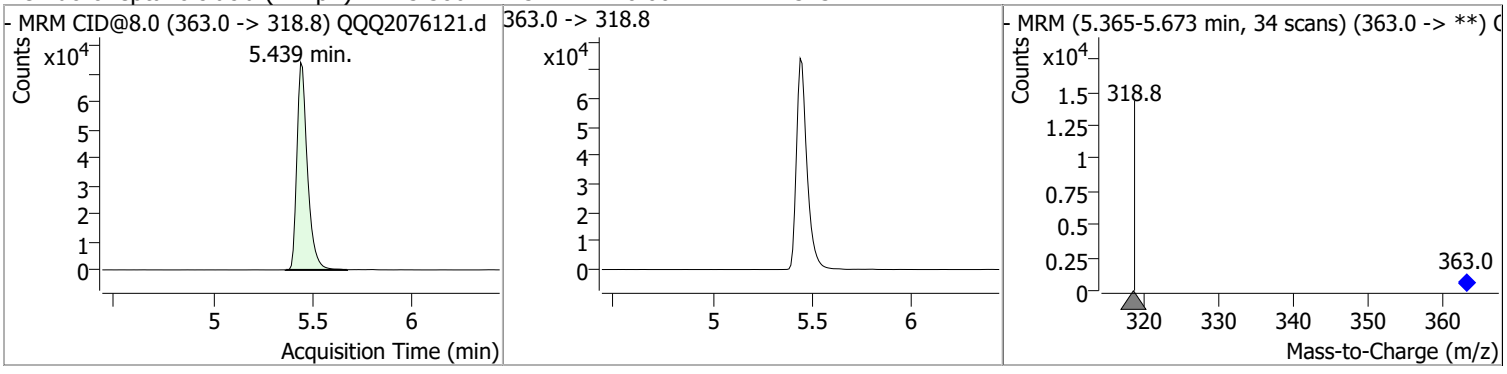
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	98.4883	4.96	0.00	36757				



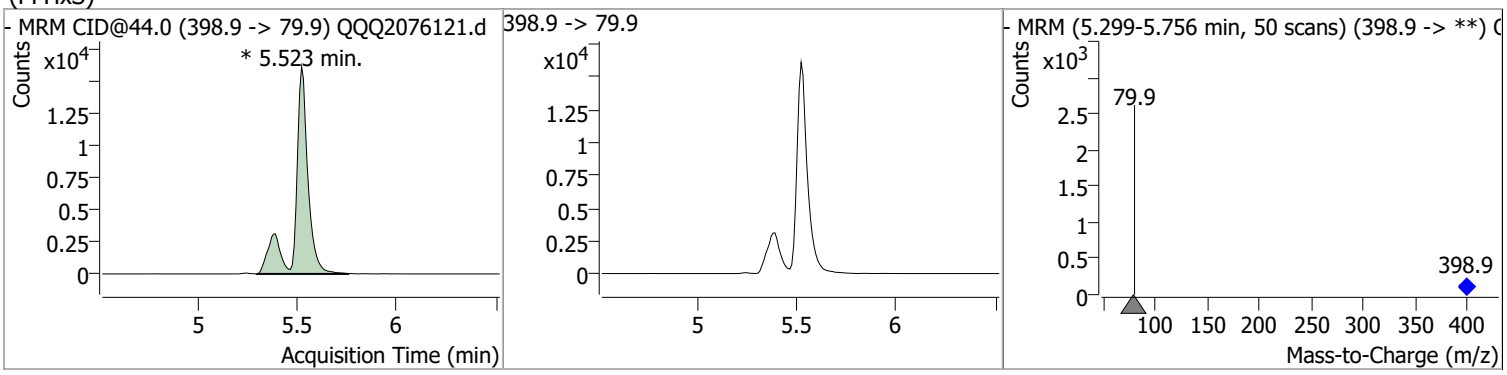
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.1932	5.44	0.00	20019				



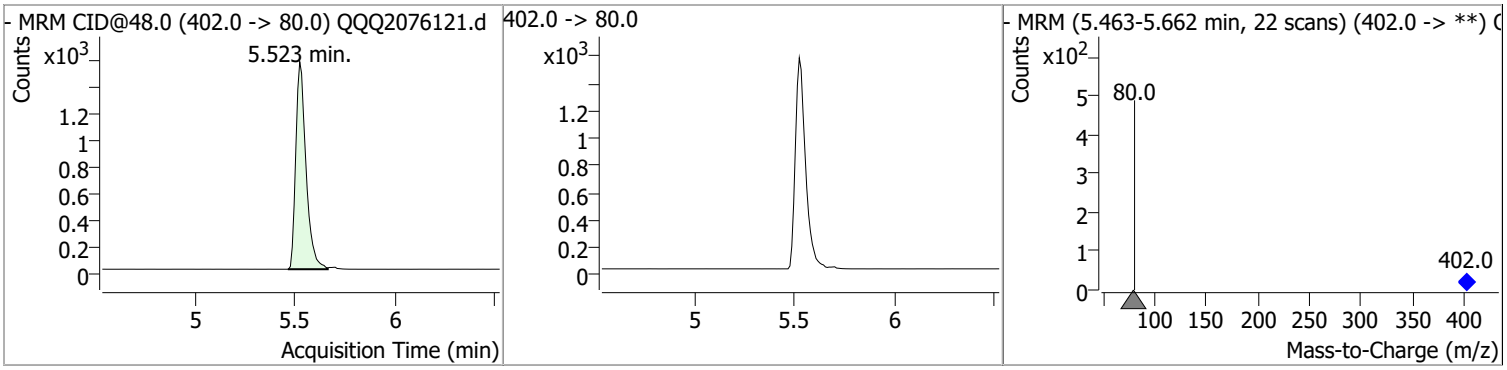
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	25.3864	5.44	0.00	272543				



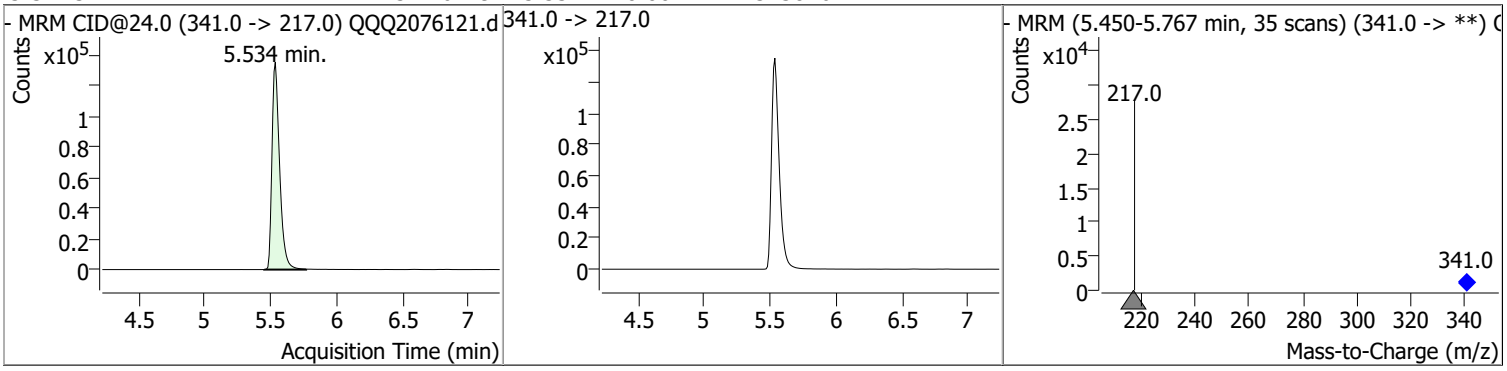
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	22.4859	5.52	0.00	72525 (m)				



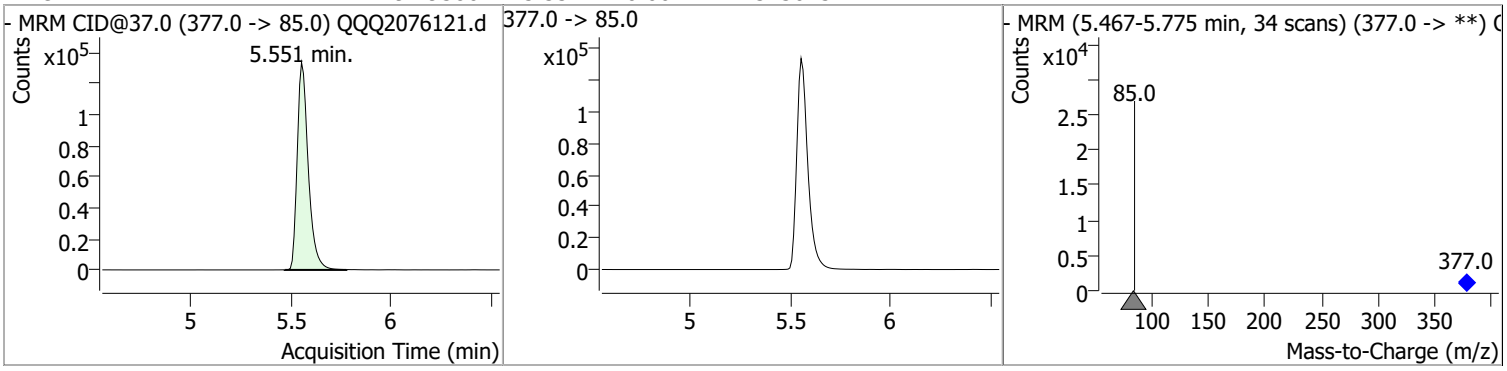
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.0274	5.52	-0.01	5483				



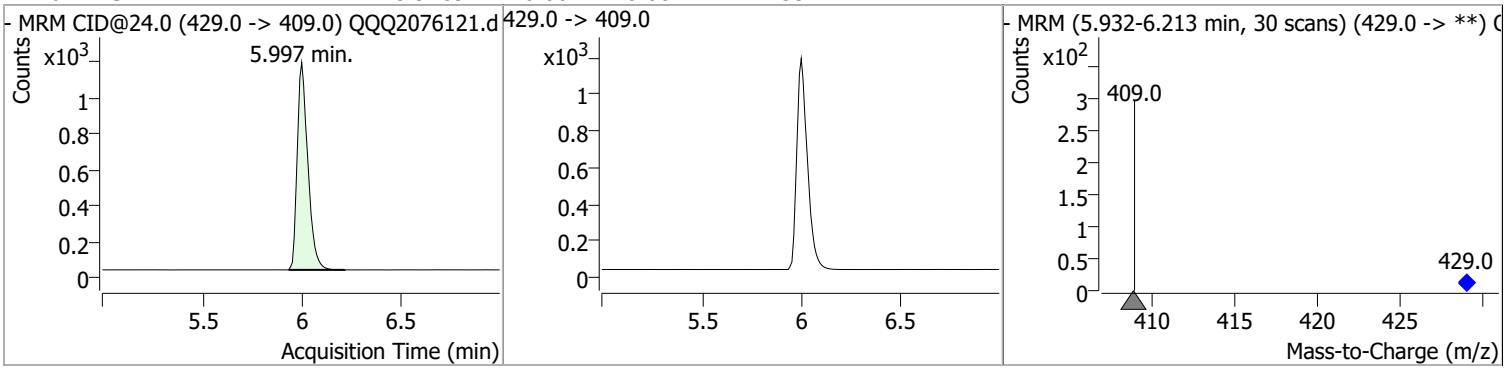
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	571.6719	5.53	0.00	543816				



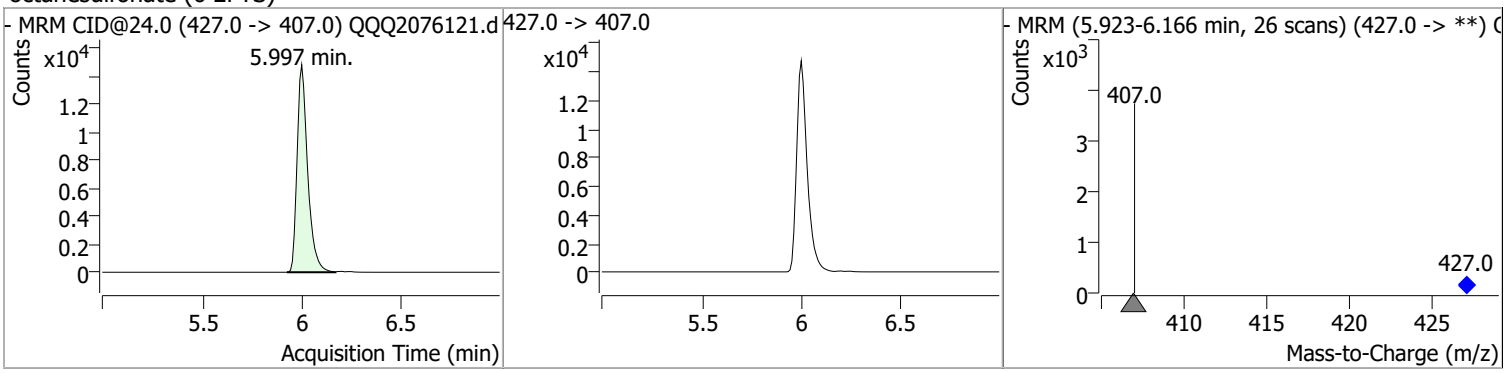
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	91.9380	5.55	0.00	513015				



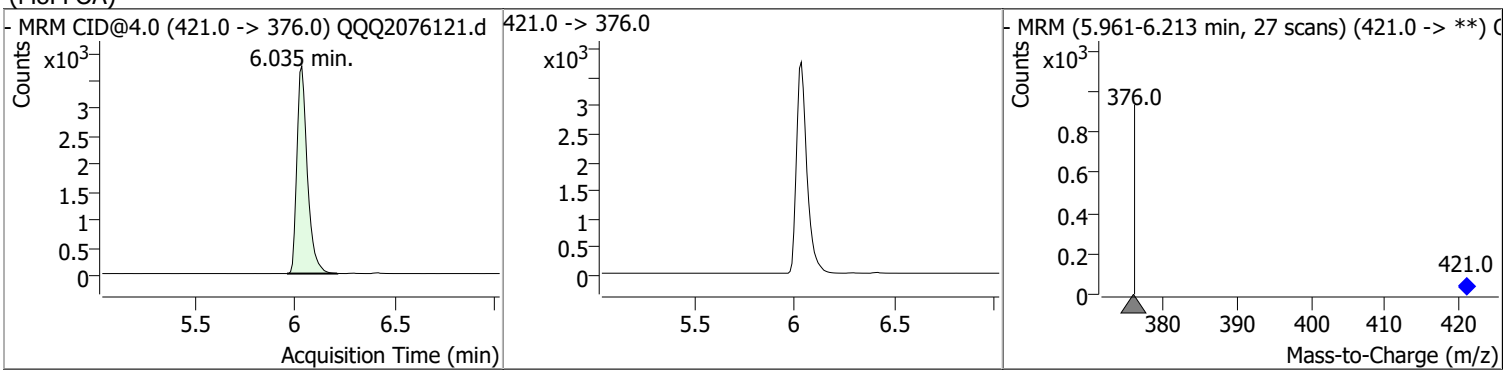
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.9489	6.00	0.00	4253				



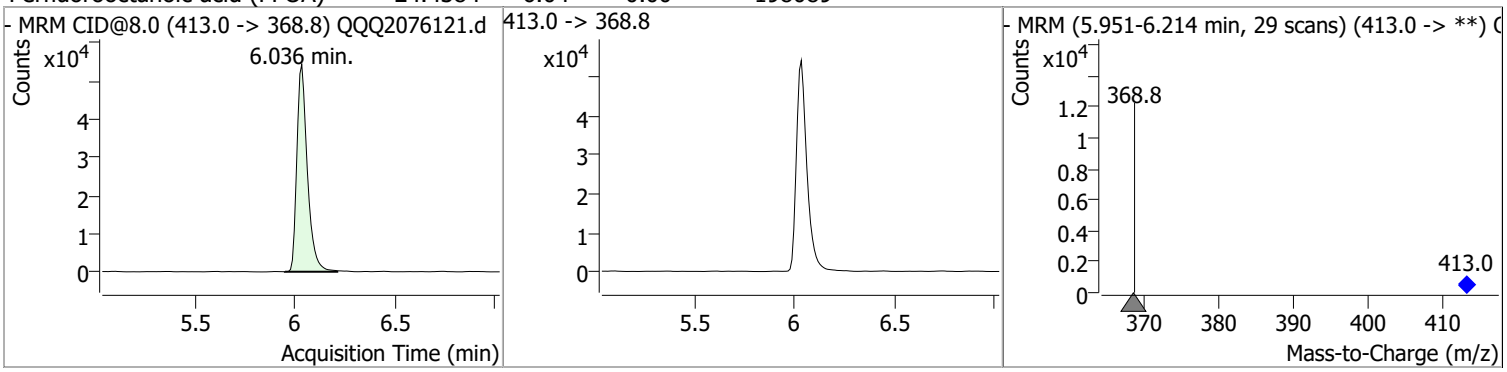
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)		6.00	0.00	54324				



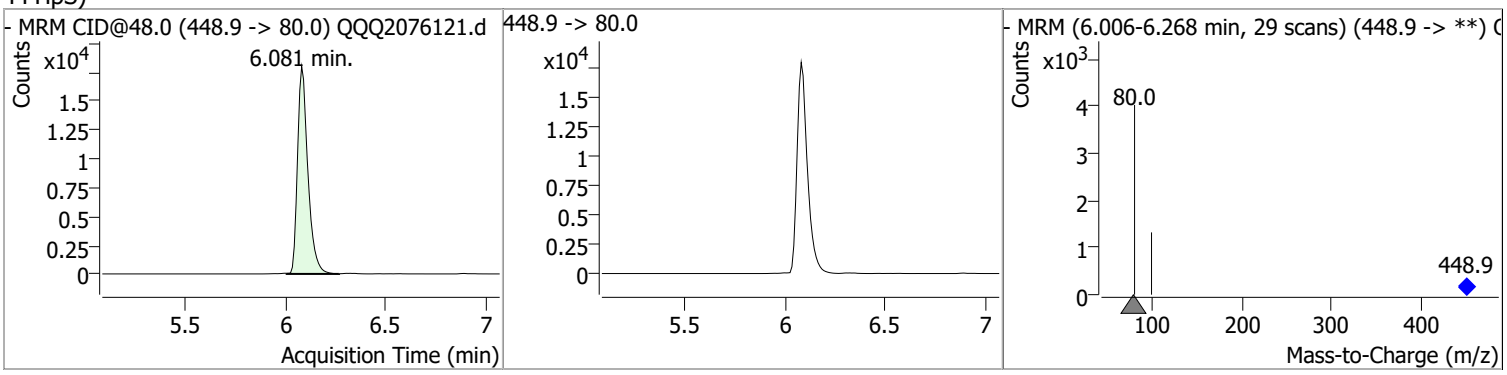
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.3506	6.04	0.00	13559				



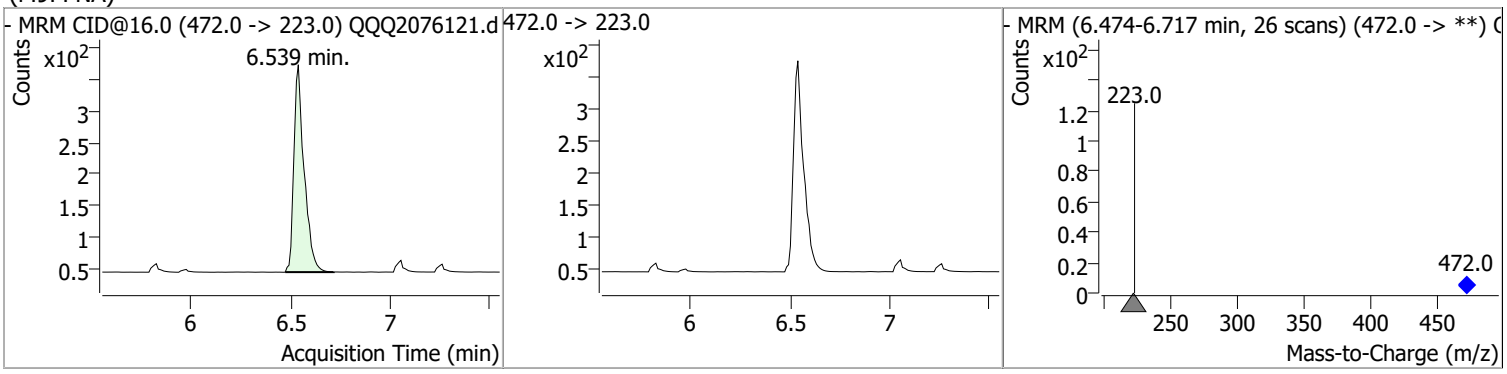
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	24.4384	6.04	0.00	198089				



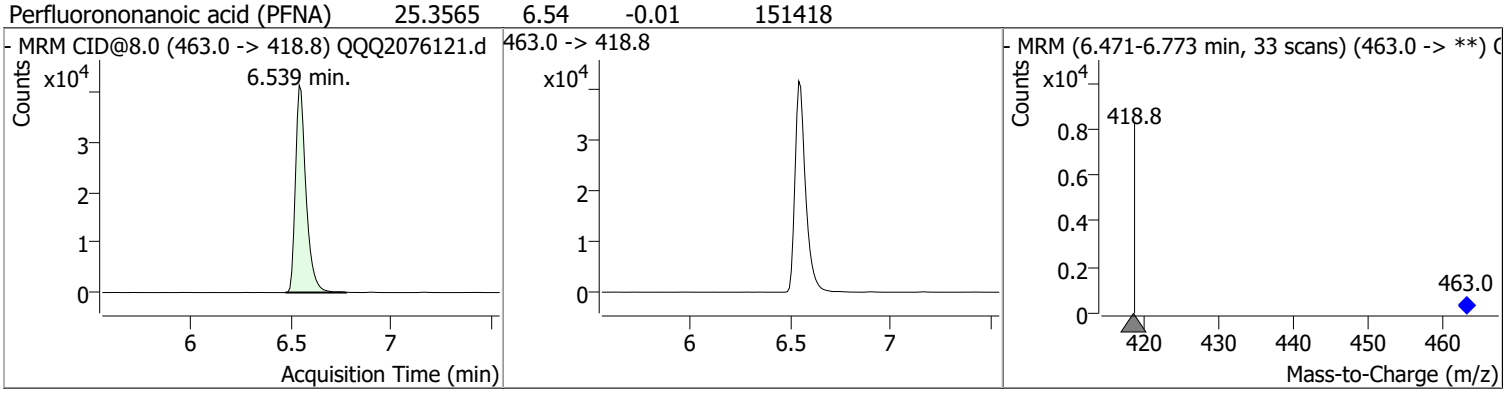
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	22.4365	6.08	0.00	64743				



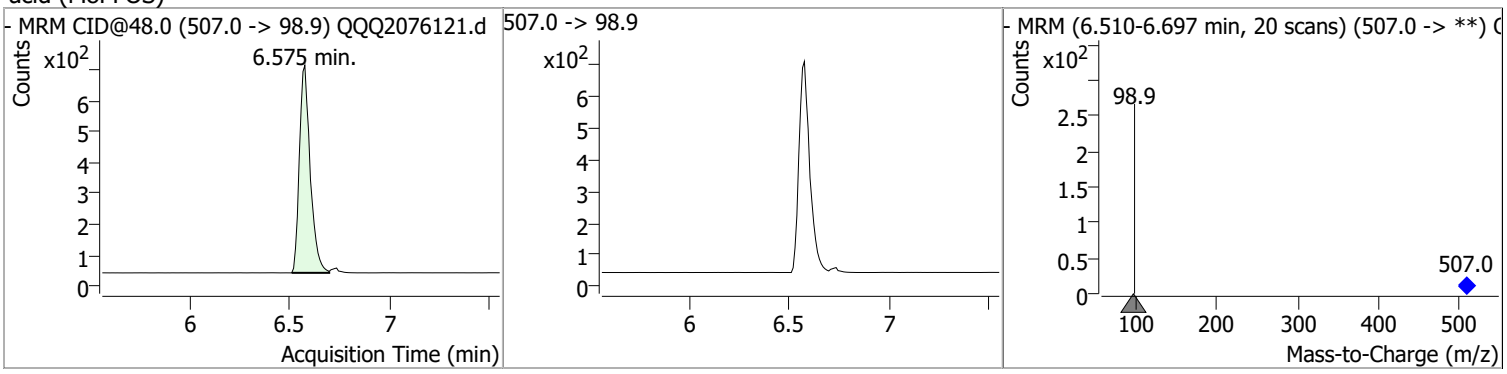
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.1056	6.54	0.00	1174				



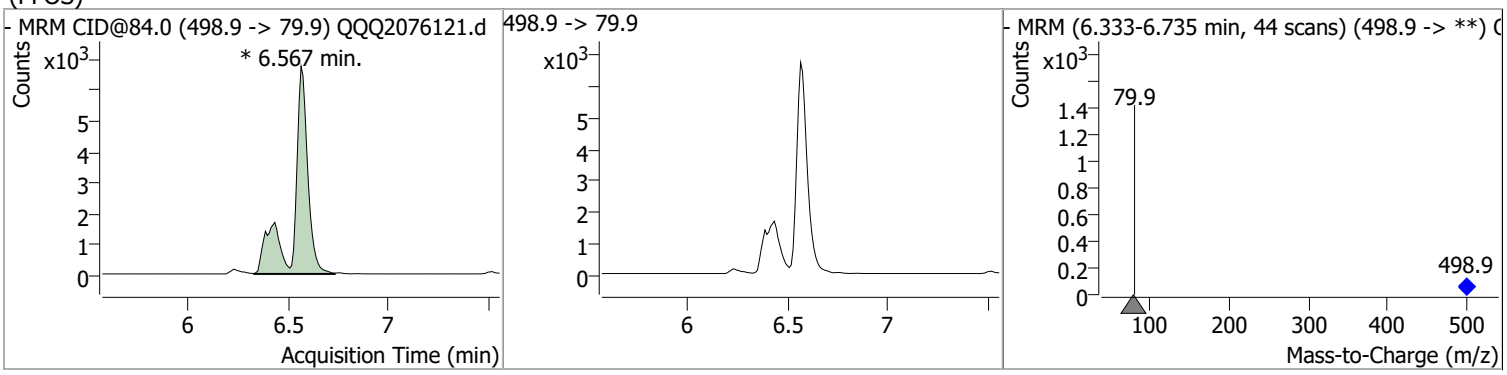
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	25.3565	6.54	-0.01	151418				



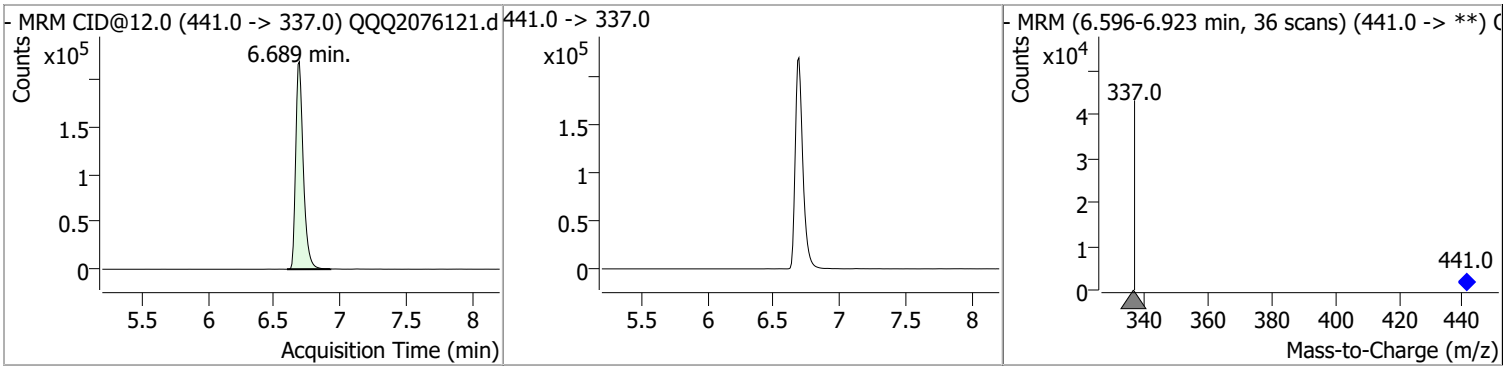
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.7876	6.58	0.01	2494				



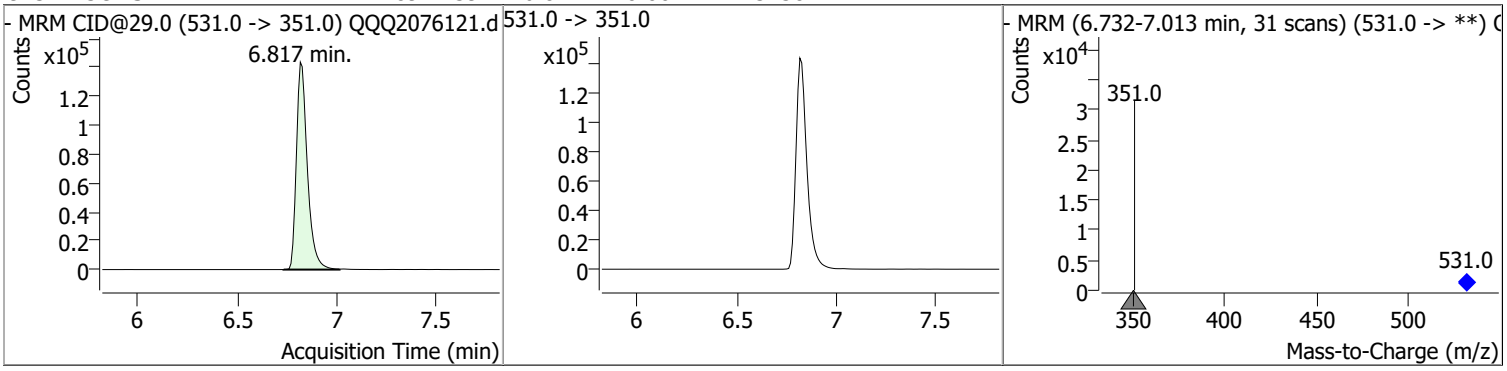
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	21.4320	6.57	0.00	33940 (m)				



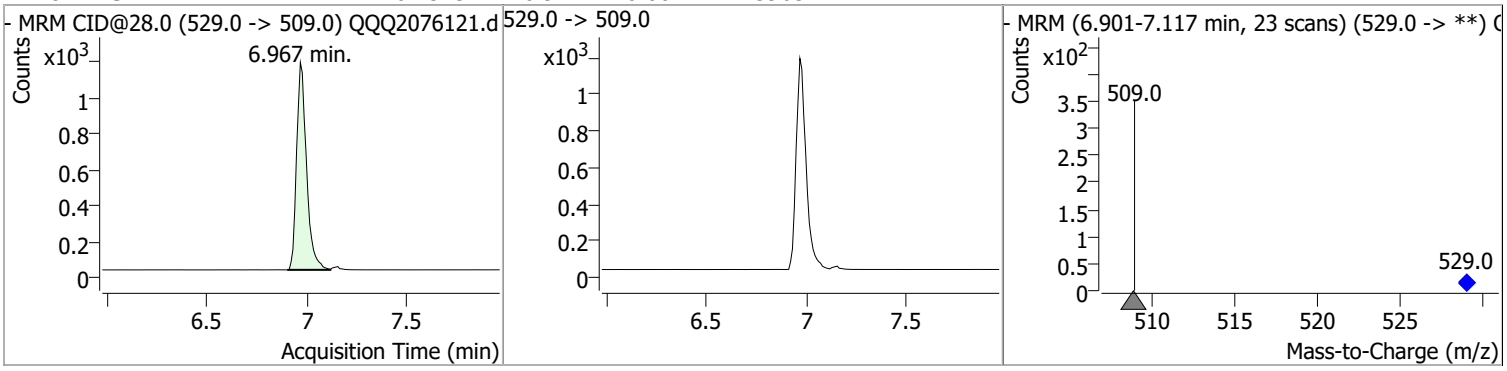
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	595.1166	6.69	0.00	867723				



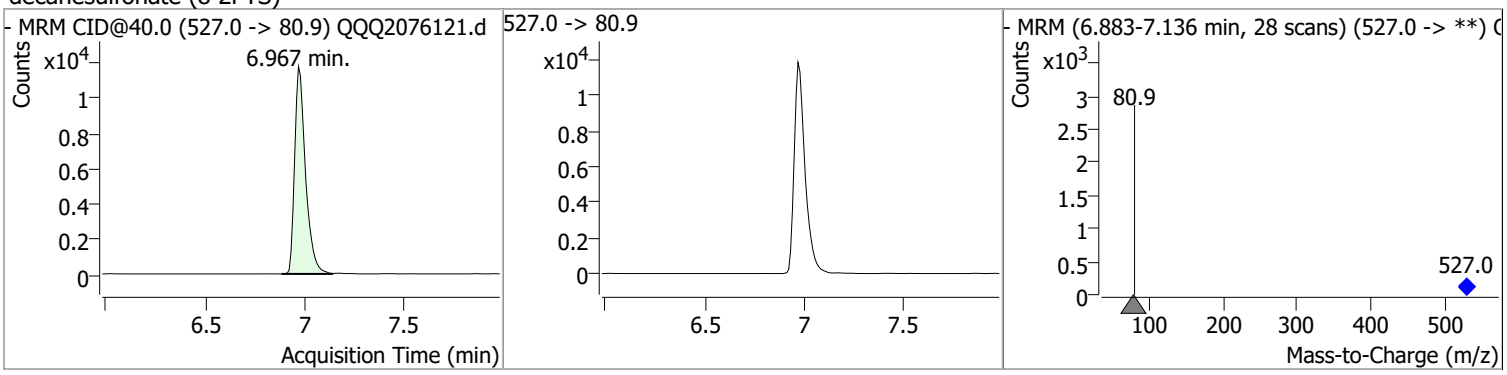
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	89.4239	6.82	0.00	545841				



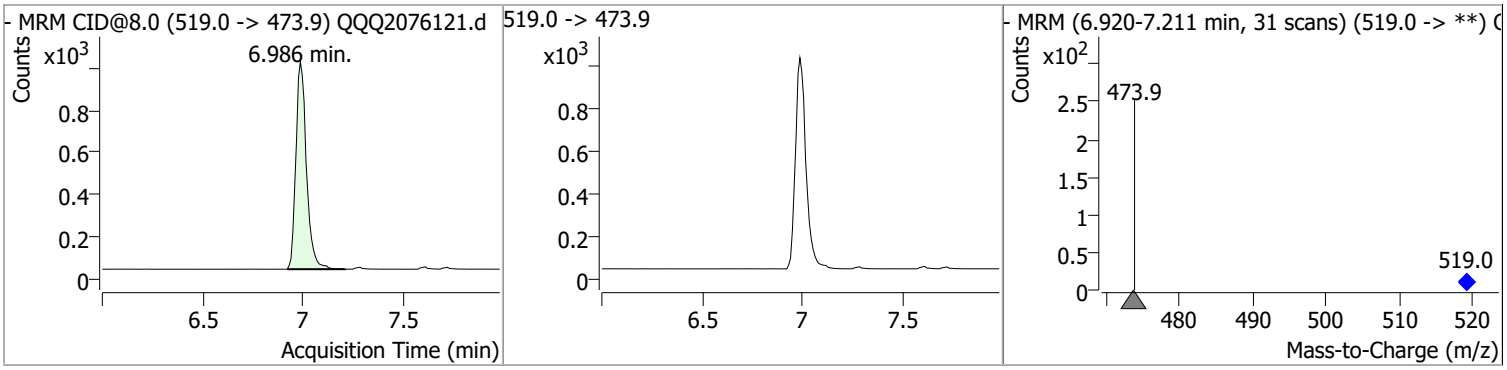
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	6.4515	6.97	0.00	3965				



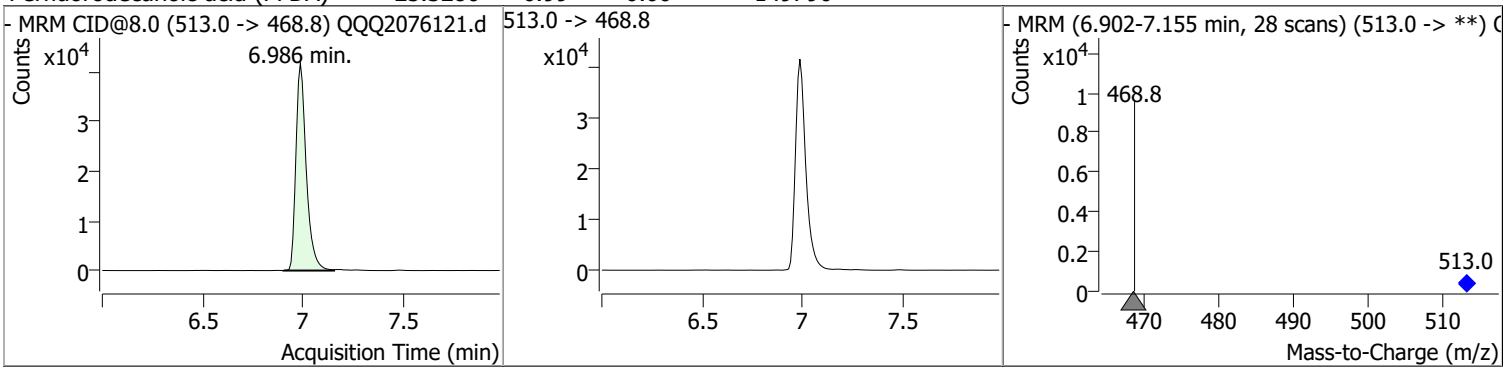
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)		6.97	-0.01	44440				



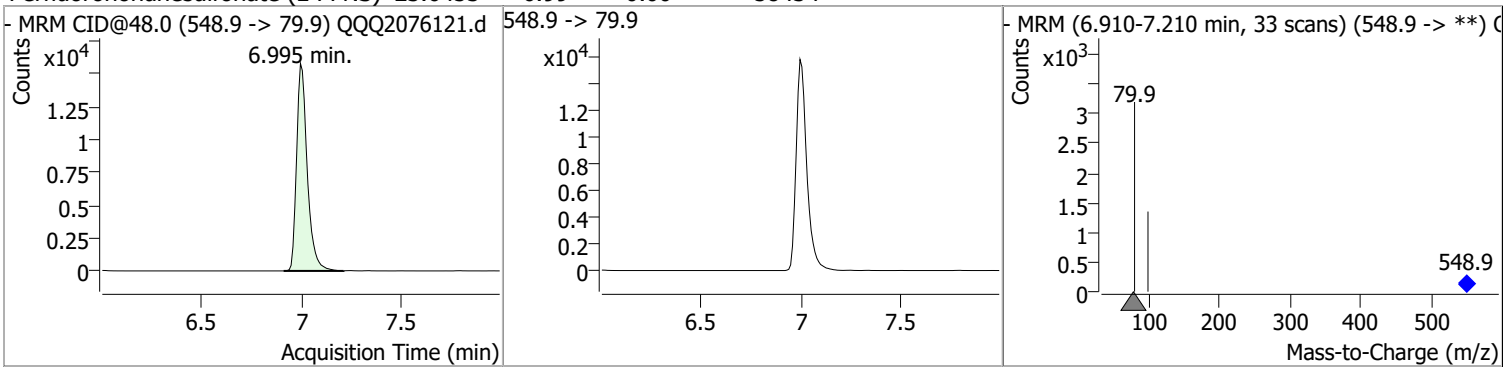
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.9701	6.99	0.00	3620				



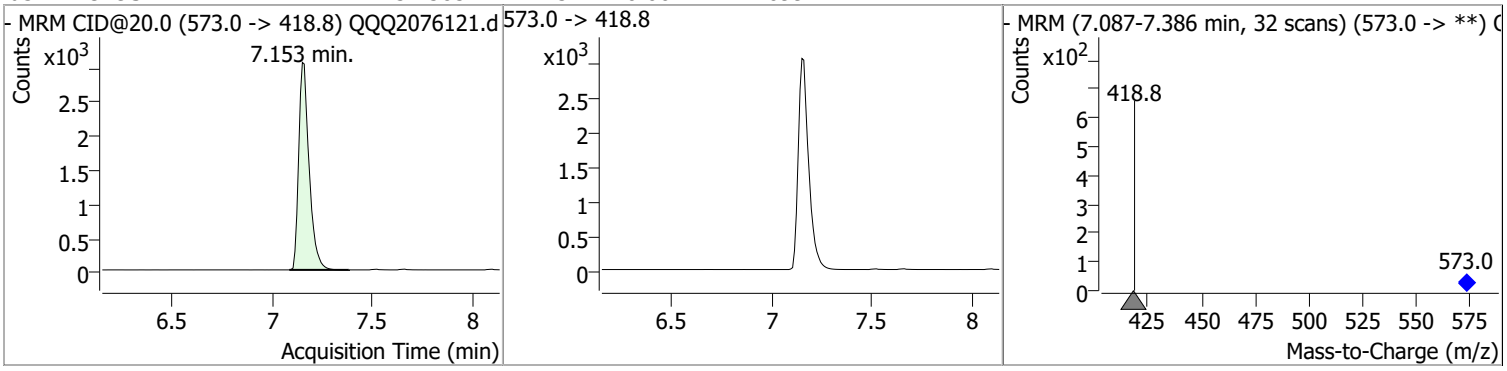
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	25.3280	6.99	0.00	149796				



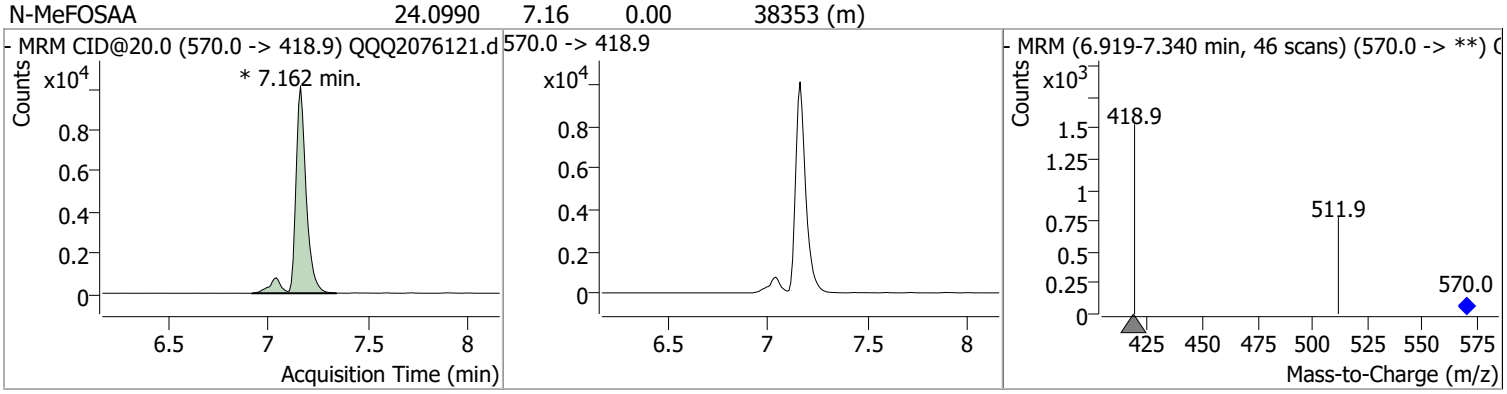
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	23.6453	6.99	0.00	58434				



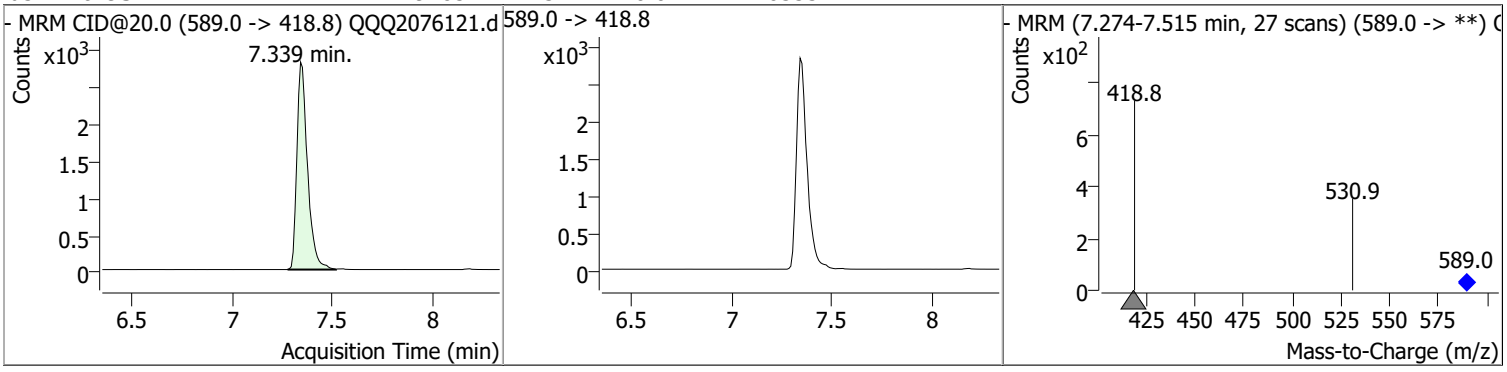
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.2585	7.15	0.00	10994				



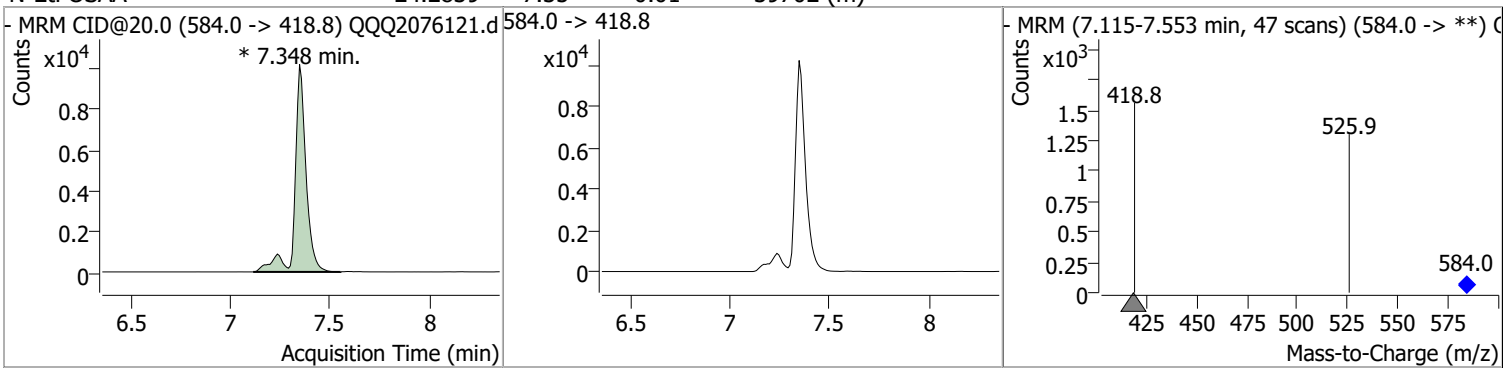
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	24.0990	7.16	0.00	38353 (m)				



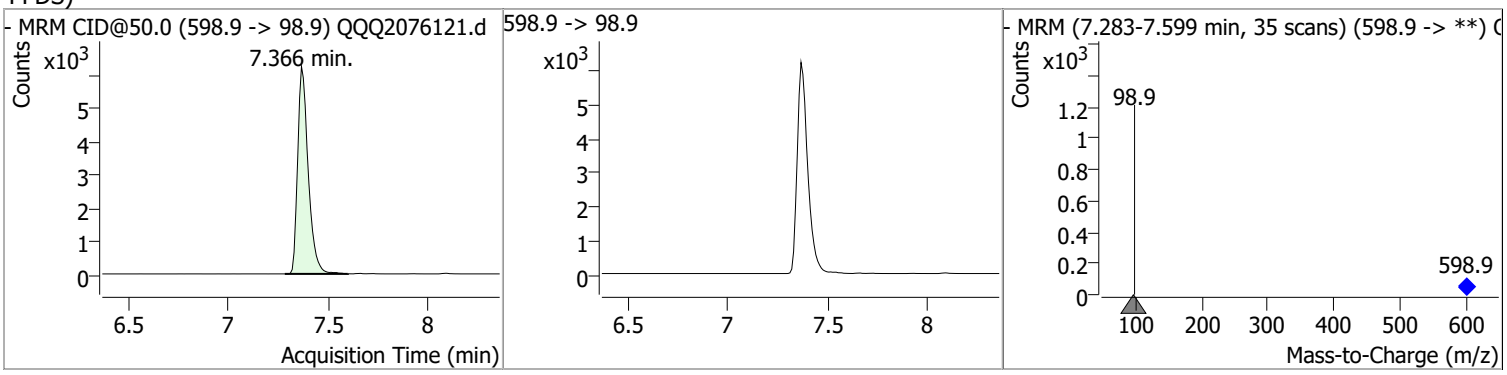
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.9285	7.34	-0.01	10353				



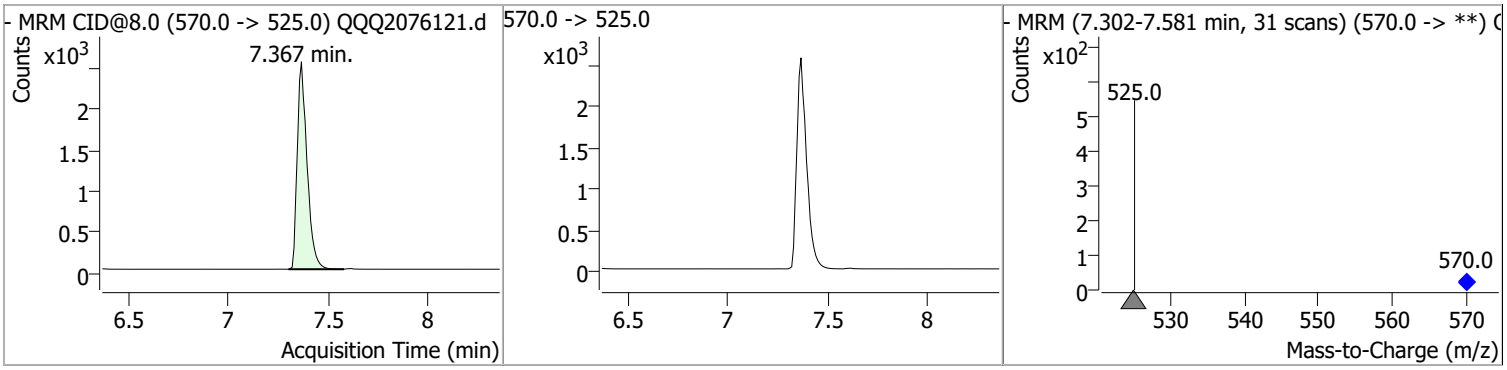
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	24.2839	7.35	-0.01	39702 (m)				



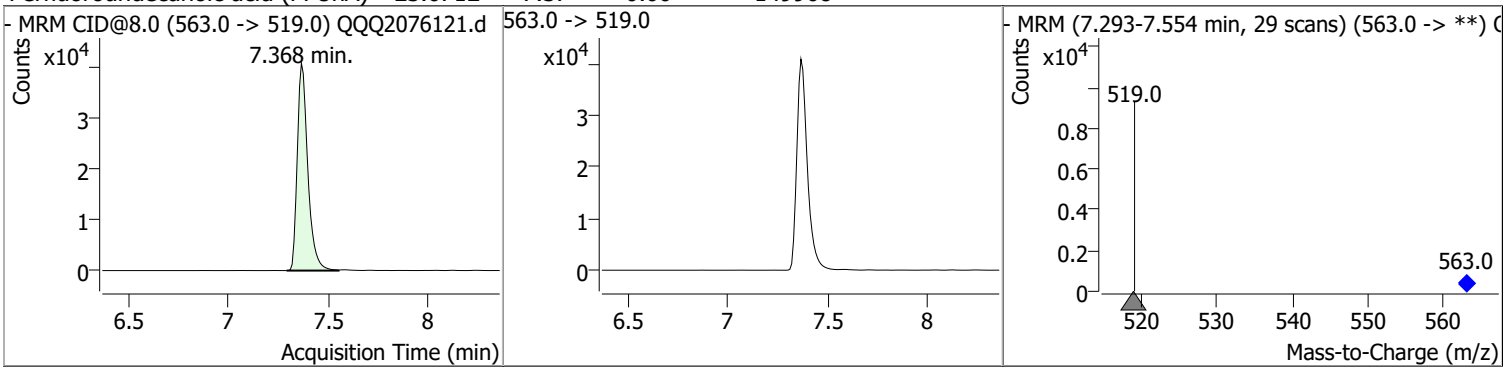
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	22.0061	7.37	0.00	22830				



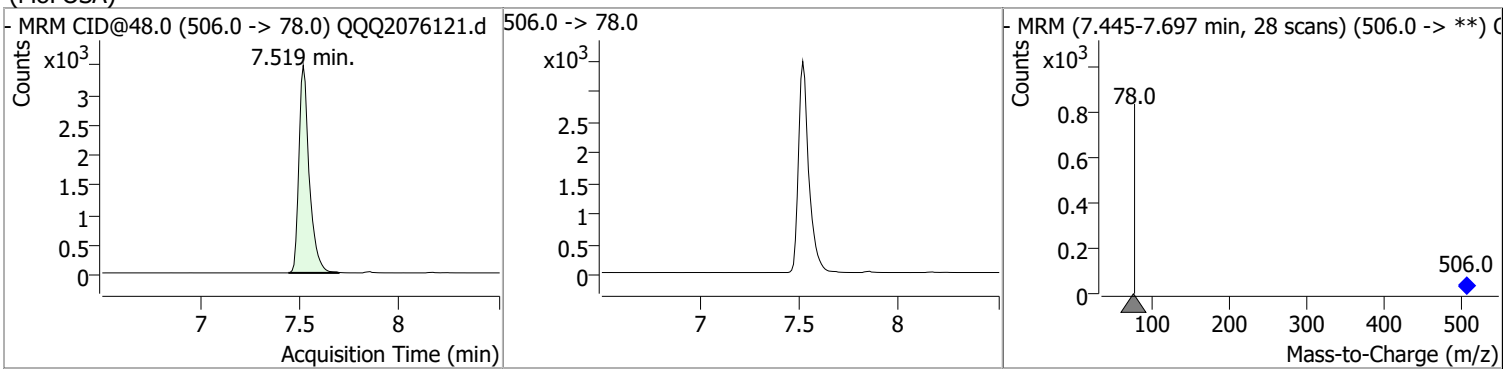
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.1725	7.37	0.00	8671				



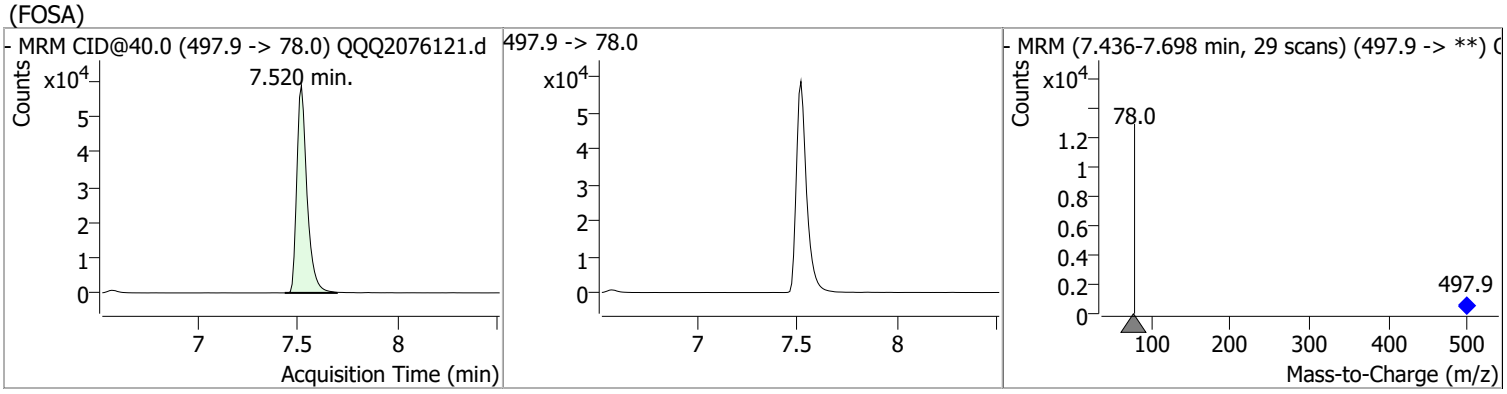
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	23.0712	7.37	0.00	149908				



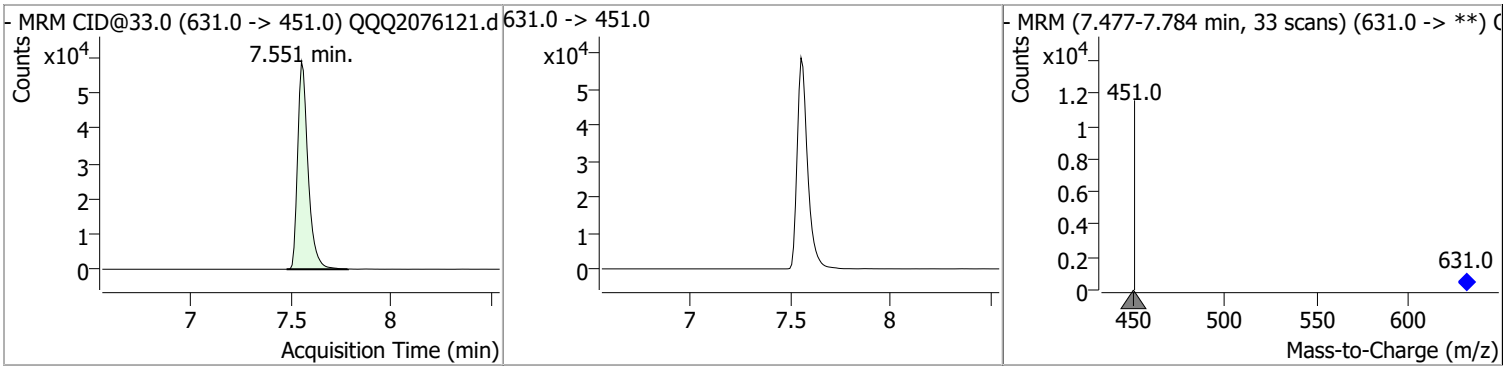
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.4544	7.52	0.00	12452				



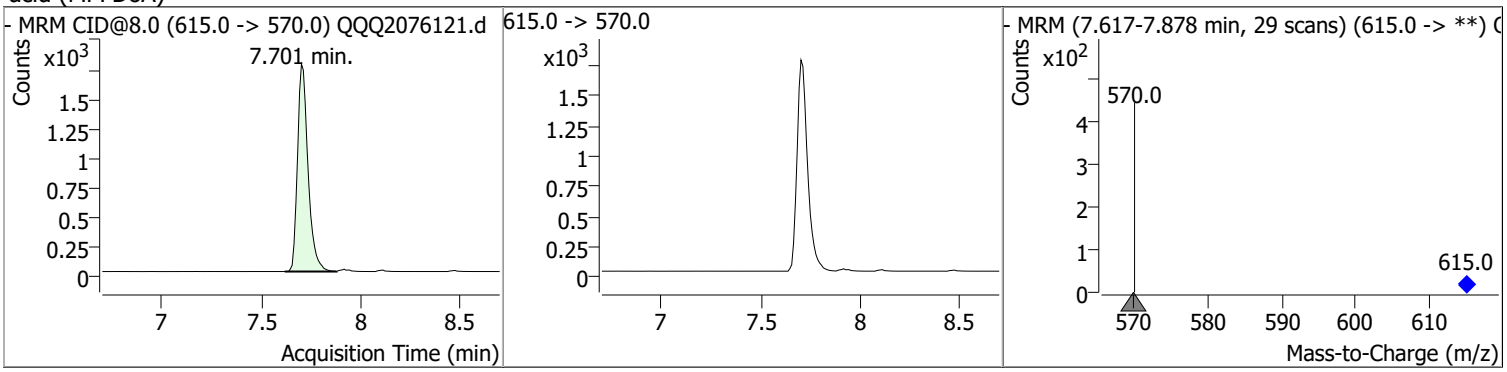
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	24.5755	7.52	0.00	209822				



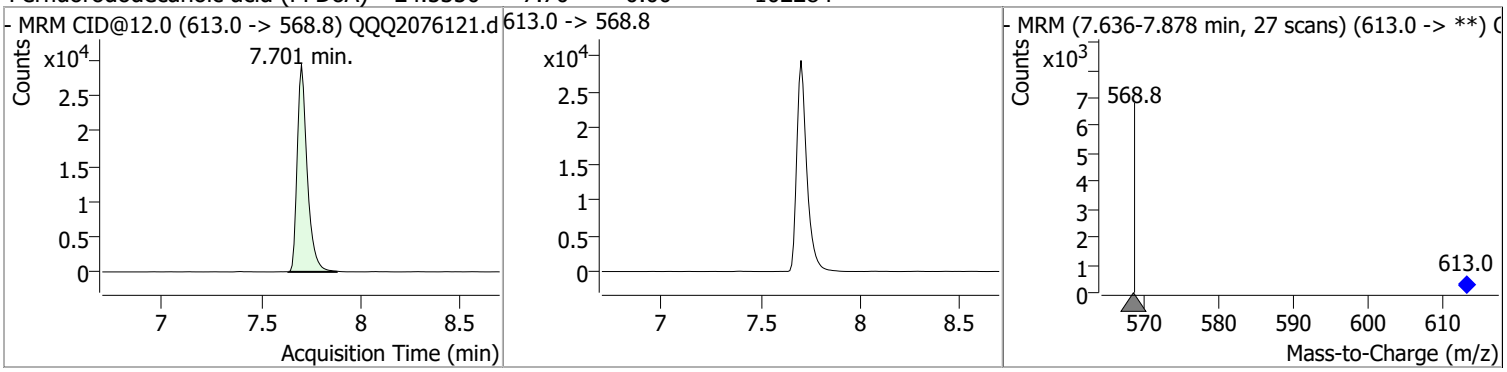
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	92.5006	7.55	0.00	213294				



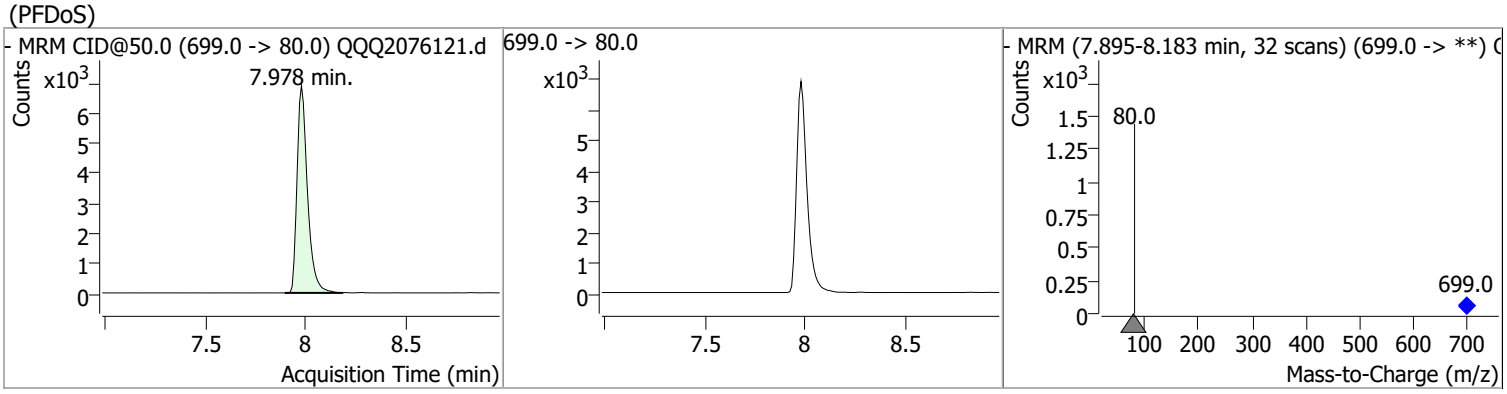
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.0475	7.70	0.00	6449				



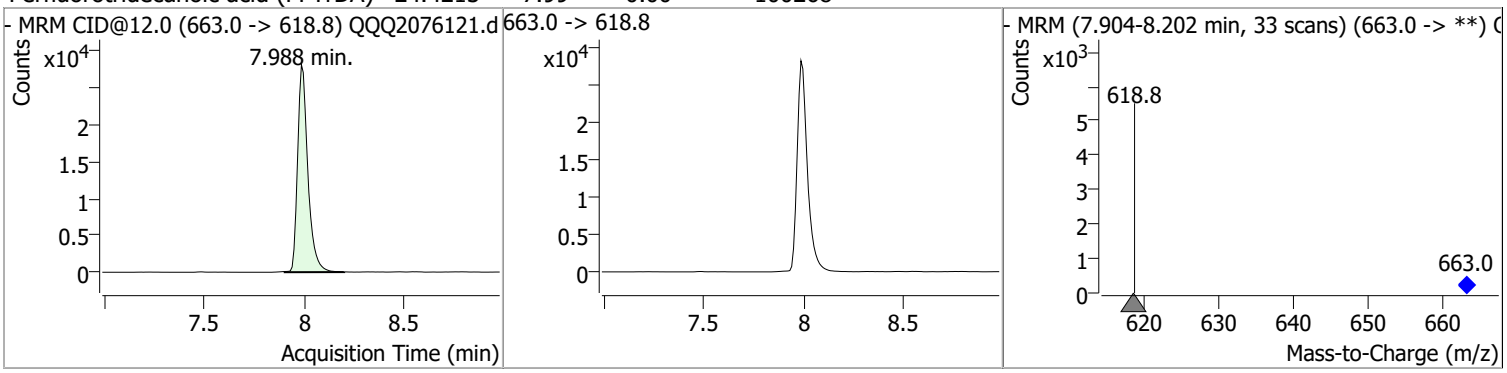
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	24.5350	7.70	0.00	102284				



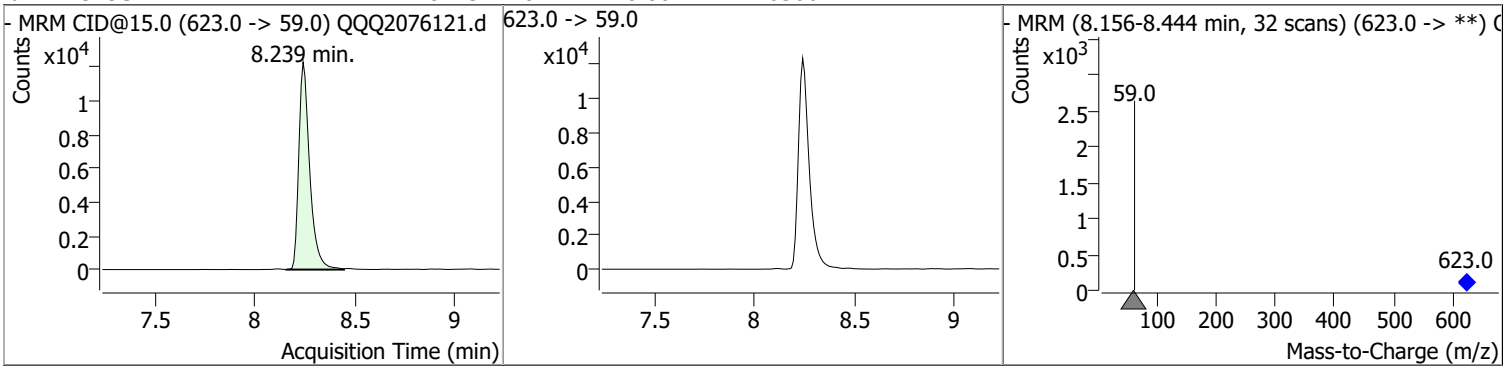
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	22.7655	7.98	0.00	24920				



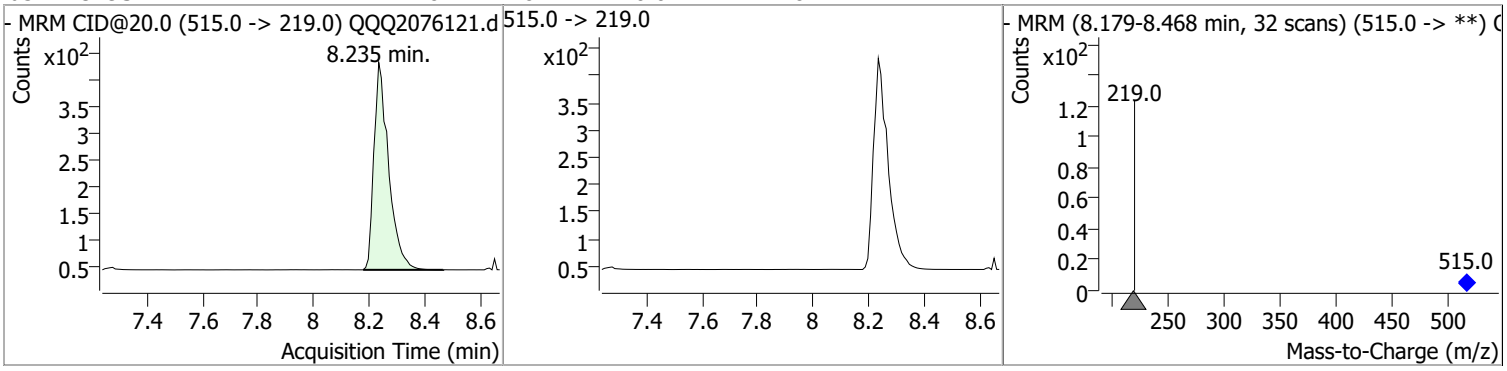
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	24.4213	7.99	0.00	100268				



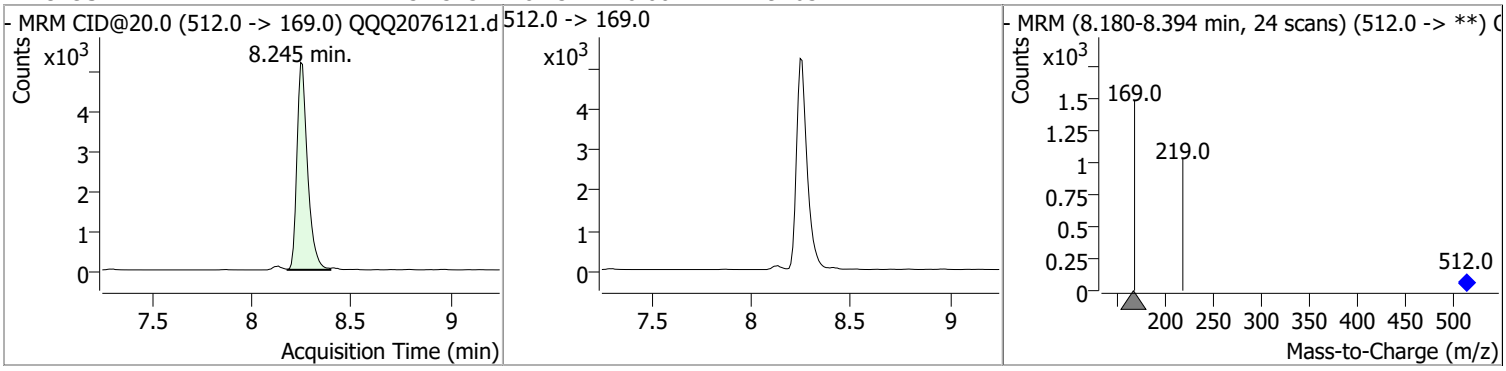
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	22.0715	8.24	0.00	46366				



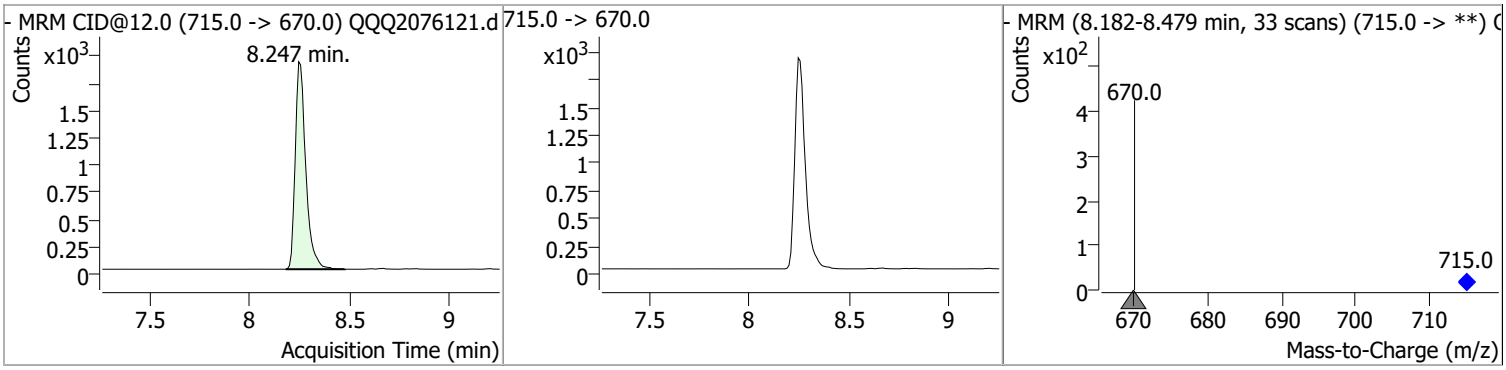
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.1874	8.24	-0.01	1418				



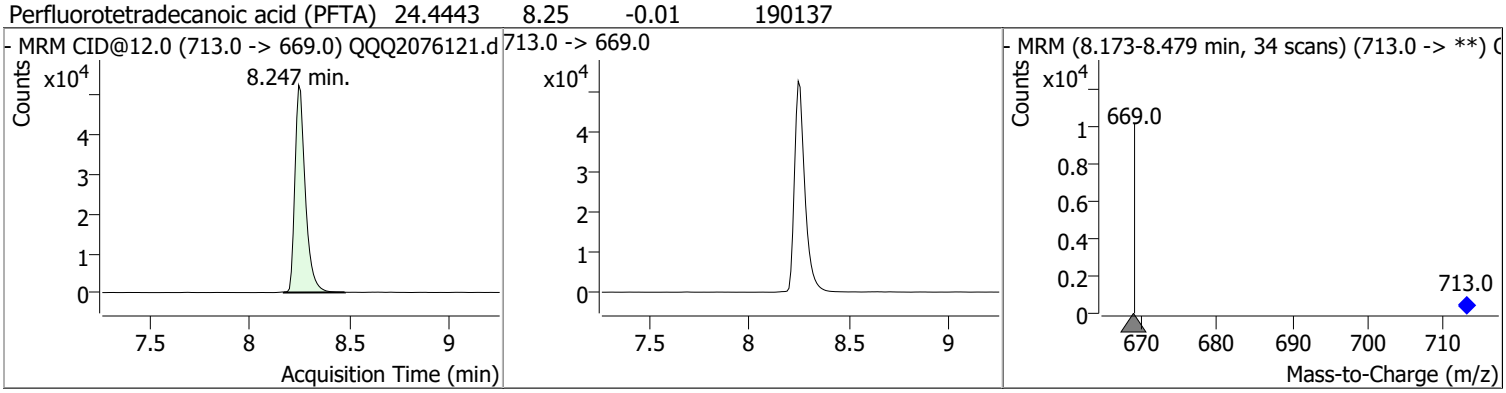
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	25.4573	8.25	0.00	19263				



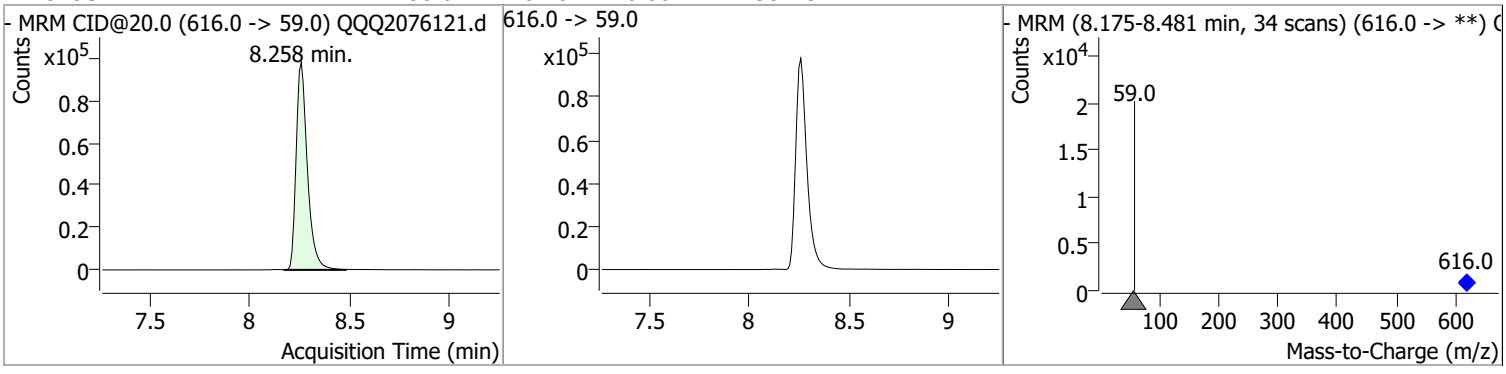
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.0768	8.25	-0.01	6997				



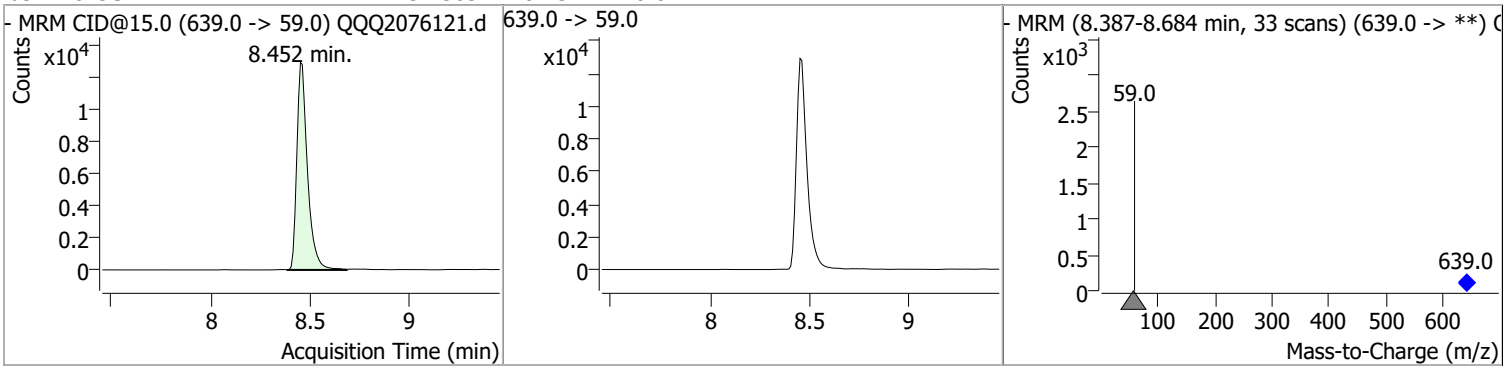
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	24.4443	8.25	-0.01	190137				



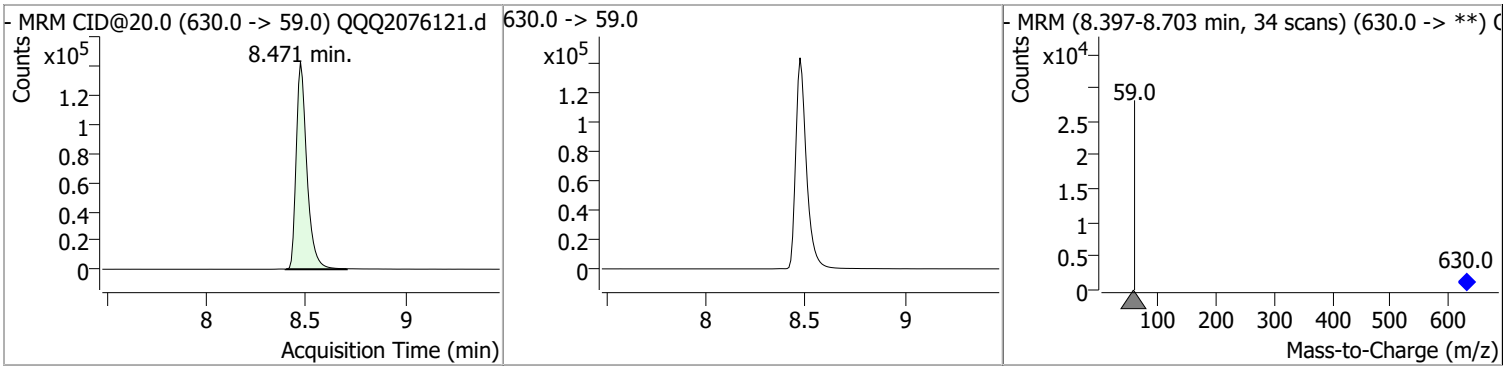
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	250.6441	8.26	0.00	382497				



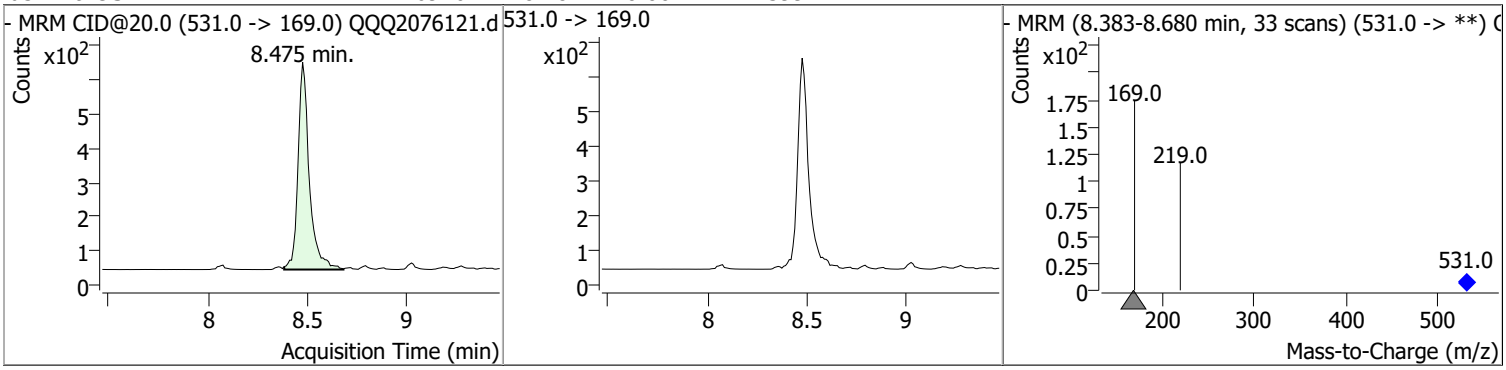
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	23.1389	8.45	-0.01	47774				



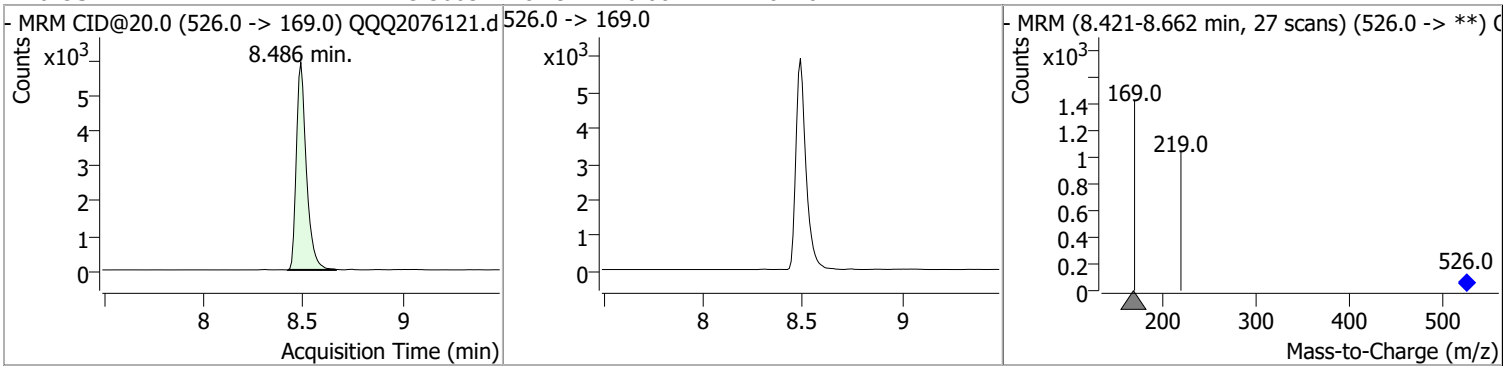
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	244.8372	8.47	0.00	531934				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.6926	8.48	0.00	2399				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	23.3665	8.49	0.00	20720				



Quantitation Results Report (Not Reviewed)

Data File	QQQ2076122.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 1:24:20 PM
Sample Name	SEQ-CAL8	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	62.5 - 1560 ng/mL
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

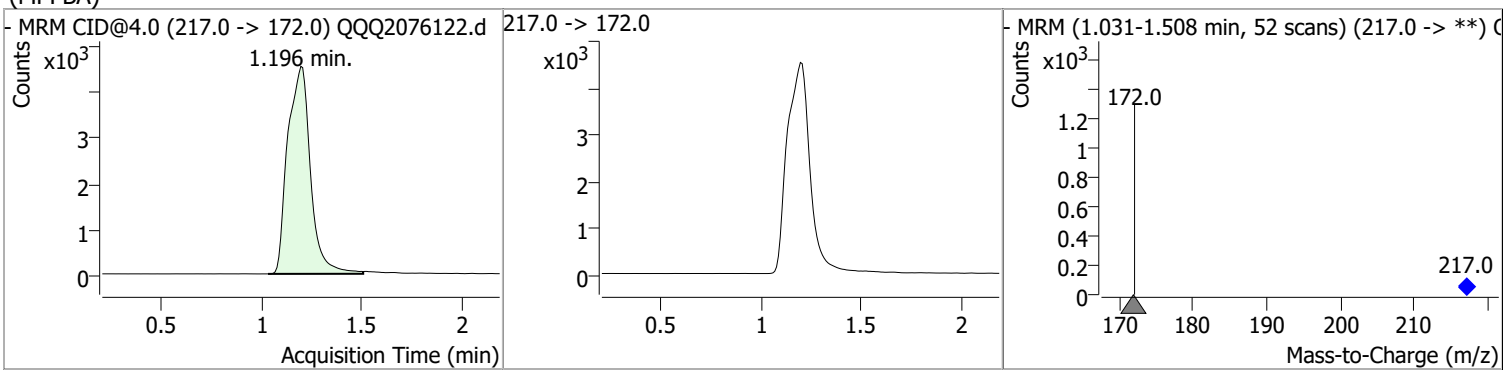
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.198	216.0 -> 172.0	27223	5.0000	ng/ml		-0.009
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.196	217.0 -> 172.0	35739	10.0000	ng/ml		-0.009
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.387	268.0 -> 223.0	20703	5.0000	ng/ml		0.000
MPFHxA	4.707	315.0 -> 269.8	26846	2.5000	ng/ml		0.010
MPFHxS	5.522	403.0 -> 103.0	1429	2.3700	ng/ml		0.000
M3PFBS-EIS	3.883	302.0 -> 79.9	5851	2.3300	ng/ml		-0.009
M5PFHxA-EIS	4.706	318.0 -> 273.0	17755	2.5000	ng/ml		0.010
M2-4-2FTS-EIS	4.631	329.0 -> 309.0	14284	4.6900	ng/ml		0.000
M3PFHxS-EIS	5.523	402.0 -> 80.0	4215	2.3700	ng/ml		-0.009
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	30799	10.0000	ng/ml		0.000
M4PFHpA-EIS	5.449	367.0 -> 322.0	19421	2.5000	ng/ml		0.009
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	8214	4.7550	ng/ml		0.000
MPFOA	6.036	417.0 -> 372.0	24243	2.5000	ng/ml		0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	12018	2.5000	ng/ml		0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.575	507.0 -> 98.9	1800	2.3950	ng/ml		0.009
MPFNA	6.549	468.0 -> 423.0	8428	1.2500	ng/ml		0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.548	472.0 -> 223.0	1208	1.2500	ng/ml		0.009
MPFOS	6.576	503.0 -> 80.0	5220	2.3950	ng/ml		0.000
M2-8-2FTS-EIS	6.967	529.0 -> 509.0	3782	4.8000	ng/ml		0.000
MPFDA	6.986	515.0 -> 469.8	7368	1.2500	ng/ml		0.000
M6PFDA-EIS	6.986	519.0 -> 473.9	3383	1.2500	ng/ml		0.000
d3-N-MeFOSAA-EIS	7.153	573.0 -> 418.8	10533	5.0000	ng/ml		0.000
d5-N-EtFOSAA-EIS	7.339	589.0 -> 418.8	8221	5.0000	ng/ml		-0.009
M7PFUdA-EIS	7.376	570.0 -> 525.0	5958	1.2500	ng/ml		0.009
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	11333	2.5000	ng/ml		0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	7136	1.2500	ng/ml		0.000
M2PFTeDA-EIS	8.247	715.0 -> 670.0	6697	1.2500	ng/ml		-0.009
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	1453	2.5000	ng/ml		0.000
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	41351	25.0000	ng/ml		0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	41111	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	1741	2.5000	ng/ml	m	0.000
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.196	217.0 -> 172.0	35739	9.5846	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.387	268.0 -> 223.0	20703	4.7629	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.883	302.0 -> 79.9	5851	3.0795	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.631	329.0 -> 309.0	14284	18.3614	ng/ml		0.000

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%			
M5PFHxA	4.706	318.0 -> 273.0	17755	2.4486	ng/ml		0.010
Spiked Amount:	Range: - %			Recovery = NA%			
M3-HFPO-DA	4.960	287.0 -> 169.0	30799	7.2836	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
M4PFHpA	5.449	367.0 -> 322.0	19421	2.3714	ng/ml		0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFHxS	5.523	402.0 -> 80.0	4215	2.6405	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M2-6-2FTS	5.997	429.0 -> 409.0	8214	19.4675	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	12018	2.2487	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.548	472.0 -> 223.0	1208	1.3928	ng/ml		0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.575	507.0 -> 98.9	1800	2.3817	ng/ml		0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M2-8-2FTS	6.967	529.0 -> 509.0	3782	10.4268	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
M6PFDA	6.986	519.0 -> 473.9	3383	1.1829	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-N-MeFOSAA	7.153	573.0 -> 418.8	10533	5.9649	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d5-N-EtFOSAA	7.339	589.0 -> 418.8	8221	4.6335	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M7PFUdA	7.376	570.0 -> 525.0	5958	1.0512	ng/ml		0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	11333	2.6448	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	7136	1.5124	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d7-NMeFOSE	8.239	623.0 -> 59.0	41351	23.3053	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-NMeFOSA	8.245	515.0 -> 219.0	1453	2.6540	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
M2PFTeDA	8.247	715.0 -> 670.0	6697	1.3448	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d9-NEtFOSE	8.452	639.0 -> 59.0	41111	23.5749	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d5-NEtFOSA	8.475	531.0 -> 169.0	1741	2.3141	ng/ml	m	0.000
Spiked Amount:	Range: - %			Recovery = NA%			
Target Compounds							QValue
Perfluoro-n-butanoic acid (PFBA)	1.200	213.0 -> 168.9	1142275	250.0904	ng/ml		100
PFMPA	2.061	229.0 -> 85.0	412143	125.0144	ng/ml		100
3:3FTCA	3.296	241.0 -> 177.0	88683	311.8457	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	3.388	263.0 -> 219.0	573437	125.0131	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	3.884	298.9 -> 79.9	181631	55.4889	ng/ml		100
PFMBA	3.922	279.0 -> 85.0	522694	125.0235	ng/ml		100
PFEESA	4.382	315.0 -> 135.0	1132668	111.5589	ng/ml		100
NFDHA	4.560	295.0 -> 201.1	579091	125.3021	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.641	327.0 -> 307.0	224365	134.4970	ng/ml		100

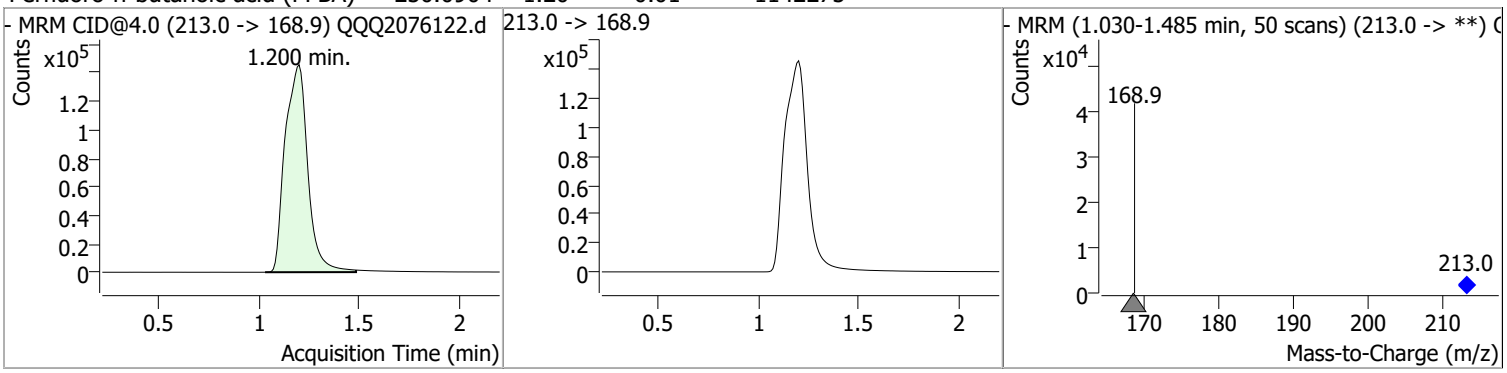
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.707	313.0 -> 268.9	572842	62.5868	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	189094	58.8185	ng/ml		100
HFPO-DA	4.960	285.0 -> 169.1	74077	250.1623	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	646633	62.4621	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.523	398.9 -> 79.9	146938	57.1584	ng/ml	m	100
5-3FTCA	5.534	341.0 -> 217.0	1019301	1573.9866	ng/ml		100
ADONA	5.561	377.0 -> 85.0	1023509	236.4969	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	123423		ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	474297	62.5512	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	151725	59.6732	ng/ml		100
Perfluorononanoic acid (PFNA)	6.549	463.0 -> 418.8	313857	62.4794	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.567	498.9 -> 79.9	89496	58.1225	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	1540780	1568.0910	ng/ml		100
9-Cl-PF3ONS	6.817	531.0 -> 351.0	1103404	234.1679	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.967	527.0 -> 80.9	86009		ng/ml		100
Perfluorodecanoic acid (PFDA)	6.986	513.0 -> 468.8	333968	62.4520	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	7.004	548.9 -> 79.9	117075	60.3809	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	105259	62.5789	ng/ml	m	100
N-EtFOSAA	7.348	584.0 -> 418.8	86764	62.5645	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.376	598.9 -> 98.9	47999	60.5212	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.368	563.0 -> 519.0	345607	62.6451	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	464734	62.5467	ng/ml		100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	406467	236.5012	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	258350	62.5537	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.978	699.0 -> 80.0	59139	60.7382	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.988	663.0 -> 618.8	220690	62.5692	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	44048	62.4439	ng/ml	m	100
Perfluorotetradecanoic acid (PFTA)	8.247	713.0 -> 669.0	455179	62.5540	ng/ml		100
NMeFOSE	8.258	616.0 -> 59.0	749268	624.7964	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	1082082	625.6569	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	46595	62.6388	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

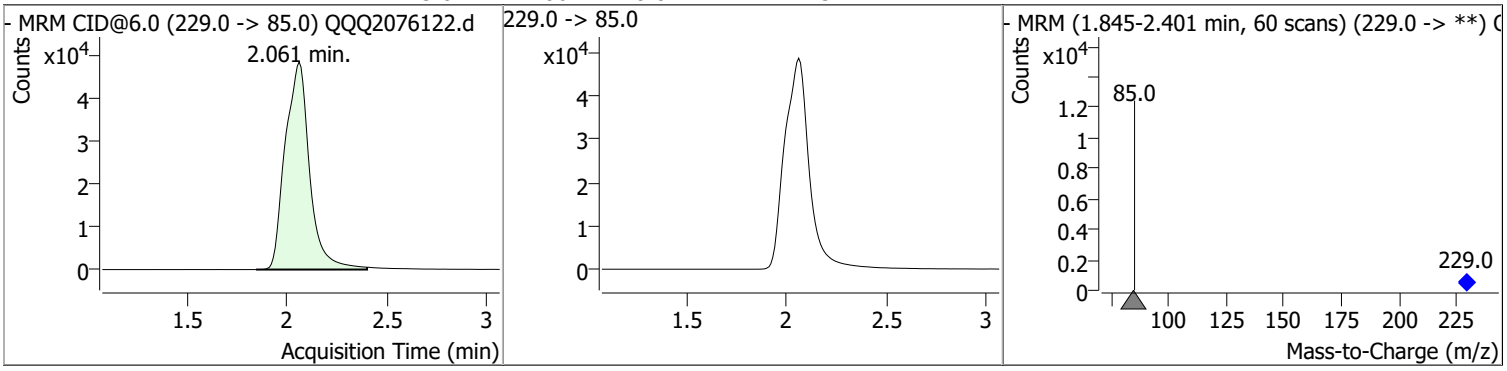
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.5846	1.20	-0.01	35739				



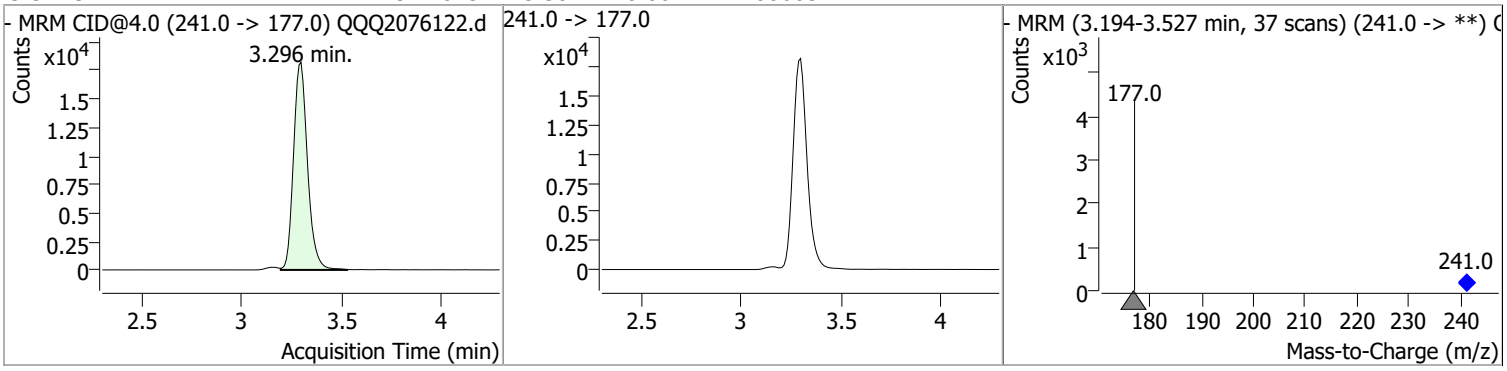
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	250.0904	1.20	-0.01	1142275				



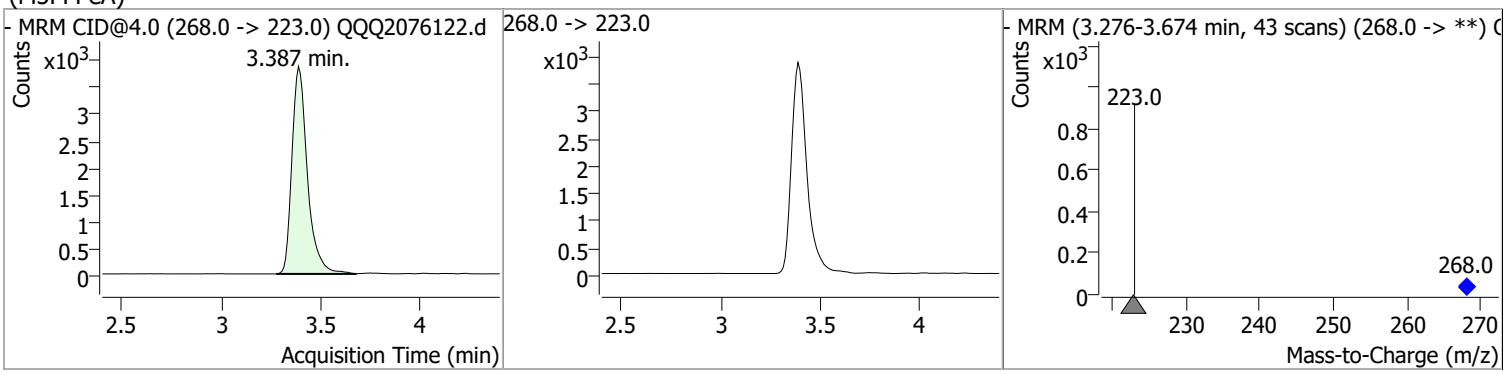
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	125.0144	2.06	-0.01	412143				



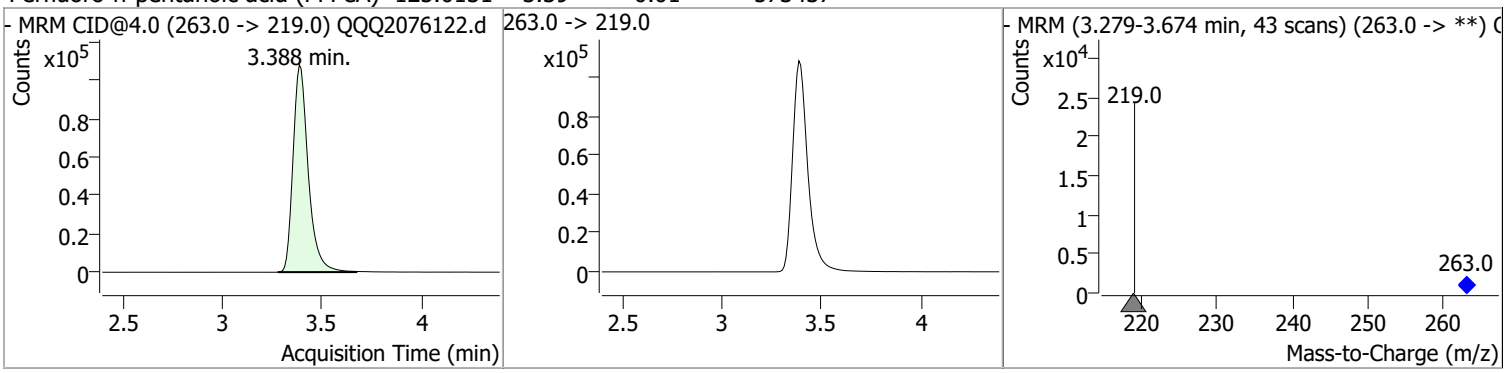
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	311.8457	3.30	0.00	88683				



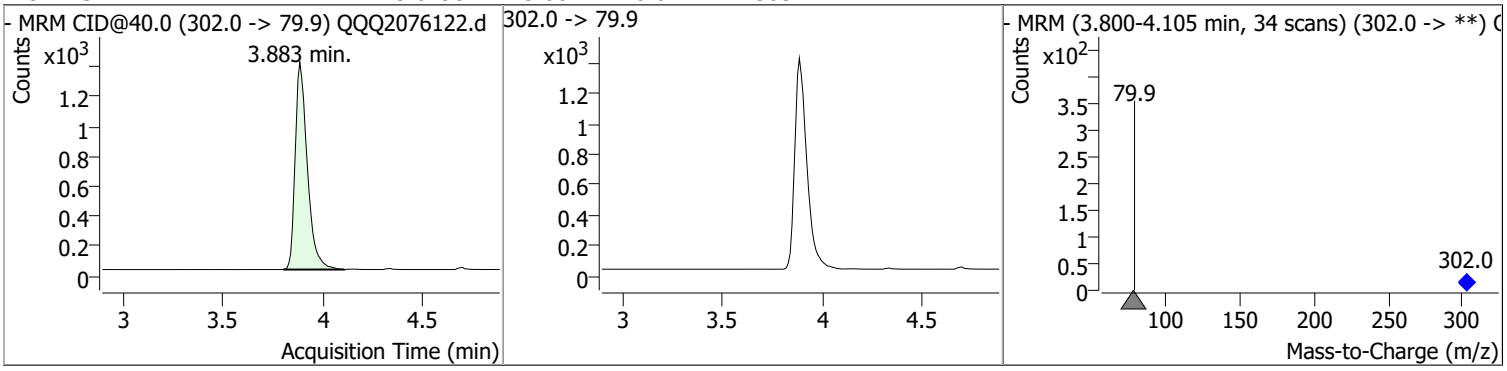
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.7629	3.39	0.00	20703				



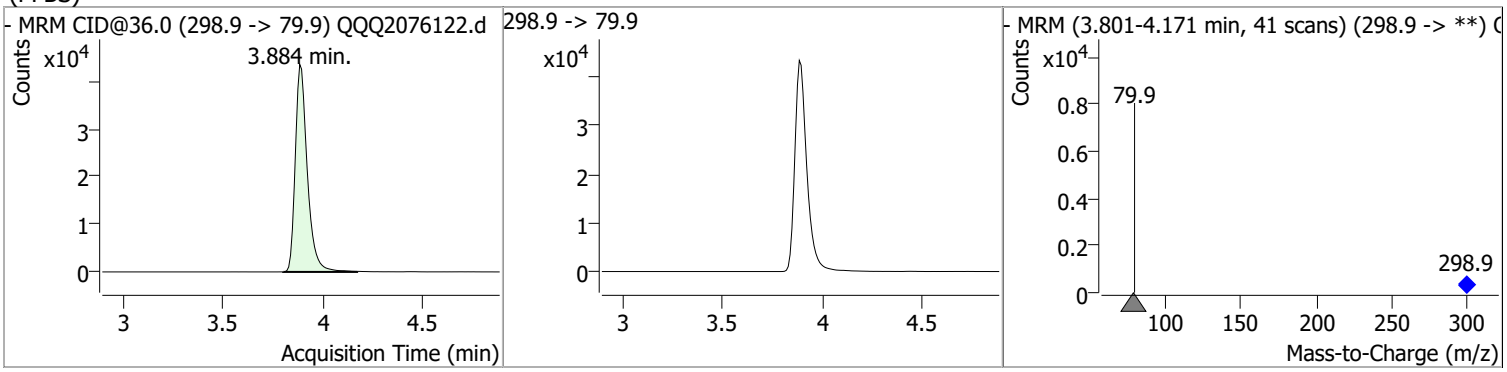
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	125.0131	3.39	-0.01	573437				



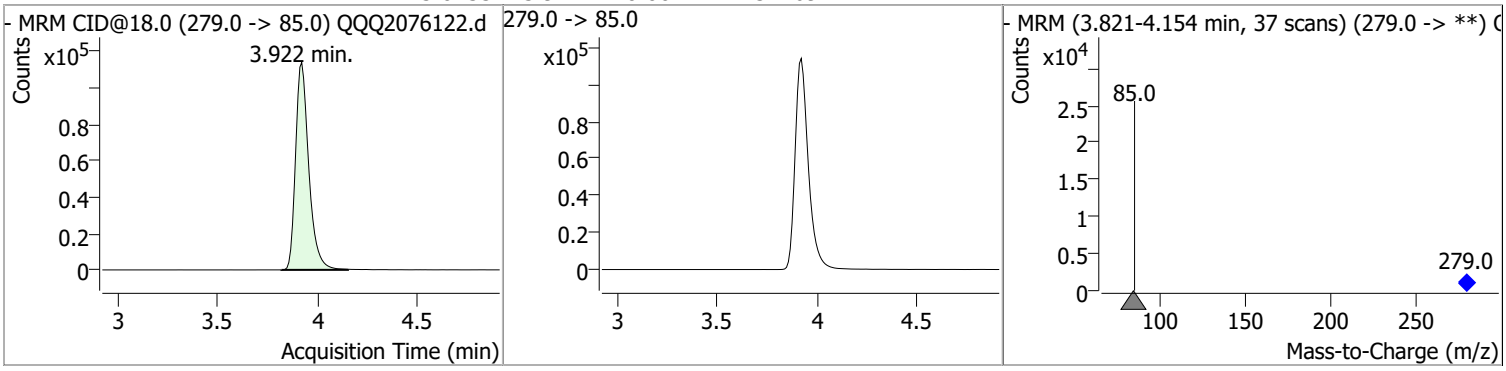
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.0795	3.88	-0.01	5851				



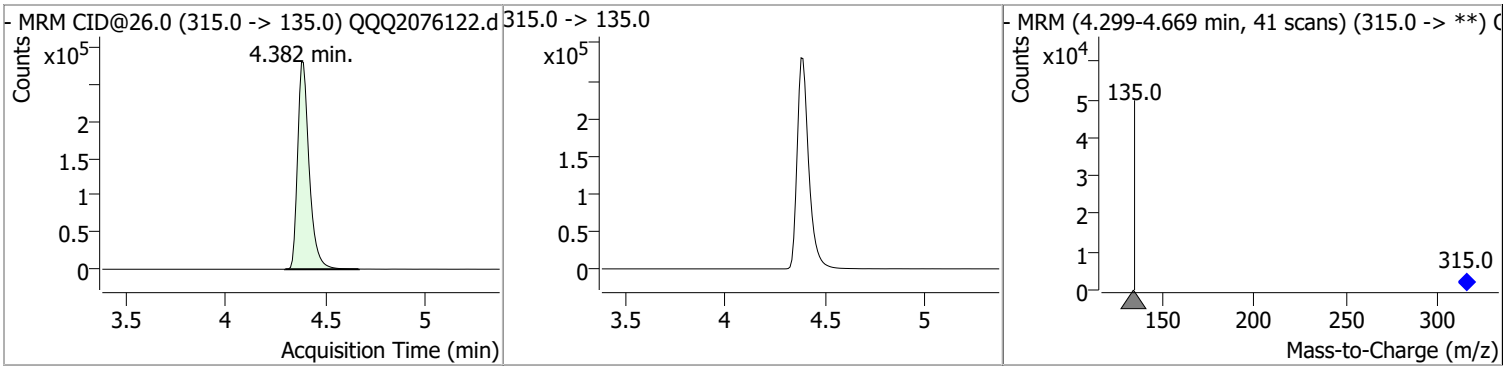
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	55.4889	3.88	-0.01	181631				



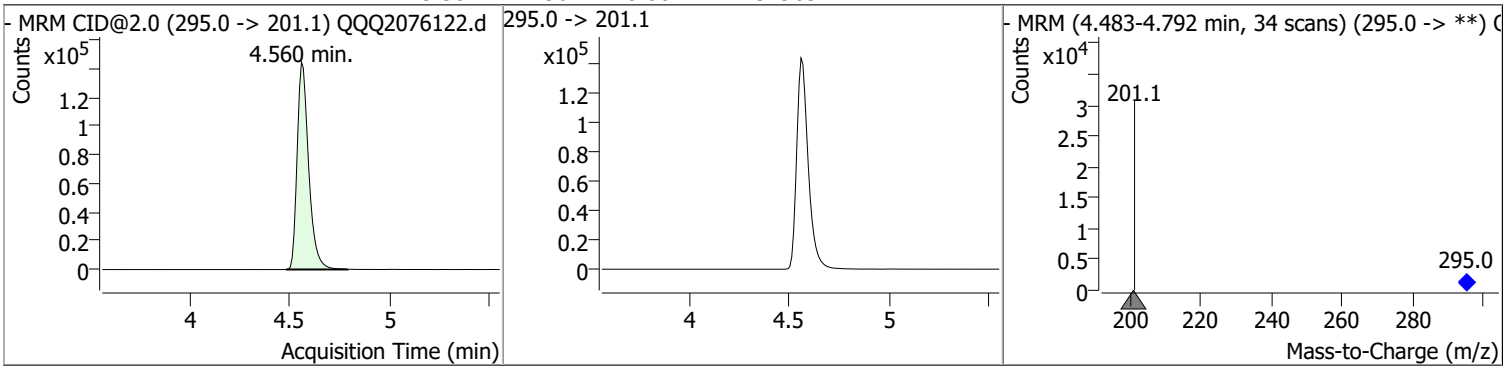
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	125.0235	3.92	0.00	522694				



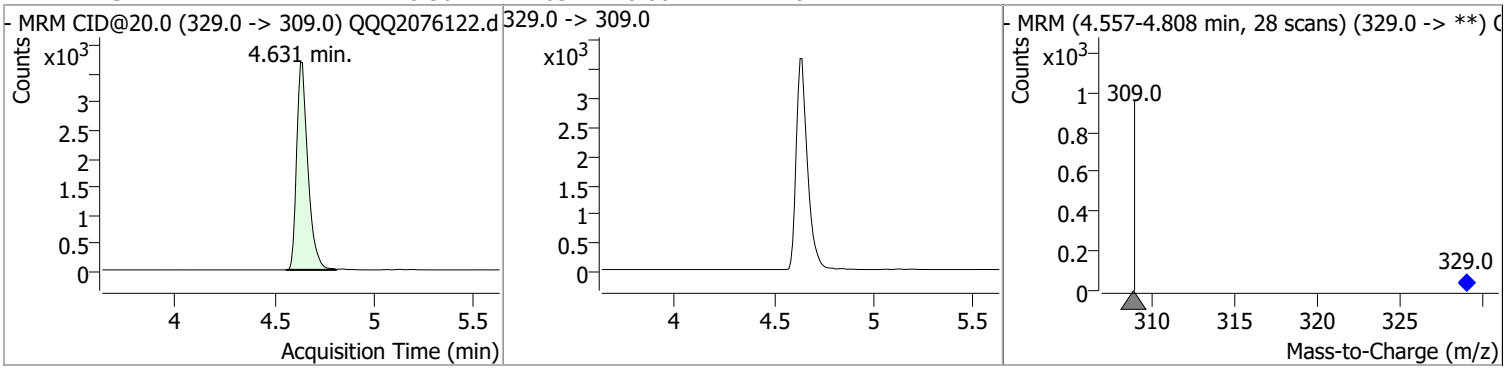
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	111.5589	4.38	0.00	1132668				



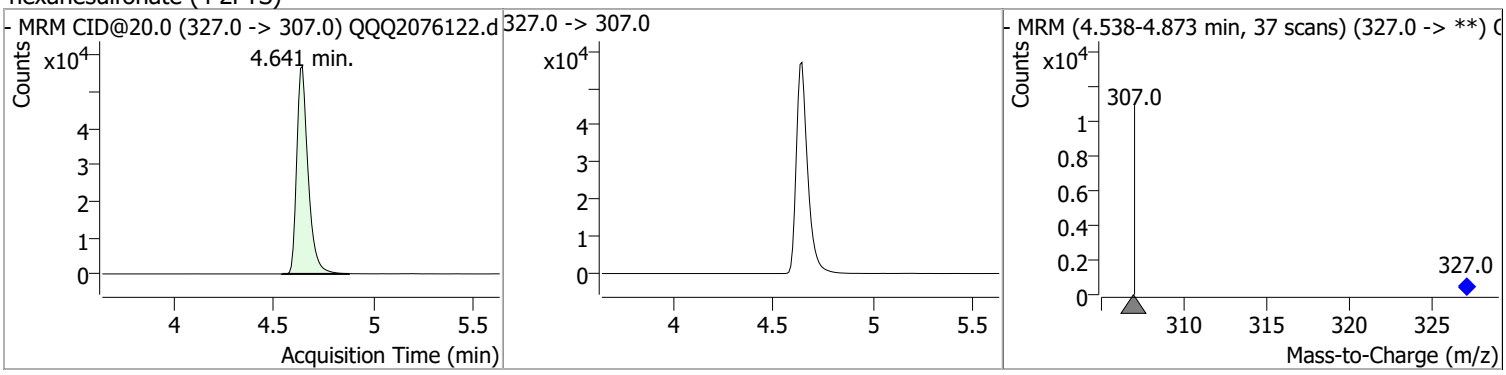
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	125.3021	4.56	0.00	579091				



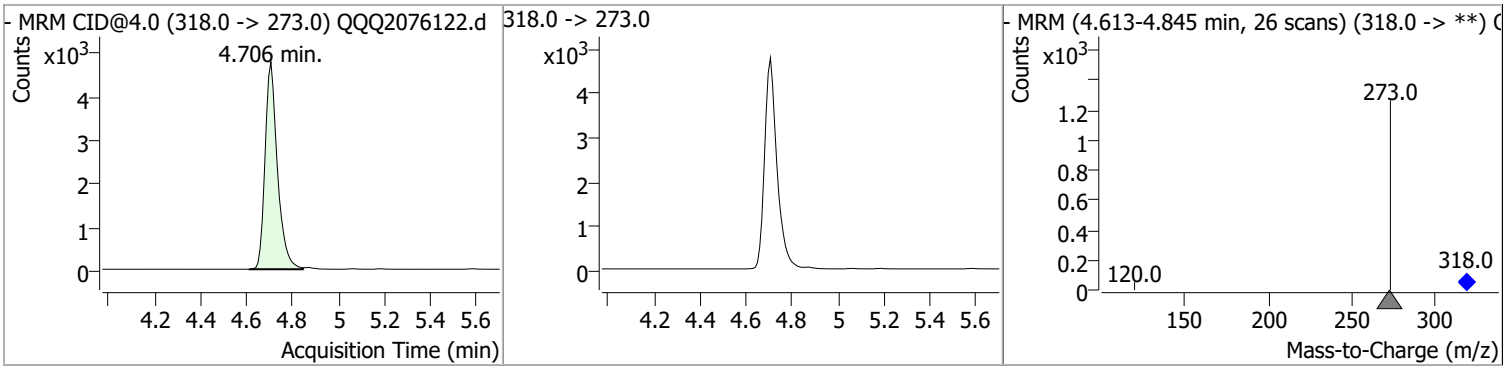
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	18.3614	4.63	0.00	14284				



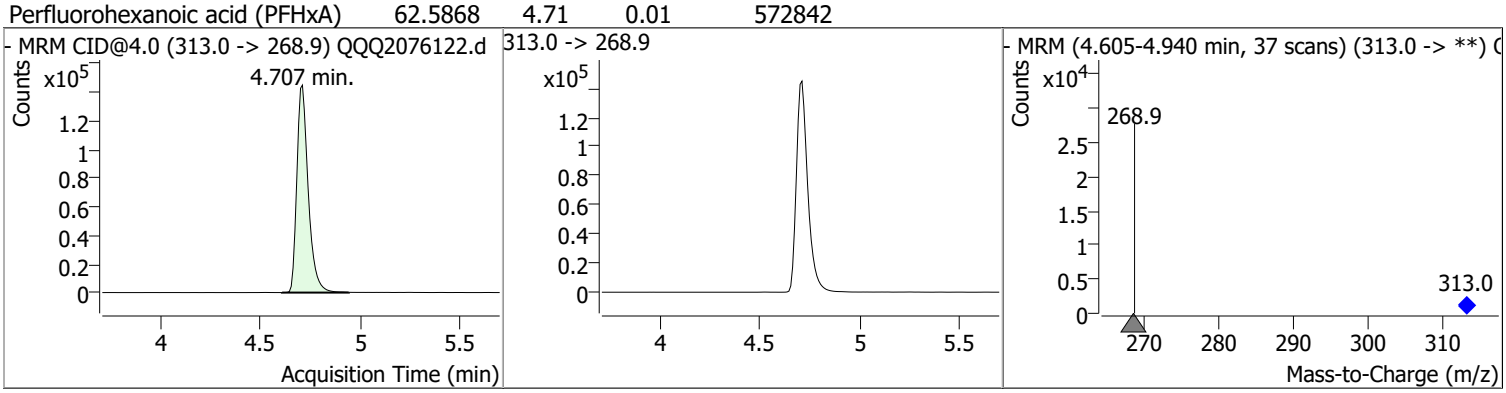
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	134.4970	4.64	0.01	224365				



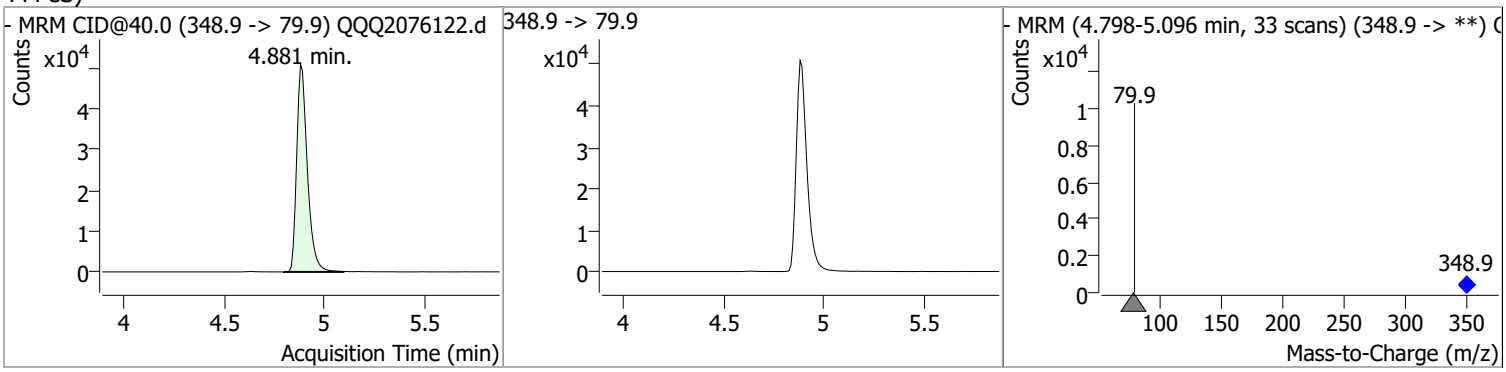
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4486	4.71	0.01	17755				



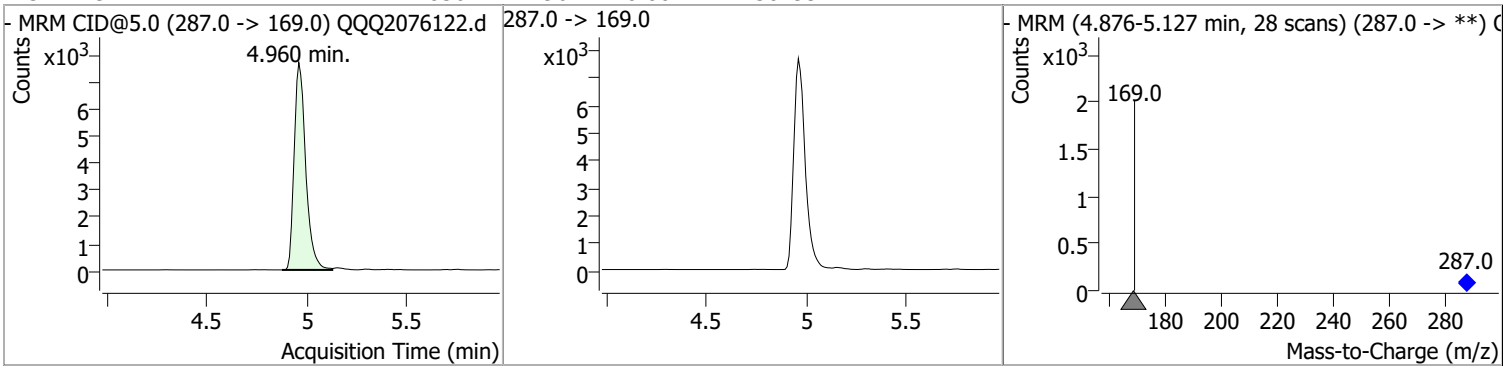
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	62.5868	4.71	0.01	572842				



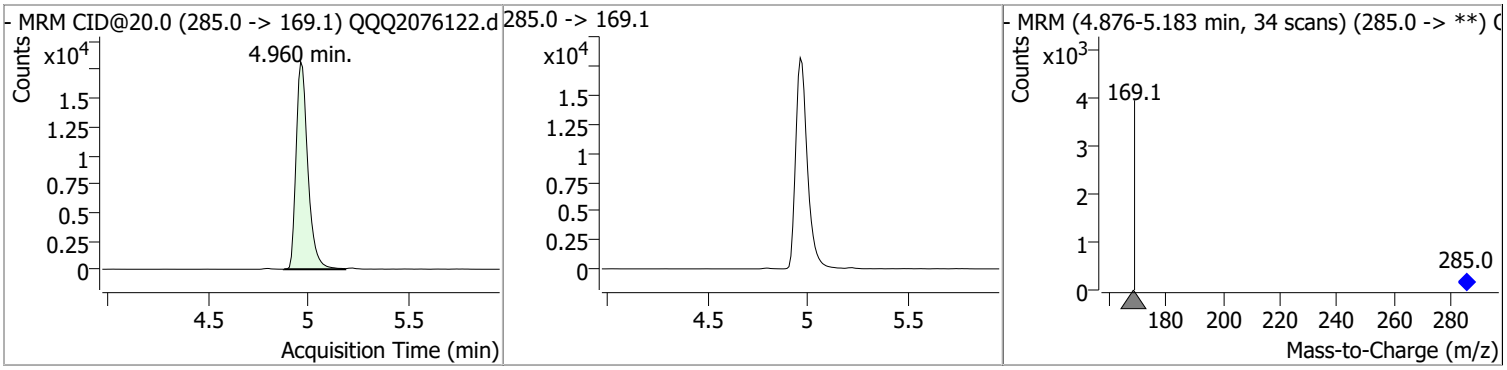
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	58.8185	4.88	0.00	189094				



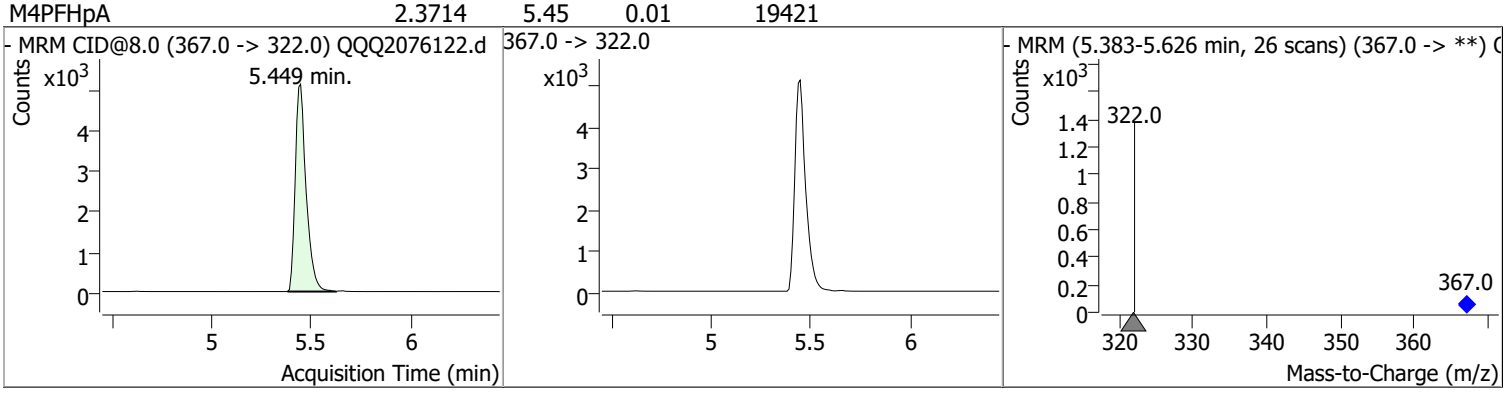
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	7.2836	4.96	0.00	30799				



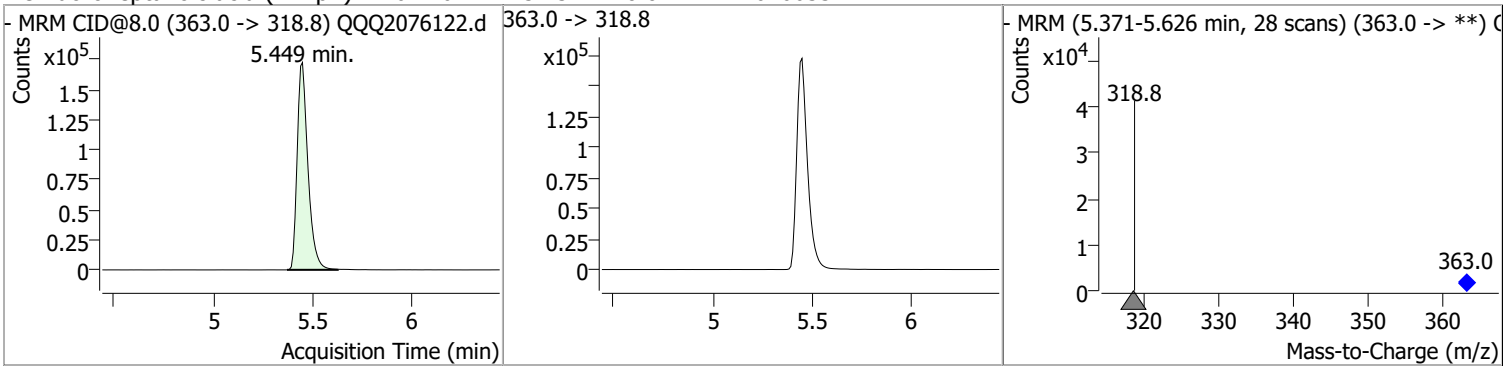
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	250.1623	4.96	0.00	74077				



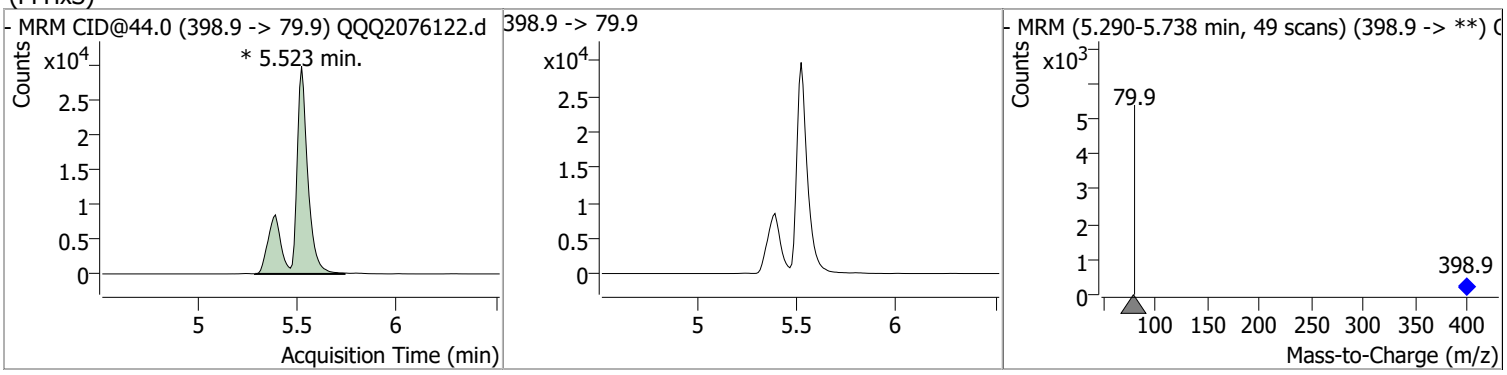
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.3714	5.45	0.01	19421				



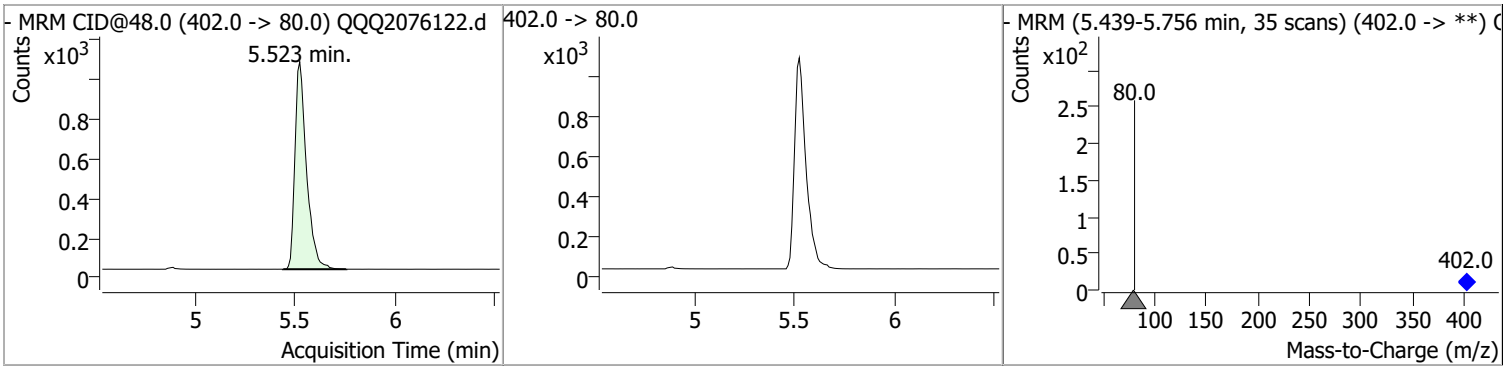
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	62.4621	5.45	0.01	646633				



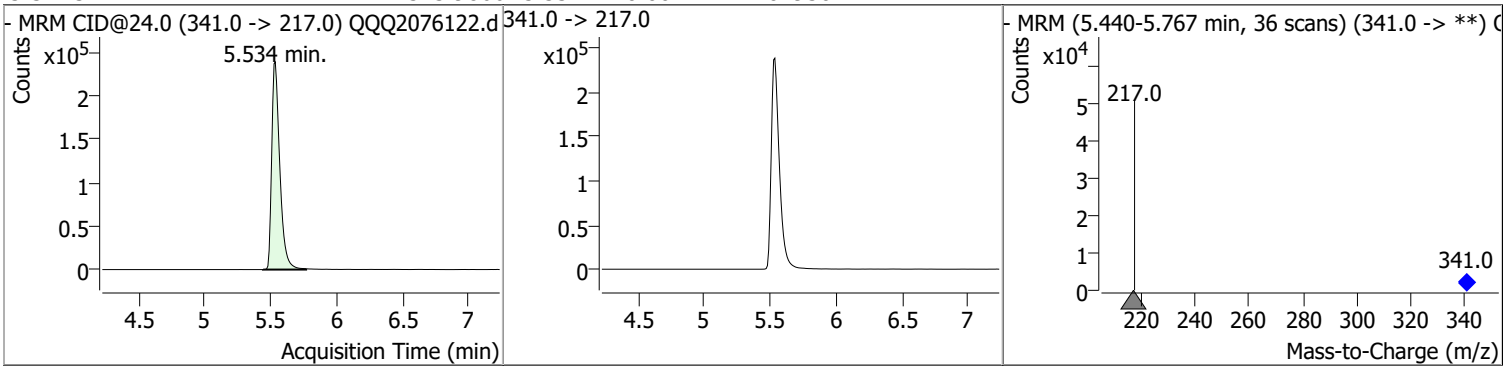
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	57.1584	5.52	0.00	146938 (m)				



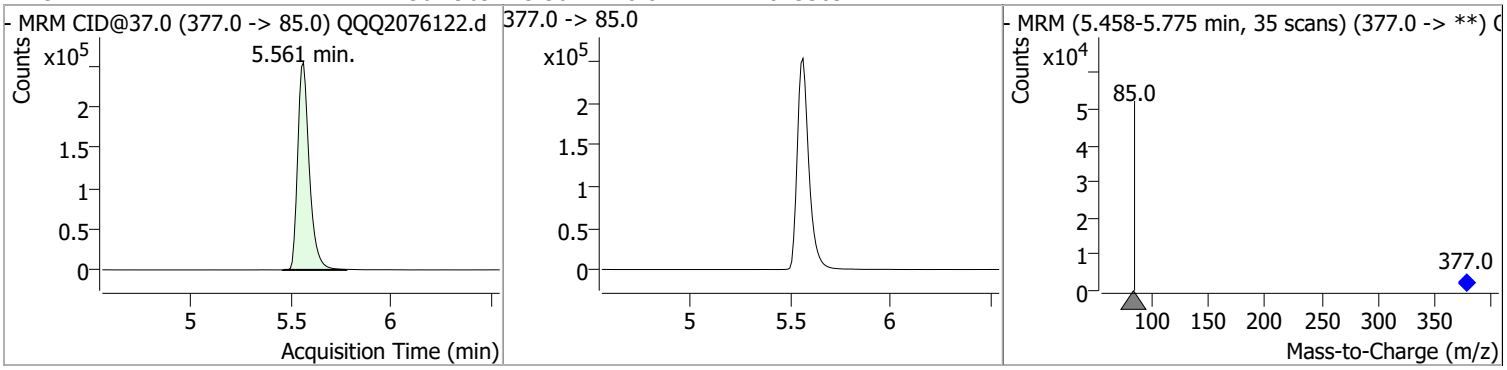
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.6405	5.52	-0.01	4215				



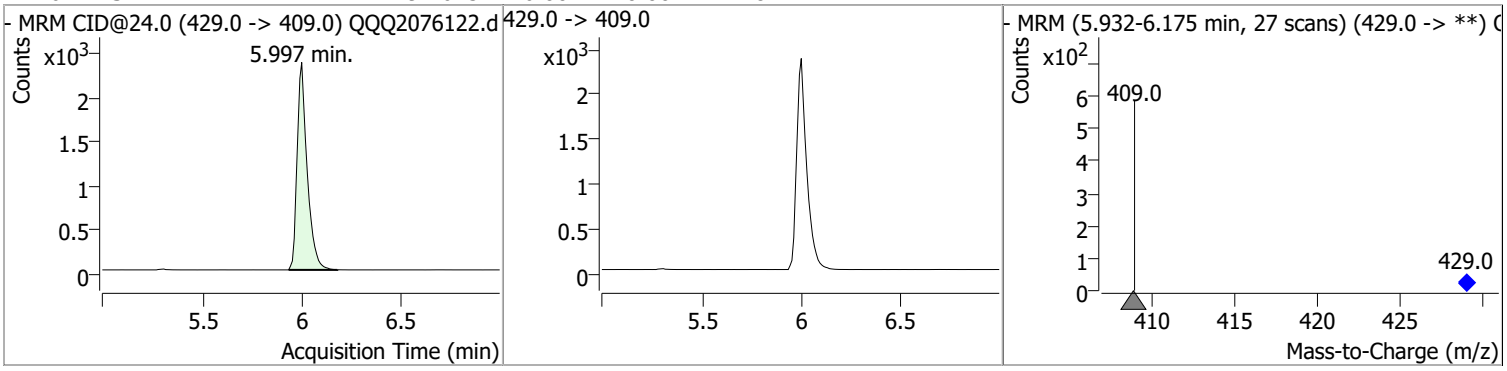
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	1573.9866	5.53	0.00	1019301				



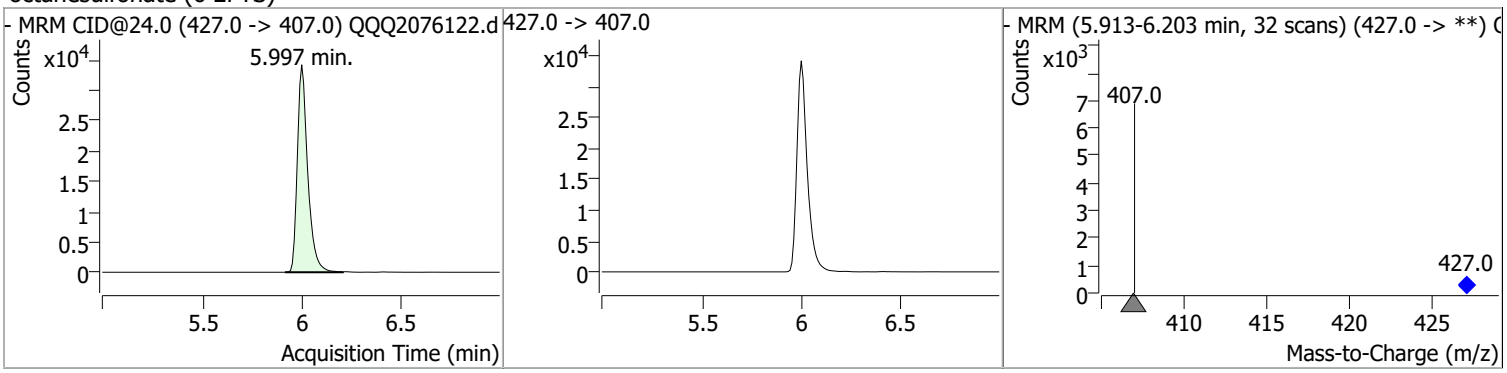
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	236.4969	5.56	0.01	1023509				



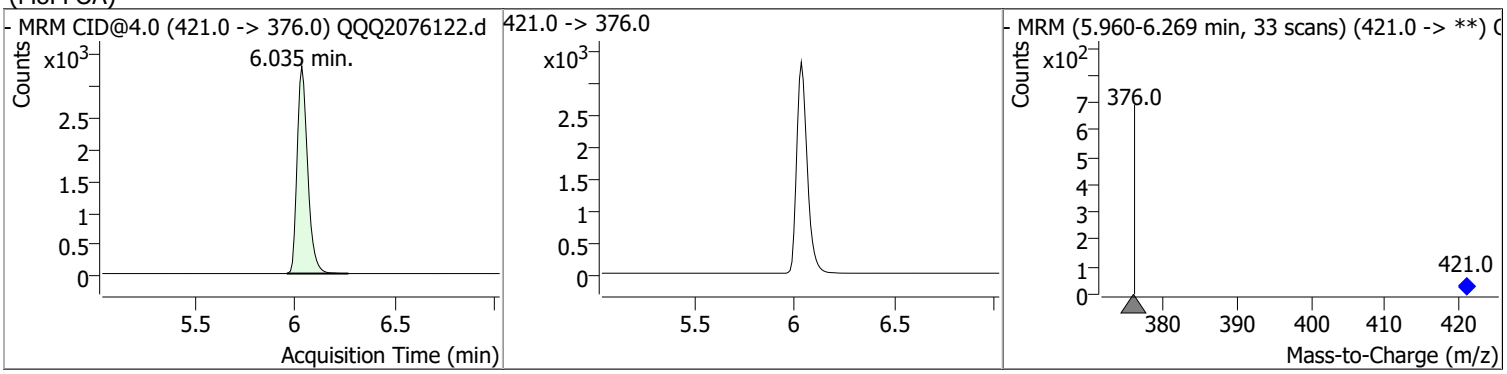
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	19.4675	6.00	0.00	8214				



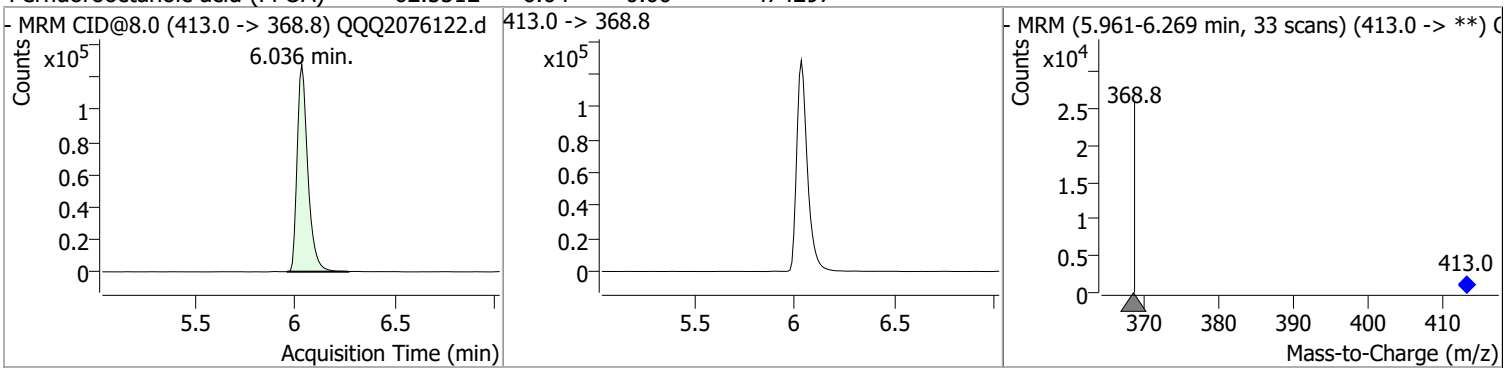
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)		6.00	0.00	123423				



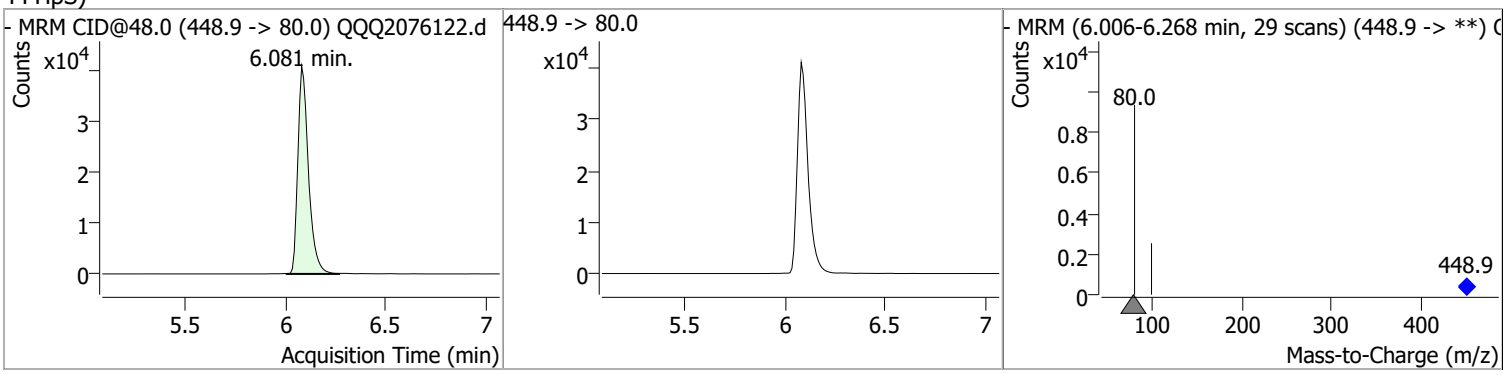
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.2487	6.04	0.00	12018				



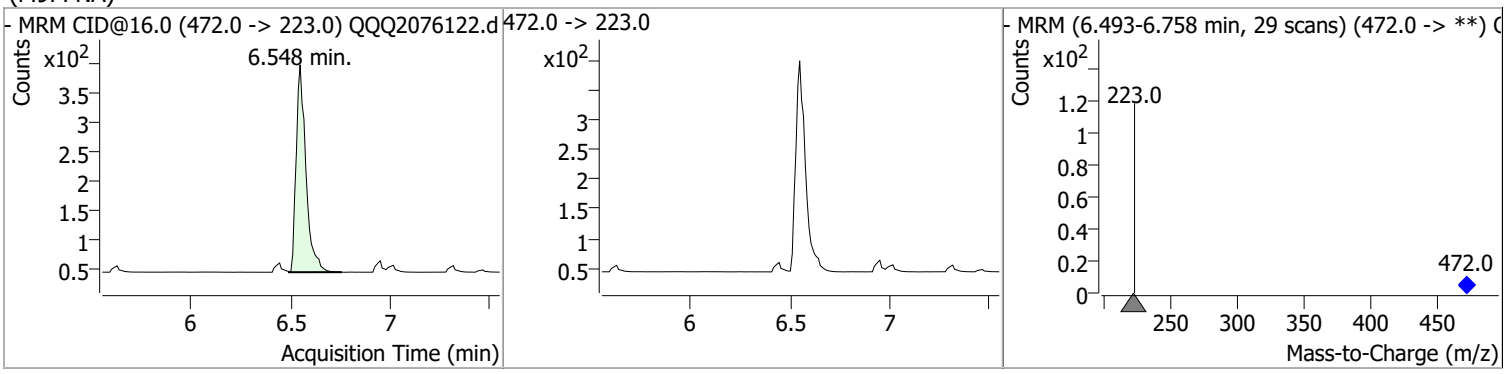
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	62.5512	6.04	0.00	474297				



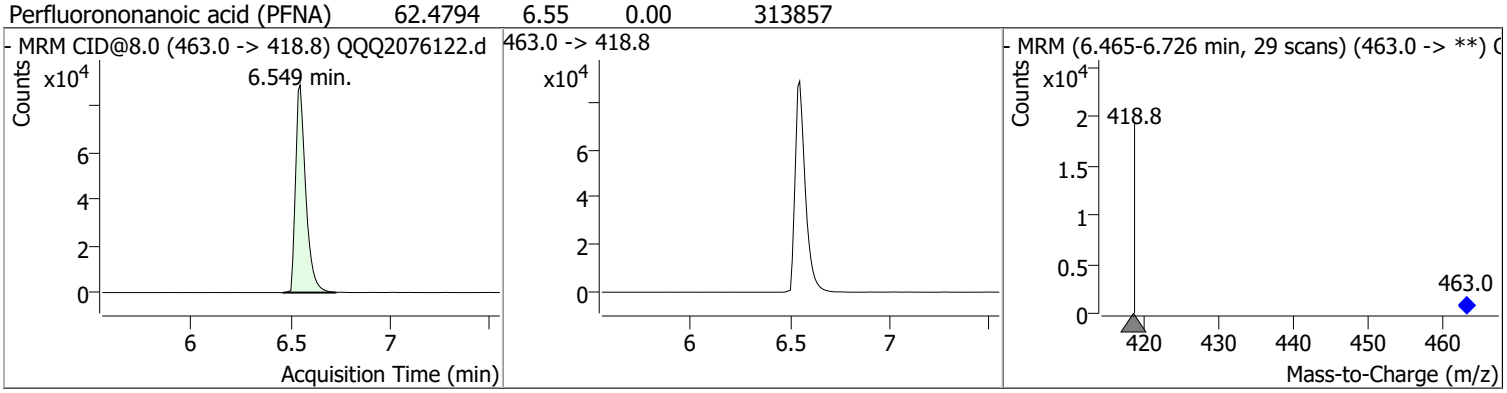
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	59.6732	6.08	0.00	151725				



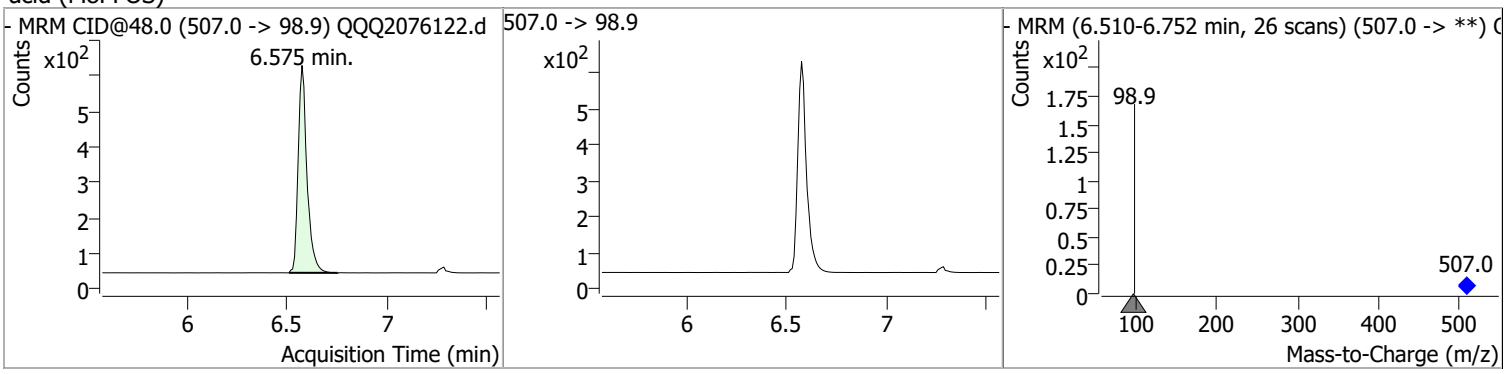
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3928	6.55	0.01	1208				



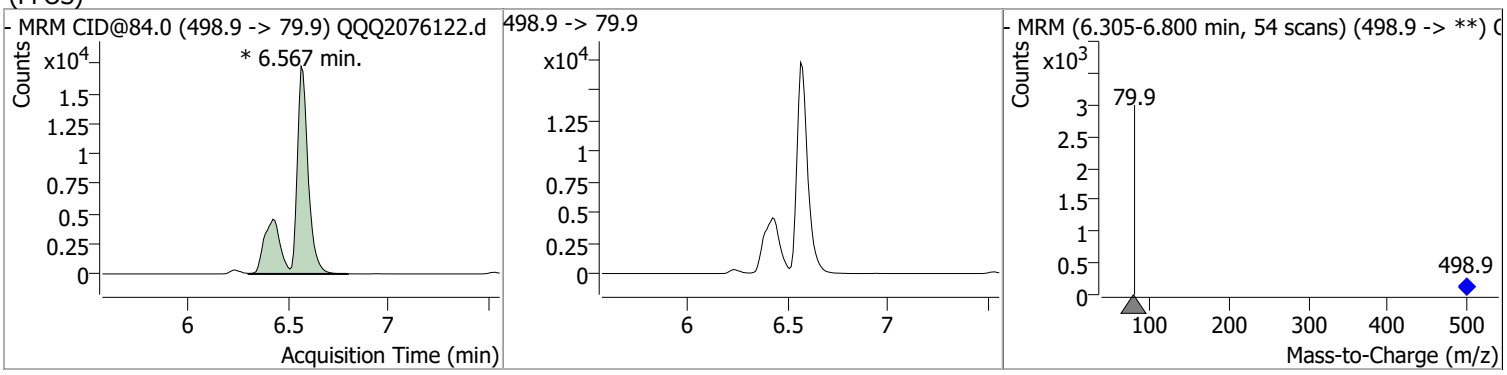
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	62.4794	6.55	0.00	313857				



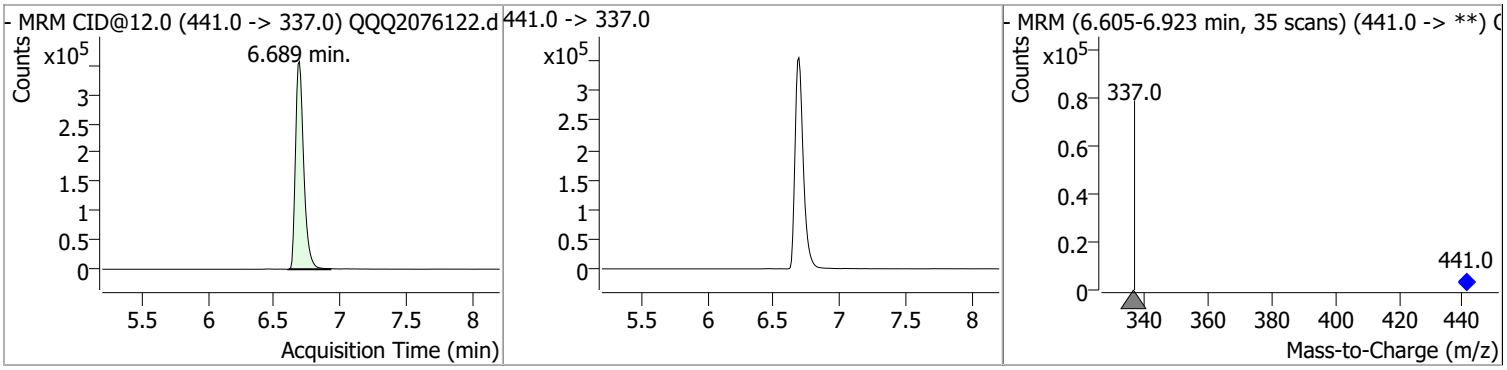
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.3817	6.58	0.01	1800				



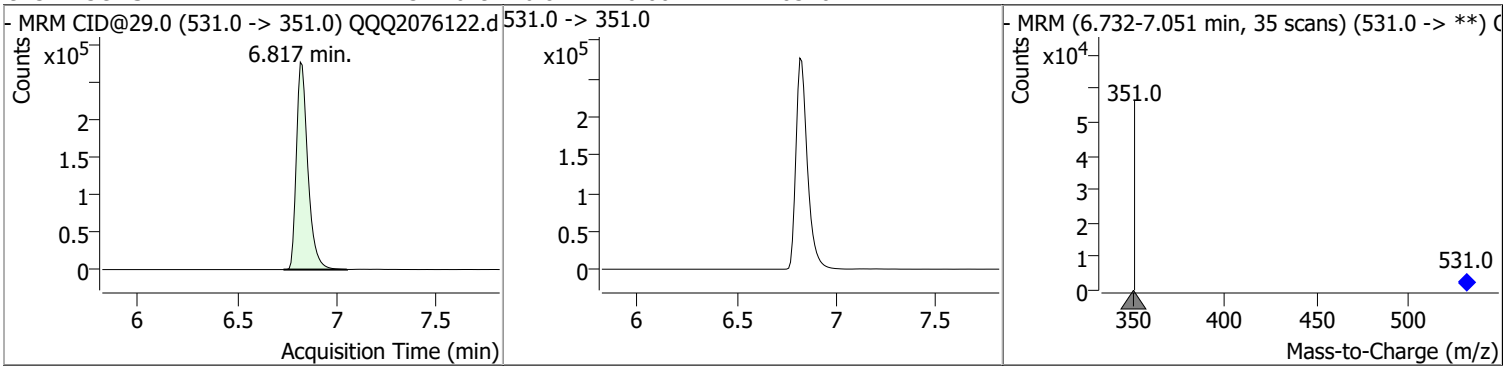
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	58.1225	6.57	0.00	89496 (m)				



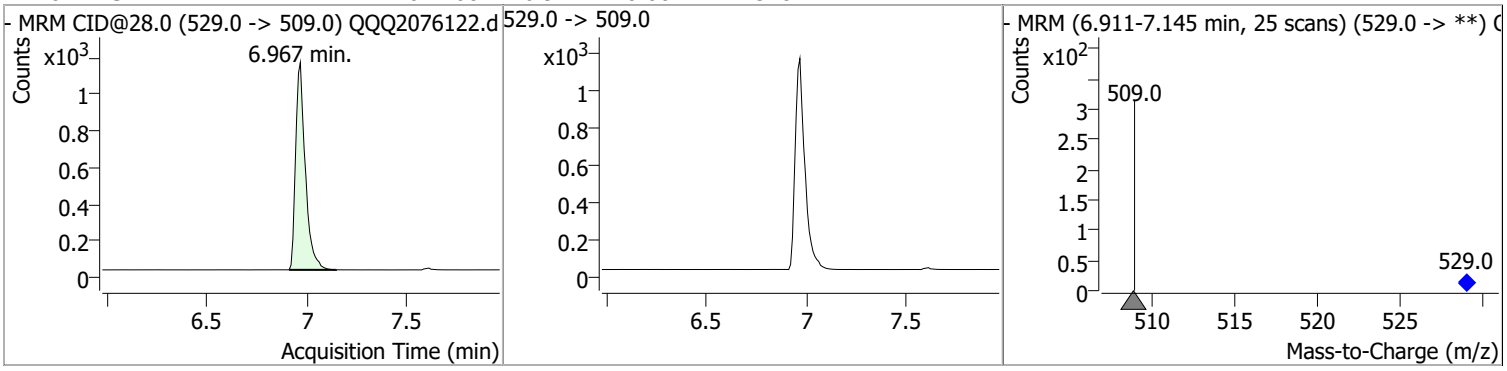
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	1568.0910	6.69	0.00	1540780				



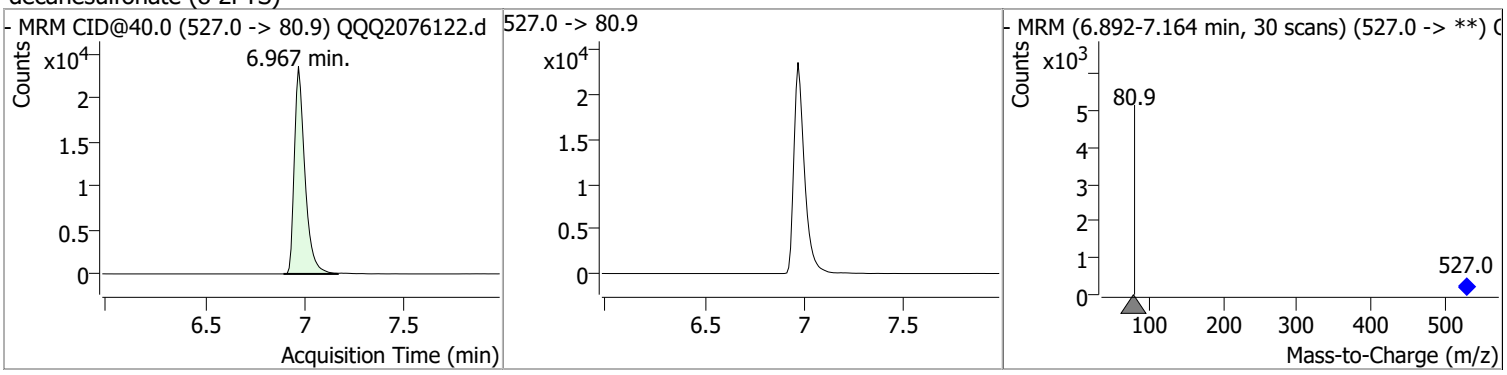
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	234.1679	6.82	0.00	1103404				



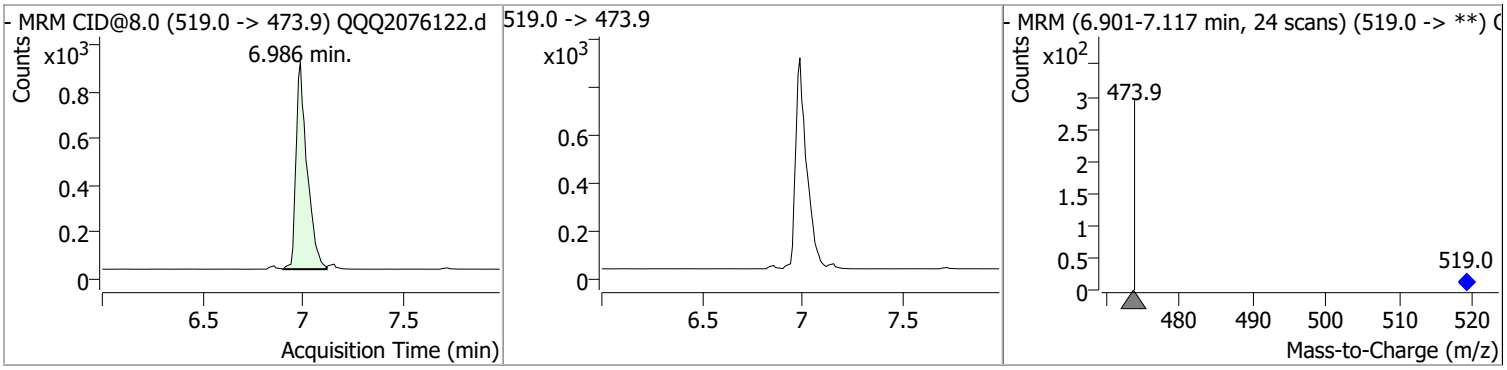
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	10.4268	6.97	0.00	3782				



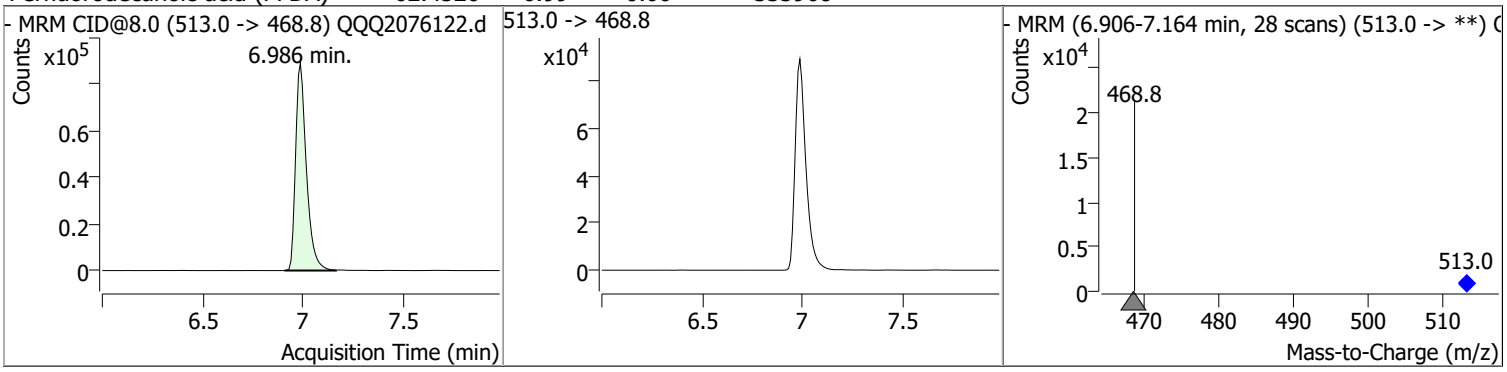
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)		6.97	-0.01	86009				



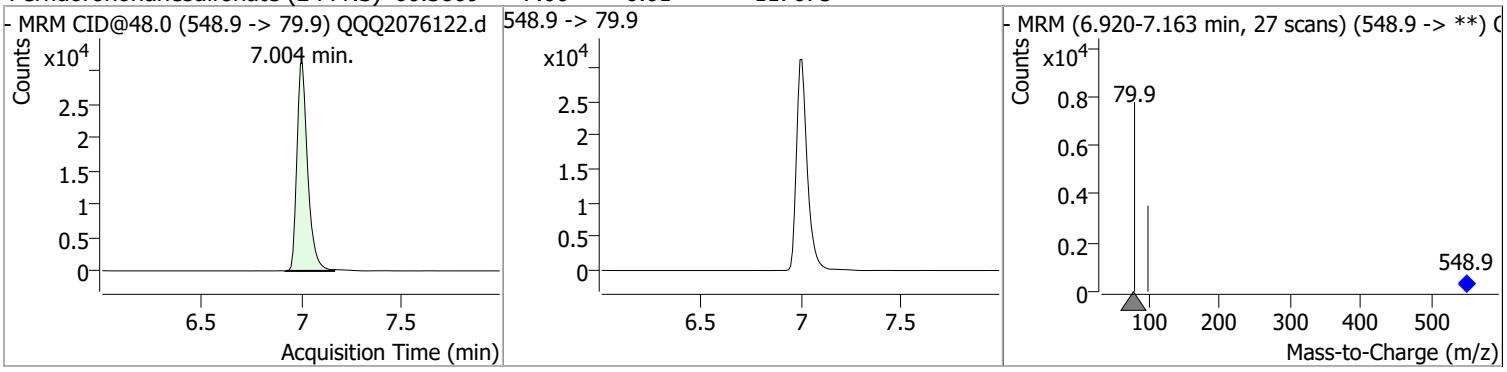
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.1829	6.99	0.00	3383				



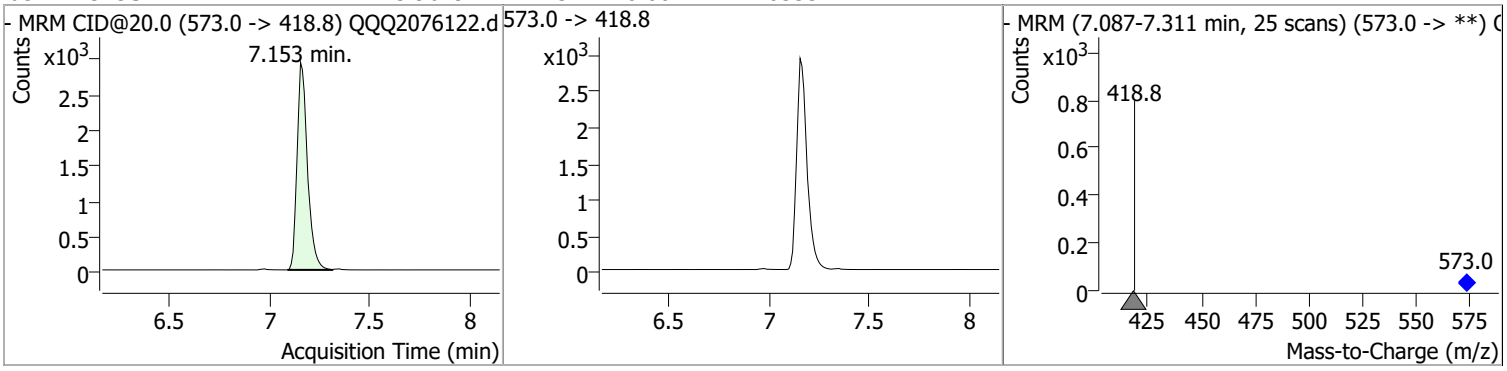
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	62.4520	6.99	0.00	333968				



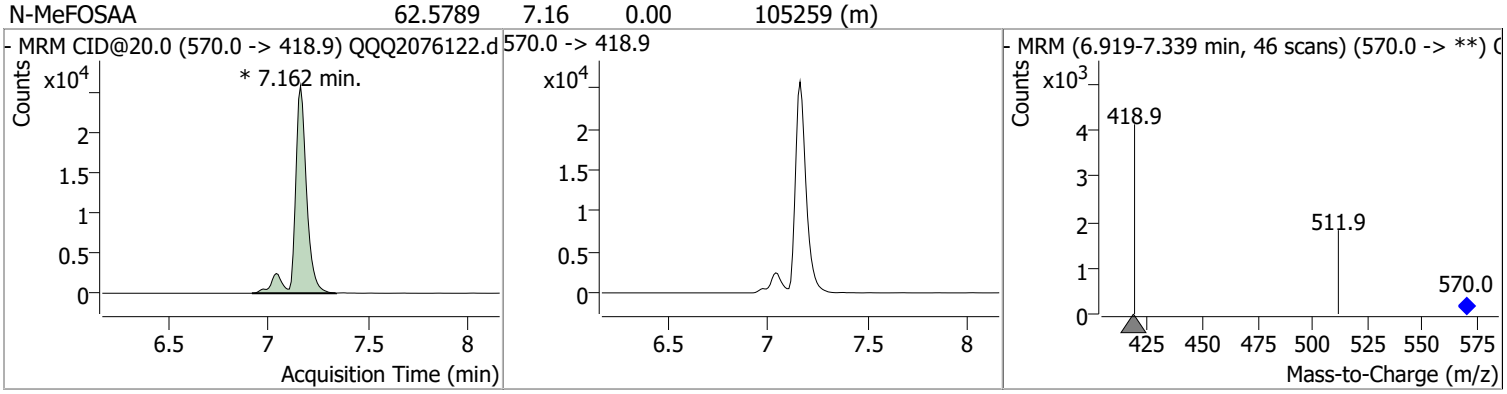
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	60.3809	7.00	0.01	117075				



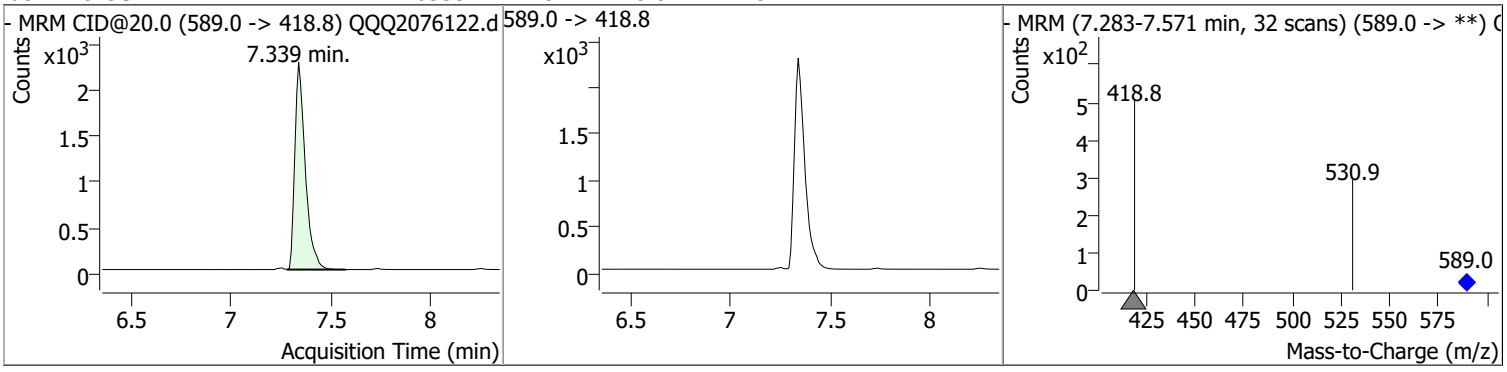
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.9649	7.15	0.00	10533				



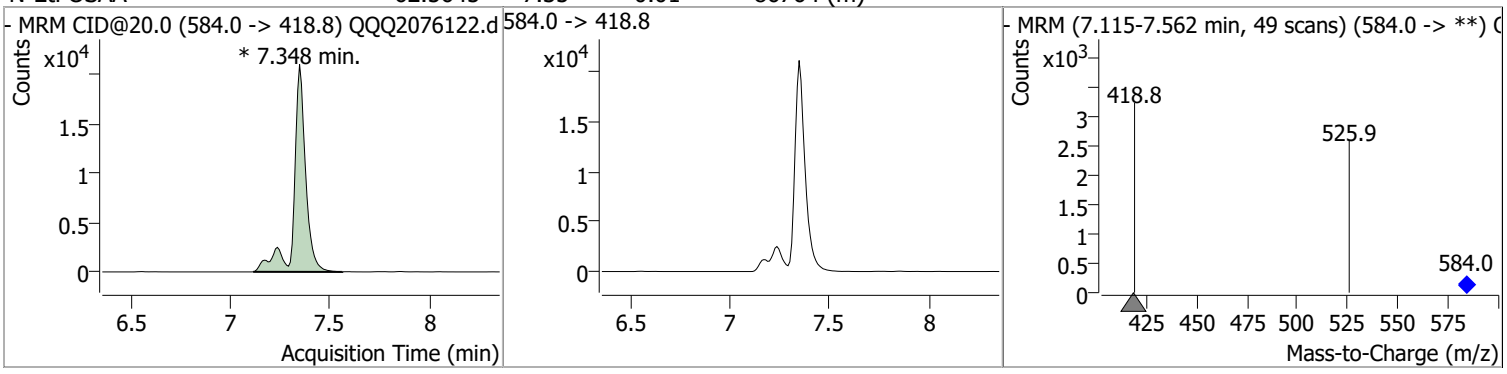
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	62.5789	7.16	0.00	105259 (m)				



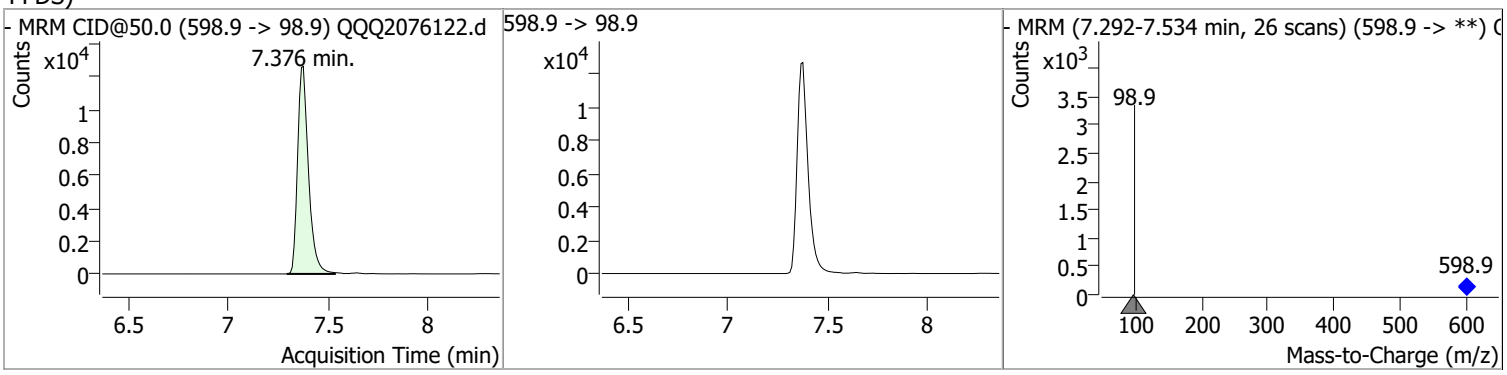
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.6335	7.34	-0.01	8221				



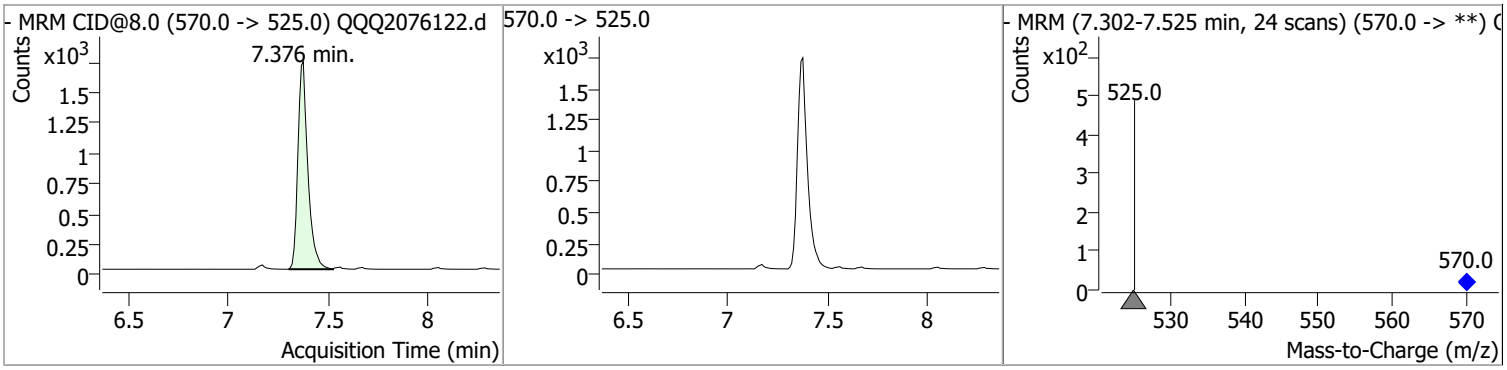
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	62.5645	7.35	-0.01	86764 (m)				



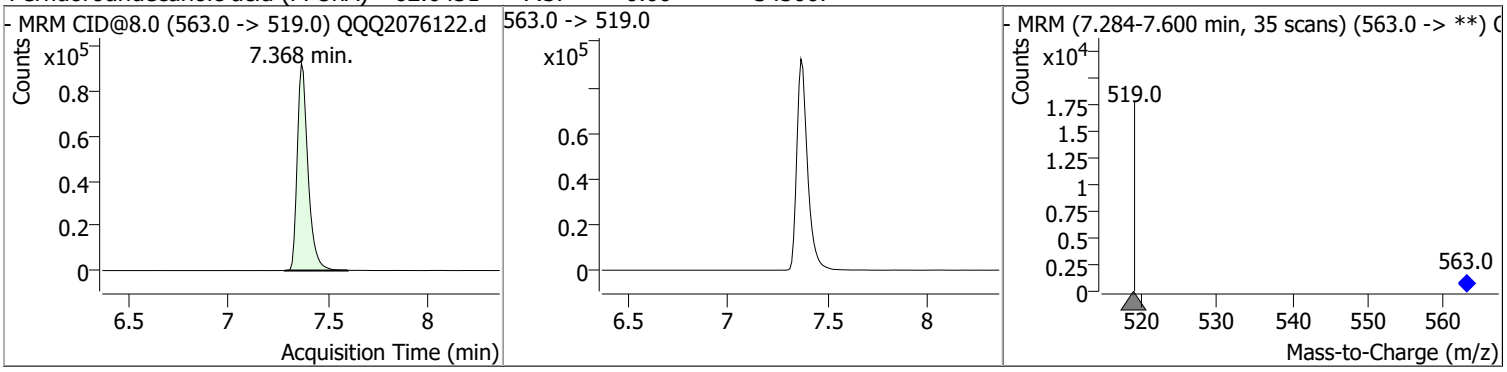
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	60.5212	7.38	0.01	47999				



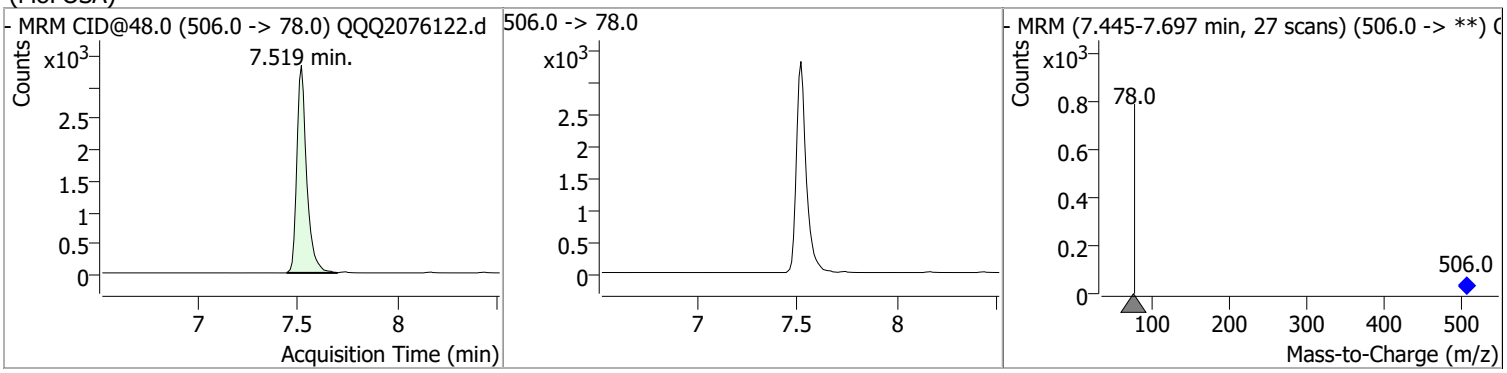
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.0512	7.38	0.01	5958				



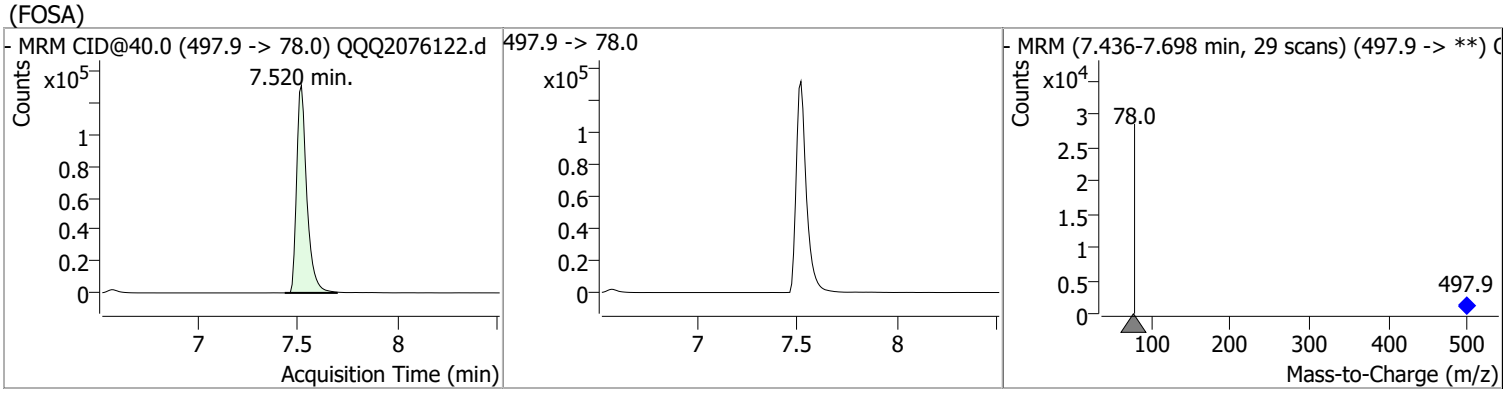
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	62.6451	7.37	0.00	345607				



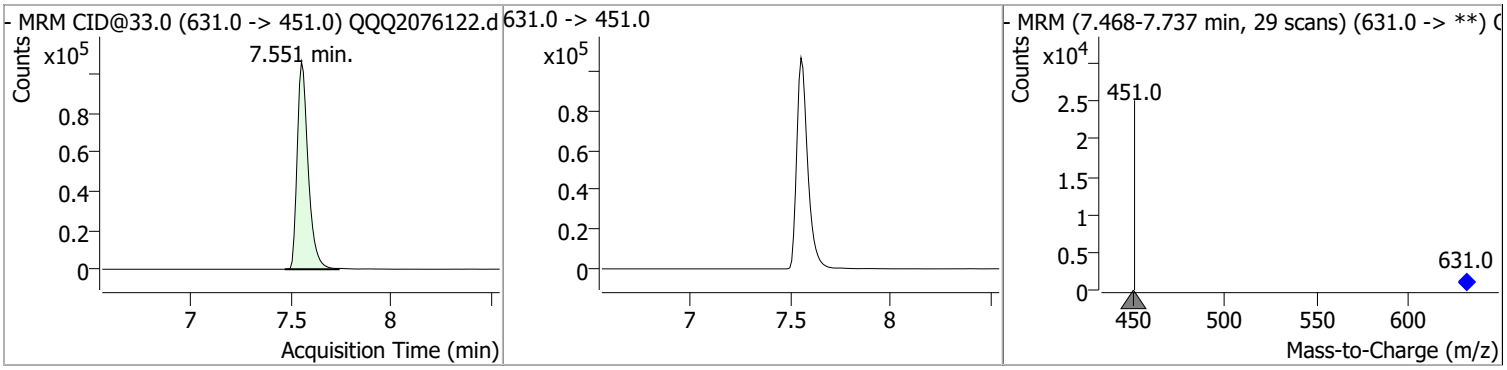
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.6448	7.52	0.00	11333				



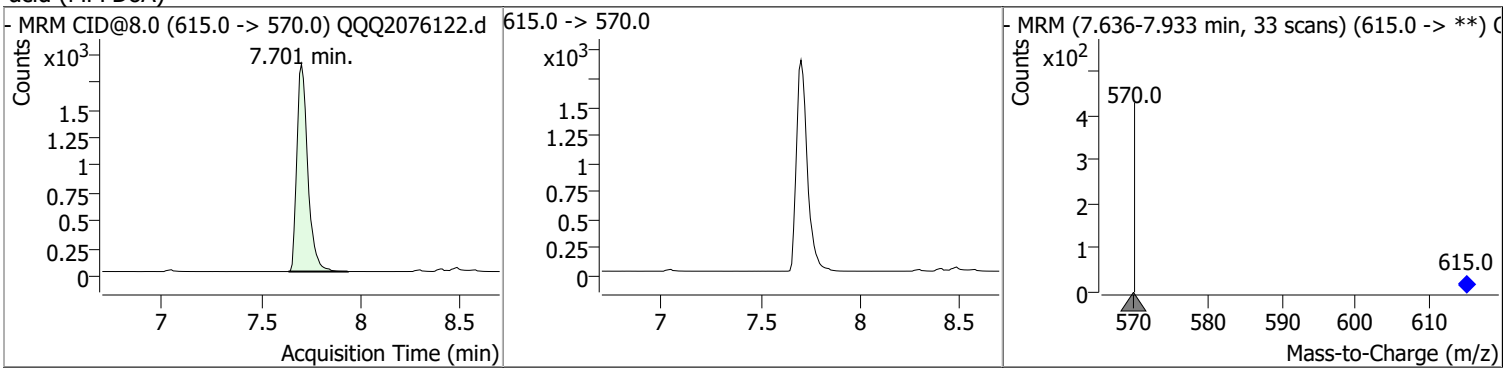
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	62.5467	7.52	0.00	464734				



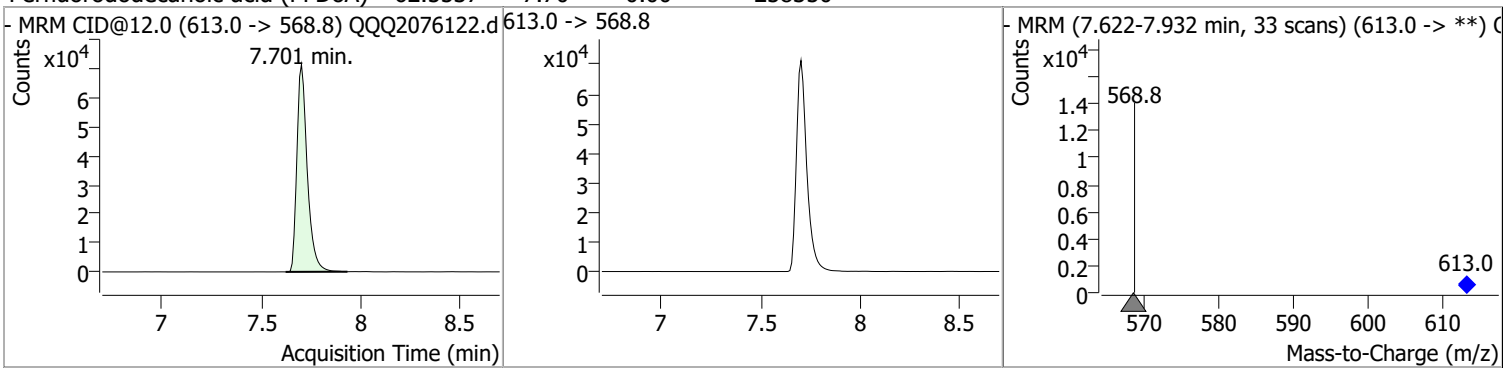
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	236.5012	7.55	0.00	406467				



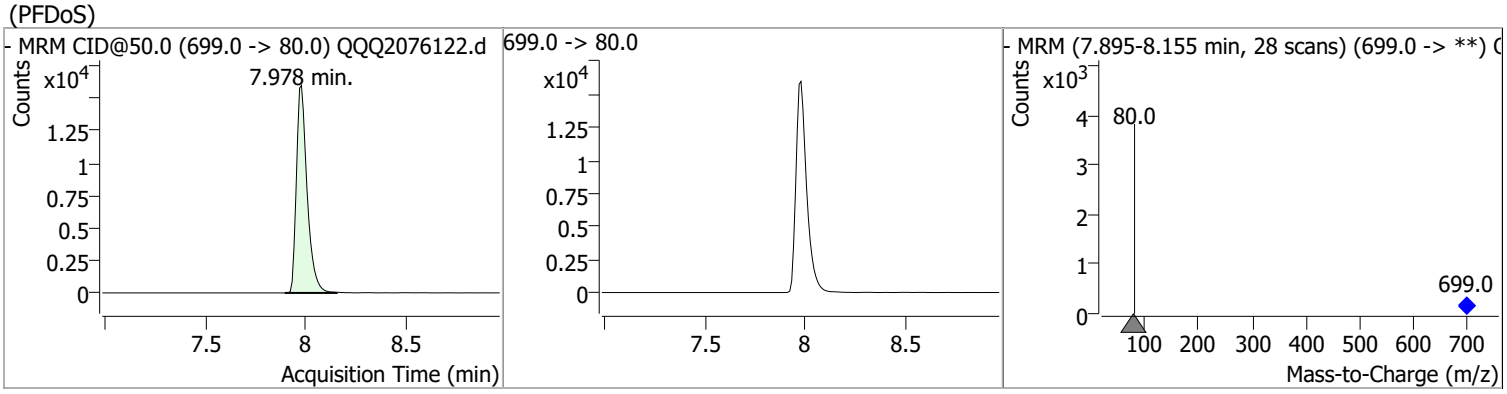
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.5124	7.70	0.00	7136				



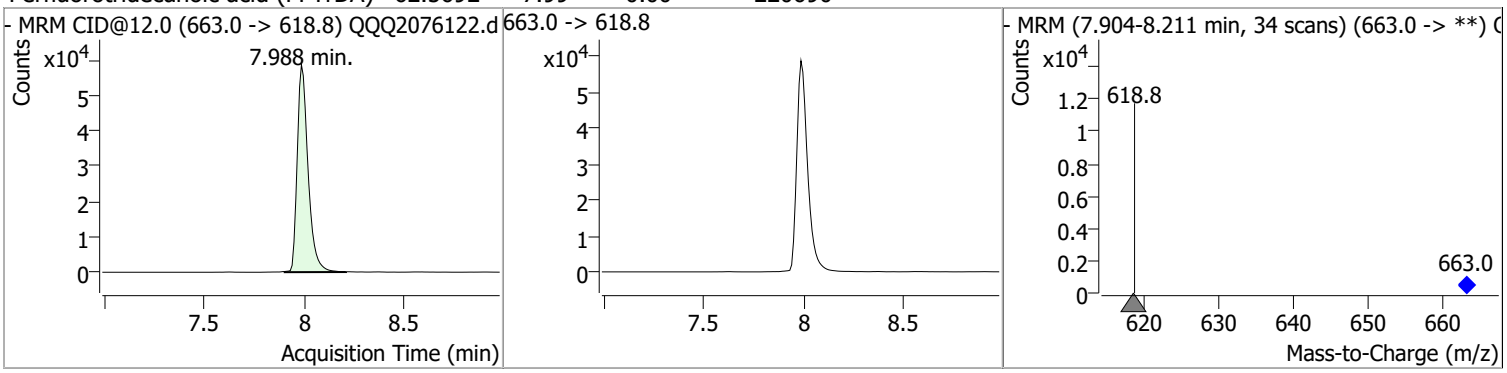
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	62.5537	7.70	0.00	258350				



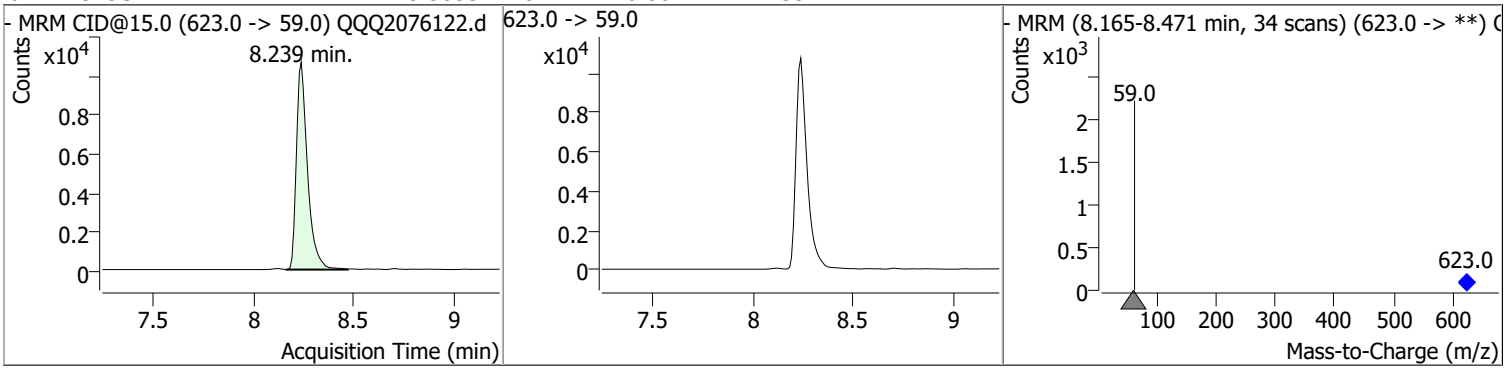
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	60.7382	7.98	0.00	59139				



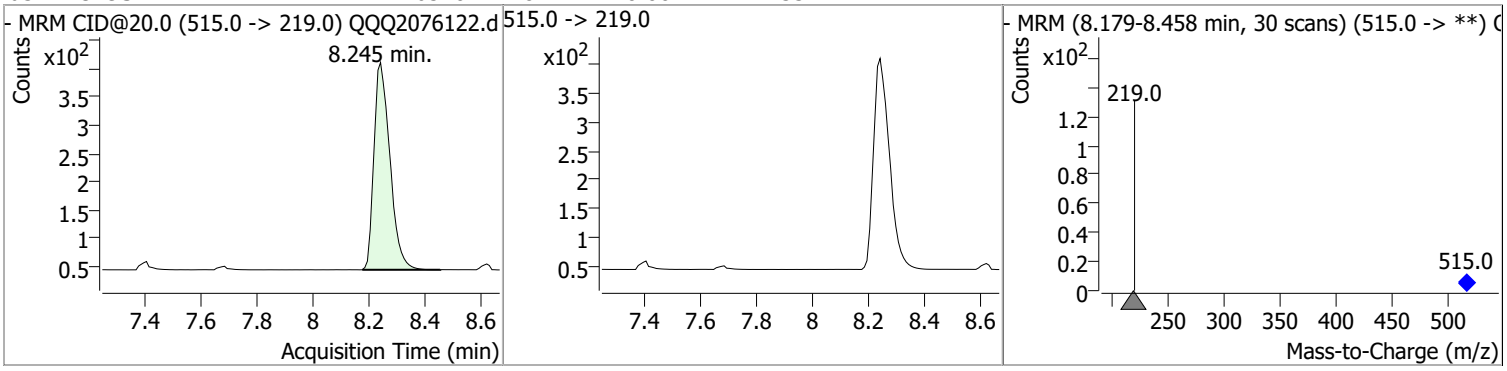
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	62.5692	7.99	0.00	220690				



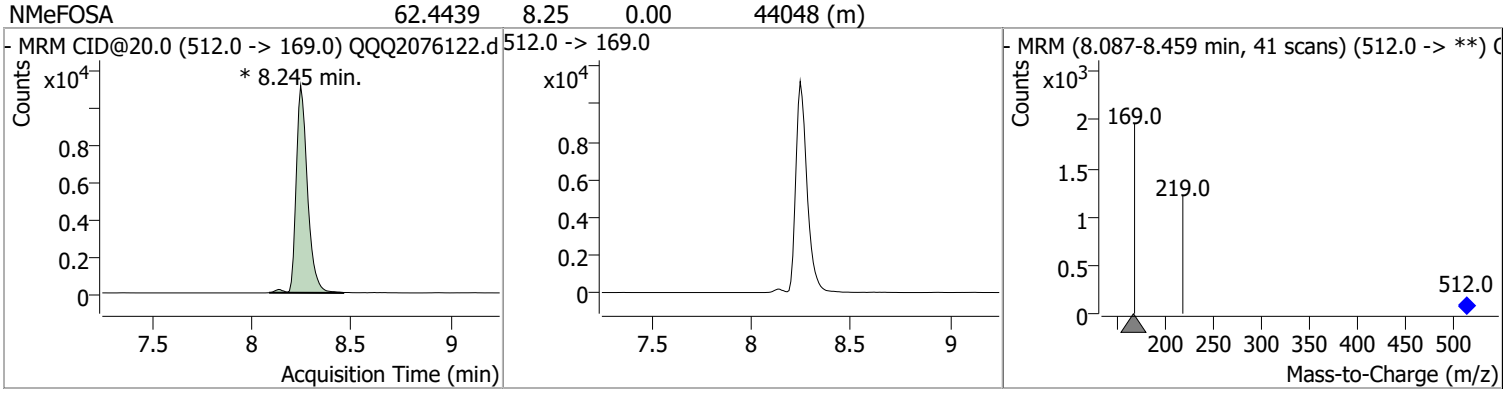
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	23.3053	8.24	0.00	41351				



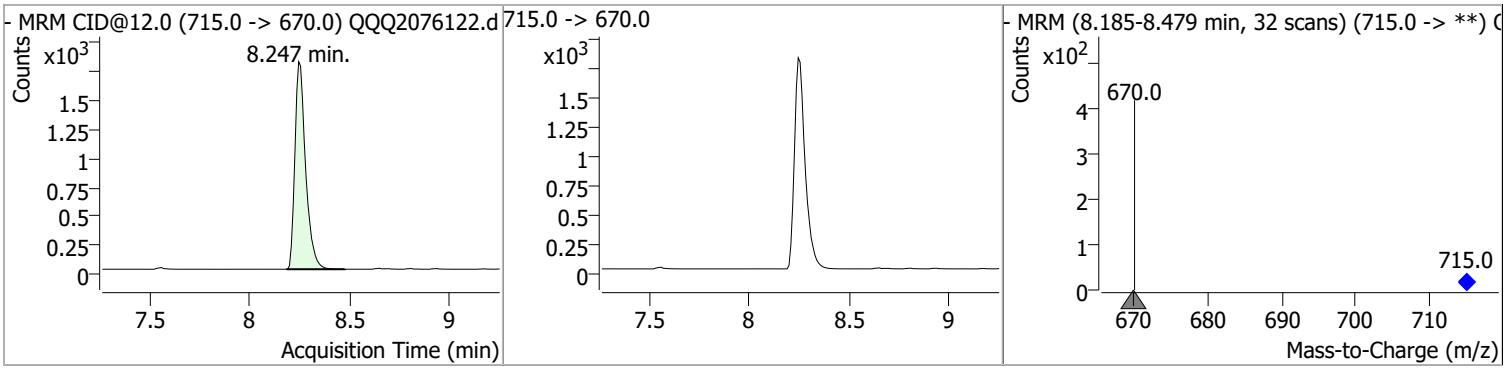
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.6540	8.24	0.00	1453				



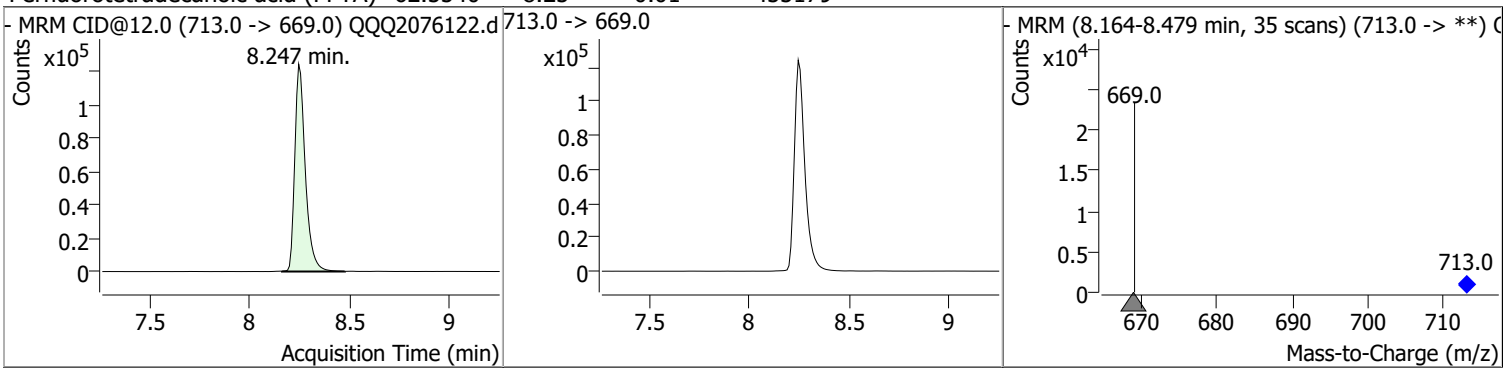
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	62.4439	8.25	0.00	44048 (m)				



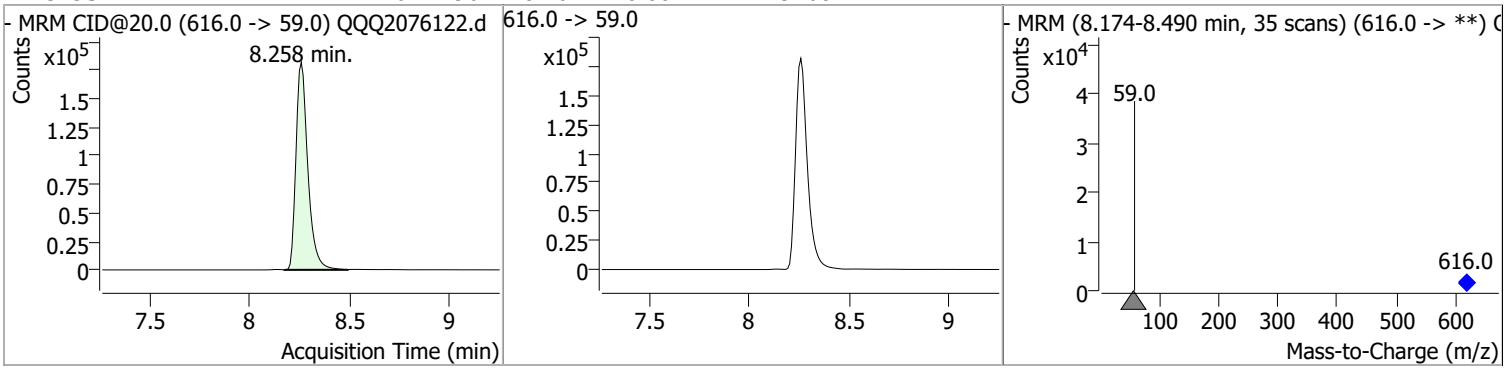
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.3448	8.25	-0.01	6697				



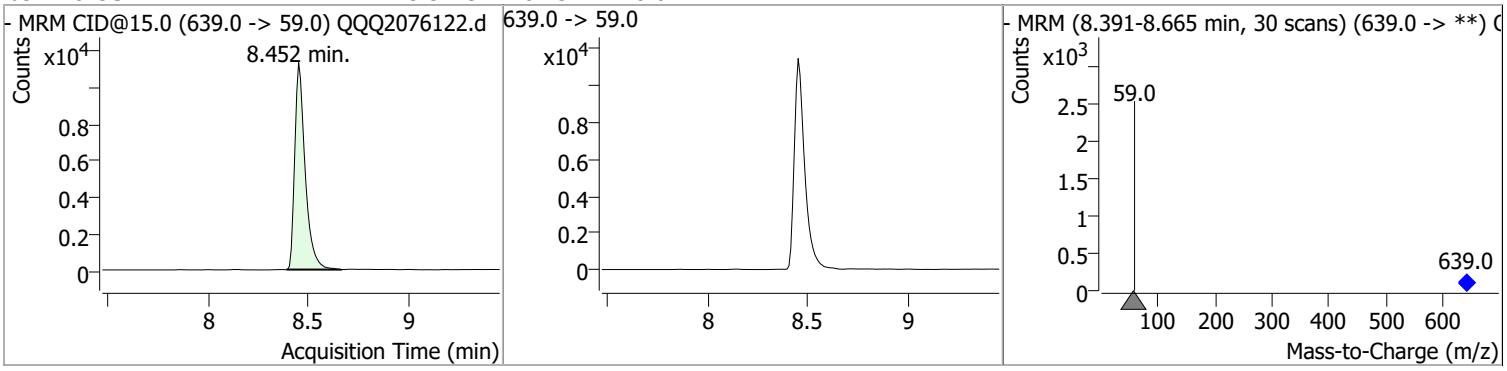
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	62.5540	8.25	-0.01	455179				



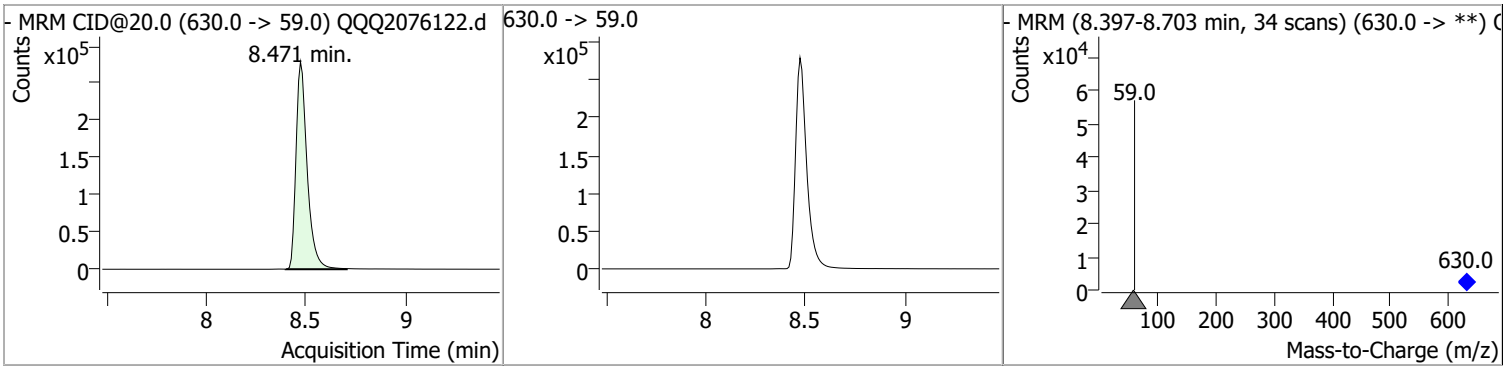
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	624.7964	8.26	0.00	749268				



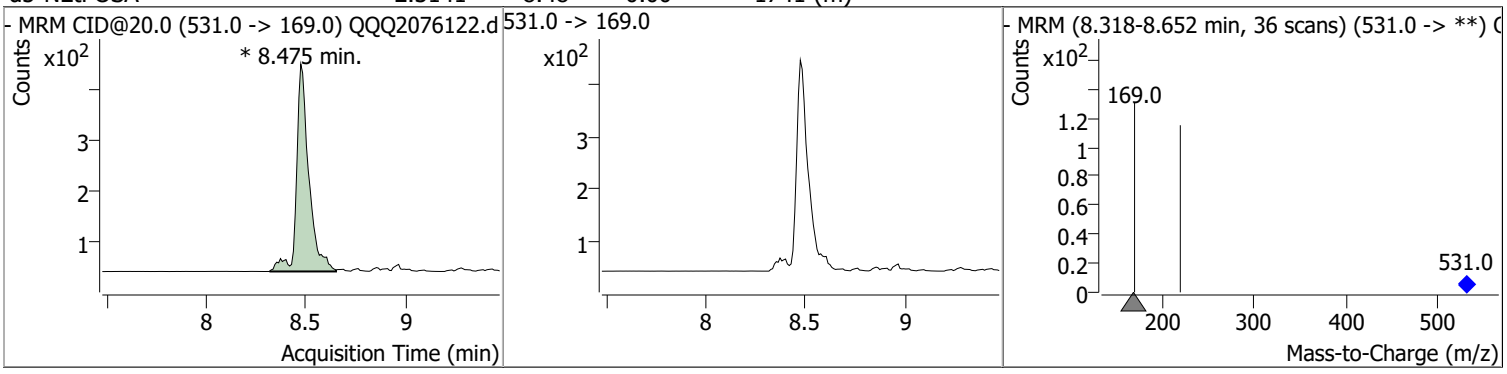
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	23.5749	8.45	-0.01	41111				



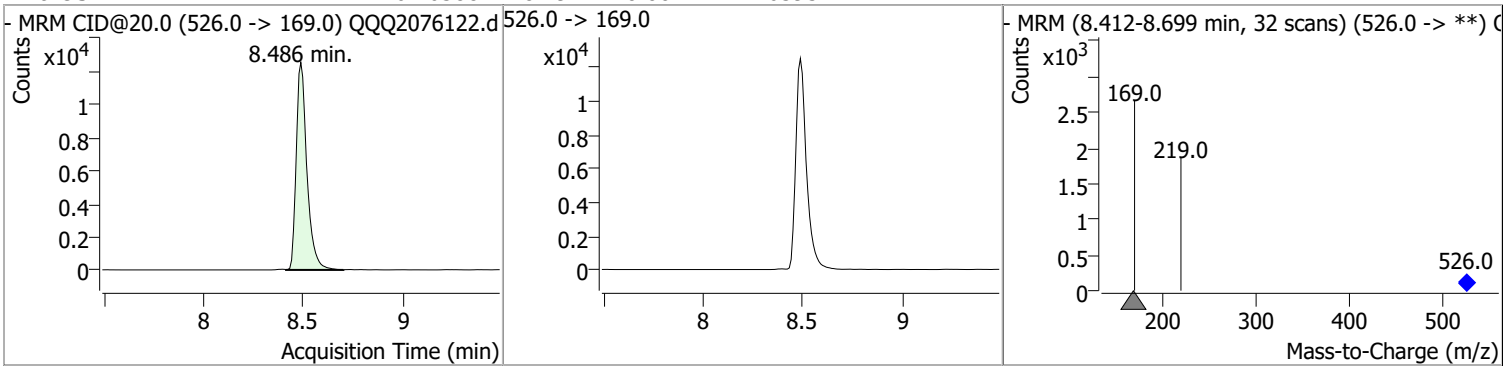
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	625.6569	8.47	0.00	1082082				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.3141	8.48	0.00	1741 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	62.6388	8.49	0.00	46595				



Quantitation Results Report (Not Reviewed)

Data File	QQQ2076125.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	4/5/2023 5:47:17 PM
Sample Name	SEQ-SCV1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-04-05A-1633-ICAL.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

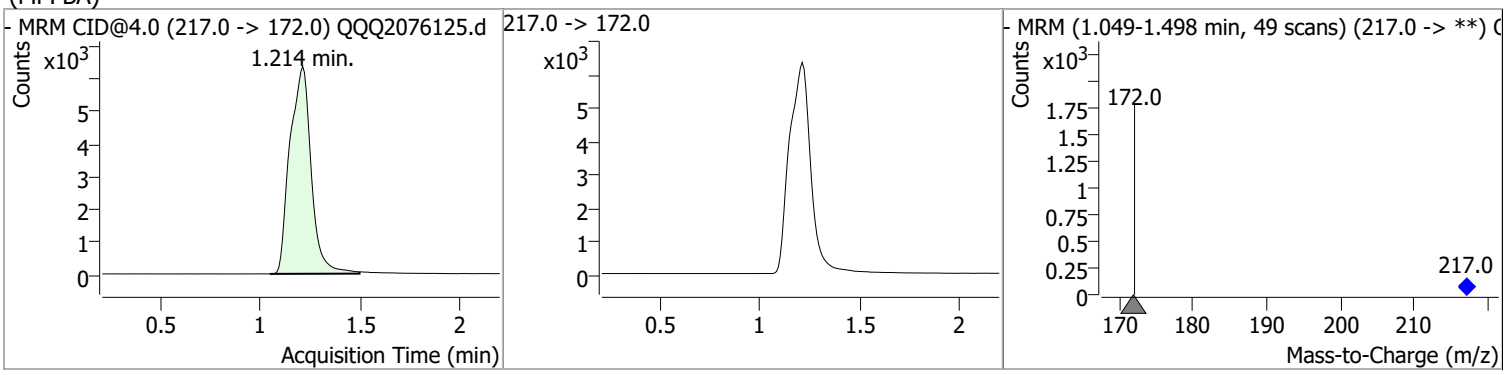
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.207	216.0 -> 172.0	34258	5.0000	ng/ml	0.000
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.214	217.0 -> 172.0	46828	10.0000	ng/ml	0.009
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.396	268.0 -> 223.0	26328	5.0000	ng/ml	0.009
MPFHxA	4.707	315.0 -> 269.8	29996	2.5000	ng/ml	0.010
MPFHxS	5.522	403.0 -> 103.0	2998	2.3700	ng/ml	0.000
M3PFBS-EIS	3.892	302.0 -> 79.9	8975	2.3300	ng/ml	0.000
M5PFHxA-EIS	4.706	318.0 -> 273.0	21151	2.5000	ng/ml	0.010
M2-4-2FTS-EIS	4.640	329.0 -> 309.0	12706	4.6900	ng/ml	0.009
M3PFHxS-EIS	5.532	402.0 -> 80.0	7624	2.3700	ng/ml	0.000
M3-HFPO-DA-EIS	4.960	287.0 -> 169.0	50504	10.0000	ng/ml	0.000
M4PFHpA-EIS	5.449	367.0 -> 322.0	23325	2.5000	ng/ml	0.009
M2-6-2FTS-EIS	5.997	429.0 -> 409.0	9097	4.7550	ng/ml	0.000
MPFOA	6.036	417.0 -> 372.0	31656	2.5000	ng/ml	0.000
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	6.035	421.0 -> 376.0	15046	2.5000	ng/ml	0.000
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.575	507.0 -> 98.9	2971	2.3950	ng/ml	0.009
MPFNA	6.549	468.0 -> 423.0	11438	1.2500	ng/ml	0.009
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.558	472.0 -> 223.0	1524	1.2500	ng/ml	0.019
MPFOS	6.576	503.0 -> 80.0	7469	2.3950	ng/ml	0.000
M2-8-2FTS-EIS	6.976	529.0 -> 509.0	8301	4.8000	ng/ml	0.010
MPFDA	6.995	515.0 -> 469.8	8493	1.2500	ng/ml	0.009
M6PFDA-EIS	6.995	519.0 -> 473.9	4840	1.2500	ng/ml	0.009
d3-N-MeFOSAA-EIS	7.162	573.0 -> 418.8	15292	5.0000	ng/ml	0.009
d5-N-EtFOSAA-EIS	7.348	589.0 -> 418.8	13246	5.0000	ng/ml	0.000
M7PFUdA-EIS	7.376	570.0 -> 525.0	7919	1.2500	ng/ml	0.009
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.519	506.0 -> 78.0	12876	2.5000	ng/ml	0.000
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.701	615.0 -> 570.0	8838	1.2500	ng/ml	0.000
M2PFTeDA-EIS	8.238	715.0 -> 670.0	7837	1.2500	ng/ml	-0.019
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	1399	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	44455	25.0000	ng/ml	-0.009
d9-NEtFOSE-EIS	8.443	639.0 -> 59.0	35744	25.0000	ng/ml	-0.018
d5-NEtFOSA-EIS	8.457	531.0 -> 169.0	2278	2.5000	ng/ml	-0.018
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.214	217.0 -> 172.0	46828	9.9794	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.396	268.0 -> 223.0	26328	5.4210	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.892	302.0 -> 79.9	8975	2.2504	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.640	329.0 -> 309.0	12706	7.7820	ng/ml	0.009

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.706	318.0 -> 273.0	21151	2.6105	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.960	287.0 -> 169.0	50504	10.6893	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.449	367.0 -> 322.0	23325	2.5490	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.532	402.0 -> 80.0	7624	2.2756	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.997	429.0 -> 409.0	9097	10.2725	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	6.035	421.0 -> 376.0	15046	2.1559	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.558	472.0 -> 223.0	1524	1.2943	ng/ml	0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.575	507.0 -> 98.9	2971	2.7471	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.976	529.0 -> 509.0	8301	10.9041	ng/ml	0.010
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.995	519.0 -> 473.9	4840	1.4681	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.162	573.0 -> 418.8	15292	6.0518	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.348	589.0 -> 418.8	13246	5.2168	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.376	570.0 -> 525.0	7919	1.2121	ng/ml	0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.519	506.0 -> 78.0	12876	2.0999	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.701	615.0 -> 570.0	8838	1.6249	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	44455	17.5089	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	1399	1.7868	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.238	715.0 -> 670.0	7837	1.3651	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.443	639.0 -> 59.0	35744	14.3239	ng/ml	-0.018
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.457	531.0 -> 169.0	2278	2.1160	ng/ml	-0.018
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.209	213.0 -> 168.9	115482	19.5271	ng/ml	100
PFMPA	2.079	229.0 -> 85.0	38463	9.4967	ng/ml	100
3:3FTCA	3.305	241.0 -> 177.0	8401	25.8602	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.397	263.0 -> 219.0	55712	9.6638	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.893	298.9 -> 79.9	20115	4.3557	ng/ml	100
PFMBA	3.923	279.0 -> 85.0	54960	9.2256	ng/ml	100
PFEESA	4.391	315.0 -> 135.0	135780	10.0781	ng/ml	100
NFDHA	4.560	295.0 -> 201.1	60236	10.0560	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.641	327.0 -> 307.0	44300	18.2451	ng/ml	100

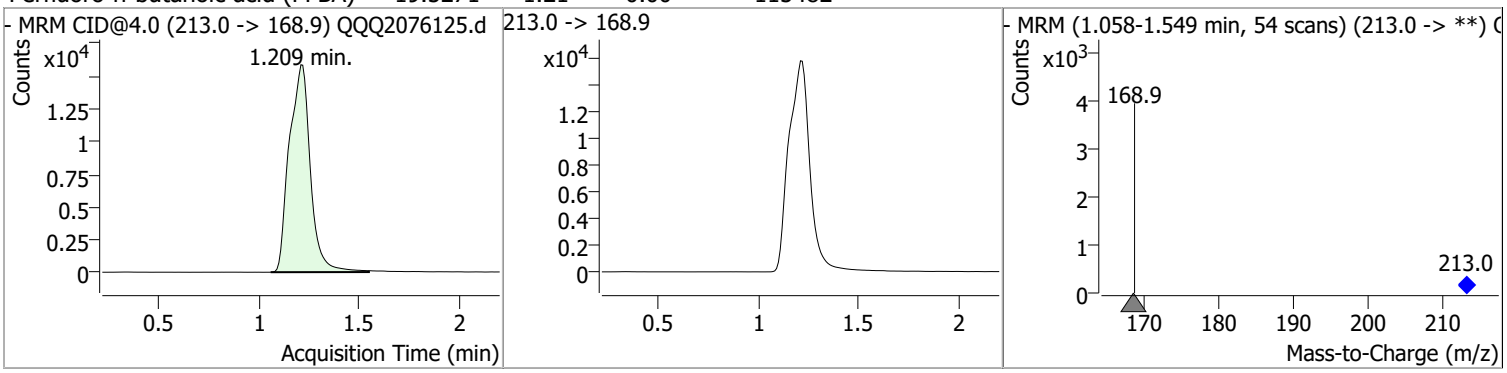
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.707	313.0 -> 268.9	52795	5.2634	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.881	348.9 -> 79.9	19331	4.3978	ng/ml		100
HFPO-DA	4.960	285.0 -> 169.1	10453	24.0577	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.449	363.0 -> 318.8	60691	4.8359	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.532	398.9 -> 79.9	17833	4.0558	ng/ml	m	100
5-3FTCA	5.543	341.0 -> 217.0	194028	170.6678	ng/ml		100
ADONA	5.551	377.0 -> 85.0	133075	20.2407	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.997	427.0 -> 407.0	33267	19.2818	ng/ml		100
Perfluorooctanoic acid (PFOA)	6.036	413.0 -> 368.8	52109	5.9537	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.081	448.9 -> 80.0	17991	5.8078	ng/ml		100
Perfluorononanoic acid (PFNA)	6.549	463.0 -> 418.8	37306	4.3636	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.576	498.9 -> 79.9	8500	5.3181	ng/ml	m	100
7-3FTCA	6.689	441.0 -> 337.0	254929	143.7322	ng/ml		100
9-Cl-PF3ONS	6.826	531.0 -> 351.0	156354	21.6570	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.976	527.0 -> 80.9	30471	16.2393	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.996	513.0 -> 468.8	36113	4.4857	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	7.004	548.9 -> 79.9	14483	5.1465	ng/ml		100
N-MeFOSAA	7.162	570.0 -> 418.9	11280	5.3649	ng/ml	m	100
N-EtFOSAA	7.358	584.0 -> 418.8	11009	5.4464	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.376	598.9 -> 98.9	6763	5.6148	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.377	563.0 -> 519.0	32953	6.1745	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.520	497.9 -> 78.0	38747	4.2884	ng/ml		100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	45627	16.4561	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	24755	4.1022	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.969	699.0 -> 80.0	5422	4.6765	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.979	663.0 -> 618.8	23242	4.8015	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	3220	4.0962	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.238	713.0 -> 669.0	41961	4.7611	ng/ml		100
NMeFOSE	8.240	616.0 -> 59.0	74519	47.8479	ng/ml		100
NEtFOSE	8.452	630.0 -> 59.0	79916	47.3242	ng/ml		100
NEtFOSA	8.467	526.0 -> 169.0	3538	4.5390	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

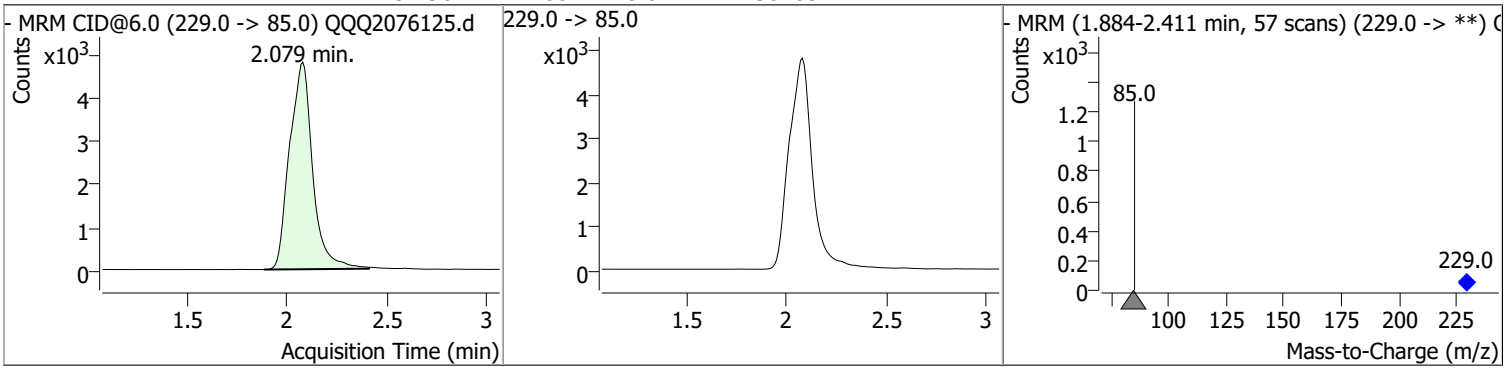
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.9794	1.21	0.01	46828				



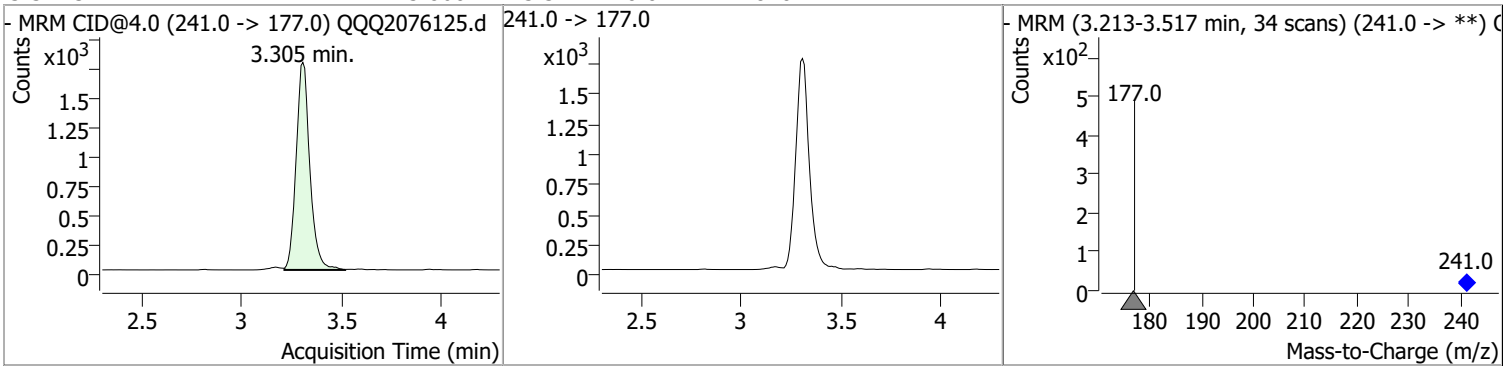
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	19.5271	1.21	0.00	115482				



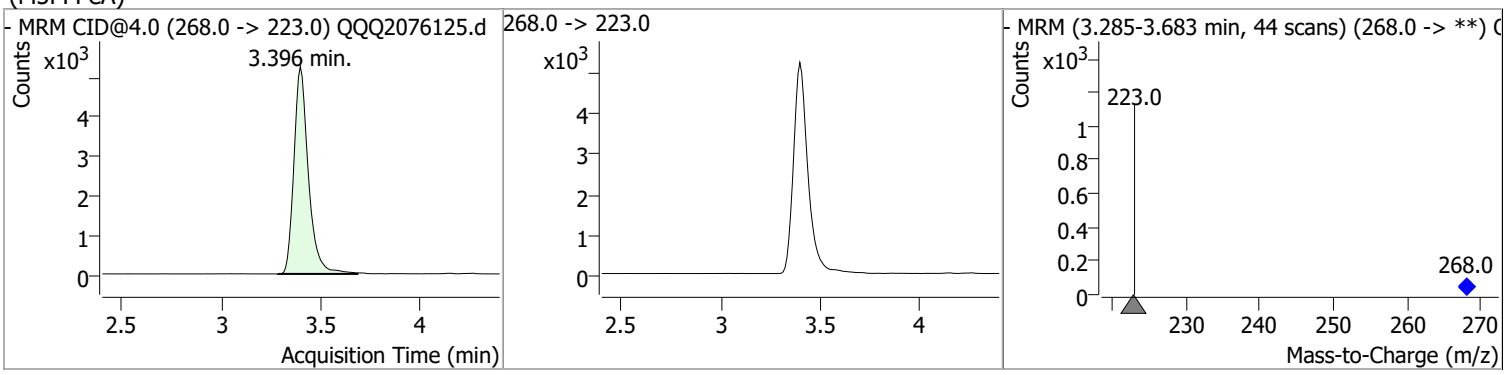
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	9.4967	2.08	0.01	38463				



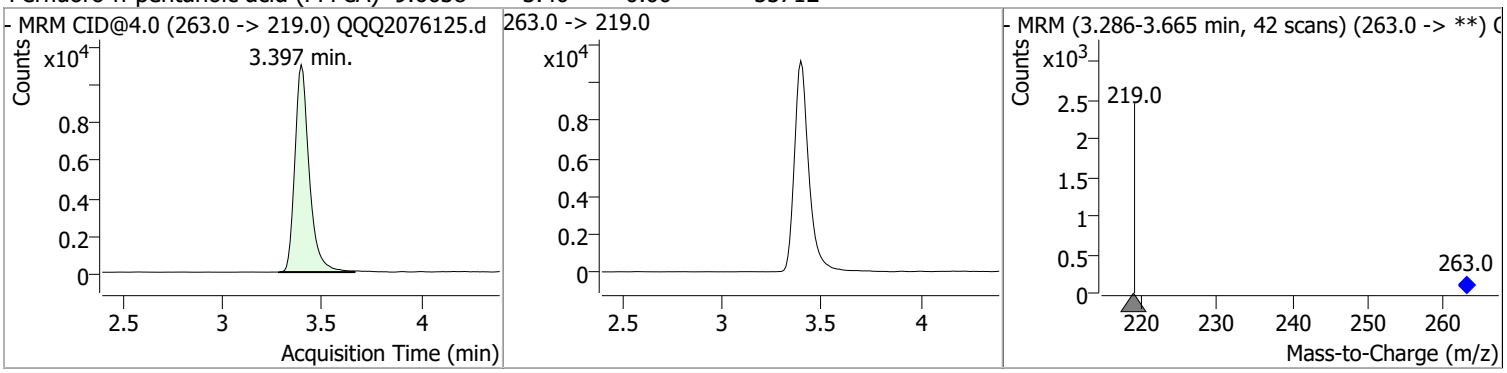
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	25.8602	3.31	0.01	8401				



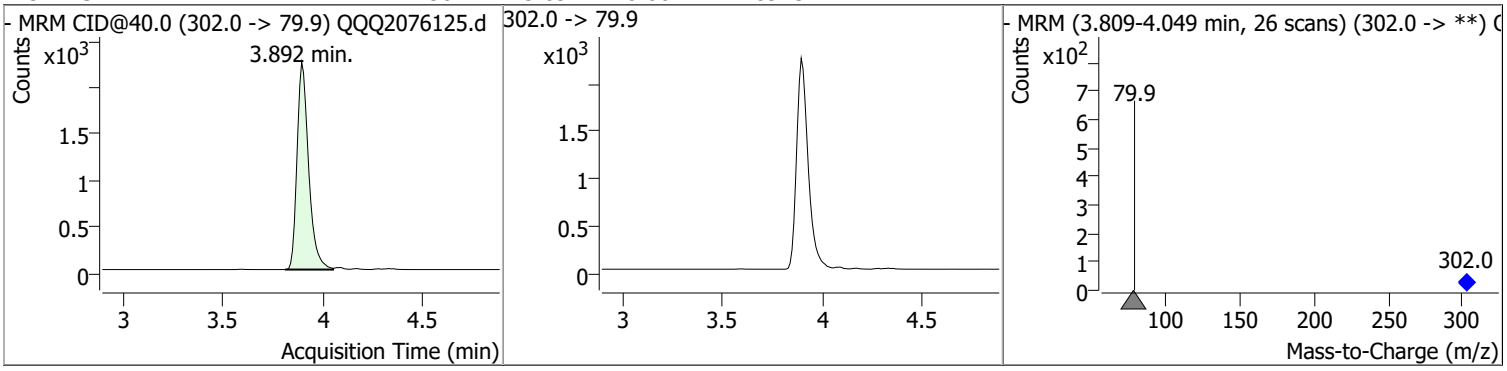
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.4210	3.40	0.01	26328				



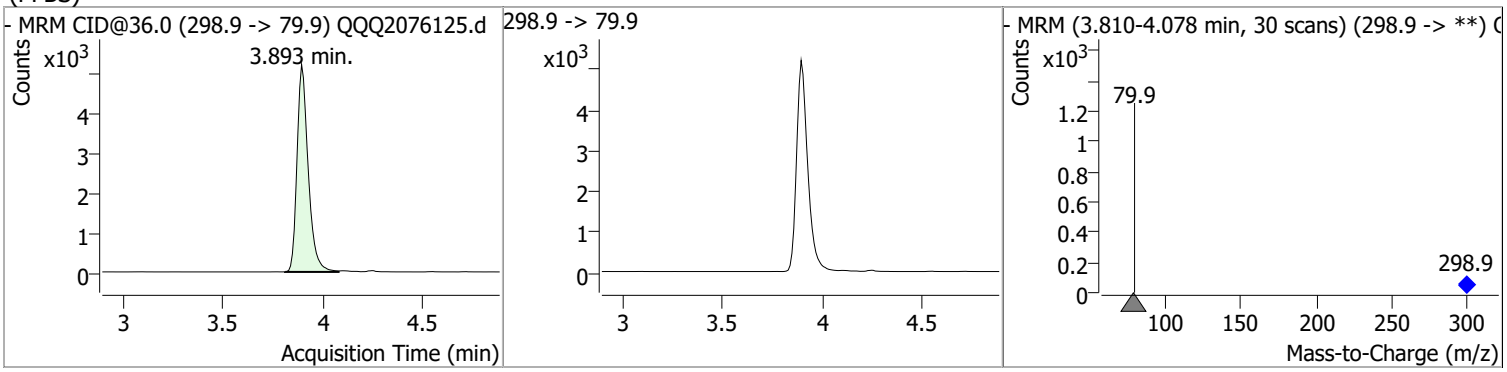
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	9.6638	3.40	0.00	55712				



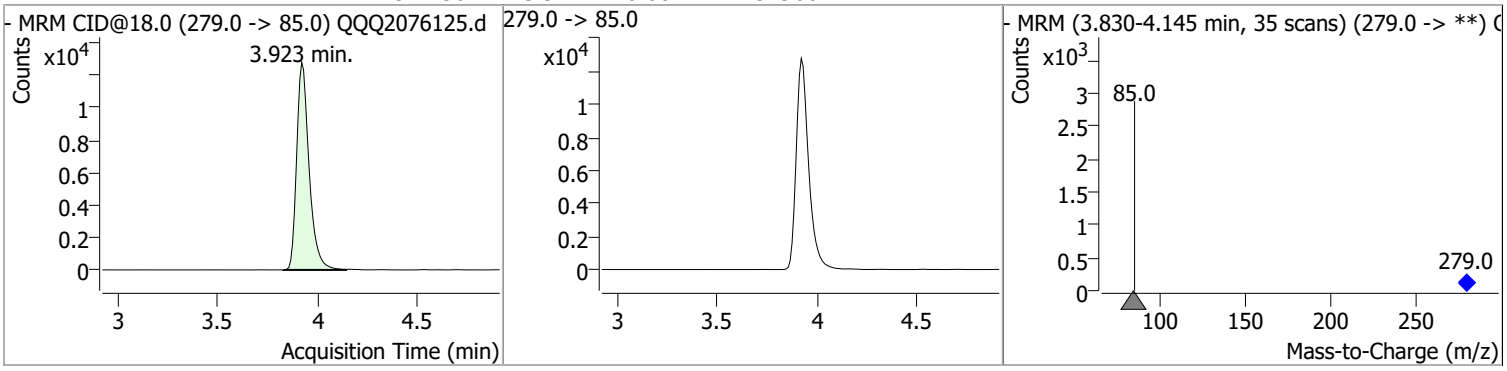
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.2504	3.89	0.00	8975				



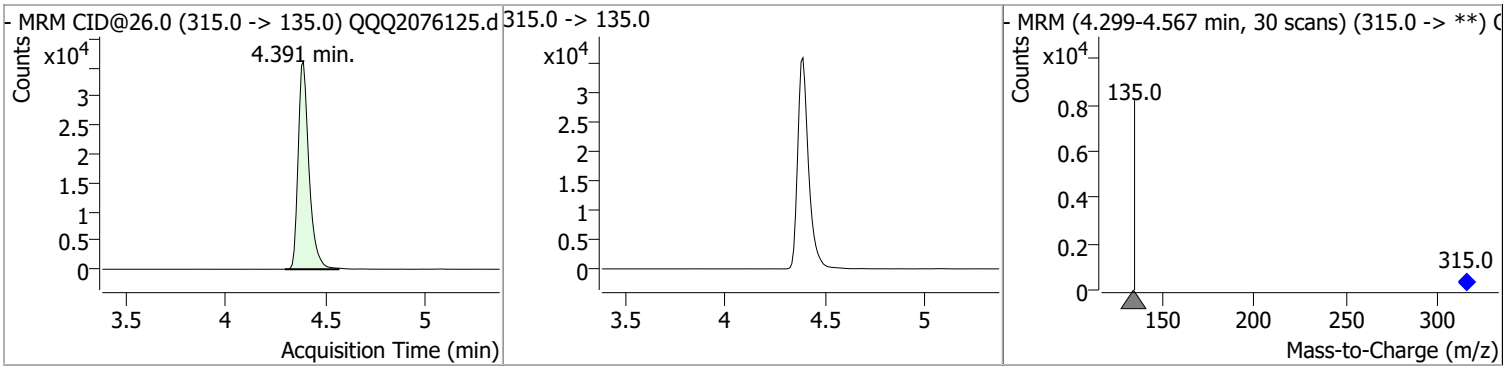
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.3557	3.89	0.00	20115				



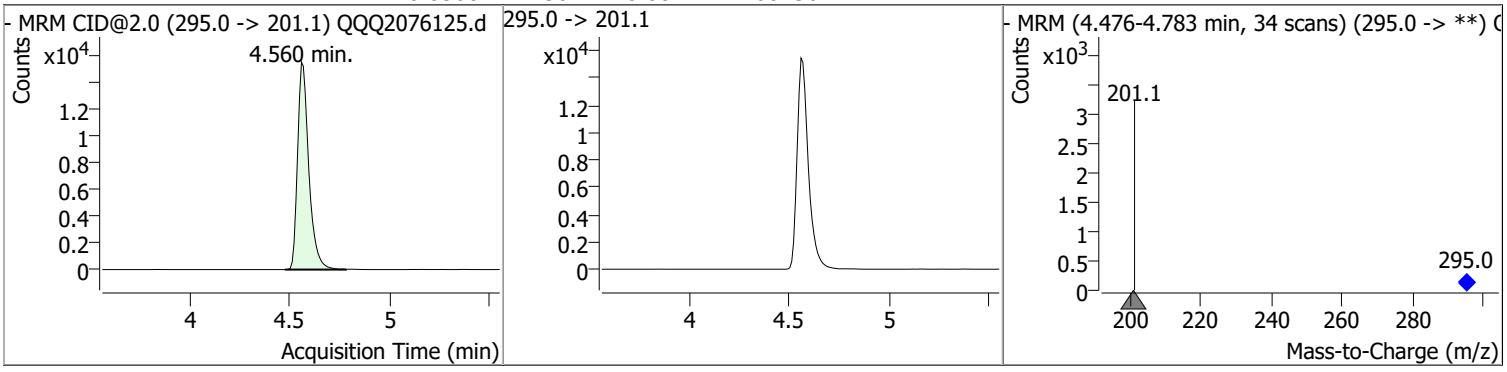
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	9.2256	3.92	0.00	54960				



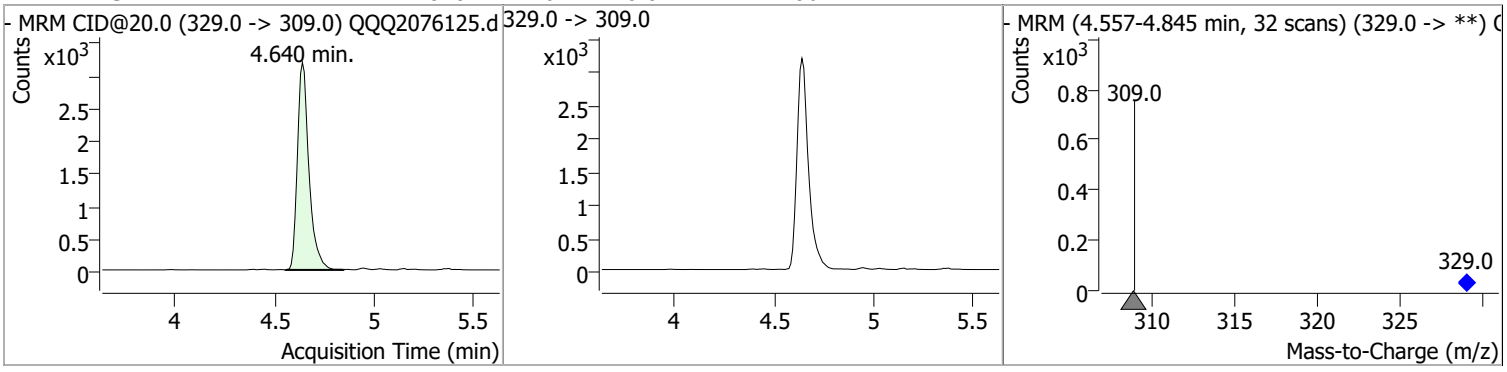
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	10.0781	4.39	0.01	135780				



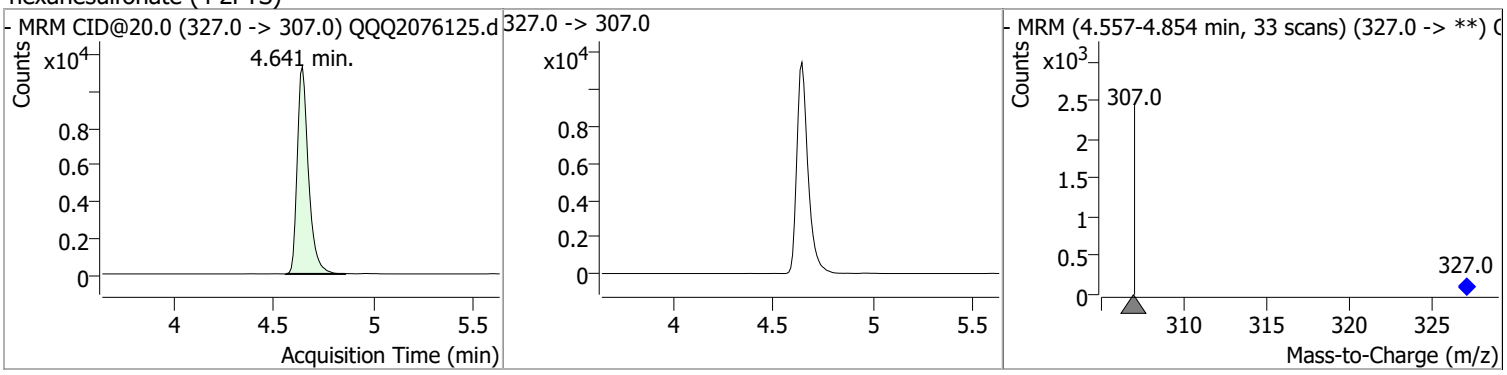
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	10.0560	4.56	0.00	60236				



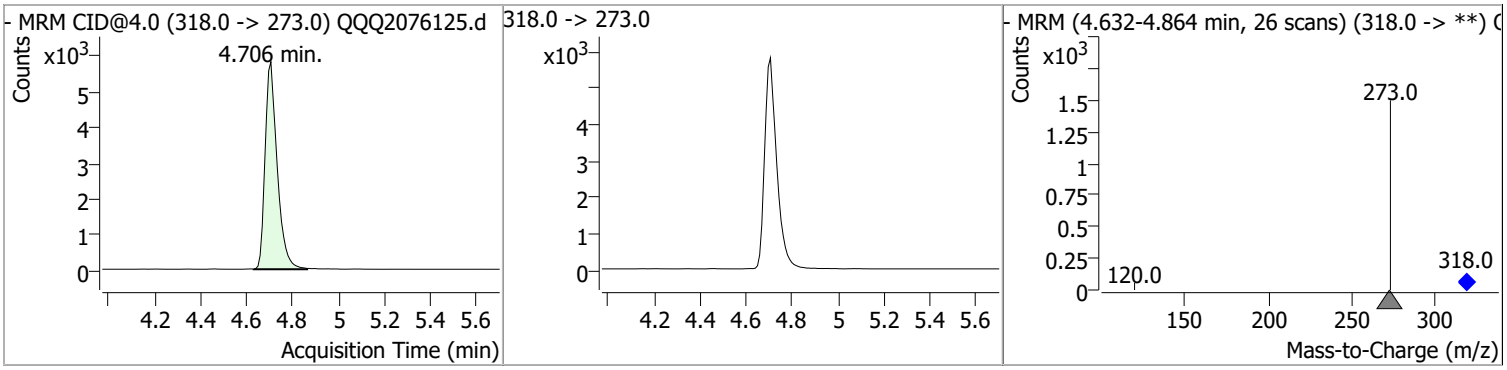
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	7.7820	4.64	0.01	12706				



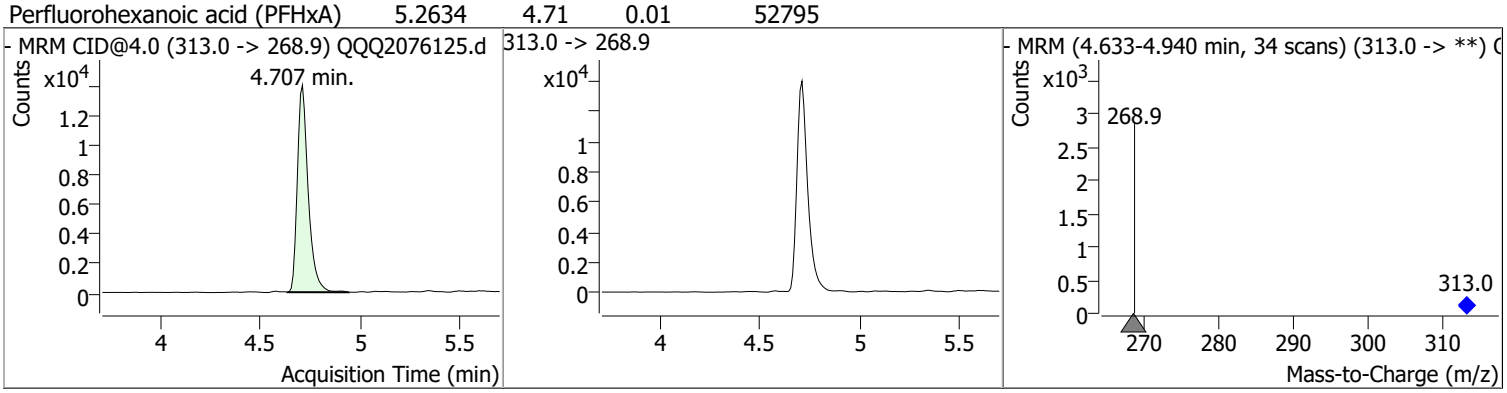
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	18.2451	4.64	0.01	44300				



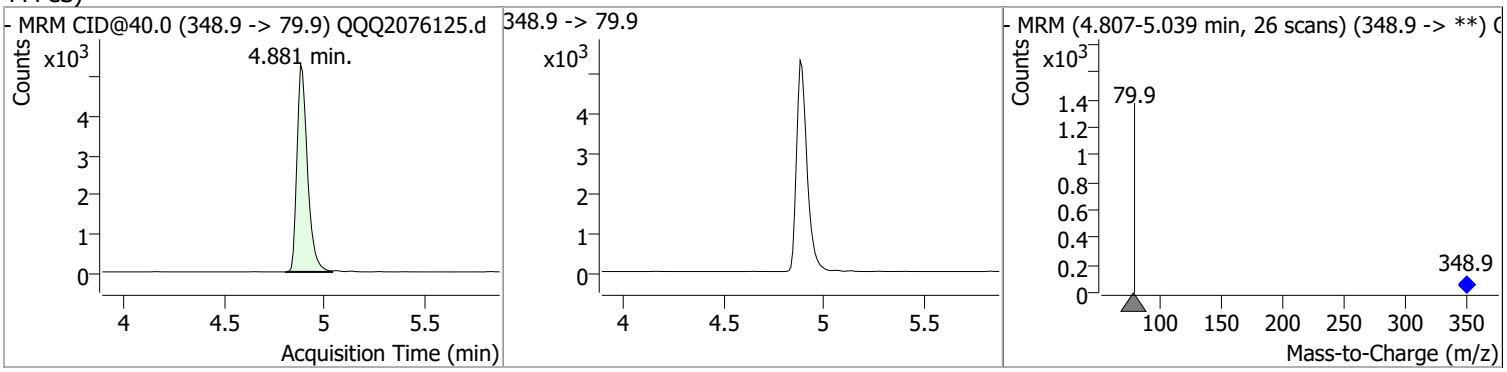
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.6105	4.71	0.01	21151				



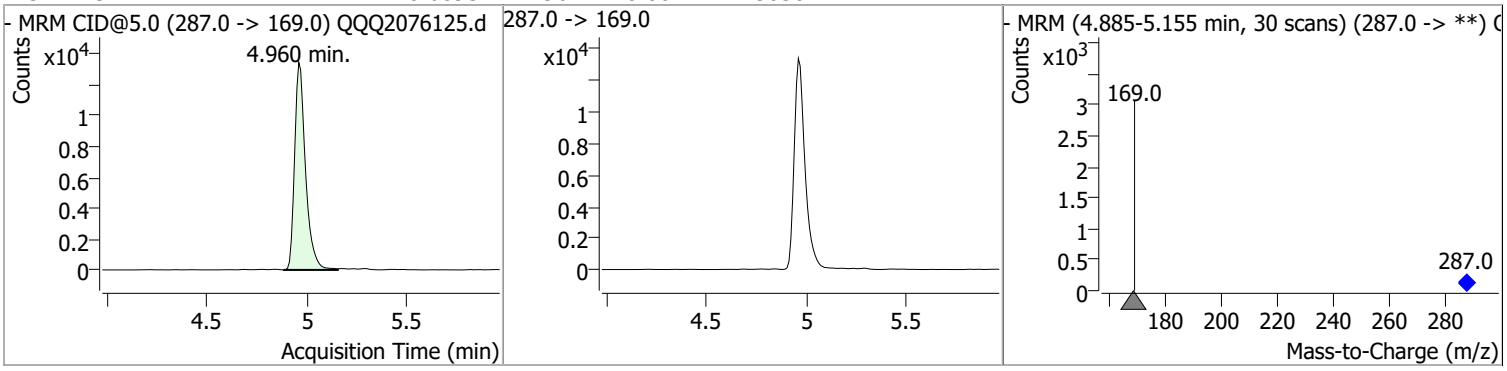
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	5.2634	4.71	0.01	52795				



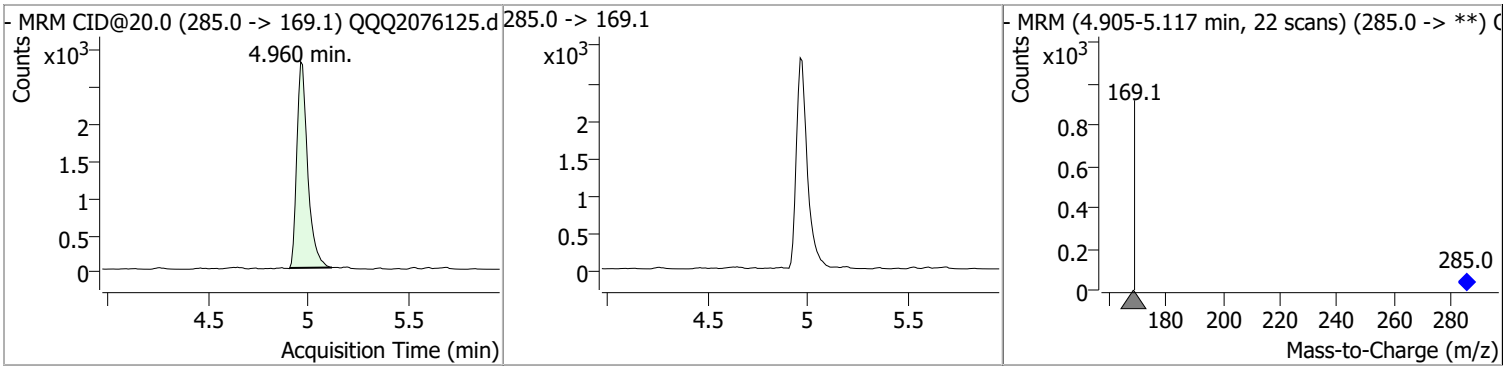
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.3978	4.88	0.00	19331				



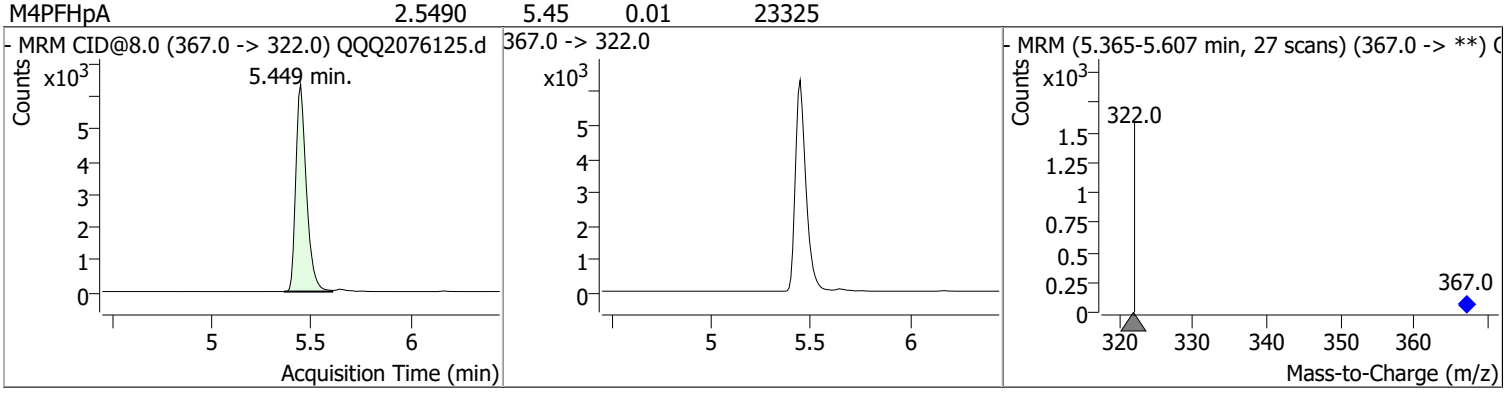
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.6893	4.96	0.00	50504				



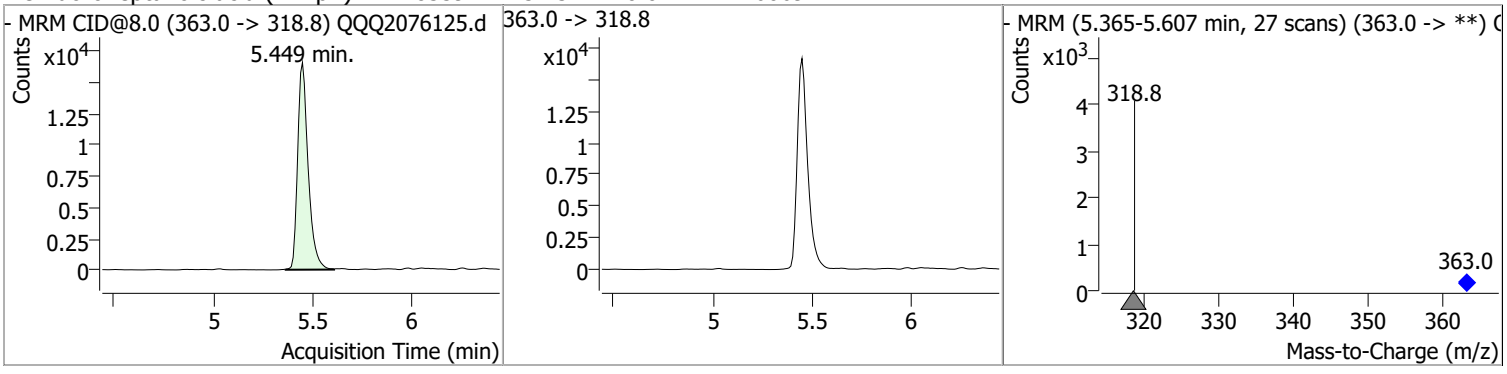
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	24.0577	4.96	0.00	10453				



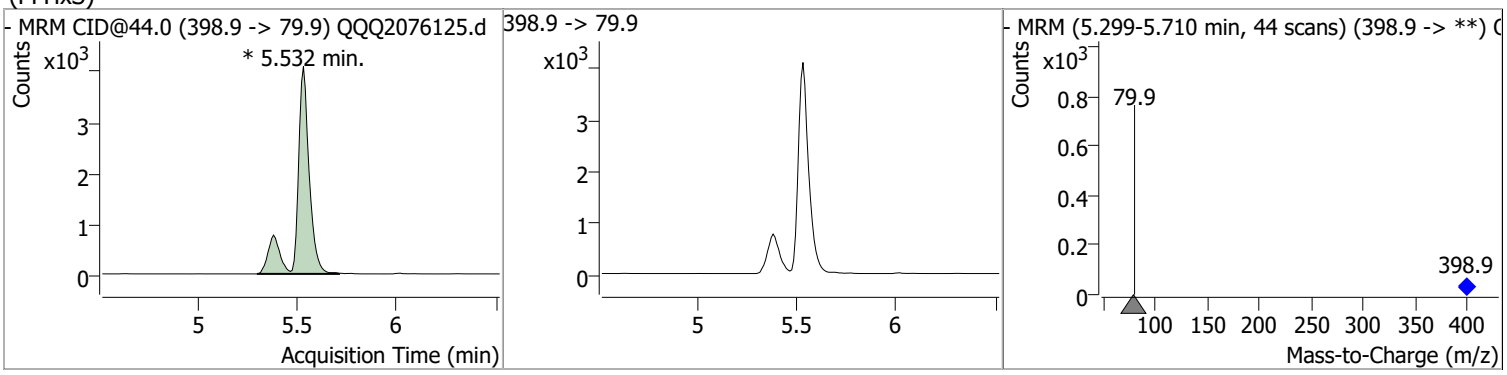
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5490	5.45	0.01	23325				



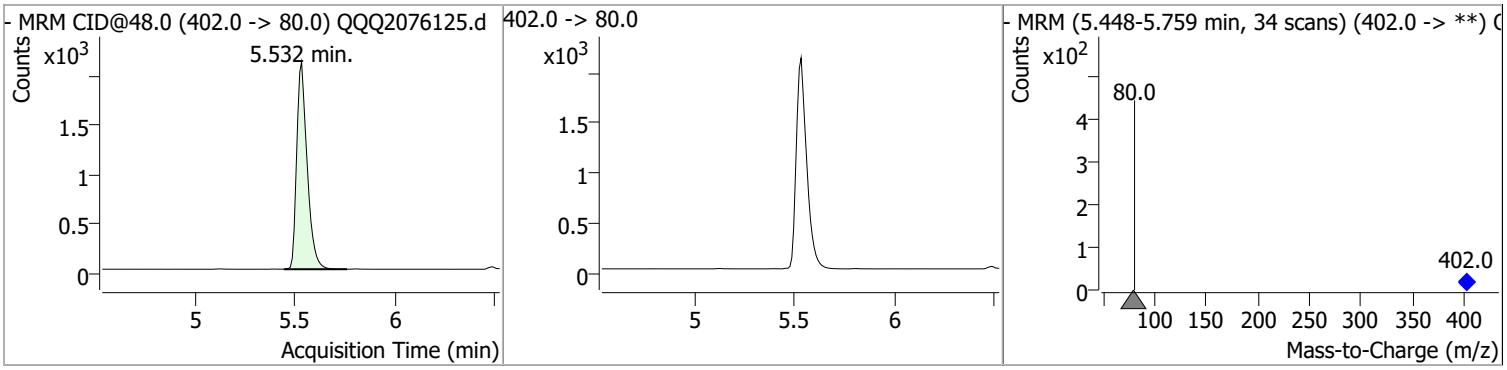
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	4.8359	5.45	0.01	60691				



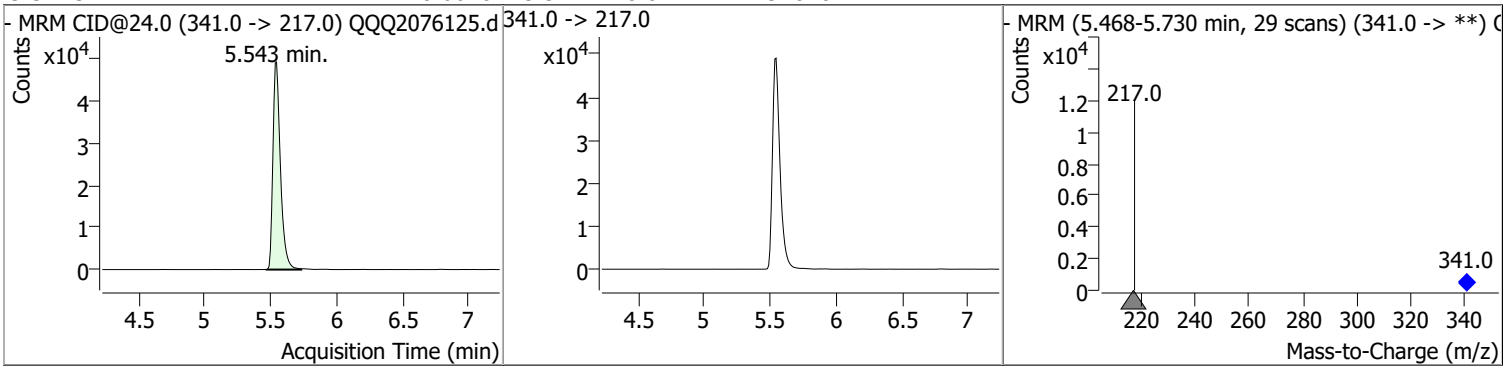
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	4.0558	5.53	0.01	17833 (m)				



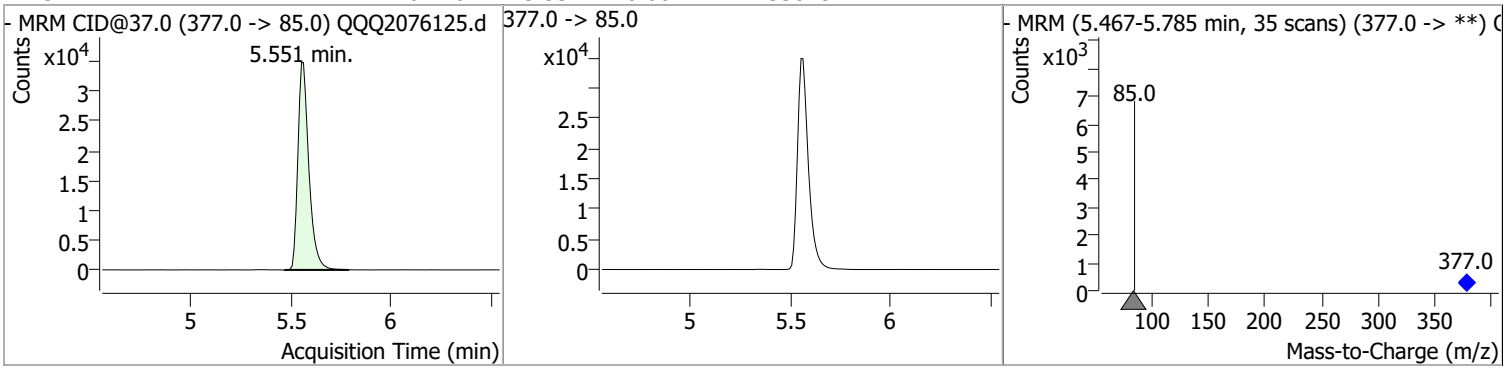
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.2756	5.53	0.00	7624				



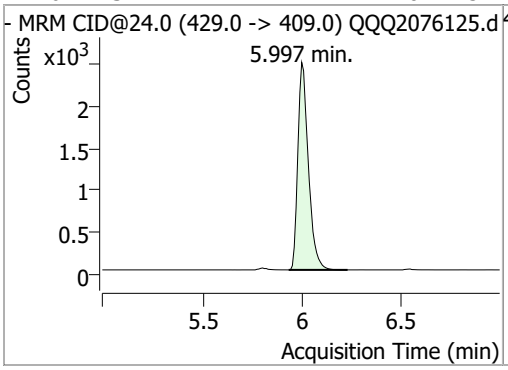
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	170.6678	5.54	0.01	194028				

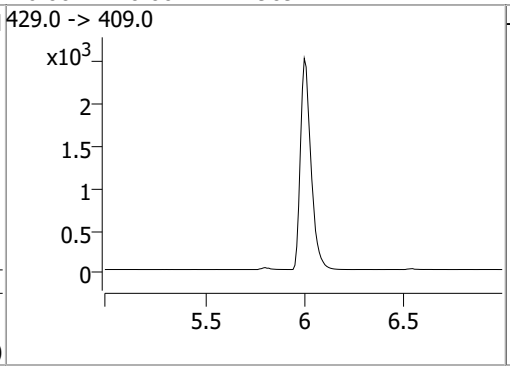


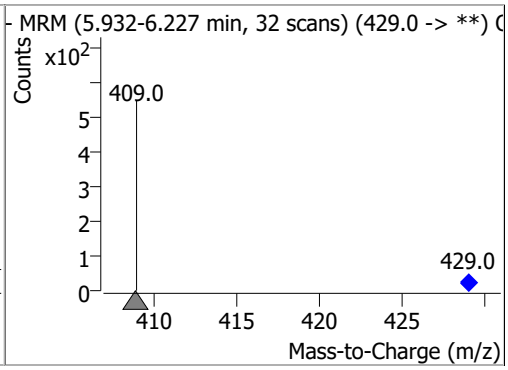
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	20.2407	5.55	0.00	133075				



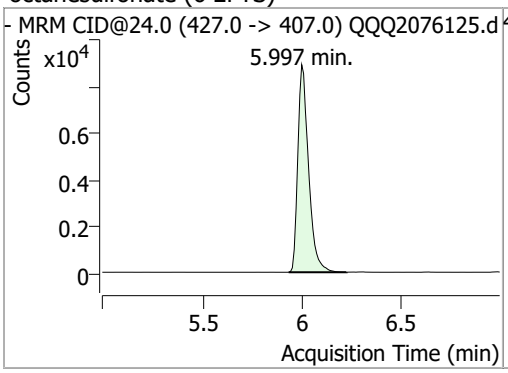
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	10.2725	6.00	0.00	9097				

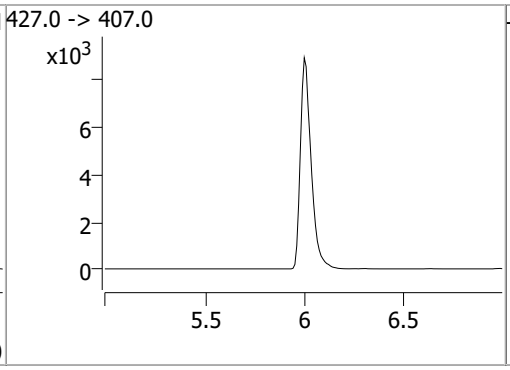


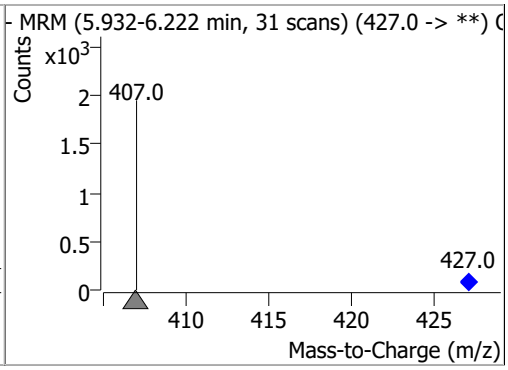




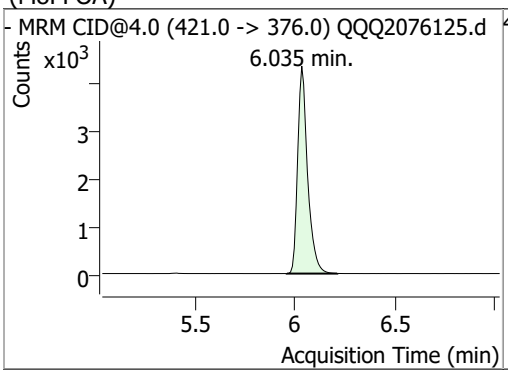
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	19.2818	6.00	0.00	33267				

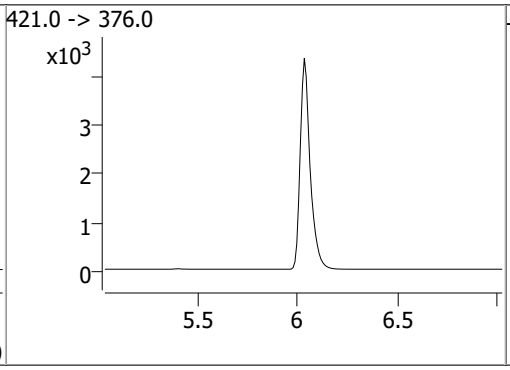


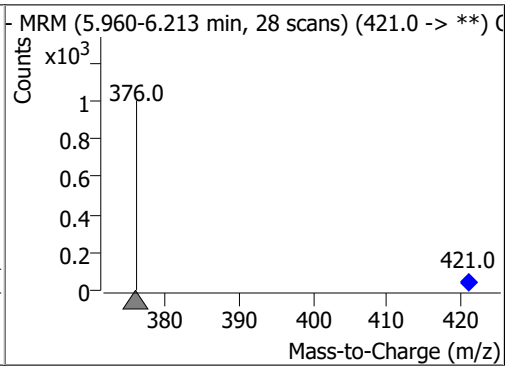




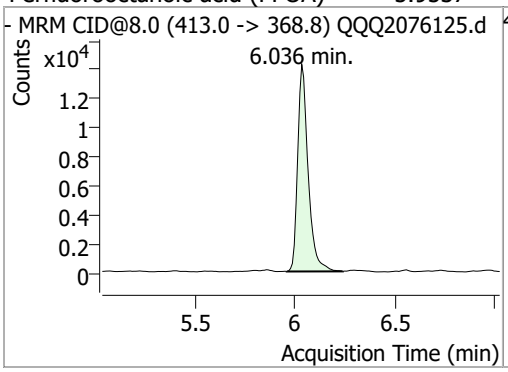
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.1559	6.04	0.00	15046				

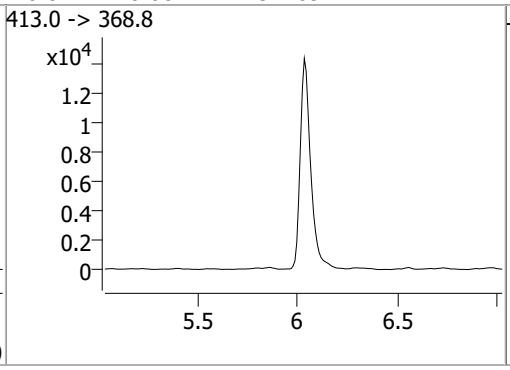


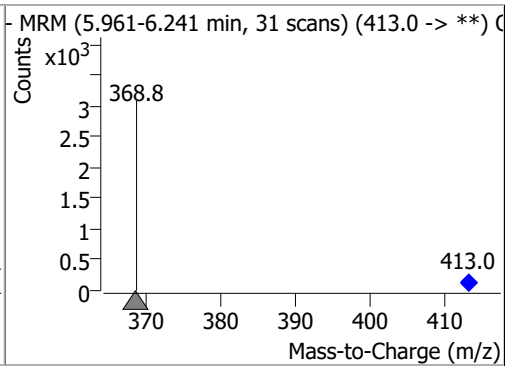




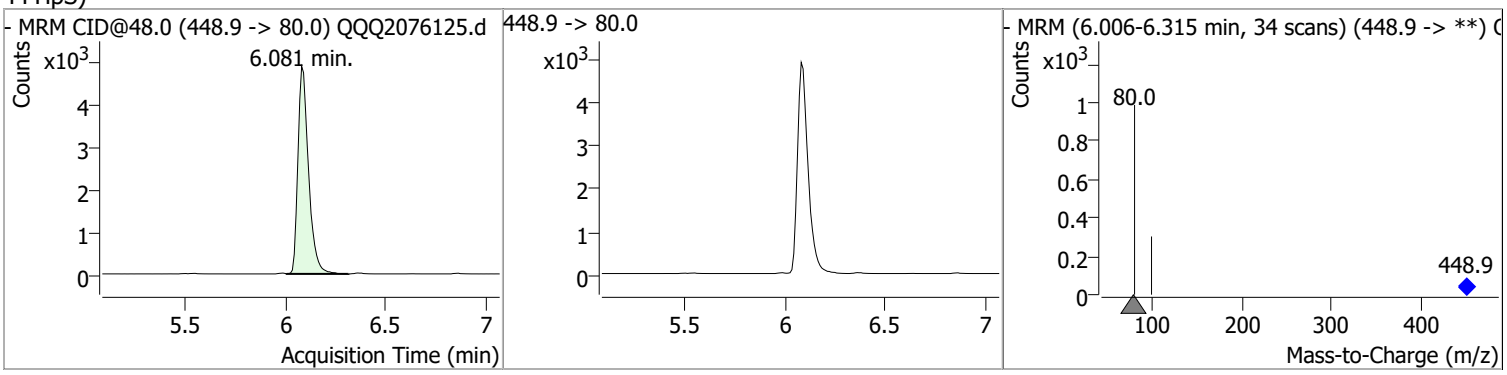
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	5.9537	6.04	0.00	52109				



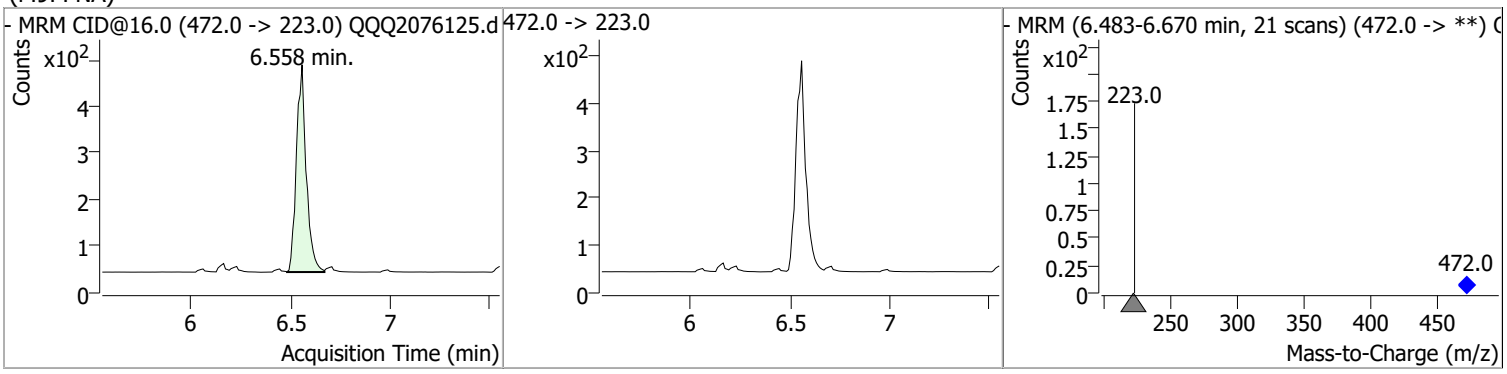




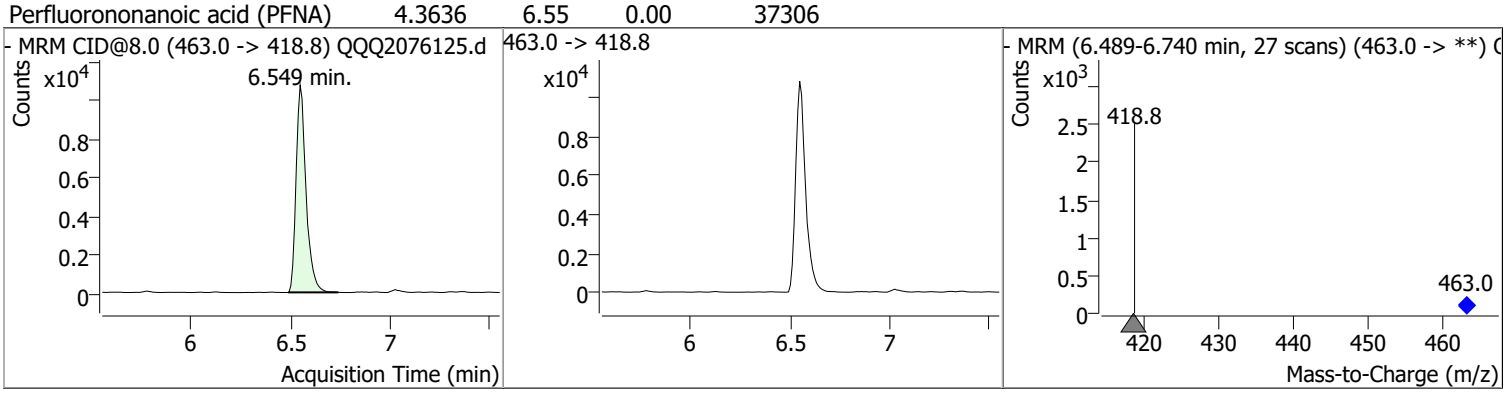
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	5.8078	6.08	0.00	17991				



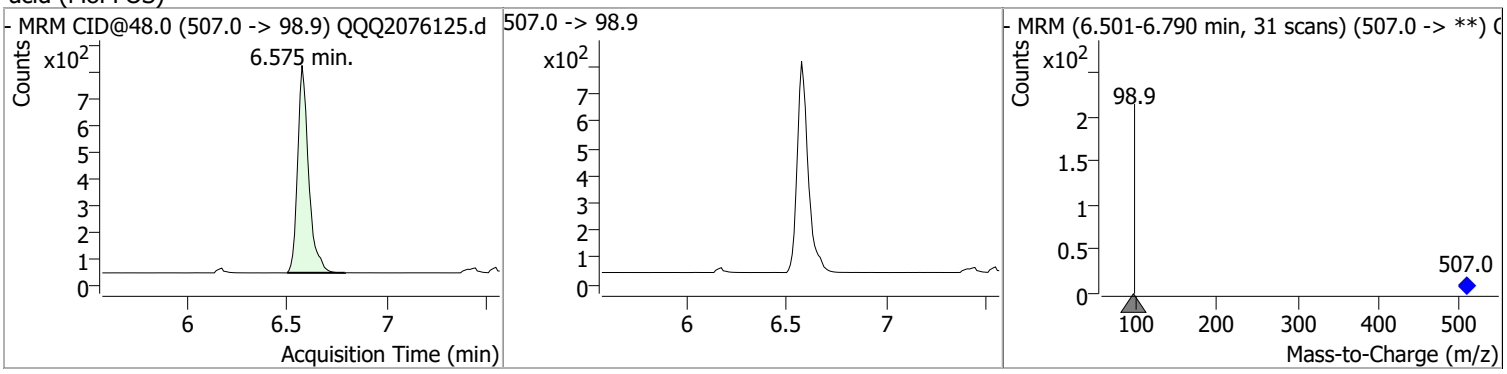
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.2943	6.56	0.02	1524				



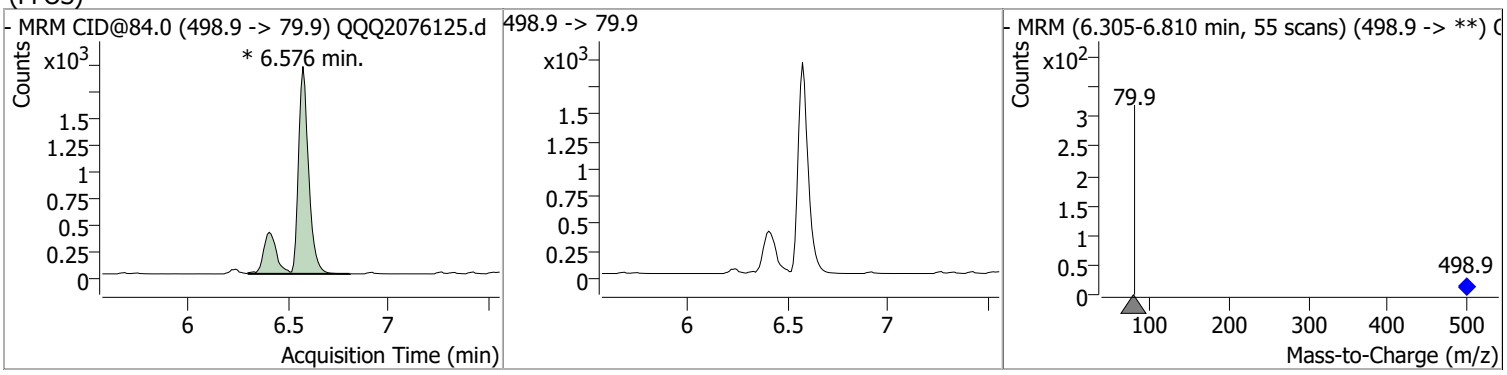
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	4.3636	6.55	0.00	37306				



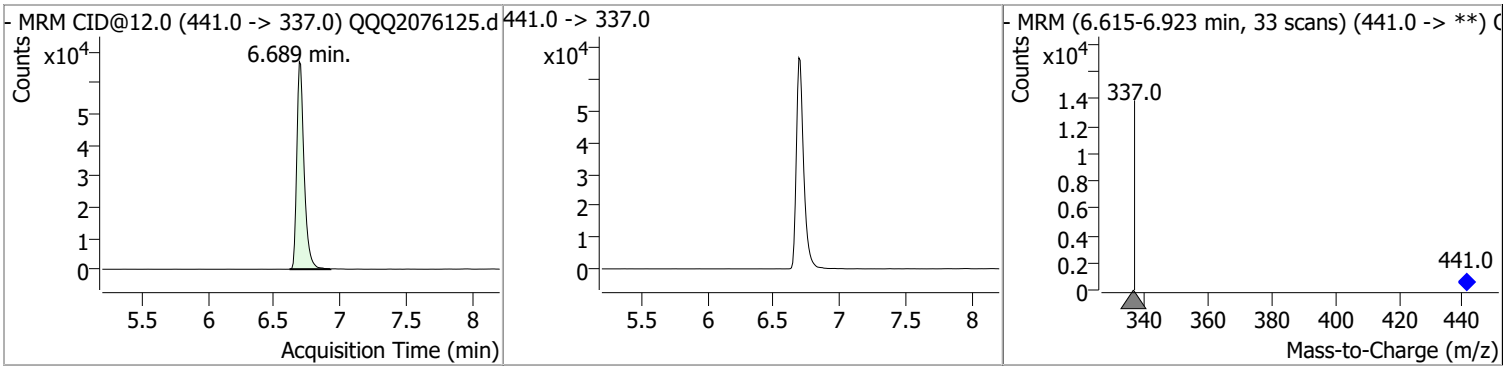
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.7471	6.58	0.01	2971				



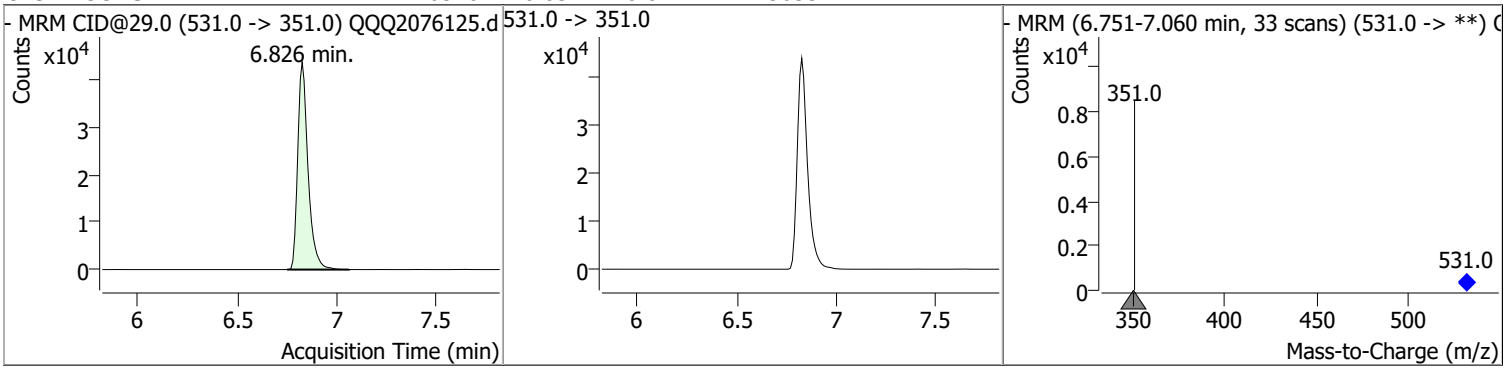
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	5.3181	6.58	0.01	8500 (m)				



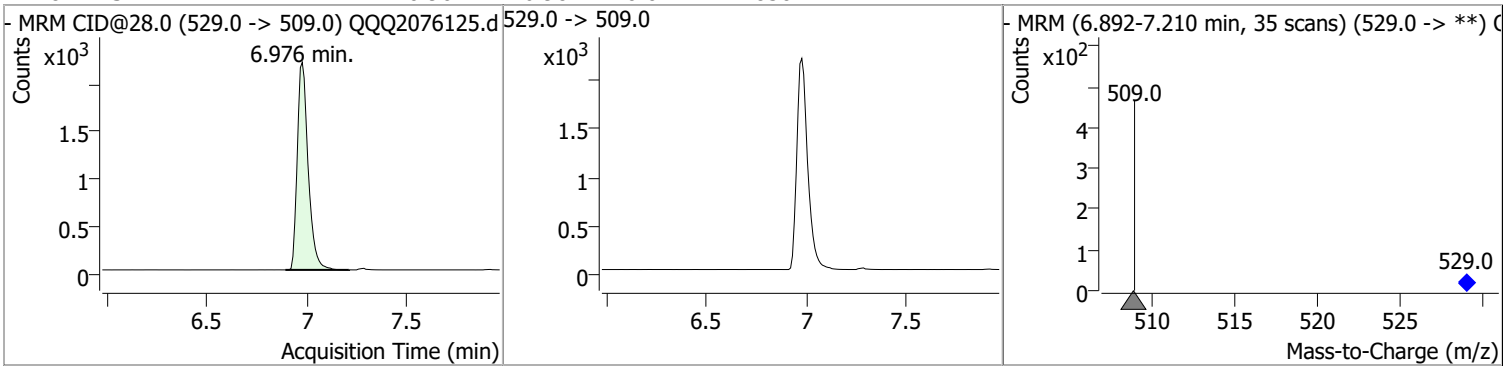
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	143.7322	6.69	0.00	254929				



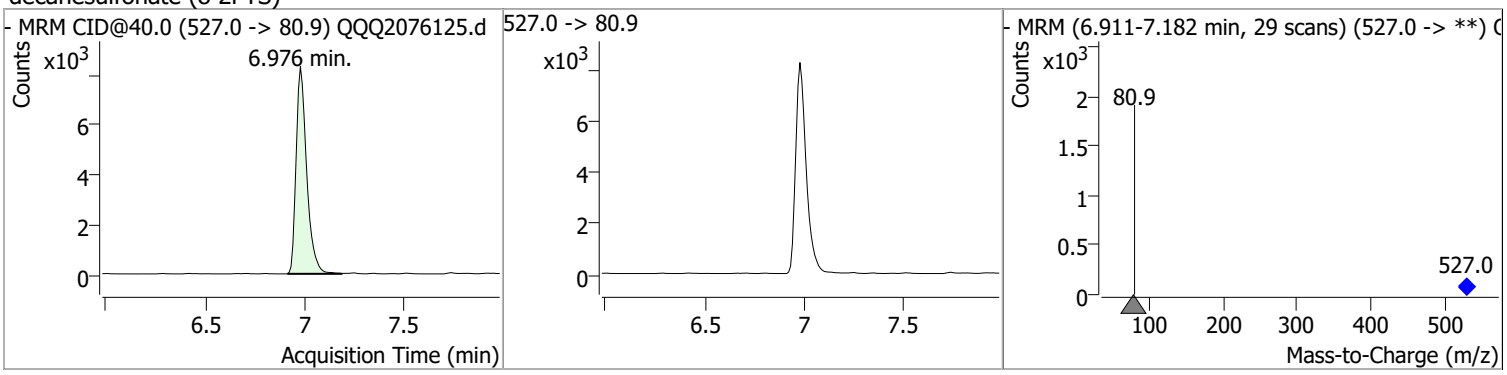
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	21.6570	6.83	0.01	156354				



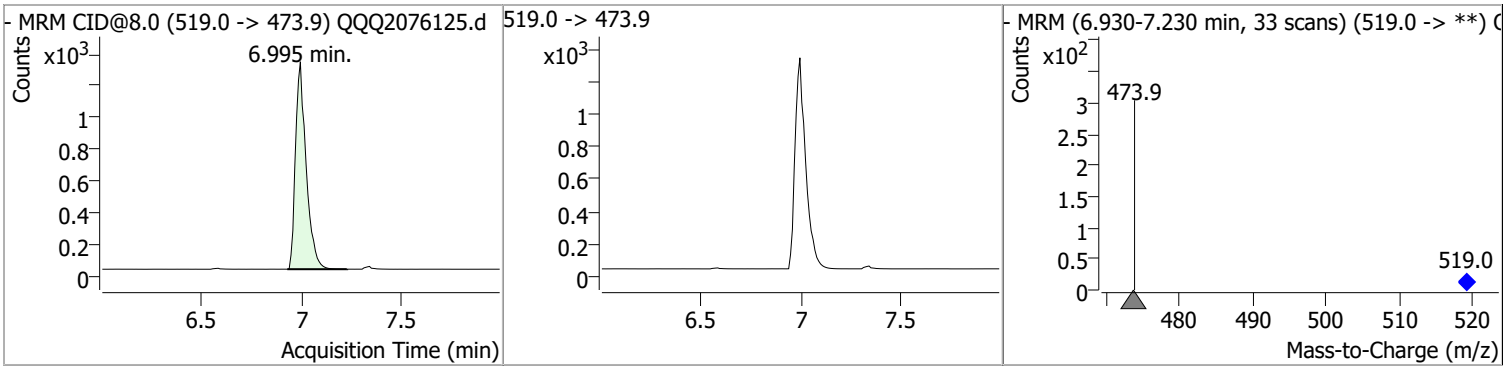
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	10.9041	6.98	0.01	8301				



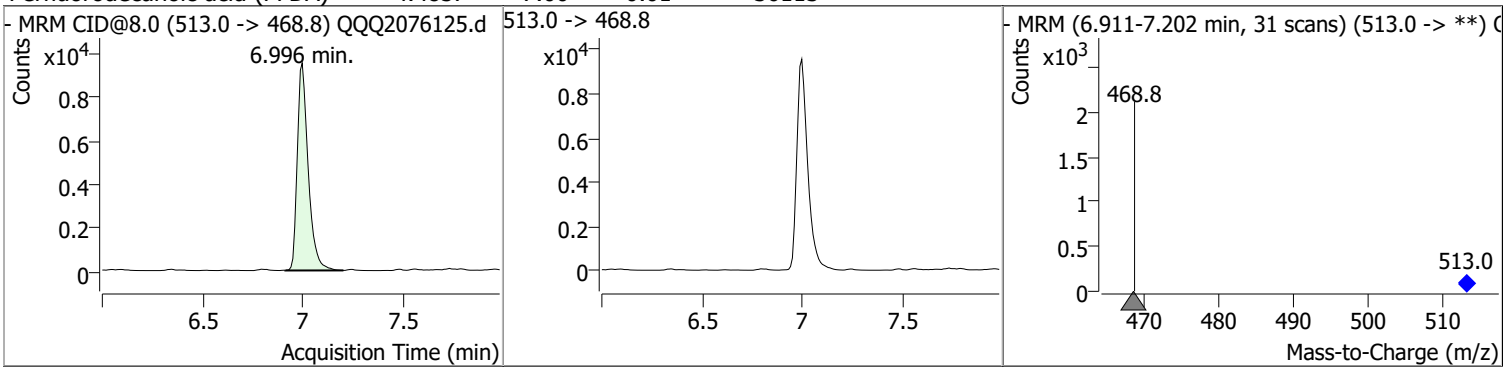
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	16.2393	6.98	0.00	30471				



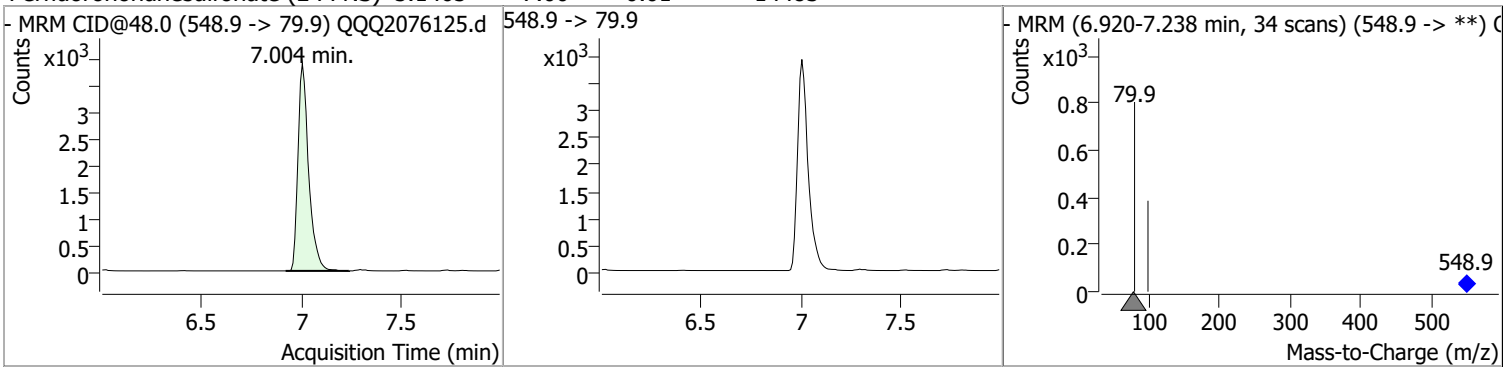
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.4681	7.00	0.01	4840				



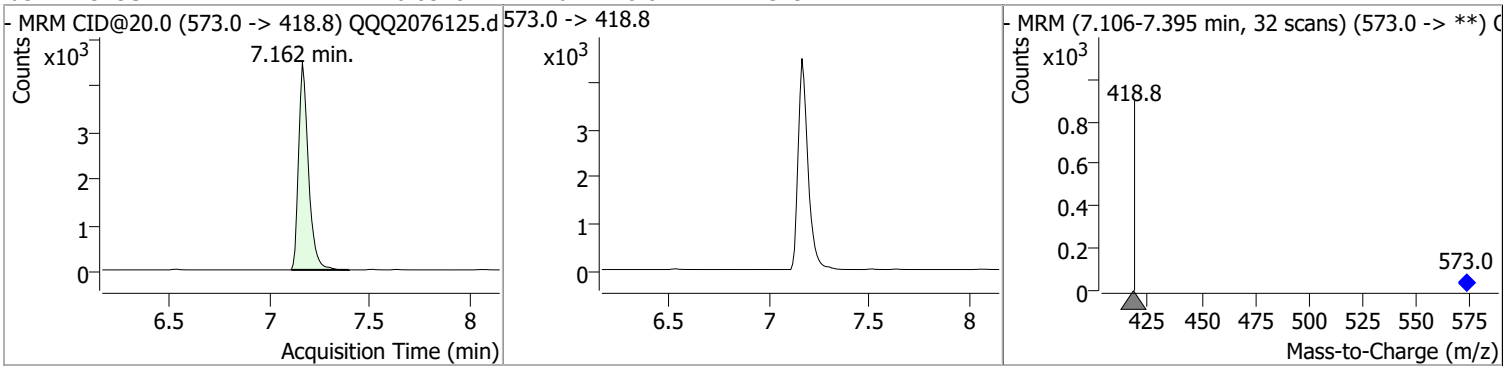
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	4.4857	7.00	0.01	36113				



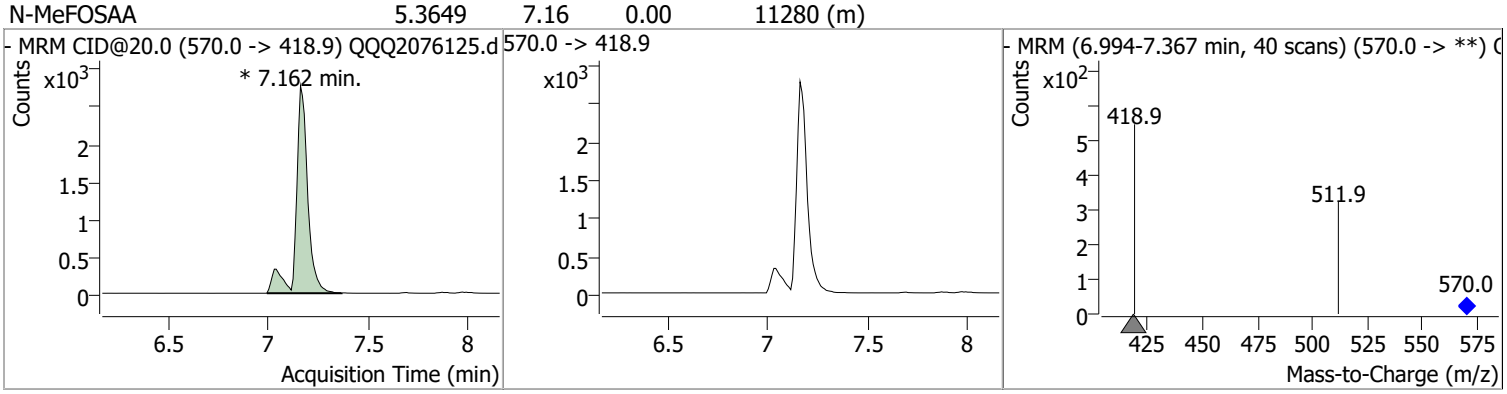
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	5.1465	7.00	0.01	14483				



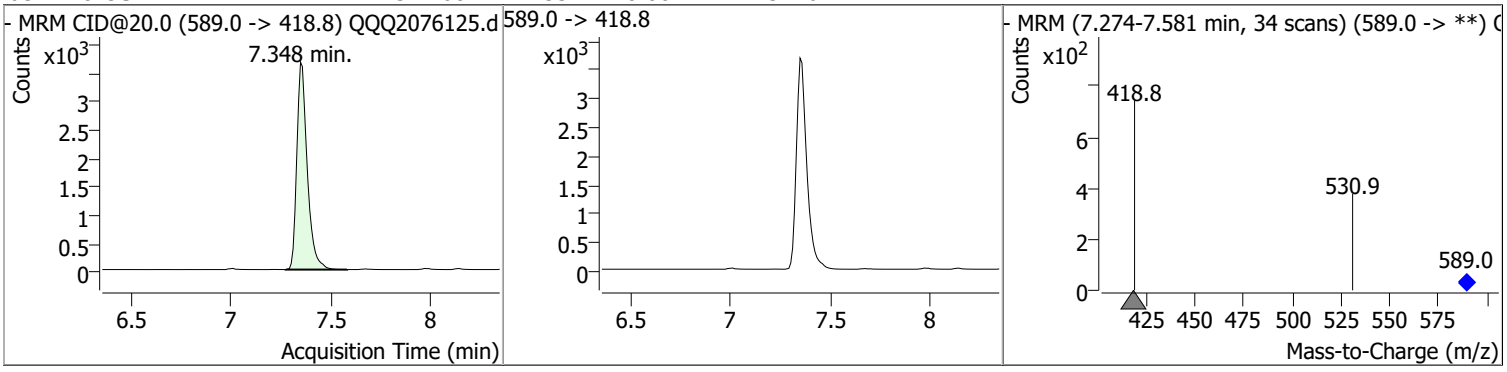
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	6.0518	7.16	0.01	15292				



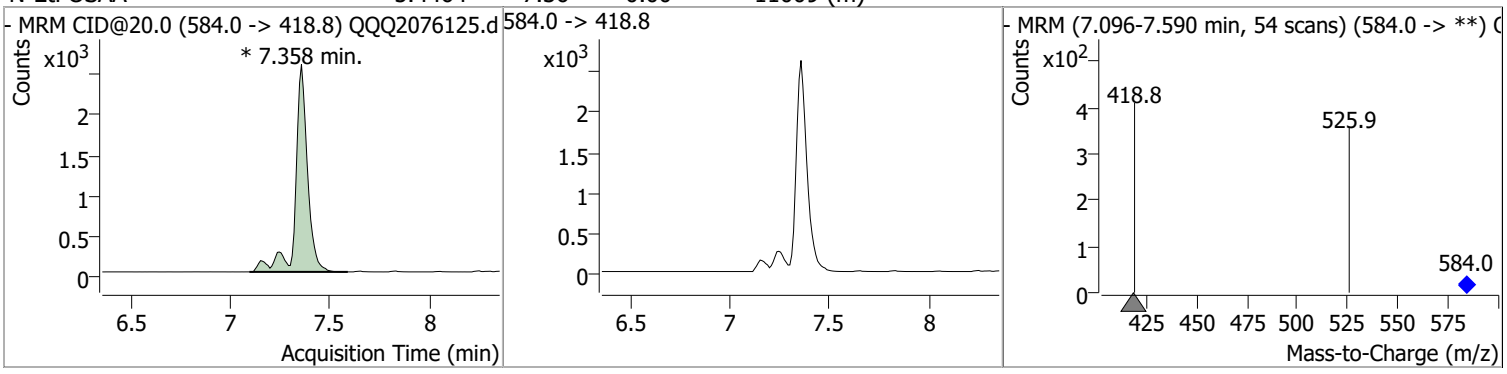
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	5.3649	7.16	0.00	11280 (m)				



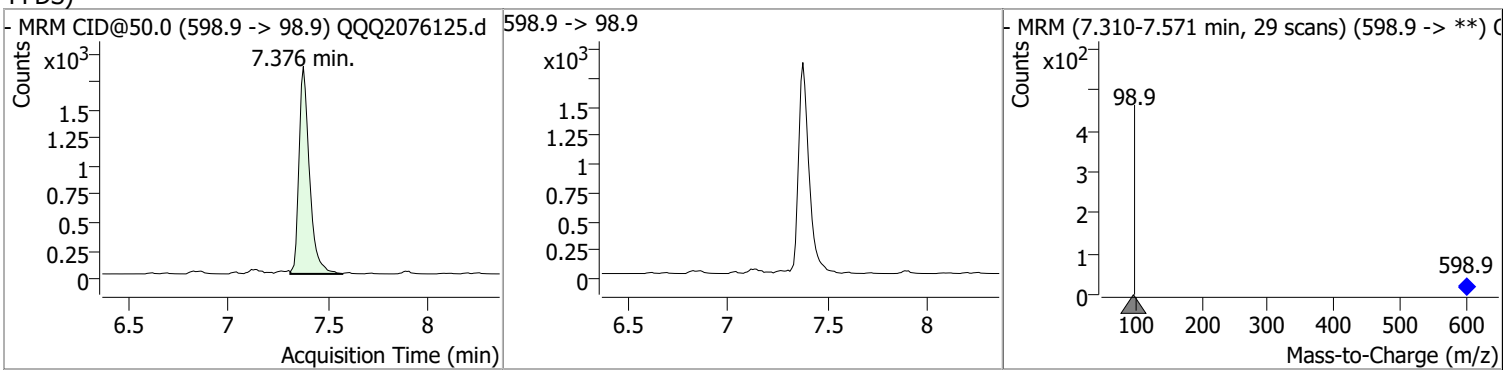
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.2168	7.35	0.00	13246				



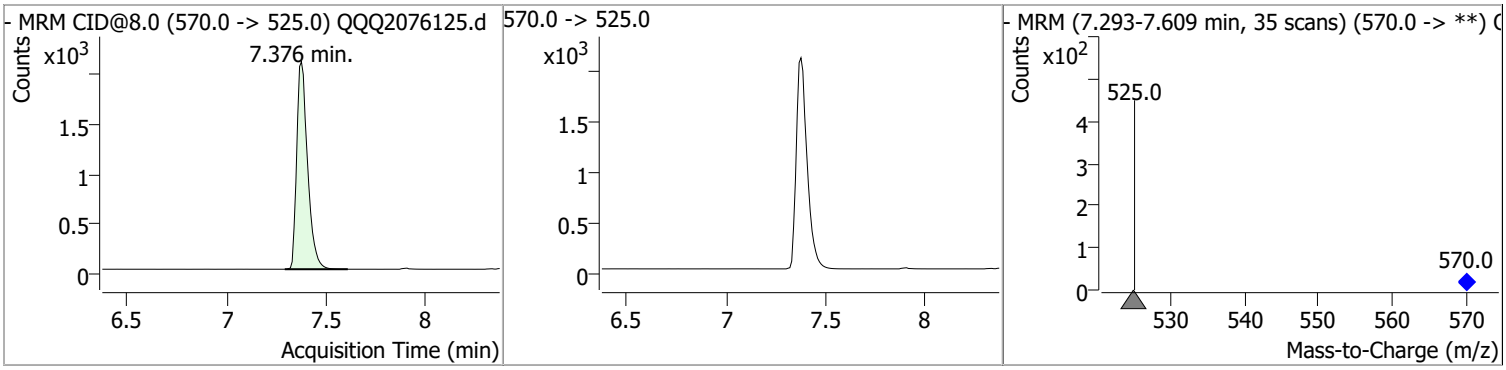
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	5.4464	7.36	0.00	11009 (m)				



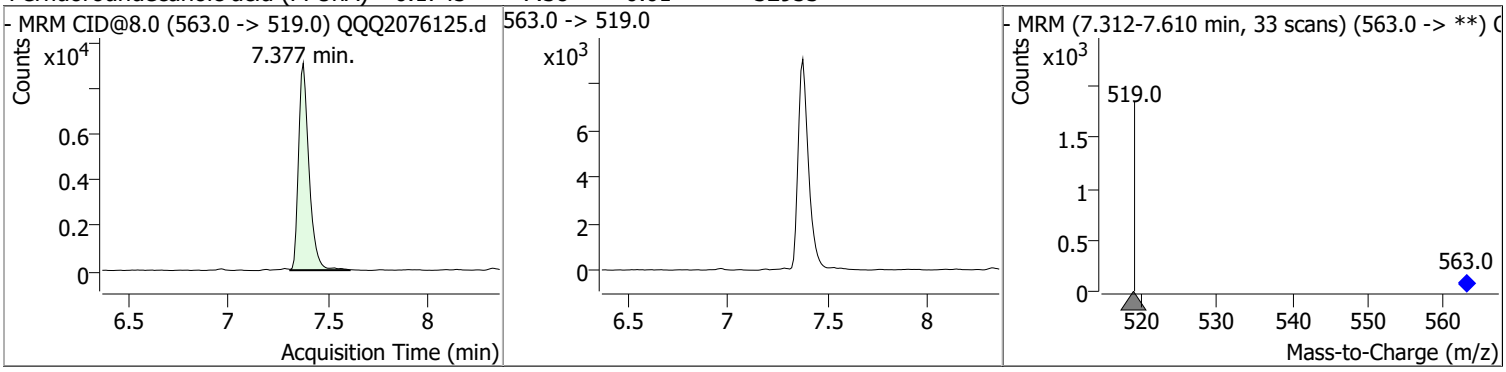
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	5.6148	7.38	0.01	6763				



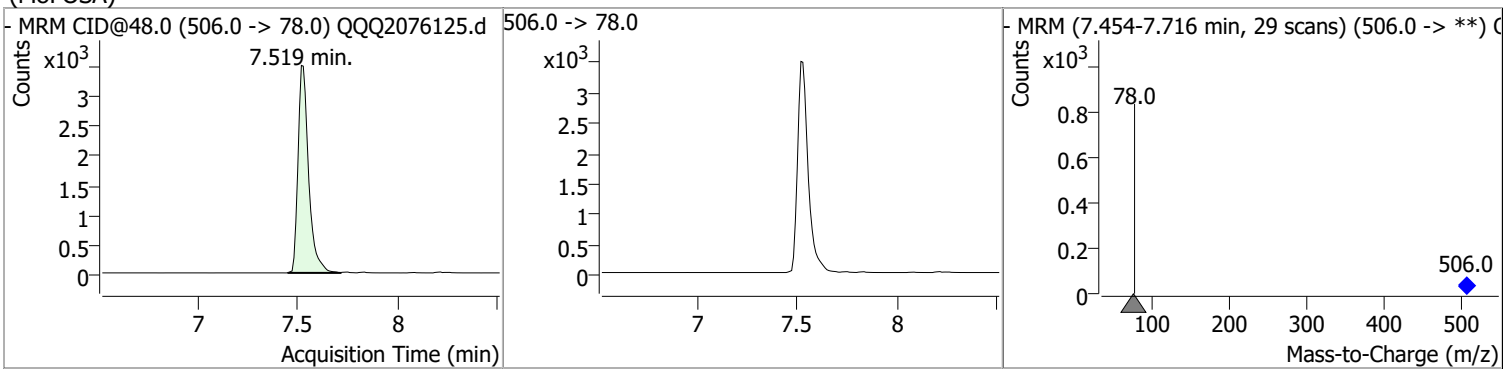
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.2121	7.38	0.01	7919				



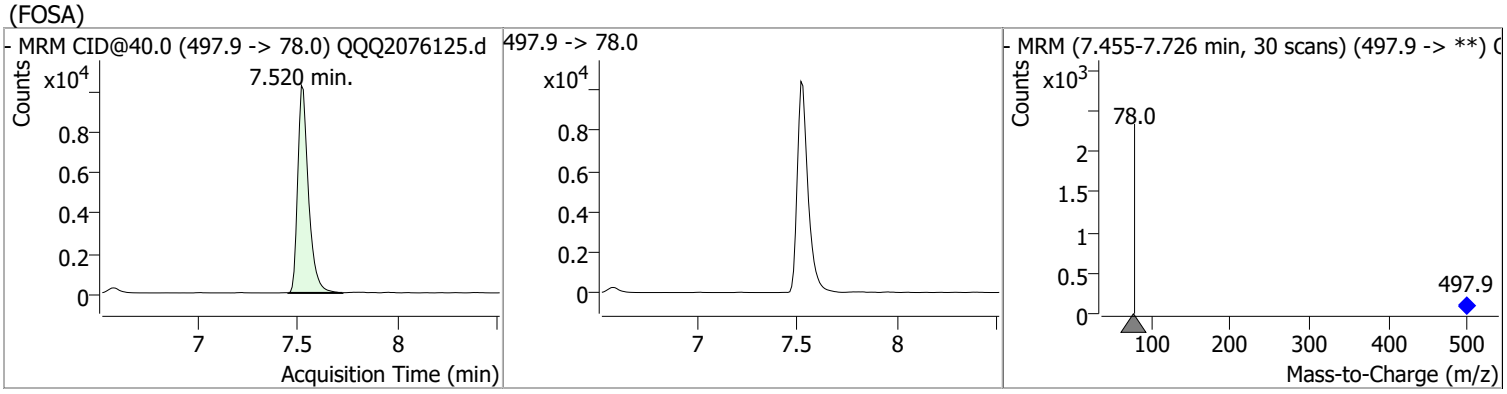
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	6.1745	7.38	0.01	32953				



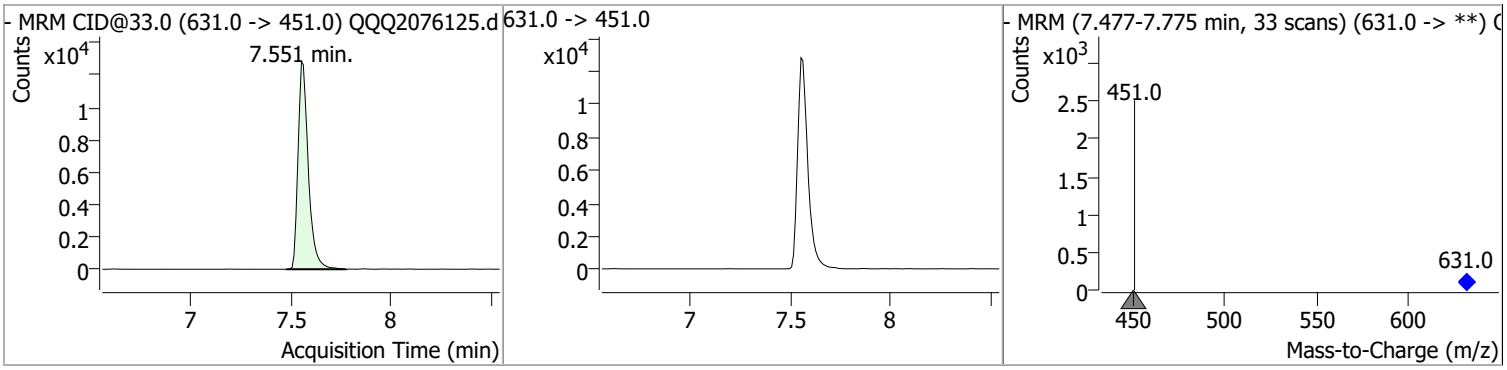
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.0999	7.52	0.00	12876				



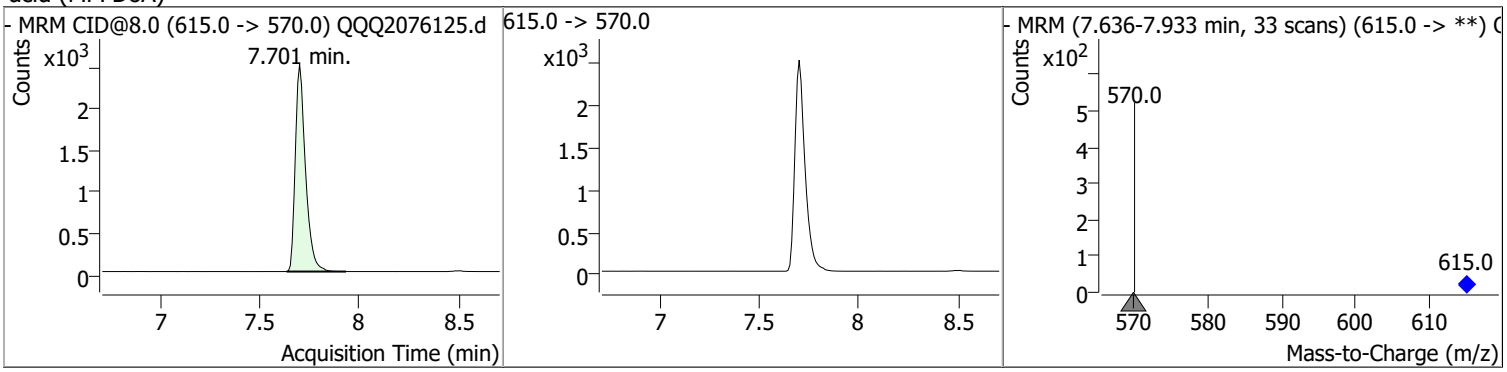
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	4.2884	7.52	0.00	38747				



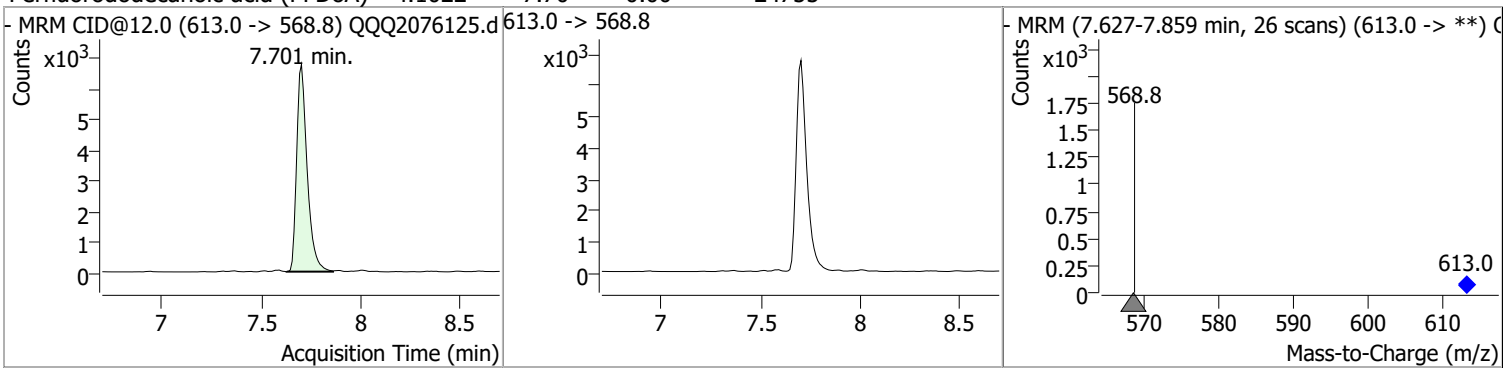
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	16.4561	7.55	0.00	45627				



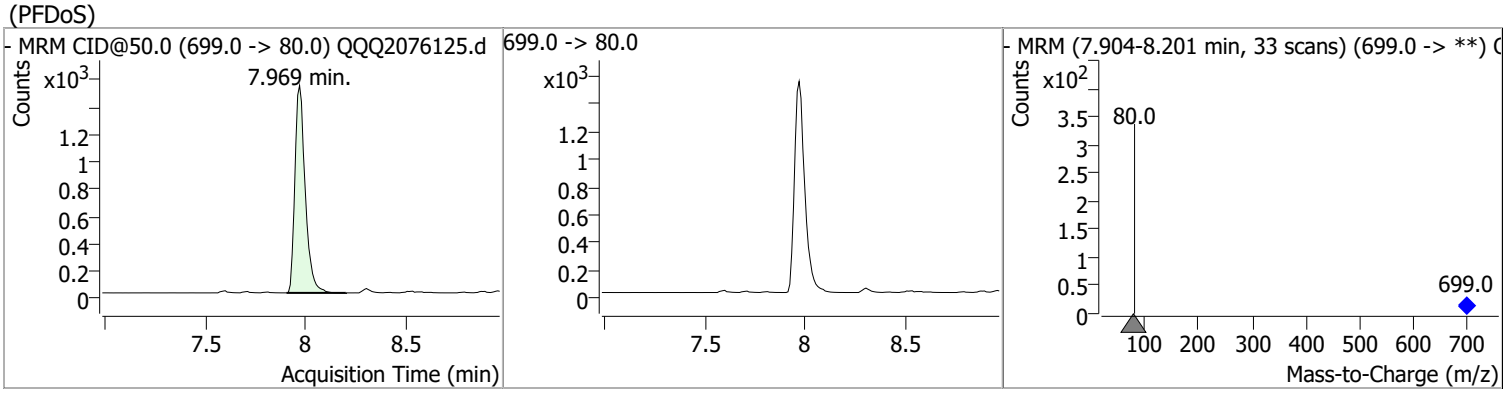
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.6249	7.70	0.00	8838				



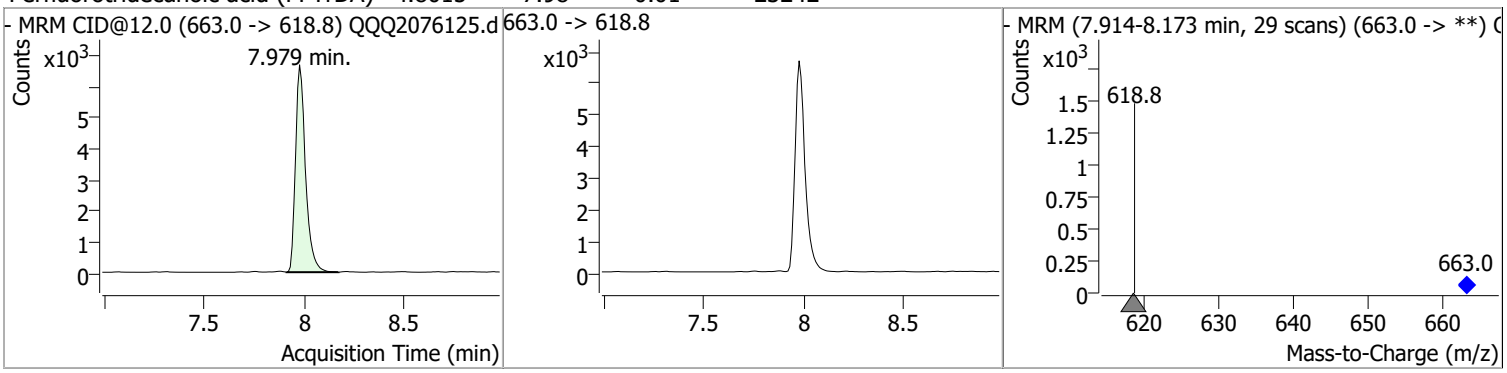
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	4.1022	7.70	0.00	24755				



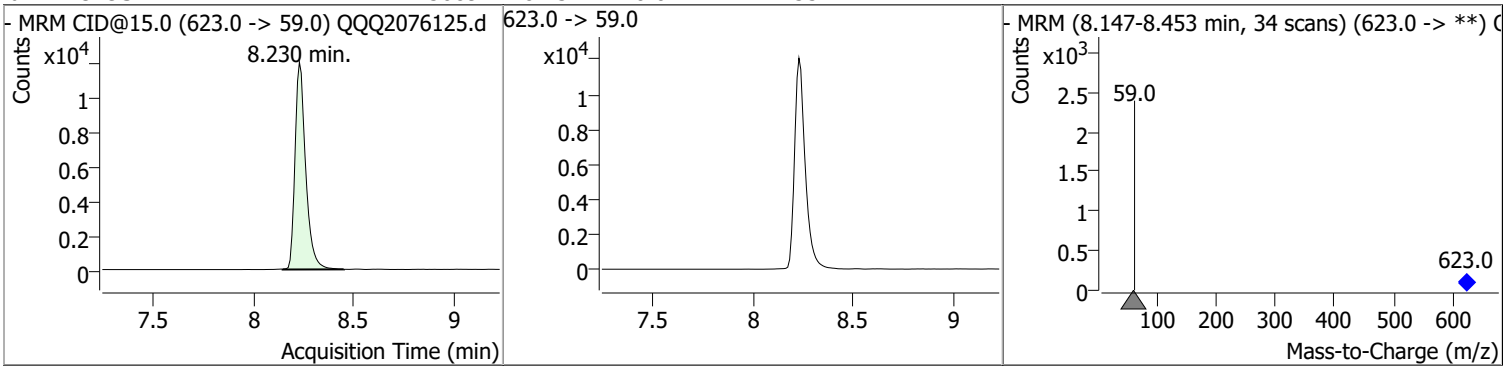
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	4.6765	7.97	-0.01	5422				



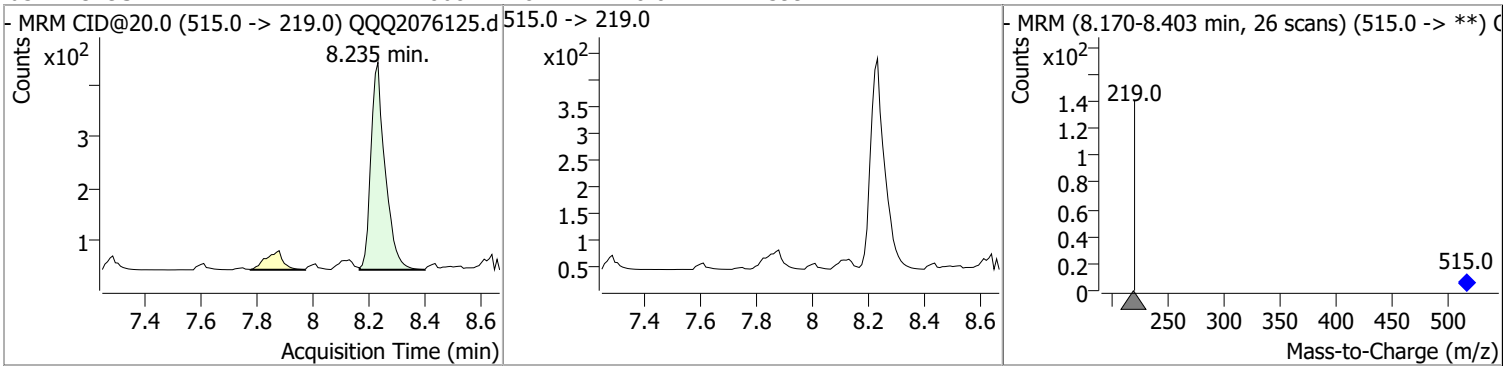
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	4.8015	7.98	-0.01	23242				



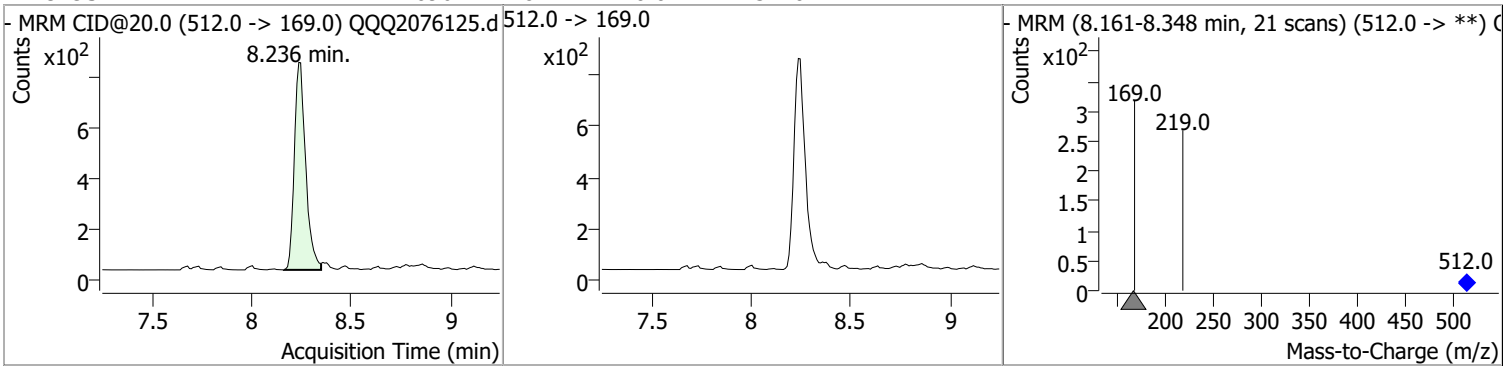
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	17.5089	8.23	-0.01	44455				



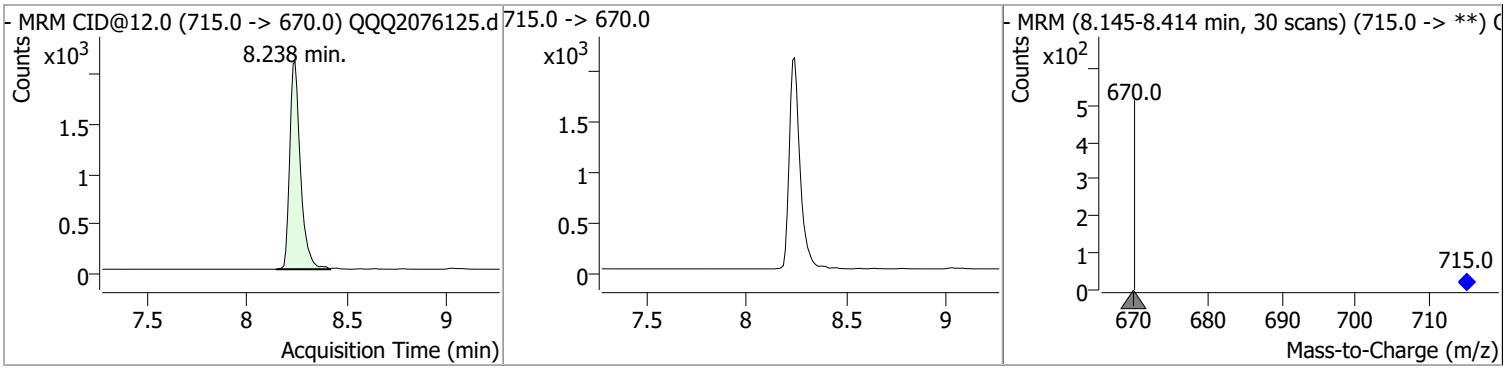
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.7868	8.24	-0.01	1399				



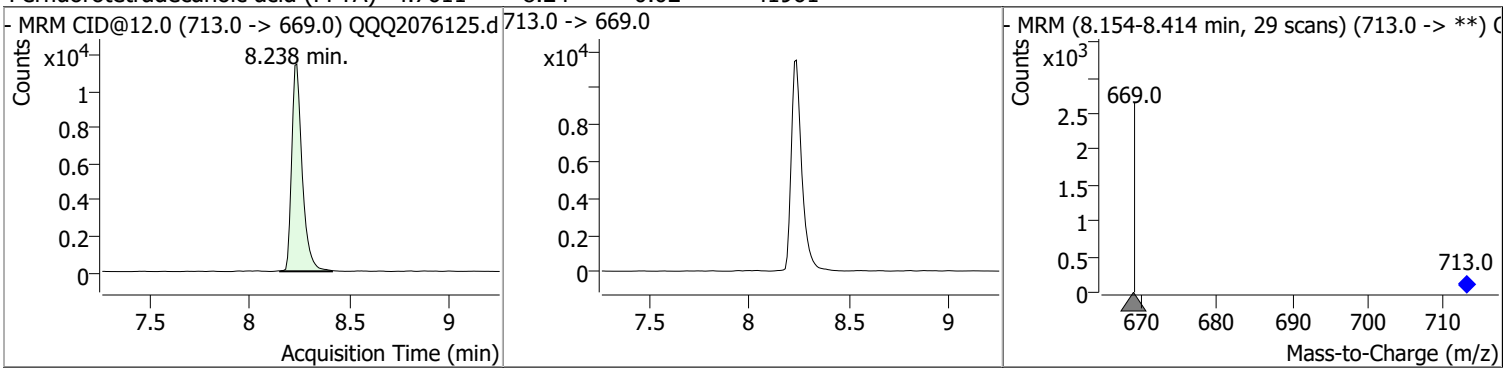
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	4.0962	8.24	-0.01	3220				



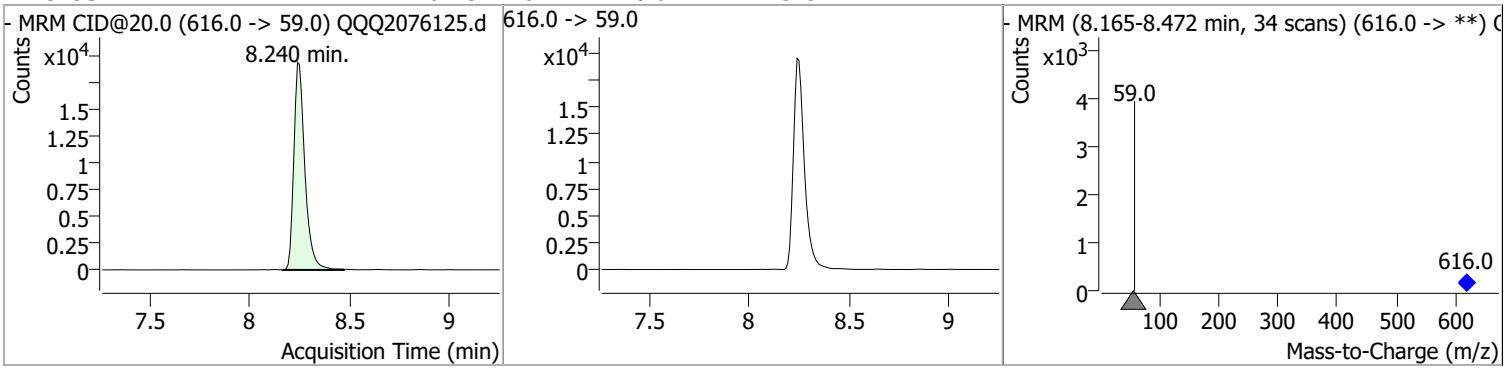
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.3651	8.24	-0.02	7837				



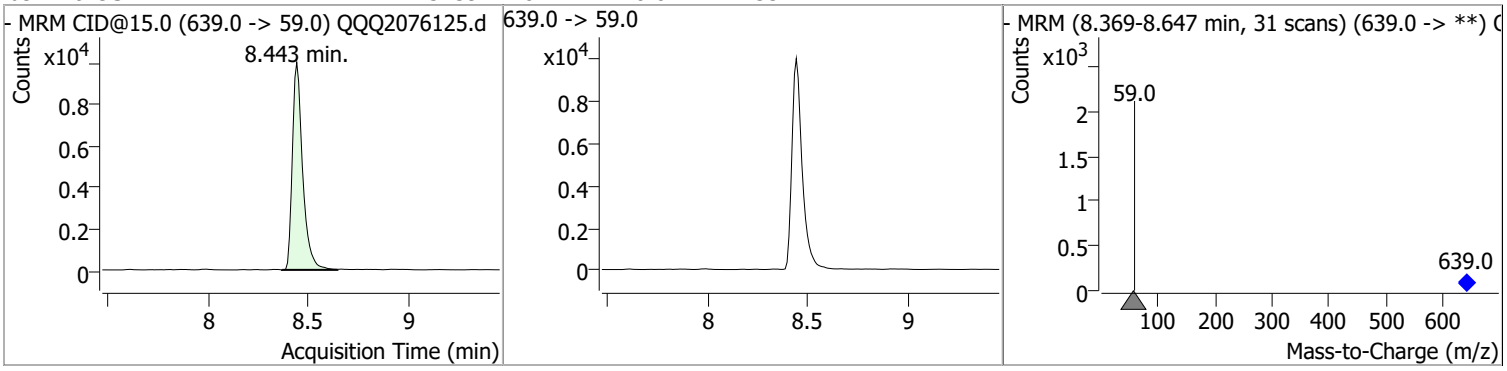
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	4.7611	8.24	-0.02	41961				



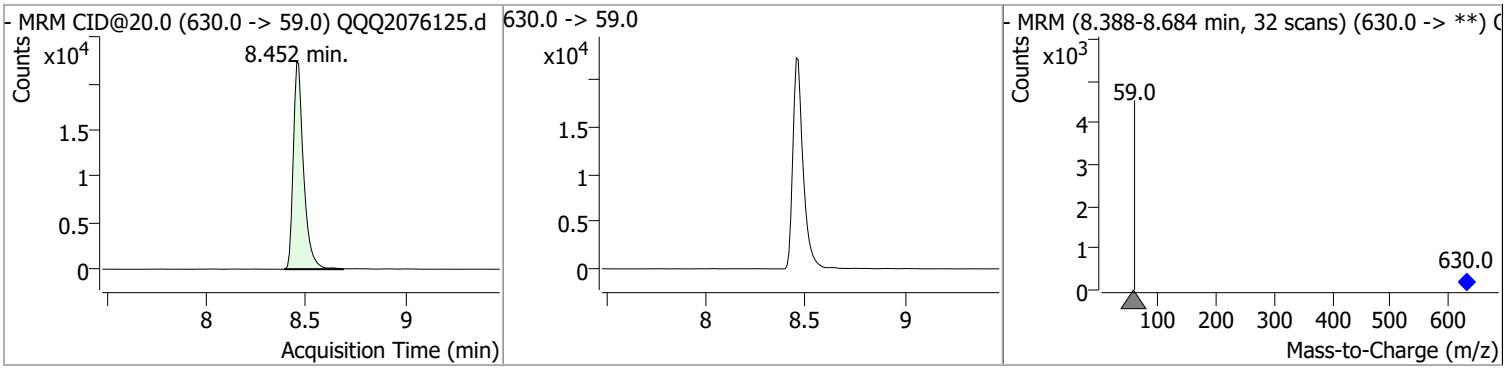
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	47.8479	8.24	-0.02	74519				



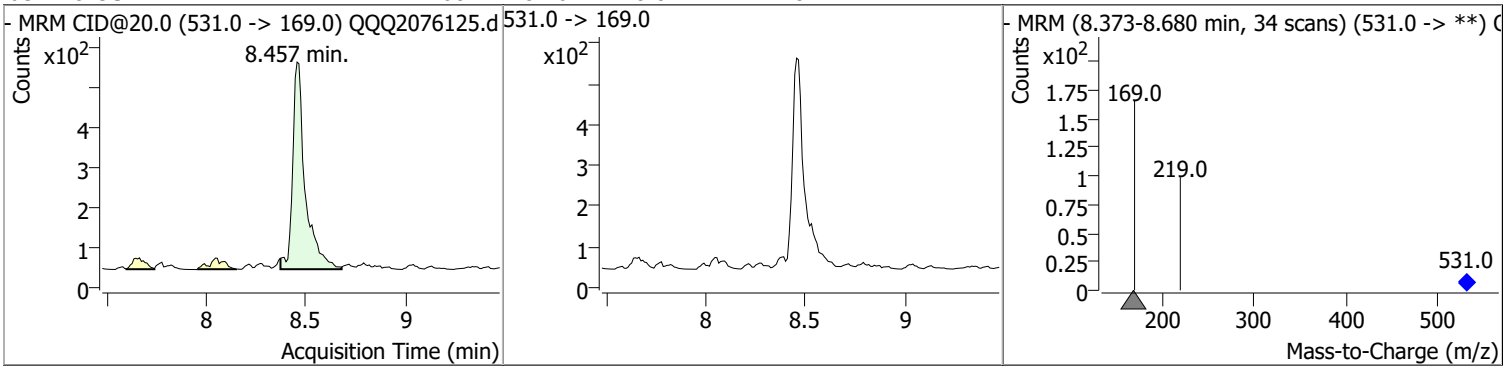
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	14.3239	8.44	-0.02	35744				



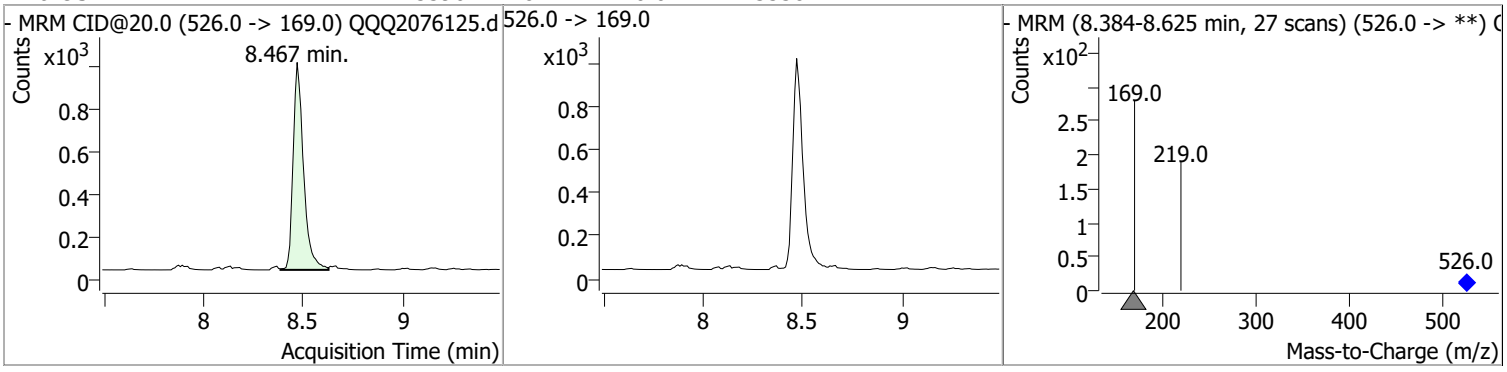
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	47.3242	8.45	-0.02	79916				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	2.1160	8.46	-0.02	2278				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	4.5390	8.47	-0.02	3538				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076920.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV1	Injection Time:	11:21

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
11CL-PF3OUdS	A	9.45	9.53	0.1365048	0.1384018		0.9	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	10.4	0.9829487	1.29612		31.9	30	*
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	9.19	0.8999592	0.9648434		7.2	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	8.74	0.9616406	0.9388562		-2.4	30	
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	13.6	7.481766E-03	7.828568E-03		-78.2	30	*
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	67.8	0.1463629	0.1490404		8.4	30	
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	58.2	1.736253	1.701309		366	30	*
9CL-PF3ONS	A	9.35	11.0	0.3910379	0.4190561		17.7	30	
ADONA	A	9.45	9.78	0.3374364	0.3356769		3.5	30	
HFPO-DA (Gen-X)	A	10.0	11.9	0.0204781	2.542735E-02		19.0	30	
N-EtFOSA	A	2.50	1.75	0.9890033	0.5925035		-29.9	30	
N-EtFOSAA	A	2.50	2.61	0.8333015	0.7935815		4.6	30	
N-EtFOSE	A	25.0	25.3	1.129564	1.198583		1.1	30	
N-MeFOSA	A	2.50	2.20	1.295508	1.243007		-11.9	30	
N-MeFOSAA	A	2.50	2.57	0.7572478	0.7023036		3.0	30	
N-MeFOSE	A	25.0	24.1	0.7868612	0.8503189		-3.6	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.84	1.613927	1.741709		8.8	30	
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	2.72	1.090454	1.138621		12.8	30	
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	2.33	3.229874	2.49153		-2.2	30	
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	2.47	2.541268	2.417061		2.7	30	
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	2.53	1.712752	1.775559		1.0	30	
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.18	1.404147	1.319632		-7.2	30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.92	0.7000326	0.8410418		18.4	30	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076920.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV1	Injection Time:	11:21

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.21	0.757603	0.8002954		4.2	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.94	1.071309	1.12242		-1.2	30	
Perfluorobutanesulfonic acid (PFBS)	A	2.22	2.15	1.34399	1.243411		-3.0	30	
Perfluorodecanoic acid (PFDA)	A	2.50	2.88	1.963699	2.399696		15.2	30	
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	2.81	1.100267	1.117481		16.0	30	
Perfluorododecanoic acid (PFDoA)	A	2.50	2.23	0.8597345	0.766192		-10.7	30	
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.17	1.318827	1.168677		-13.2	30	
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	2.21	1.421744	1.393755		-3.1	30	
Perfluorohexanoic acid (PFHxA)	A	2.50	2.62	1.24236	1.238173		4.9	30	
Perfluoro-n-butanoic acid (PFBA)	A	10.0	9.87	1.241515	1.245258		-1.3	30	
Perfluorononanoic acid (PFNA)	A	2.50	1.36	6.653904	3.86117		-42.0	30	*
Perfluorooctanesulfonic acid (PFOS)	A	2.32	2.89	1.806429	1.628683		24.5	30	
Perfluorooctanoic acid (PFOA)	A	2.50	2.77	1.548646	1.604993		10.9	30	
Perfluoropentanoic acid (PFPeA)	A	5.00	4.71	1.047367	1.030775		-5.8	30	
Perfluorotetradecanoic acid (PFTA)	A	2.50	2.20	1.414068	1.236586		-12.2	30	
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.26	0.7557259	0.7012998		-9.8	30	
Perfluoroundecanoic acid (PFUnA)	A	2.50	3.39	1.039554	1.121271		35.6	30	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076920.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 11:21:13 AM
Sample Name	SEQ-CCV1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.170	216.0 -> 172.0	41536	5.0000	ng/ml	-0.037
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.168	217.0 -> 172.0	57180	10.0000	ng/ml	-0.037
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.332	268.0 -> 223.0	27998	5.0000	ng/ml	-0.056
MPFHxA	4.651	315.0 -> 269.8	34351	2.5000	ng/ml	-0.047
MPFHxS	5.476	403.0 -> 103.0	2353	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	10243	2.3300	ng/ml	-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	23905	2.5000	ng/ml	-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	9247	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	9173	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	59955	10.0000	ng/ml	-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	29725	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	5064	4.7550	ng/ml	-0.056
MPFOA	5.979	417.0 -> 372.0	31417	2.5000	ng/ml	-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.979	421.0 -> 376.0	16839	2.5000	ng/ml	-0.056
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.510	507.0 -> 98.9	3378	2.3950	ng/ml	-0.056
MPFNA	6.483	468.0 -> 423.0	11749	1.2500	ng/ml	-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.493	472.0 -> 223.0	2173	1.2500	ng/ml	-0.047
MPFOS	6.510	503.0 -> 80.0	8003	2.3950	ng/ml	-0.065
M2-8-2FTS-EIS	6.911	529.0 -> 509.0	3018	4.8000	ng/ml	-0.056
MPFDA	6.930	515.0 -> 469.8	12111	1.2500	ng/ml	-0.056
M6PFDA-EIS	6.930	519.0 -> 473.9	4126	1.2500	ng/ml	-0.056
d3-N-MeFOSAA-EIS	7.097	573.0 -> 418.8	14349	5.0000	ng/ml	-0.056
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	13918	5.0000	ng/ml	-0.065
M7PFUdA-EIS	7.302	570.0 -> 525.0	10221	1.2500	ng/ml	-0.065
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	15093	2.5000	ng/ml	-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.636	615.0 -> 570.0	8628	1.2500	ng/ml	-0.065
M2PFTeDA-EIS	8.182	715.0 -> 670.0	9651	1.2500	ng/ml	-0.074
d3-NMeFOSA-EIS	8.236	515.0 -> 219.0	2199	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	68870	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	61192	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	4801	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.168	217.0 -> 172.0	57180	10.0503	ng/ml	-0.037
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.332	268.0 -> 223.0	27998	5.0341	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.837	302.0 -> 79.9	10243	3.2726	ng/ml	-0.055
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	9247	7.2160	ng/ml	-0.047

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.650	318.0 -> 273.0	23905	2.5764	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.913	287.0 -> 169.0	59955	11.0810	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	29725	2.8366	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	9173	3.4887	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.941	429.0 -> 409.0	5064	7.2858	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.979	421.0 -> 376.0	16839	2.4312	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.493	472.0 -> 223.0	2173	1.7973	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.510	507.0 -> 98.9	3378	2.9155	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.911	529.0 -> 509.0	3018	5.0509	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.930	519.0 -> 473.9	4126	0.8776	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.097	573.0 -> 418.8	14349	5.3000	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.283	589.0 -> 418.8	13918	5.1157	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.302	570.0 -> 525.0	10221	1.0971	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	15093	2.2972	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.636	615.0 -> 570.0	8628	1.1124	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.240	623.0 -> 59.0	68870	25.3151	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.236	515.0 -> 219.0	2199	2.6204	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.182	715.0 -> 670.0	9651	1.1790	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	61192	22.8856	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	4801	4.1616	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.173	213.0 -> 168.9	71203	9.8652	ng/ml	100
PFMPA	2.005	229.0 -> 85.0	22407	5.2090	ng/ml	100
3:3FTCA	3.249	241.0 -> 177.0	4686	13.6293	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.332	263.0 -> 219.0	28860	4.7097	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	11310	2.1539	ng/ml	100
PFMBA	3.867	279.0 -> 85.0	31426	4.9407	ng/ml	100
PFEESA	4.335	315.0 -> 135.0	74111	4.8416	ng/ml	100
NFDHA	4.514	295.0 -> 201.1	40210	5.9224	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	16737	9.1936	ng/ml	100

Quantitation Results Report (Not Reviewed)

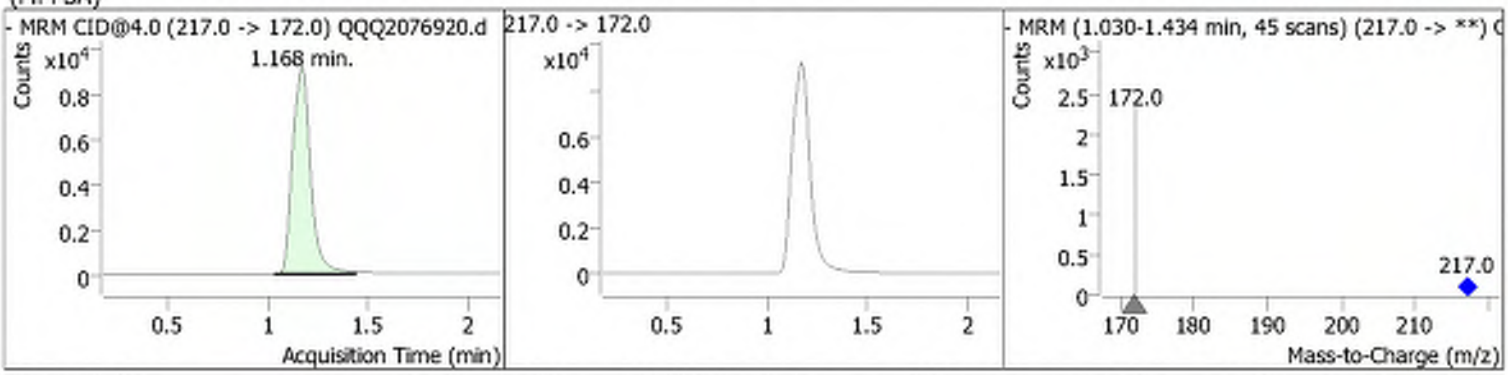
Agilent

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	29598	2.6214	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	11379	2.1802	ng/ml		100
HFPO-DA	4.913	285.0 -> 169.1	6098	11.8975	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	34739	2.1711	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	11660	2.2085	ng/ml	m	100
5-3FTCA	5.496	341.0 -> 217.0	89212	67.8342	ng/ml		100
ADONA	5.504	377.0 -> 85.0	76075	9.7845	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.941	427.0 -> 407.0	9033	8.7372	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	27027	2.7722	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.025	448.9 -> 80.0	8012	2.3279	ng/ml		100
Perfluorononanoic acid (PFNA)	6.483	463.0 -> 418.8	16782	1.3581	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.511	498.9 -> 79.9	5106	2.8873	ng/ml	m	100
7-3FTCA	6.633	441.0 -> 337.0	119084	58.2183	ng/ml		100
9-Cl-PF3ONS	6.761	531.0 -> 351.0	93966	11.0025	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.911	527.0 -> 80.9	7510	10.4436	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.921	513.0 -> 468.8	19801	2.8812	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.938	548.9 -> 79.9	7838	2.4657	ng/ml		100
N-MeFOSAA	7.097	570.0 -> 418.9	5039	2.5742	ng/ml	m	100
N-EtFOSAA	7.293	584.0 -> 418.8	5522	2.6138	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.301	598.9 -> 98.9	3708	2.7196	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.303	563.0 -> 519.0	22922	3.3901	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.511	497.9 -> 78.0	26798	2.5252	ng/ml		100
11-Cl-PF3OUdS	7.495	631.0 -> 451.0	31366	9.5344	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.636	613.0 -> 568.8	13221	2.2335	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.913	699.0 -> 80.0	3654	2.8079	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.923	663.0 -> 618.8	13537	2.2561	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	2733	2.2034	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.182	713.0 -> 669.0	23869	2.1958	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	58561	24.1008	ng/ml		100
NEtFOSE	8.462	630.0 -> 59.0	73343	25.2646	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	2844	1.7528	ng/ml		100

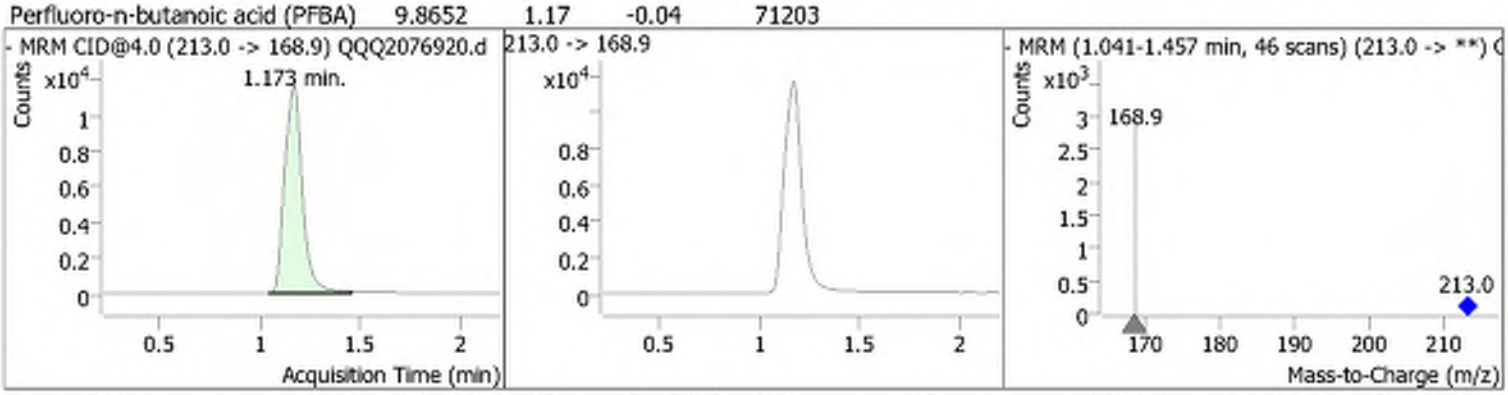
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitation Results Report (Not Reviewed)

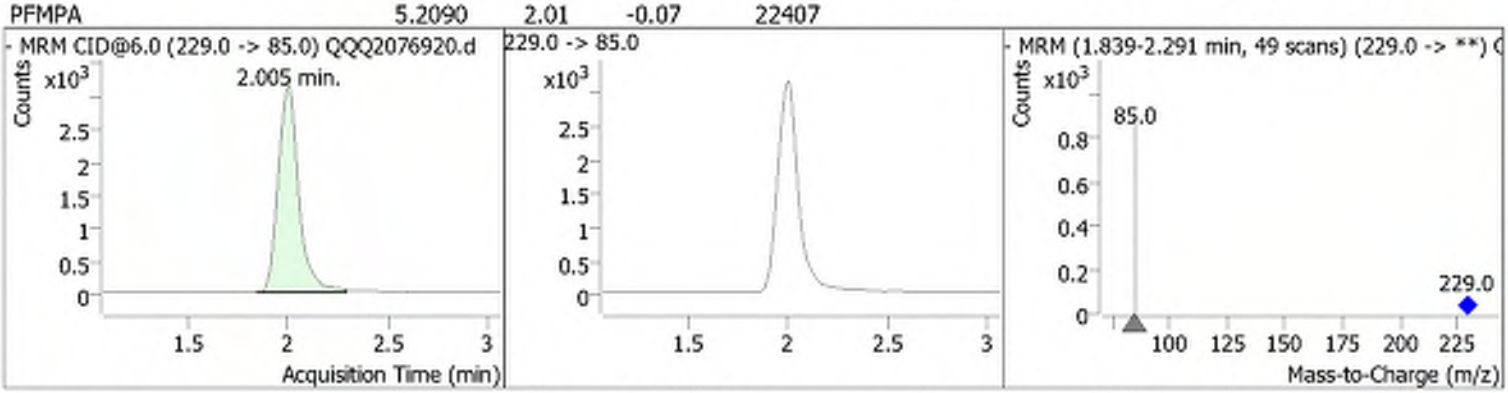
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0503	1.17	-0.04	57180				



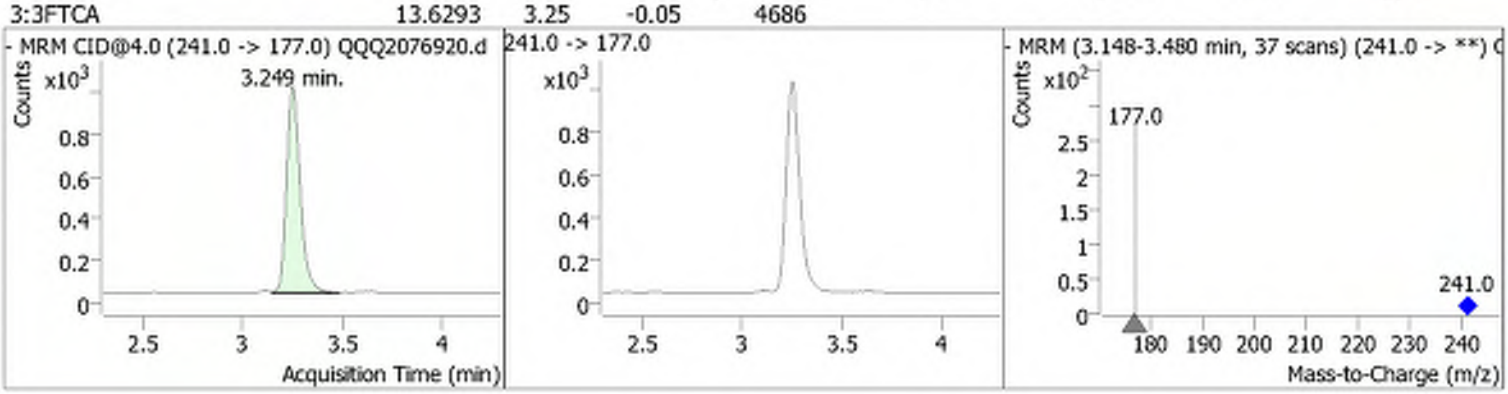
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	9.8652	1.17	-0.04	71203				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.2090	2.01	-0.07	22407				



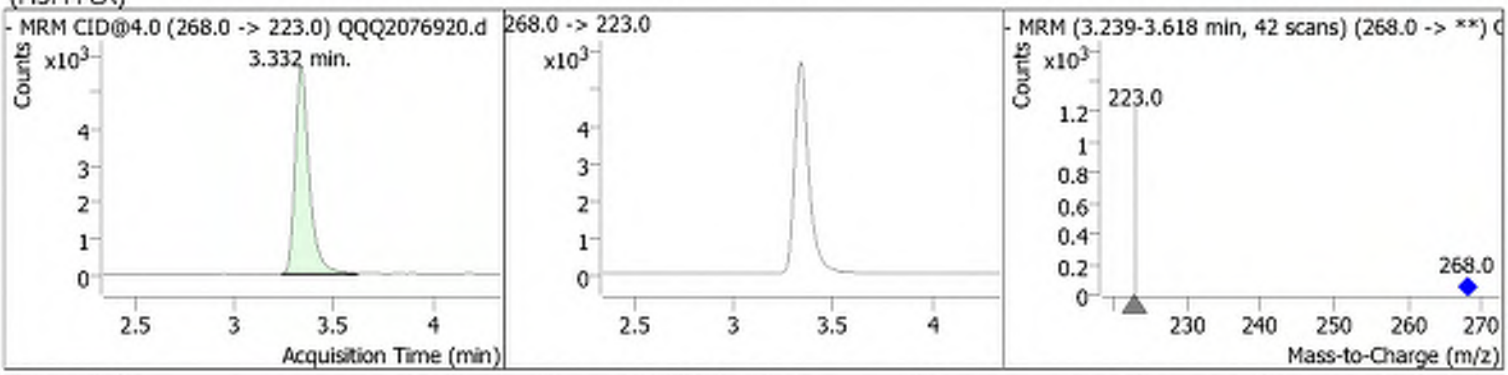
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	13.6293	3.25	-0.05	4686				



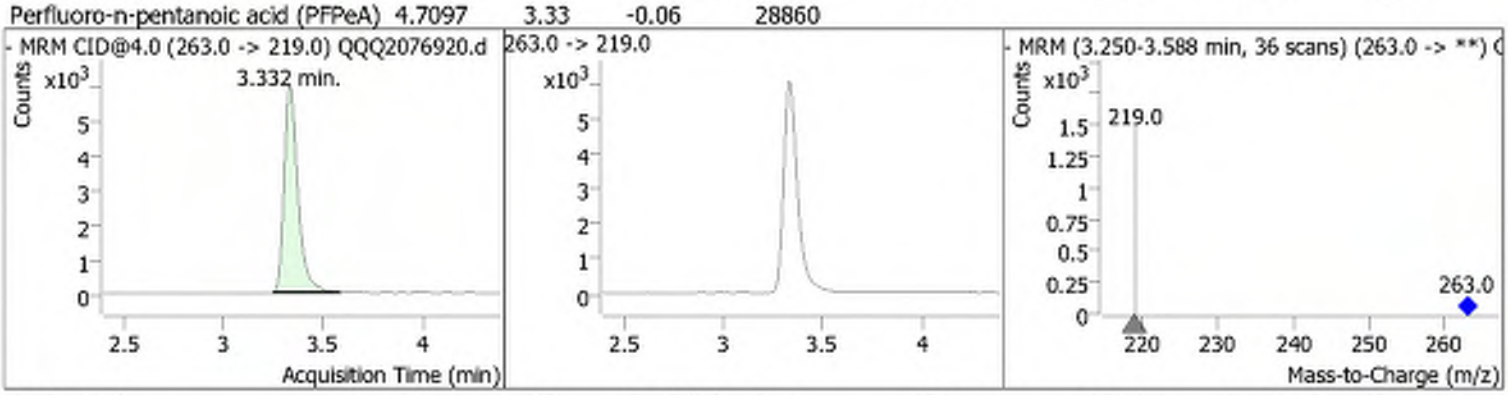
Quantitation Results Report (Not Reviewed)

Agilent

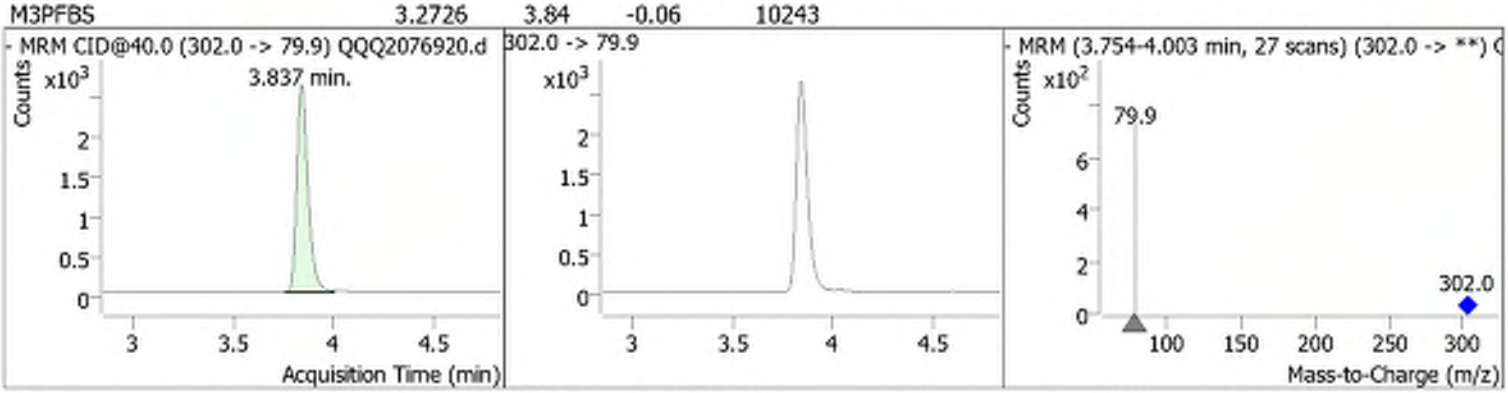
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.0341	3.33	-0.06	27998				



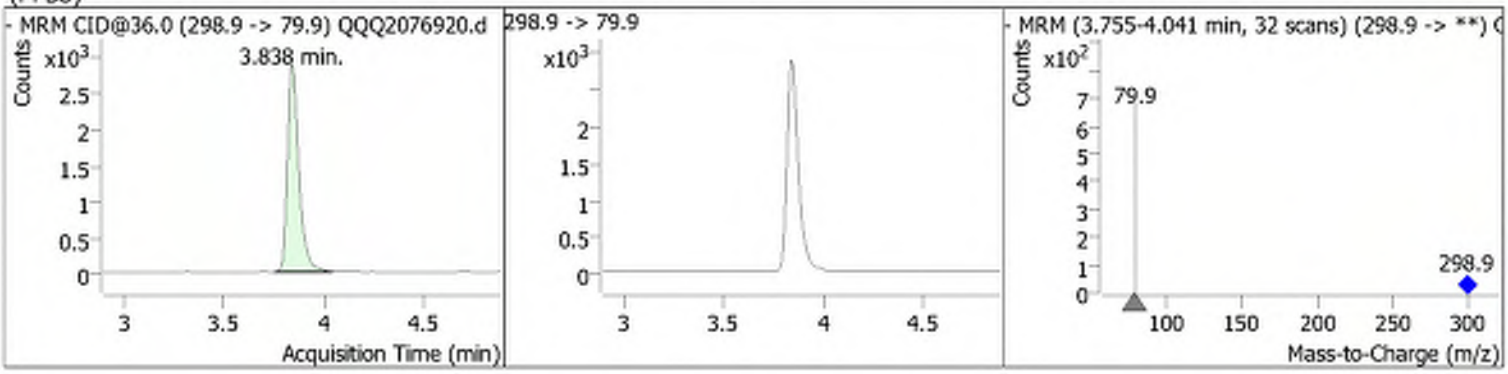
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.7097	3.33	-0.06	28860				



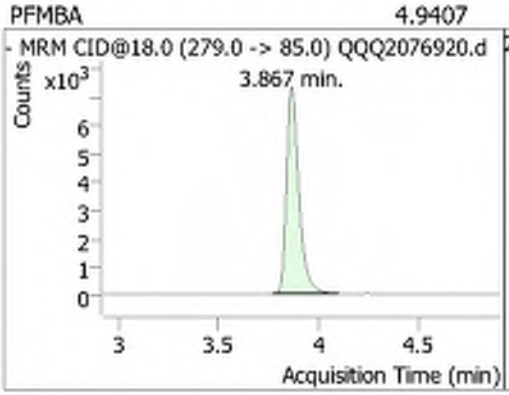
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.2726	3.84	-0.06	10243				

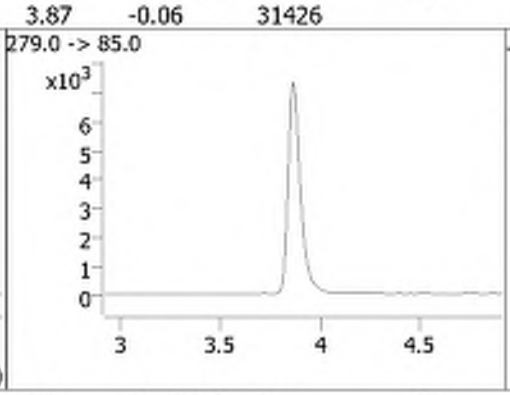


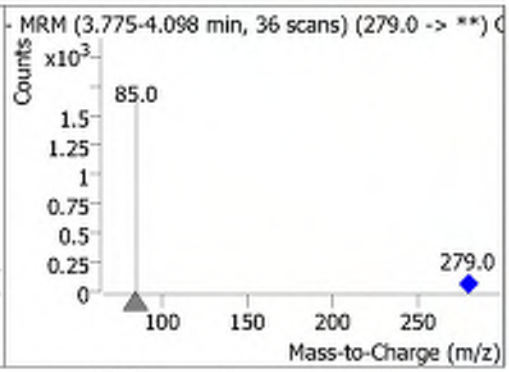
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.1539	3.84	-0.06	11310				



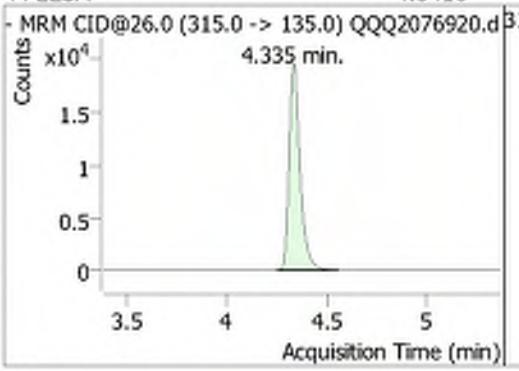
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.9407	3.87	-0.06	31426				

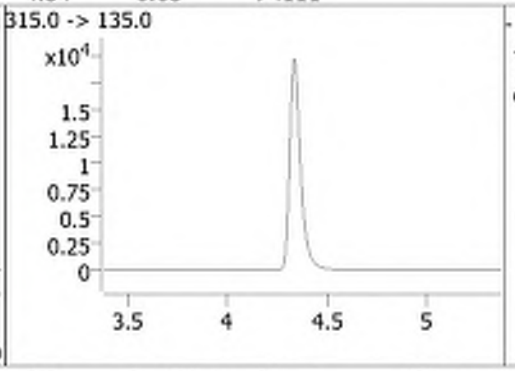


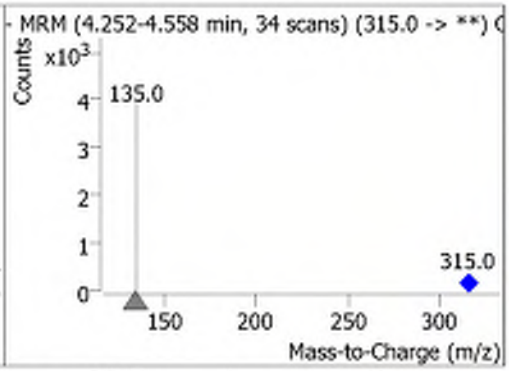




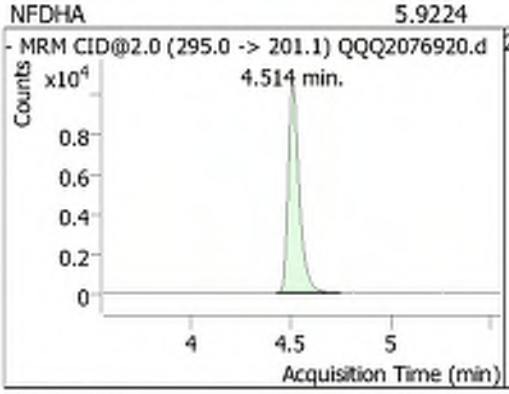
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.8416	4.34	-0.05	74111				

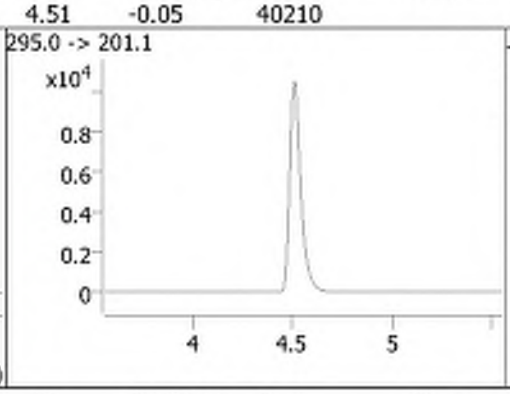


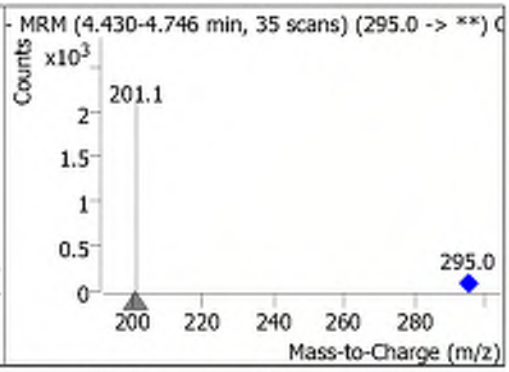




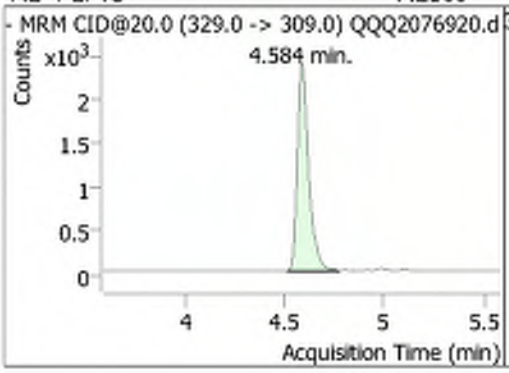
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.9224	4.51	-0.05	40210				

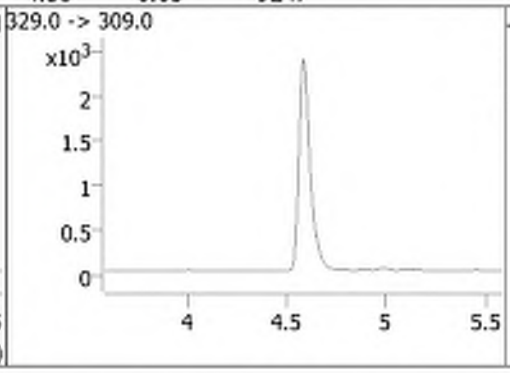


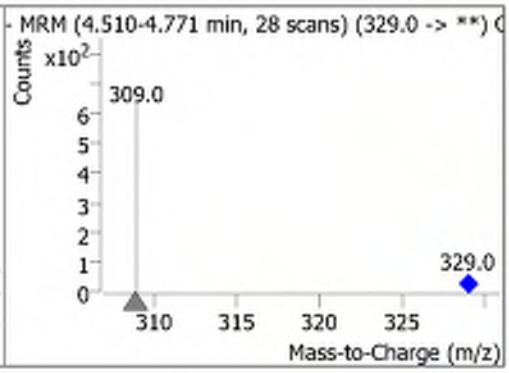




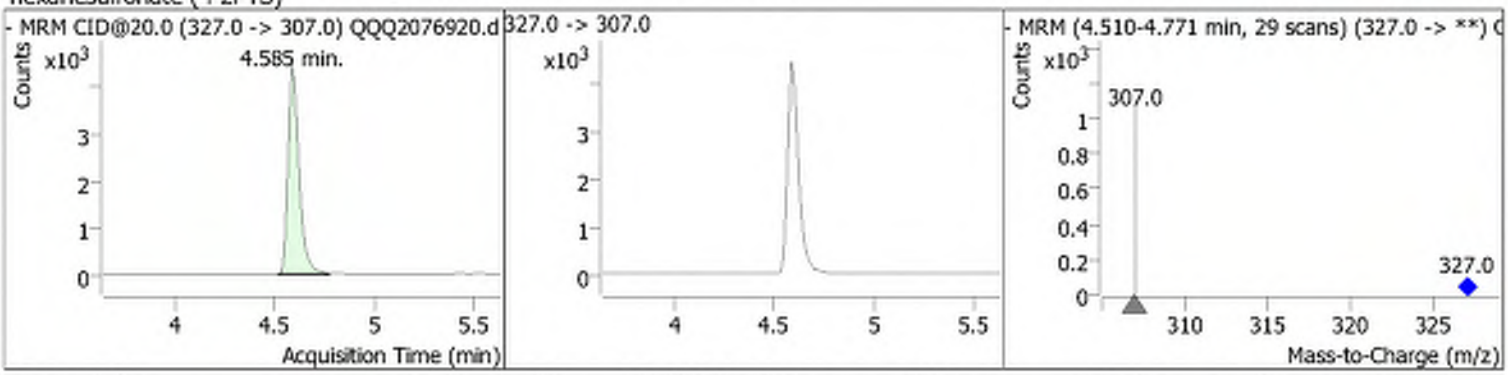
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	7.2160	4.58	-0.05	9247				



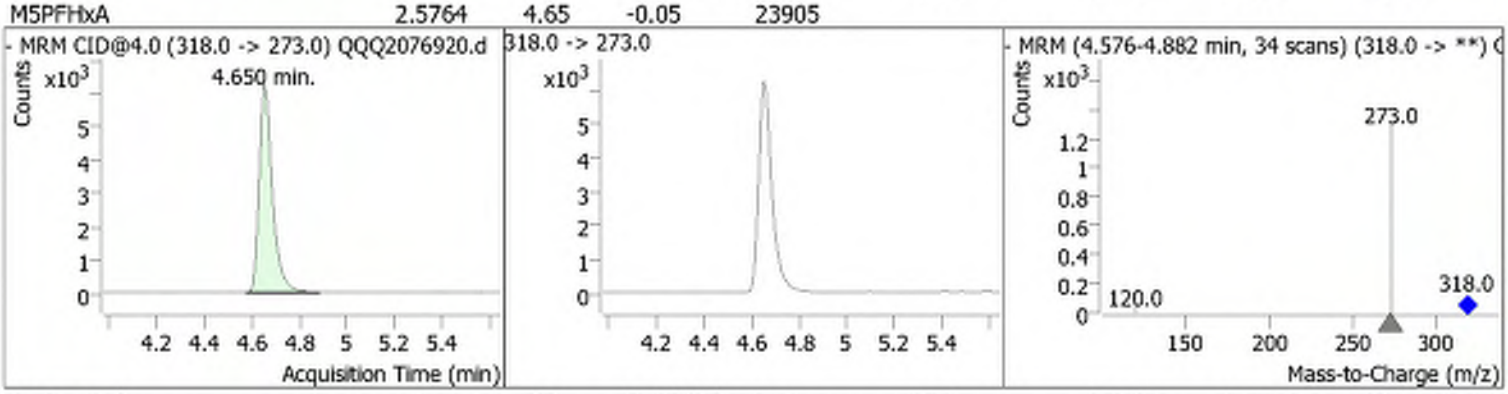




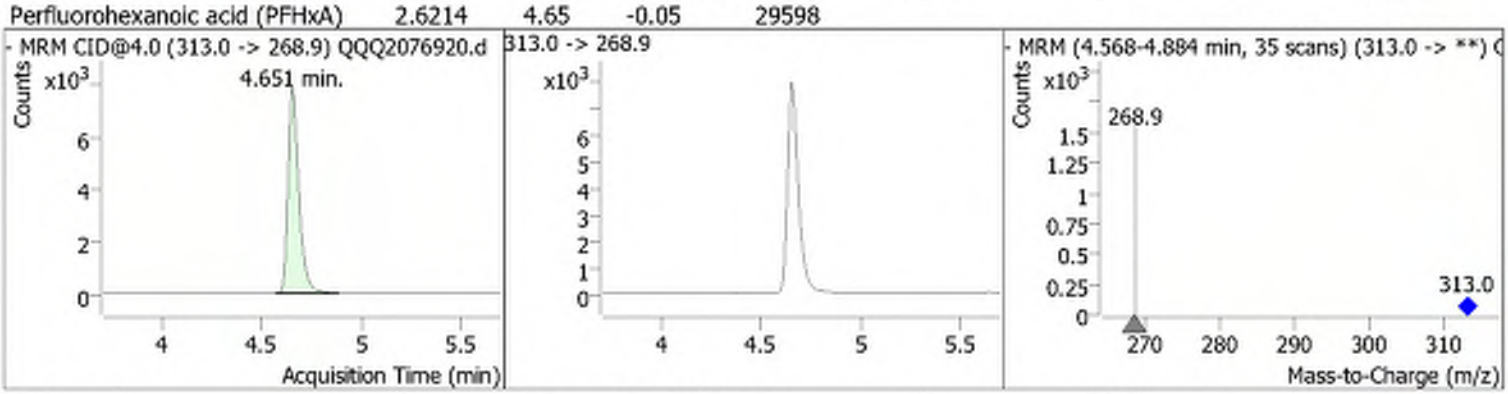
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.1936	4.58	-0.05	16737				



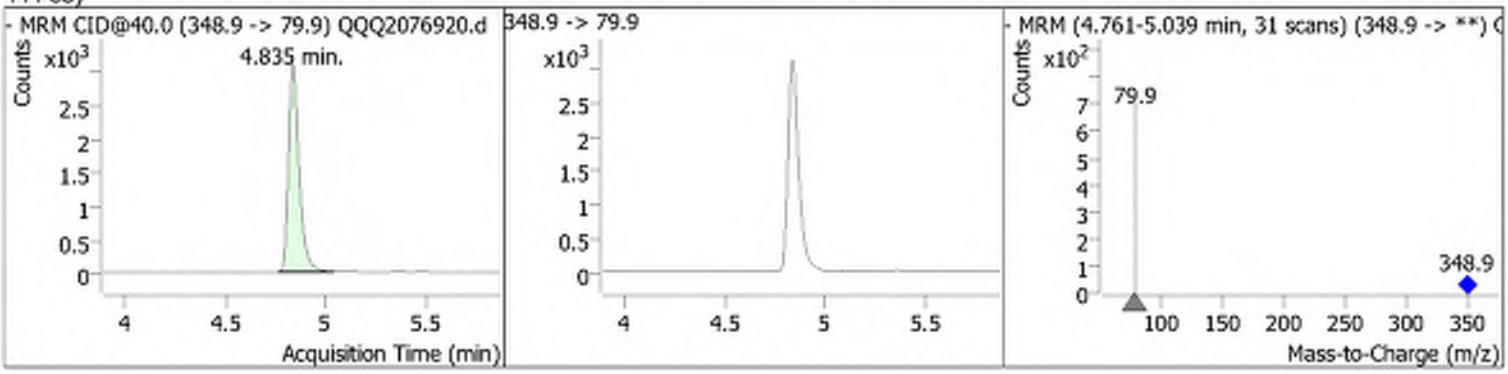
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5764	4.65	-0.05	23905				



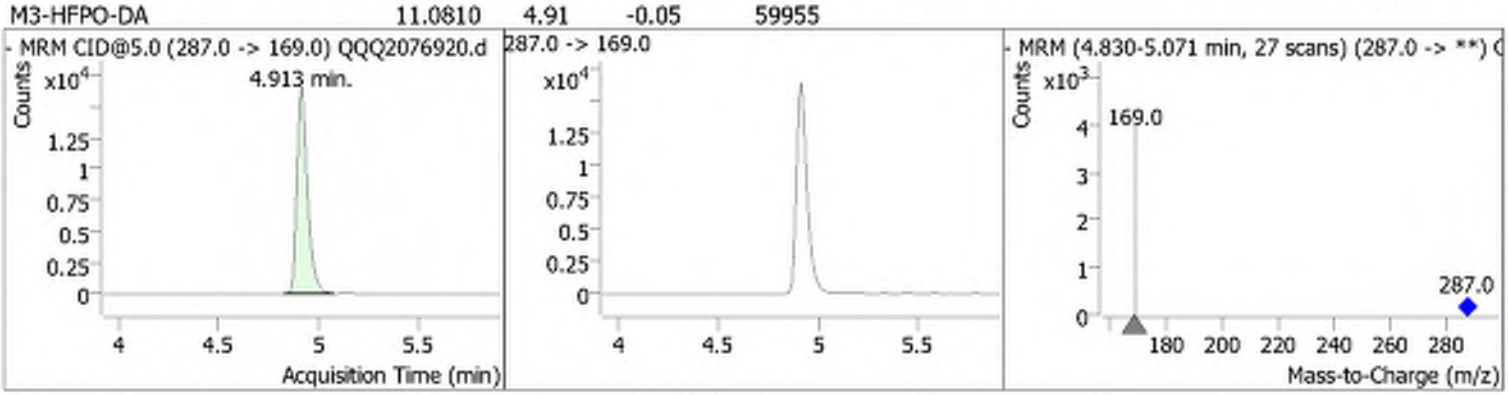
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.6214	4.65	-0.05	29598				



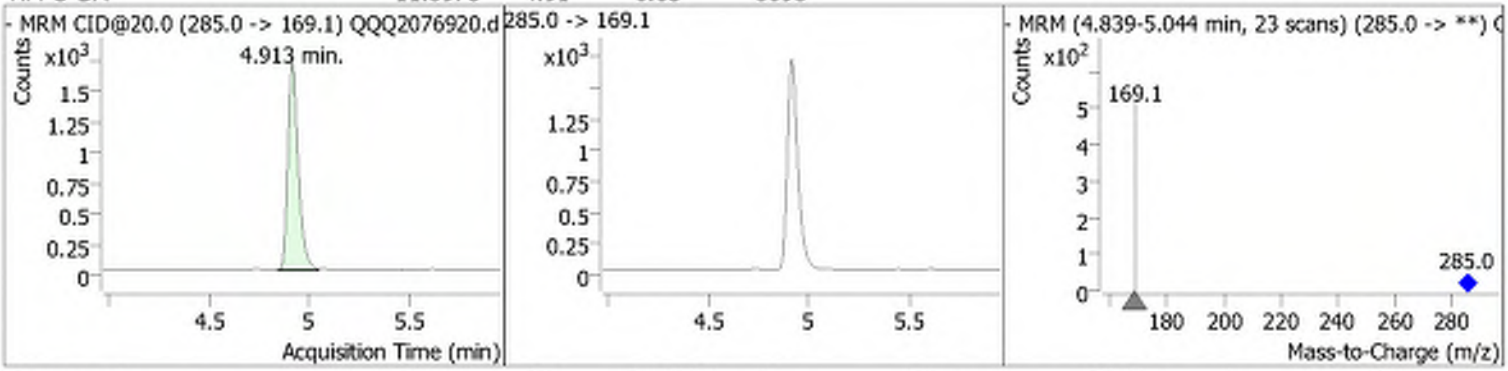
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.1802	4.83	-0.05	11379				



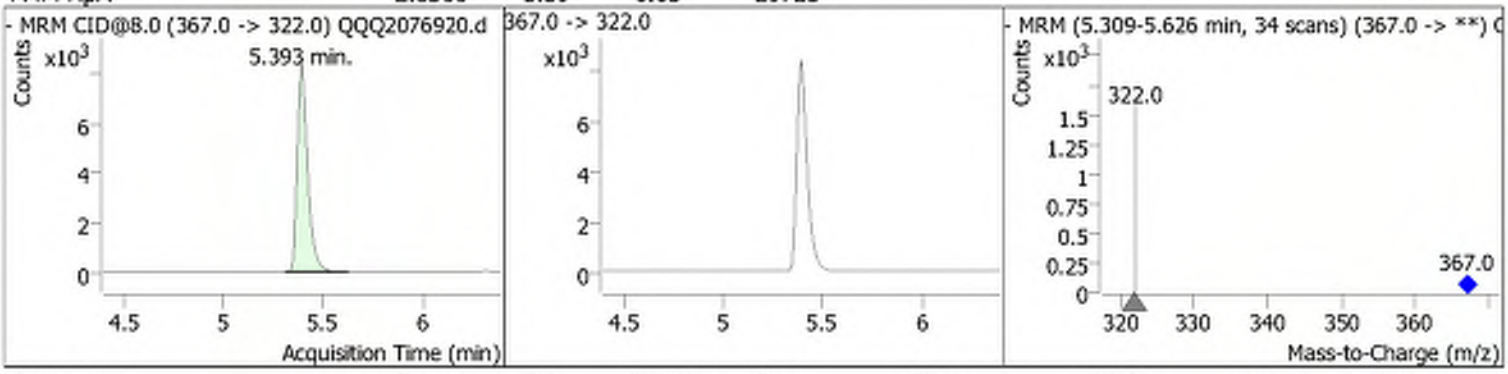
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.0810	4.91	-0.05	59955				



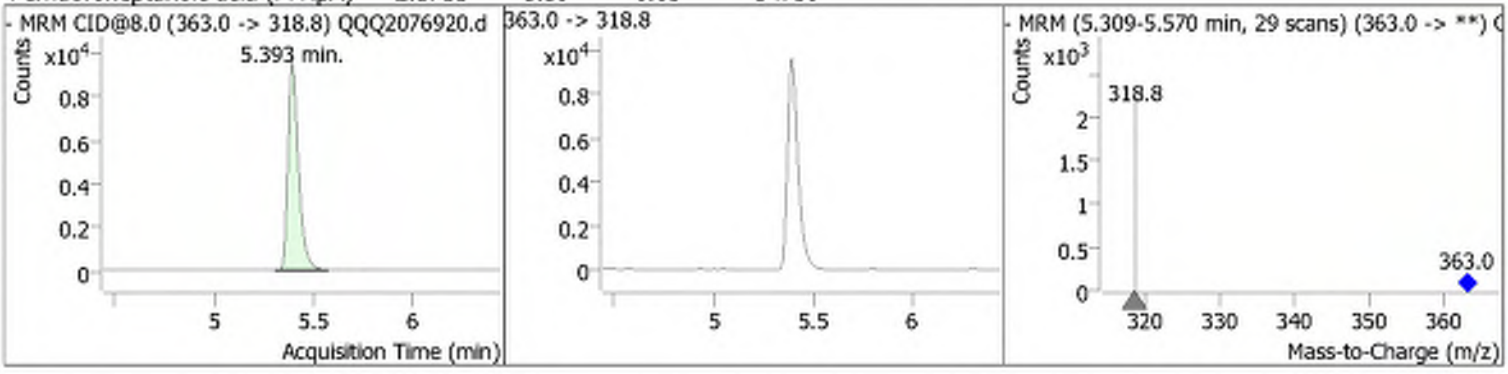
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	11.8975	4.91	-0.05	6098				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.8366	5.39	-0.05	29725				

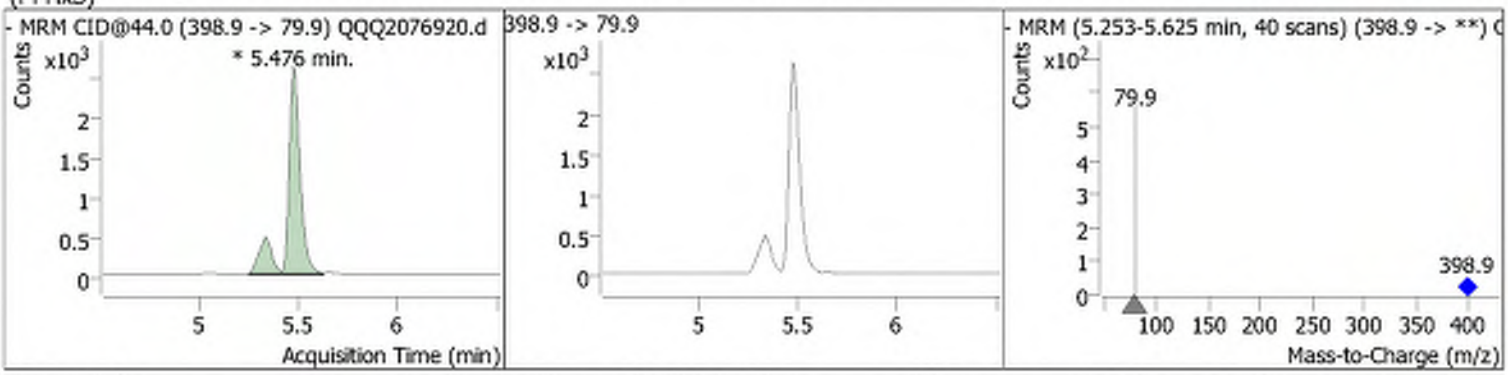


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.1711	5.39	-0.05	34739				

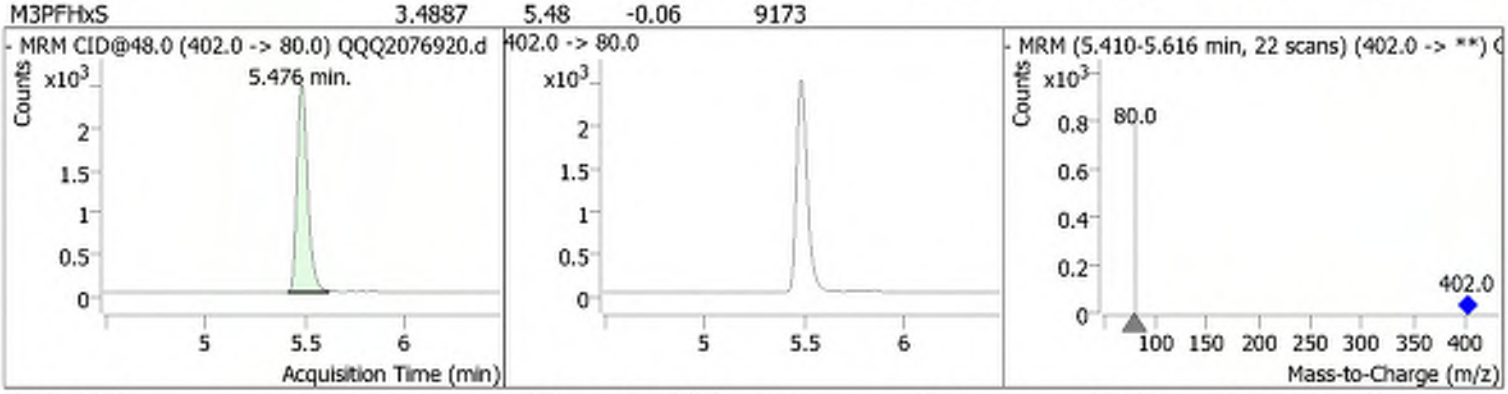


Quantitation Results Report (Not Reviewed)

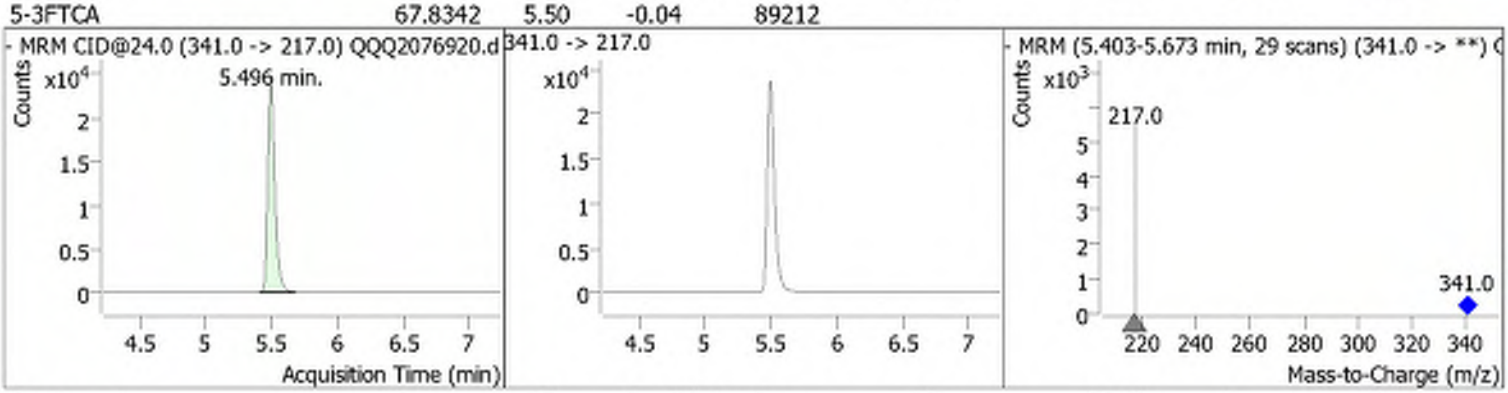
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.2085	5.48	-0.05	11660 (m)				



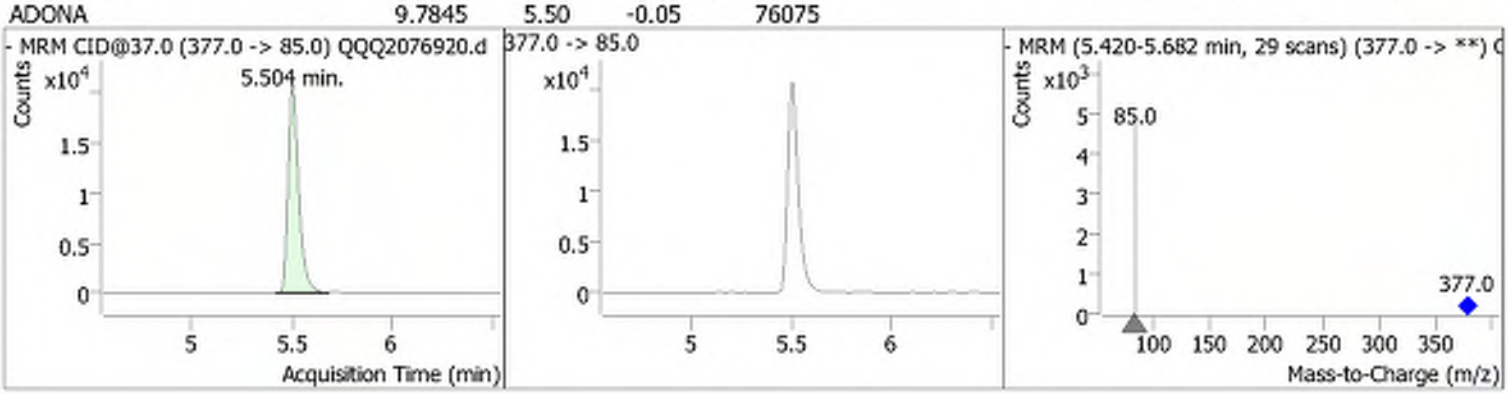
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.4887	5.48	-0.06	9173				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	67.8342	5.50	-0.04	89212				

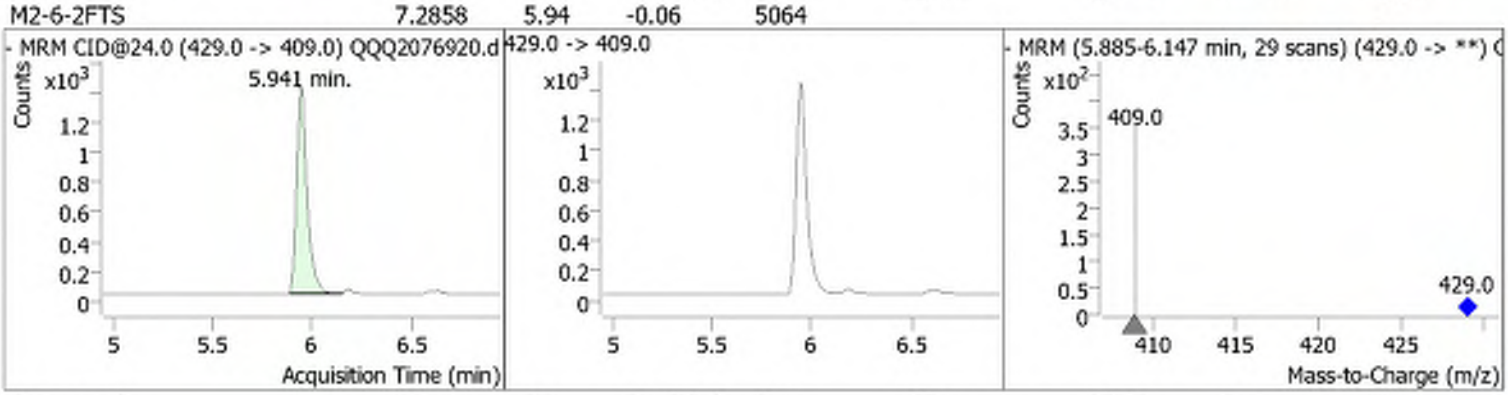


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	9.7845	5.50	-0.05	76075				

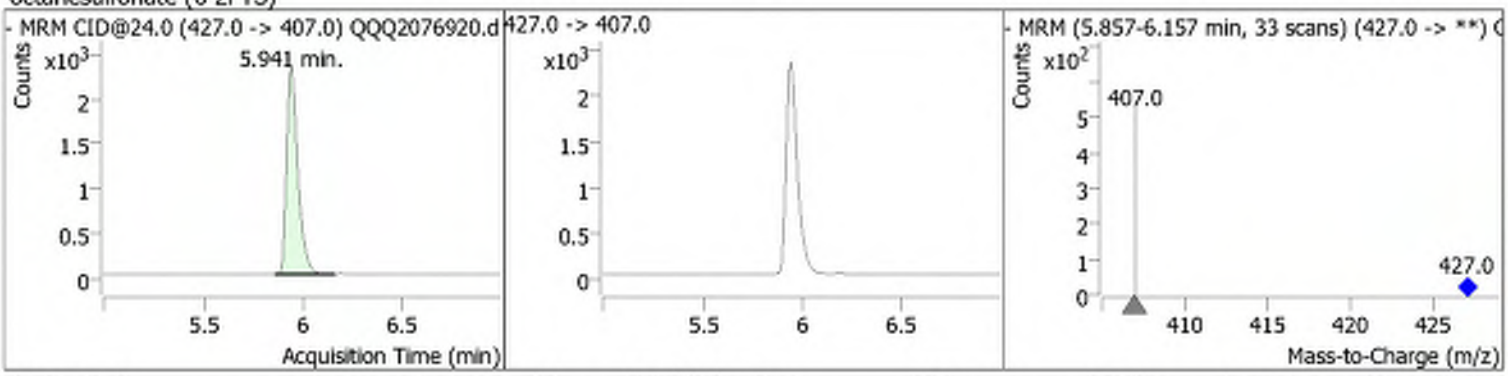


Quantitation Results Report (Not Reviewed)

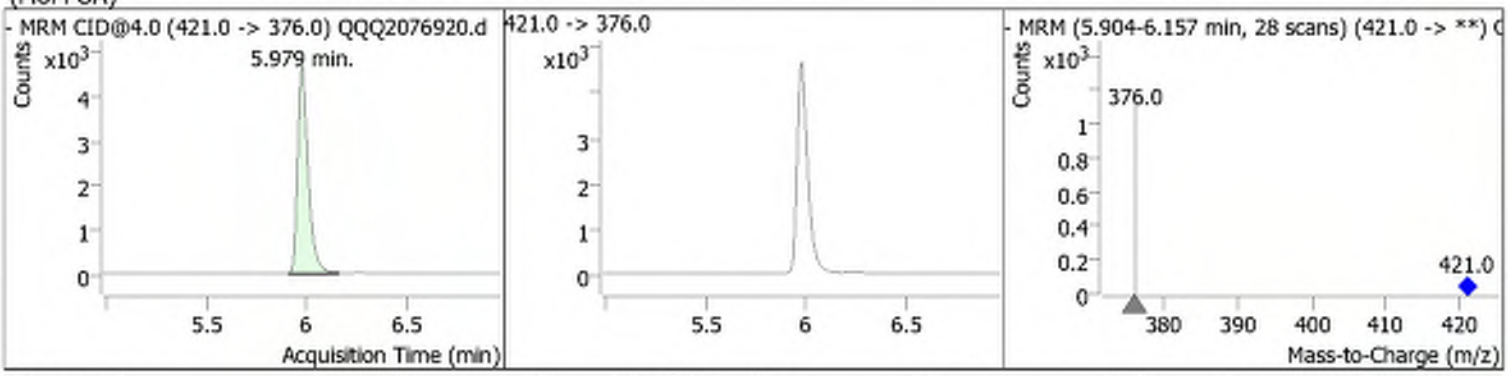
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	7.2858	5.94	-0.06	5064				



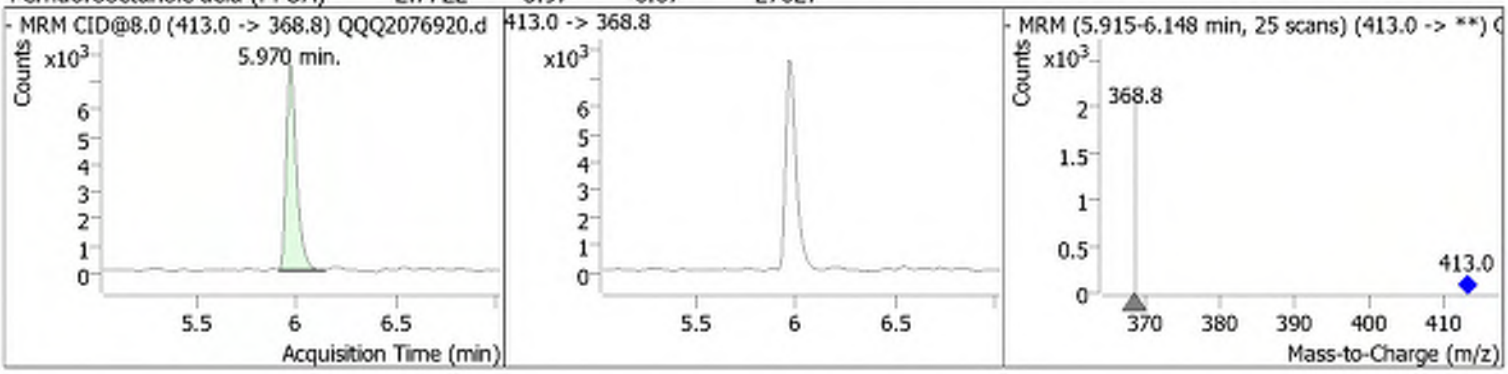
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	8.7372	5.94	-0.06	9033				



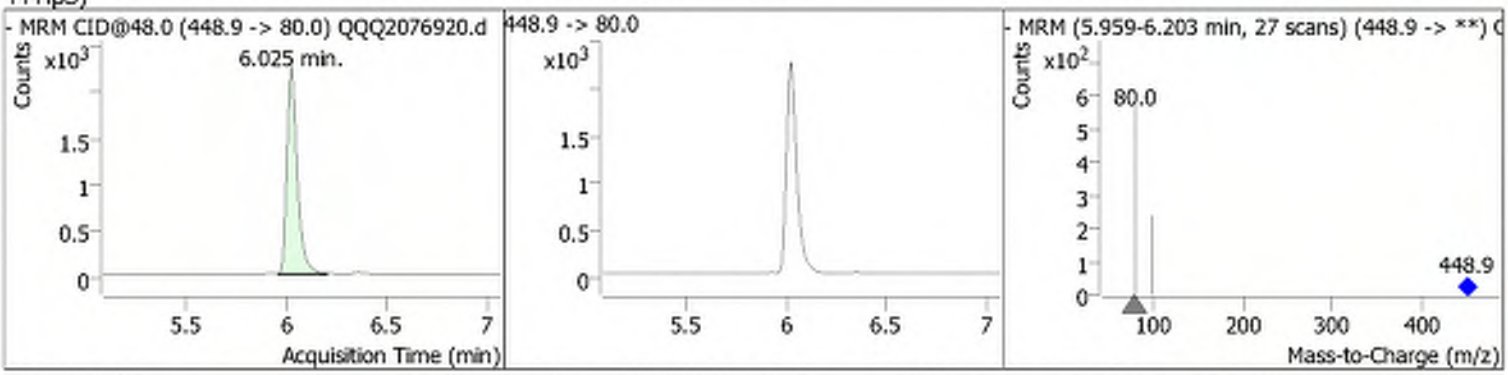
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.4312	5.98	-0.06	16839				



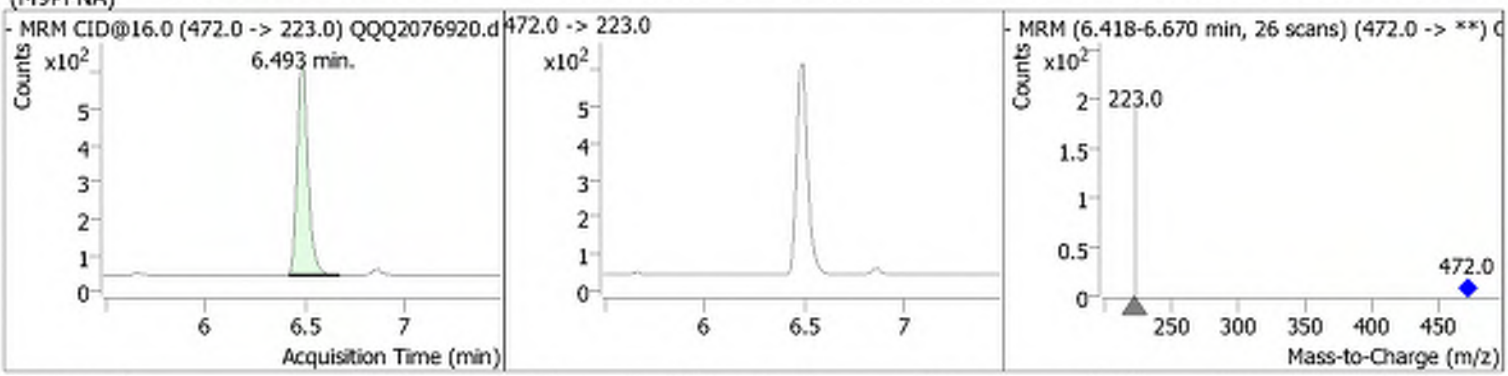
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.7722	5.97	-0.07	27027				



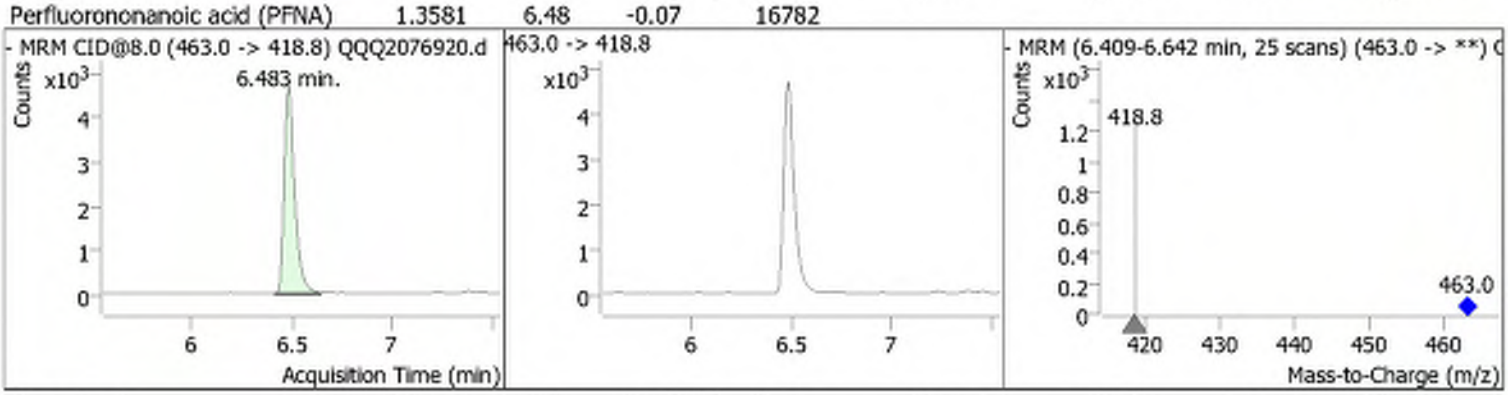
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	2.3279	6.03	-0.06	8012				



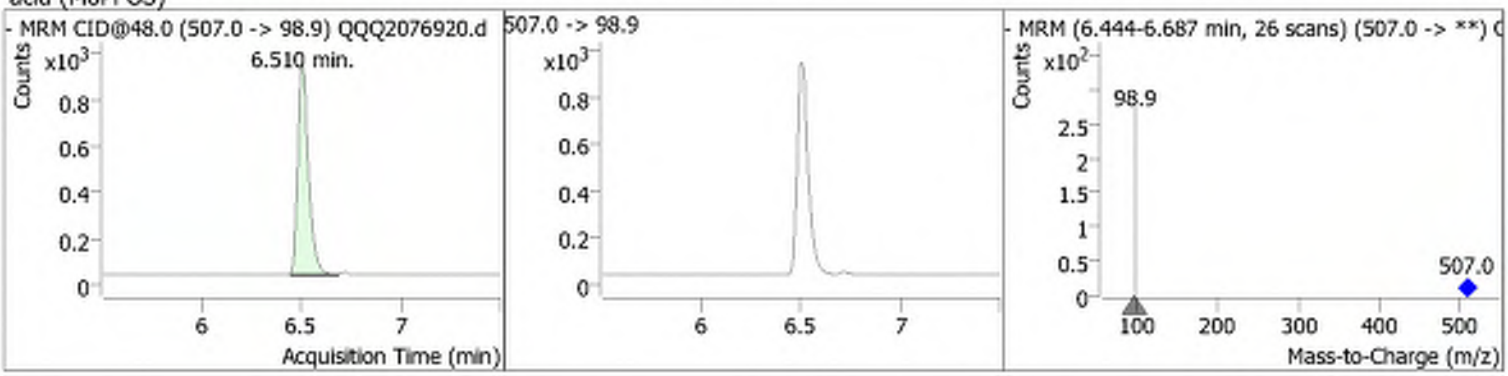
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.7973	6.49	-0.05	2173				



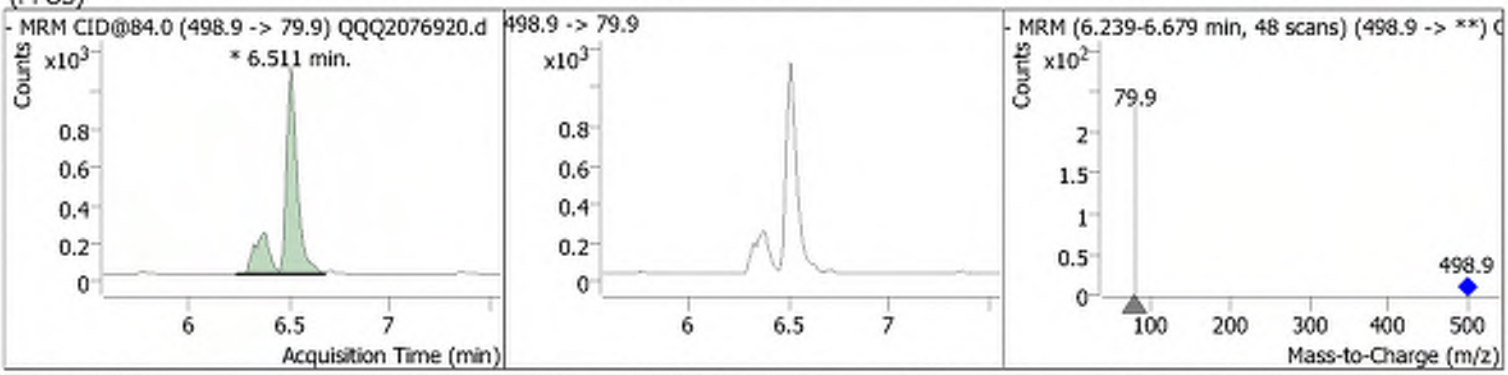
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	1.3581	6.48	-0.07	16782				



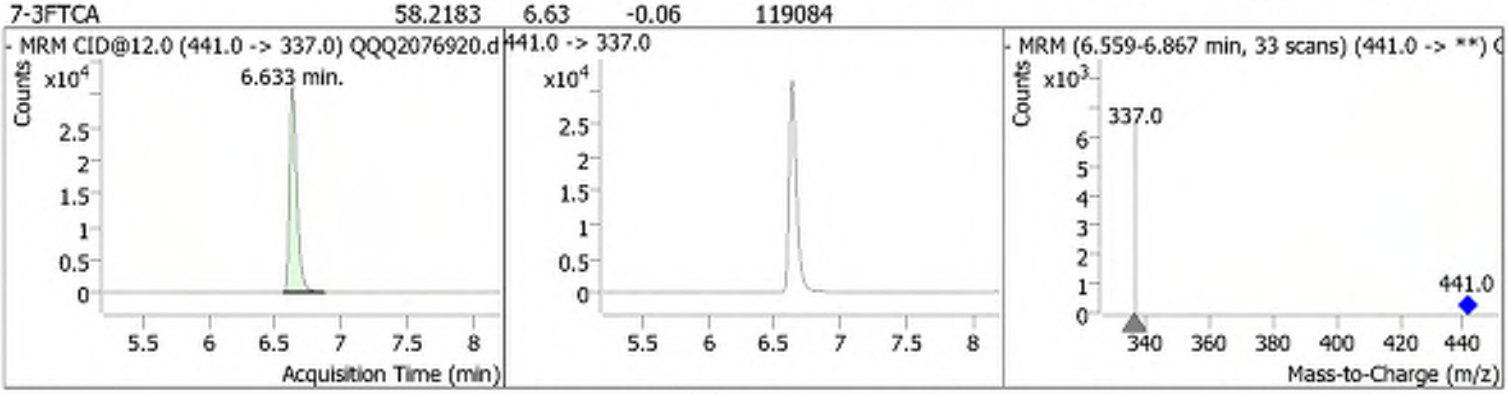
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.9155	6.51	-0.06	3378				



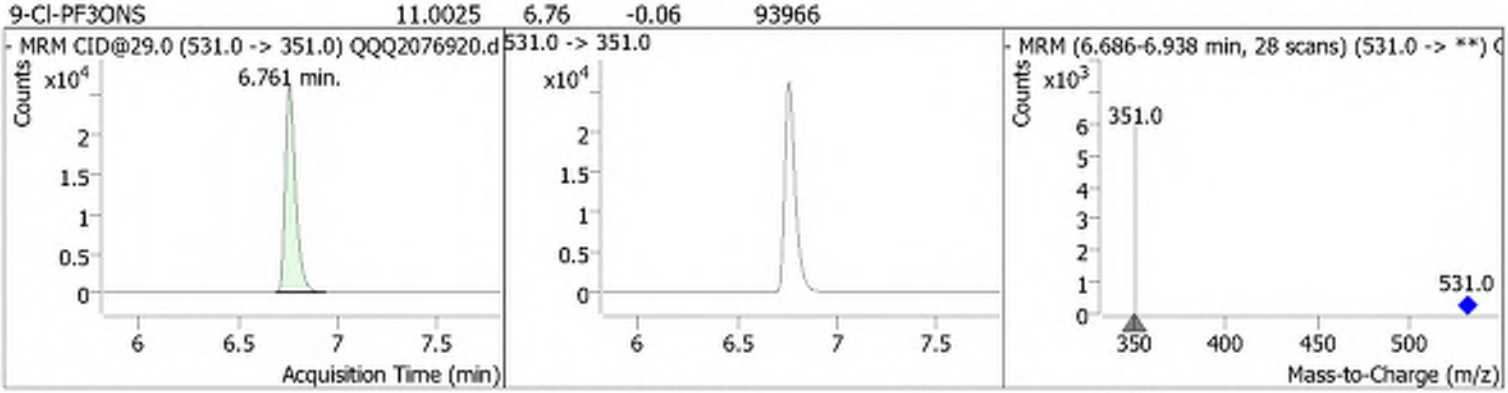
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.8873	6.51	-0.06	5106 (m)				



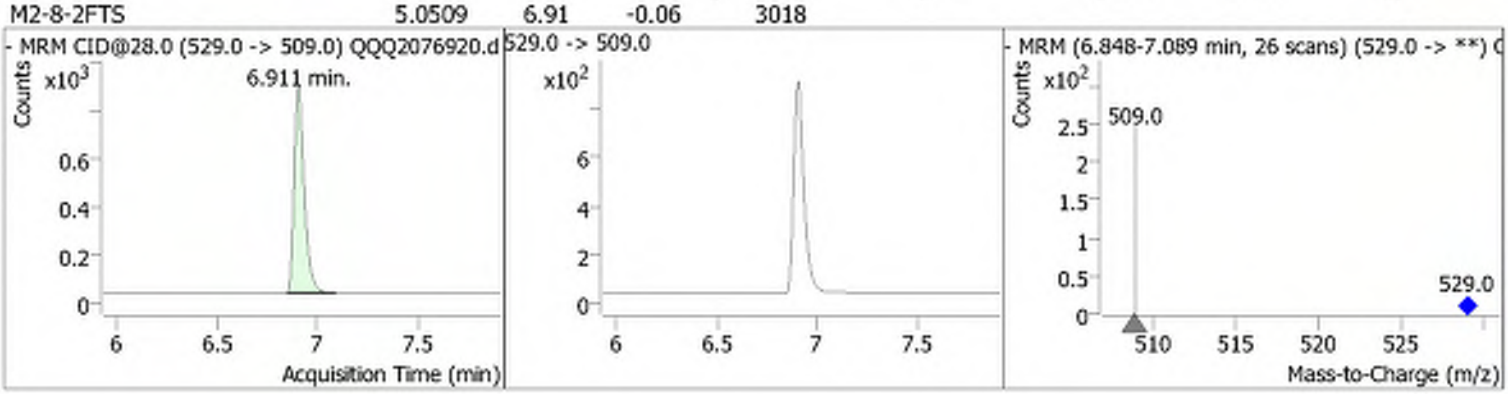
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	58.2183	6.63	-0.06	119084				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	11.0025	6.76	-0.06	93966				



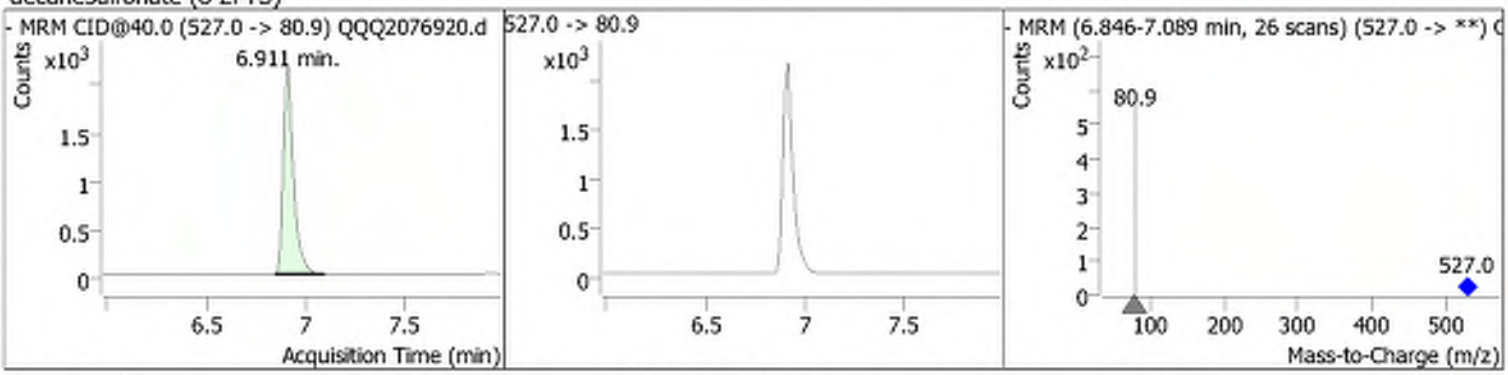
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.0509	6.91	-0.06	3018				



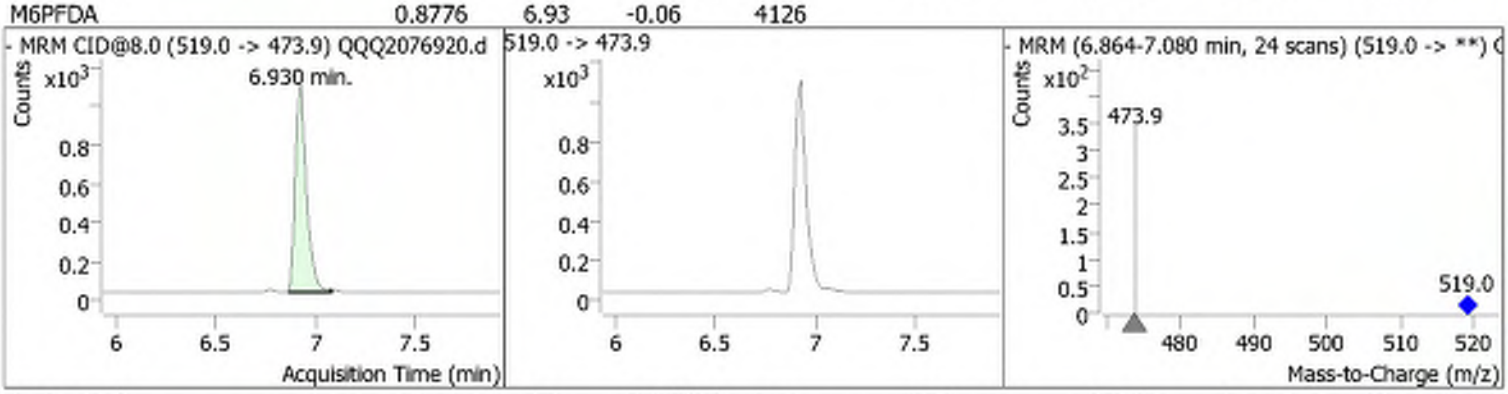
Quantitation Results Report (Not Reviewed)

Agilent

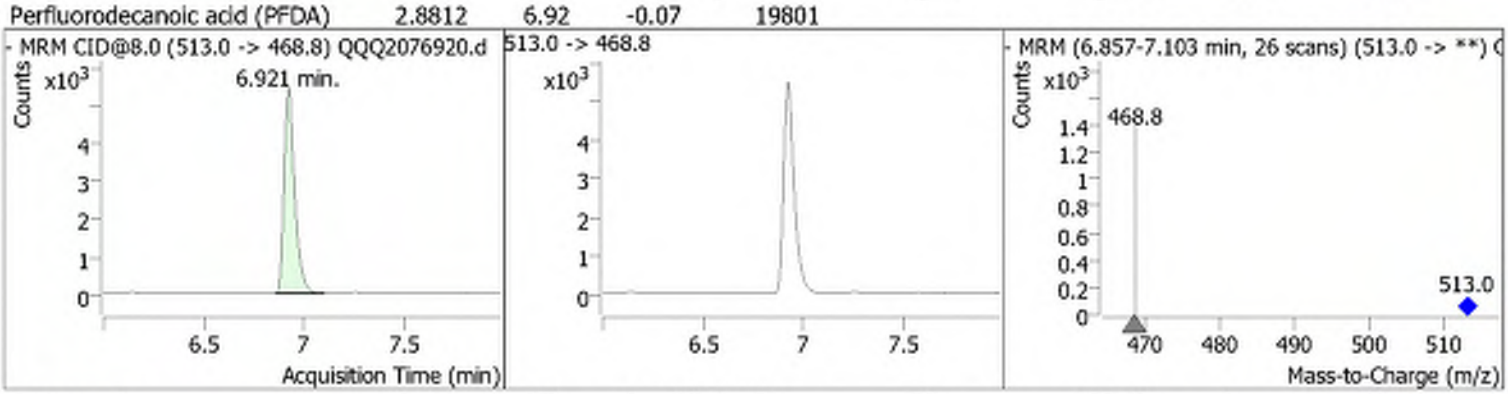
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	10.4436	6.91	-0.07	7510				



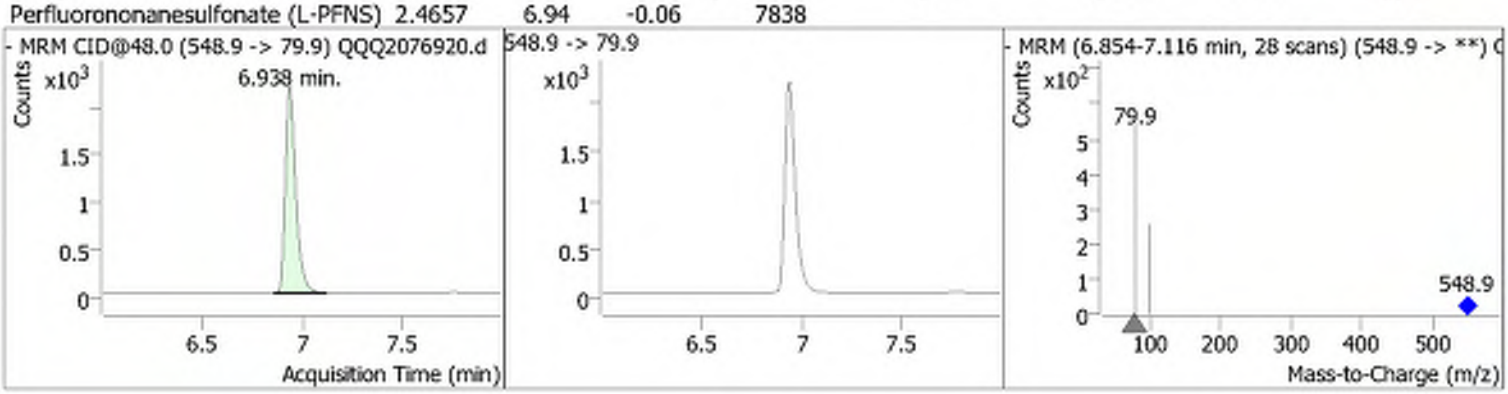
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.8776	6.93	-0.06	4126				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.8812	6.92	-0.07	19801				

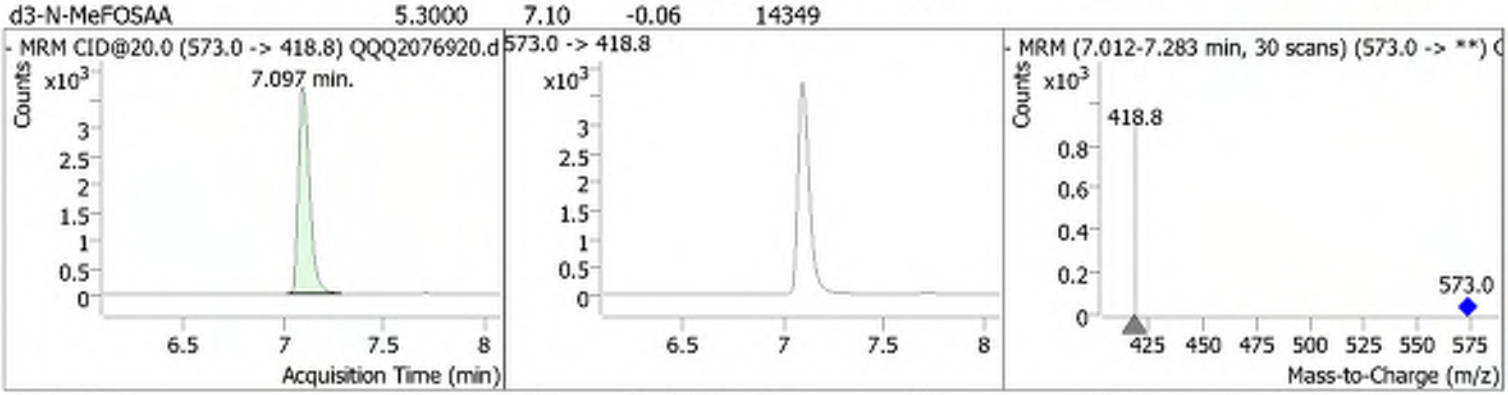


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	2.4657	6.94	-0.06	7838				

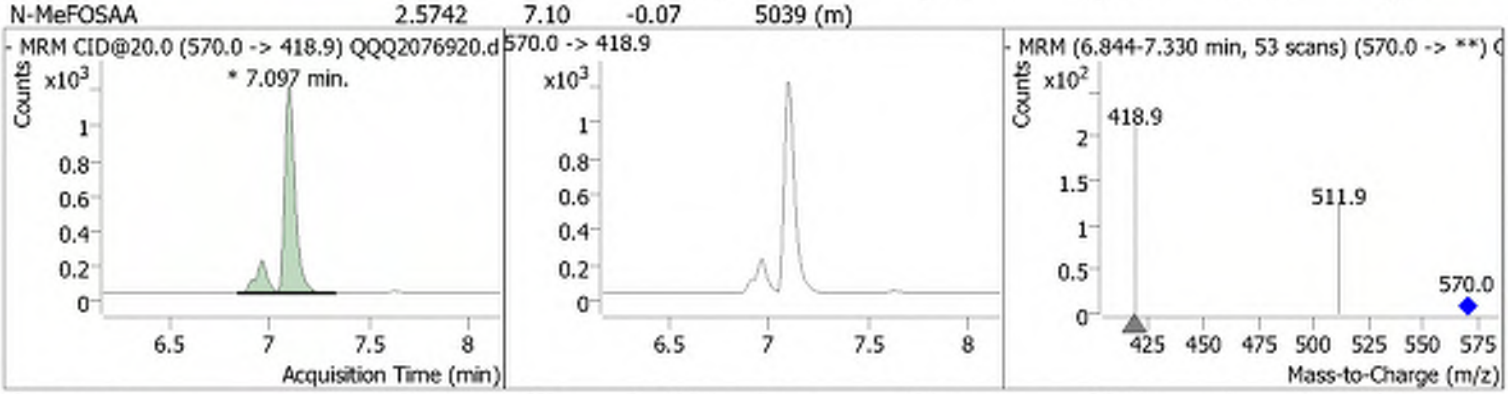


Quantitation Results Report (Not Reviewed)

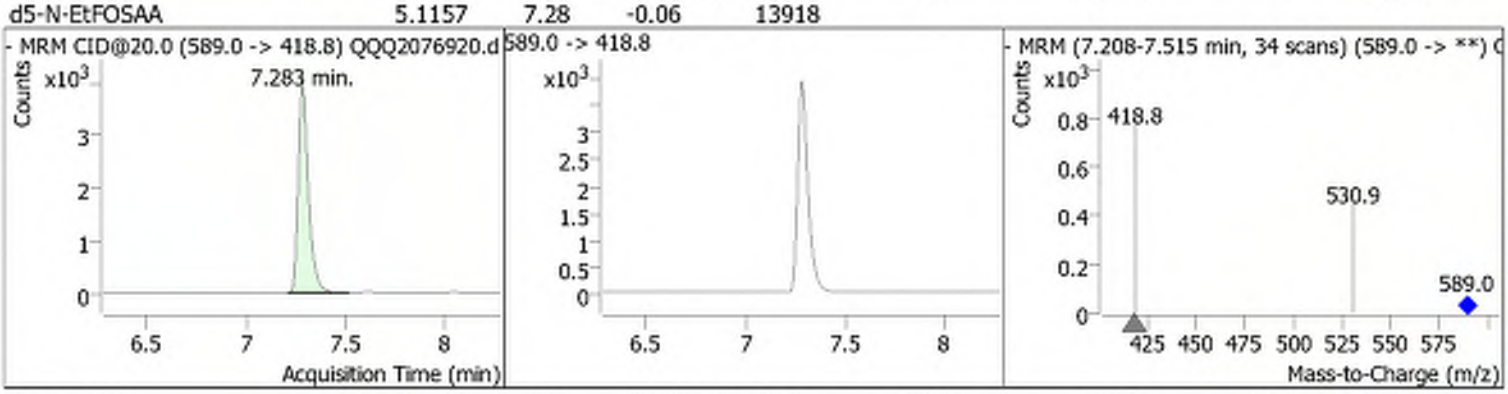
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.3000	7.10	-0.06	14349				



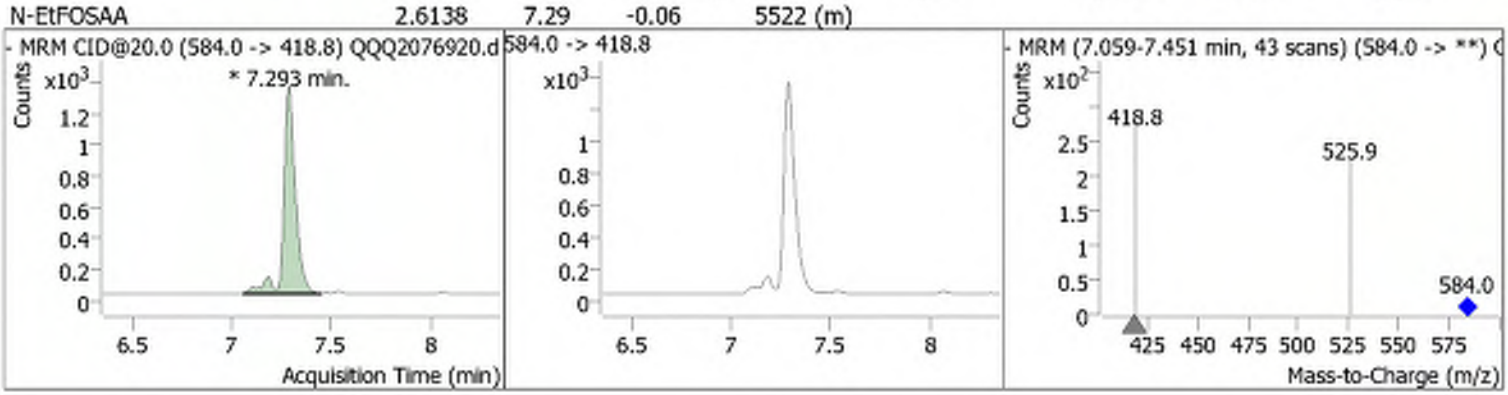
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.5742	7.10	-0.07	5039 (m)				



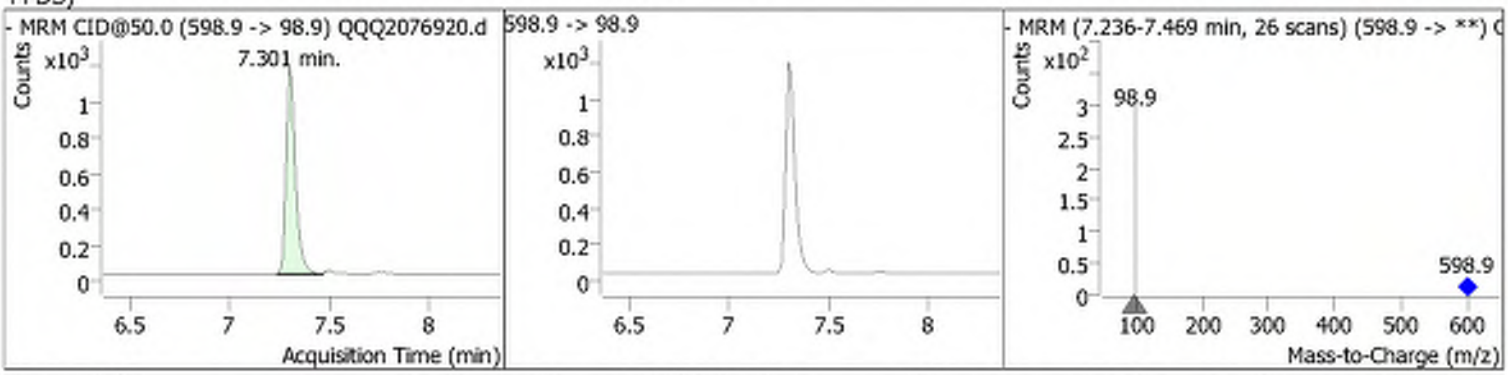
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.1157	7.28	-0.06	13918				



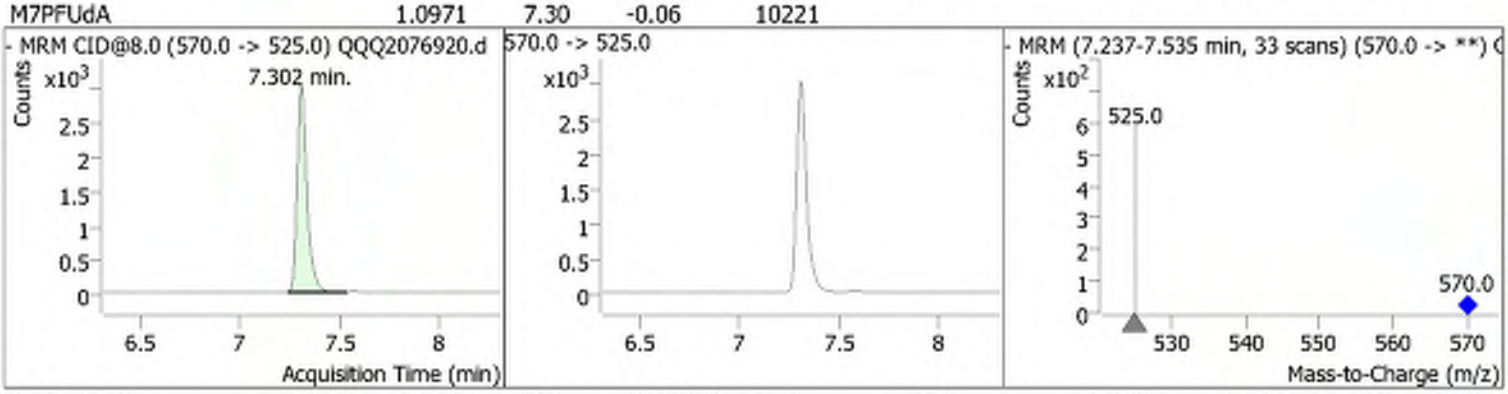
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.6138	7.29	-0.06	5522 (m)				



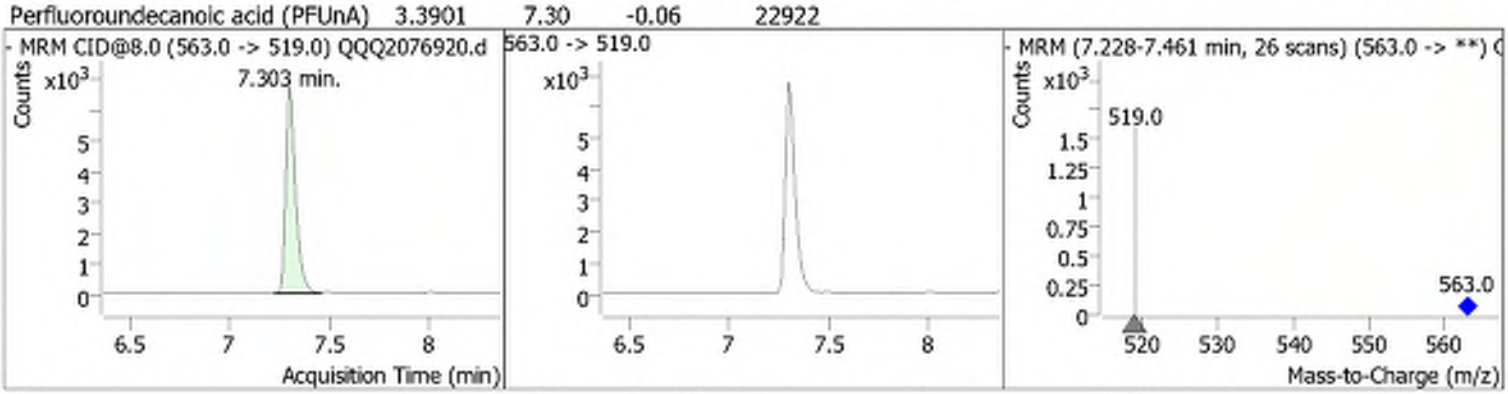
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	2.7196	7.30	-0.06	3708				



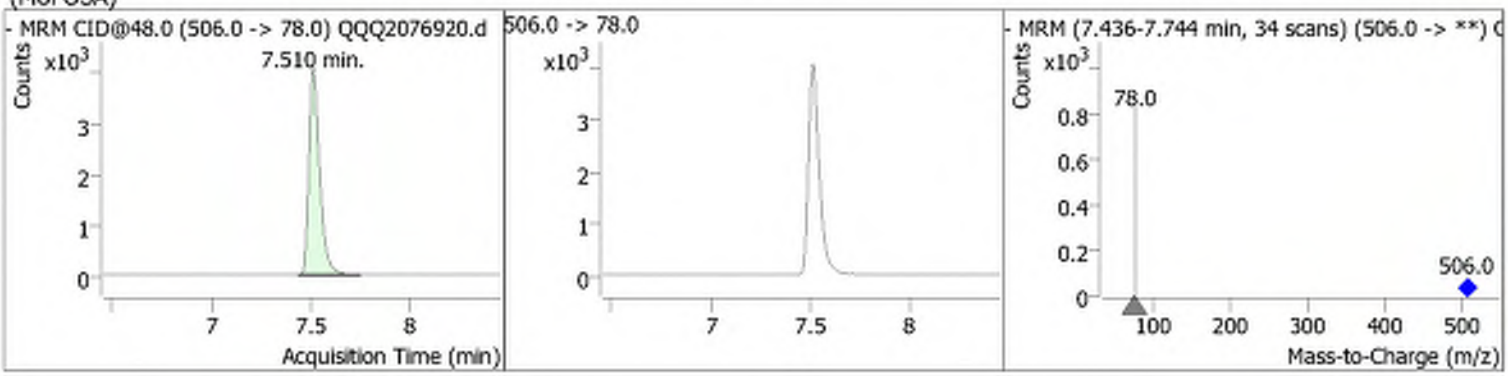
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.0971	7.30	-0.06	10221				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.3901	7.30	-0.06	22922				

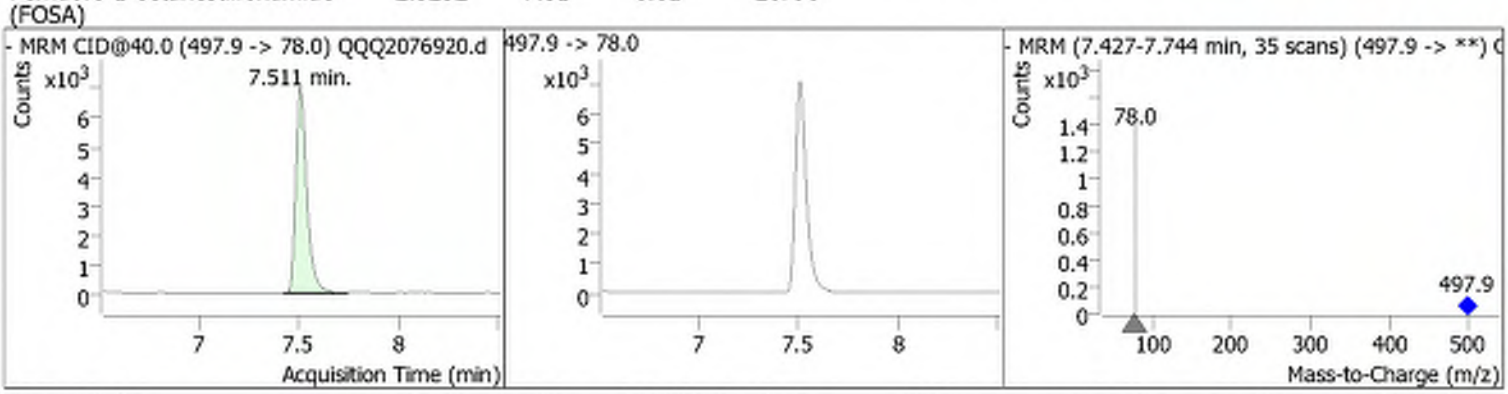


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.2972	7.51	-0.01	15093				

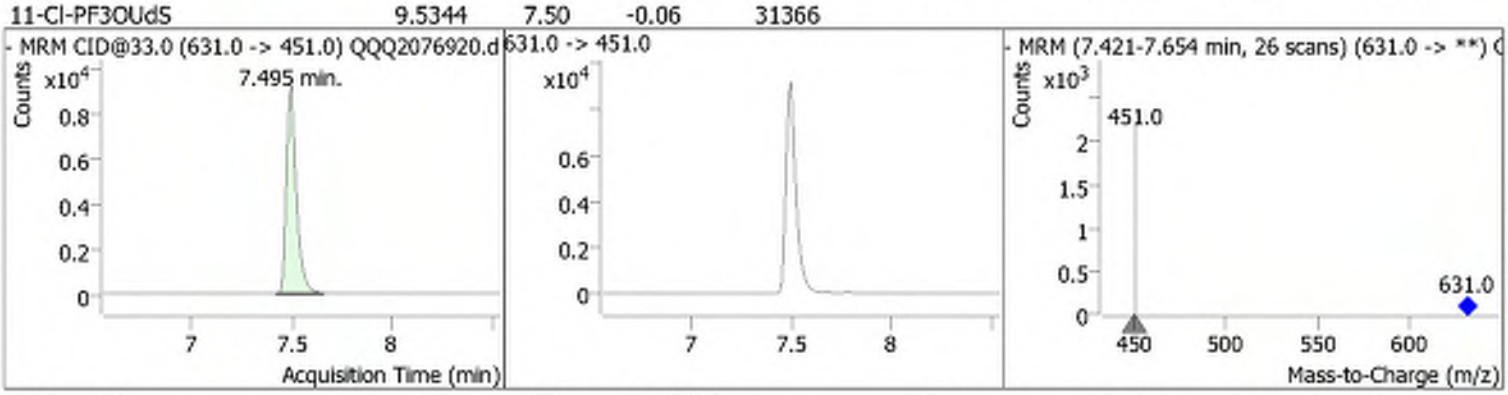


Quantitation Results Report (Not Reviewed)

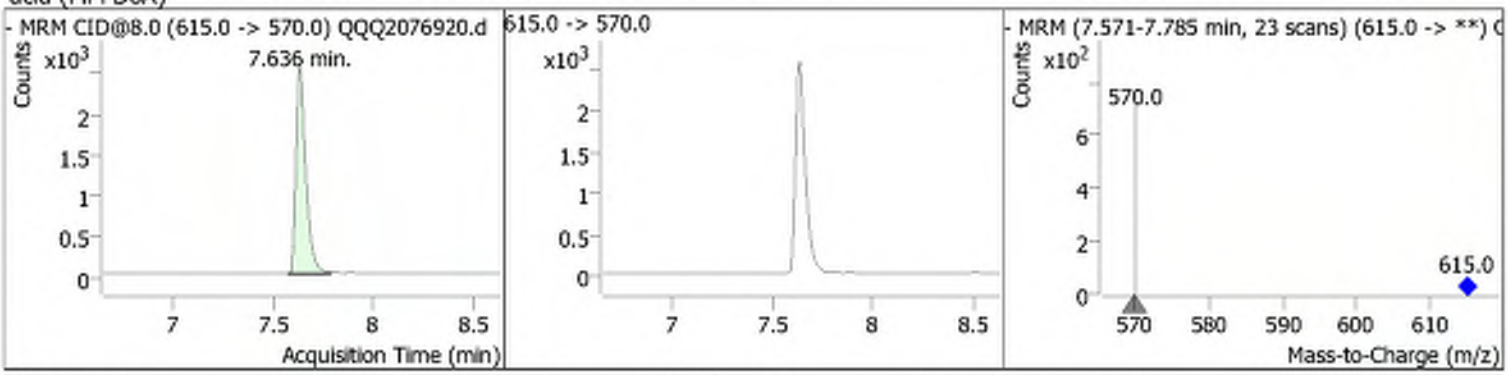
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	2.5252	7.51	-0.01	26798				



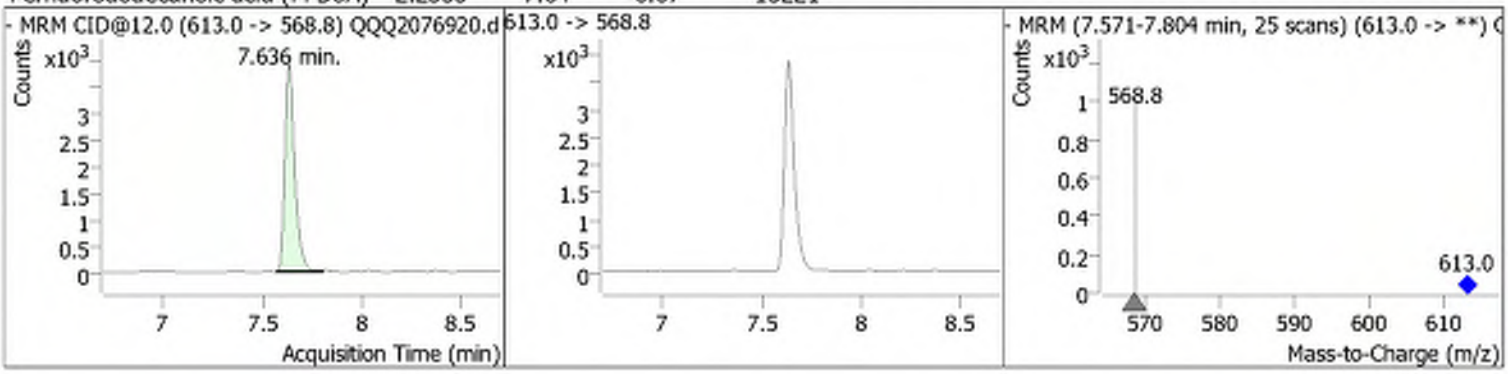
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	9.5344	7.50	-0.06	31366				



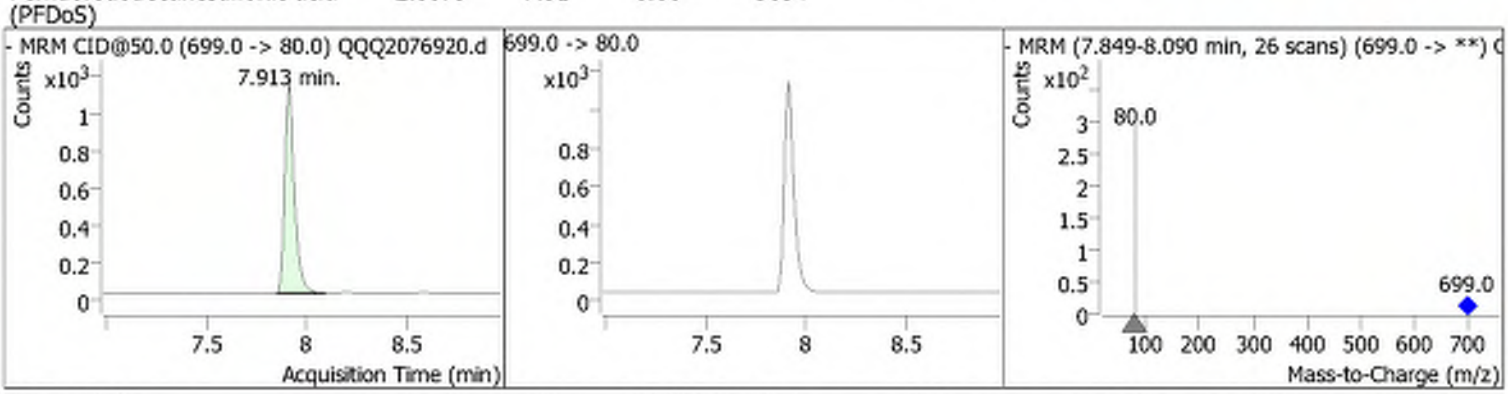
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.1124	7.64	-0.07	8628				



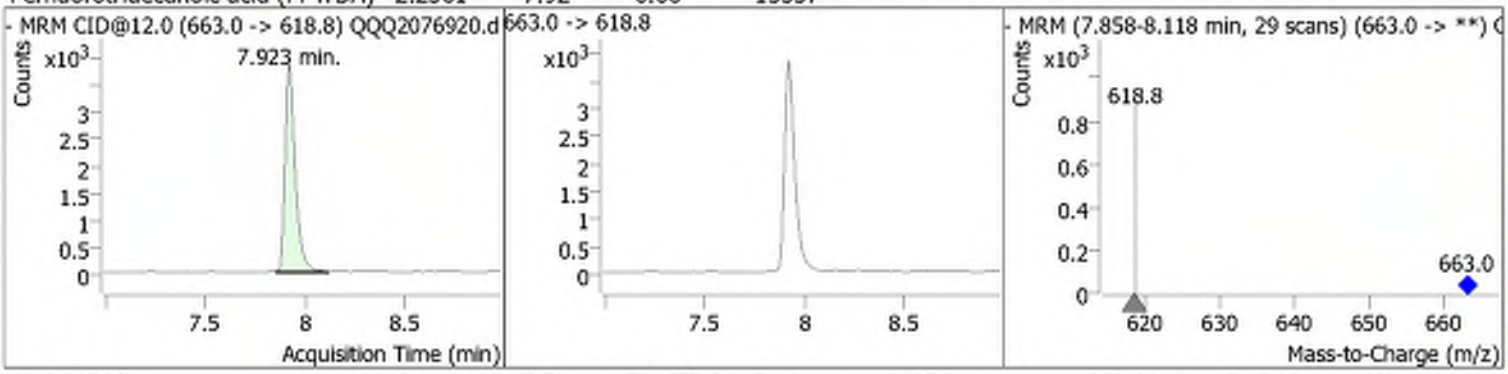
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.2335	7.64	-0.07	13221				



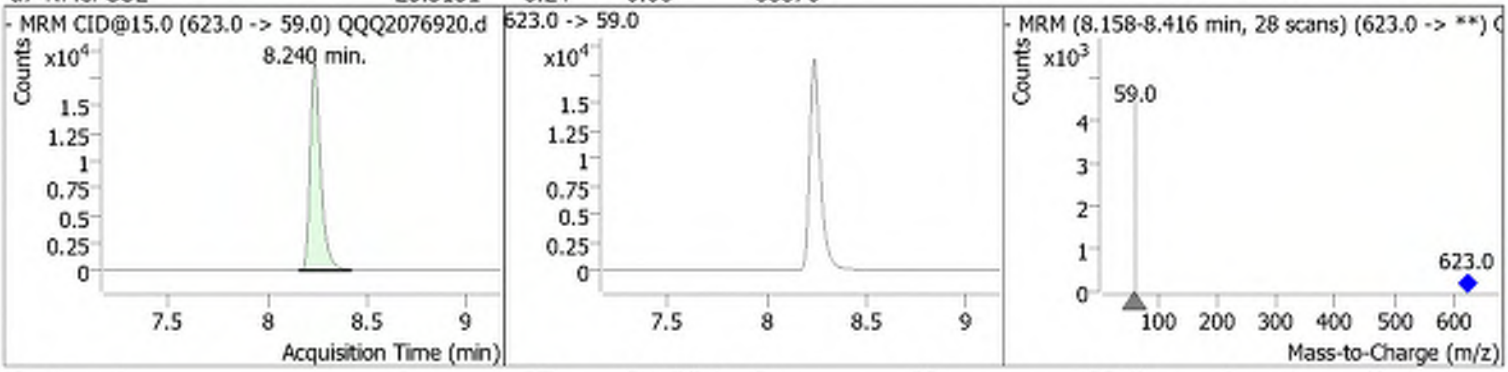
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	2.8079	7.91	-0.06	3654				



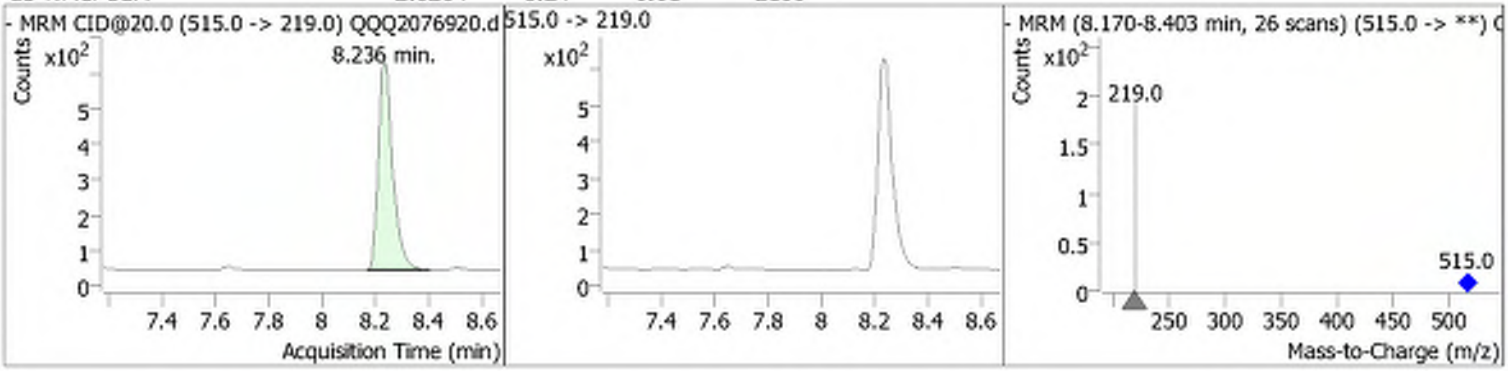
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.2561	7.92	-0.06	13537				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	25.3151	8.24	0.00	68870				

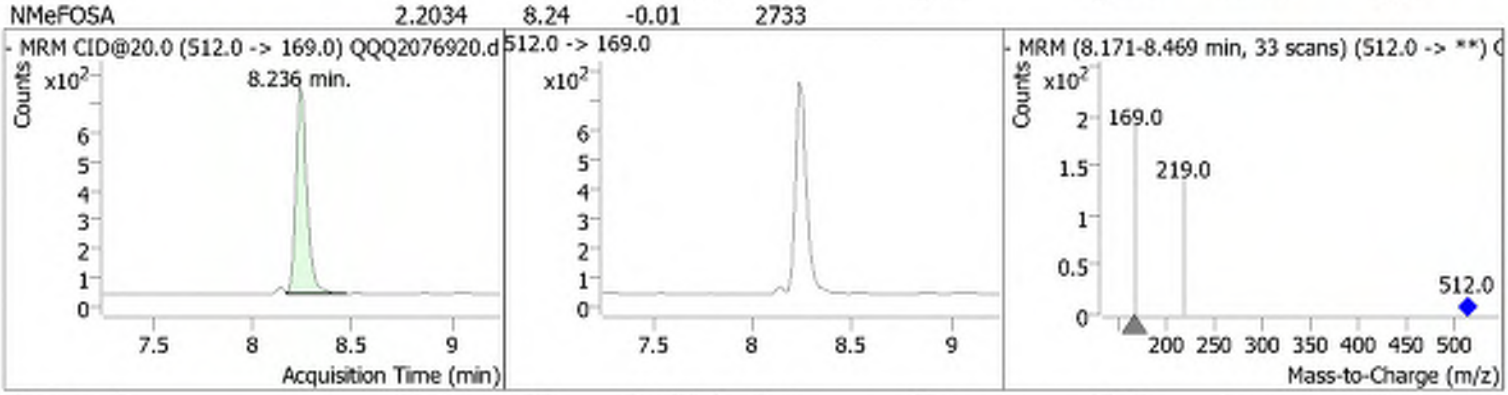


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.6204	8.24	-0.01	2199				

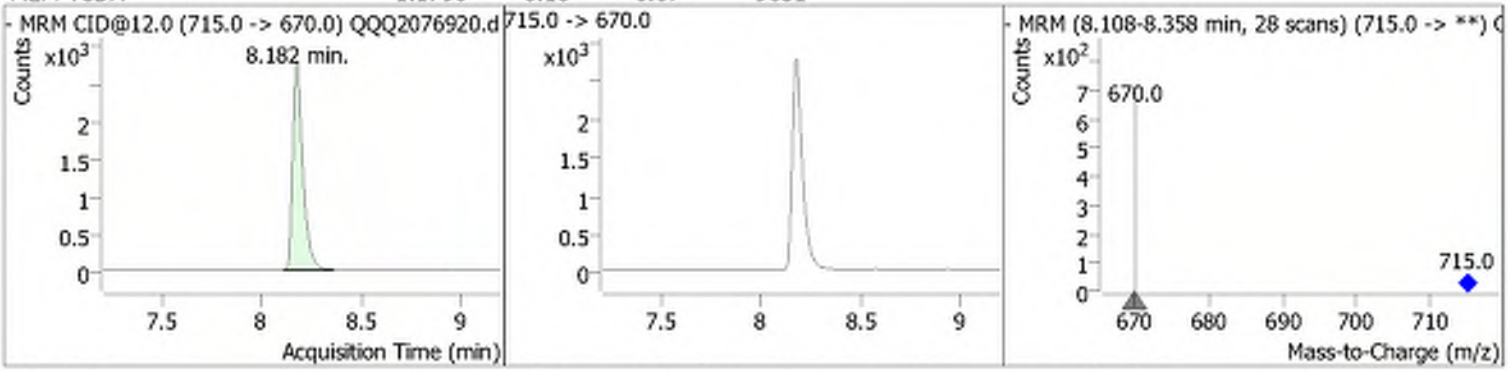


Quantitation Results Report (Not Reviewed)

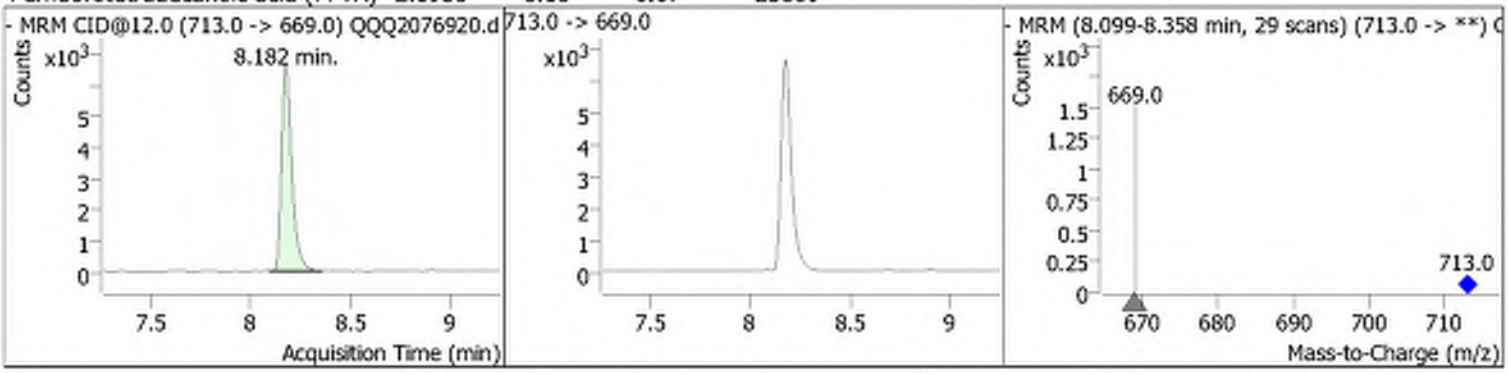
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	2.2034	8.24	-0.01	2733				



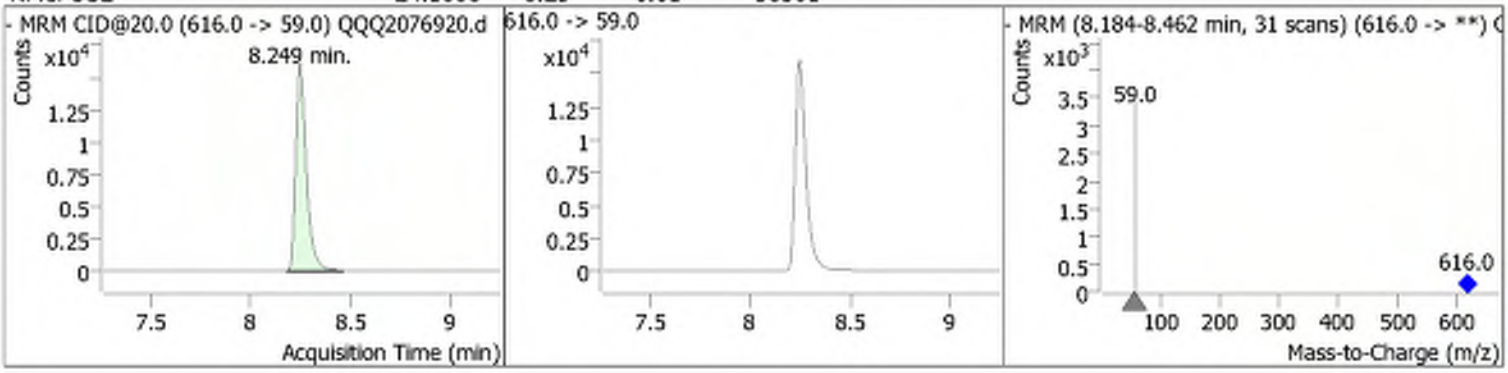
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.1790	8.18	-0.07	9651				



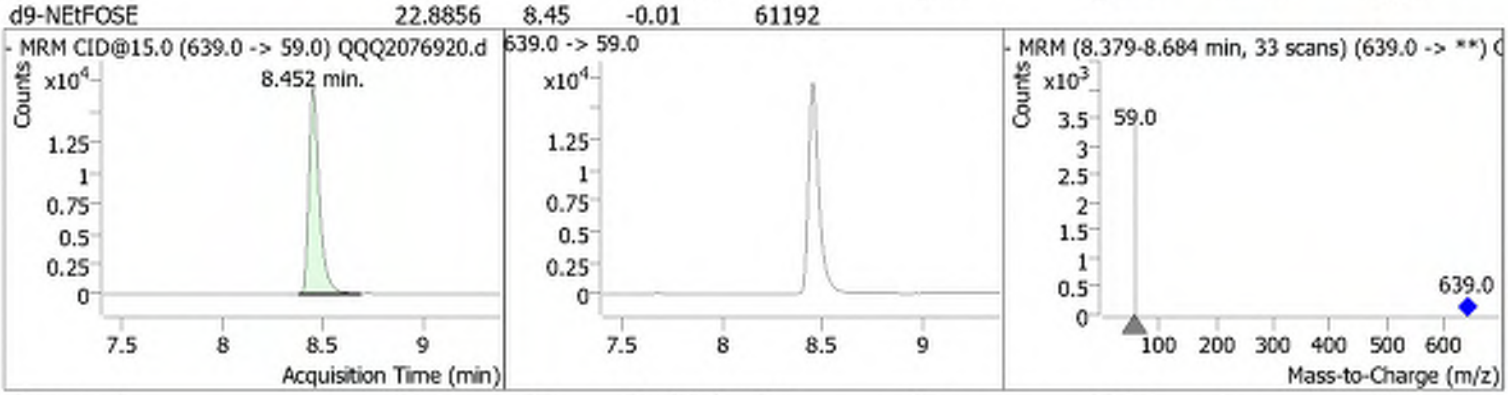
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.1958	8.18	-0.07	23869				



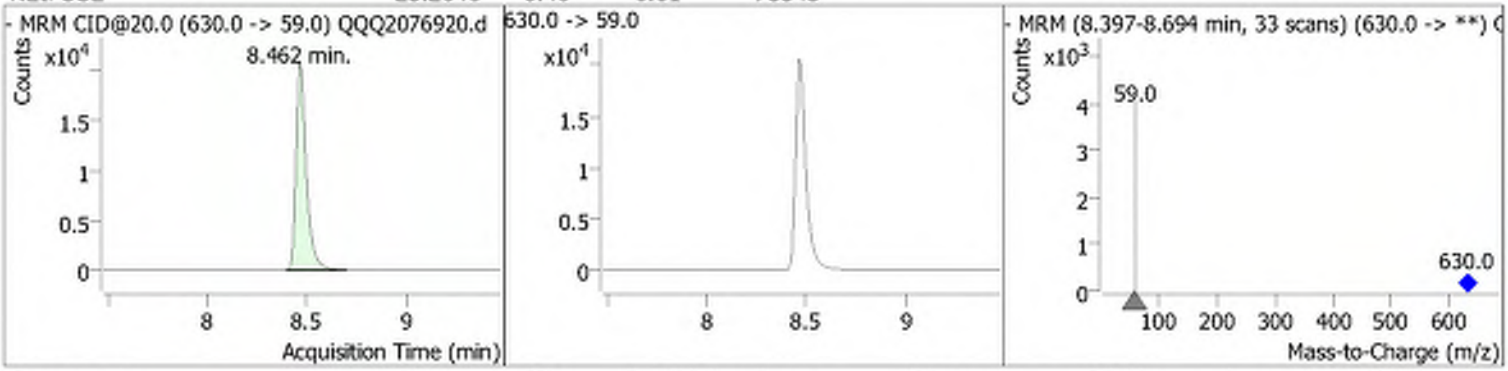
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	24.1008	8.25	-0.01	58561				



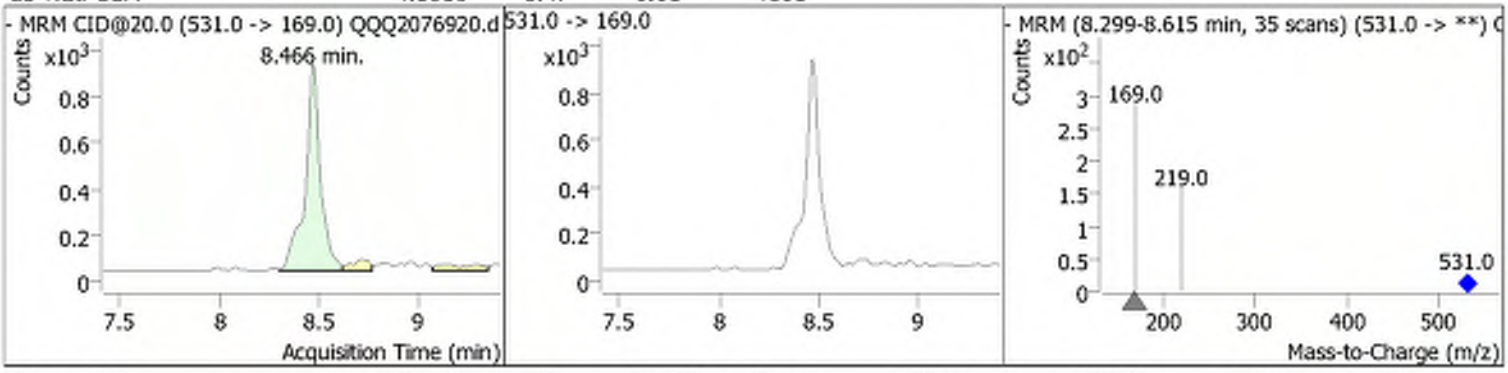
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	22.8856	8.45	-0.01	61192				



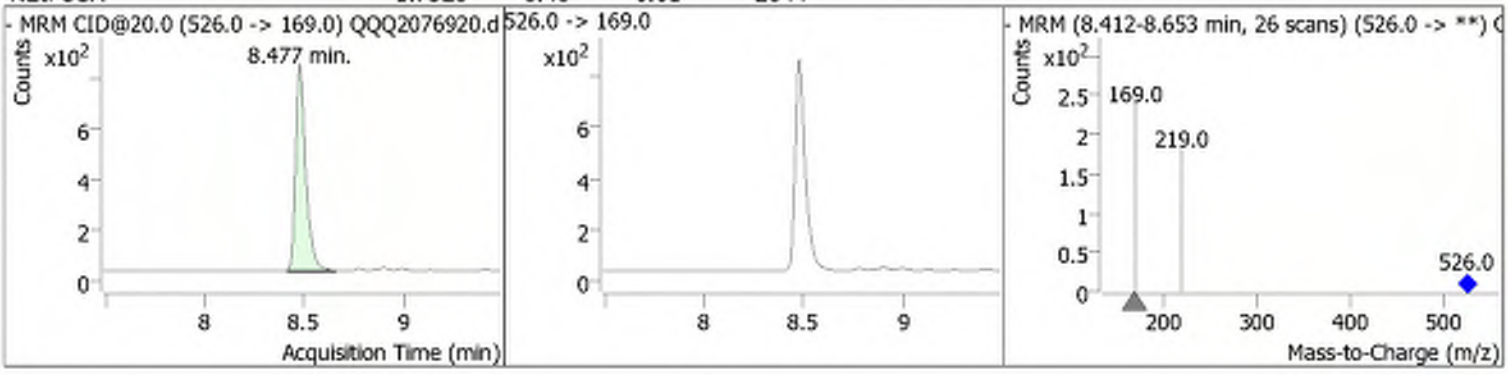
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	25.2646	8.46	-0.01	73343				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	4.1616	8.47	-0.01	4801				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.7528	8.48	-0.01	2844				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076933.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV2	Injection Time:	14:32

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
11CL-PF3OUdS	A	9.45	9.69	0.1365048	0.1407131		2.6	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	8.12	0.9829487	1.02885		4.7	30	
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	9.63	0.8999592	1.009369		12.2	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	10.9	0.9616406	1.150163		19.6	30	
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	12.6	7.481766E-03	7.174571E-03		-79.8	30	*
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	67.3	0.1463629	0.14796		7.6	30	
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	59.7	1.736253	1.76123		377	30	*
9CL-PF3ONS	A	9.35	10.6	0.3910379	0.4036266		13.4	30	
ADONA	A	9.45	9.10	0.3374364	0.3122633		-3.7	30	
HFPO-DA (Gen-X)	A	10.0	11.2	0.0204781	2.387988E-02		11.8	30	
N-EtFOSA	A	2.50	2.33	0.9890033	0.7912858		-6.6	30	
N-EtFOSAA	A	2.50	2.48	0.8333015	0.7521035		-0.9	30	
N-EtFOSE	A	25.0	25.1	1.129564	1.188618		0.2	30	
N-MeFOSA	A	2.50	1.98	1.295508	1.116547		-20.9	30	
N-MeFOSAA	A	2.50	2.08	0.7572478	0.5664419		-16.8	30	
N-MeFOSE	A	25.0	25.0	0.7868612	0.881145		-0.08	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.78	1.613927	1.719844		7.4	30	
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	2.76	1.090454	1.155655		14.5	30	
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	2.26	3.229874	2.419921		-5.0	30	
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	2.69	2.541268	2.633653		11.9	30	
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	1.98	1.712752	1.391833		-20.9	30	
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.48	1.404147	1.506312		5.7	30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.48	0.7000326	0.7784284		9.6	30	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076933.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV2	Injection Time:	14:32

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.36	0.757603	0.8232671		7.2	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.80	1.071309	1.089785		-4.1	30	
Perfluorobutanesulfonic acid (PFBS)	A	2.22	1.78	1.34399	1.026688		-19.8	30	
Perfluorodecanoic acid (PFDA)	A	2.50	2.55	1.963699	2.121078		1.8	30	
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	2.59	1.100267	1.028238		6.9	30	
Perfluorododecanoic acid (PFDoA)	A	2.50	2.41	0.8597345	0.824918		-3.8	30	
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.47	1.318827	1.328759		-1.3	30	
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	2.54	1.421744	1.602045		11.3	30	
Perfluorohexanoic acid (PFHxA)	A	2.50	2.63	1.24236	1.24123		5.1	30	
Perfluoro-n-butanoic acid (PFBA)	A	10.0	10.0	1.241515	1.266739		0.4	30	
Perfluorononanoic acid (PFNA)	A	2.50	2.61	6.653904	7.386509		11.0	30	
Perfluorooctanesulfonic acid (PFOS)	A	2.32	2.59	1.806429	1.457211		11.7	30	
Perfluorooctanoic acid (PFOA)	A	2.50	2.66	1.548646	1.538714		6.3	30	
Perfluoropentanoic acid (PFPeA)	A	5.00	4.94	1.047367	1.081788		-1.1	30	
Perfluorotetradecanoic acid (PFTA)	A	2.50	2.16	1.414068	1.215085		-13.7	30	
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.21	0.7557259	0.6866328		-11.7	30	
Perfluoroundecanoic acid (PFUnA)	A	2.50	3.48	1.039554	1.152288		39.3	30	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076933.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 2:32:03 PM
Sample Name	SEQ-CCV2	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.170	216.0 -> 172.0	44428	5.0000	ng/ml		-0.037
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.168	217.0 -> 172.0	60959	10.0000	ng/ml		-0.037
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.332	268.0 -> 223.0	29920	5.0000	ng/ml		-0.056
MPFHxA	4.651	315.0 -> 269.8	37376	2.5000	ng/ml		-0.047
MPFHxS	5.466	403.0 -> 103.0	2998	2.3700	ng/ml		-0.056
M3PFBS-EIS	3.837	302.0 -> 79.9	11495	2.3300	ng/ml		-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	25818	2.5000	ng/ml		-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	9600	4.6900	ng/ml		-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	8394	2.3700	ng/ml		-0.056
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	66740	10.0000	ng/ml		-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	27843	2.5000	ng/ml		-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	4718	4.7550	ng/ml		-0.056
MPFOA	5.979	417.0 -> 372.0	38902	2.5000	ng/ml		-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.979	421.0 -> 376.0	18455	2.5000	ng/ml		-0.056
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	3183	2.3950	ng/ml		-0.065
MPFNA	6.483	468.0 -> 423.0	12147	1.2500	ng/ml		-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1455	1.2500	ng/ml		-0.065
MPFOS	6.510	503.0 -> 80.0	8447	2.3950	ng/ml		-0.065
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	4329	4.8000	ng/ml		-0.066
MPFDA	6.921	515.0 -> 469.8	11380	1.2500	ng/ml		-0.065
M6PFDA-EIS	6.920	519.0 -> 473.9	4508	1.2500	ng/ml		-0.065
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	13512	5.0000	ng/ml		-0.065
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	14353	5.0000	ng/ml		-0.065
M7PFUdA-EIS	7.302	570.0 -> 525.0	11335	1.2500	ng/ml		-0.065
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	18579	2.5000	ng/ml		-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	9357	1.2500	ng/ml		-0.074
M2PFTeDA-EIS	8.182	715.0 -> 670.0	11003	1.2500	ng/ml		-0.074
d3-NMeFOSA-EIS	8.236	515.0 -> 219.0	2618	2.5000	ng/ml		-0.009
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	74488	25.0000	ng/ml		0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	73142	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	4707	2.5000	ng/ml	m	0.000
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.168	217.0 -> 172.0	60959	10.0171	ng/ml		-0.037
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.332	268.0 -> 223.0	29920	4.9442	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.837	302.0 -> 79.9	11495	2.8825	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.584	329.0 -> 309.0	9600	5.8798	ng/ml		-0.047

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%			
M5PFHxA	4.650	318.0 -> 273.0	25818	2.5574	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3-HFPO-DA	4.913	287.0 -> 169.0	66740	11.3367	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M4PFHpA	5.393	367.0 -> 322.0	27843	2.4420	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFHxS	5.476	402.0 -> 80.0	8394	2.5056	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M2-6-2FTS	5.941	429.0 -> 409.0	4718	5.3278	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.979	421.0 -> 376.0	18455	2.1518	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1455	1.1637	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	3183	2.6033	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M2-8-2FTS	6.901	529.0 -> 509.0	4329	5.6865	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
M6PFDA	6.920	519.0 -> 473.9	4508	1.0206	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d3-N-MeFOSAA	7.087	573.0 -> 418.8	13512	4.7286	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d5-N-EtFOSAA	7.283	589.0 -> 418.8	14353	4.9988	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M7PFUdA	7.302	570.0 -> 525.0	11335	1.2948	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	18579	2.6793	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	9357	1.2839	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
d7-NMeFOSE	8.240	623.0 -> 59.0	74488	25.9428	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-NMeFOSA	8.236	515.0 -> 219.0	2618	2.9559	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M2PFTeDA	8.182	715.0 -> 670.0	11003	1.4306	ng/ml		-0.074
Spiked Amount:	Range: - %			Recovery = NA%			
d9-NEtFOSE	8.452	639.0 -> 59.0	73142	25.9188	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d5-NEtFOSA	8.475	531.0 -> 169.0	4672	3.8372	ng/ml	m	0.000
Spiked Amount:	Range: - %			Recovery = NA%			
Target Compounds							QValue
Perfluoro-n-butanoic acid (PFBA)	1.163	213.0 -> 168.9	77219	10.0352	ng/ml		100
PFMPA	1.996	229.0 -> 85.0	24632	5.3582	ng/ml		100
3:3FTCA	3.240	241.0 -> 177.0	4638	12.6291	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	3.332	263.0 -> 219.0	32367	4.9427	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	10480	1.7797	ng/ml		100
PFMBA	3.867	279.0 -> 85.0	32606	4.7964	ng/ml		100
PFEESA	4.336	315.0 -> 135.0	79037	4.7805	ng/ml		100
NFDHA	4.504	295.0 -> 201.1	40195	5.4798	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	18178	9.6316	ng/ml		100

Quantitation Results Report (Not Reviewed)

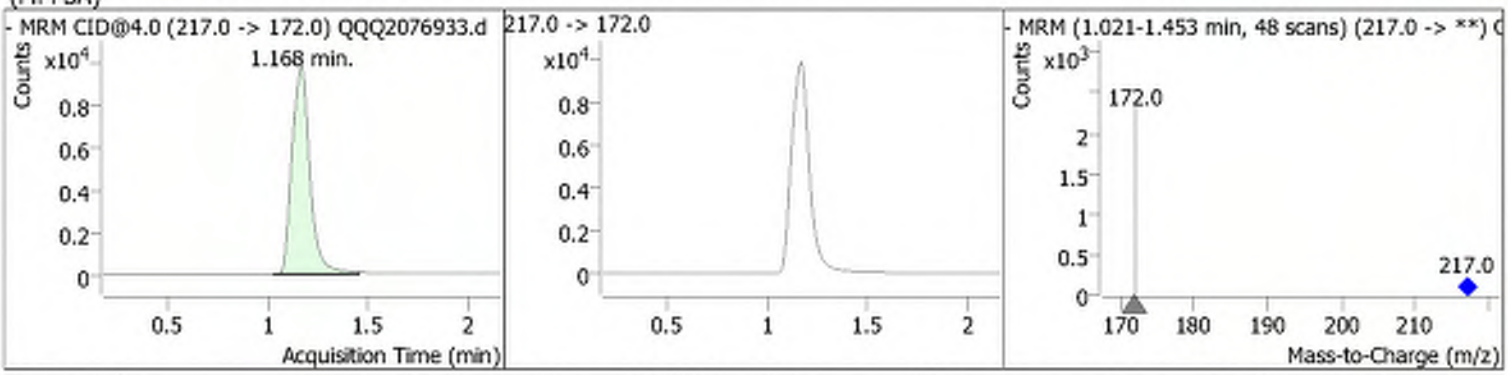
Agilent

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	32046	2.6278	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	11886	2.4841	ng/ml		100
HFPO-DA	4.914	285.0 -> 169.1	6375	11.1776	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	36997	2.4686	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	12264	2.5376	ng/ml	m	100
5-3FTCA	5.487	341.0 -> 217.0	95654	67.3349	ng/ml		100
ADONA	5.495	377.0 -> 85.0	78777	9.1043	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.941	427.0 -> 407.0	10311	10.8590	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	28396	2.6582	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.025	448.9 -> 80.0	7334	2.2620	ng/ml		100
Perfluorononanoic acid (PFNA)	6.483	463.0 -> 418.8	21492	2.6124	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.501	498.9 -> 79.9	4305	2.5922	ng/ml	m	100
7-3FTCA	6.633	441.0 -> 337.0	131738	59.6521	ng/ml		100
9-Cl-PF3ONS	6.751	531.0 -> 351.0	100749	10.5988	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.901	527.0 -> 80.9	8551	8.1229	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.921	513.0 -> 468.8	19124	2.5460	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.938	548.9 -> 79.9	8049	2.6852	ng/ml		100
N-MeFOSAA	7.088	570.0 -> 418.9	3827	2.0792	ng/ml	m	100
N-EtFOSAA	7.293	584.0 -> 418.8	5397	2.4778	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.311	598.9 -> 98.9	3547	2.7601	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.303	563.0 -> 519.0	26123	3.4817	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.511	497.9 -> 78.0	25858	1.9783	ng/ml		100
11-Cl-PF3OUdS	7.486	631.0 -> 451.0	35499	9.6935	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.636	613.0 -> 568.8	15437	2.4058	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.913	699.0 -> 80.0	3169	2.5876	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.923	663.0 -> 618.8	15110	2.2086	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	2923	1.9782	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.173	713.0 -> 669.0	26739	2.1576	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	65635	24.9810	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	86938	25.0536	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	3724	2.3349	ng/ml		100

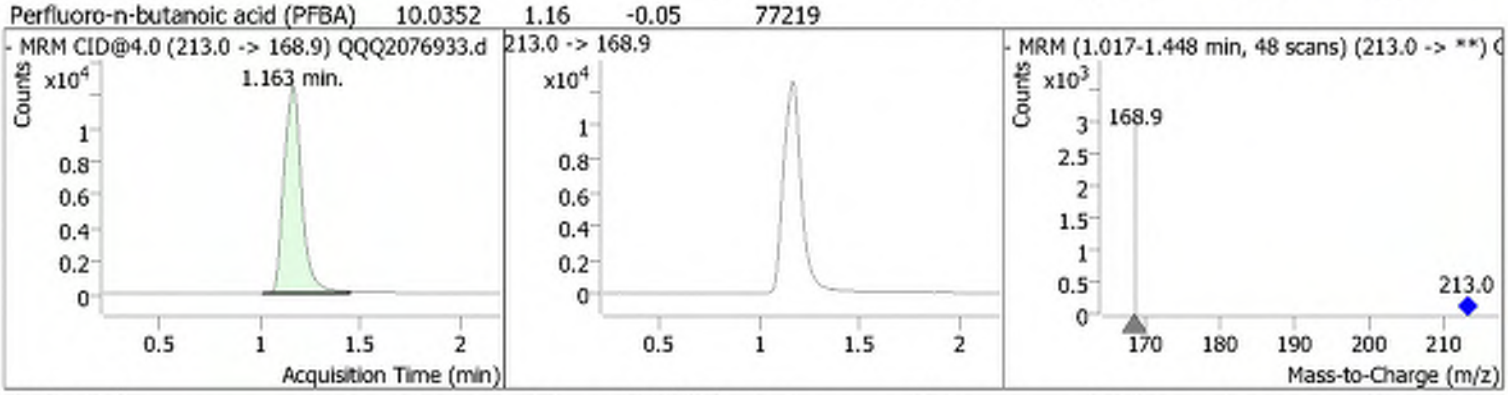
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitation Results Report (Not Reviewed)

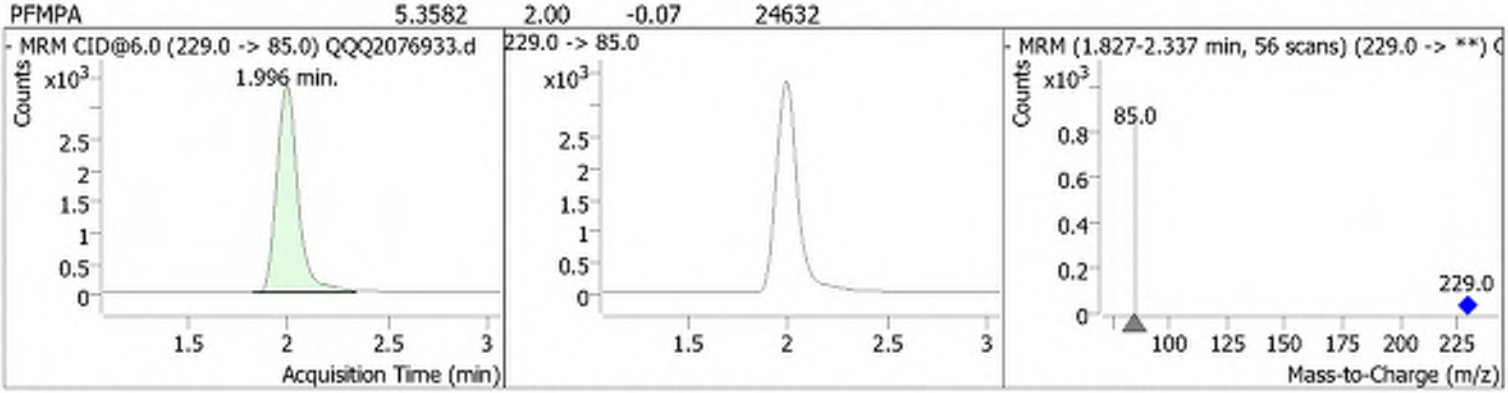
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0171	1.17	-0.04	60959				



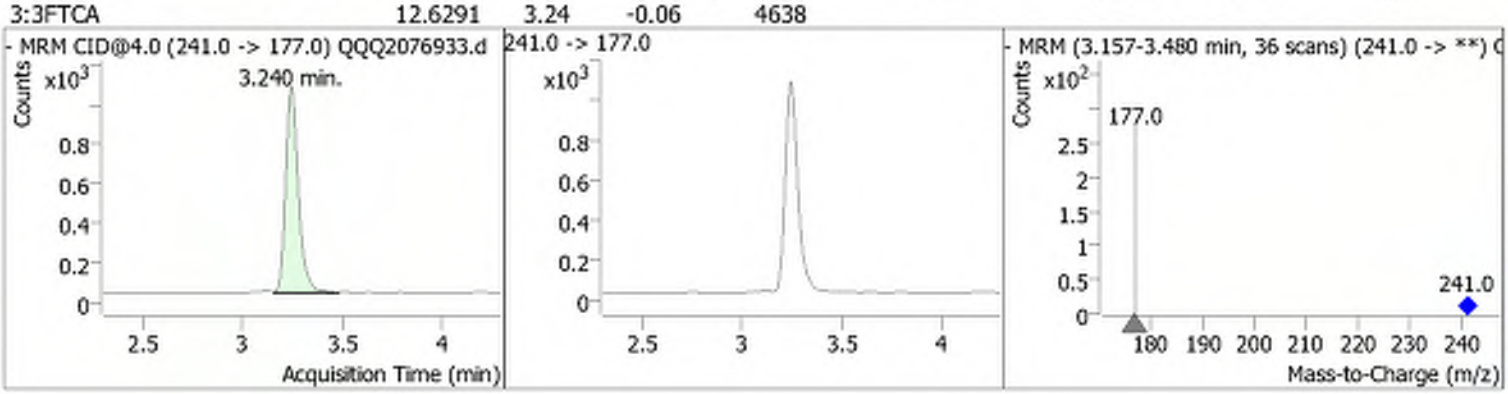
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	10.0352	1.16	-0.05	77219				



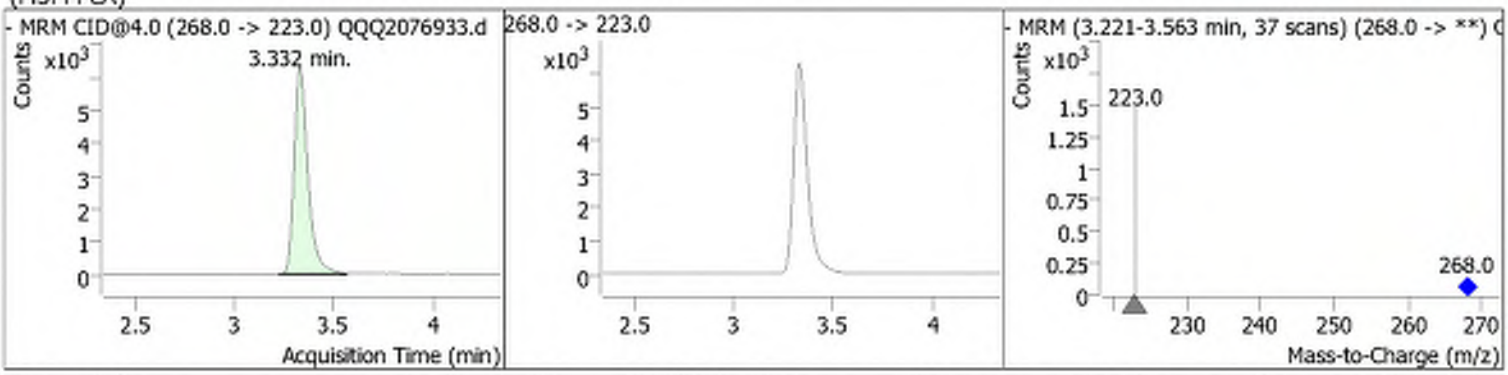
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.3582	2.00	-0.07	24632				



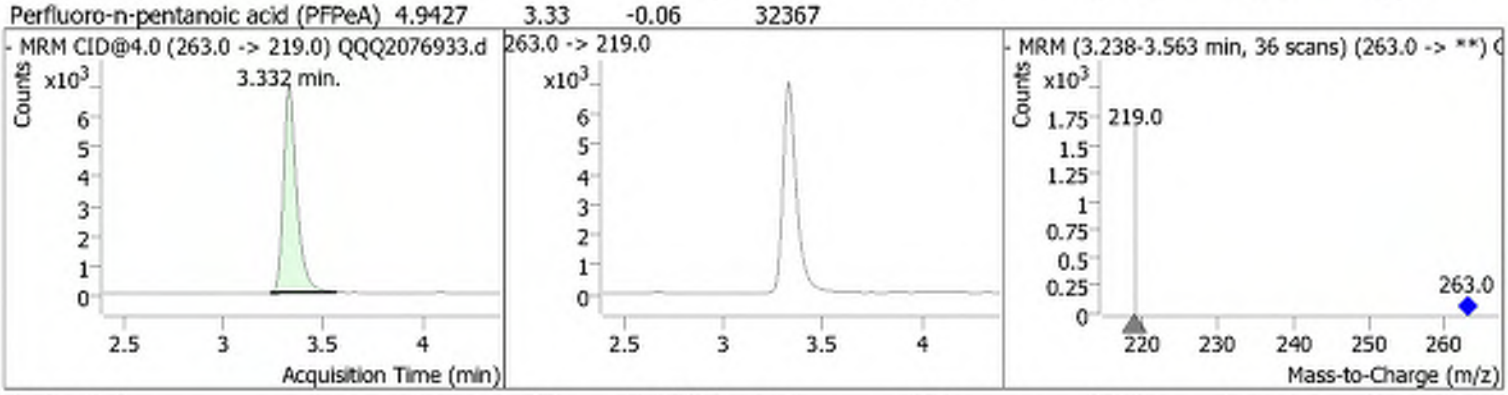
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	12.6291	3.24	-0.06	4638				



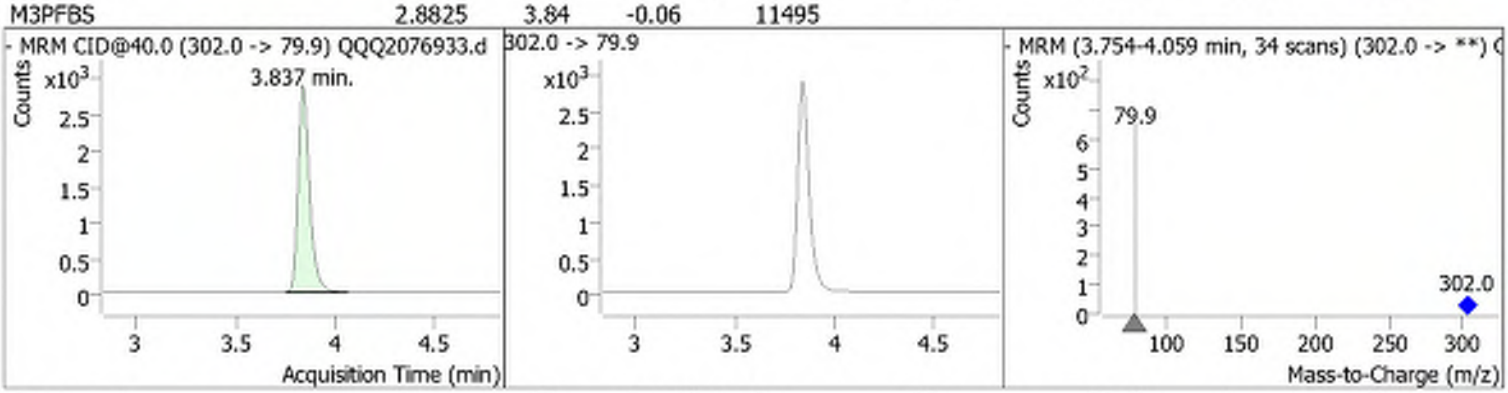
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.9442	3.33	-0.06	29920				



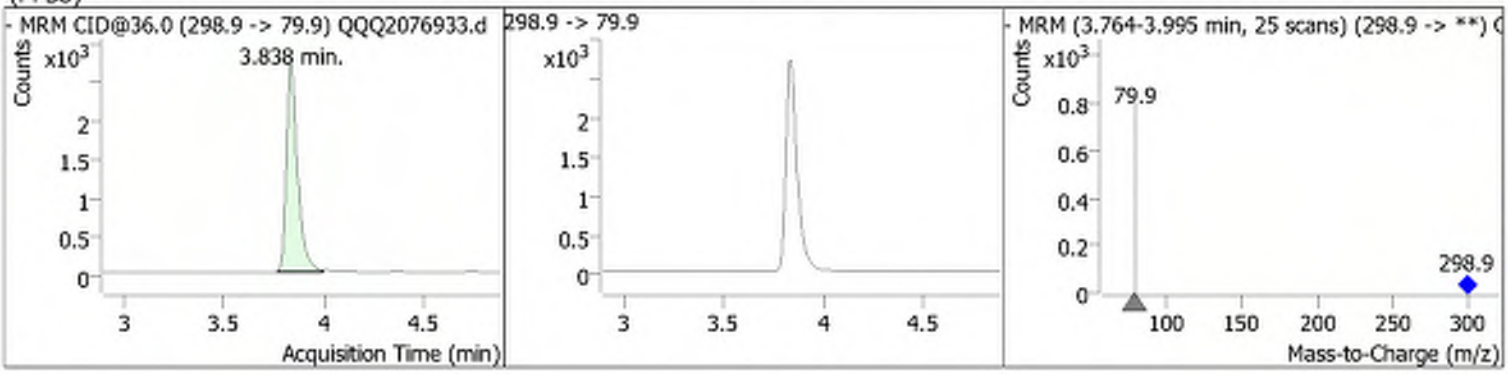
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.9427	3.33	-0.06	32367				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.8825	3.84	-0.06	11495				

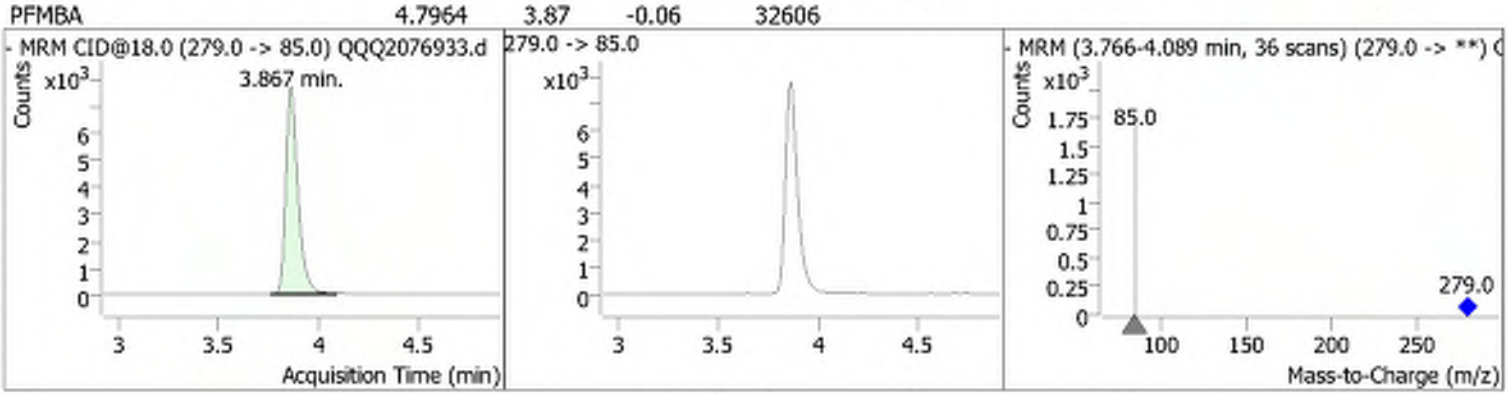


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	1.7797	3.84	-0.06	10480				

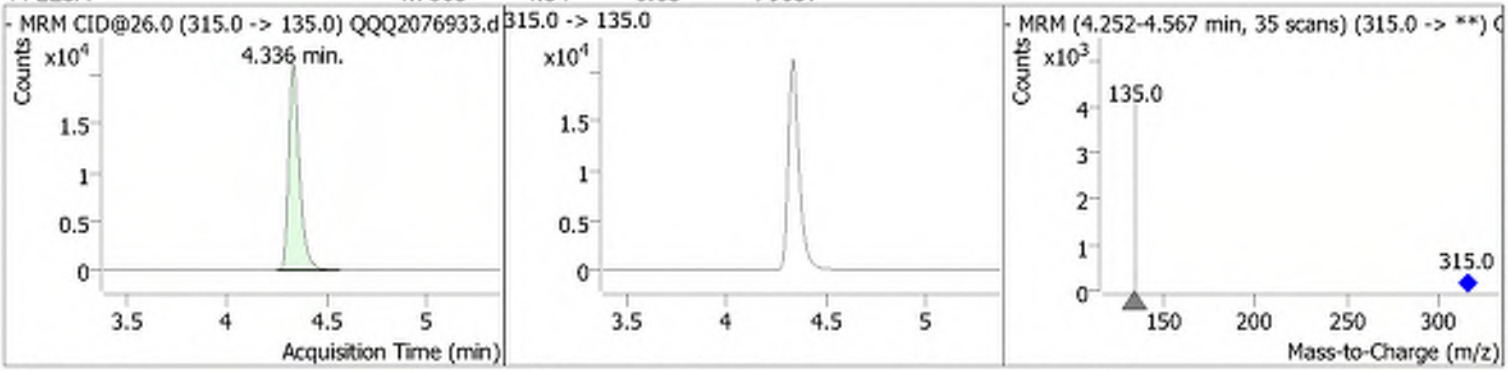


Quantitation Results Report (Not Reviewed)

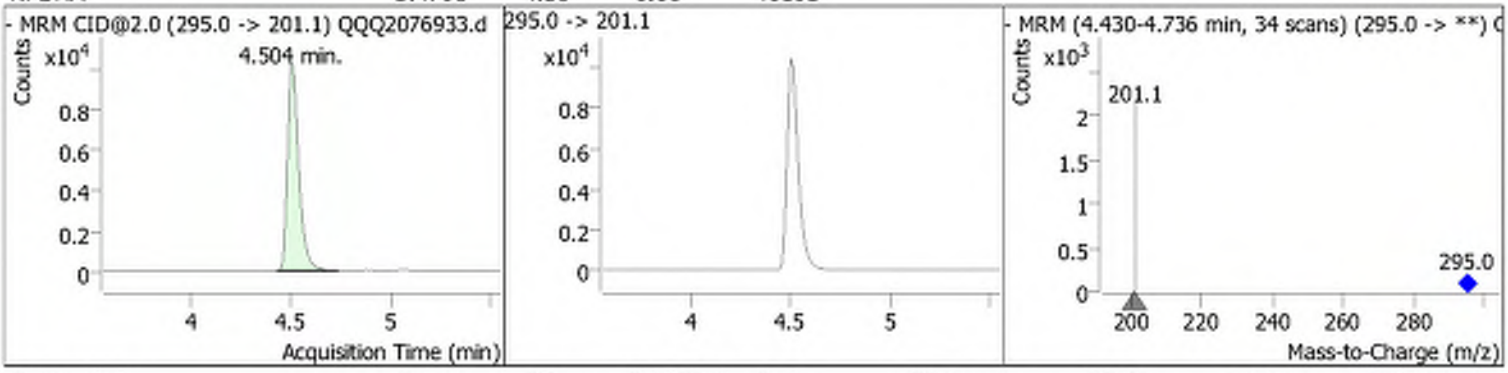
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.7964	3.87	-0.06	32606				



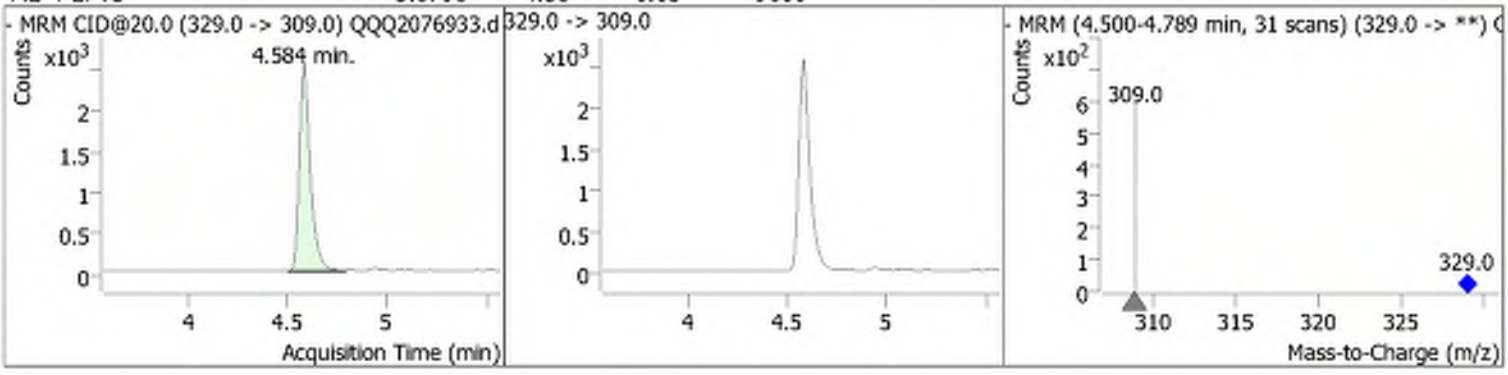
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.7805	4.34	-0.05	79037				



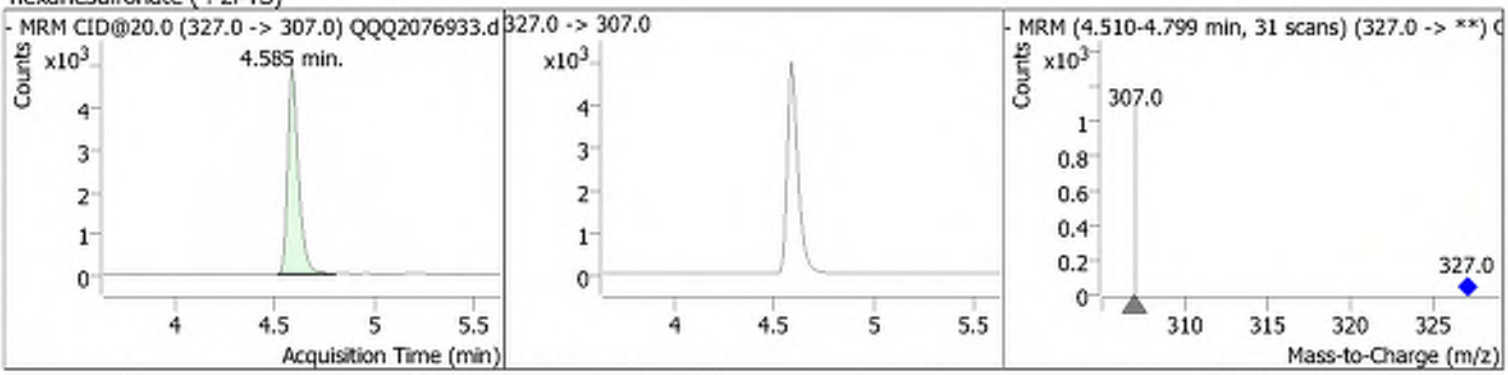
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.4798	4.50	-0.06	40195				



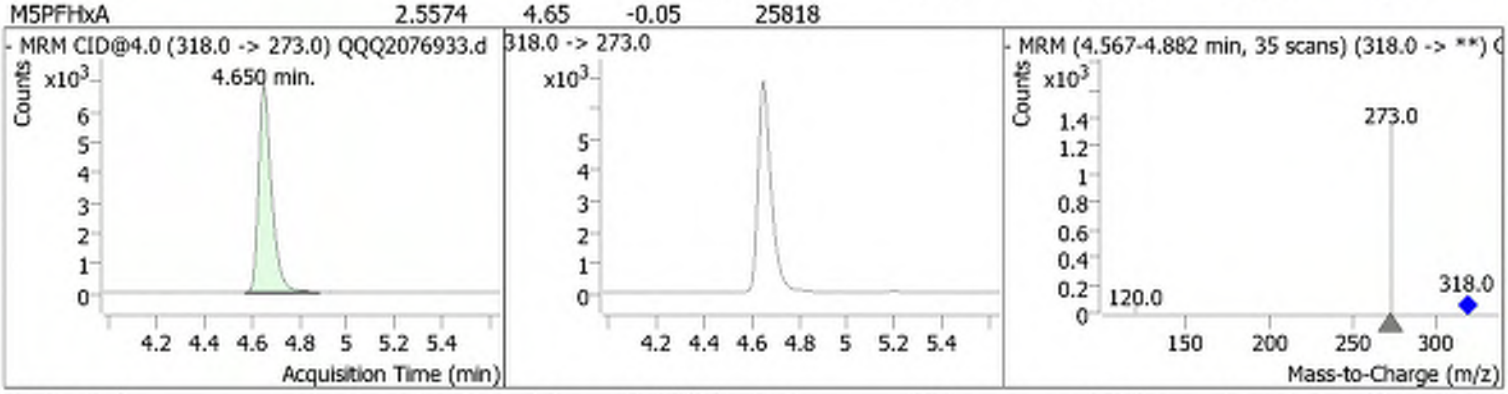
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.8798	4.58	-0.05	9600				



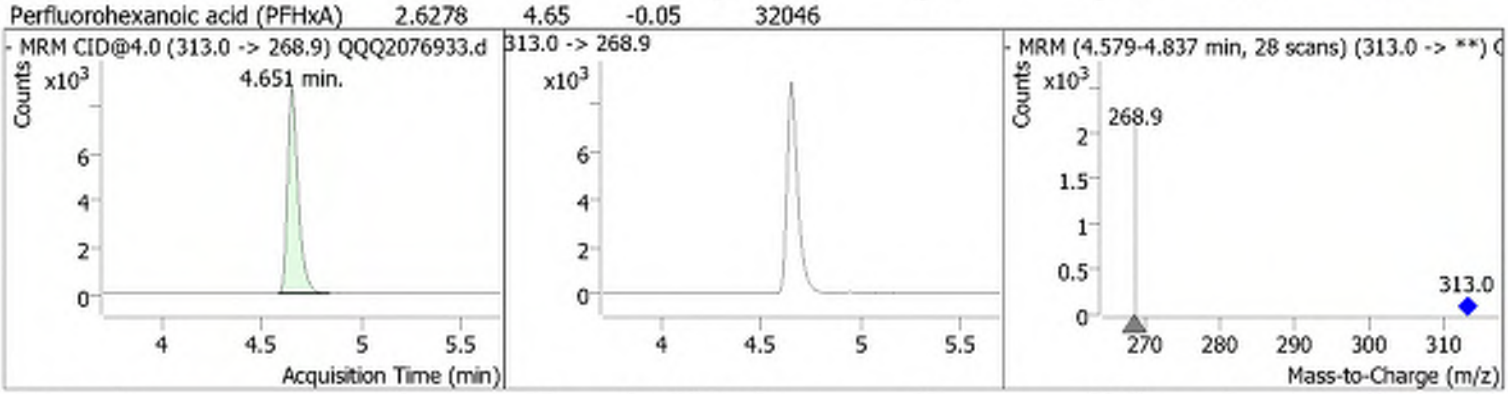
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.6316	4.58	-0.05	18178				



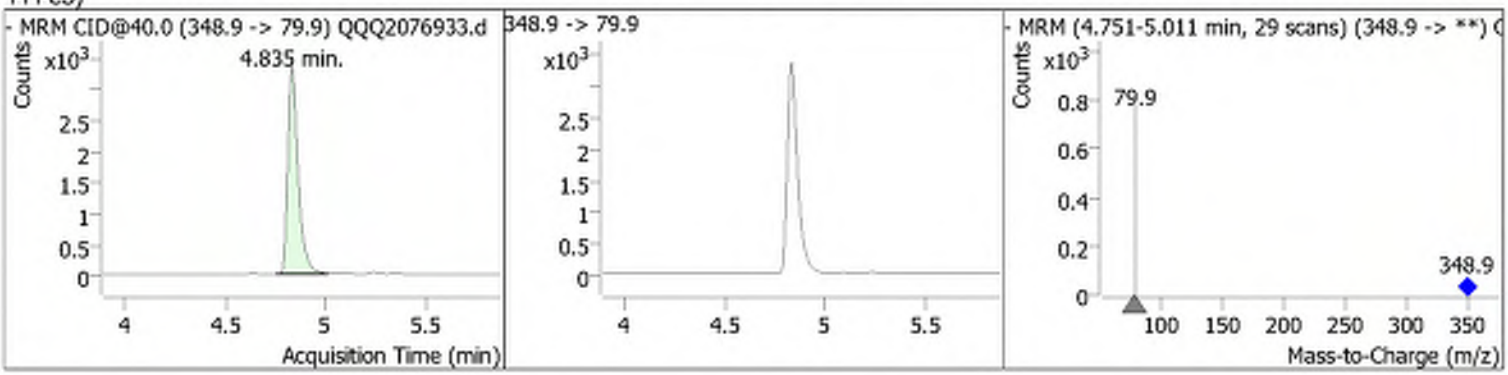
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5574	4.65	-0.05	25818				



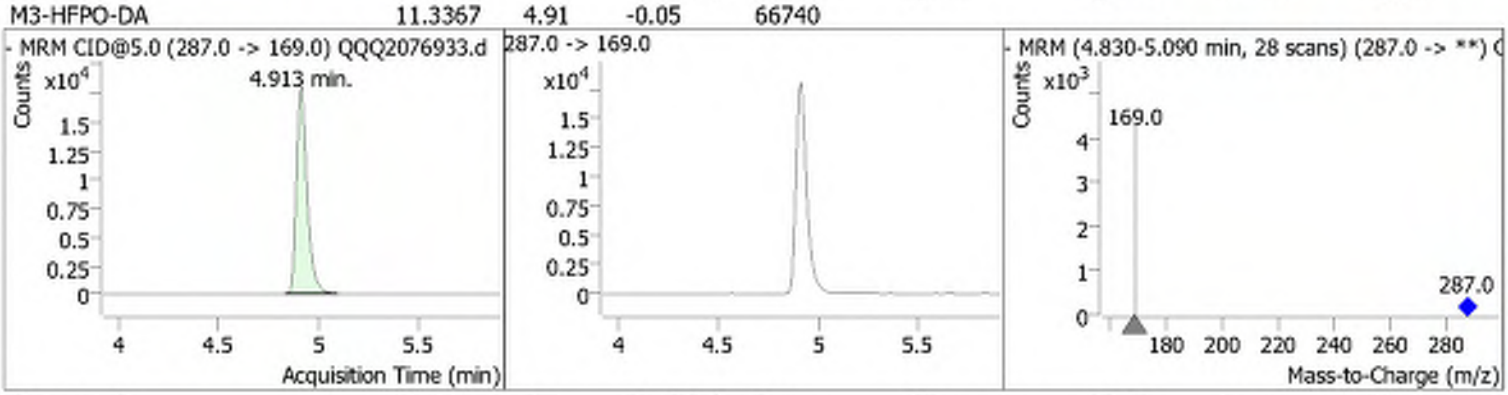
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.6278	4.65	-0.05	32046				



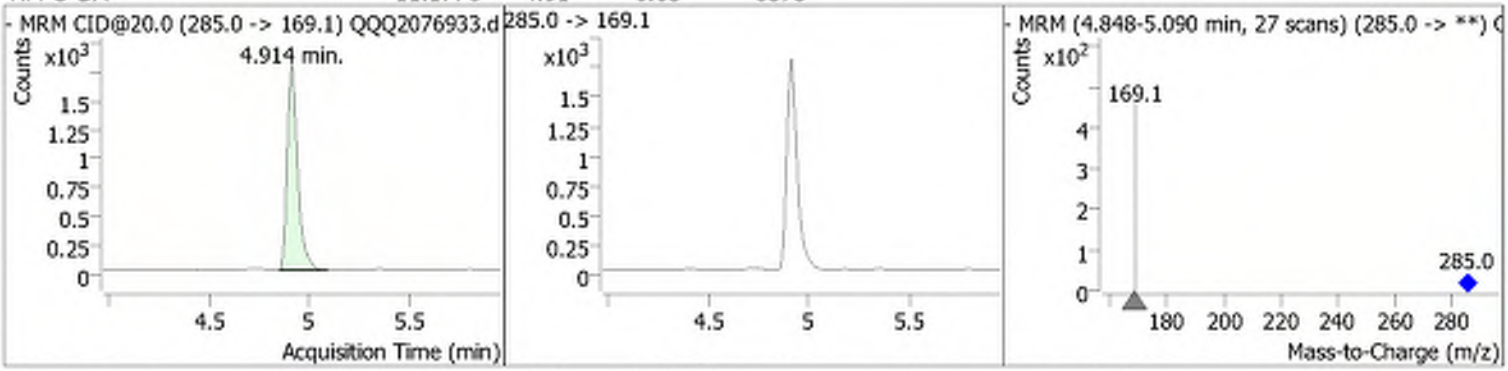
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.4841	4.83	-0.05	11886				



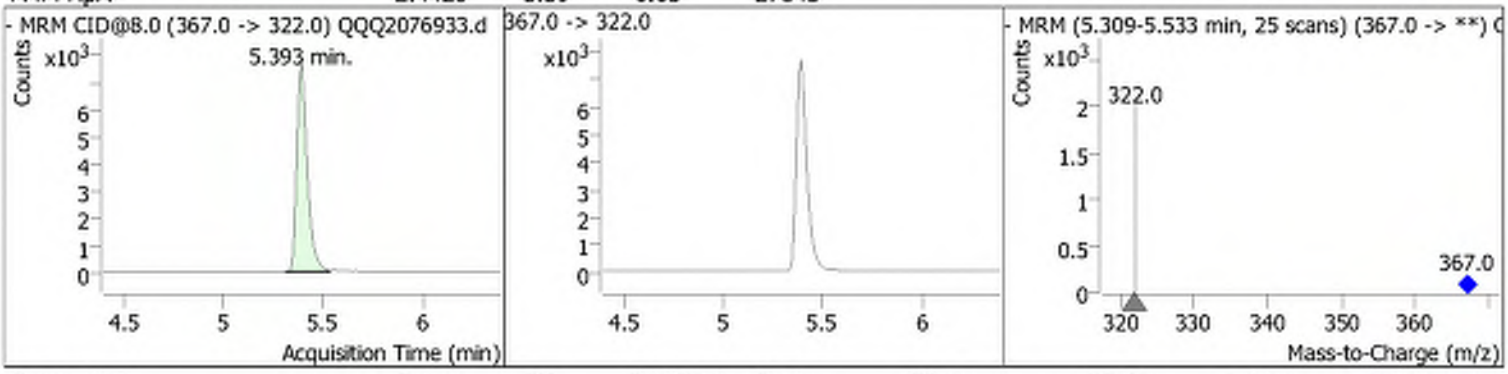
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.3367	4.91	-0.05	66740				



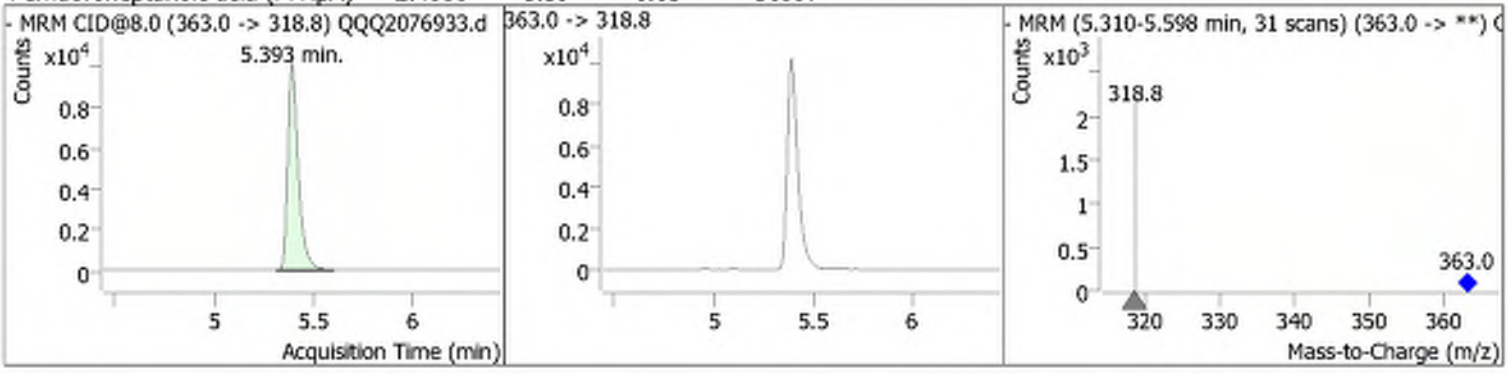
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	11.1776	4.91	-0.05	6375				



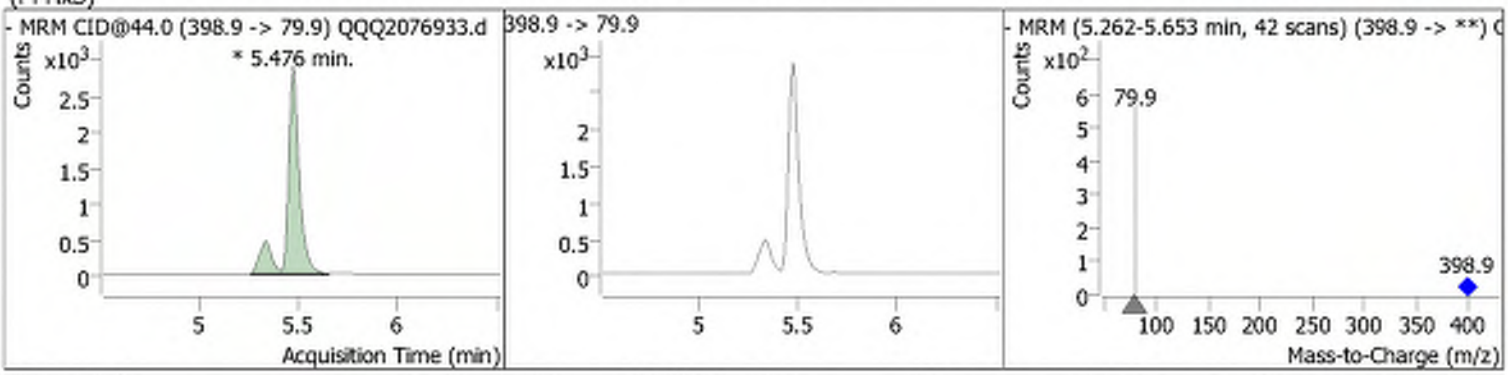
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.4420	5.39	-0.05	27843				



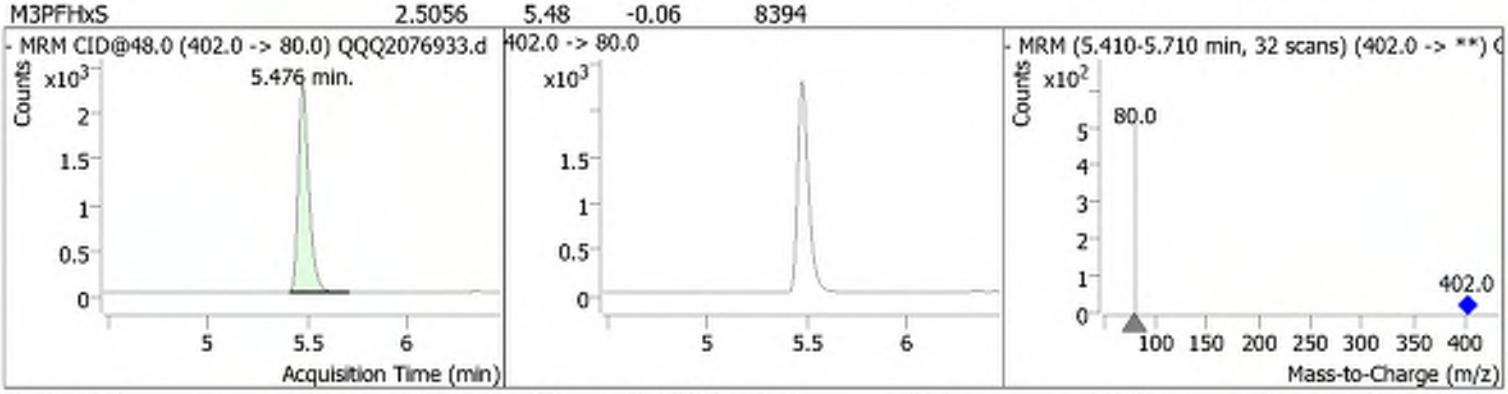
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.4686	5.39	-0.05	36997				



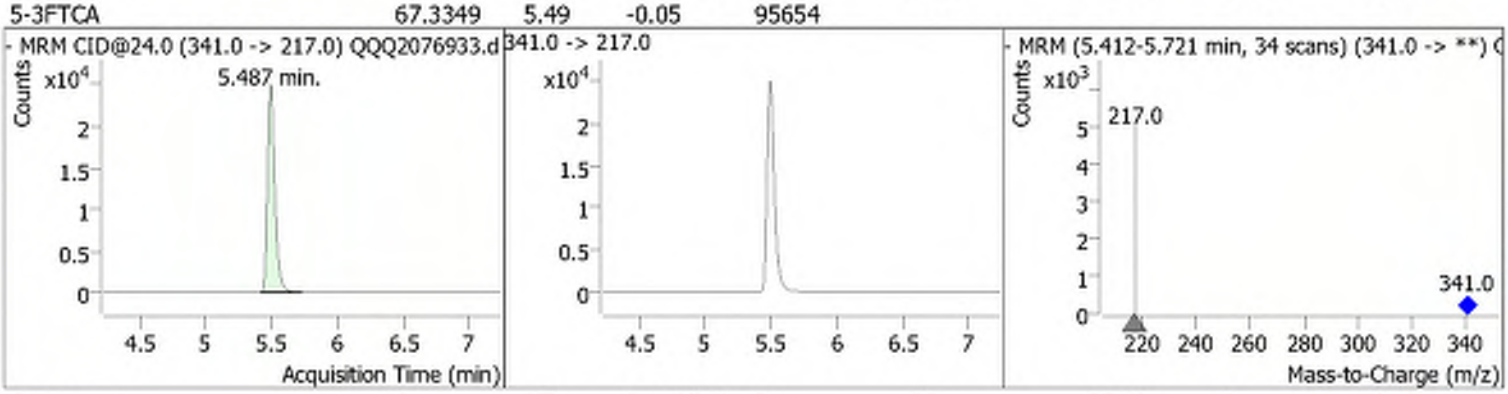
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.5376	5.48	-0.05	12264 (m)				



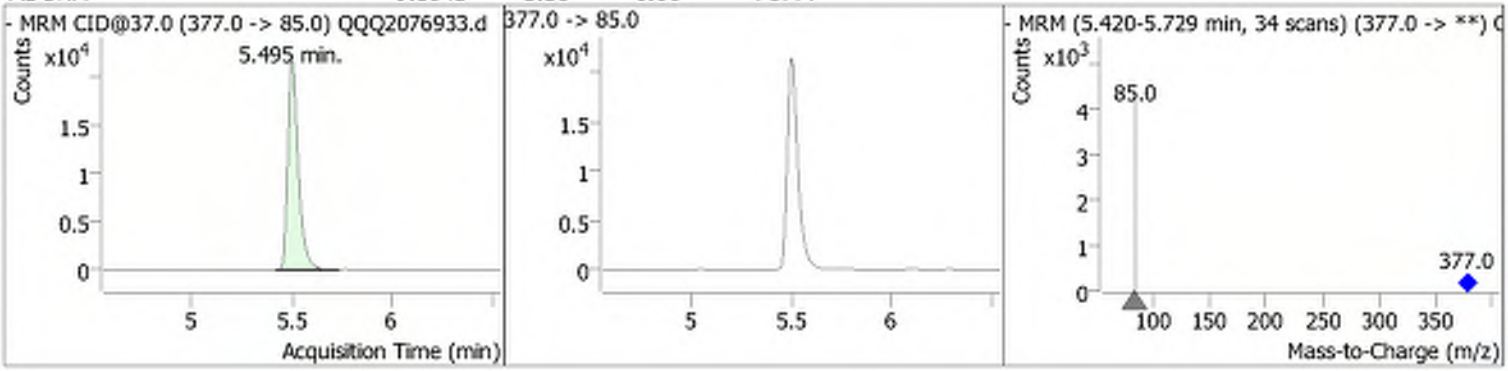
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.5056	5.48	-0.06	8394				



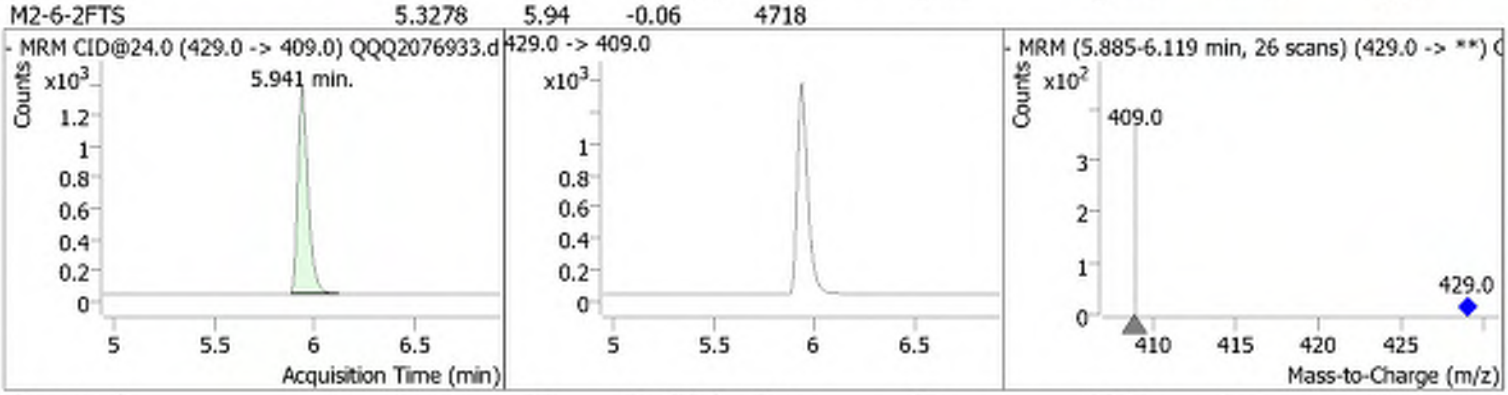
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	67.3349	5.49	-0.05	95654				



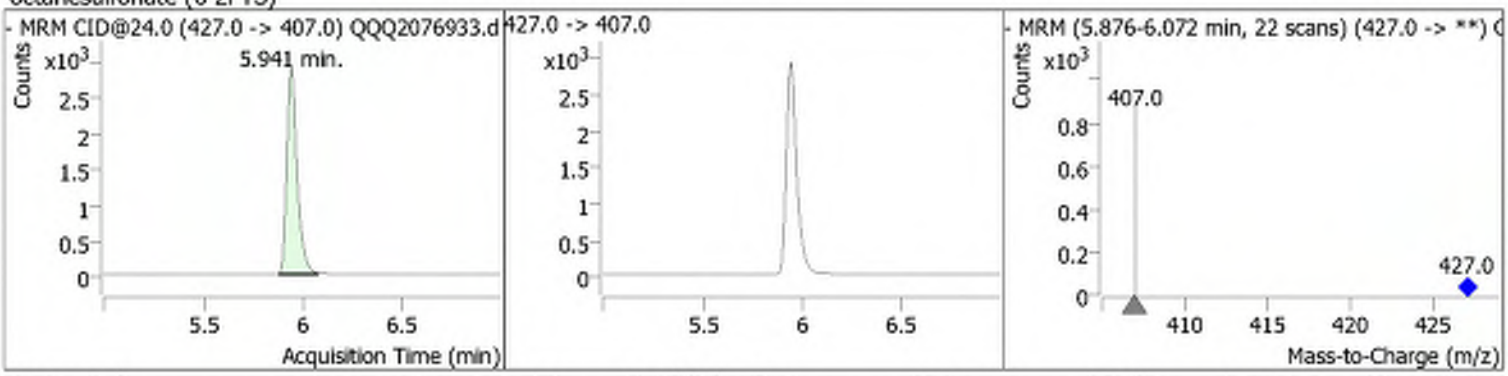
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	9.1043	5.50	-0.06	78777				



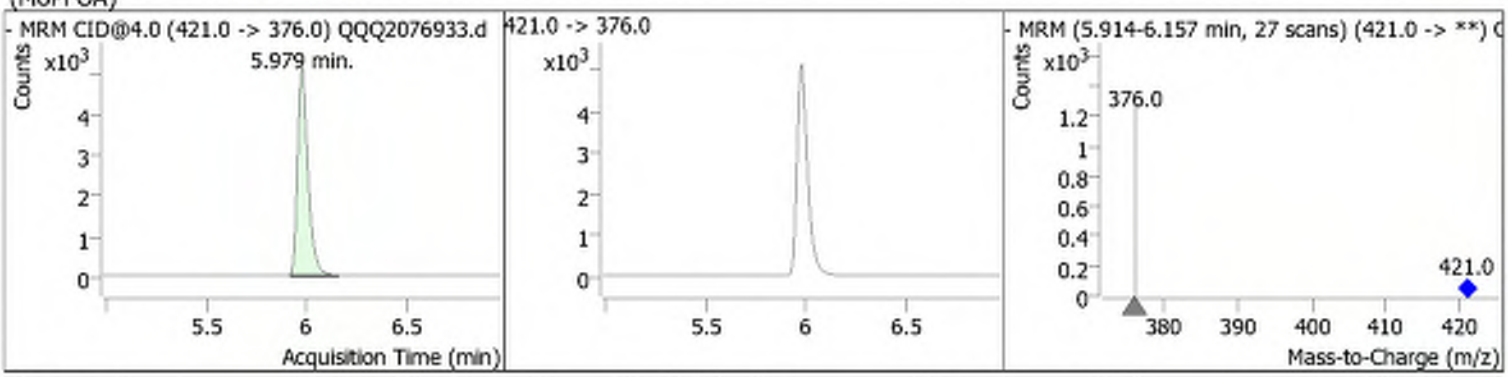
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.3278	5.94	-0.06	4718				



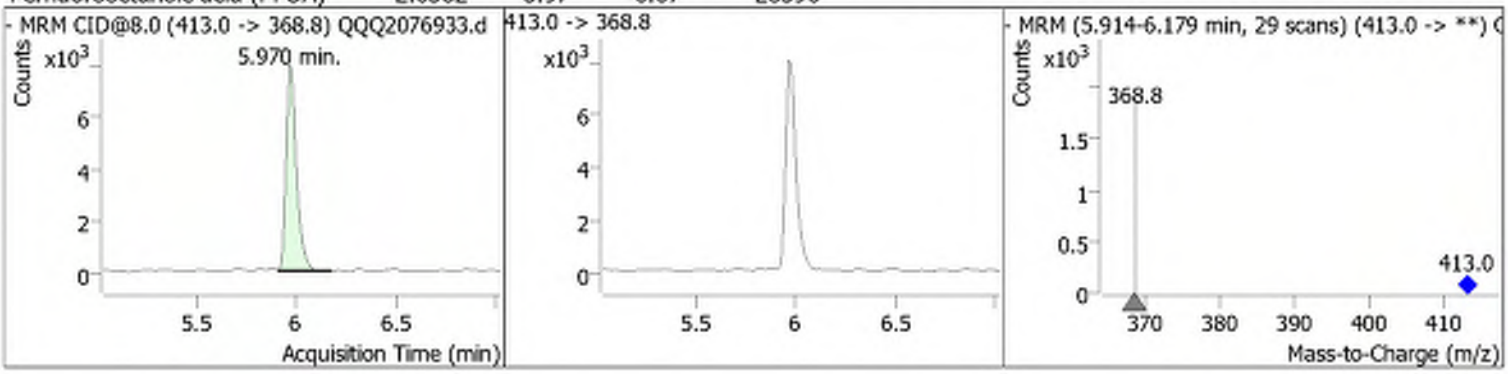
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	10.8590	5.94	-0.06	10311				



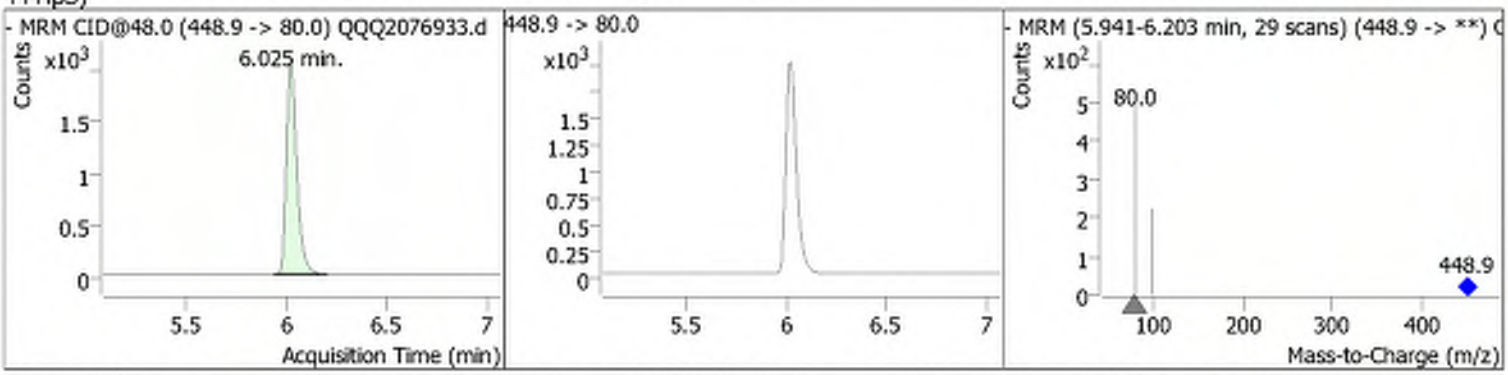
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.1518	5.98	-0.06	18455				



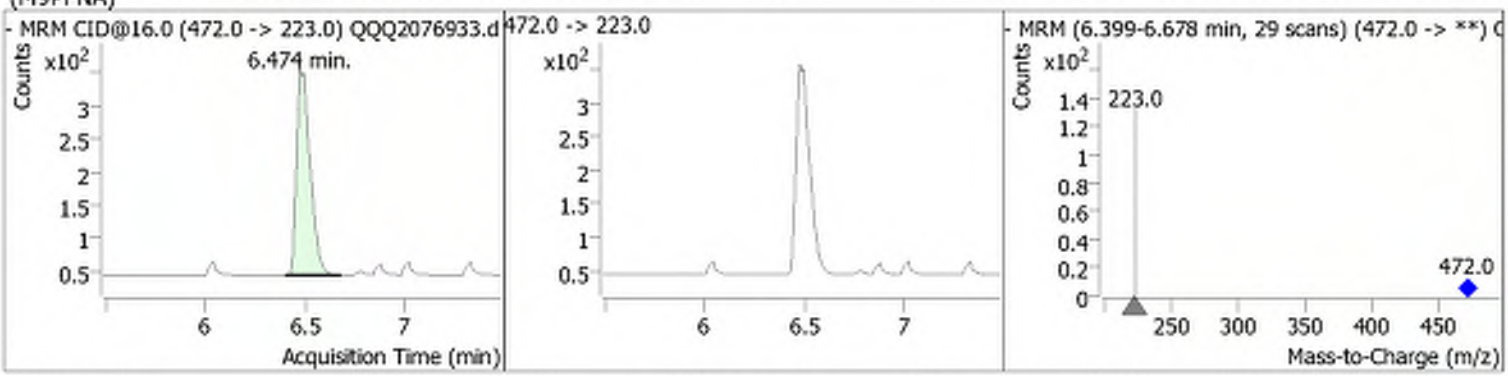
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.6582	5.97	-0.07	28396				



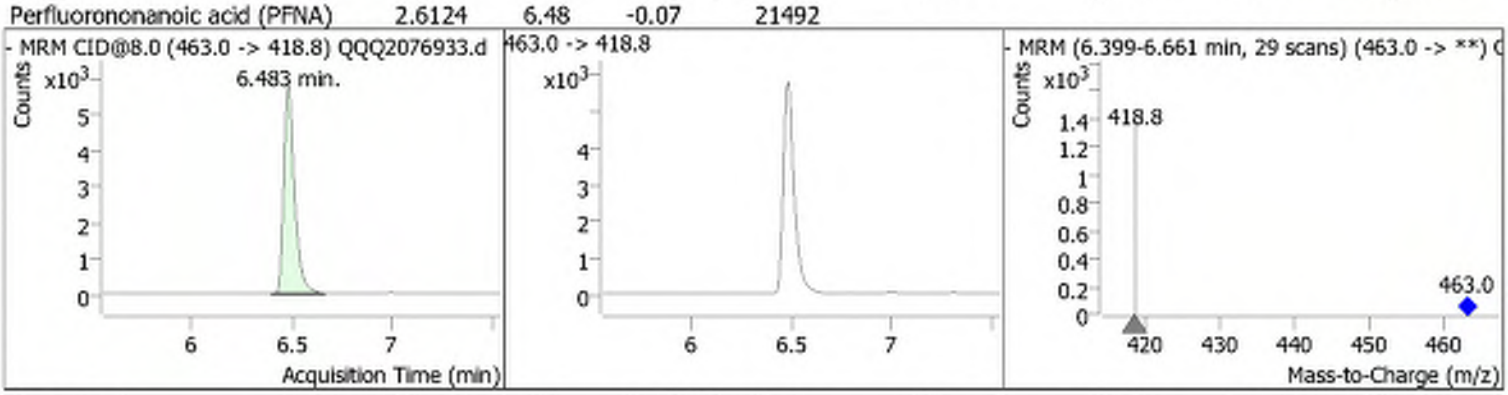
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	2.2620	6.03	-0.06	7334				



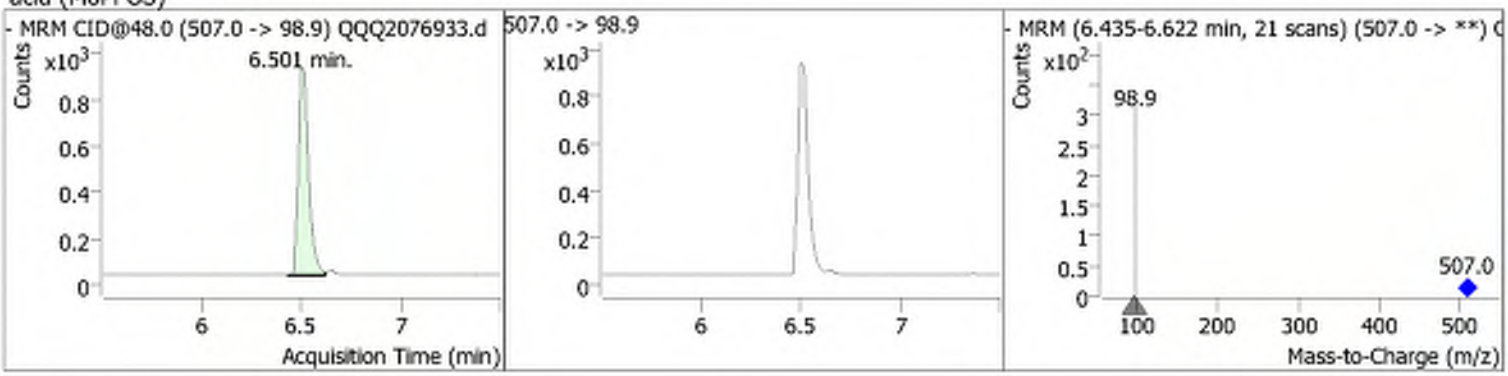
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.1637	6.47	-0.07	1455				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.6124	6.48	-0.07	21492				

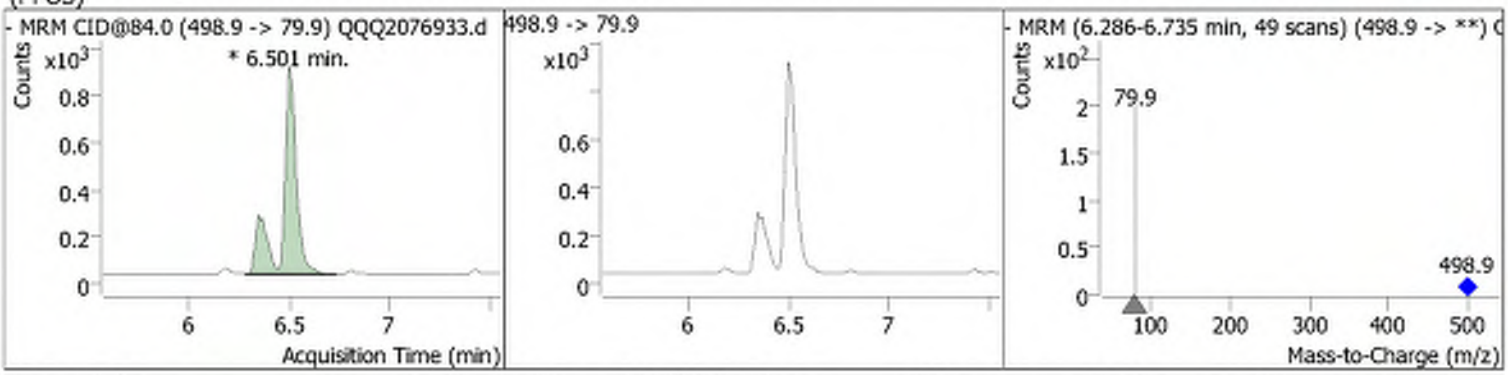


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.6033	6.50	-0.07	3183				

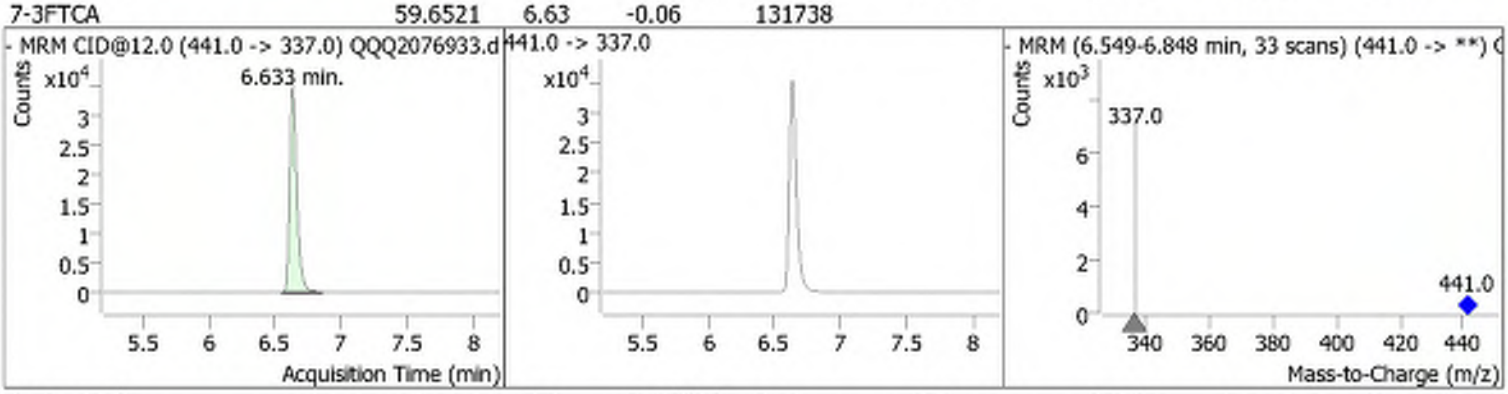


Quantitation Results Report (Not Reviewed)

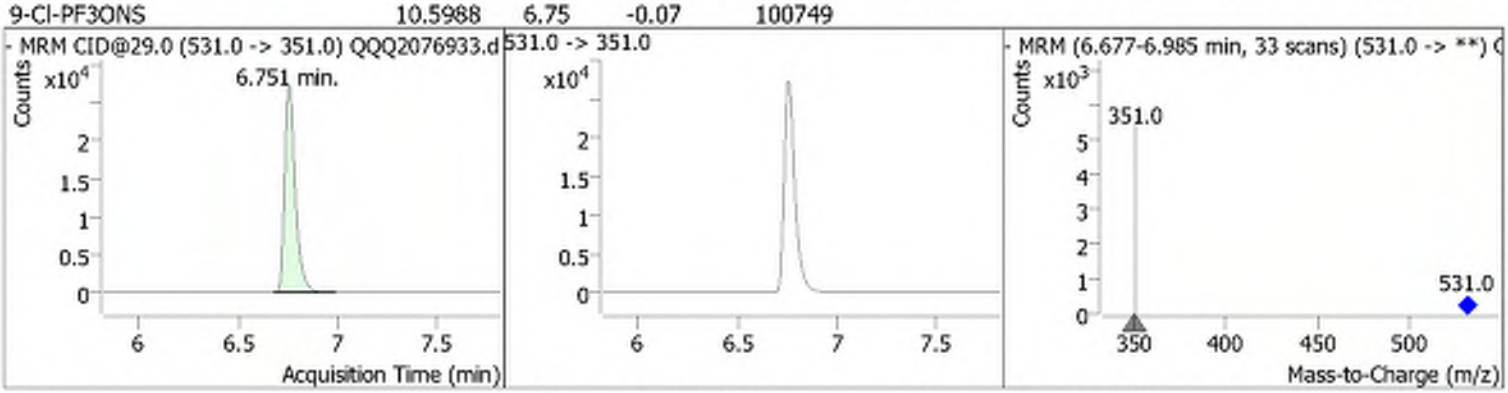
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.5922	6.50	-0.07	4305 (m)				



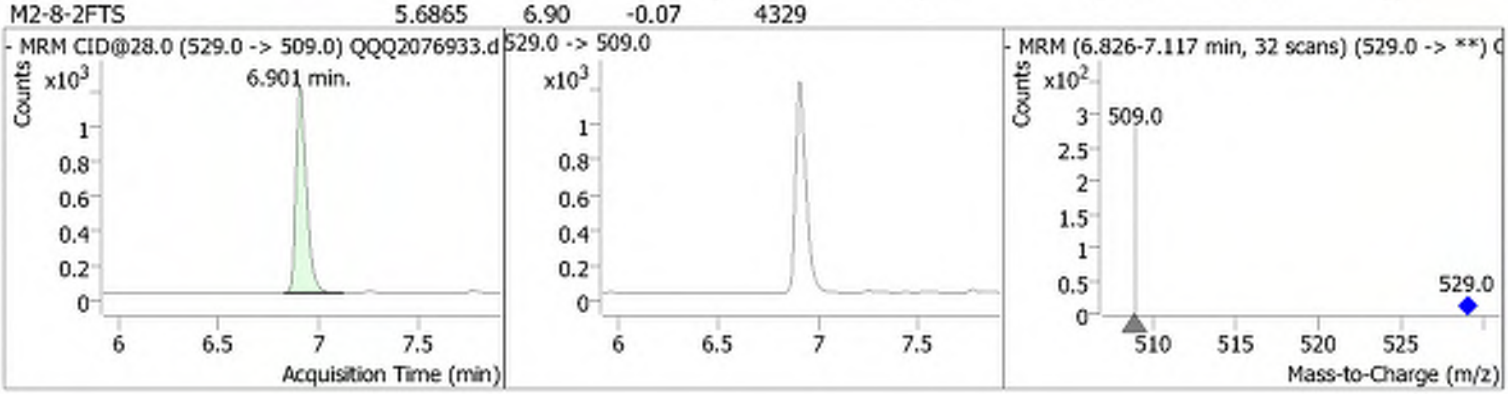
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	59.6521	6.63	-0.06	131738				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	10.5988	6.75	-0.07	100749				



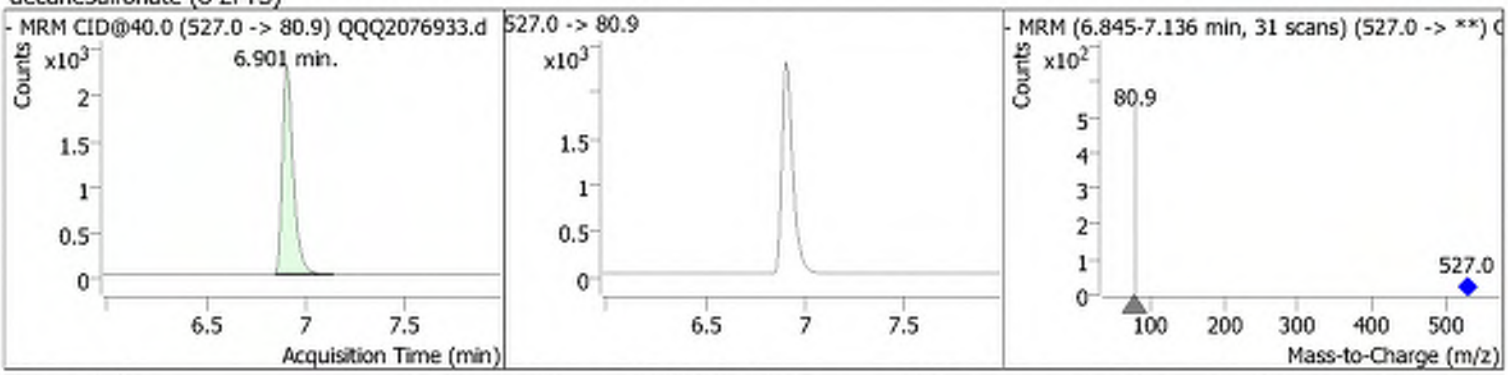
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.6865	6.90	-0.07	4329				



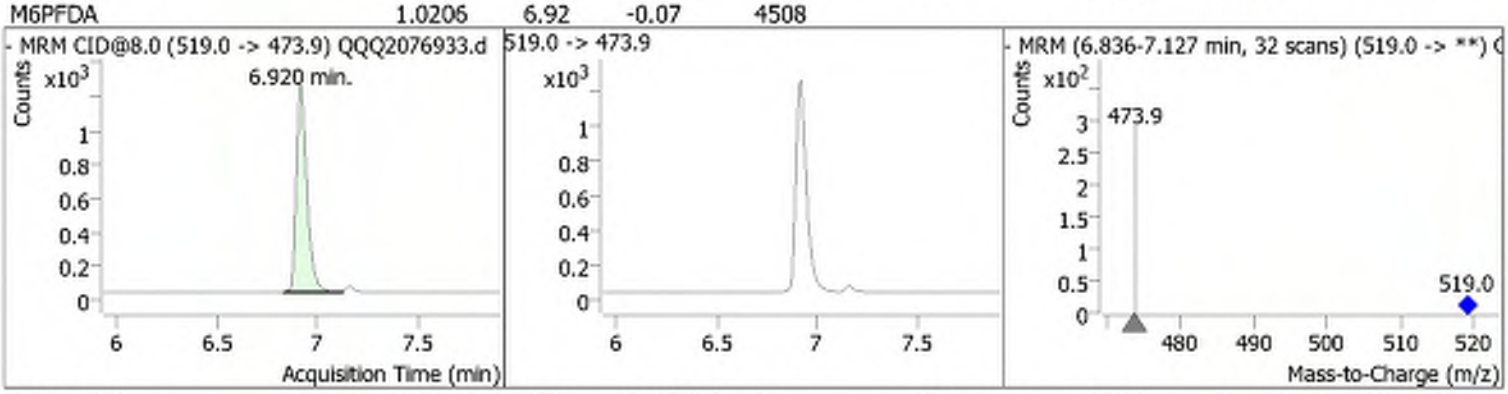
Quantitation Results Report (Not Reviewed)

Agilent

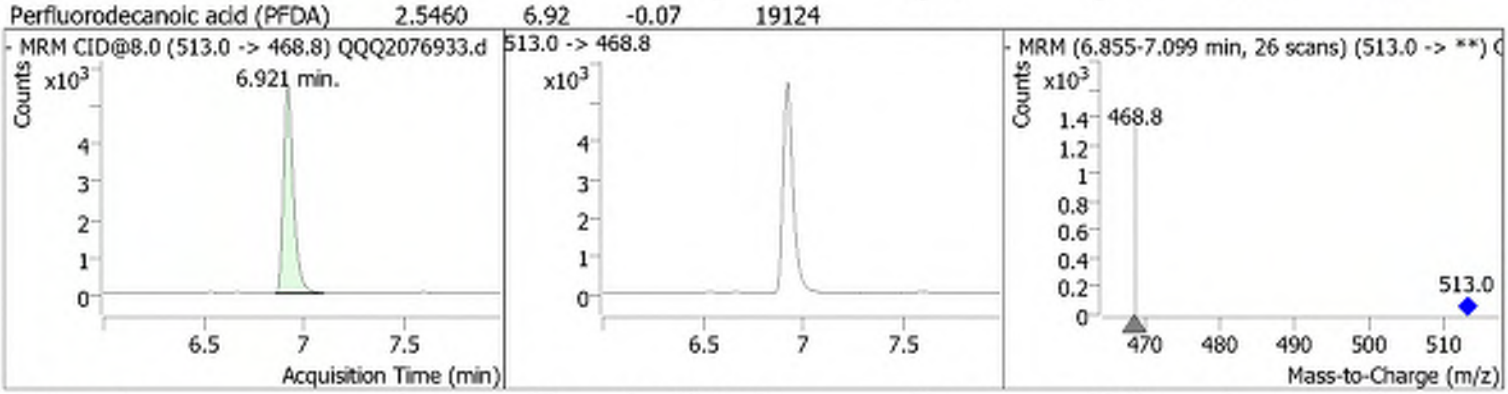
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	8.1229	6.90	-0.08	8551				



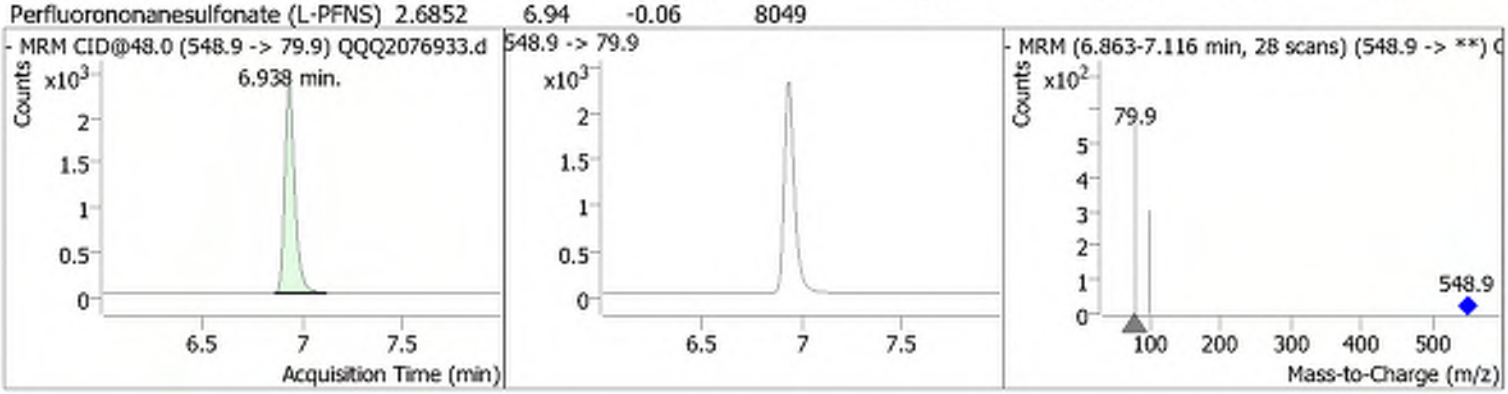
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.0206	6.92	-0.07	4508				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.5460	6.92	-0.07	19124				



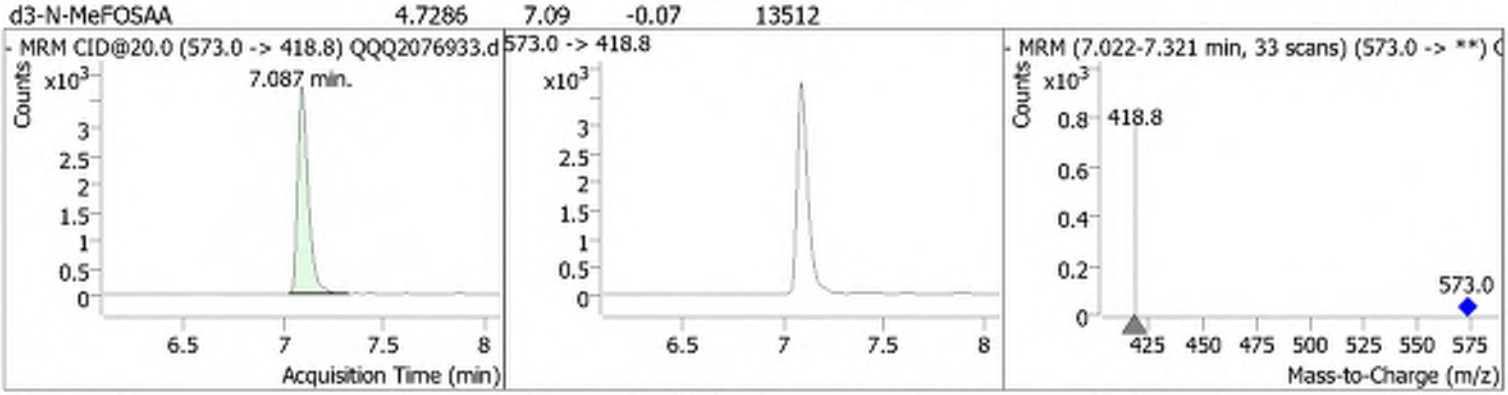
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	2.6852	6.94	-0.06	8049				



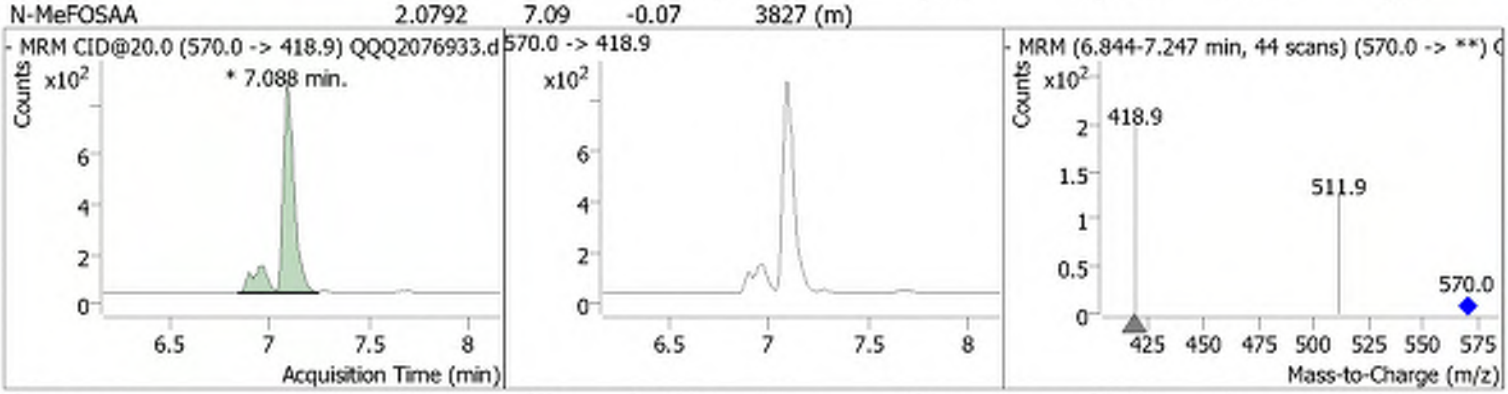
Quantitation Results Report (Not Reviewed)

Agilent

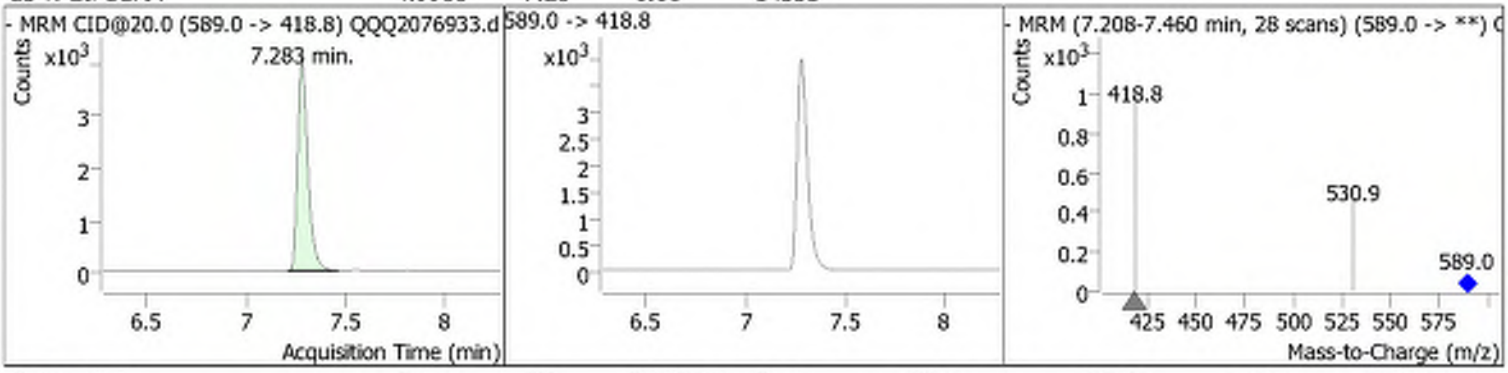
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.7286	7.09	-0.07	13512				



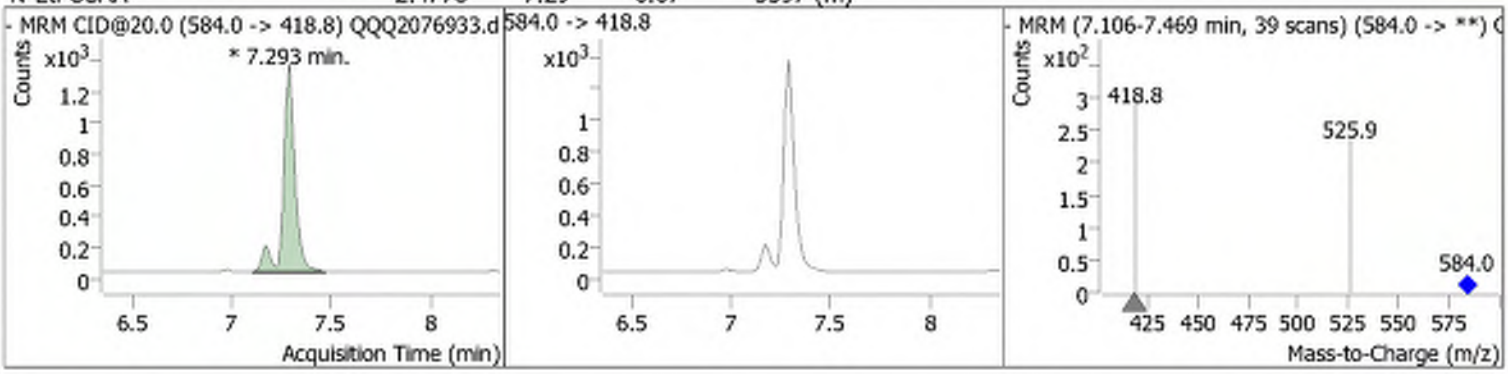
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.0792	7.09	-0.07	3827 (m)				



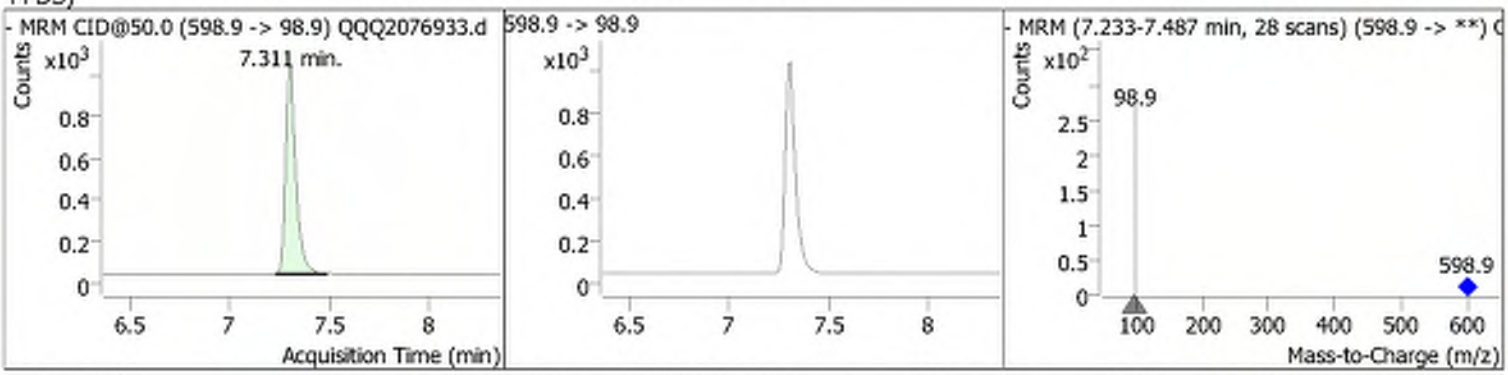
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.9988	7.28	-0.06	14353				



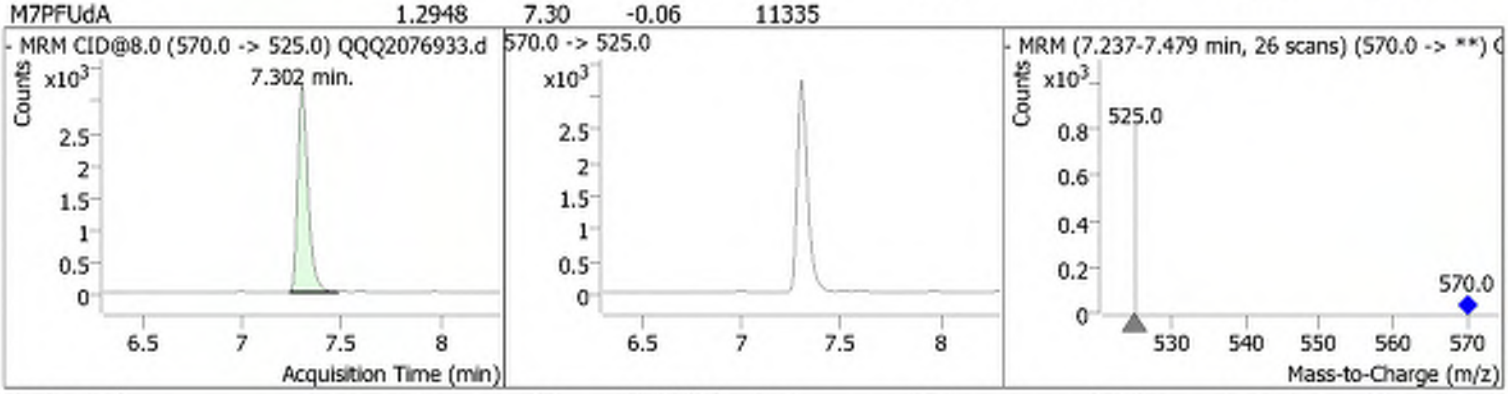
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.4778	7.29	-0.07	5397 (m)				



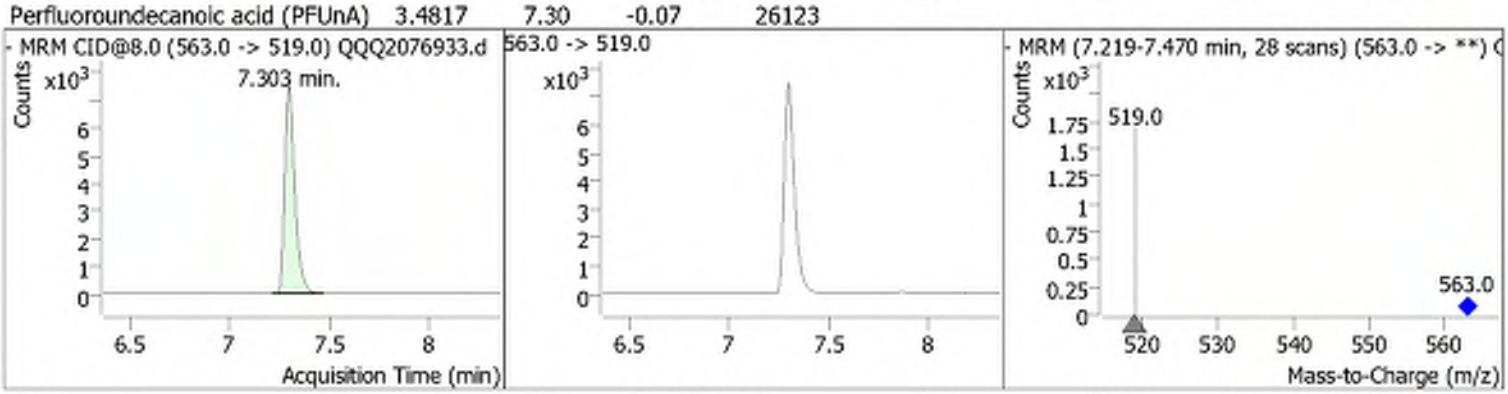
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	2.7601	7.31	-0.06	3547				



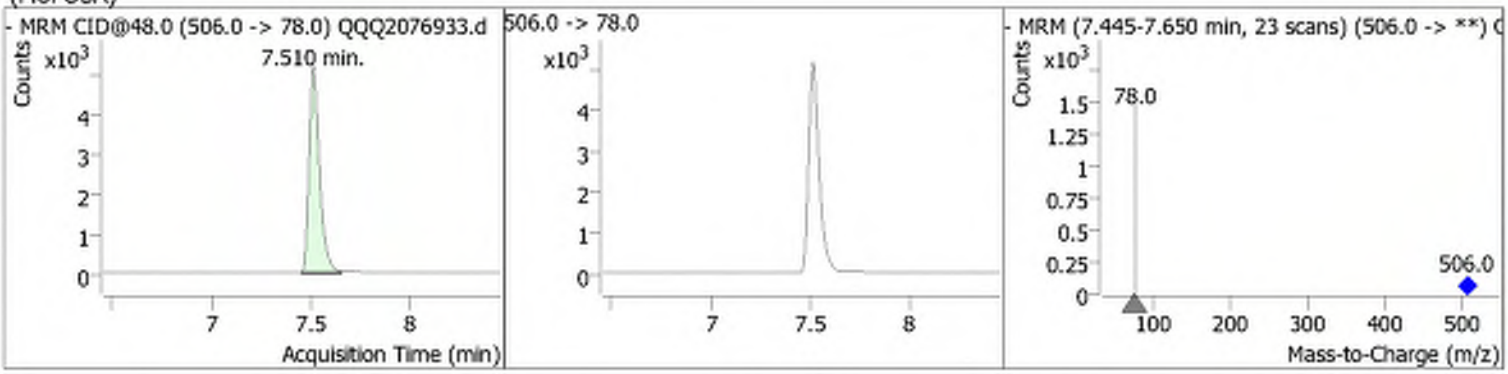
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.2948	7.30	-0.06	11335				



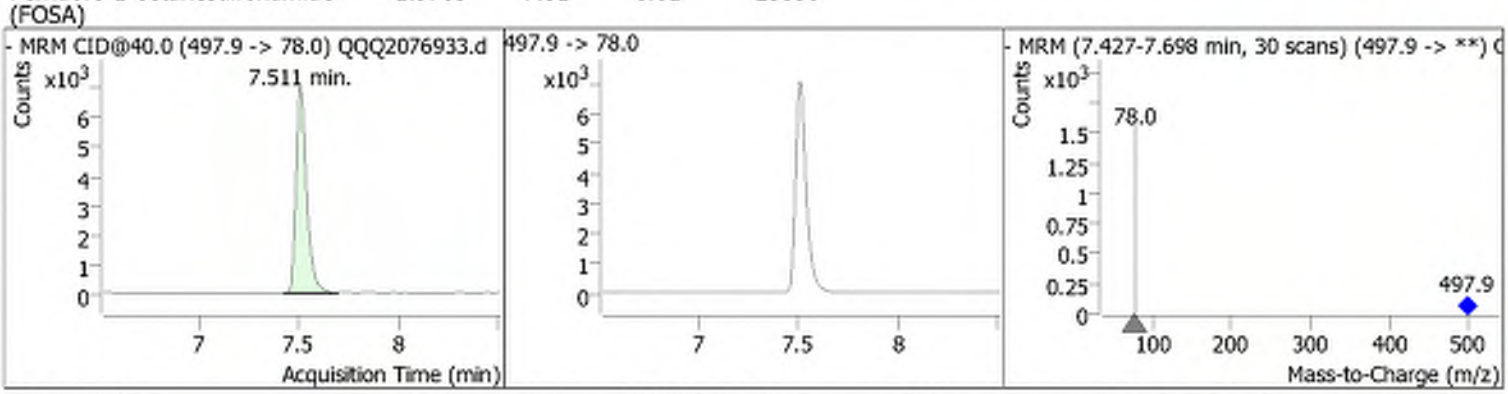
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.4817	7.30	-0.07	26123				



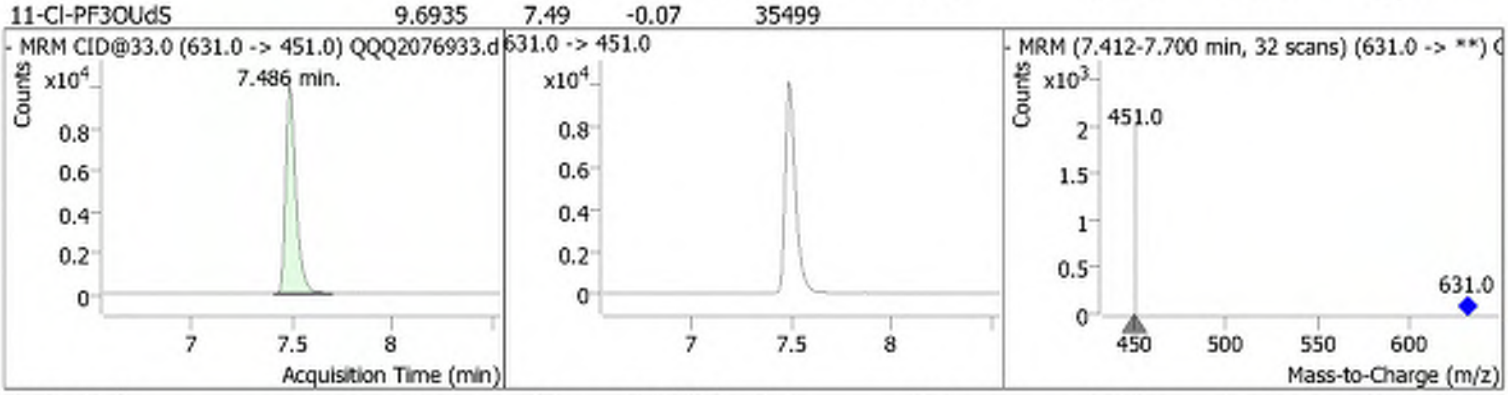
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.6793	7.51	-0.01	18579				



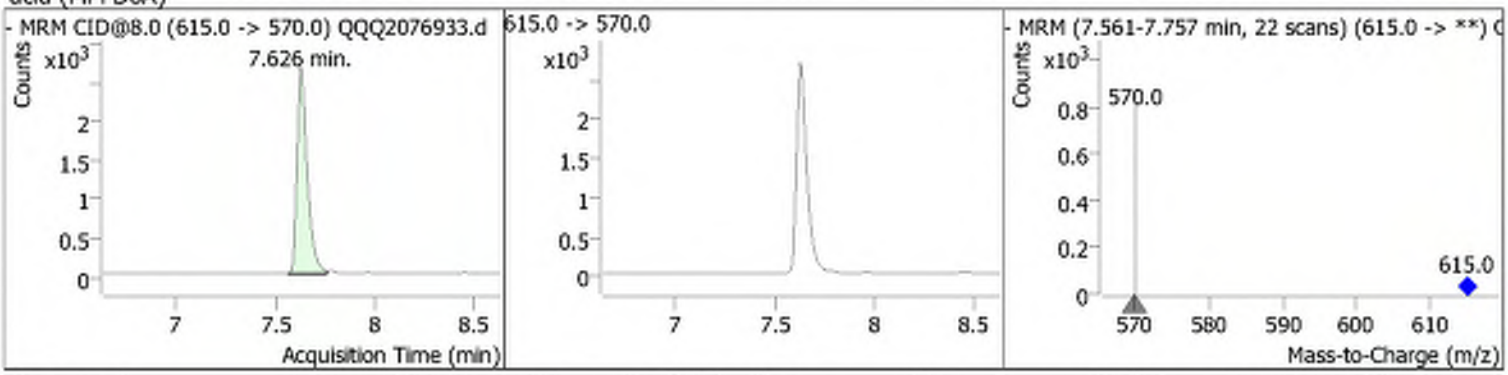
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	1.9783	7.51	-0.01	25858				



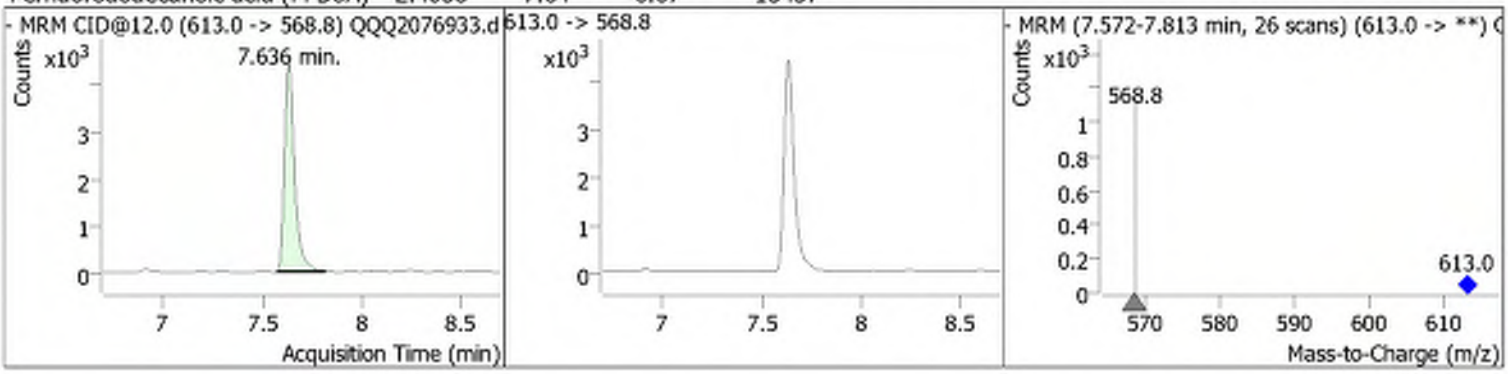
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	9.6935	7.49	-0.07	35499				



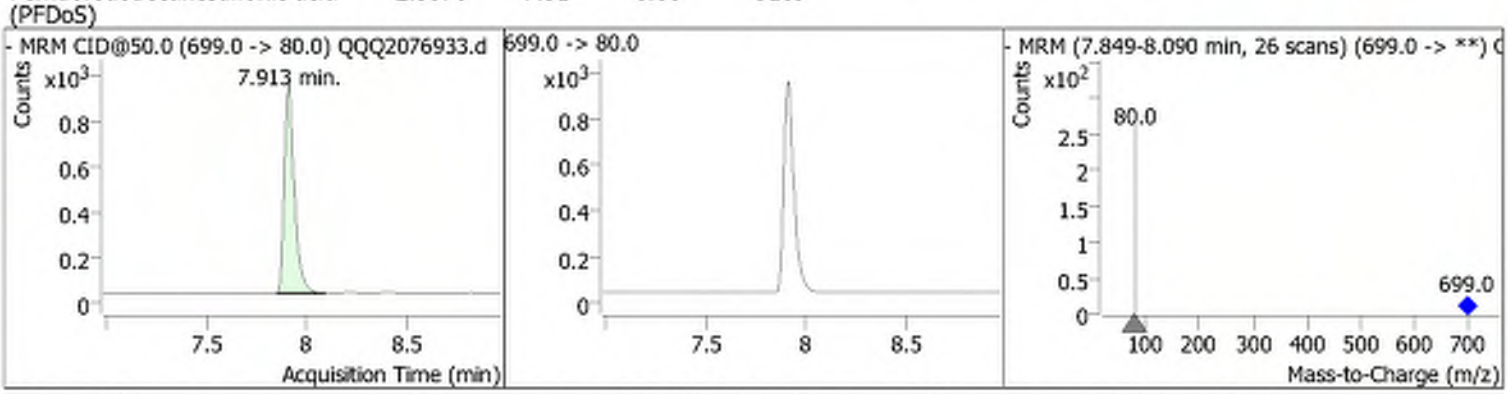
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.2839	7.63	-0.07	9357				



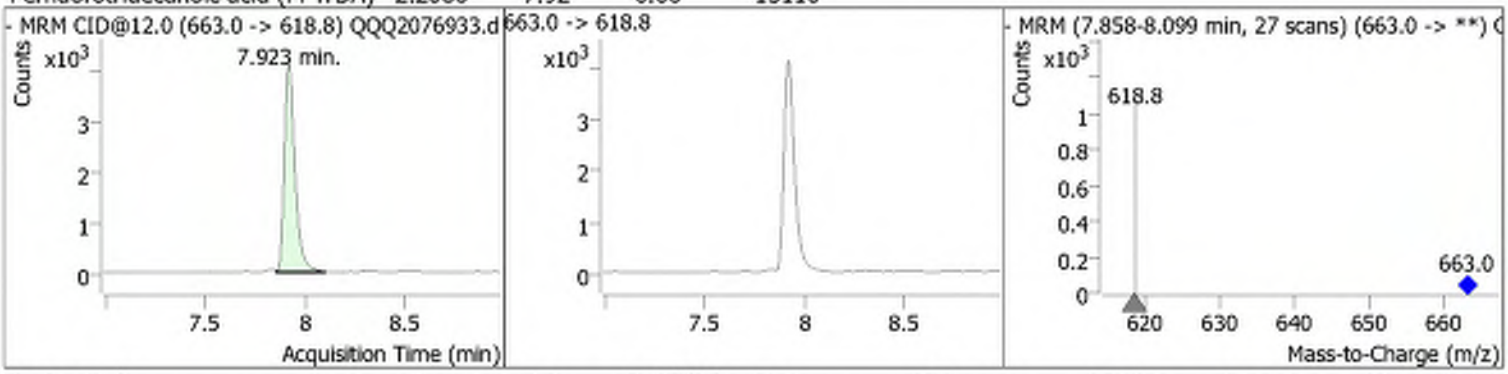
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.4058	7.64	-0.07	15437				



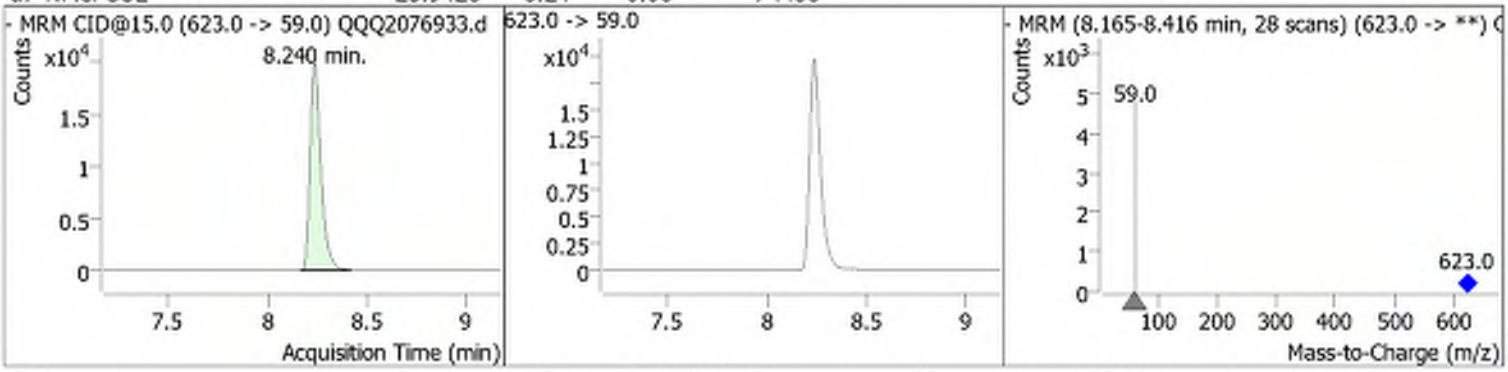
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	2.5876	7.91	-0.06	3169				



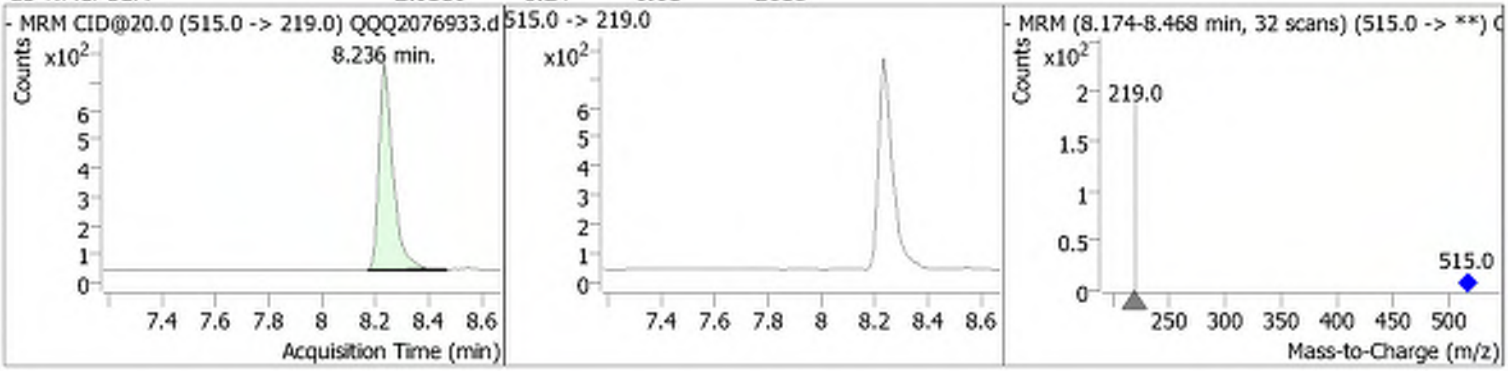
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.2086	7.92	-0.06	15110				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	25.9428	8.24	0.00	74488				

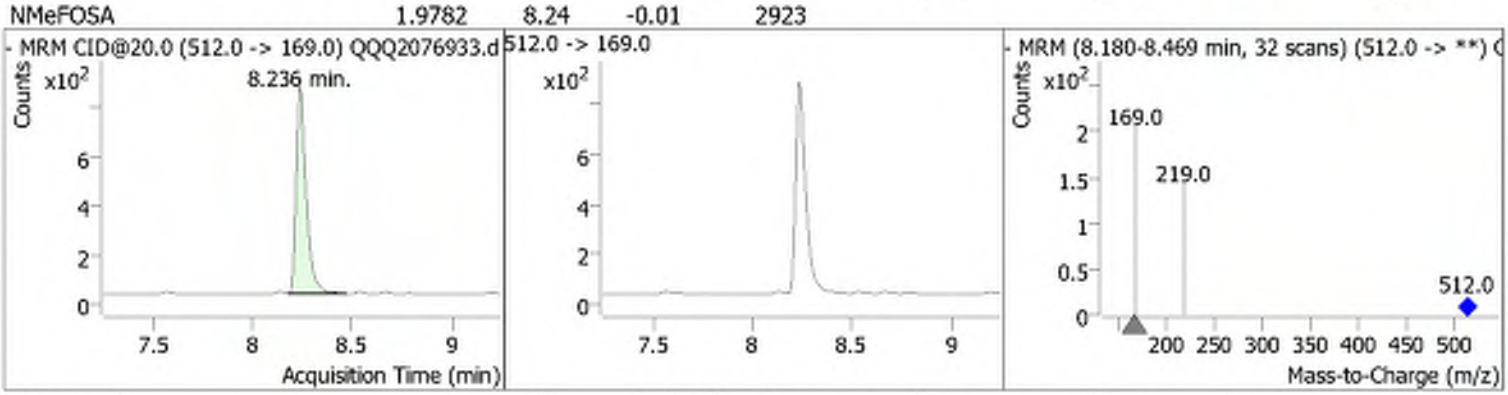


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.9559	8.24	-0.01	2618				

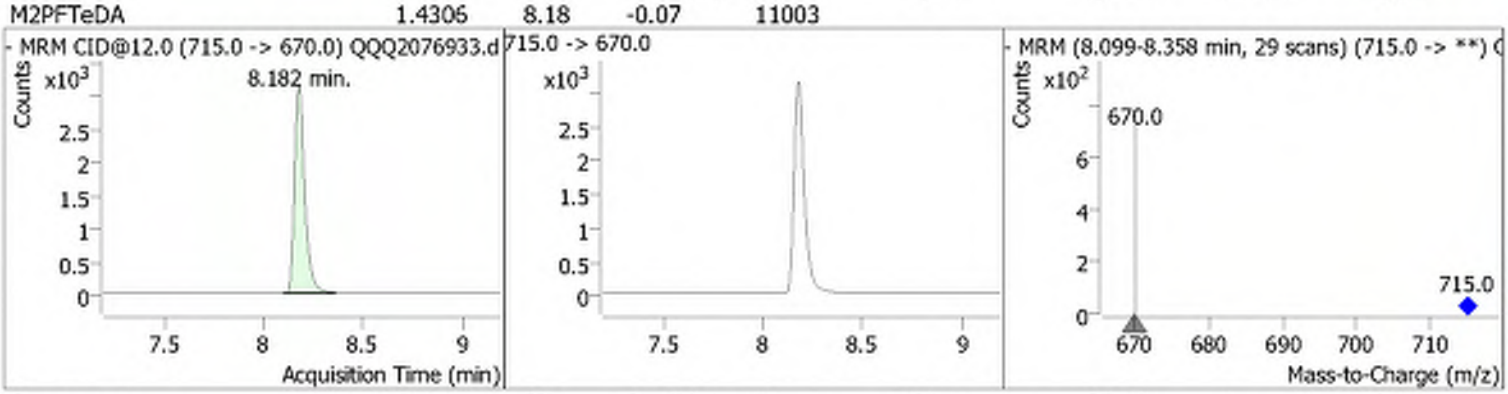


Quantitation Results Report (Not Reviewed)

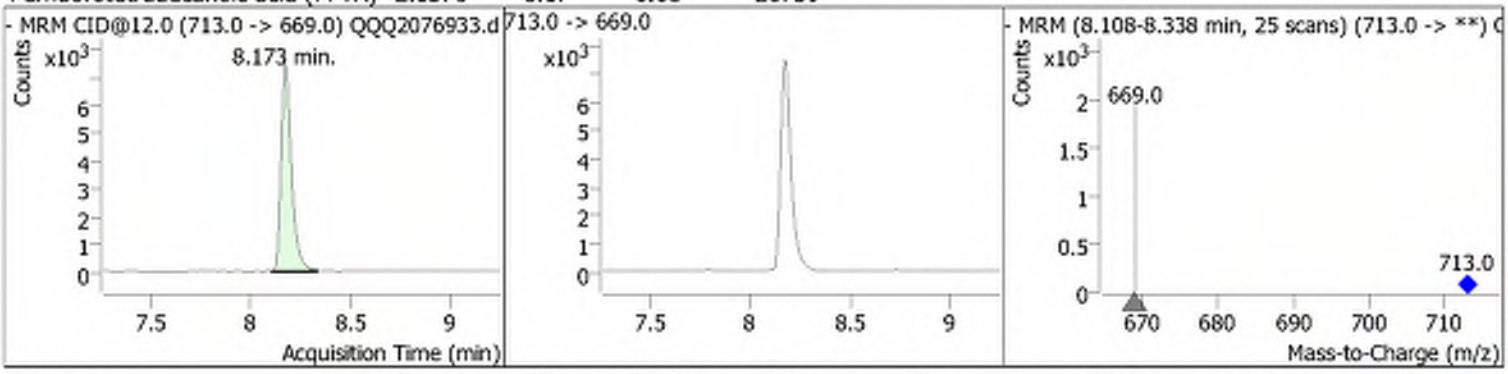
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	1.9782	8.24	-0.01	2923				



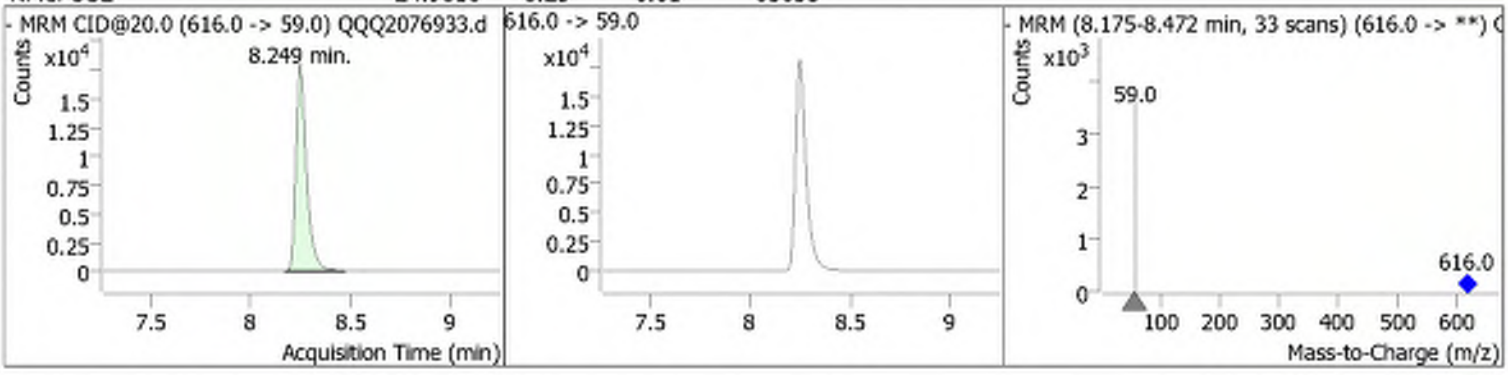
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.4306	8.18	-0.07	11003				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.1576	8.17	-0.08	26739				



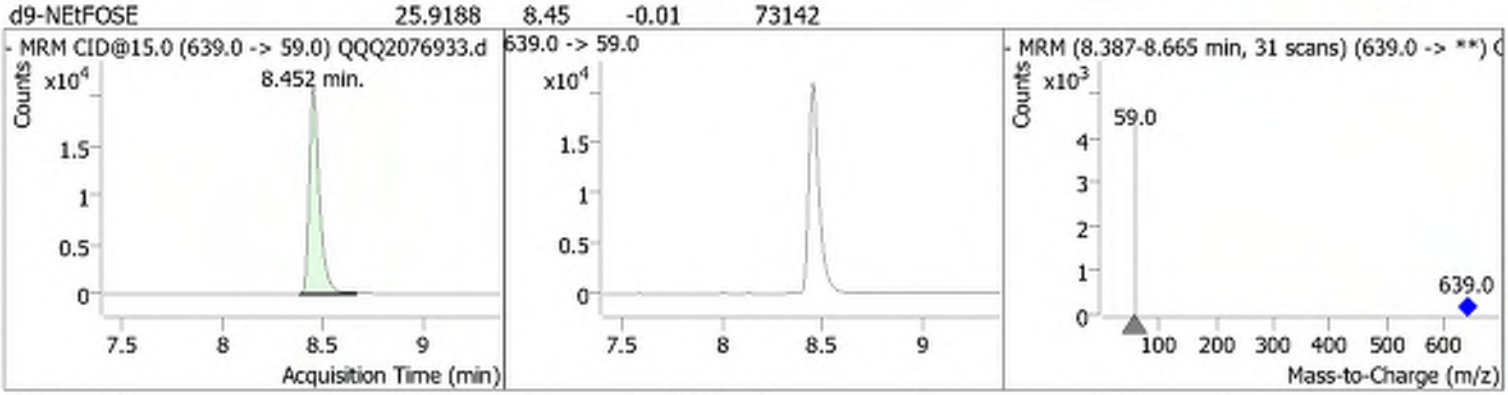
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	24.9810	8.25	-0.01	65635				



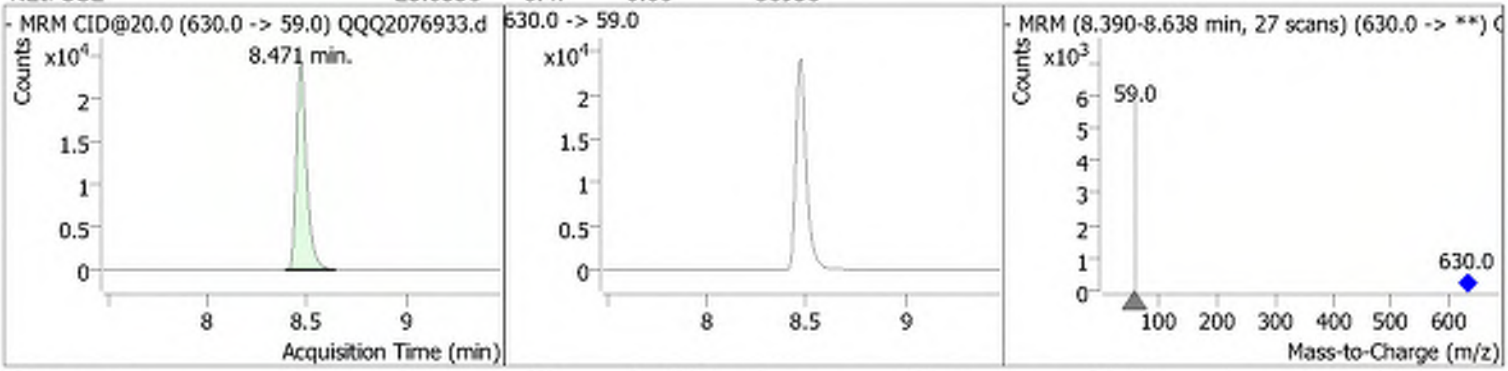
Quantitation Results Report (Not Reviewed)

Agilent

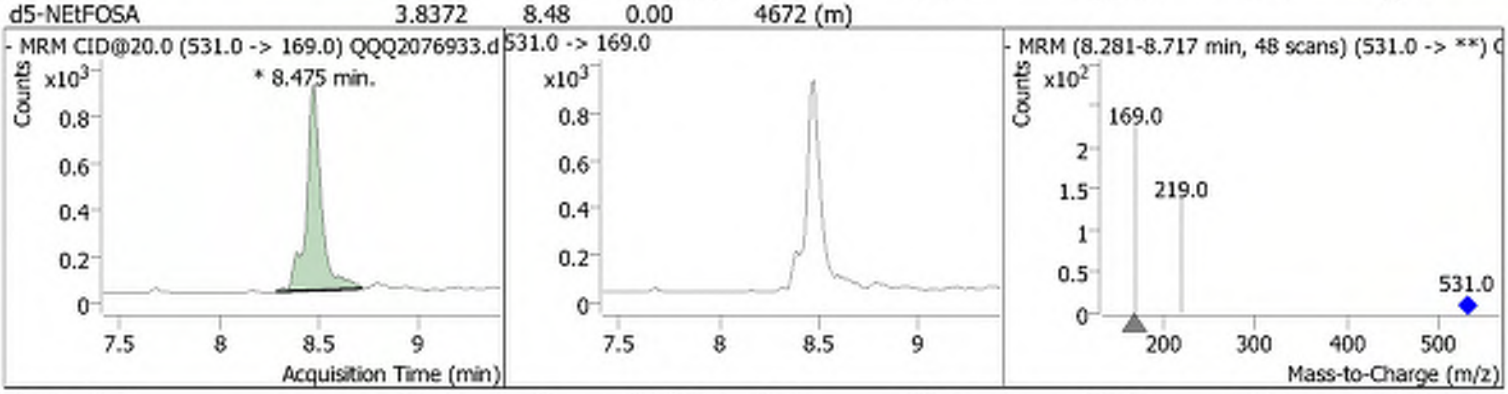
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	25.9188	8.45	-0.01	73142				



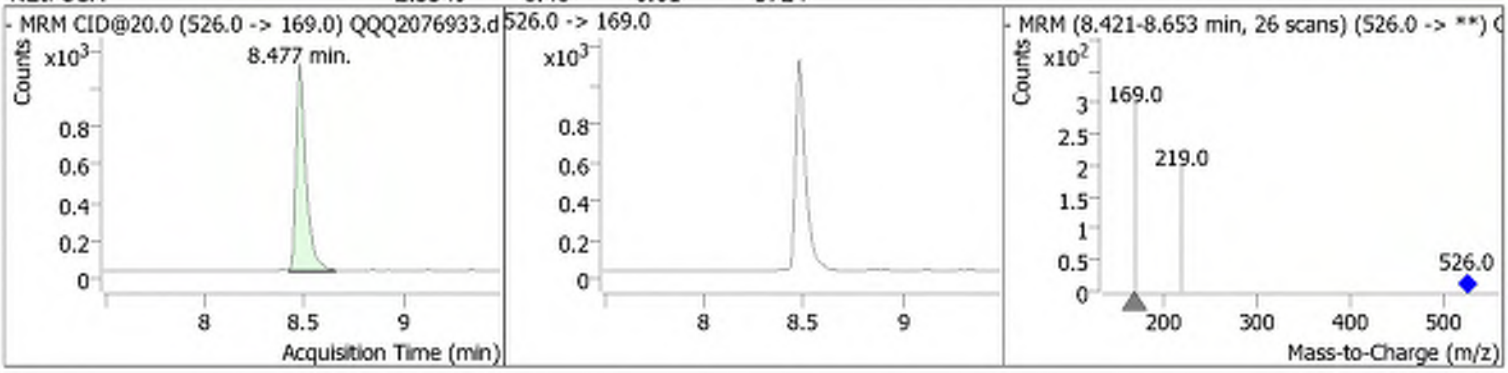
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	25.0536	8.47	0.00	86938				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	3.8372	8.48	0.00	4672 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	2.3349	8.48	-0.01	3724				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076945.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV3	Injection Time:	17:22

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
11CL-PF3OUdS	A	9.45	9.22	0.1365048	0.1338785		-2.4	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	9.95	0.9829487	1.240095		26.2	30	
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	9.84	0.8999592	1.030387		14.5	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	10.6	0.9616406	1.123699		16.9	30	
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	13.5	7.481766E-03	8.075941E-03		-78.4	30	*
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	66.3	0.1463629	0.1456652		5.9	30	
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	55.7	1.736253	1.566992		346	30	*
9CL-PF3ONS	A	9.35	10.4	0.3910379	0.3966812		11.4	30	
ADONA	A	9.45	8.35	0.3374364	0.2863898		-11.6	30	
HFPO-DA (Gen-X)	A	10.0	10.6	0.0204781	2.269573E-02		6.3	30	
N-EtFOSA	A	2.50	2.32	0.9890033	0.7871797		-7.1	30	
N-EtFOSAA	A	2.50	2.42	0.8333015	0.735723		-3.0	30	
N-EtFOSE	A	25.0	21.8	1.129564	1.037065		-12.6	30	
N-MeFOSA	A	2.50	2.46	1.295508	1.384697		-1.8	30	
N-MeFOSAA	A	2.50	3.17	0.7572478	0.8658933		26.7	30	
N-MeFOSE	A	25.0	25.3	0.7868612	0.8934012		1.3	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.35	1.613927	1.564181		-2.3	30	
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	3.57	1.090454	1.495242		48.0	30	*
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	2.68	3.229874	2.871063		12.4	30	
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	3.45	2.541268	3.390522		43.8	30	*
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	2.00	1.712752	1.40492		-20.1	30	
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.22	1.404147	1.346634		-5.4	30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.38	0.7000326	0.7637085		7.5	30	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076945.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV3	Injection Time:	17:22

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.03	0.757603	0.7728542		0.6	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.57	1.071309	1.039525		-8.5	30	
Perfluorobutanesulfonic acid (PFBS)	A	2.22	2.27	1.34399	1.312425		2.4	30	
Perfluorodecanoic acid (PFDA)	A	2.50	2.86	1.963699	2.385744		14.6	30	
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	3.43	1.100267	1.37052		41.7	30	*
Perfluorododecanoic acid (PFDoA)	A	2.50	1.68	0.8597345	0.5761996		-32.9	30	*
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.15	1.318827	1.155085		-14.2	30	
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	2.28	1.421744	1.439183		0.01	30	
Perfluorohexanoic acid (PFHxA)	A	2.50	2.57	1.24236	1.215002		2.9	30	
Perfluoro-n-butanoic acid (PFBA)	A	10.0	10.0	1.241515	1.263105		0.06	30	
Perfluorononanoic acid (PFNA)	A	2.50	2.41	6.653904	6.814351		2.4	30	
Perfluorooctanesulfonic acid (PFOS)	A	2.32	3.11	1.806429	1.75992		34.1	30	*
Perfluorooctanoic acid (PFOA)	A	2.50	2.89	1.548646	1.672891		15.6	30	
Perfluoropentanoic acid (PFPeA)	A	5.00	4.74	1.047367	1.037122		-5.2	30	
Perfluorotetradecanoic acid (PFTA)	A	2.50	2.13	1.414068	1.200394		-14.7	30	
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.09	0.7557259	0.6501486		-16.4	30	
Perfluoroundecanoic acid (PFUnA)	A	2.50	3.54	1.039554	1.170756		41.4	30	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076945.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 5:22:11 PM
Sample Name	SEQ-CCV3	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.152	216.0 -> 172.0	47604	5.0000	ng/ml	-0.055
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.159	217.0 -> 172.0	65133	10.0000	ng/ml	-0.046
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.332	268.0 -> 223.0	33575	5.0000	ng/ml	-0.056
MPFHxA	4.651	315.0 -> 269.8	38962	2.5000	ng/ml	-0.047
MPFHxS	5.485	403.0 -> 103.0	3666	2.3700	ng/ml	-0.037
M3PFBS-EIS	3.837	302.0 -> 79.9	11546	2.3300	ng/ml	-0.055
M5PFHxA-EIS	4.659	318.0 -> 273.0	27557	2.5000	ng/ml	-0.037
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	8923	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	8894	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	69790	10.0000	ng/ml	-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	31098	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	5414	4.7550	ng/ml	-0.056
MPFOA	5.979	417.0 -> 372.0	36214	2.5000	ng/ml	-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.979	421.0 -> 376.0	16755	2.5000	ng/ml	-0.056
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.510	507.0 -> 98.9	2589	2.3950	ng/ml	-0.056
MPFNA	6.483	468.0 -> 423.0	12931	1.2500	ng/ml	-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.493	472.0 -> 223.0	1503	1.2500	ng/ml	-0.047
MPFOS	6.510	503.0 -> 80.0	9824	2.3950	ng/ml	-0.065
M2-8-2FTS-EIS	6.911	529.0 -> 509.0	3965	4.8000	ng/ml	-0.056
MPFDA	6.921	515.0 -> 469.8	11735	1.2500	ng/ml	-0.065
M6PFDA-EIS	6.920	519.0 -> 473.9	4609	1.2500	ng/ml	-0.065
d3-N-MeFOSAA-EIS	7.097	573.0 -> 418.8	13770	5.0000	ng/ml	-0.056
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	15032	5.0000	ng/ml	-0.065
M7PFUdA-EIS	7.311	570.0 -> 525.0	10304	1.2500	ng/ml	-0.056
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	17817	2.5000	ng/ml	-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.636	615.0 -> 570.0	10731	1.2500	ng/ml	-0.065
M2PFTeDA-EIS	8.182	715.0 -> 670.0	11004	1.2500	ng/ml	-0.074
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	2213	2.5000	ng/ml	0.000
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	75464	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	80417	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	4436	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.159	217.0 -> 172.0	65133	9.9890	ng/ml	-0.046
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.332	268.0 -> 223.0	33575	5.3223	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.837	302.0 -> 79.9	11546	2.3677	ng/ml	-0.055
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	8923	4.4695	ng/ml	-0.047

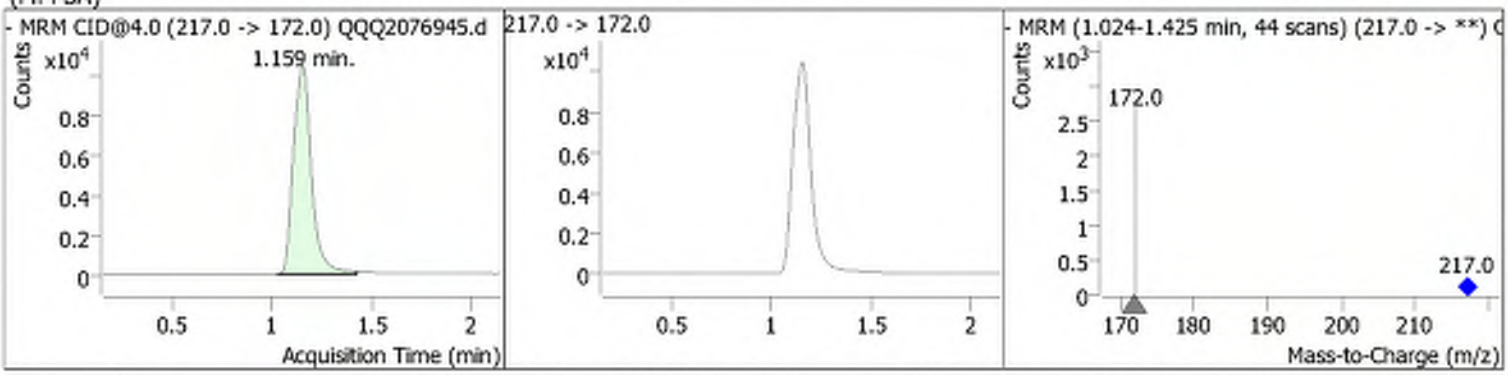
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.659	318.0 -> 273.0	27557	2.6185	ng/ml	-0.037
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.913	287.0 -> 169.0	69790	11.3720	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	31098	2.6164	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	8894	2.1712	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.941	429.0 -> 409.0	5414	5.0001	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.979	421.0 -> 376.0	16755	2.0987	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.493	472.0 -> 223.0	1503	1.1293	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.510	507.0 -> 98.9	2589	1.8201	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.911	529.0 -> 509.0	3965	4.2599	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.920	519.0 -> 473.9	4609	1.0119	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.097	573.0 -> 418.8	13770	4.1433	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.283	589.0 -> 418.8	15032	4.5012	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.311	570.0 -> 525.0	10304	1.1414	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	17817	2.2092	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.636	615.0 -> 570.0	10731	1.4279	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.240	623.0 -> 59.0	75464	22.5973	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.245	515.0 -> 219.0	2213	2.1481	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.182	715.0 -> 670.0	11004	1.3874	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	80417	24.5010	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	4436	3.1325	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.154	213.0 -> 168.9	82270	10.0065	ng/ml	100
PFMPA	1.996	229.0 -> 85.0	25948	5.0306	ng/ml	100
3:3FTCA	3.240	241.0 -> 177.0	5573	13.5165	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.332	263.0 -> 219.0	34821	4.7387	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	13456	2.2730	ng/ml	100
PFMBA	3.867	279.0 -> 85.0	34902	4.5742	ng/ml	100
PFEESA	4.336	315.0 -> 135.0	76725	4.3459	ng/ml	100
NFDHA	4.514	295.0 -> 201.1	42091	5.3757	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.594	327.0 -> 307.0	17248	9.8388	ng/ml	100

Agilent

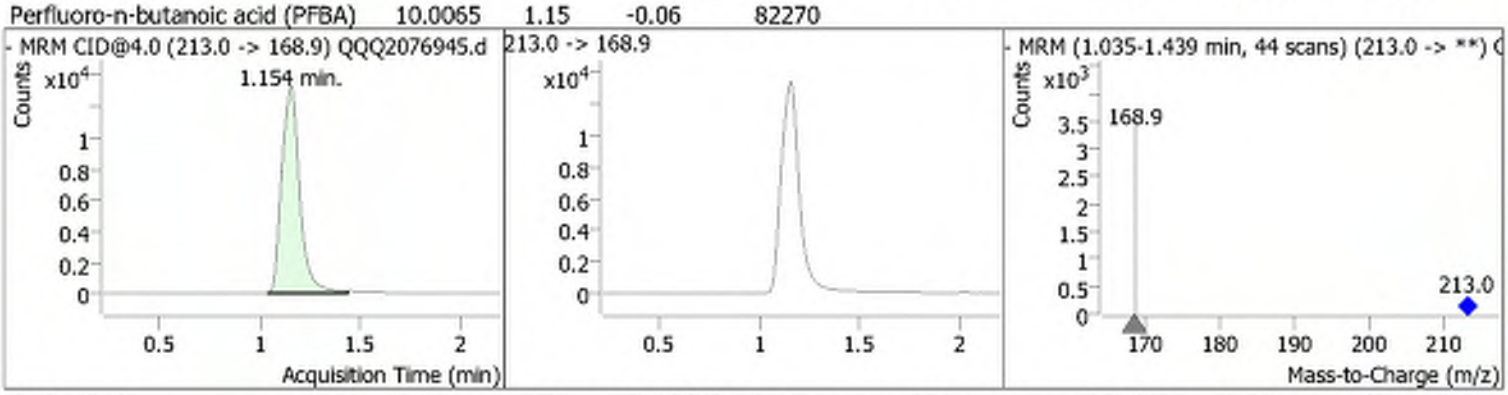
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	33481	2.5725	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	11259	2.2242	ng/ml		100
HFPO-DA	4.914	285.0 -> 169.1	6336	10.6264	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.402	363.0 -> 318.8	35921	2.1458	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.486	398.9 -> 79.9	11674	2.2803	ng/ml	m	100
5-3FTCA	5.496	341.0 -> 217.0	100512	66.2749	ng/ml		100
ADONA	5.504	377.0 -> 85.0	75551	8.3523	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.941	427.0 -> 407.0	11560	10.5897	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.980	413.0 -> 368.8	28030	2.8890	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.025	448.9 -> 80.0	7075	2.6762	ng/ml		100
Perfluorononanoic acid (PFNA)	6.483	463.0 -> 418.8	20482	2.4079	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.511	498.9 -> 79.9	4228	3.1120	ng/ml	m	100
7-3FTCA	6.633	441.0 -> 337.0	131527	55.7481	ng/ml		100
9-Cl-PF3ONS	6.761	531.0 -> 351.0	103539	10.4170	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.911	527.0 -> 80.9	9441	9.9485	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.930	513.0 -> 468.8	21994	2.8644	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.938	548.9 -> 79.9	8426	3.4503	ng/ml		100
N-MeFOSAA	7.097	570.0 -> 418.9	5962	3.1685	ng/ml	m	100
N-EtFOSAA	7.283	584.0 -> 418.8	5530	2.4241	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.301	598.9 -> 98.9	3731	3.5666	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.303	563.0 -> 519.0	24128	3.5362	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.511	497.9 -> 78.0	25032	1.9969	ng/ml		100
11-Cl-PF3OUdS	7.495	631.0 -> 451.0	35318	9.2230	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.636	613.0 -> 568.8	12366	1.6772	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.913	699.0 -> 80.0	3434	3.4289	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.923	663.0 -> 618.8	14308	2.0906	ng/ml		100
NMeFOSA	8.246	512.0 -> 169.0	3064	2.4560	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.182	713.0 -> 669.0	26418	2.1315	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	67420	25.3311	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	83397	21.8459	ng/ml		100
NEtFOSA	8.486	526.0 -> 169.0	3492	2.3229	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

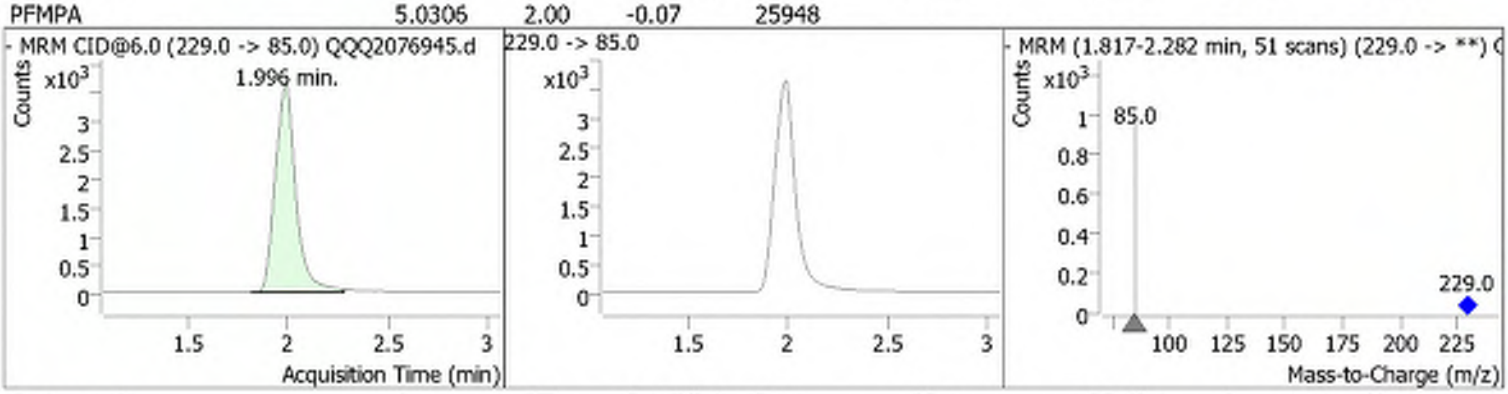
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.9890	1.16	-0.05	65133				



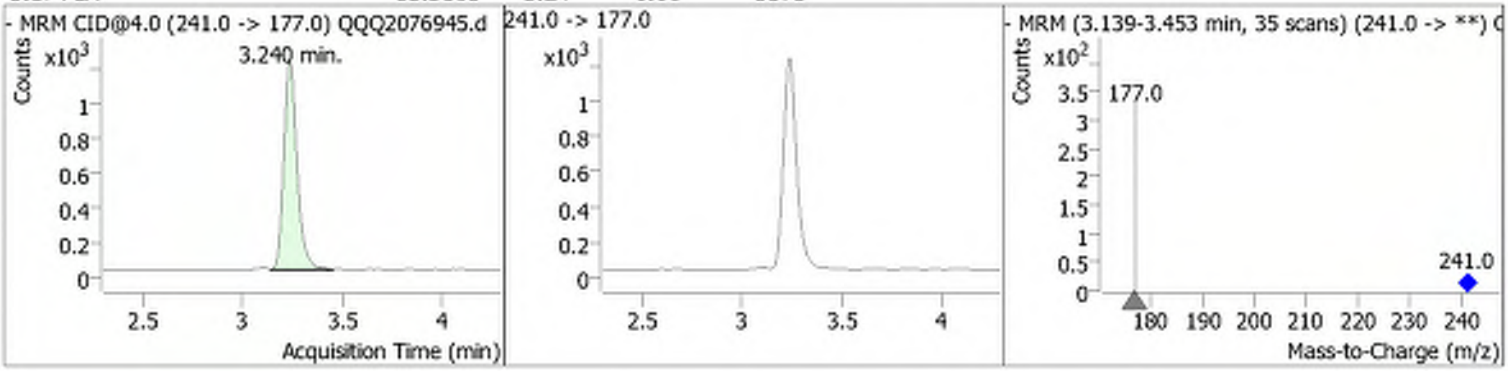
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	10.0065	1.15	-0.06	82270				



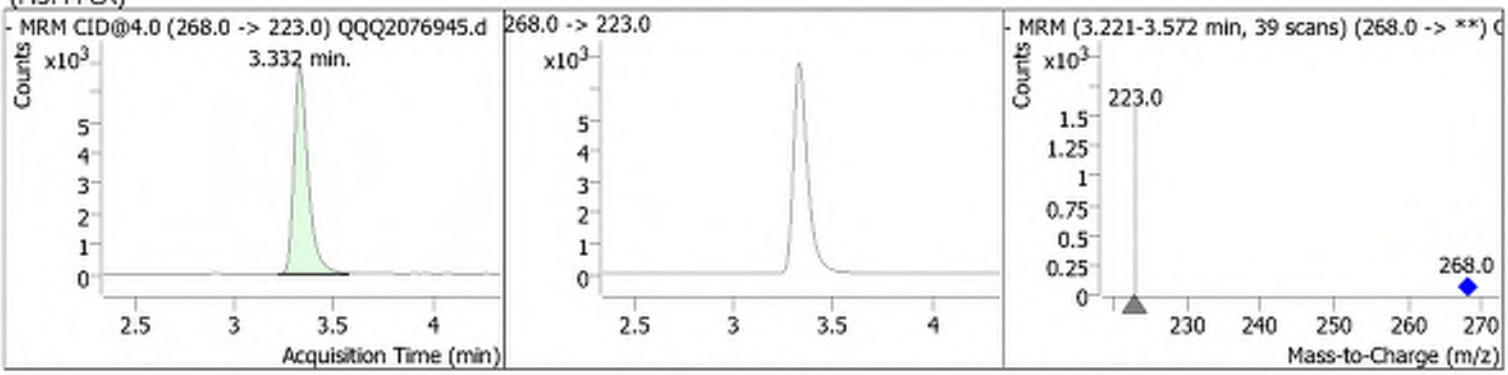
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.0306	2.00	-0.07	25948				



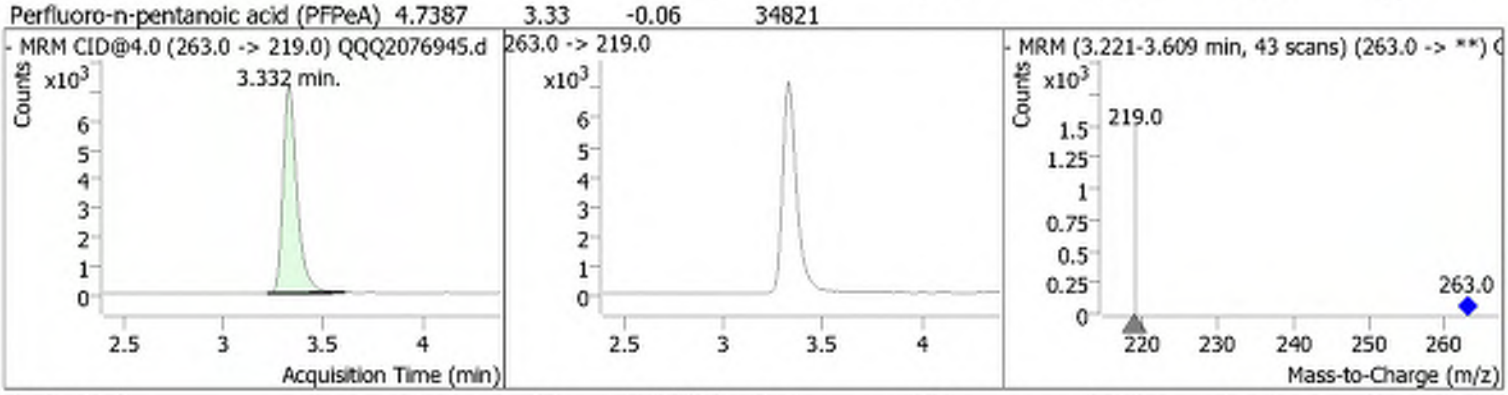
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	13.5165	3.24	-0.06	5573				



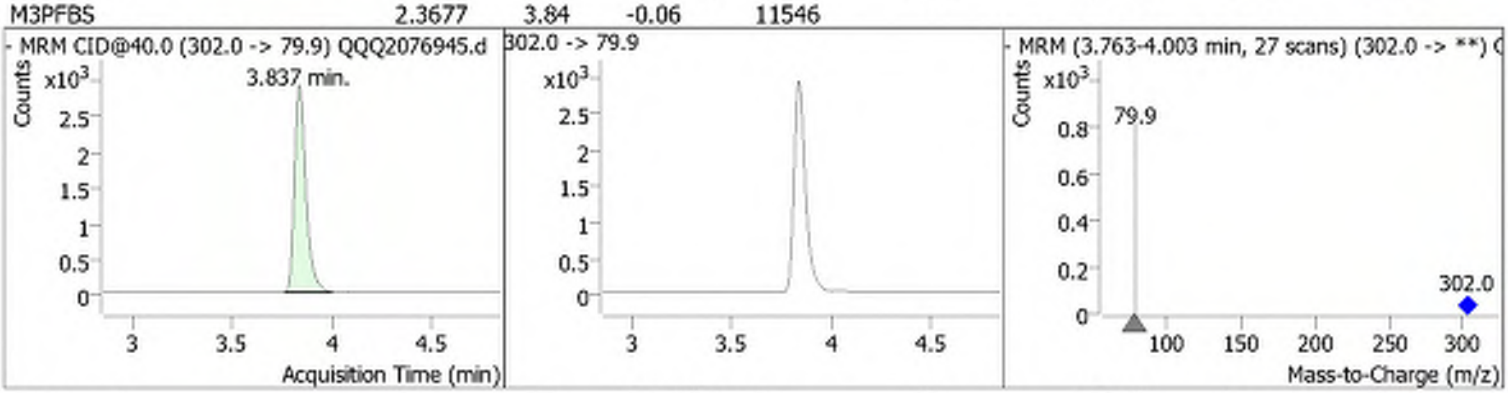
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.3223	3.33	-0.06	33575				



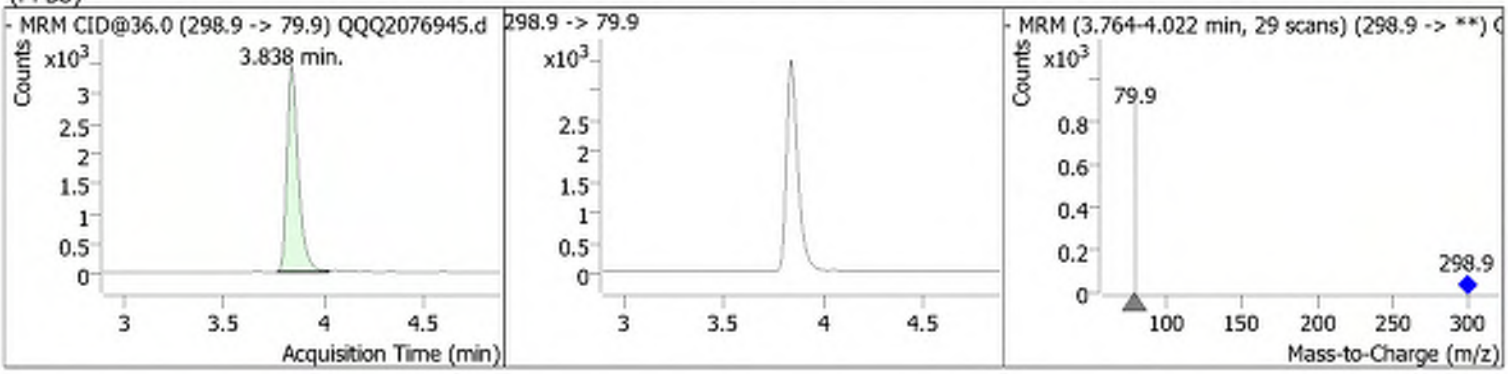
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.7387	3.33	-0.06	34821				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.3677	3.84	-0.06	11546				

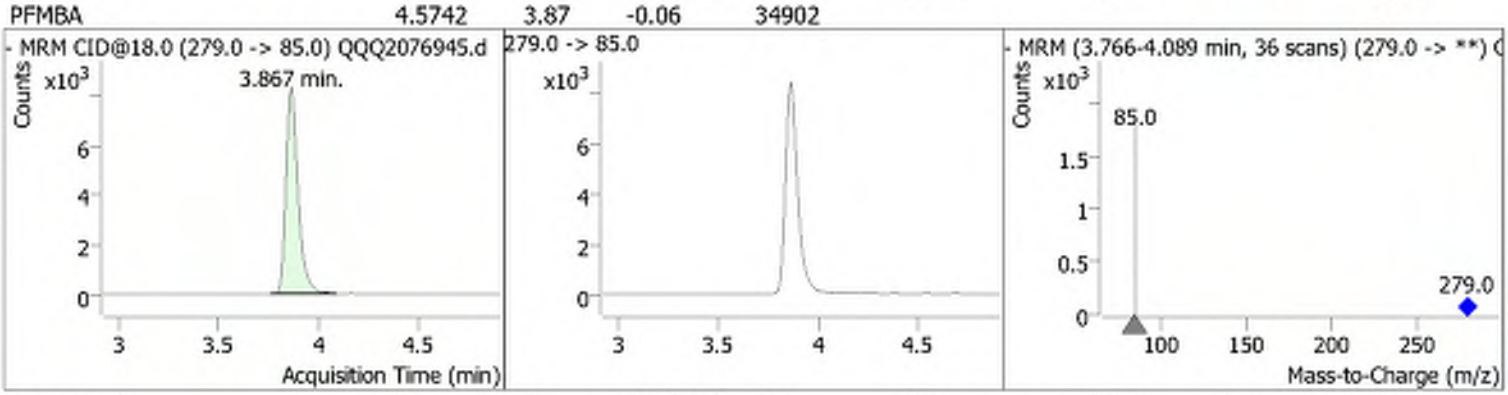


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.2730	3.84	-0.06	13456				

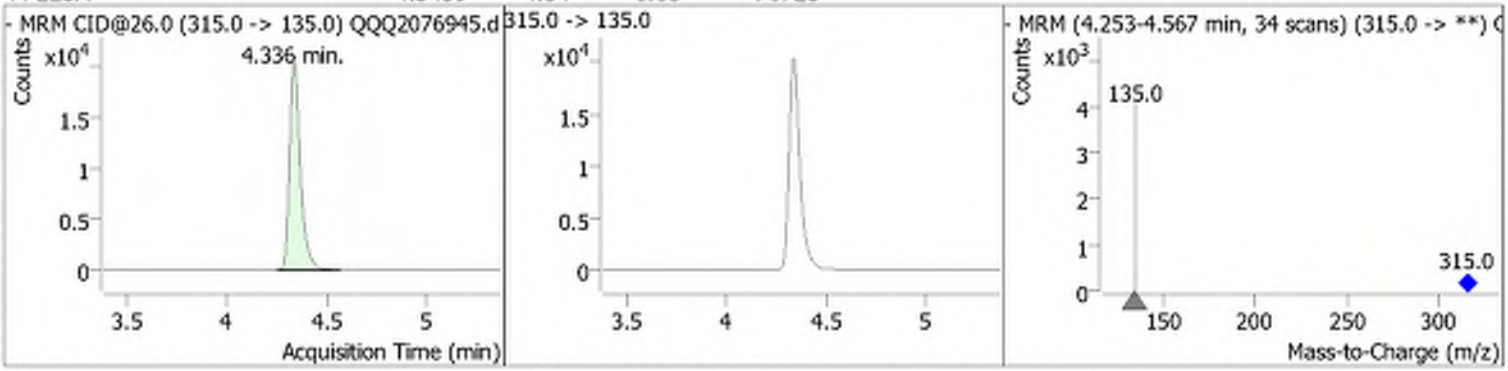


Quantitation Results Report (Not Reviewed)

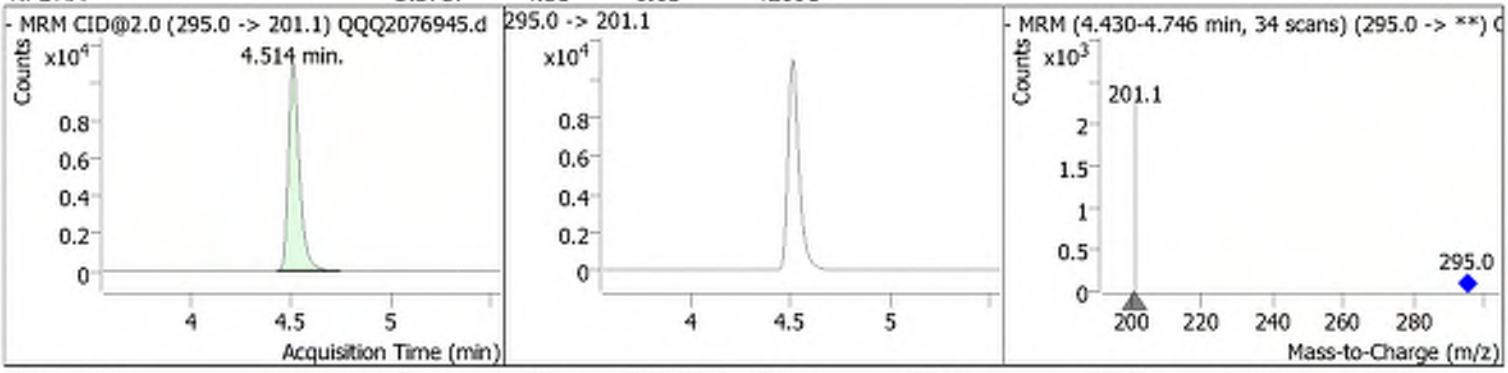
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.5742	3.87	-0.06	34902				



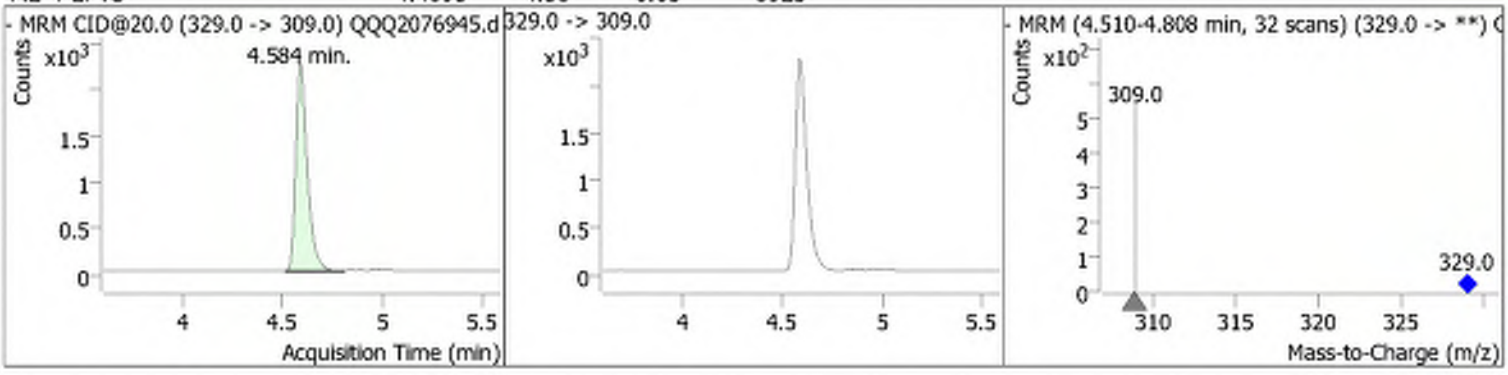
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.3459	4.34	-0.05	76725				



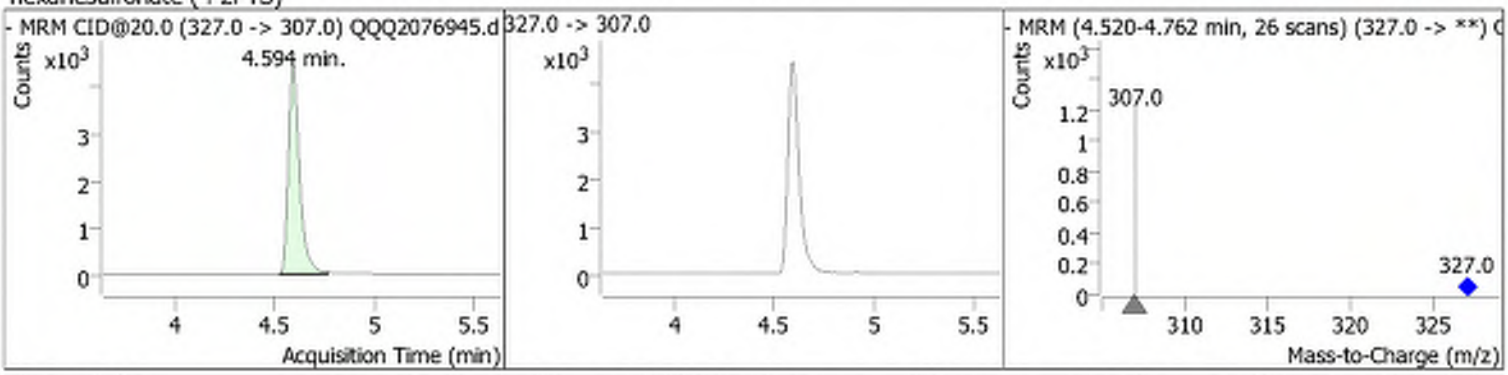
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.3757	4.51	-0.05	42091				



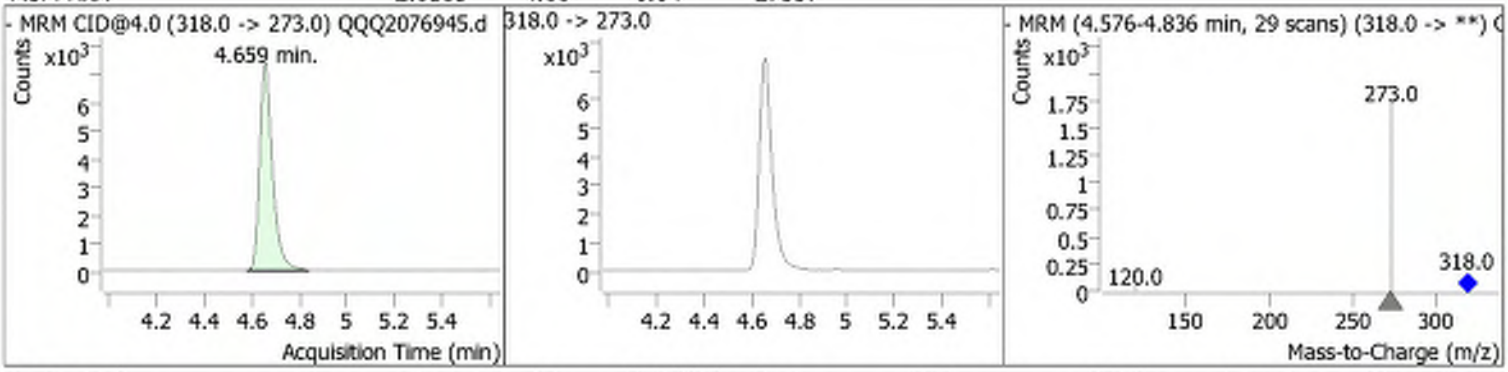
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.4695	4.58	-0.05	8923				



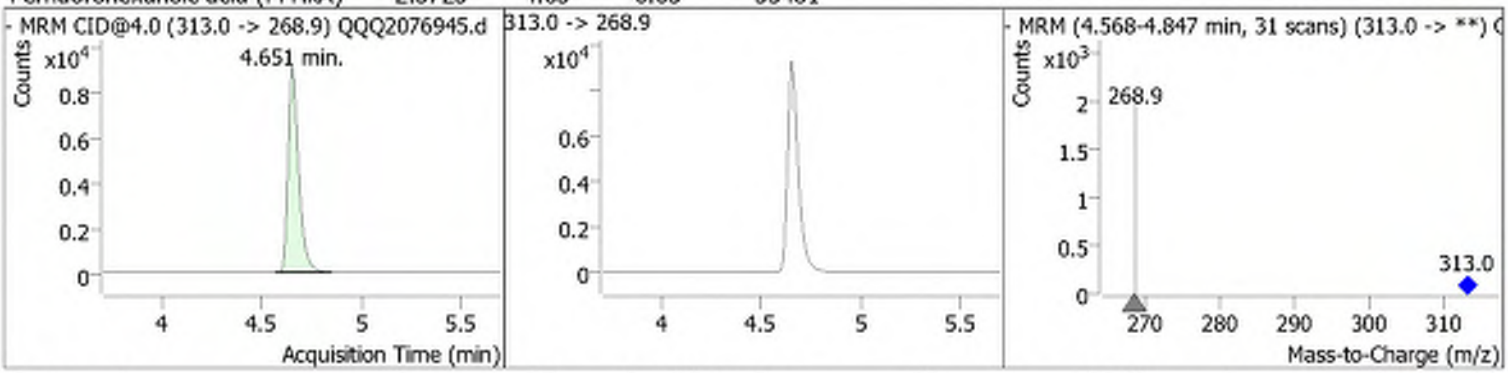
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.8388	4.59	-0.04	17248				



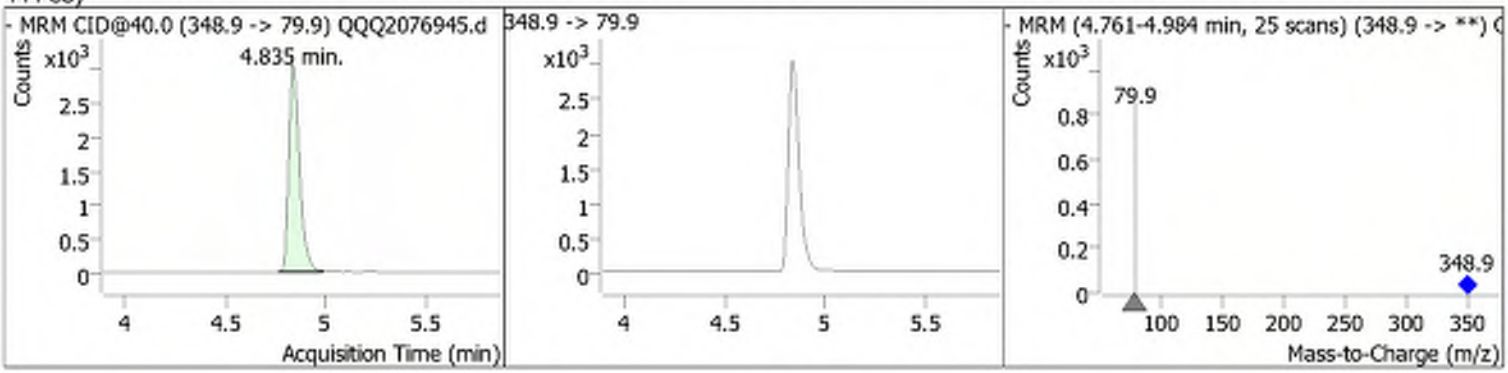
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.6185	4.66	-0.04	27557				



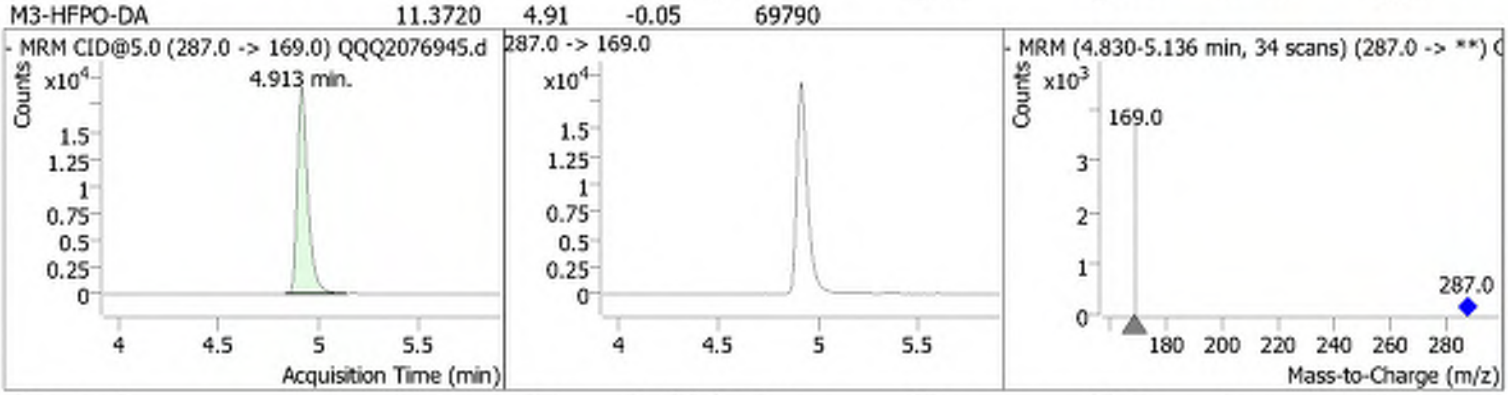
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.5725	4.65	-0.05	33481				



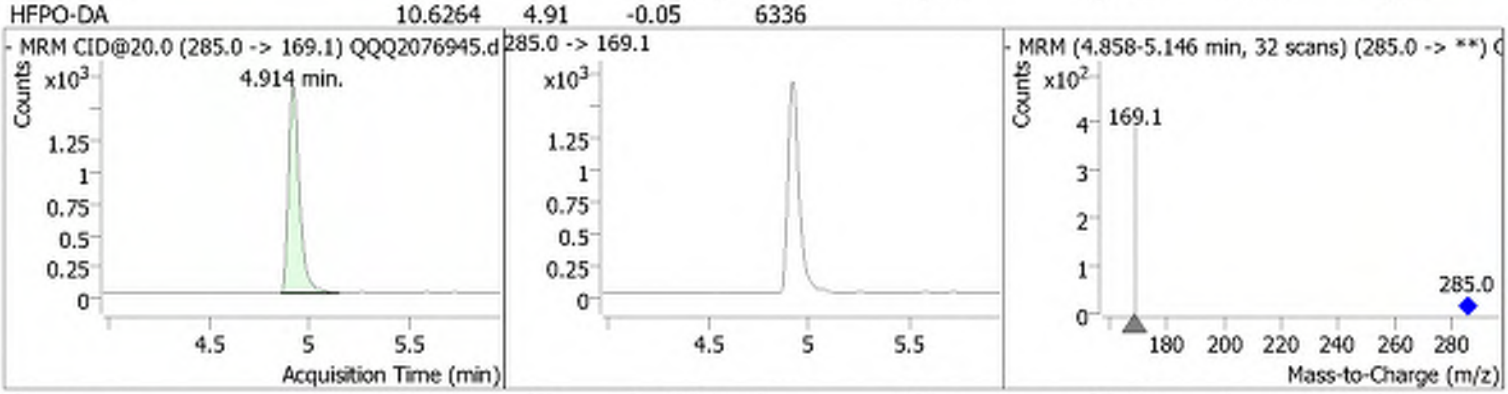
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.2242	4.83	-0.05	11259				



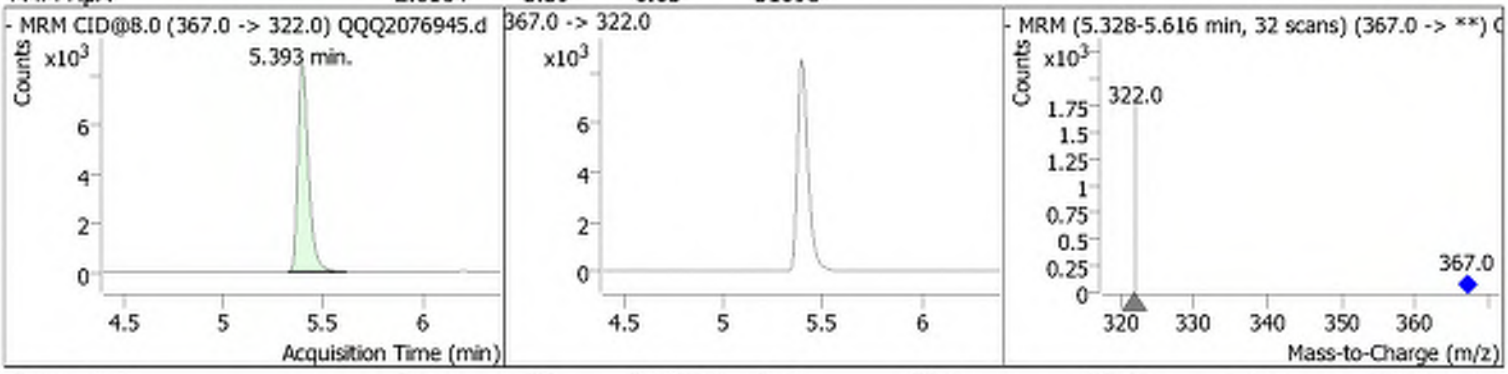
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.3720	4.91	-0.05	69790				



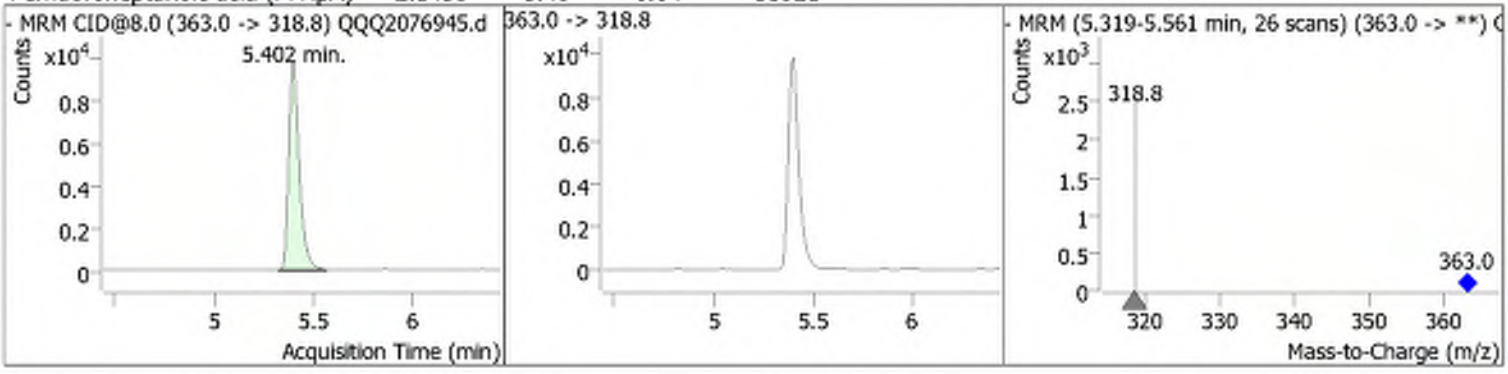
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	10.6264	4.91	-0.05	6336				



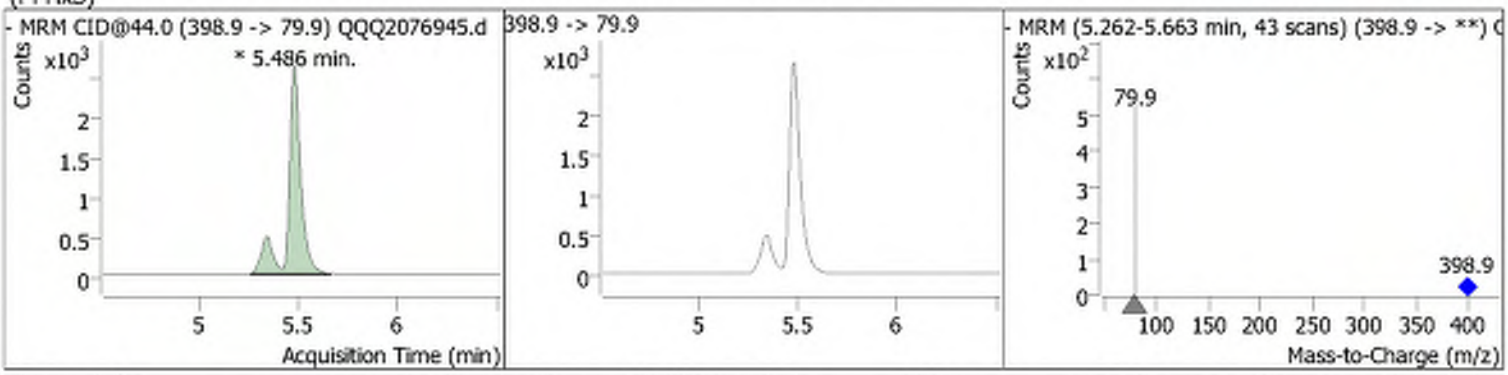
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.6164	5.39	-0.05	31098				



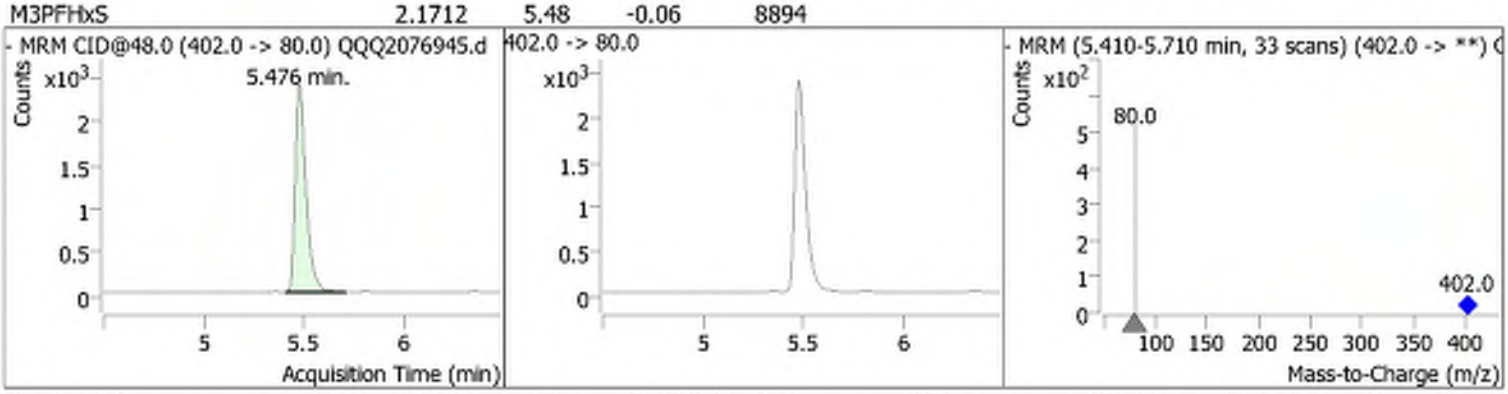
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.1458	5.40	-0.04	35921				



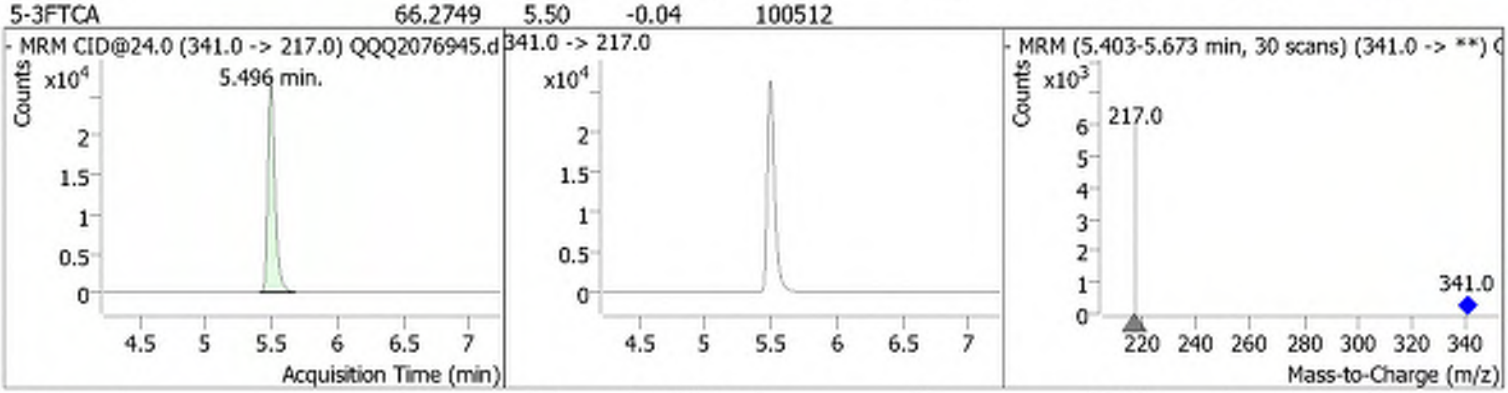
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.2803	5.49	-0.04	11674 (m)				



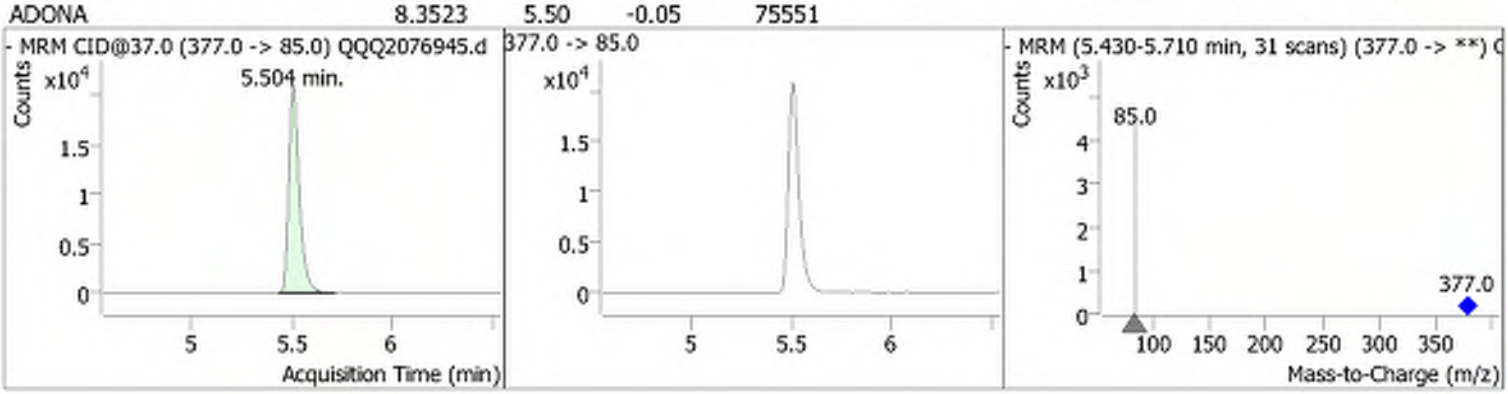
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.1712	5.48	-0.06	8894				



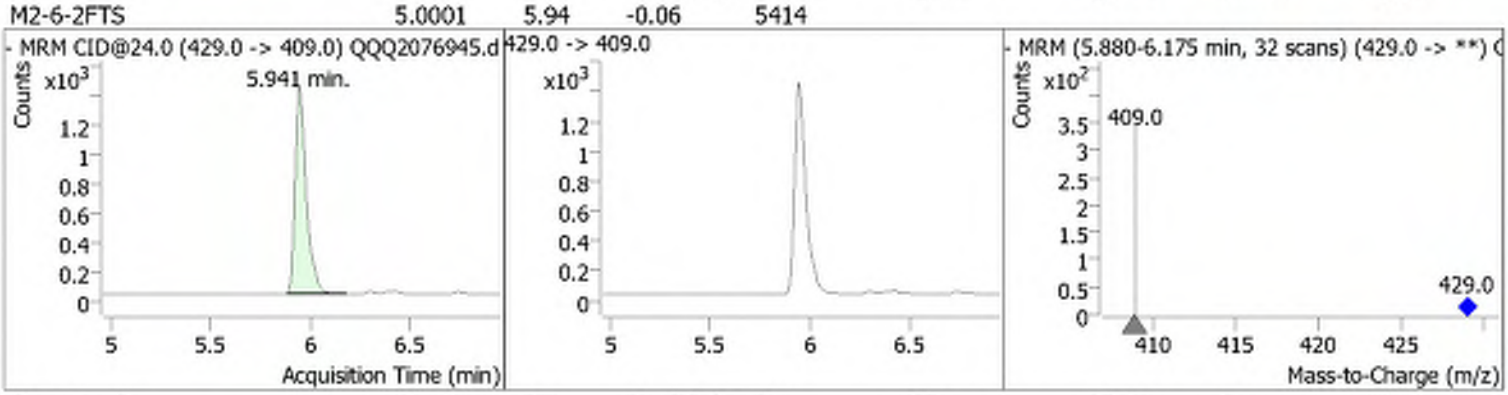
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	66.2749	5.50	-0.04	100512				



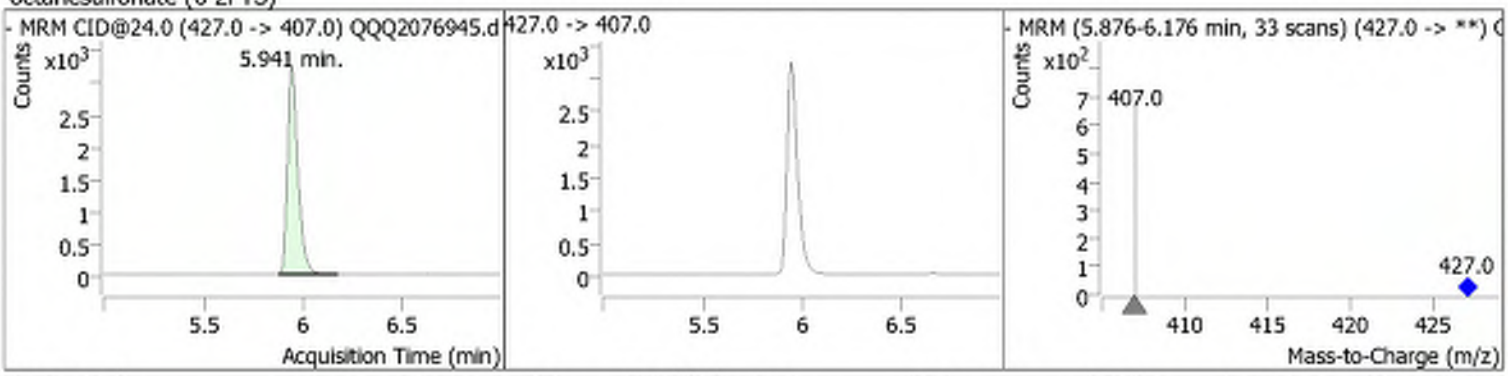
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	8.3523	5.50	-0.05	75551				



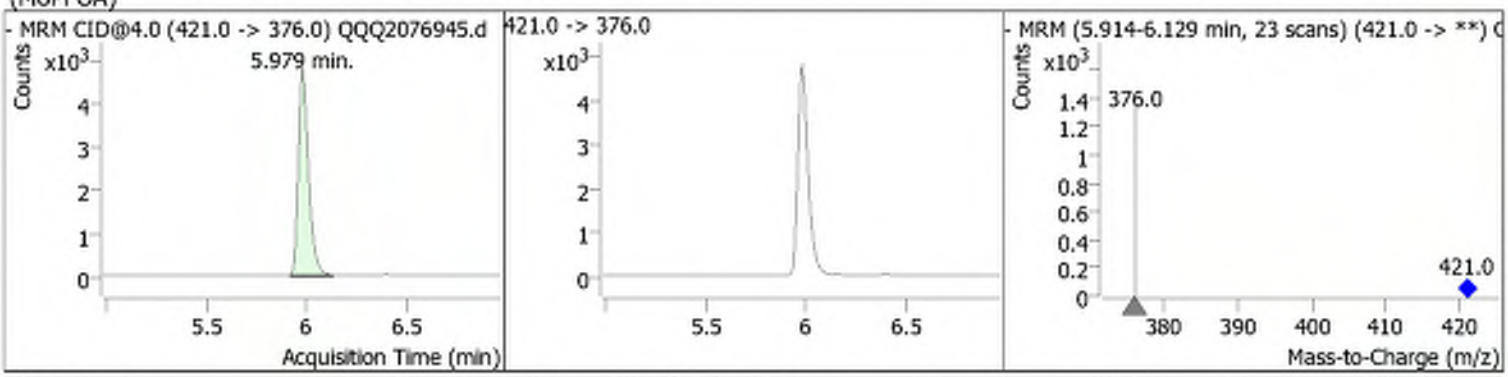
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.0001	5.94	-0.06	5414				



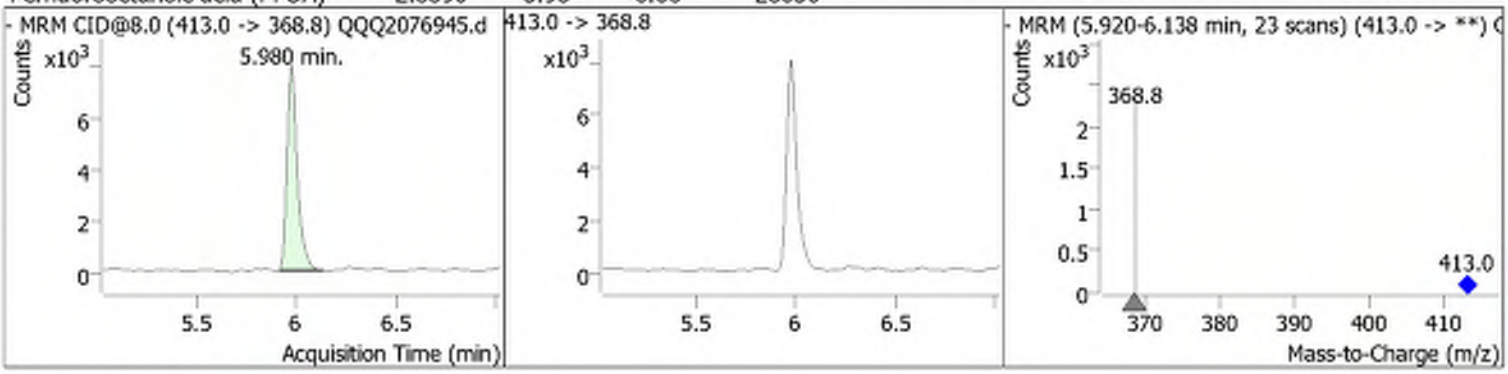
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	10.5897	5.94	-0.06	11560				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.0987	5.98	-0.06	16755				

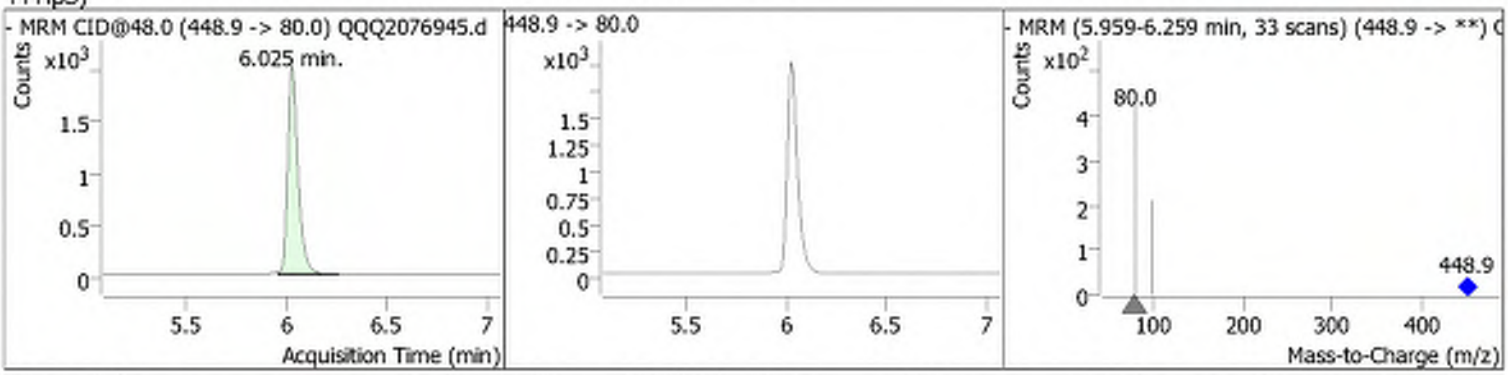


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.8890	5.98	-0.06	28030				

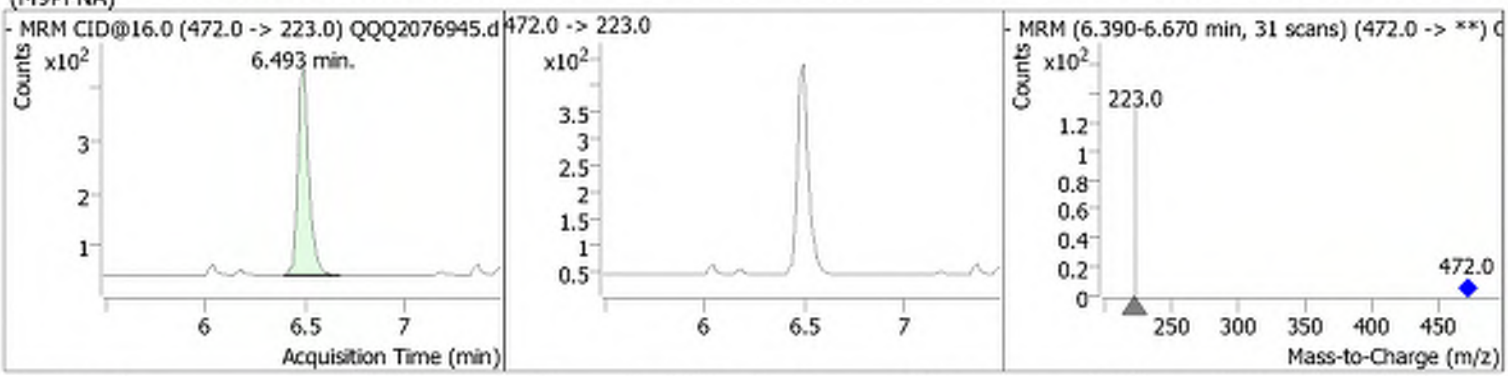


Quantitation Results Report (Not Reviewed)

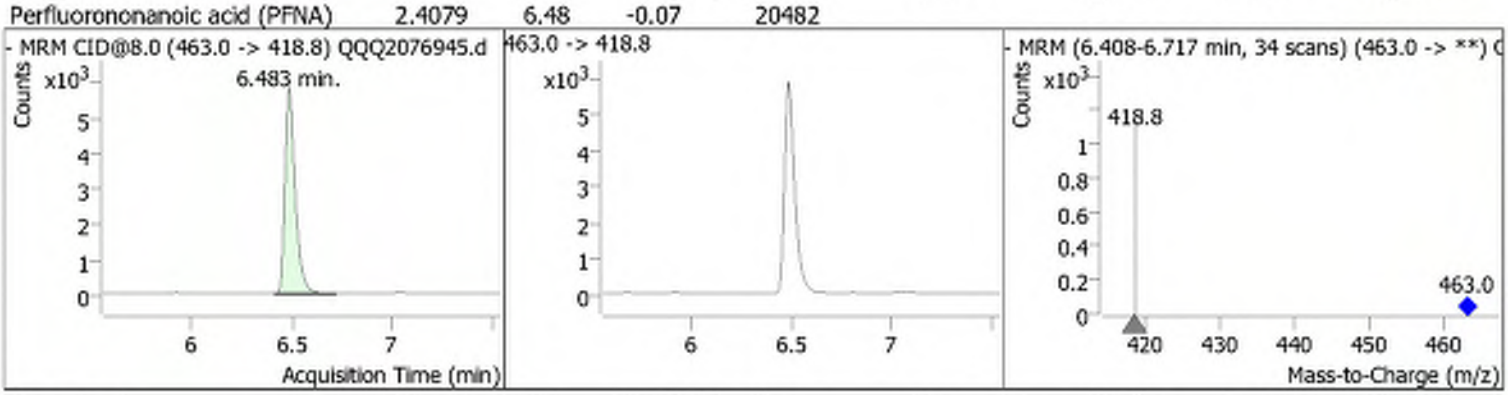
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	2.6762	6.03	-0.06	7075				



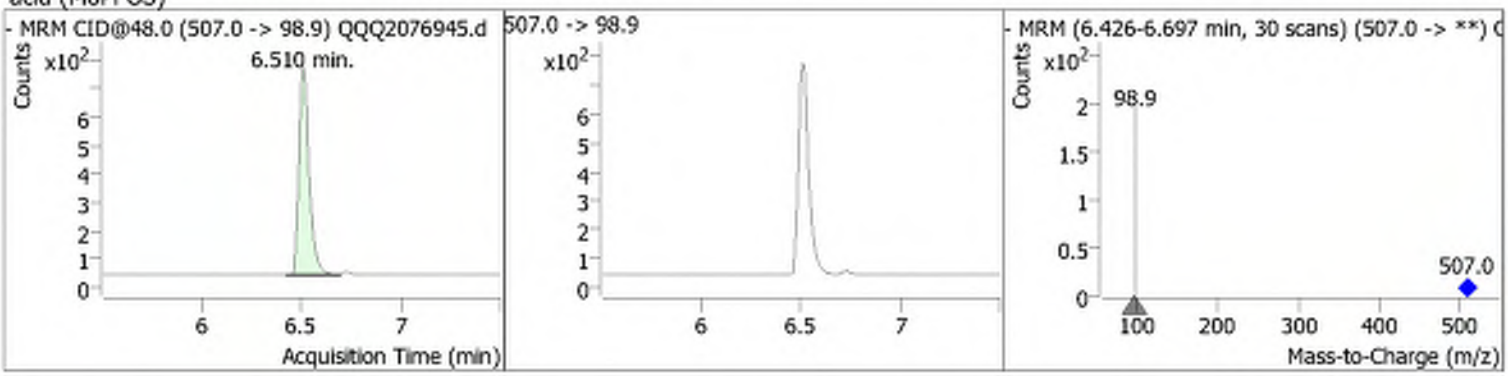
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.1293	6.49	-0.05	1503				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.4079	6.48	-0.07	20482				

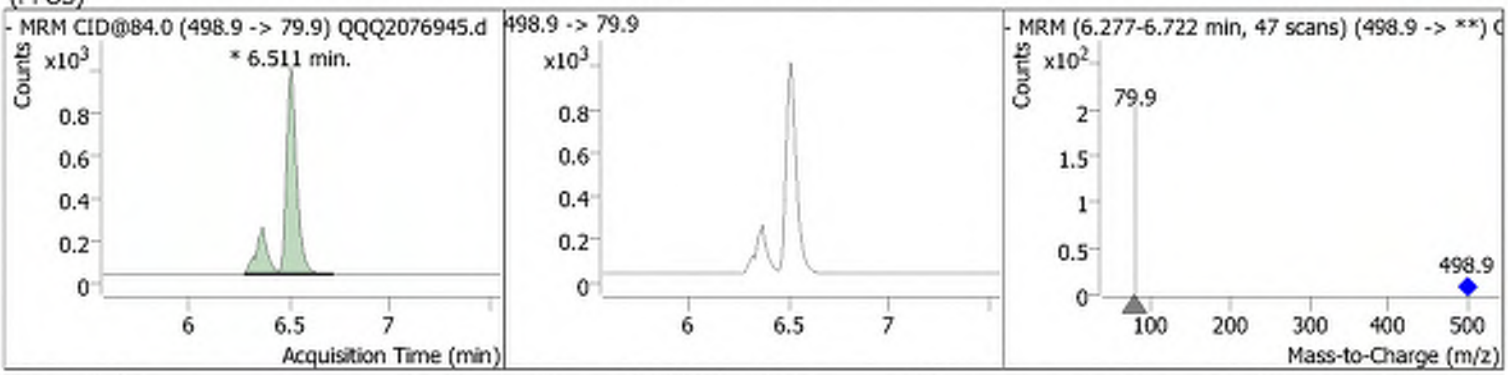


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	1.8201	6.51	-0.06	2589				

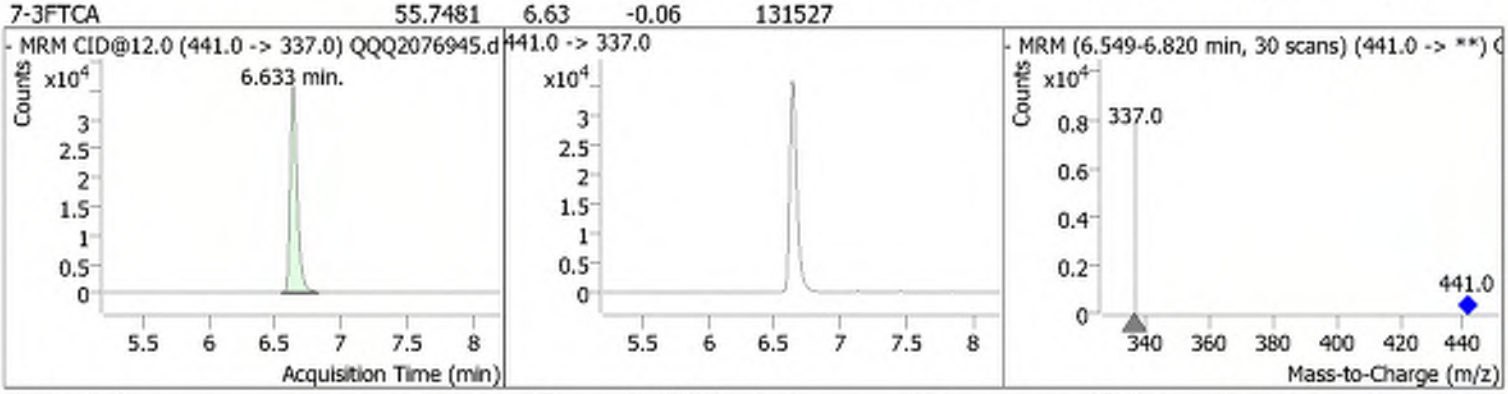


Quantitation Results Report (Not Reviewed)

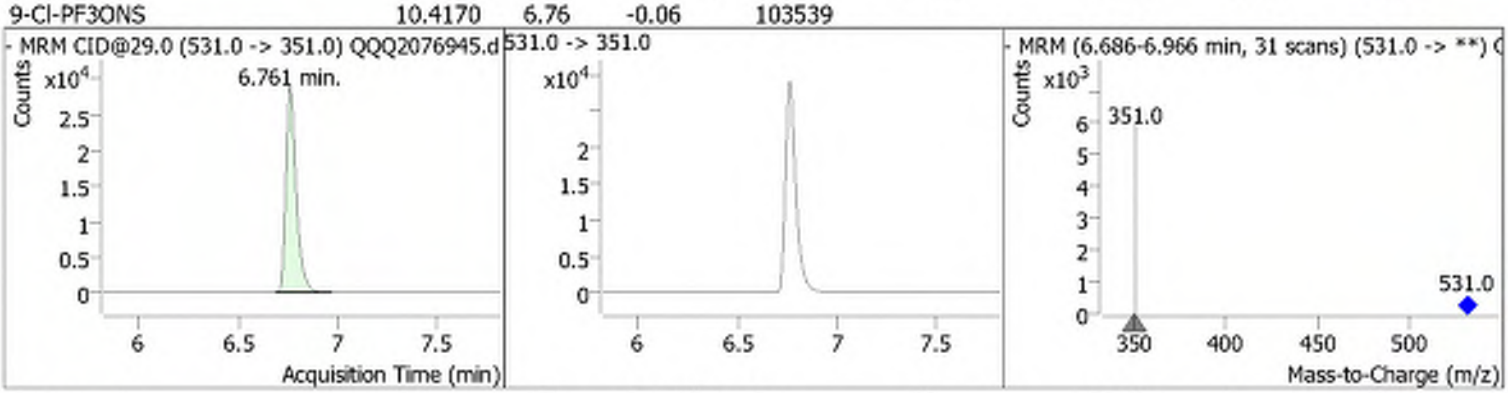
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.1120	6.51	-0.06	4228 (m)				



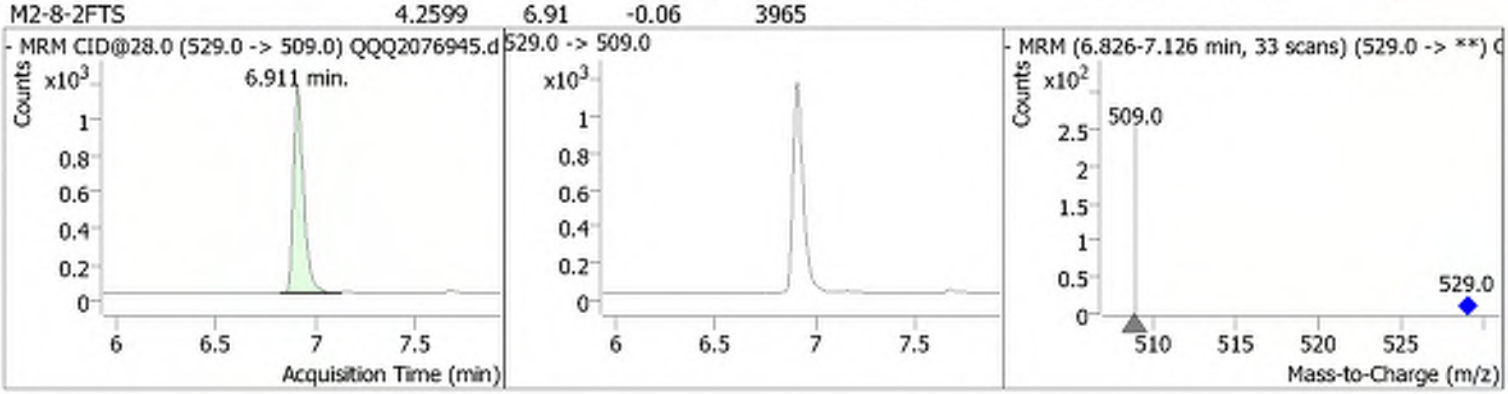
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	55.7481	6.63	-0.06	131527				



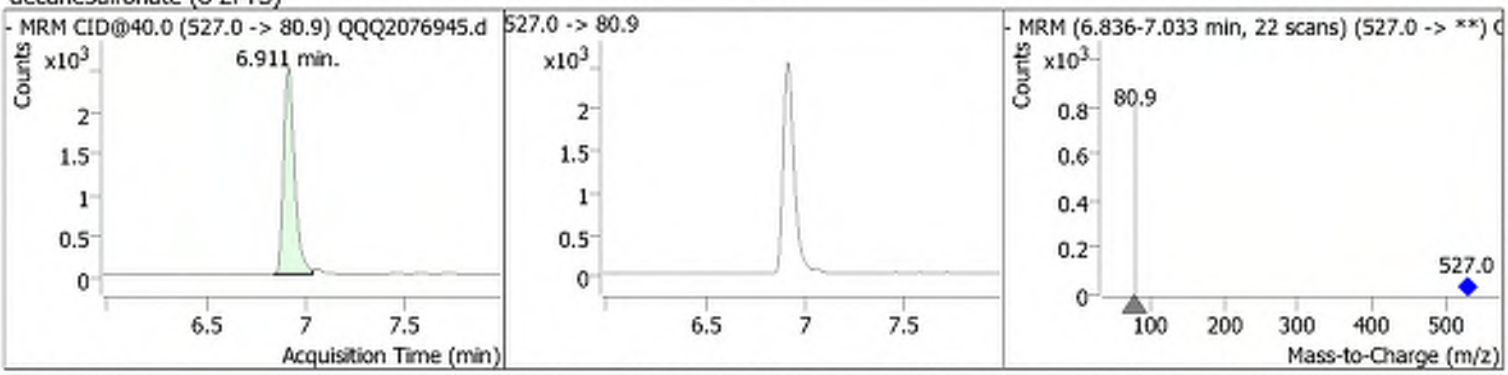
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	10.4170	6.76	-0.06	103539				



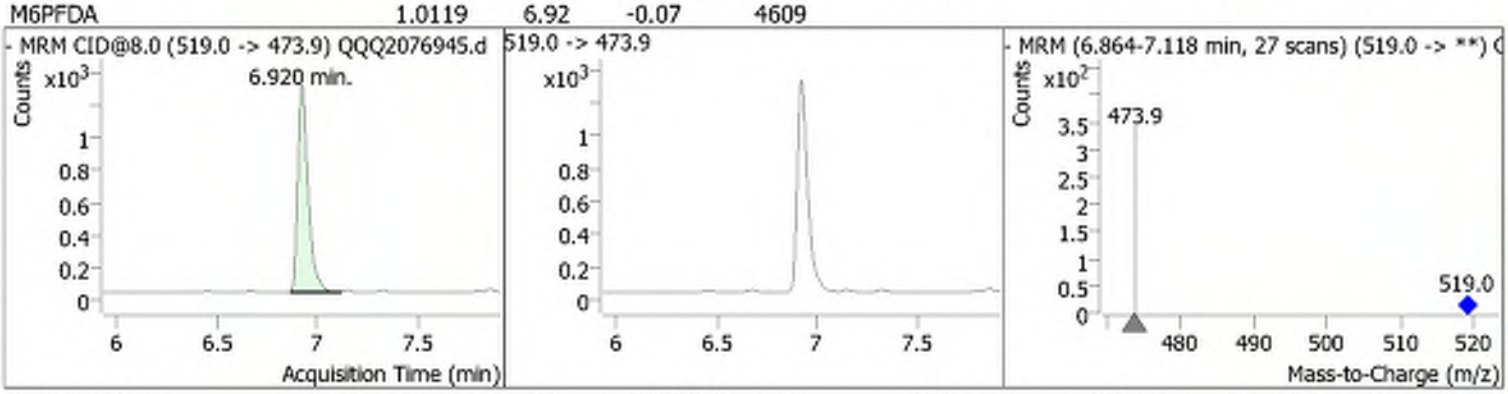
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.2599	6.91	-0.06	3965				



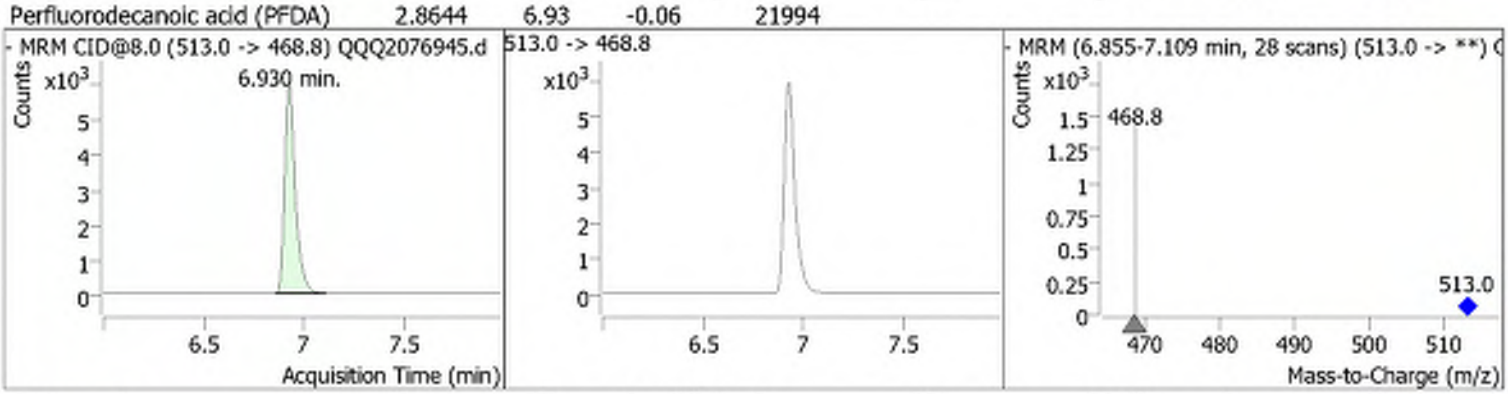
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	9.9485	6.91	-0.07	9441				



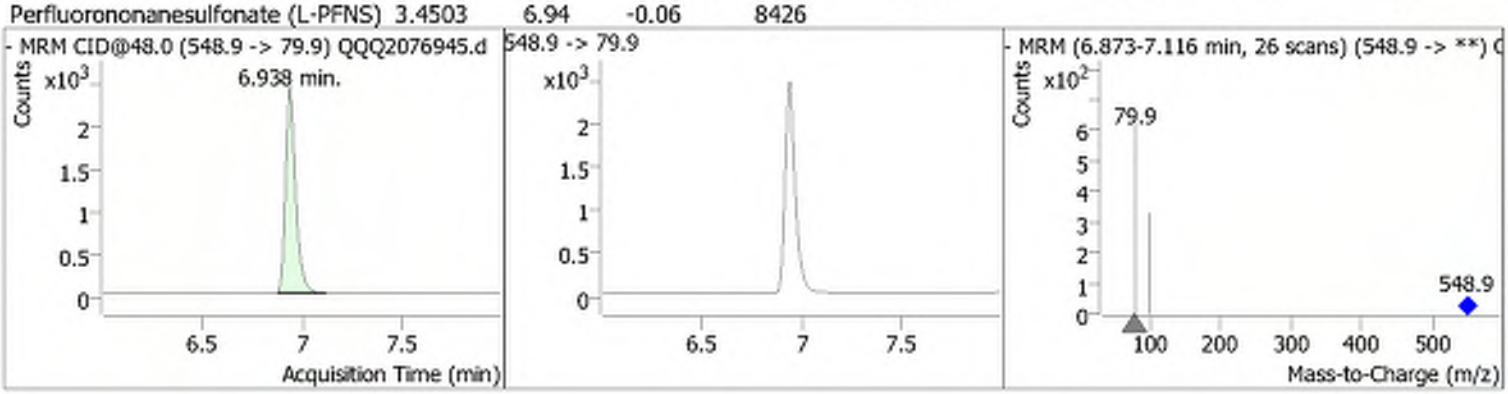
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.0119	6.92	-0.07	4609				



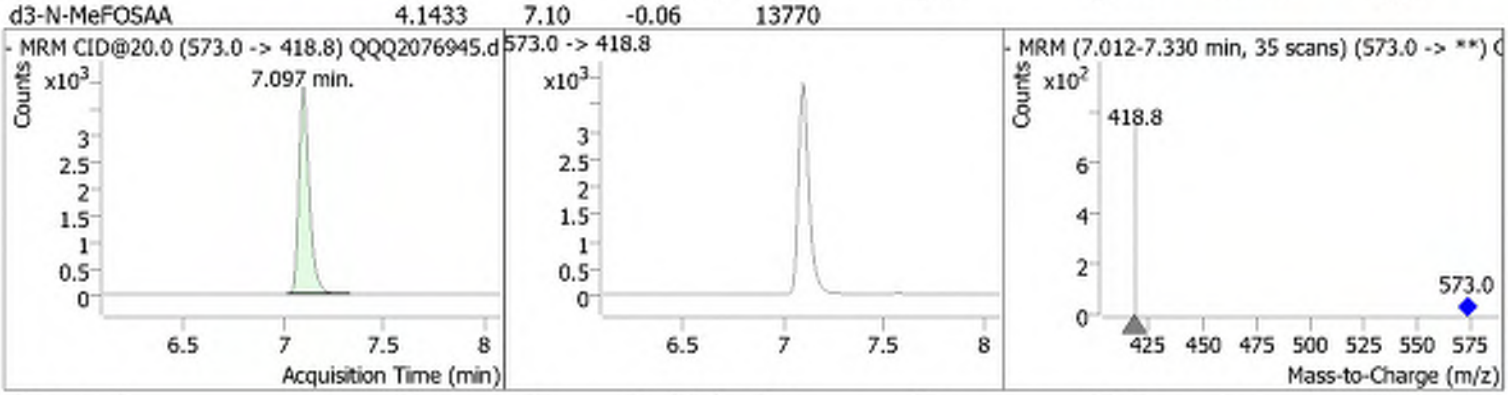
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.8644	6.93	-0.06	21994				



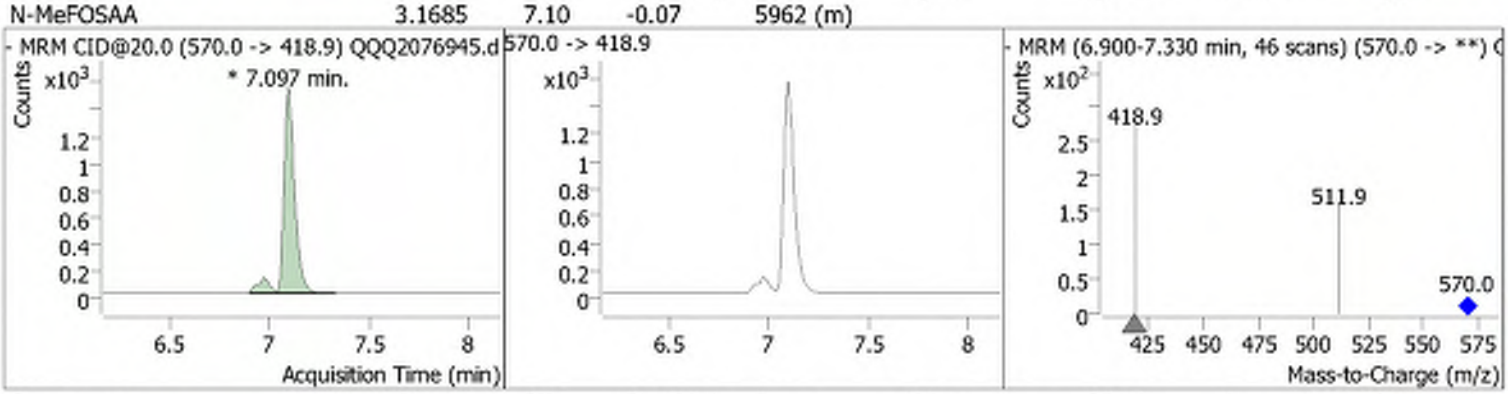
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	3.4503	6.94	-0.06	8426				



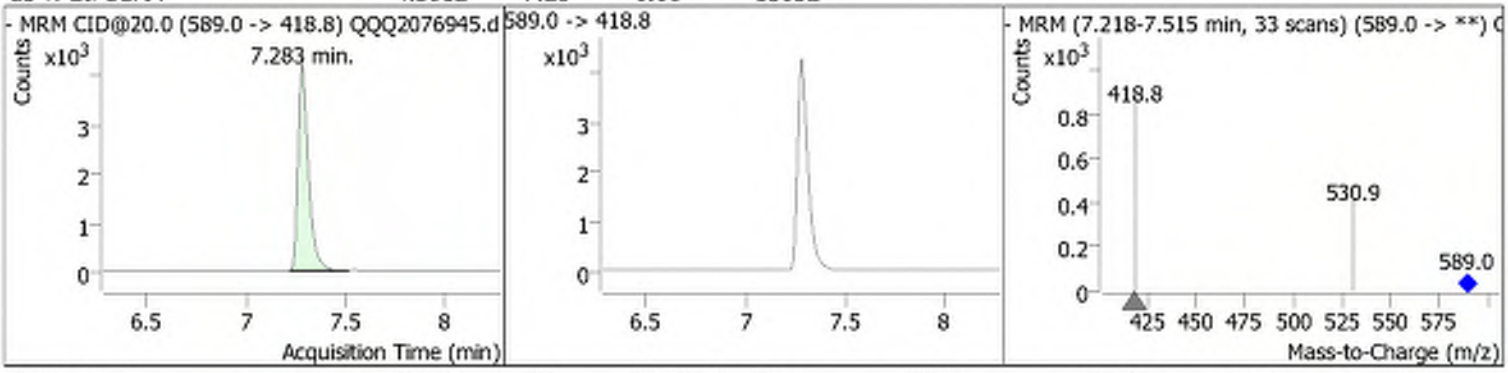
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.1433	7.10	-0.06	13770				



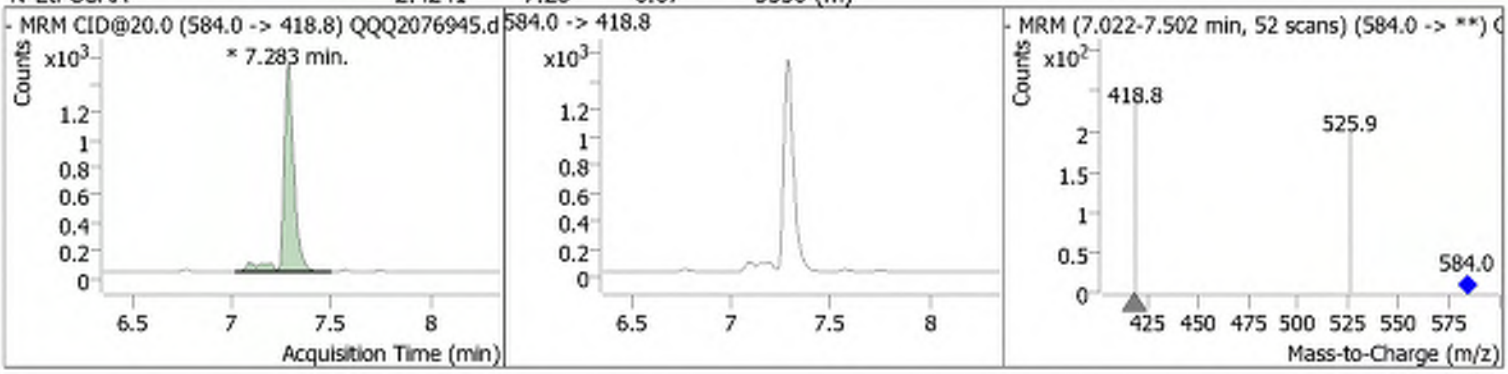
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	3.1685	7.10	-0.07	5962 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.5012	7.28	-0.06	15032				



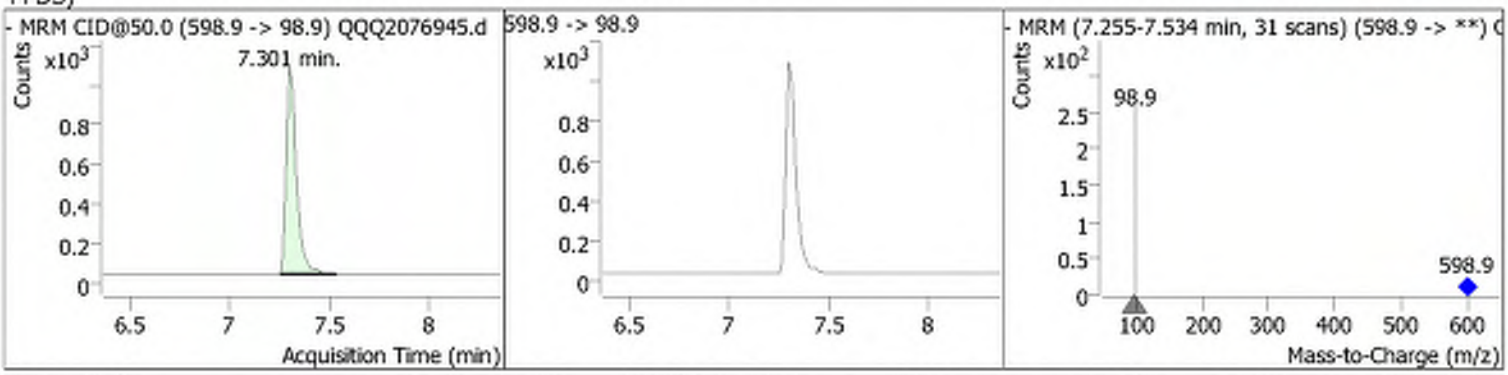
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.4241	7.28	-0.07	5530 (m)				



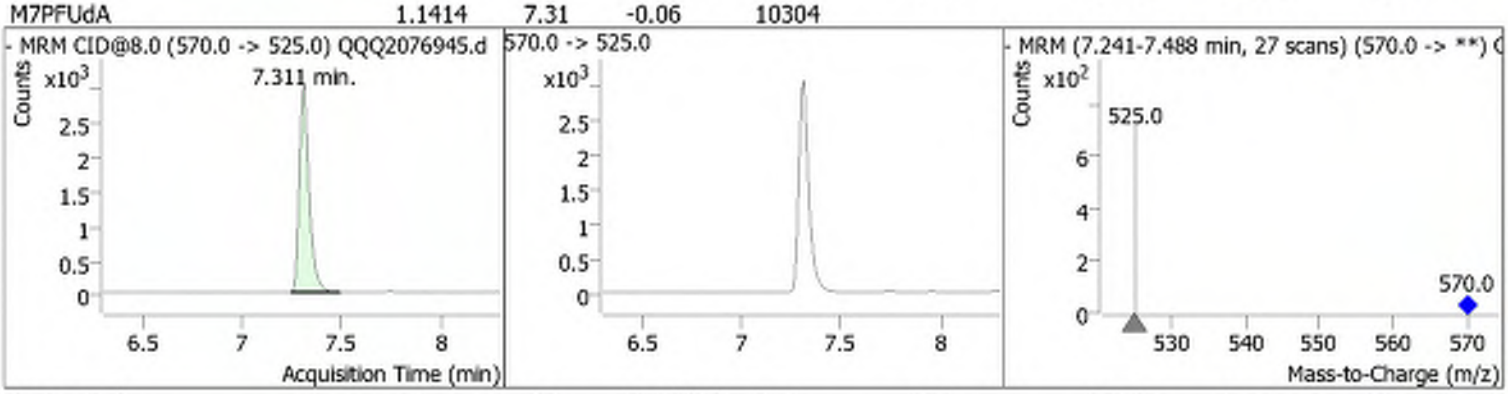
Quantitation Results Report (Not Reviewed)

Agilent

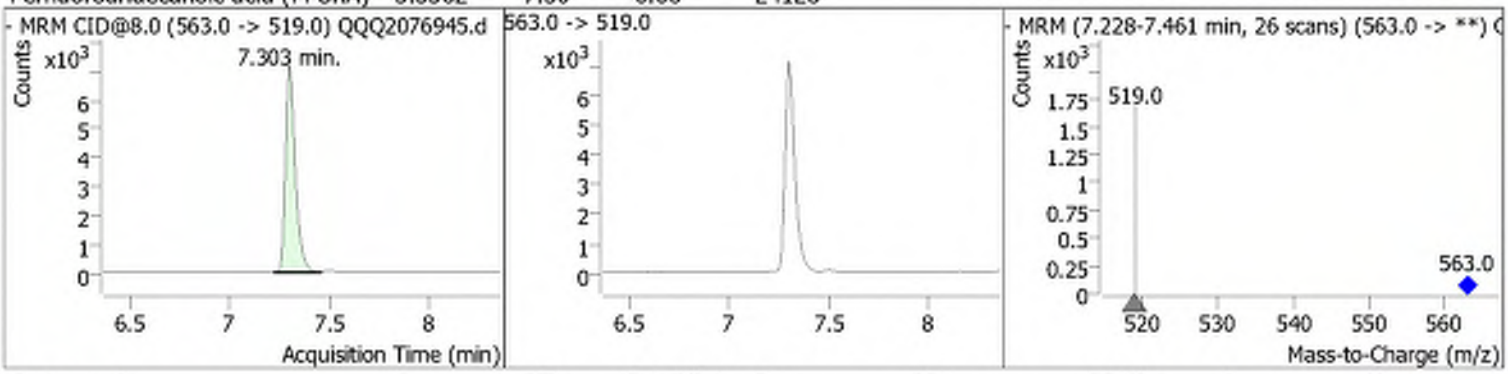
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	3.5666	7.30	-0.06	3731				



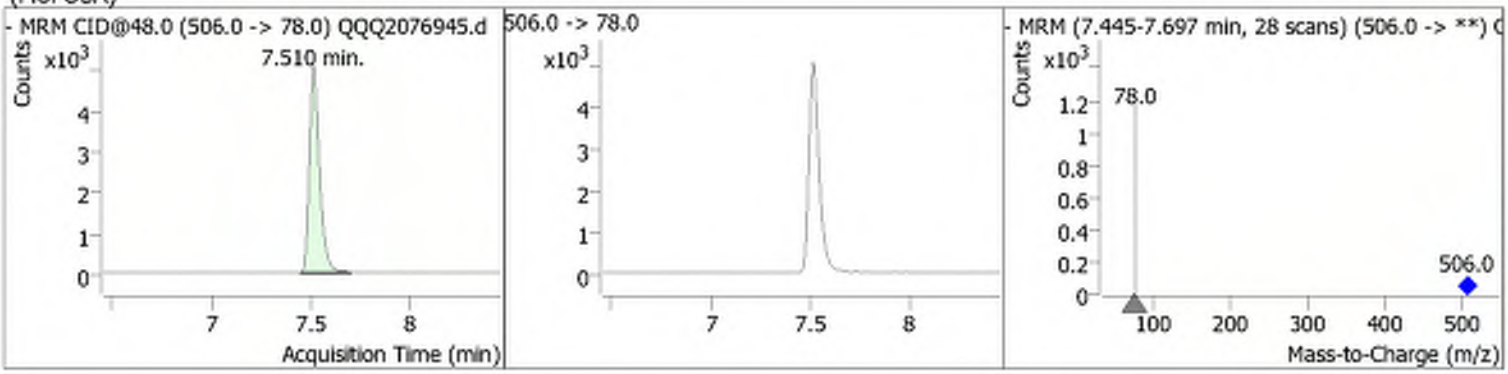
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.1414	7.31	-0.06	10304				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.5362	7.30	-0.06	24128				

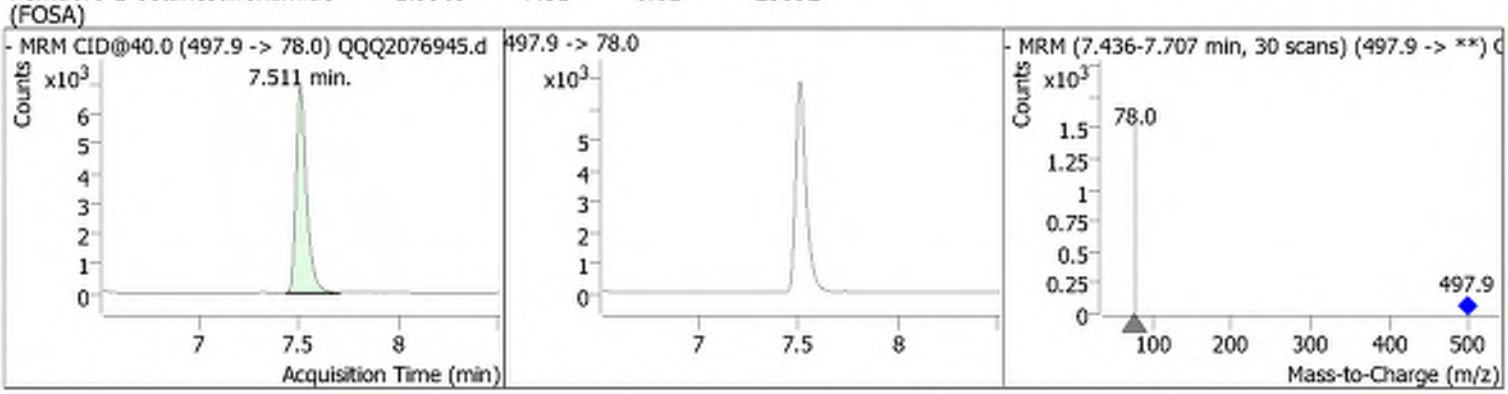


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.2092	7.51	-0.01	17817				

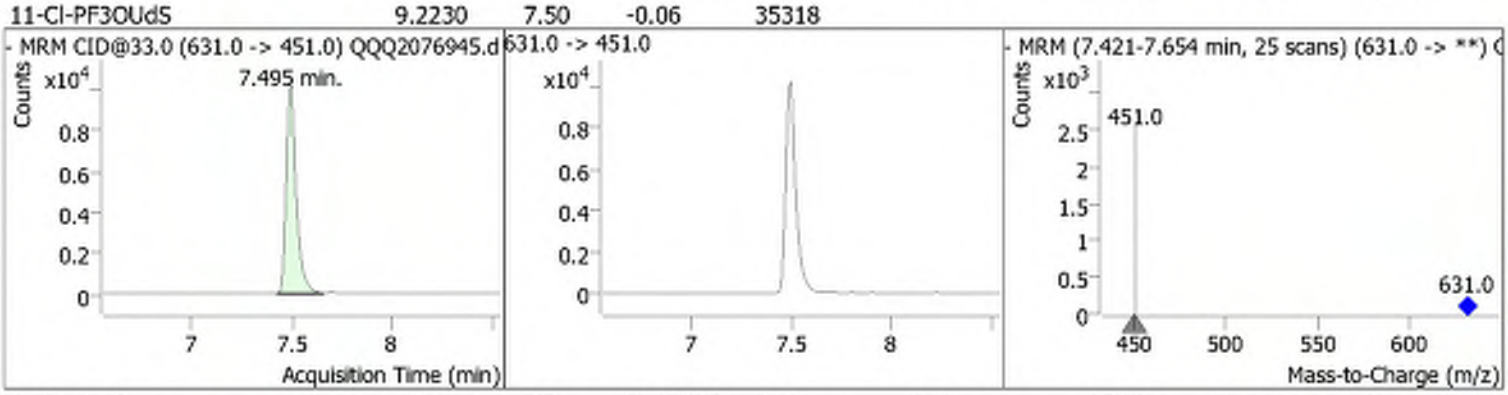


Quantitation Results Report (Not Reviewed)

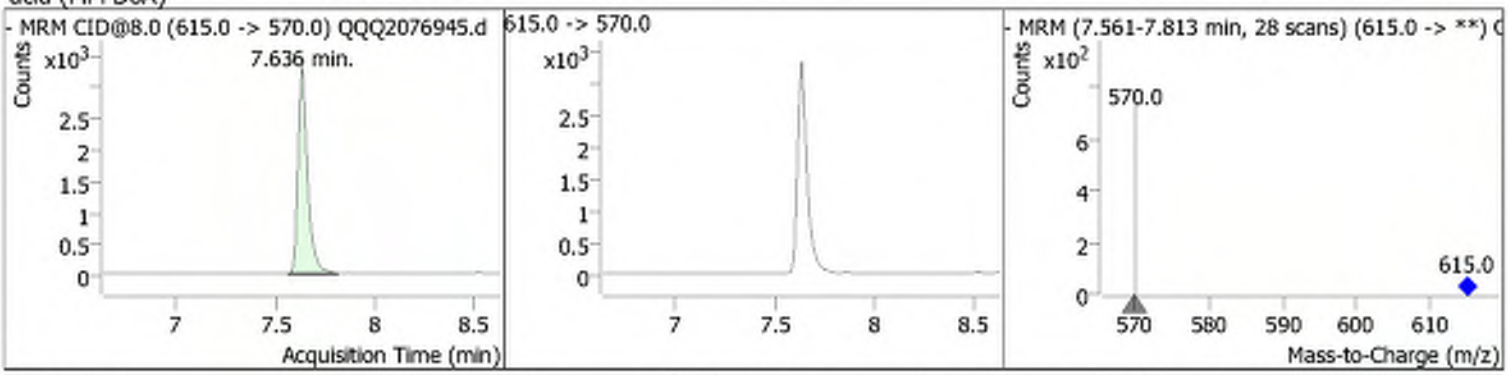
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	1.9969	7.51	-0.01	25032				



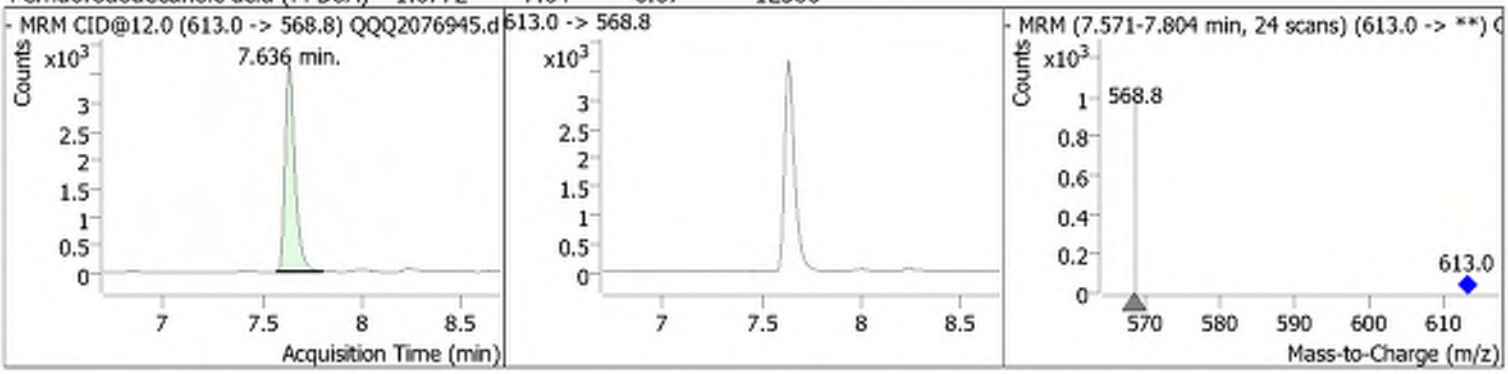
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	9.2230	7.50	-0.06	35318				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.4279	7.64	-0.07	10731				

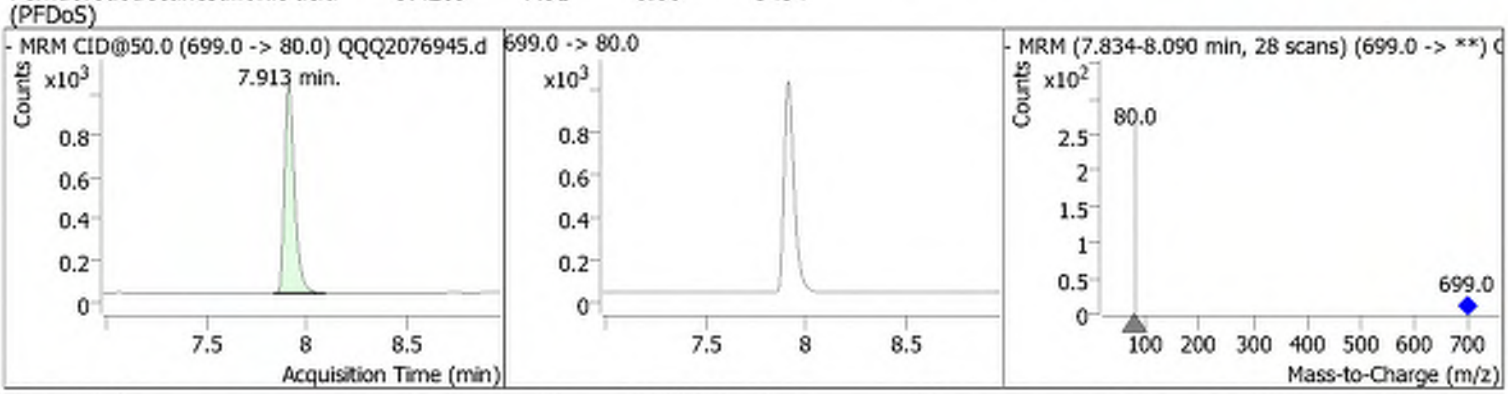


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	1.6772	7.64	-0.07	12366				

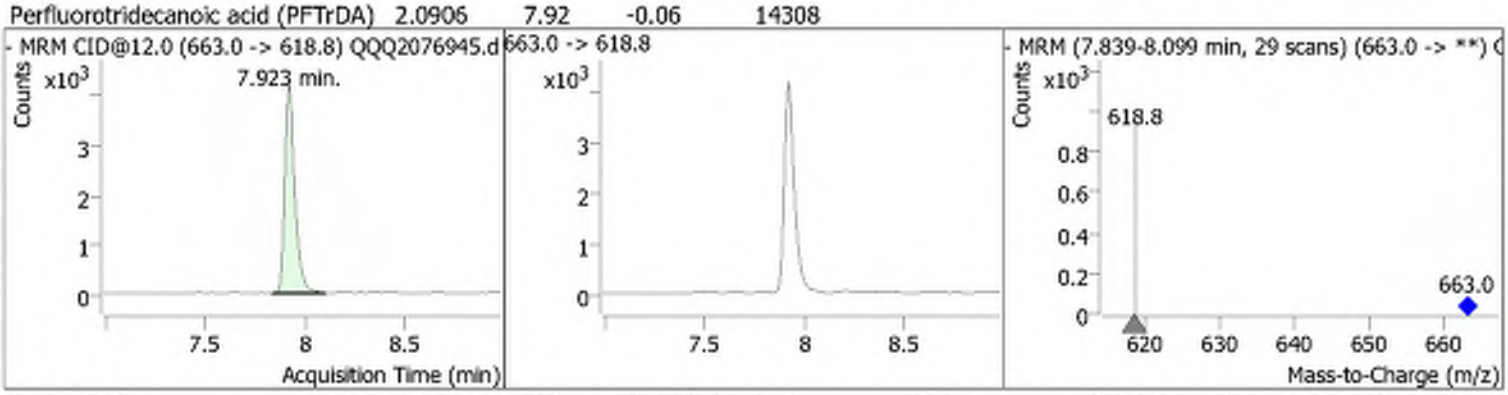


Quantitation Results Report (Not Reviewed)

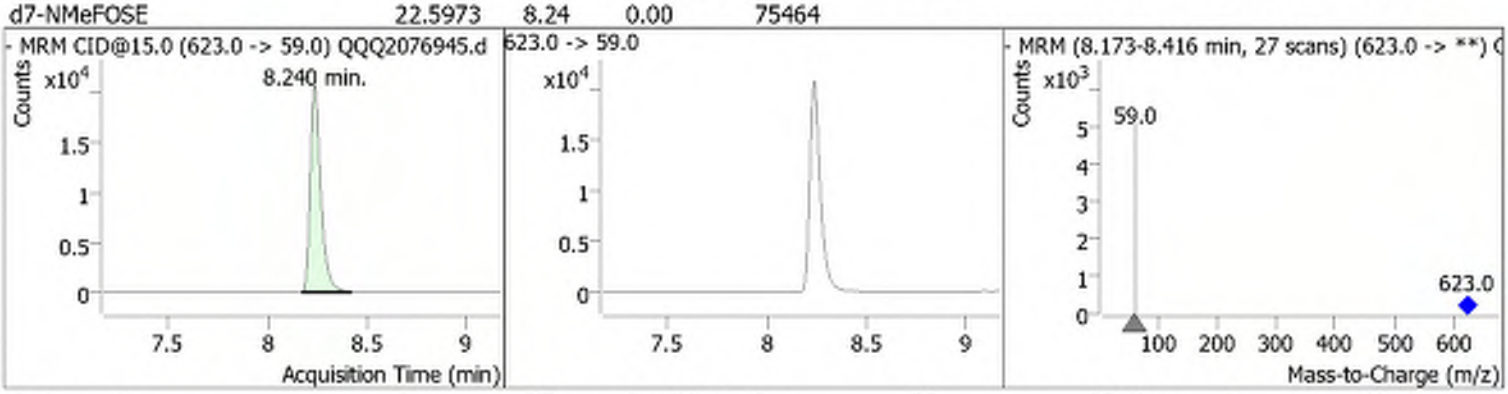
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	3.4289	7.91	-0.06	3434				



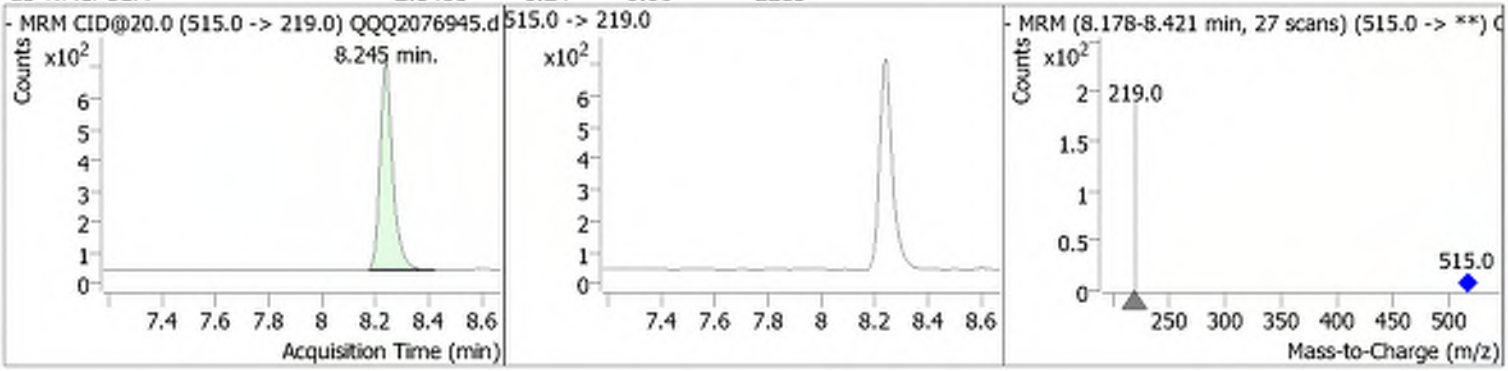
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.0906	7.92	-0.06	14308				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	22.5973	8.24	0.00	75464				

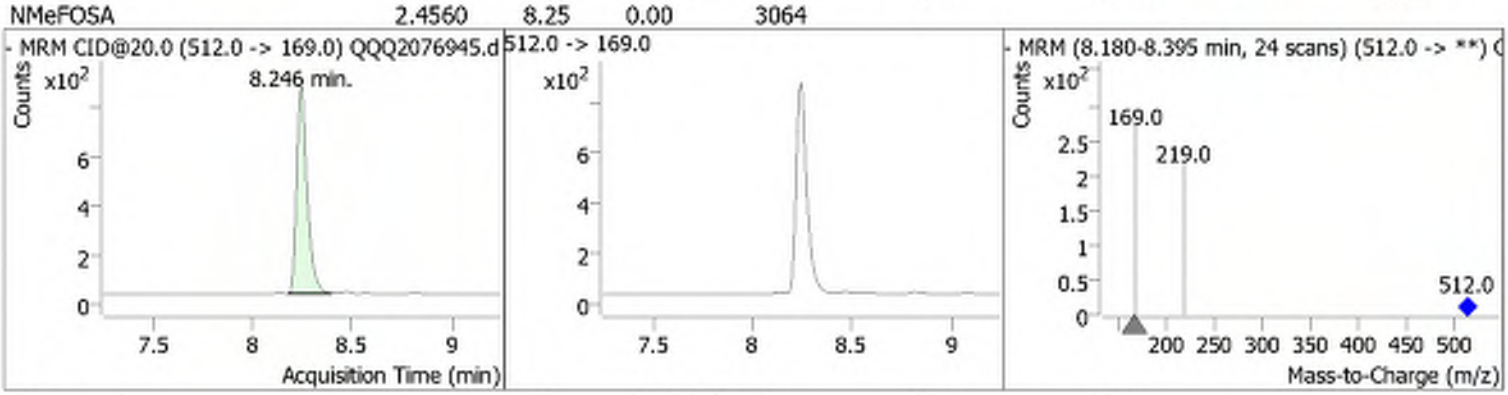


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.1481	8.24	0.00	2213				

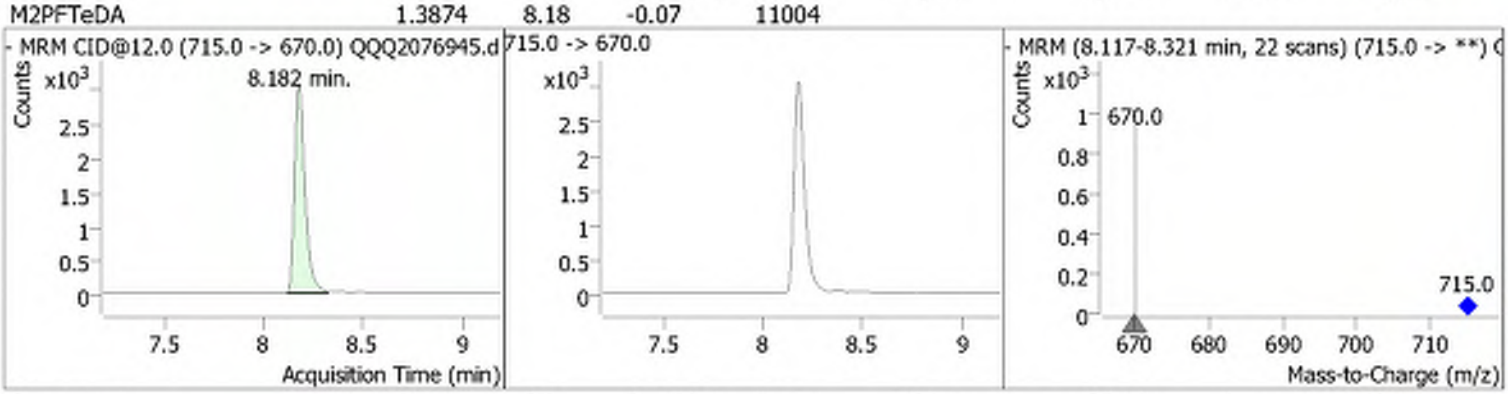


Quantitation Results Report (Not Reviewed)

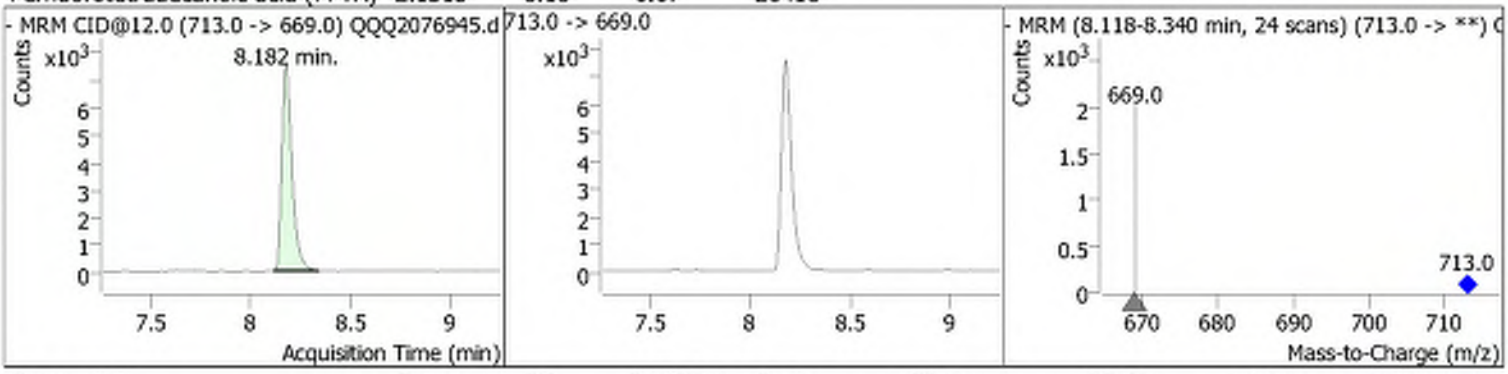
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	2.4560	8.25	0.00	3064				



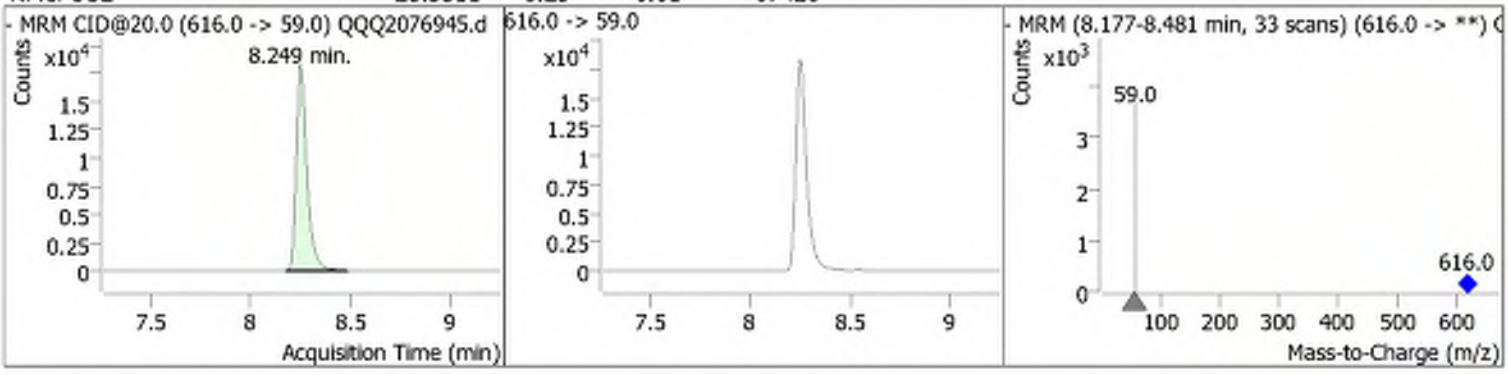
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.3874	8.18	-0.07	11004				



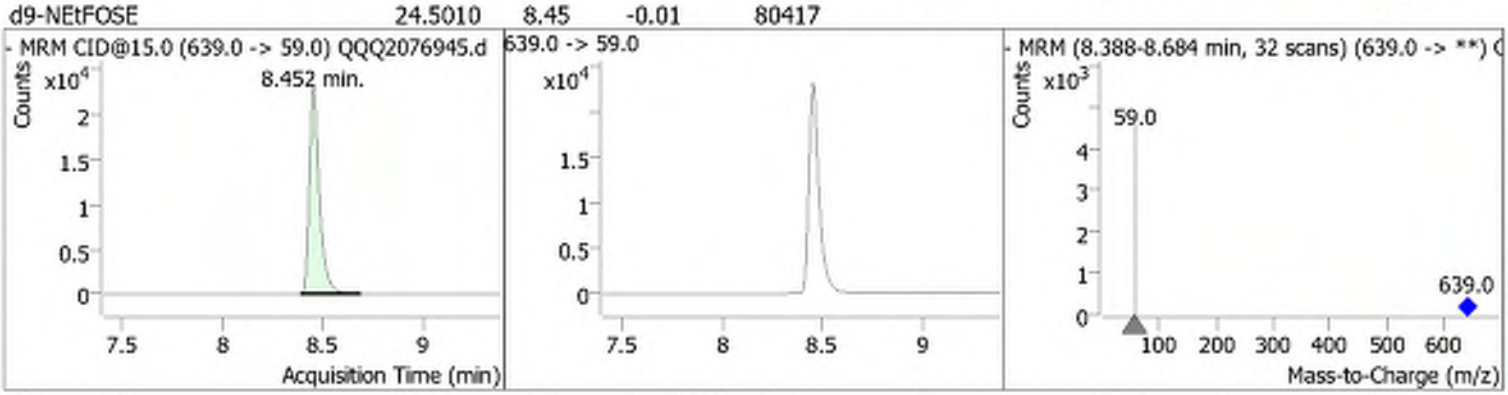
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.1315	8.18	-0.07	26418				



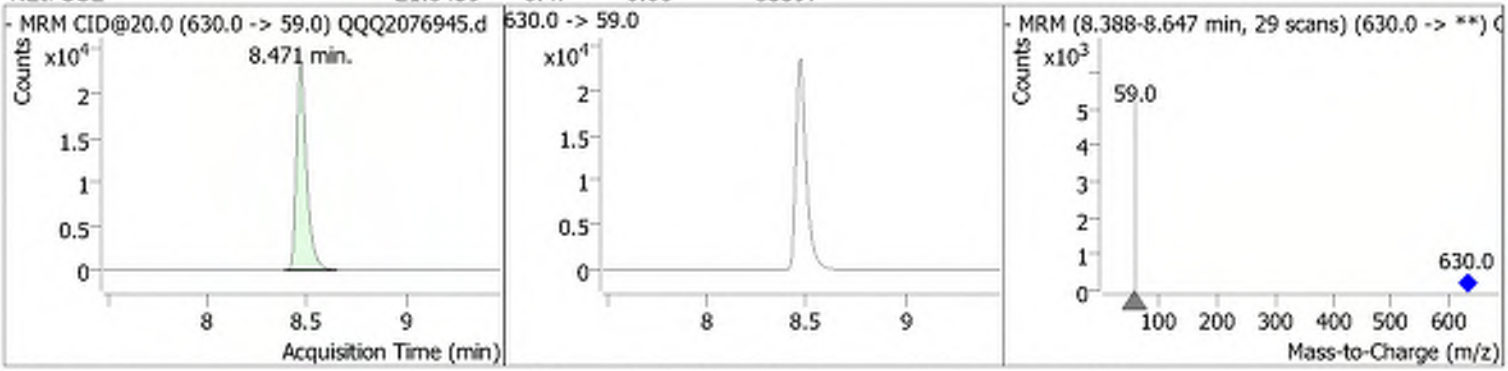
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	25.3311	8.25	-0.01	67420				



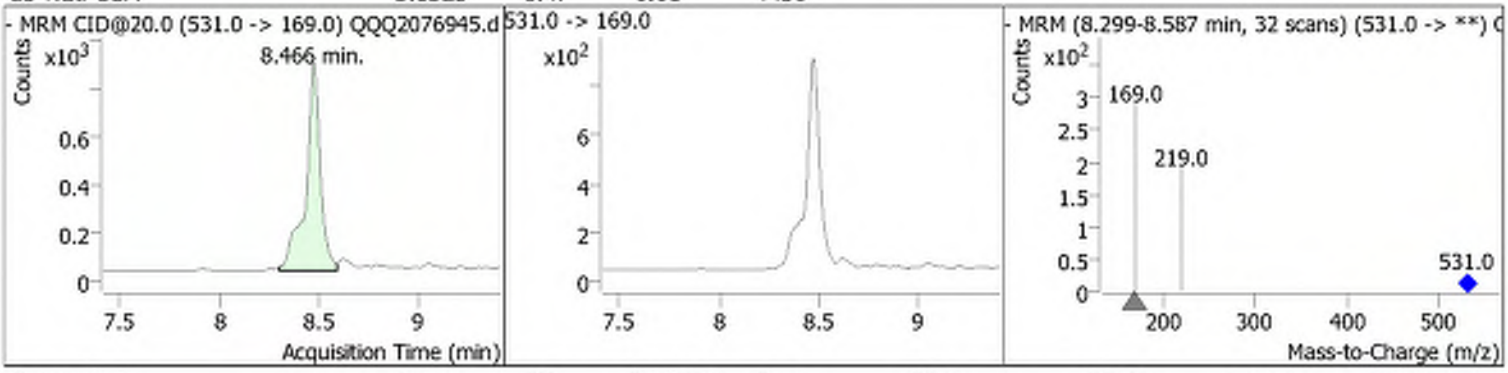
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	24.5010	8.45	-0.01	80417				



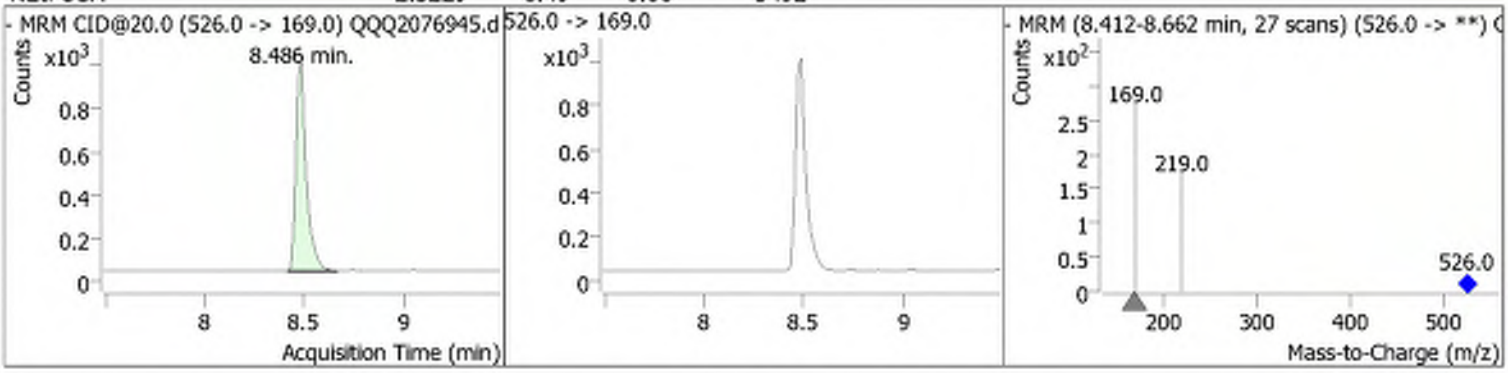
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	21.8459	8.47	0.00	83397				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	3.1325	8.47	-0.01	4436				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	2.3229	8.49	0.00	3492				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076950.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV4	Injection Time:	18:23

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
11CL-PF3OUdS	A	9.45	8.00	0.1365048	0.1160716		-15.4	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	8.33	0.9829487	1.05362		7.2	30	
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	9.72	0.8999592	1.018318		13.2	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	11.7	0.9616406	1.230446		28.0	30	
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	13.6	7.481766E-03	8.260939E-03		-78.3	30	*
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	71.3	0.1463629	0.1564429		13.8	30	
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	55.6	1.736253	1.53594		345	30	*
9CL-PF3ONS	A	9.35	10.0	0.3910379	0.3807064		6.9	30	
ADONA	A	9.45	8.40	0.3374364	0.2880185		-11.1	30	
HFPO-DA (Gen-X)	A	10.0	10.5	0.0204781	2.248966E-02		5.3	30	
N-EtFOSA	A	2.50	1.89	0.9890033	0.6383574		-24.5	30	
N-EtFOSAA	A	2.50	2.55	0.8333015	0.7742582		2.0	30	
N-EtFOSE	A	25.0	21.9	1.129564	1.039907		-12.4	30	
N-MeFOSA	A	2.50	2.40	1.295508	1.354998		-3.9	30	
N-MeFOSAA	A	2.50	2.48	0.7572478	0.6755305		-0.9	30	
N-MeFOSE	A	25.0	23.4	0.7868612	0.8253472		-6.4	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.67	1.613927	1.679602		4.9	30	
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	4.29	1.090454	1.801289		78.1	30	*
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	3.67	3.229874	3.96021		54.1	30	*
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	3.83	2.541268	3.767268		59.6	30	*
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	1.97	1.712752	1.388933		-21.0	30	
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.17	1.404147	1.316107		-7.5	30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.25	0.7000326	0.7460514		5.0	30	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2076950.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1022	Injection Date:	05/10/23
Lab Sample ID:	S3E1022-CCV4	Injection Time:	18:23

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.14	0.757603	0.7899966		2.8	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.79	1.071309	1.088859		-4.2	30	
Perfluorobutanesulfonic acid (PFBS)	A	2.22	2.22	1.34399	1.279707		-0.2	30	
Perfluorodecanoic acid (PFDA)	A	2.50	2.32	1.963699	1.93106		-7.3	30	
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	4.45	1.100267	1.792913		84.0	30	*
Perfluorododecanoic acid (PFDoA)	A	2.50	2.21	0.8597345	0.7594142		-11.5	30	
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.25	1.318827	1.208481		-10.2	30	
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	1.89	1.421744	1.193723		-17.0	30	
Perfluorohexanoic acid (PFHxA)	A	2.50	2.64	1.24236	1.246285		5.5	30	
Perfluoro-n-butanoic acid (PFBA)	A	10.0	9.85	1.241515	1.243121		-1.5	30	
Perfluorononanoic acid (PFNA)	A	2.50	1.93	6.653904	5.46851		-17.8	30	
Perfluorooctanesulfonic acid (PFOS)	A	2.32	3.36	1.806429	1.905404		44.8	30	*
Perfluorooctanoic acid (PFOA)	A	2.50	2.64	1.548646	1.529439		5.7	30	
Perfluoropentanoic acid (PFPeA)	A	5.00	4.86	1.047367	1.064353		-2.7	30	
Perfluorotetradecanoic acid (PFTA)	A	2.50	2.11	1.414068	1.189022		-15.6	30	
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.24	0.7557259	0.6955429		-10.5	30	
Perfluoroundecanoic acid (PFUnA)	A	2.50	3.63	1.039554	1.203392		45.3	30	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076950.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 6:23:39 PM
Sample Name	SEQ-CCV4	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.161	216.0 -> 172.0	48112	5.0000	ng/ml	-0.046
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.159	217.0 -> 172.0	66420	10.0000	ng/ml	-0.046
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.332	268.0 -> 223.0	33142	5.0000	ng/ml	-0.056
MPFHxA	4.651	315.0 -> 269.8	39392	2.5000	ng/ml	-0.047
MPFHxS	5.476	403.0 -> 103.0	3225	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	11740	2.3300	ng/ml	-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	26730	2.5000	ng/ml	-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	9573	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	9908	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	71937	10.0000	ng/ml	-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	30670	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	4783	4.7550	ng/ml	-0.056
MPFOA	5.979	417.0 -> 372.0	37936	2.5000	ng/ml	-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.979	421.0 -> 376.0	18722	2.5000	ng/ml	-0.056
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.510	507.0 -> 98.9	2192	2.3950	ng/ml	-0.056
MPFNA	6.483	468.0 -> 423.0	14673	1.2500	ng/ml	-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.483	472.0 -> 223.0	2057	1.2500	ng/ml	-0.056
MPFOS	6.510	503.0 -> 80.0	8820	2.3950	ng/ml	-0.065
M2-8-2FTS-EIS	6.911	529.0 -> 509.0	4494	4.8000	ng/ml	-0.056
MPFDA	6.921	515.0 -> 469.8	12088	1.2500	ng/ml	-0.066
M6PFDA-EIS	6.920	519.0 -> 473.9	5354	1.2500	ng/ml	-0.066
d3-N-MeFOSAA-EIS	7.096	573.0 -> 418.8	14989	5.0000	ng/ml	-0.056
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	14985	5.0000	ng/ml	-0.065
M7PFUdA-EIS	7.302	570.0 -> 525.0	9739	1.2500	ng/ml	-0.065
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	18581	2.5000	ng/ml	-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.636	615.0 -> 570.0	10978	1.2500	ng/ml	-0.065
M2PFTeDA-EIS	8.173	715.0 -> 670.0	11196	1.2500	ng/ml	-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	2140	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	77642	25.0000	ng/ml	-0.009
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	83059	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	4667	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.159	217.0 -> 172.0	66420	10.0789	ng/ml	-0.046
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.332	268.0 -> 223.0	33142	5.1965	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.837	302.0 -> 79.9	11740	2.7370	ng/ml	-0.055
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	9573	5.4512	ng/ml	-0.047

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.650	318.0 -> 273.0	26730	2.5123	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.913	287.0 -> 169.0	71937	11.5941	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	30670	2.5523	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	9908	2.7498	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.941	429.0 -> 409.0	4783	5.0211	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.979	421.0 -> 376.0	18722	2.2385	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.483	472.0 -> 223.0	2057	1.3622	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.510	507.0 -> 98.9	2192	1.7164	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.911	529.0 -> 509.0	4494	5.4888	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.920	519.0 -> 473.9	5354	1.1410	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.096	573.0 -> 418.8	14989	5.0238	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.283	589.0 -> 418.8	14985	4.9983	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.302	570.0 -> 525.0	9739	1.0473	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	18581	2.5664	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.636	615.0 -> 570.0	10978	1.4181	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	77642	25.8983	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	2140	2.3135	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.173	715.0 -> 670.0	11196	1.3704	ng/ml	-0.084
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	83059	28.1889	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	4667	3.6710	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.163	213.0 -> 168.9	82568	9.8482	ng/ml	100
PFMPA	1.996	229.0 -> 85.0	26182	5.1420	ng/ml	100
3:3FTCA	3.240	241.0 -> 177.0	5529	13.5862	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.332	263.0 -> 219.0	35275	4.8631	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	13341	2.2166	ng/ml	100
PFMBA	3.867	279.0 -> 85.0	36087	4.7923	ng/ml	100
PFEESA	4.335	315.0 -> 135.0	79916	4.6681	ng/ml	100
NFDHA	4.514	295.0 -> 201.1	39885	5.2510	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	18287	9.7198	ng/ml	100

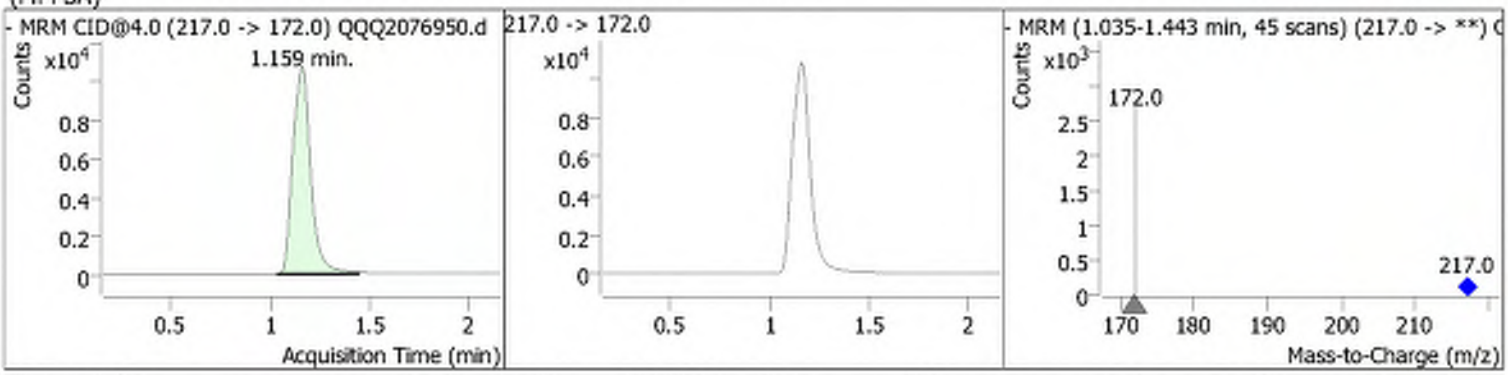
Quantitation Results Report (Not Reviewed)

Agilent

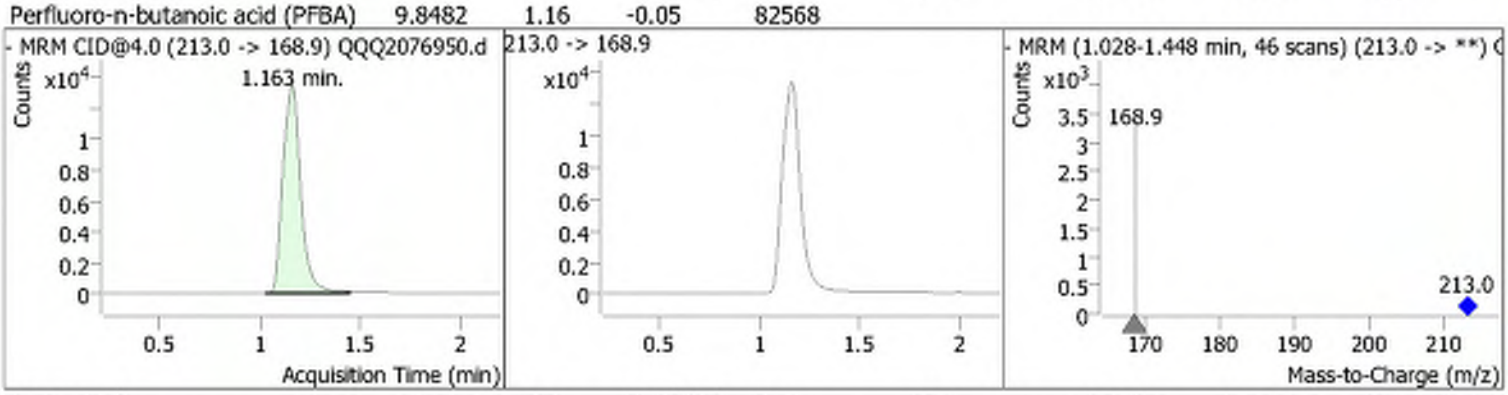
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	33314	2.6385	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	12258	2.1744	ng/ml		100
HFPO-DA	4.913	285.0 -> 169.1	6471	10.5304	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	37064	2.2451	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	10787	1.8921	ng/ml	m	100
5-3FTCA	5.487	341.0 -> 217.0	104712	71.2579	ng/ml		100
ADONA	5.504	377.0 -> 85.0	78318	8.3996	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.941	427.0 -> 407.0	11181	11.6829	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.980	413.0 -> 368.8	28634	2.6423	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.025	448.9 -> 80.0	8262	3.6670	ng/ml		100
Perfluorononanoic acid (PFNA)	6.483	463.0 -> 418.8	22499	1.9282	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.501	498.9 -> 79.9	3875	3.3597	ng/ml	m	100
7-3FTCA	6.633	441.0 -> 337.0	127261	55.6052	ng/ml		100
9-Cl-PF3ONS	6.761	531.0 -> 351.0	102426	9.9989	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.901	527.0 -> 80.9	9091	8.3337	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.921	513.0 -> 468.8	20676	2.3174	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.929	548.9 -> 79.9	7926	3.8301	ng/ml		100
N-MeFOSAA	7.097	570.0 -> 418.9	5063	2.4768	ng/ml	m	100
N-EtFOSAA	7.293	584.0 -> 418.8	5801	2.5504	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.301	598.9 -> 98.9	3806	4.2917	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.302	563.0 -> 519.0	23439	3.6325	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.511	497.9 -> 78.0	25808	1.9742	ng/ml		100
11-Cl-PF3OUdS	7.486	631.0 -> 451.0	31562	7.9970	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.636	613.0 -> 568.8	16673	2.2136	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.913	699.0 -> 80.0	3804	4.4539	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.914	663.0 -> 618.8	15575	2.2374	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	2899	2.4031	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.173	713.0 -> 669.0	26625	2.1112	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	64082	23.3881	ng/ml		100
NEtFOSE	8.462	630.0 -> 59.0	86373	21.9060	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	2979	1.8873	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

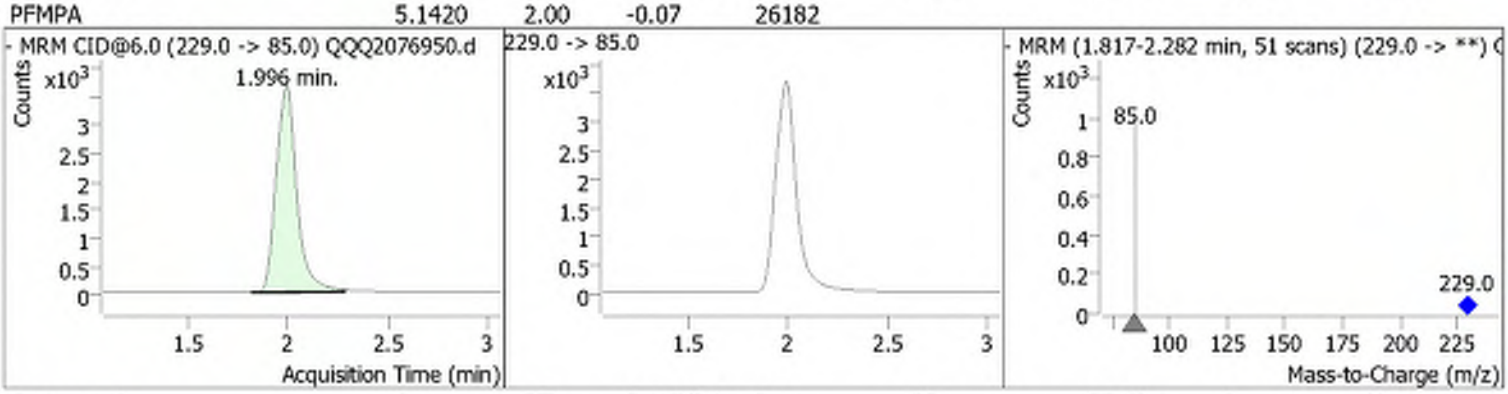
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0789	1.16	-0.05	66420				



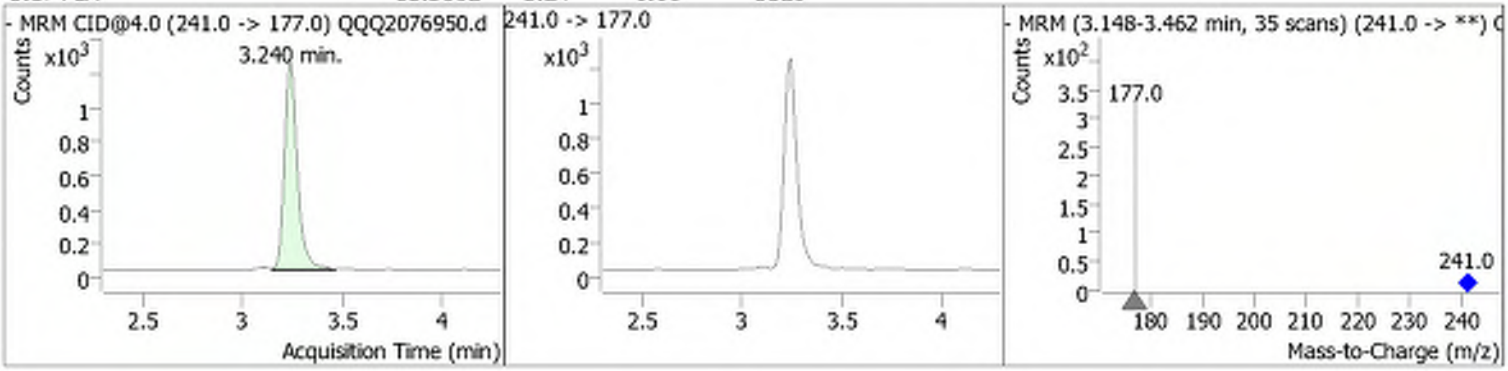
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	9.8482	1.16	-0.05	82568				



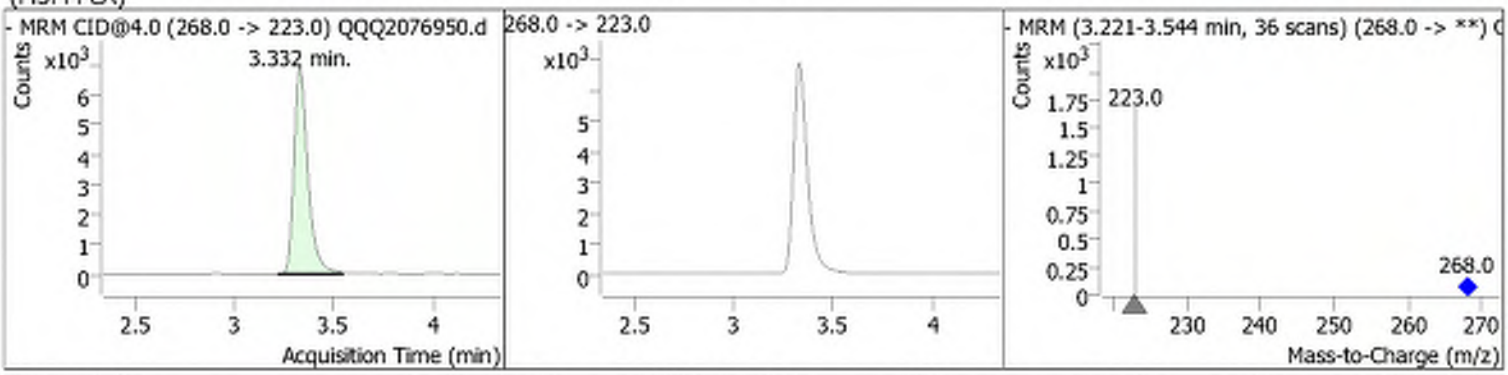
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.1420	2.00	-0.07	26182				



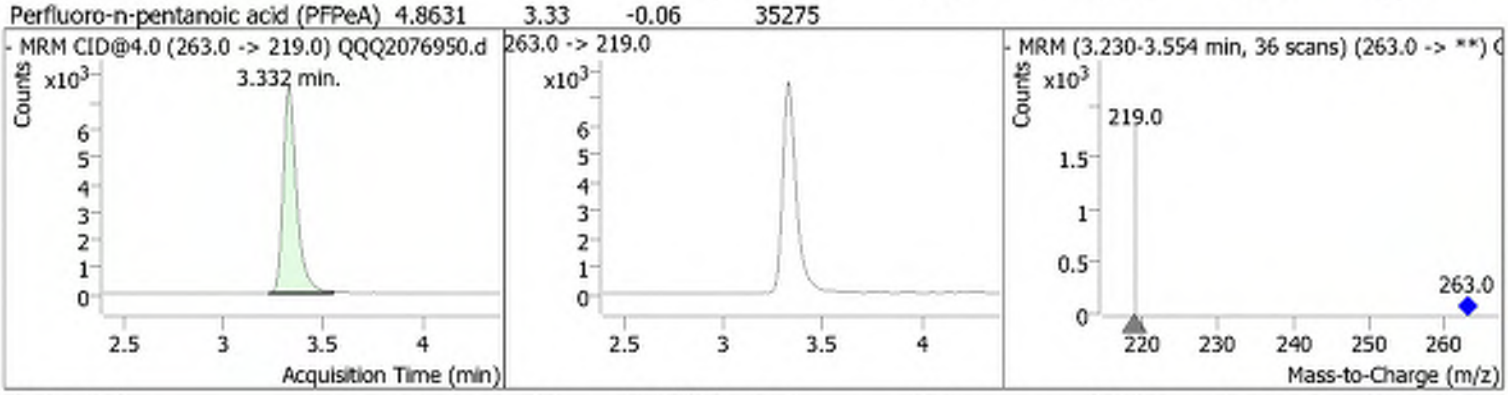
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	13.5862	3.24	-0.06	5529				



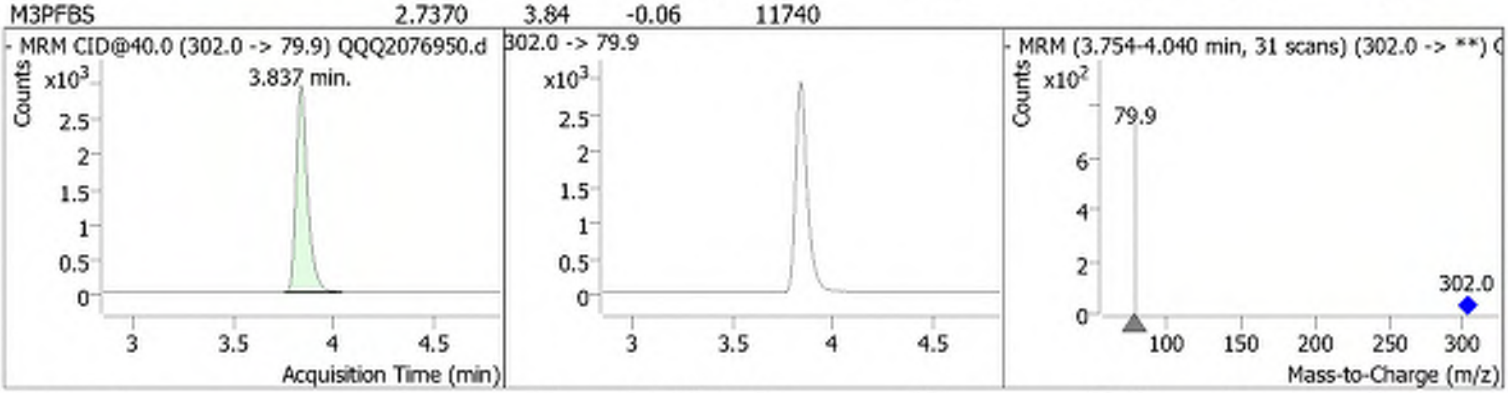
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.1965	3.33	-0.06	33142				



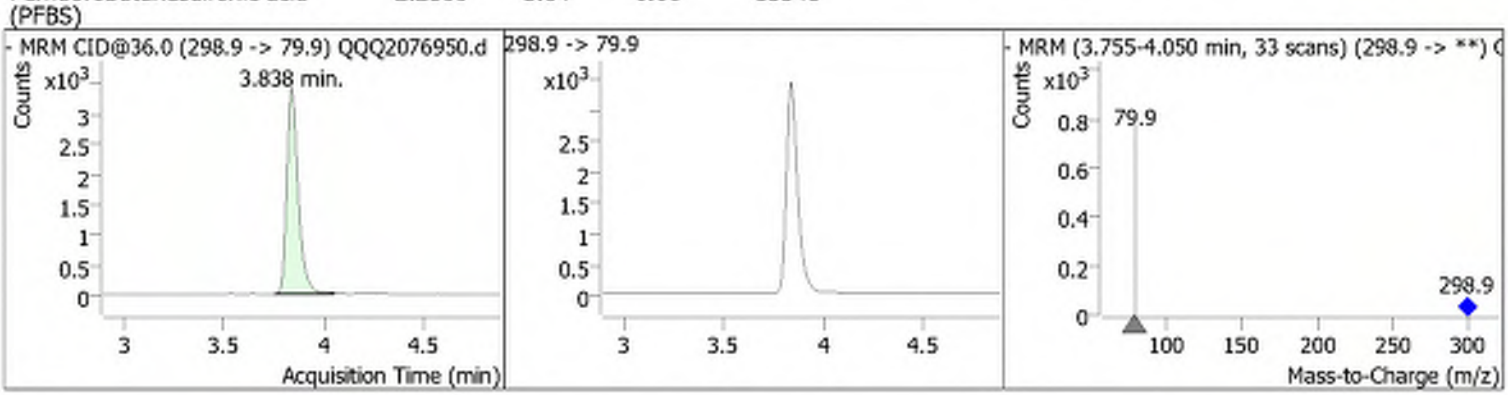
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.8631	3.33	-0.06	35275				



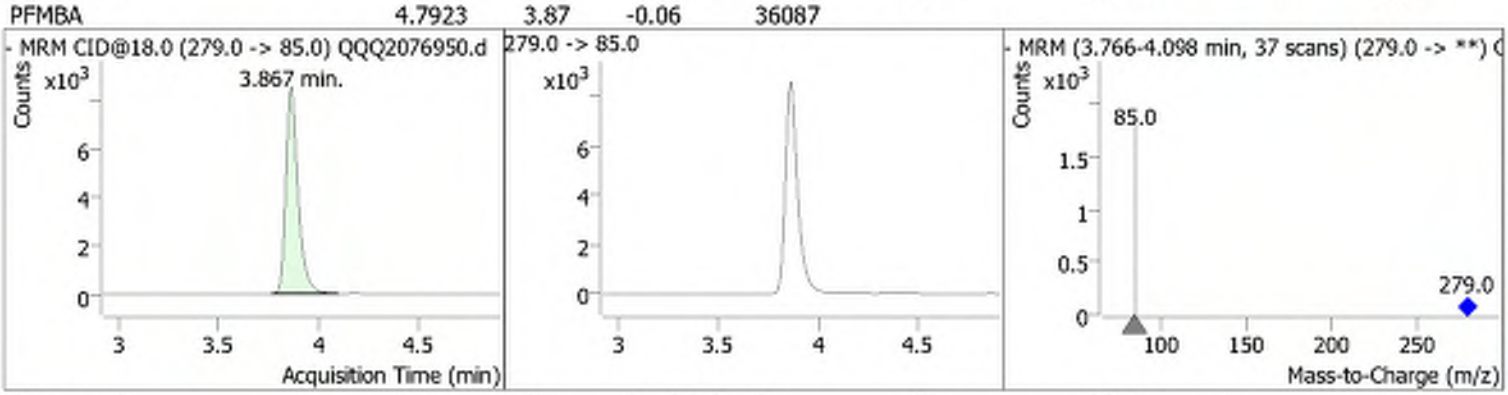
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.7370	3.84	-0.06	11740				



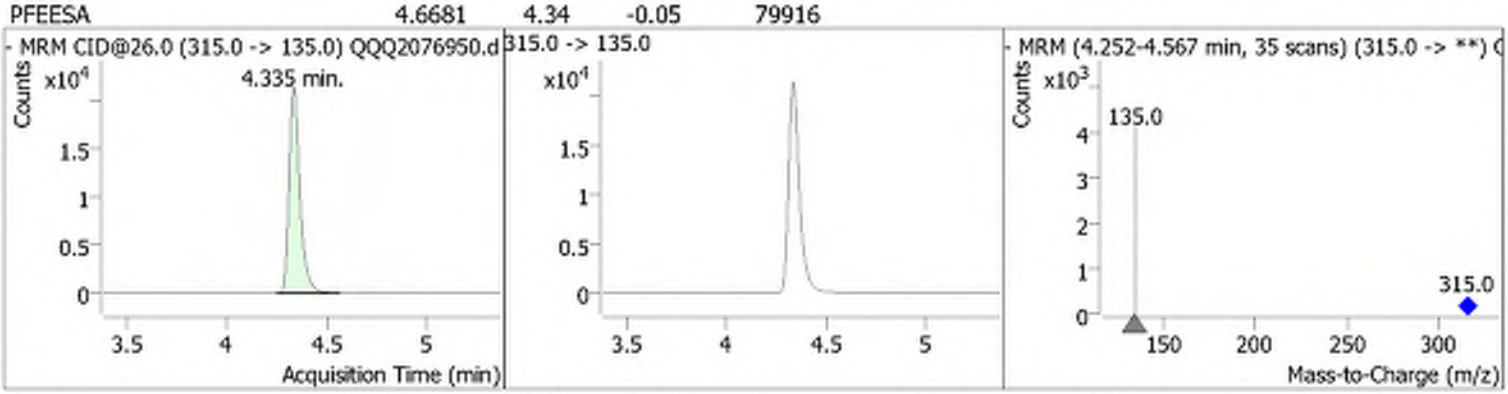
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.2166	3.84	-0.06	13341				



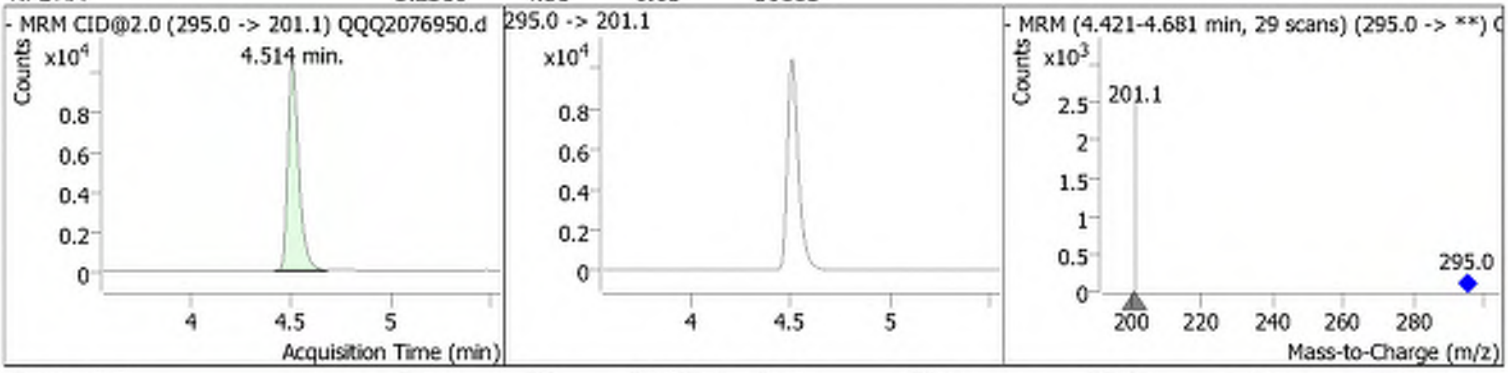
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.7923	3.87	-0.06	36087				



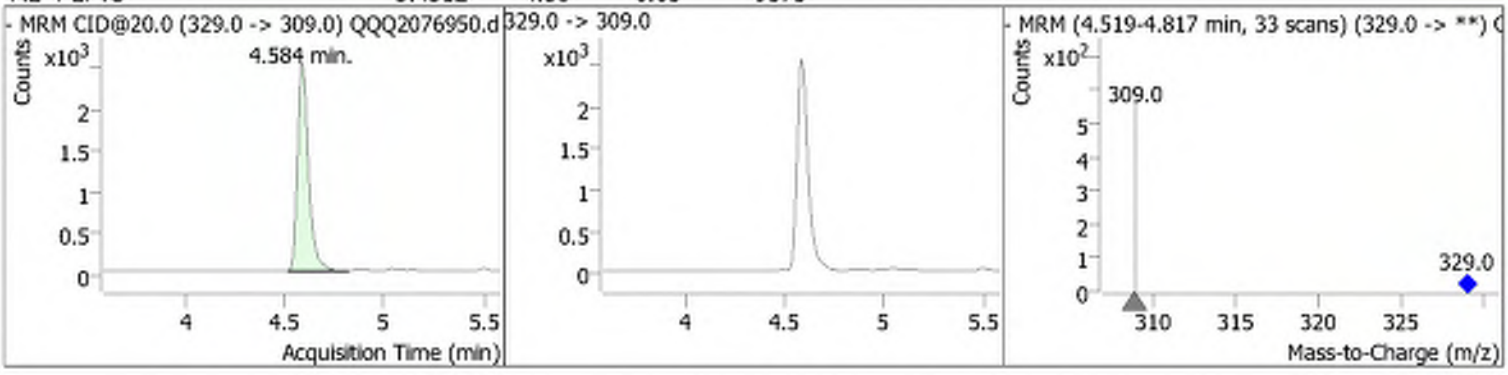
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.6681	4.34	-0.05	79916				



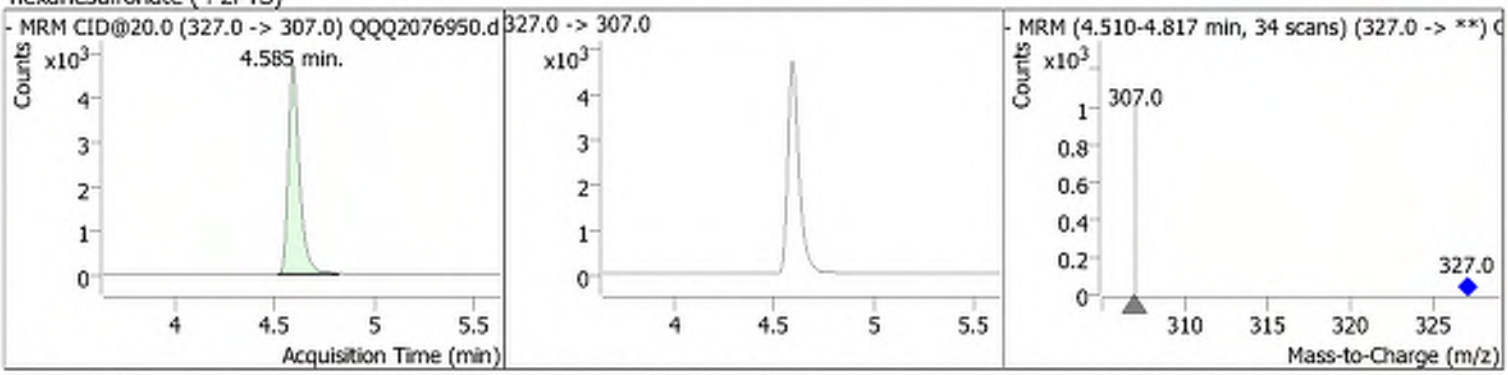
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.2510	4.51	-0.05	39885				



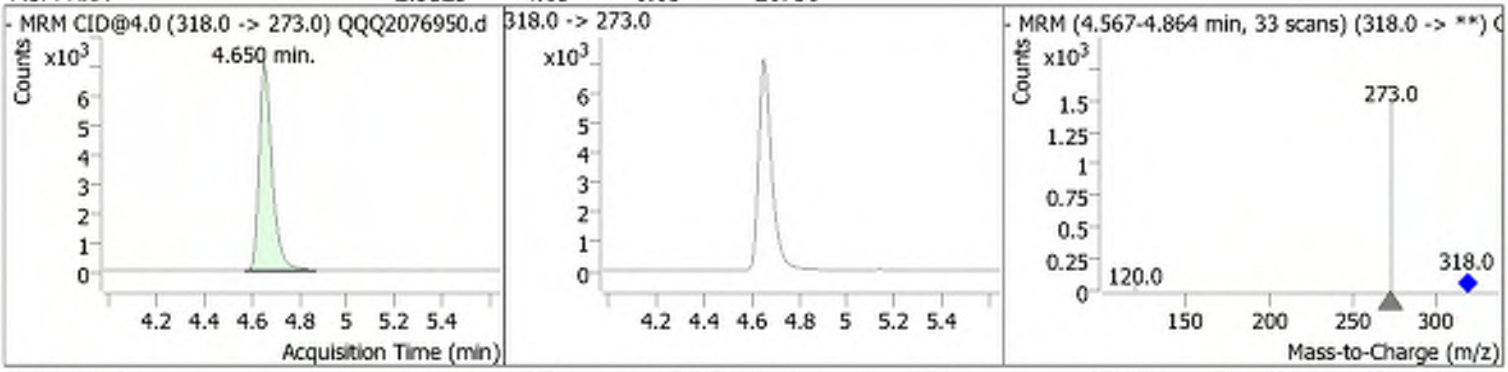
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.4512	4.58	-0.05	9573				



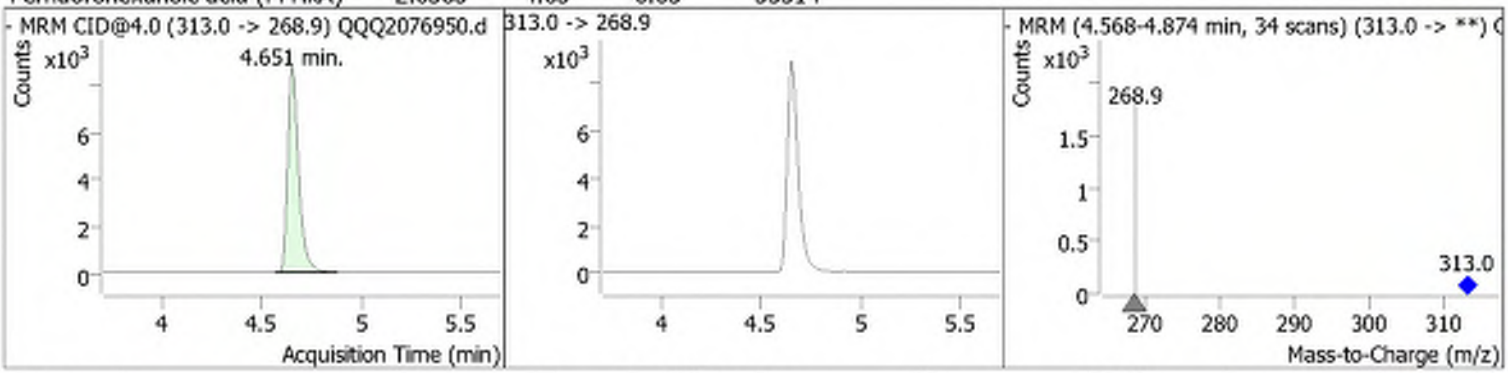
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.7198	4.58	-0.05	18287				



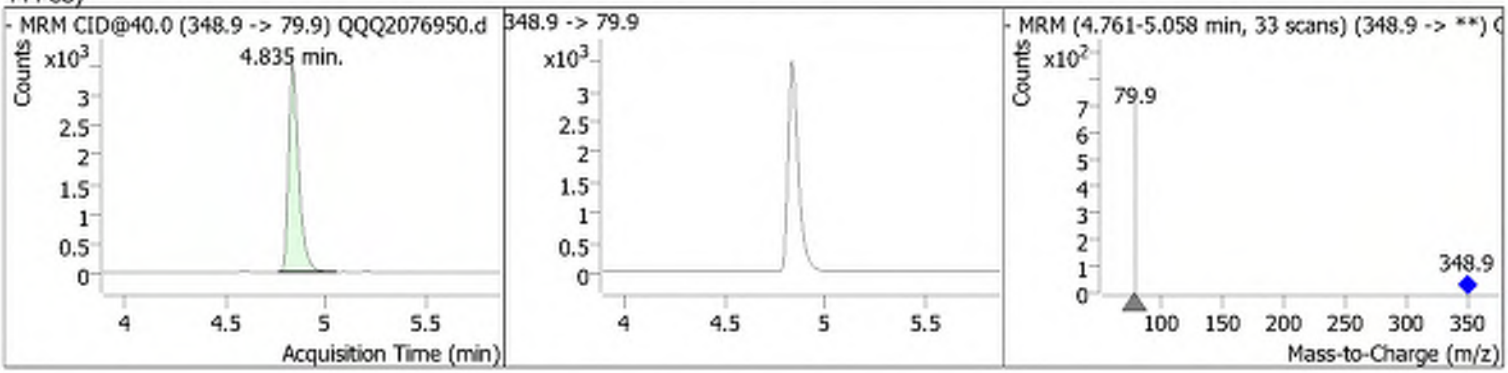
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5123	4.65	-0.05	26730				



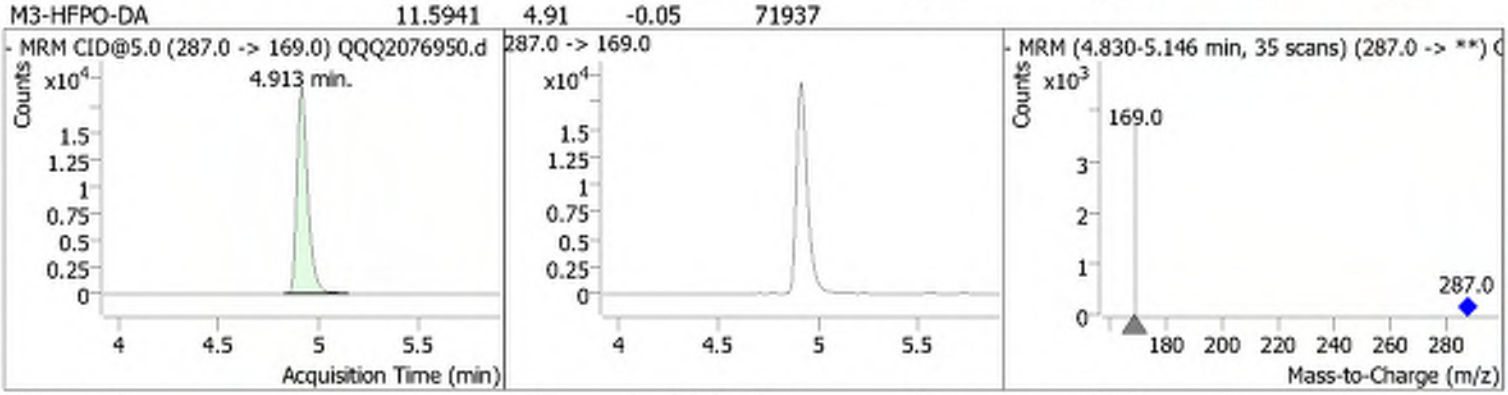
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.6385	4.65	-0.05	33314				



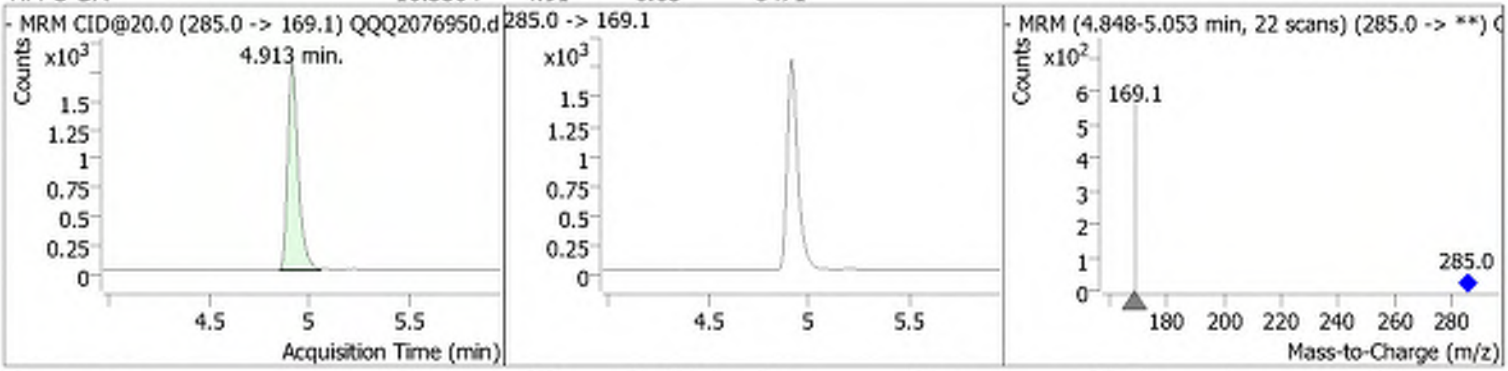
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.1744	4.83	-0.05	12258				



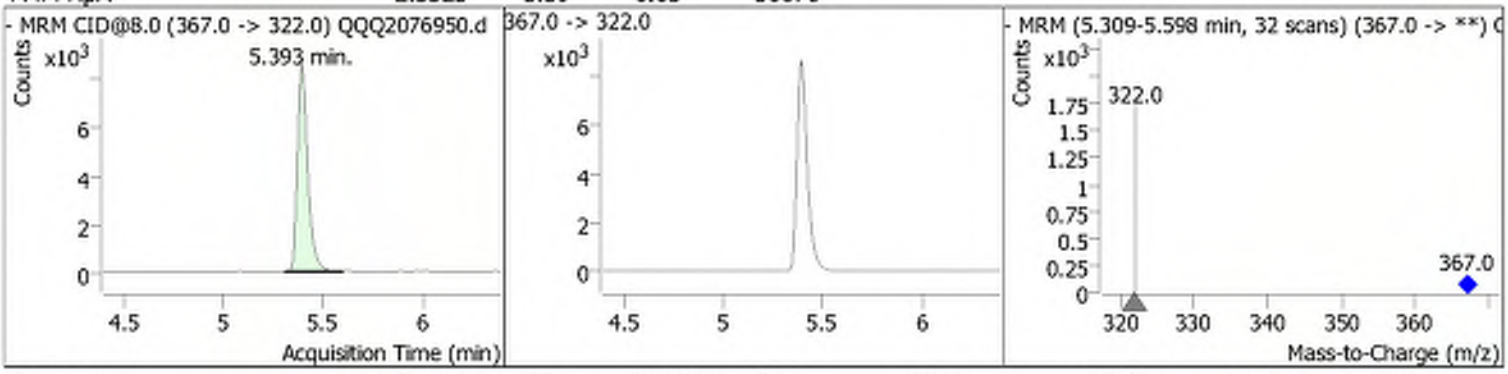
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.5941	4.91	-0.05	71937				



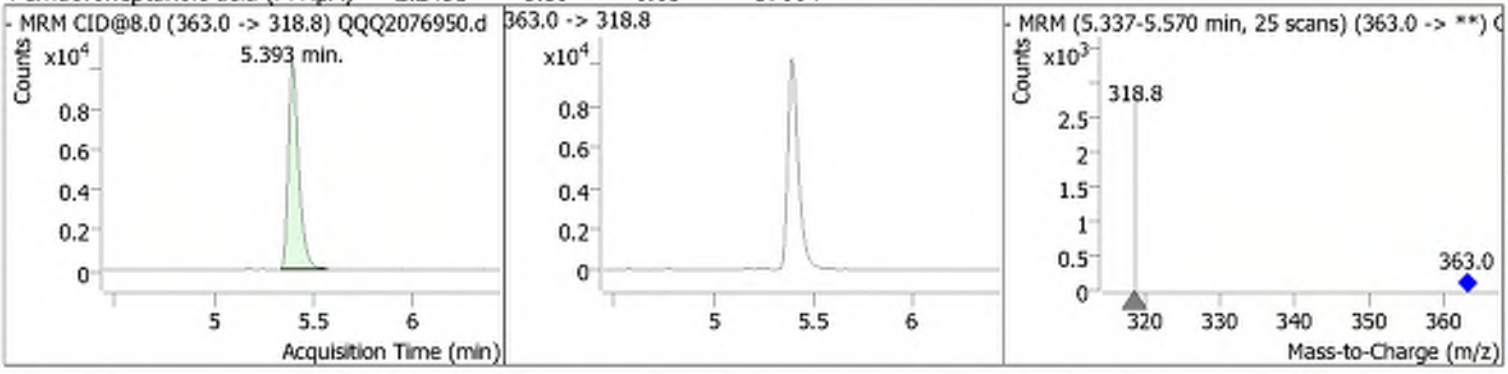
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	10.5304	4.91	-0.05	6471				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5523	5.39	-0.05	30670				

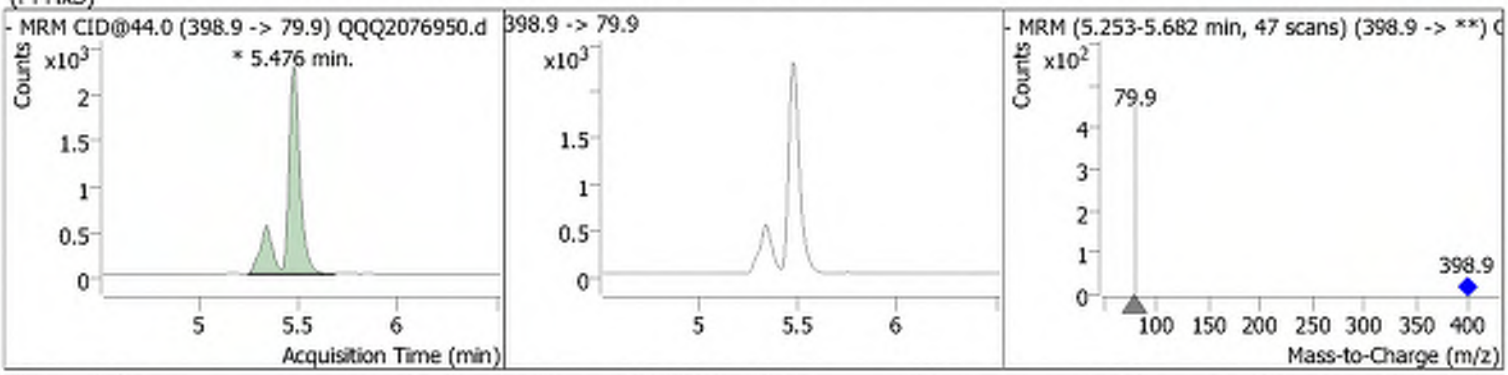


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.2451	5.39	-0.05	37064				

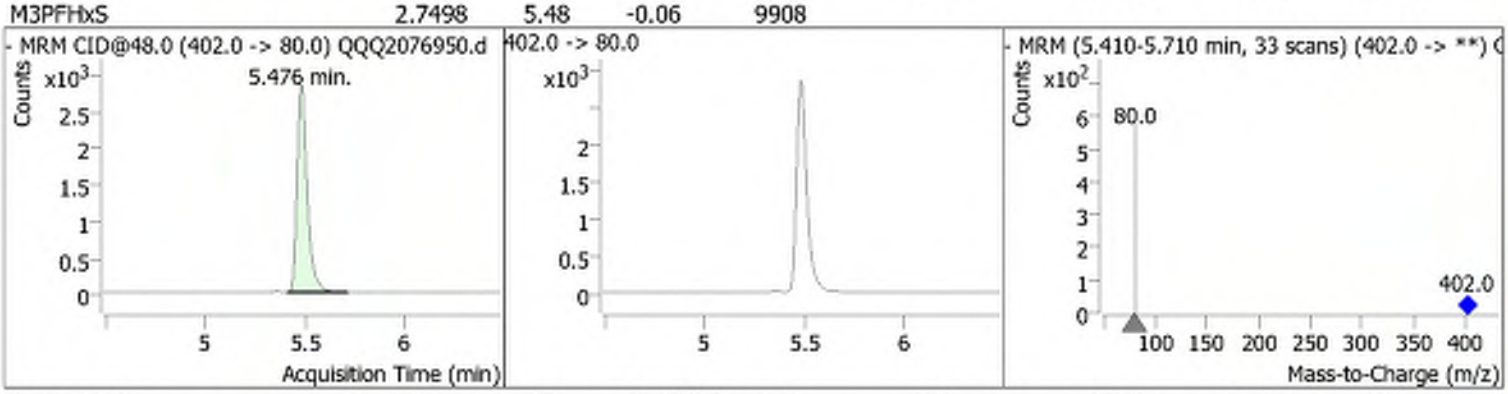


Quantitation Results Report (Not Reviewed)

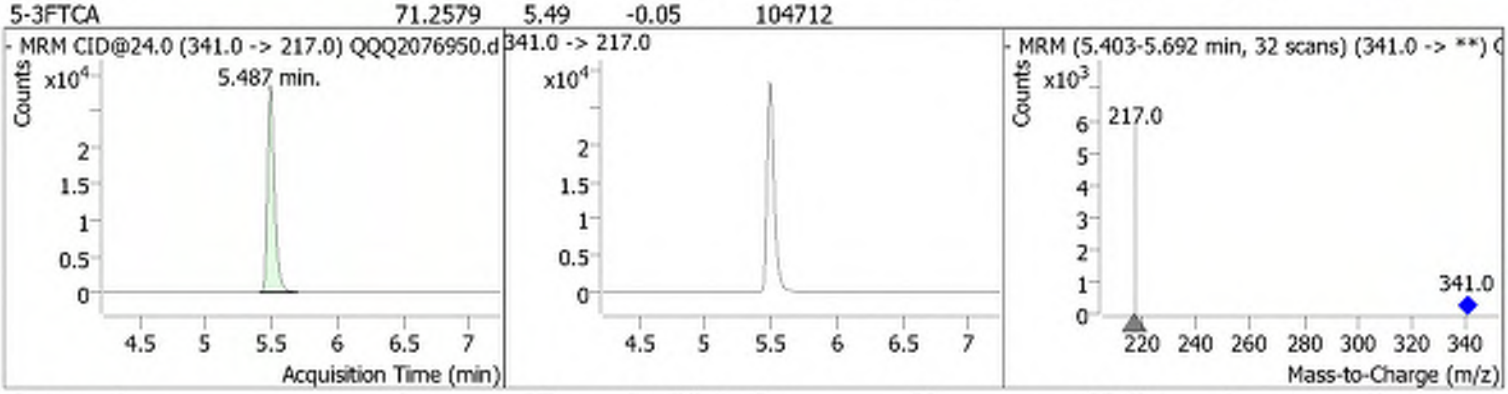
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	1.8921	5.48	-0.05	10787 (m)				



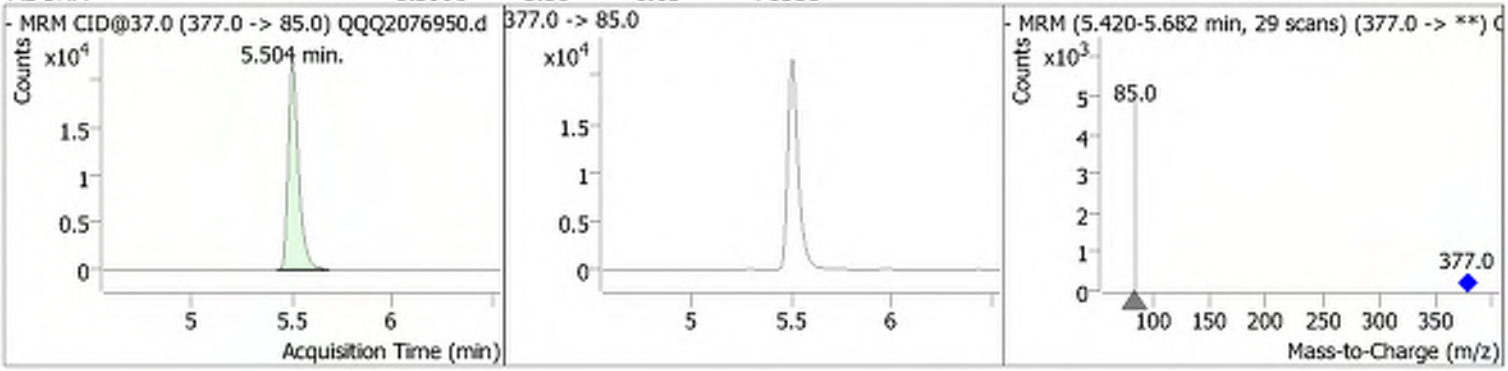
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.7498	5.48	-0.06	9908				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	71.2579	5.49	-0.05	104712				

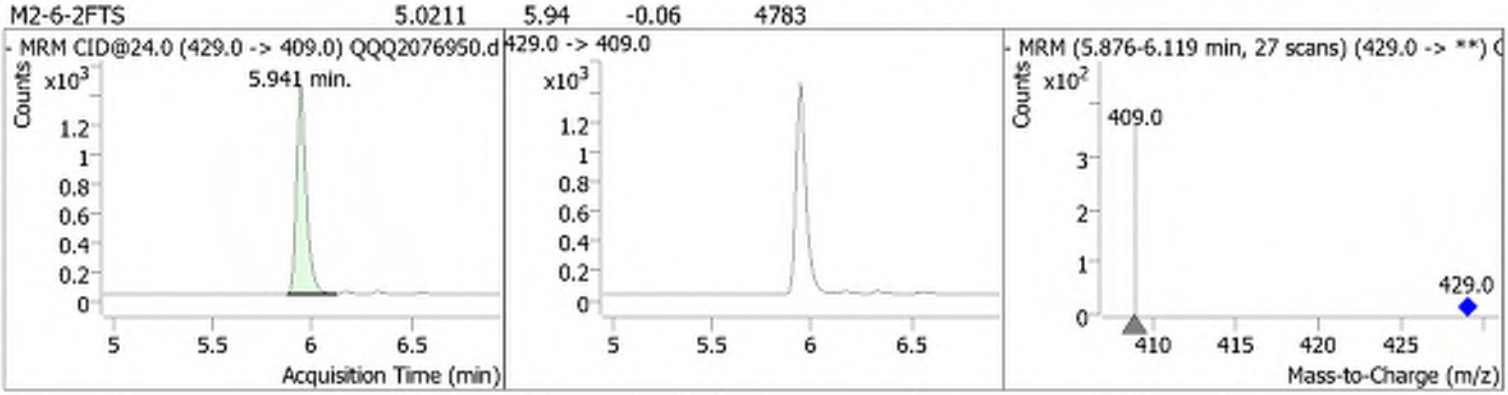


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	8.3996	5.50	-0.05	78318				

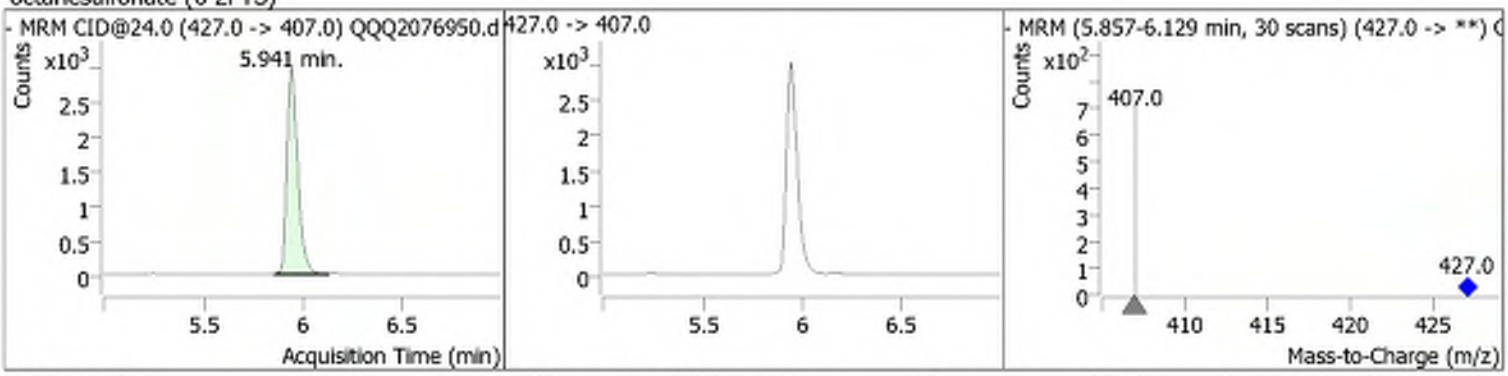


Quantitation Results Report (Not Reviewed)

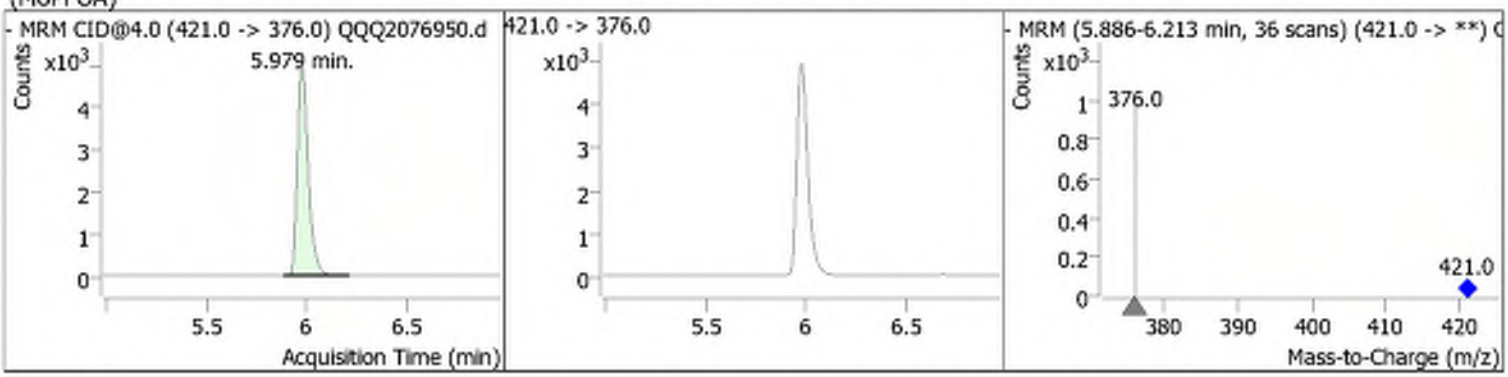
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.0211	5.94	-0.06	4783				



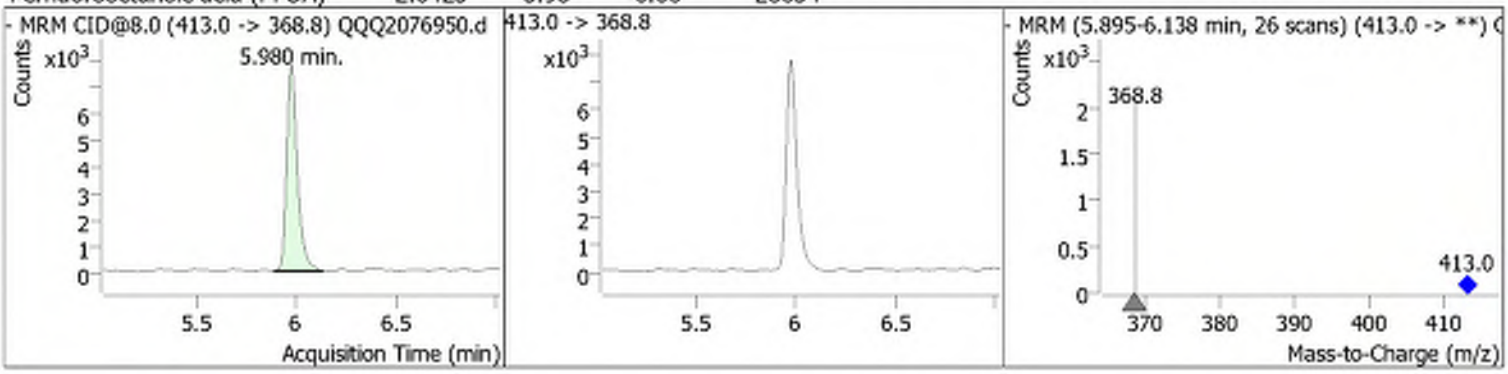
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	11.6829	5.94	-0.06	11181				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.2385	5.98	-0.06	18722				

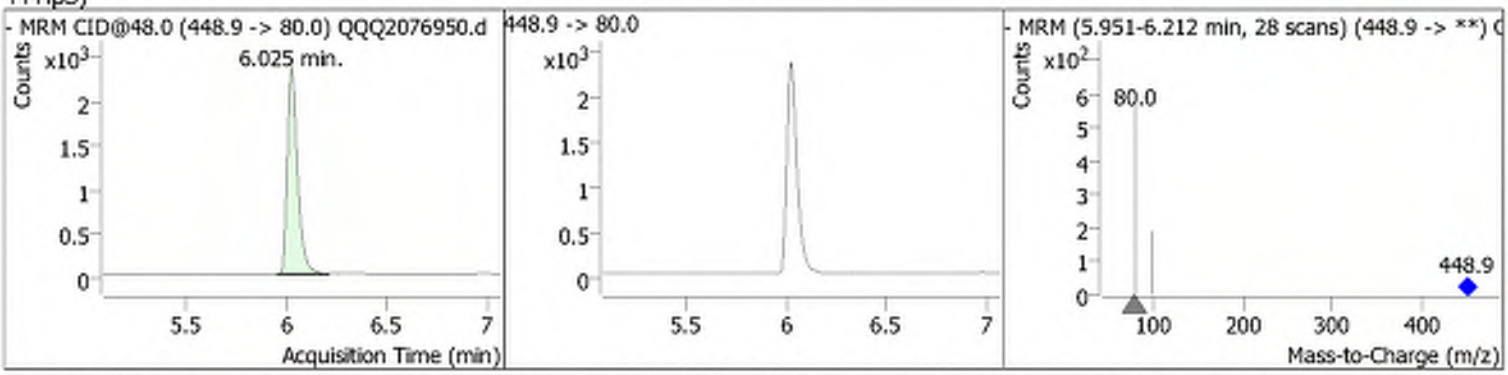


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.6423	5.98	-0.06	28634				

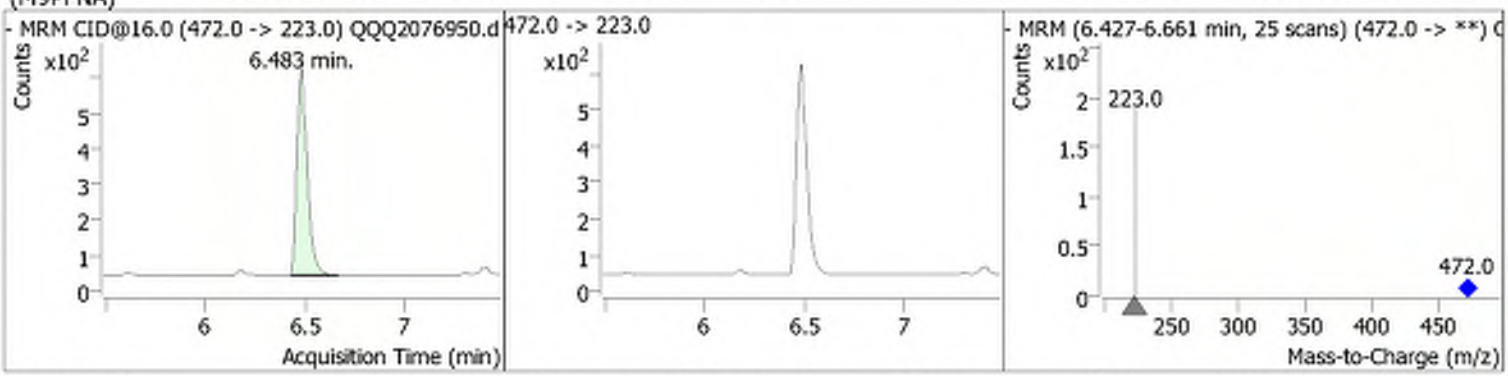


Quantitation Results Report (Not Reviewed)

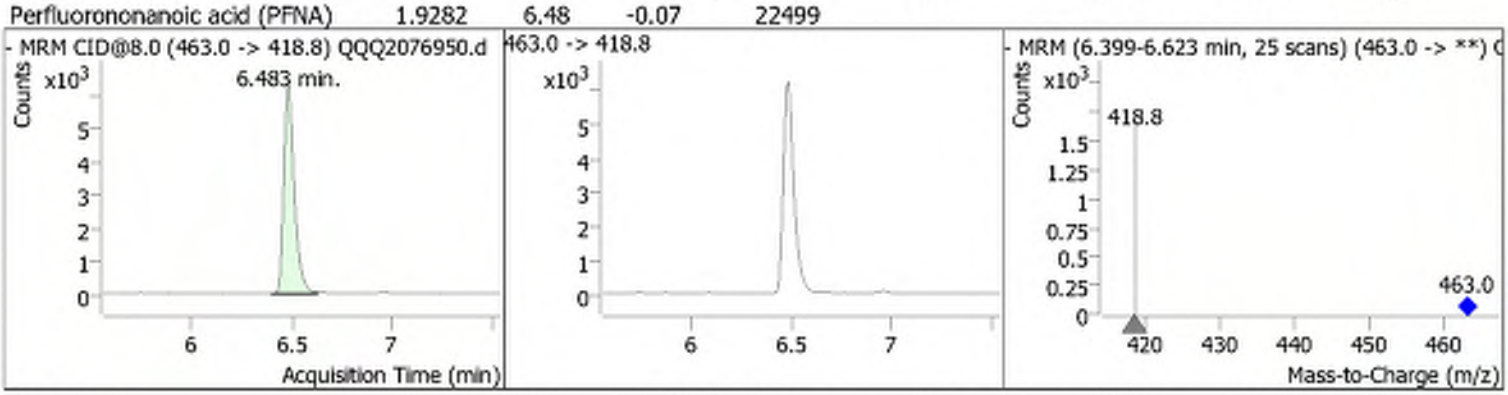
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	3.6670	6.03	-0.06	8262				



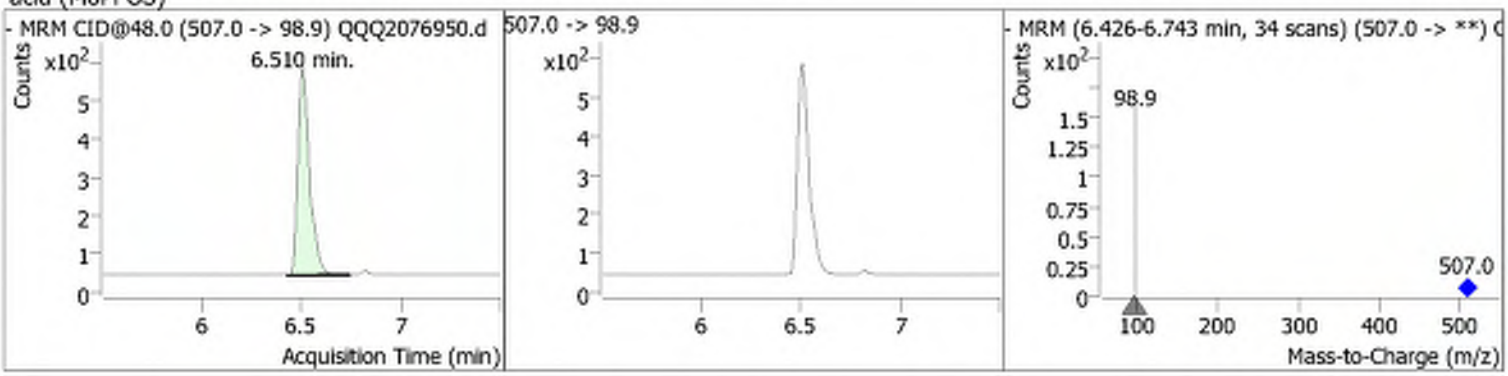
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3622	6.48	-0.06	2057				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	1.9282	6.48	-0.07	22499				



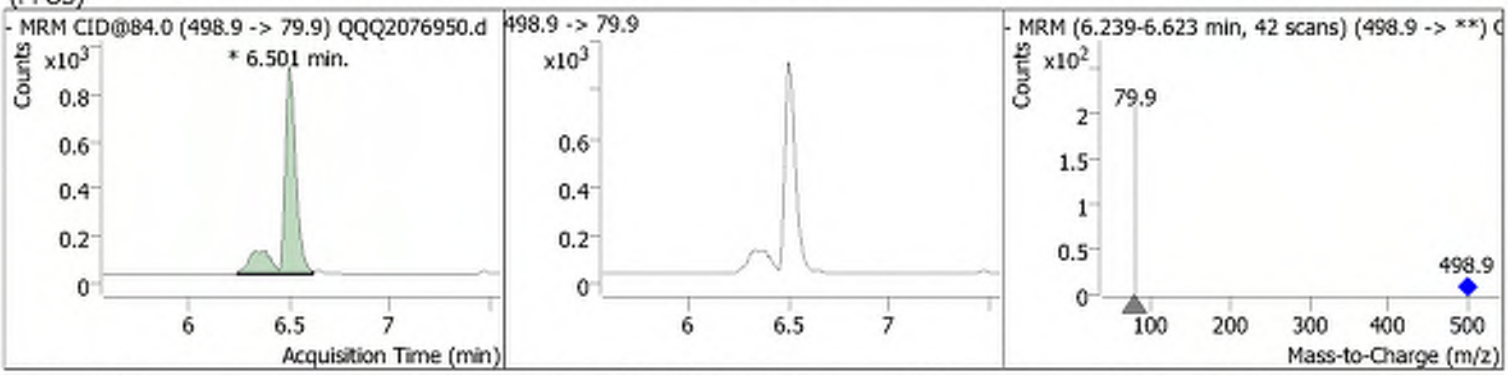
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	1.7164	6.51	-0.06	2192				



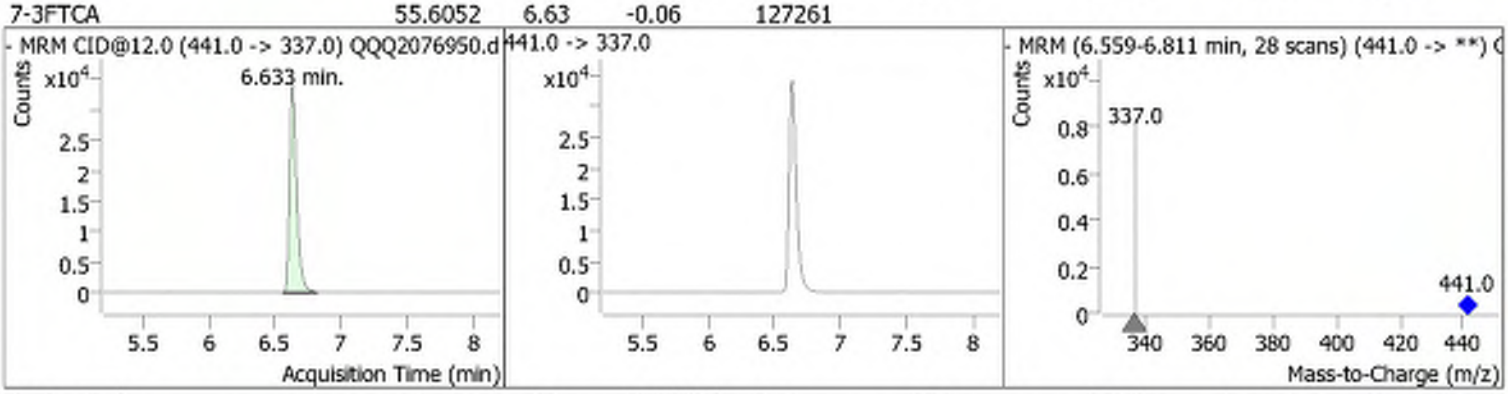
Quantitation Results Report (Not Reviewed)

Agilent

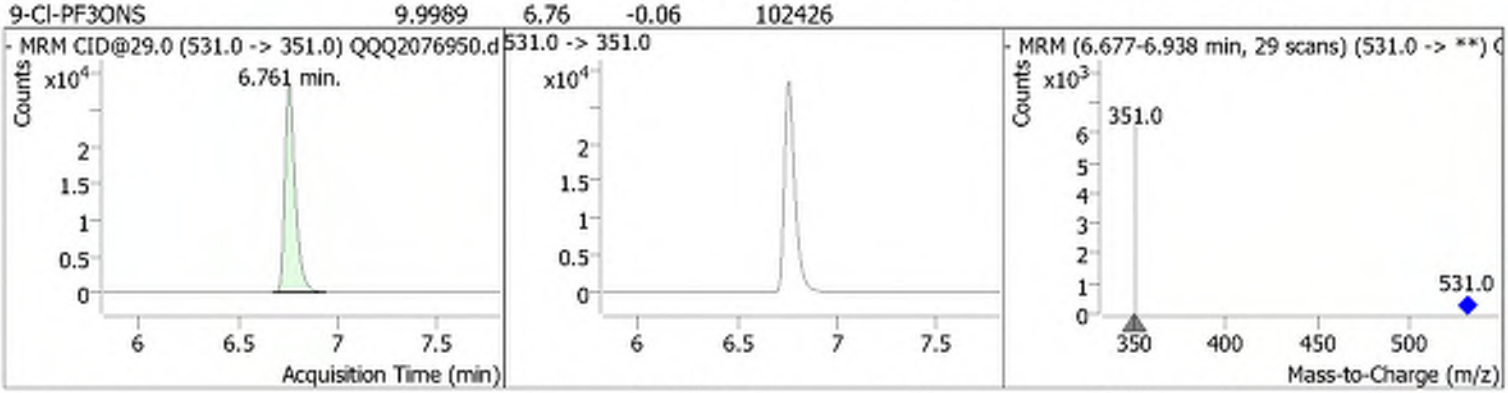
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.3597	6.50	-0.07	3875 (m)				



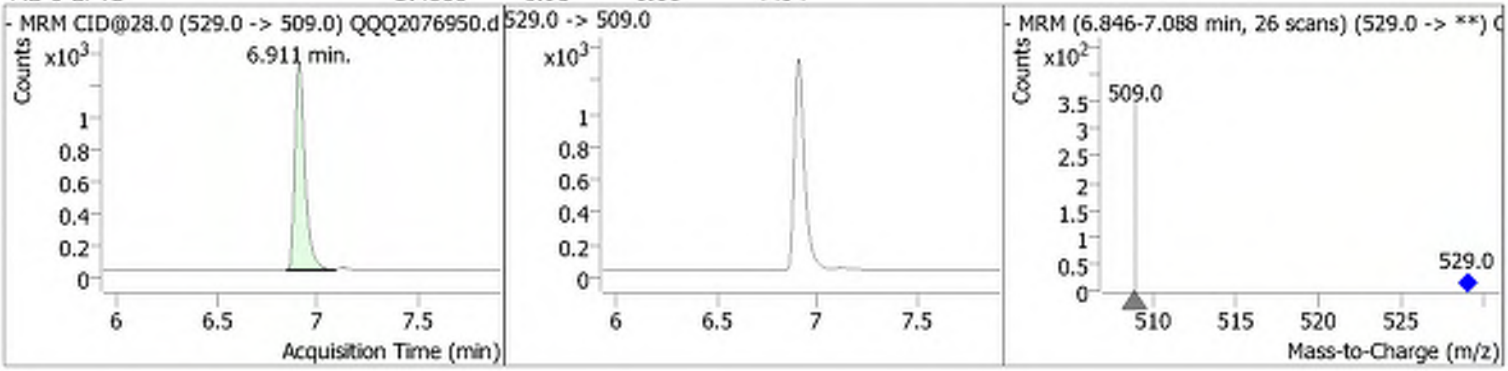
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	55.6052	6.63	-0.06	127261				



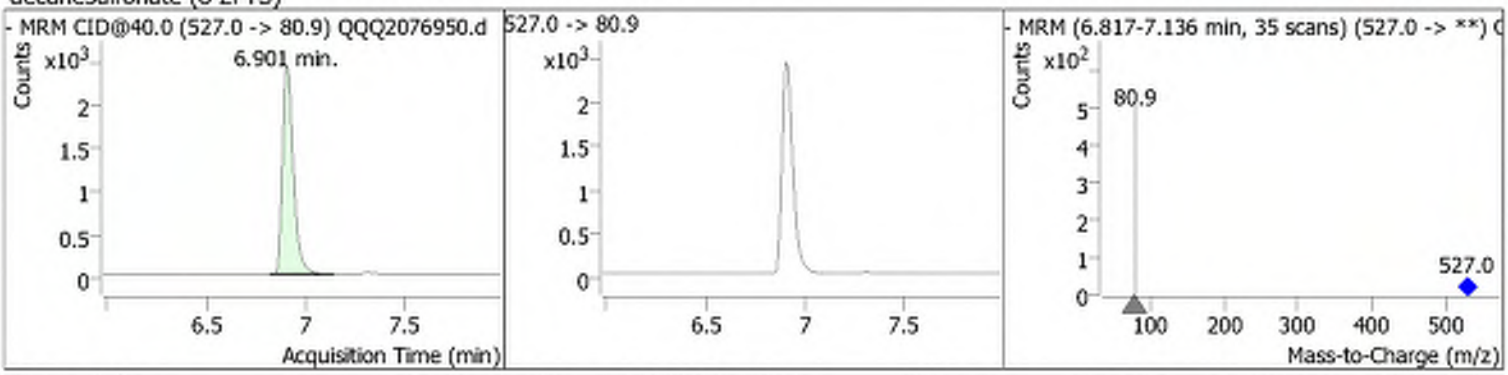
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	9.9989	6.76	-0.06	102426				



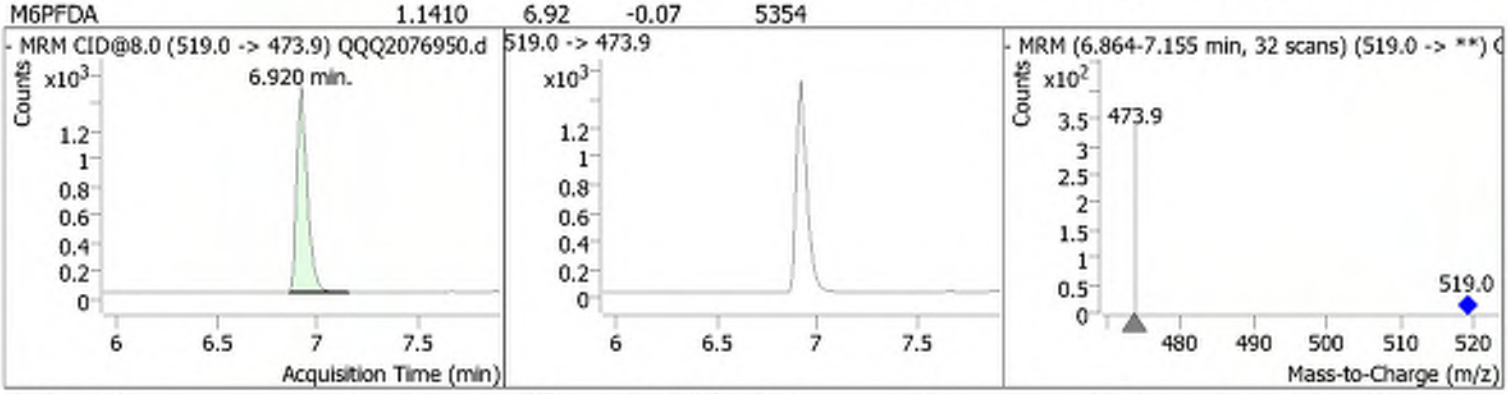
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.4888	6.91	-0.06	4494				



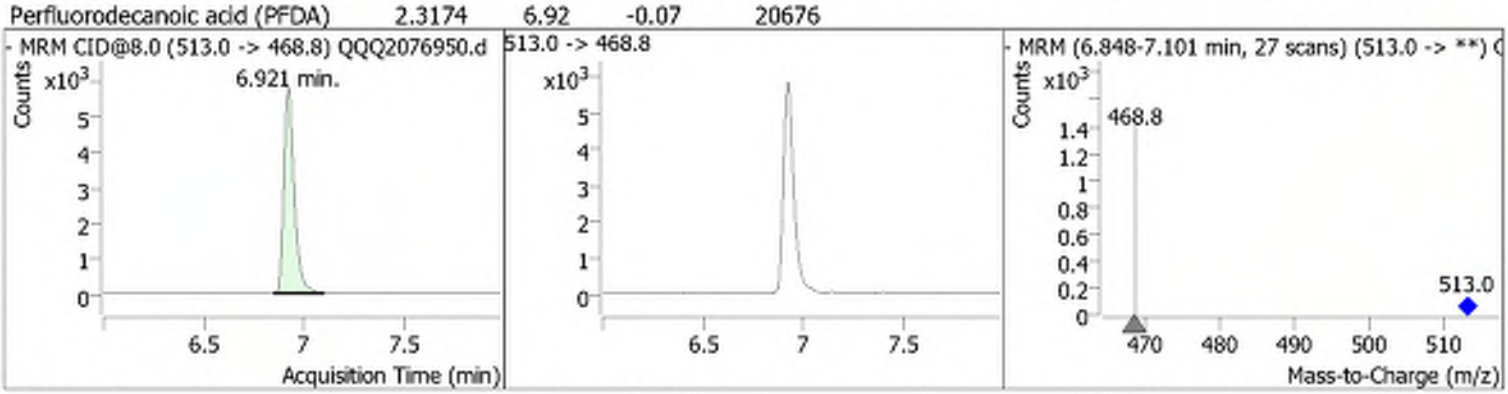
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	8.3337	6.90	-0.08	9091				



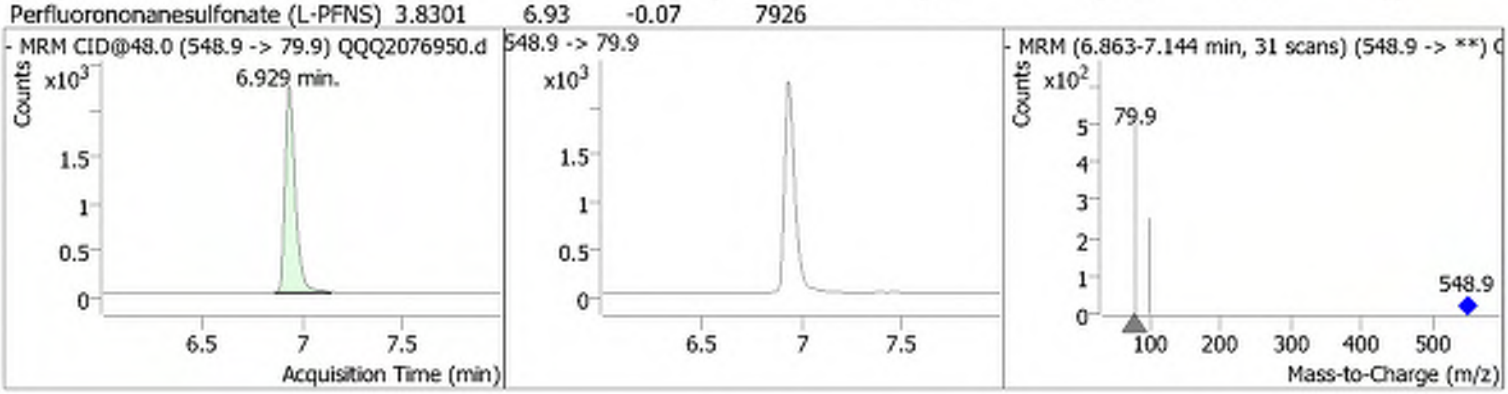
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.1410	6.92	-0.07	5354				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.3174	6.92	-0.07	20676				



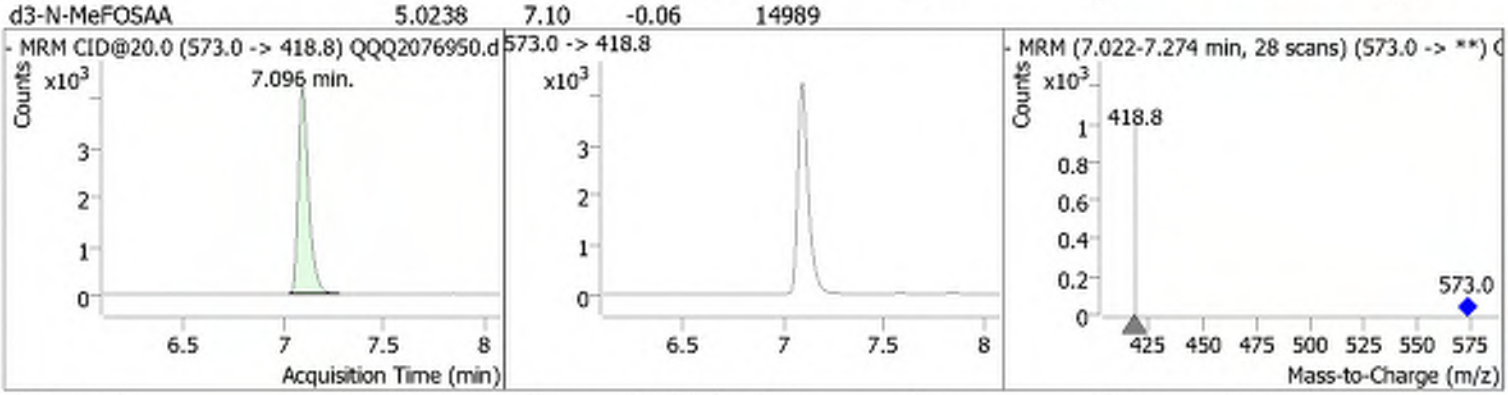
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	3.8301	6.93	-0.07	7926				



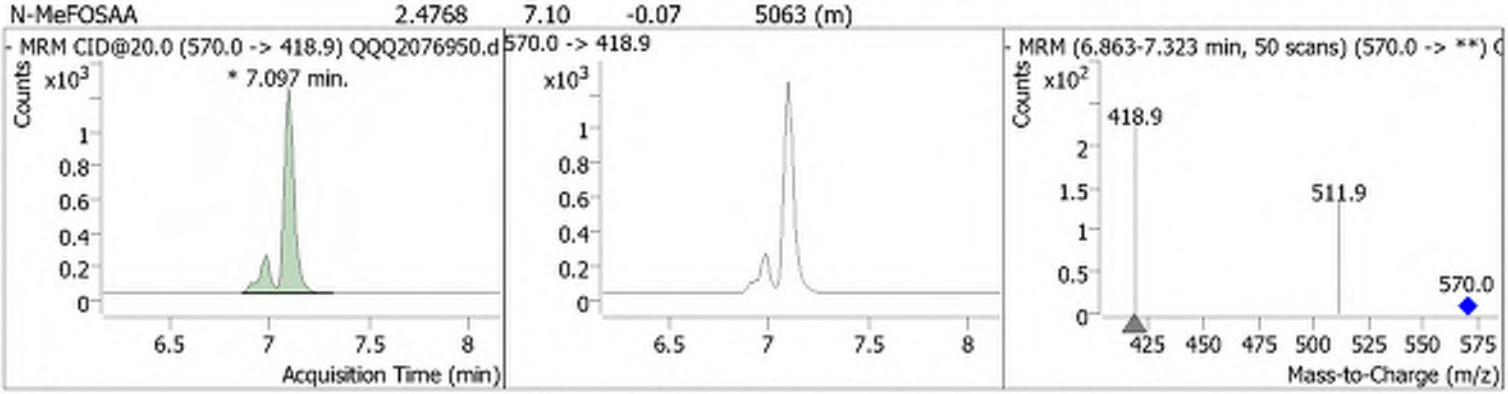
Quantitation Results Report (Not Reviewed)

Agilent

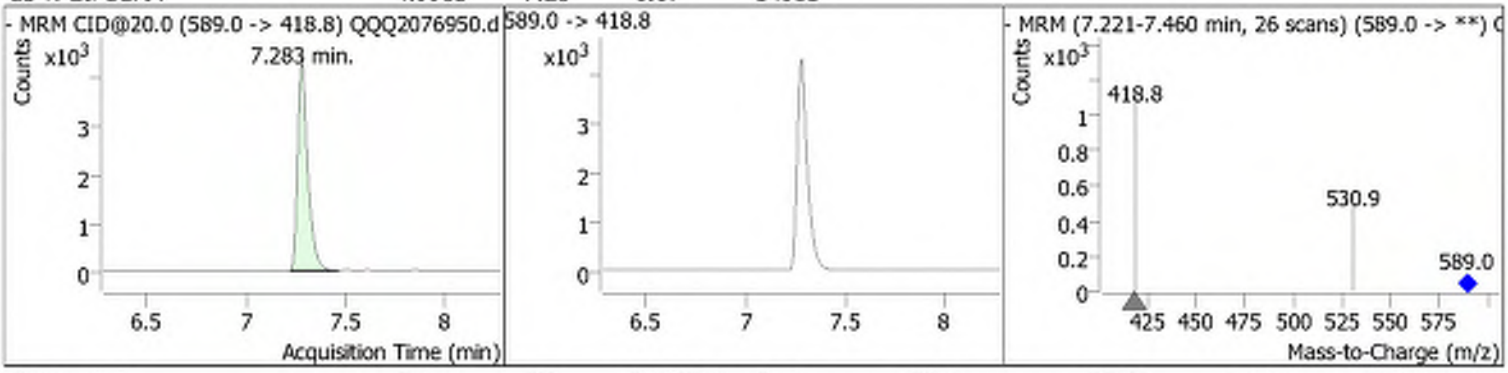
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.0238	7.10	-0.06	14989				



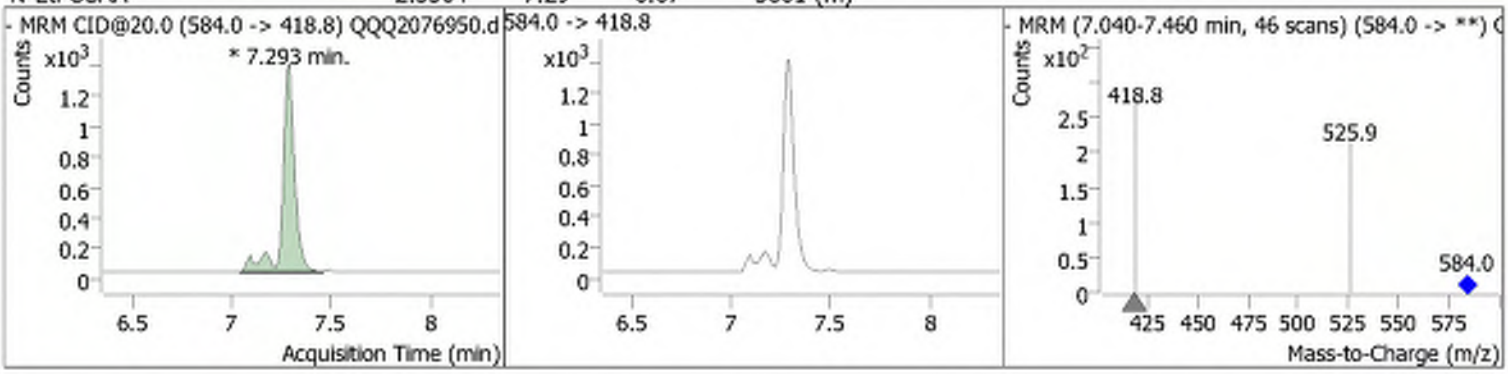
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.4768	7.10	-0.07	5063 (m)				



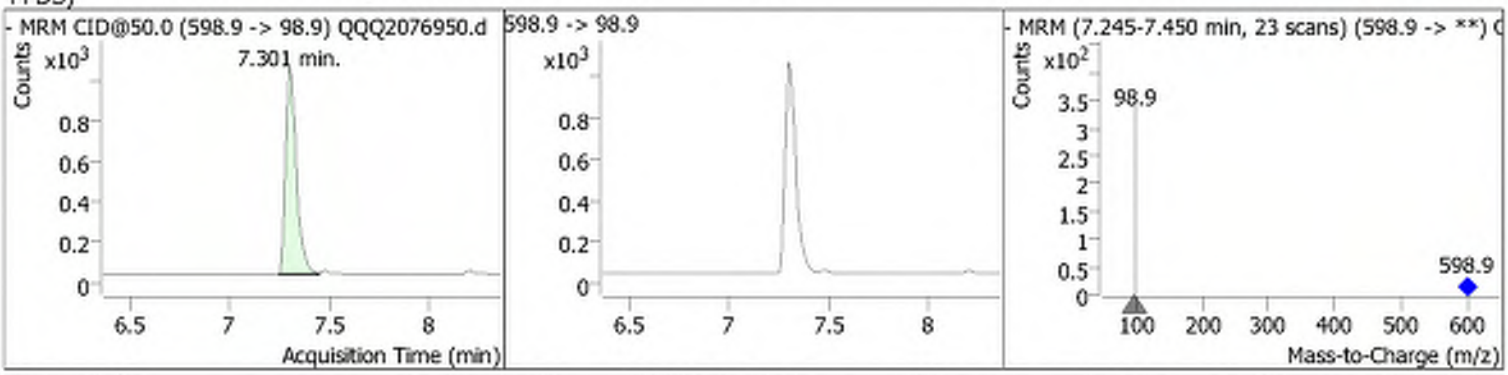
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.9983	7.28	-0.07	14985				



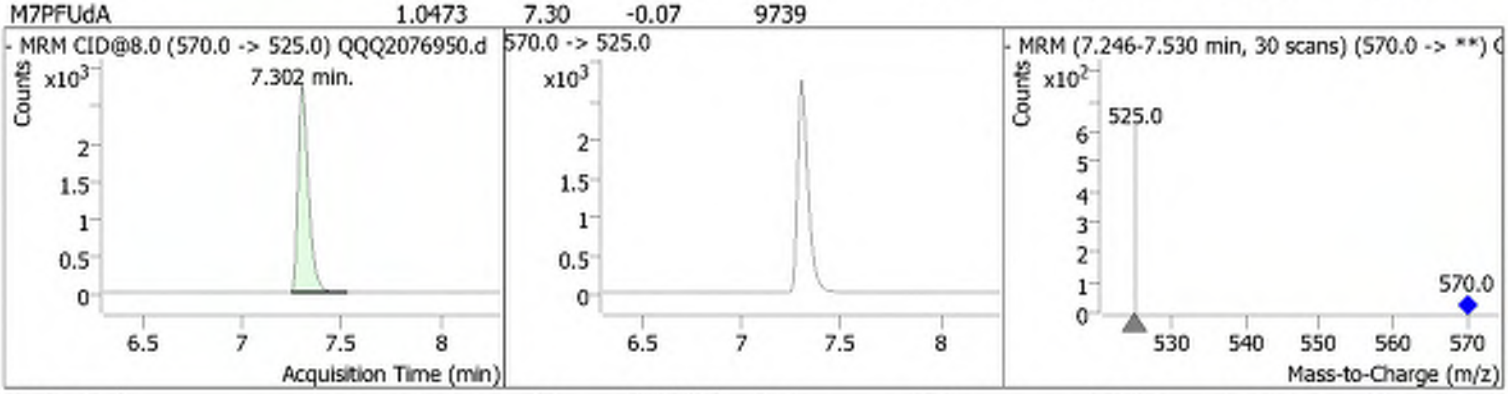
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.5504	7.29	-0.07	5801 (m)				



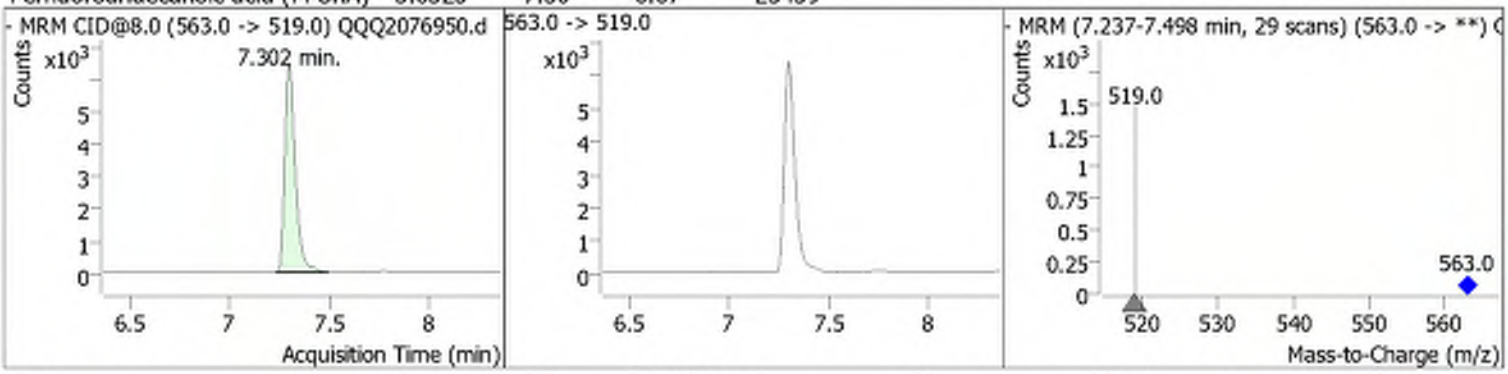
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	4.2917	7.30	-0.07	3806				



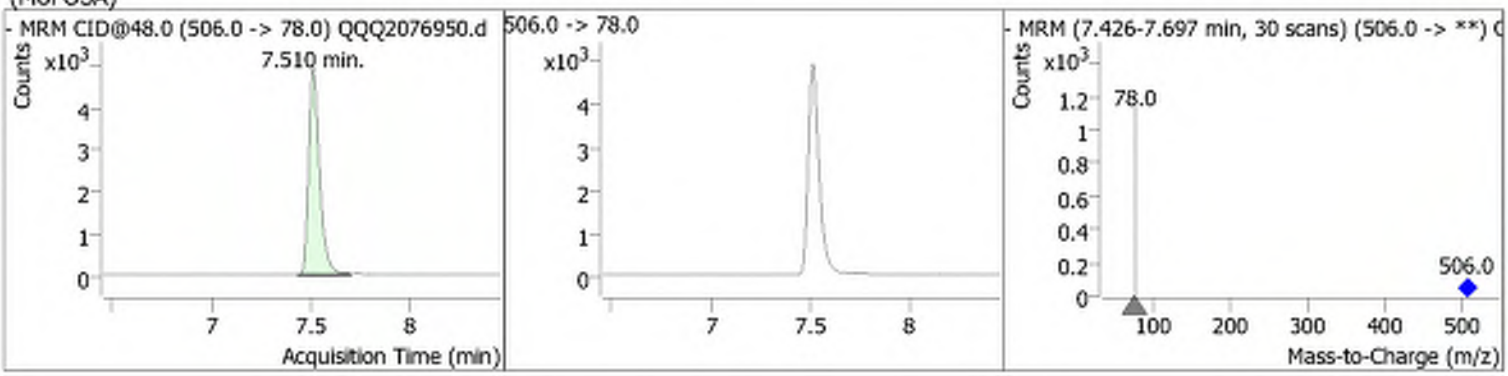
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.0473	7.30	-0.07	9739				



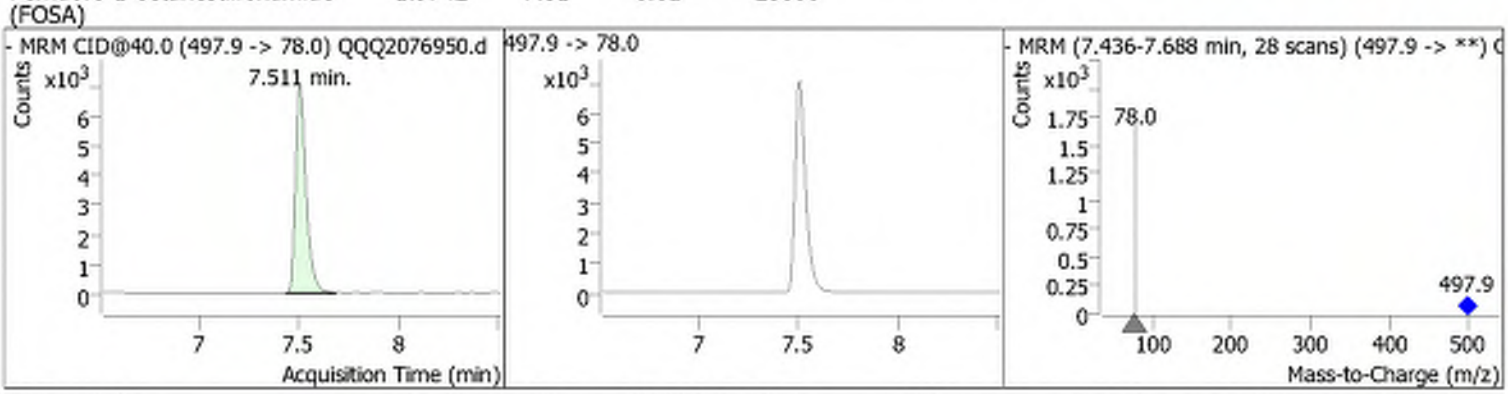
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.6325	7.30	-0.07	23439				



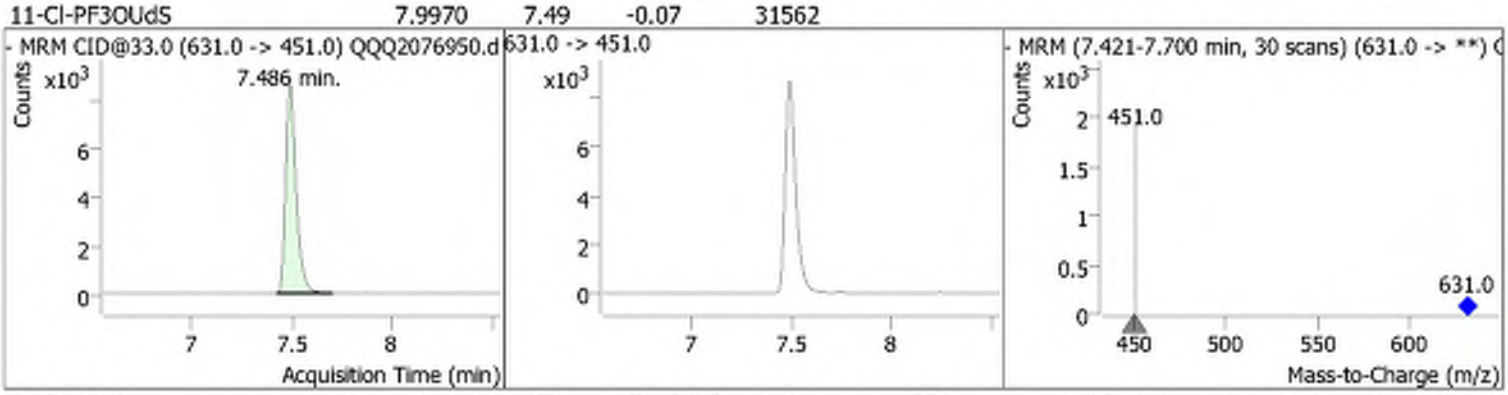
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.5664	7.51	-0.01	18581				



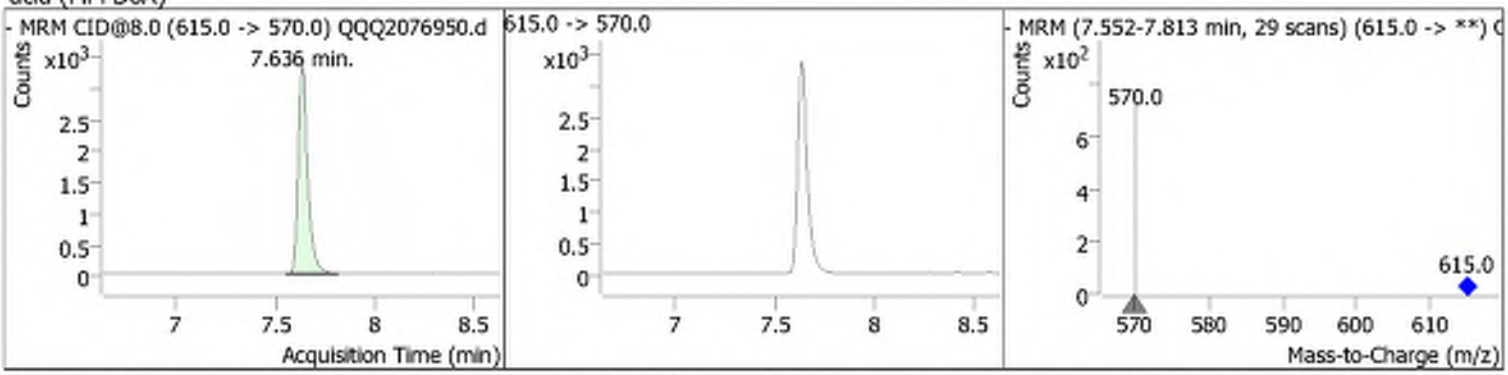
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	1.9742	7.51	-0.01	25808				



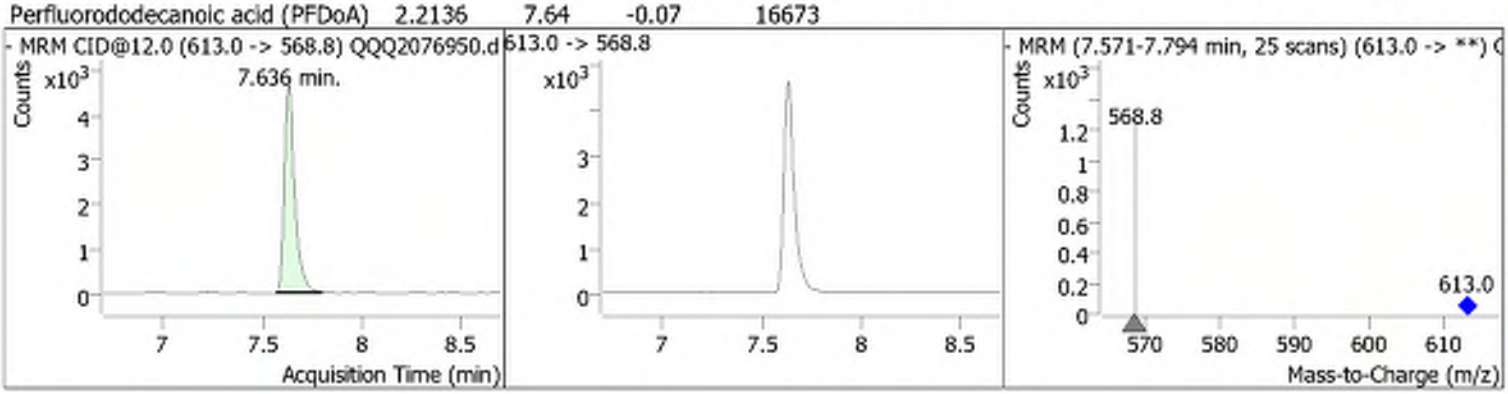
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	7.9970	7.49	-0.07	31562				



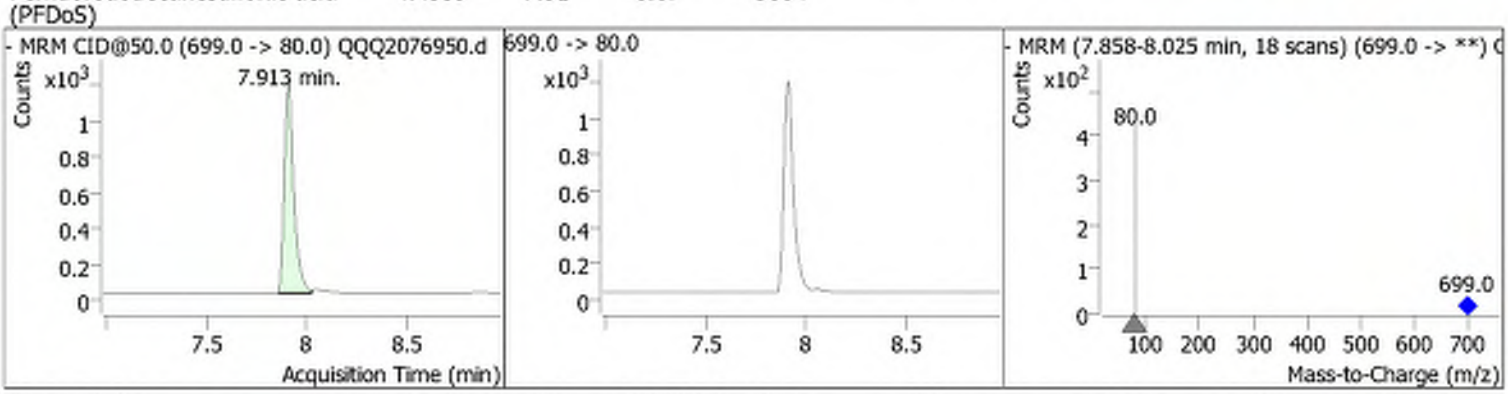
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.4181	7.64	-0.07	10978				



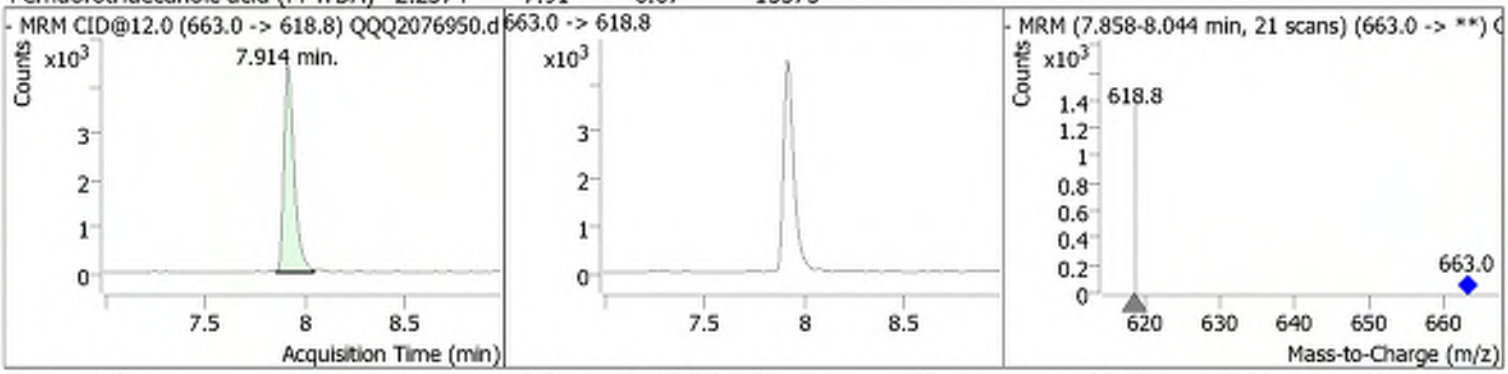
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.2136	7.64	-0.07	16673				



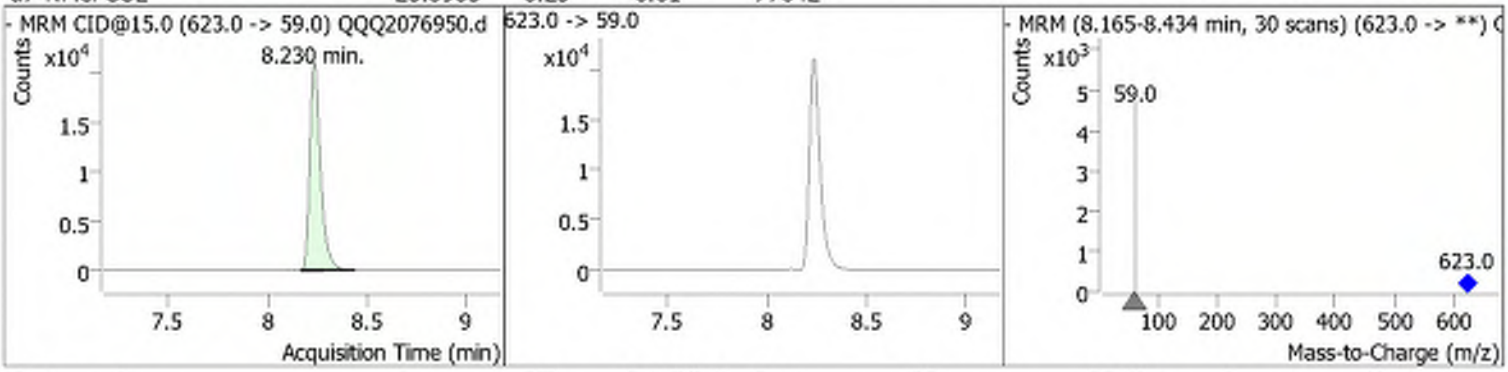
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	4.4539	7.91	-0.07	3804				



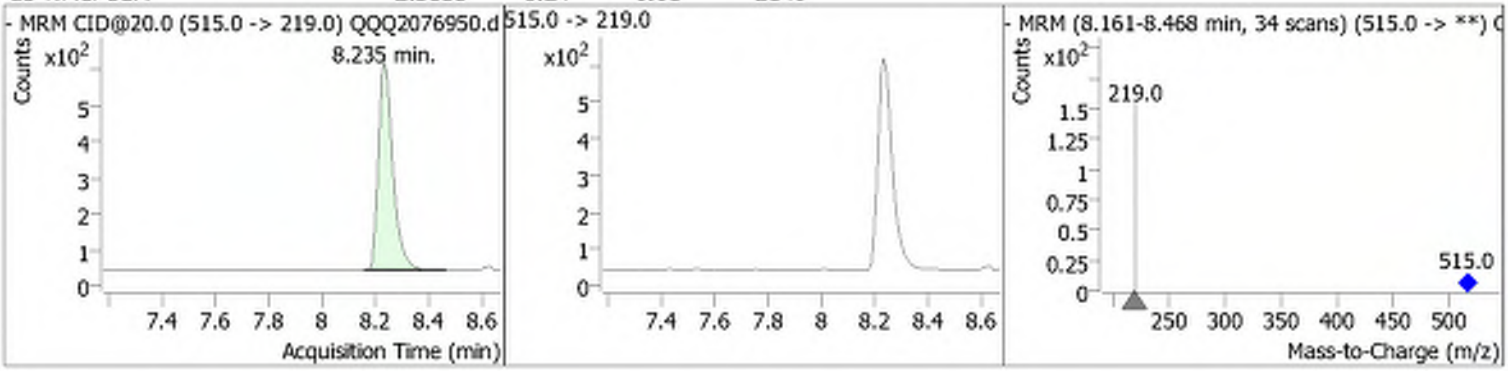
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.2374	7.91	-0.07	15575				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	25.8983	8.23	-0.01	77642				

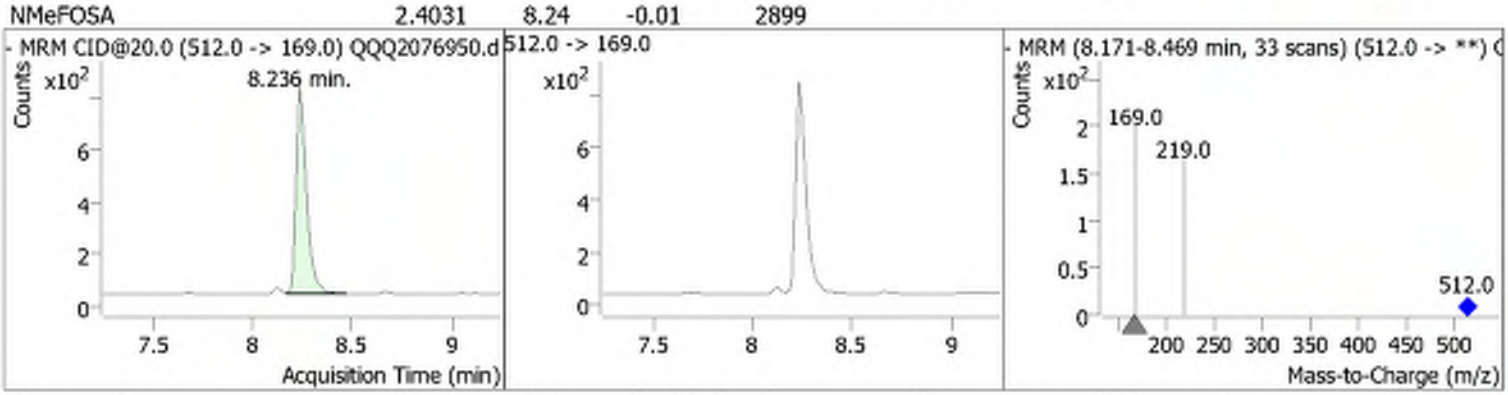


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.3135	8.24	-0.01	2140				

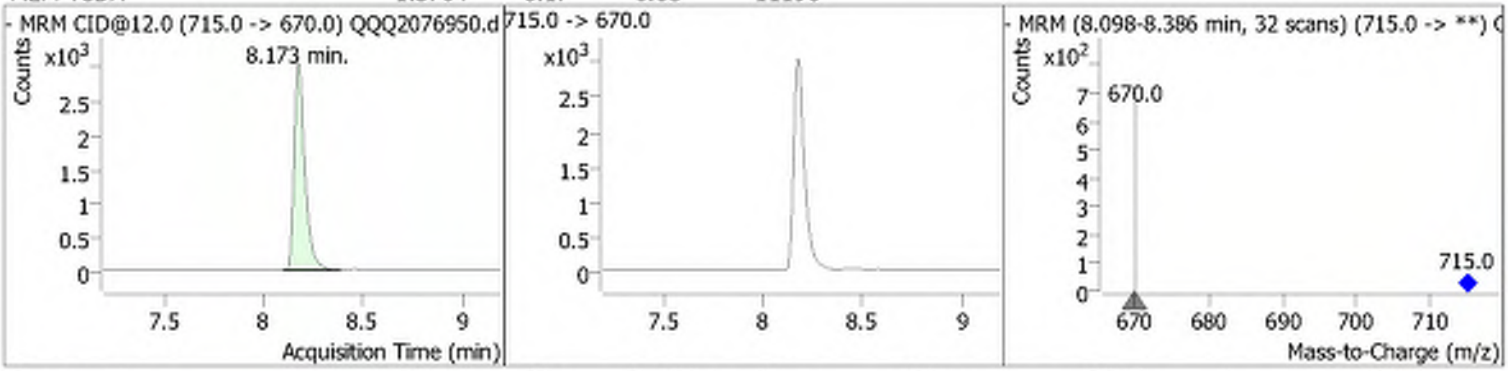


Quantitation Results Report (Not Reviewed)

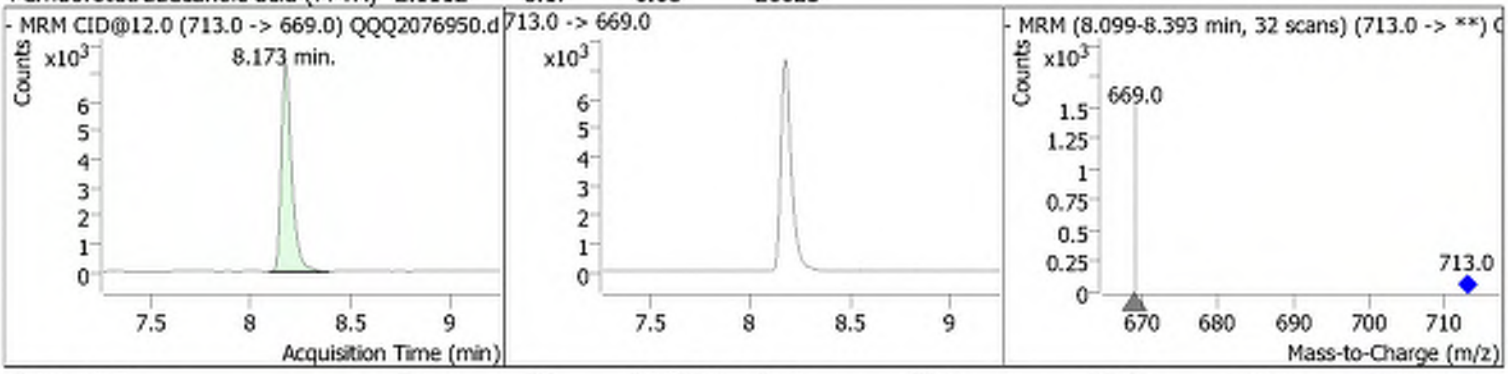
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	2.4031	8.24	-0.01	2899				



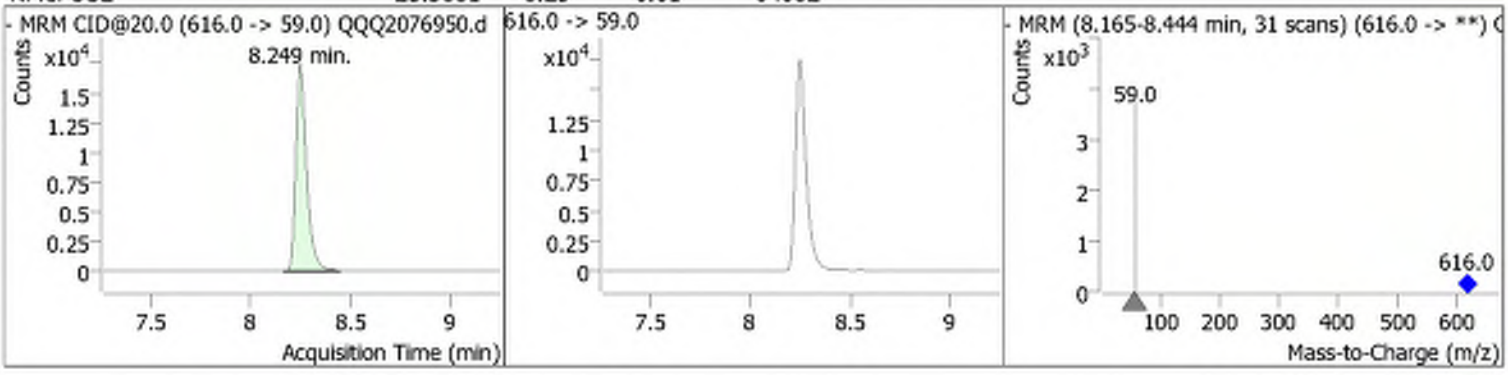
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.3704	8.17	-0.08	11196				



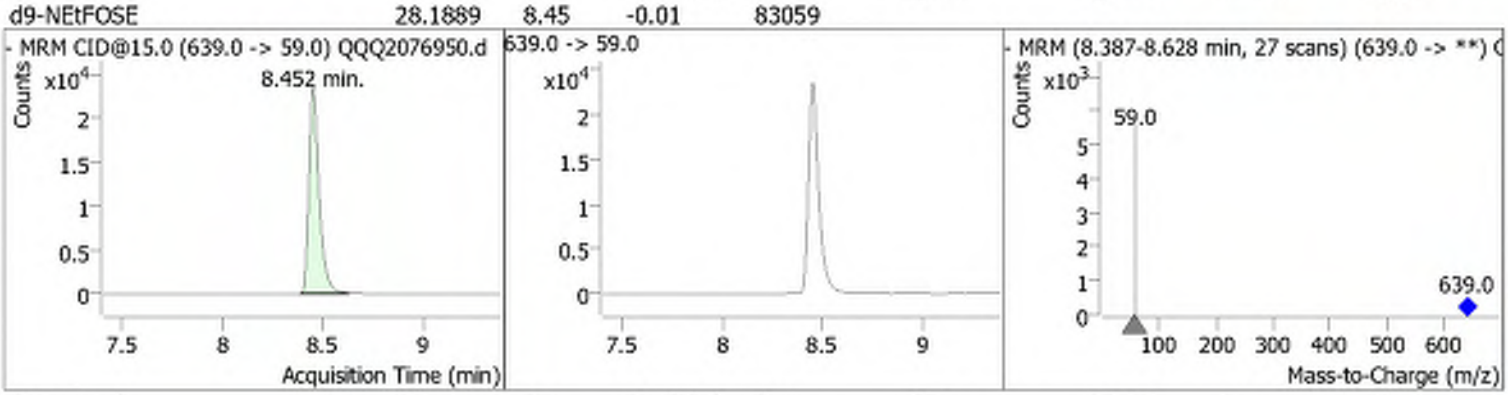
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.1112	8.17	-0.08	26625				



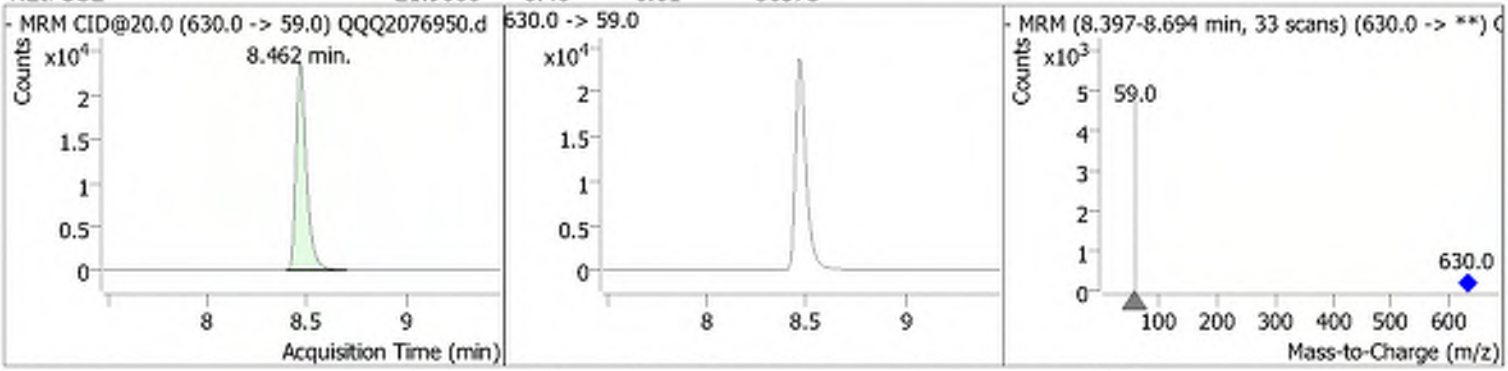
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	23.3881	8.25	-0.01	64082				



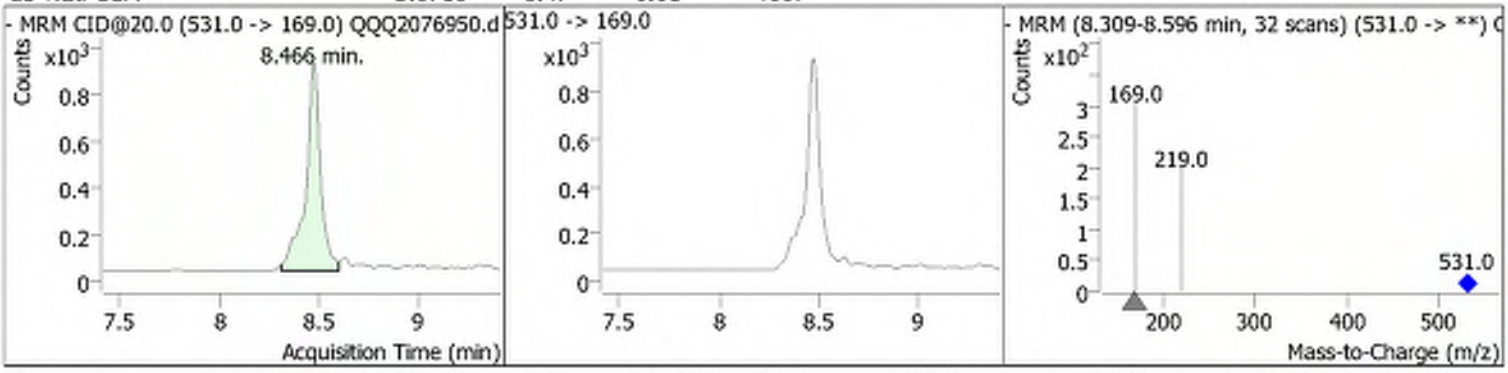
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	28.1889	8.45	-0.01	83059				



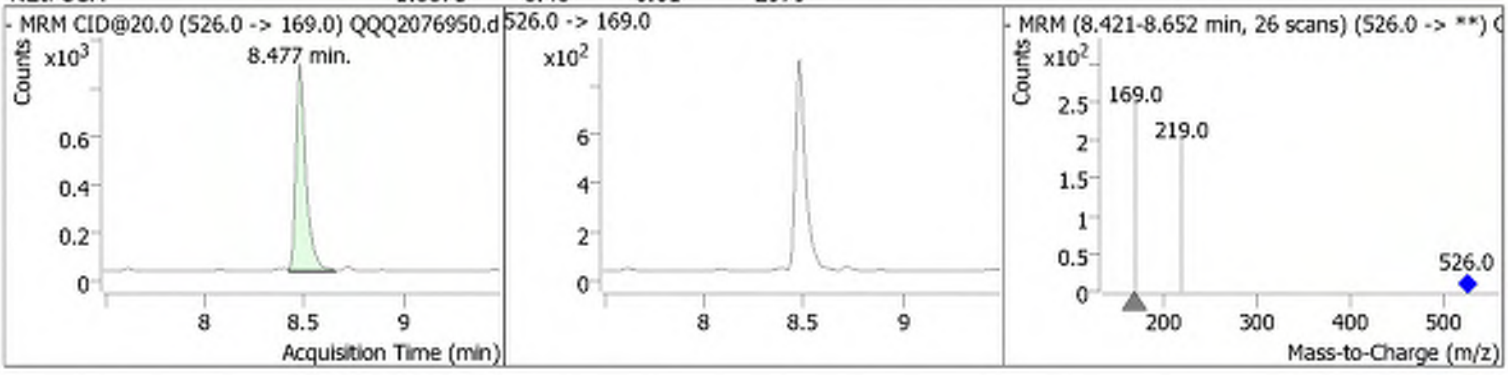
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	21.9060	8.46	-0.01	86373				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	3.6710	8.47	-0.01	4667				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.8873	8.48	-0.01	2979				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077038.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV1	Injection Time:	09:39

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
11CL-PF3OUdS	A	9.45	9.73	0.1365048	0.1412284		3.0	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	8.88	0.9829487	1.117387		13.7	30	
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	9.86	0.8999592	1.032478		14.7	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	8.82	0.9616406	0.9476765		-1.5	30	
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	12.0	7.481766E-03	7.248194E-03		-80.9	30	*
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	64.3	0.1463629	0.1414006		2.7	30	
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	60.4	1.736253	1.673038		383	30	*
9CL-PF3ONS	A	9.35	11.2	0.3910379	0.4261683		19.7	30	
ADONA	A	9.45	9.56	0.3374364	0.3279146		1.2	30	
HFPO-DA (Gen-X)	A	10.0	11.2	0.0204781	2.394948E-02		12.1	30	
N-EtFOSA	A	2.50	1.03	0.9890033	0.3486227		-58.6	30	*
N-EtFOSAA	A	2.50	2.44	0.8333015	0.7420165		-2.2	30	
N-EtFOSE	A	25.0	26.2	1.129564	1.242238		4.8	30	
N-MeFOSA	A	2.50	1.80	1.295508	1.018812		-27.8	30	
N-MeFOSAA	A	2.50	2.50	0.7572478	0.6817238		-0.03	30	
N-MeFOSE	A	25.0	23.3	0.7868612	0.8211191		-6.9	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.62	1.613927	1.66269		3.8	30	
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	2.73	1.090454	1.141225		13.1	30	
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	2.35	3.229874	2.515758		-1.3	30	
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	2.25	2.541268	2.200836		-6.4	30	
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	2.06	1.712752	1.447931		-17.7	30	
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.17	1.404147	1.310563		-7.9	30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.84	0.7000326	0.8300549		16.9	30	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077038.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV1	Injection Time:	09:39

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.17	0.757603	0.7940007		3.4	30
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.75	1.071309	1.078711		-5.1	30
Perfluorobutanesulfonic acid (PFBS)	A	2.22	2.20	1.34399	1.269144		-1.0	30
Perfluorodecanoic acid (PFDA)	A	2.50	2.71	1.963699	2.256072		8.3	30
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	2.90	1.100267	1.154909		19.8	30
Perfluorododecanoic acid (PFDoA)	A	2.50	2.13	0.8597345	0.7317236		-14.7	30
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.29	1.318827	1.23318		-8.4	30
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	2.60	1.421744	1.642172		14.1	30
Perfluorohexanoic acid (PFHxA)	A	2.50	2.64	1.24236	1.246162		5.5	30
Perfluoro-n-butanoic acid (PFBA)	A	10.0	9.99	1.241515	1.260806		-0.1	30
Perfluorononanoic acid (PFNA)	A	2.50	1.80	6.653904	5.117812		-23.1	30
Perfluorooctanesulfonic acid (PFOS)	A	2.32	2.93	1.806429	1.654598		26.4	30
Perfluorooctanoic acid (PFOA)	A	2.50	2.65	1.548646	1.531127		5.8	30
Perfluoropentanoic acid (PFPeA)	A	5.00	4.56	1.047367	0.9987001		-8.7	30
Perfluorotetradecanoic acid (PFTA)	A	2.50	2.14	1.414068	1.20396		-14.5	30
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.42	0.7557259	0.7522307		-3.2	30
Perfluoroundecanoic acid (PFUnA)	A	2.50	3.09	1.039554	1.020495		23.7	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077038.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 9:39:28 AM
Sample Name	SEQ-CCV1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.161	216.0 -> 172.0	42069	5.0000	ng/ml	-0.046
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.159	217.0 -> 172.0	59844	10.0000	ng/ml	-0.046
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.322	268.0 -> 223.0	29986	5.0000	ng/ml	-0.065
MPFHxA	4.651	315.0 -> 269.8	36343	2.5000	ng/ml	-0.047
MPFHxS	5.476	403.0 -> 103.0	2907	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	10376	2.3300	ng/ml	-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	24274	2.5000	ng/ml	-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	11949	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	8343	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	65528	10.0000	ng/ml	-0.056
M4PFHpA-EIS	5.393	367.0 -> 322.0	27825	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	6642	4.7550	ng/ml	-0.065
MPFOA	5.970	417.0 -> 372.0	33006	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	16983	2.5000	ng/ml	-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	3667	2.3950	ng/ml	-0.065
MPFNA	6.474	468.0 -> 423.0	13031	1.2500	ng/ml	-0.065
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1854	1.2500	ng/ml	-0.066
MPFOS	6.501	503.0 -> 80.0	8503	2.3950	ng/ml	-0.075
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	3906	4.8000	ng/ml	-0.066
MPFDA	6.921	515.0 -> 469.8	12064	1.2500	ng/ml	-0.066
M6PFDA-EIS	6.920	519.0 -> 473.9	4681	1.2500	ng/ml	-0.066
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	17278	5.0000	ng/ml	-0.065
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	16689	5.0000	ng/ml	-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	11145	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	16733	2.5000	ng/ml	-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	10598	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.173	715.0 -> 670.0	11560	1.2500	ng/ml	-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	2421	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	69830	25.0000	ng/ml	-0.009
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	62731	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	7845	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.159	217.0 -> 172.0	59844	10.3853	ng/ml	-0.046
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.322	268.0 -> 223.0	29986	5.0960	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.837	302.0 -> 79.9	10376	2.6832	ng/ml	-0.055
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	11949	7.5476	ng/ml	-0.047

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.650	318.0 -> 273.0	24274	2.4728	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	65528	11.4469	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	27825	2.5097	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	8343	2.5684	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	6642	7.7347	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	16983	2.3340	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1854	1.3822	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	3667	2.9791	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.901	529.0 -> 509.0	3906	5.2912	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.920	519.0 -> 473.9	4681	0.9997	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.087	573.0 -> 418.8	17278	6.0070	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	16689	5.7742	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	11145	1.2009	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	16733	2.3973	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	10598	1.3717	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	69830	24.1609	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	2421	2.7157	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.173	715.0 -> 670.0	11560	1.4177	ng/ml	-0.084
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	62731	22.0839	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	7845	6.4013	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.163	213.0 -> 168.9	75451	9.9883	ng/ml	100
PFMPA	1.987	229.0 -> 85.0	23809	5.1681	ng/ml	100
3:3FTCA	3.231	241.0 -> 177.0	4406	11.9722	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.332	263.0 -> 219.0	29947	4.5632	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	11693	2.1984	ng/ml	100
PFMBA	3.858	279.0 -> 85.0	32346	4.7474	ng/ml	100
PFEESA	4.335	315.0 -> 135.0	71842	4.6209	ng/ml	100
NFDHA	4.504	295.0 -> 201.1	40298	5.8447	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	23143	9.8594	ng/ml	100

Quantitation Results Report (Not Reviewed)

Agilent

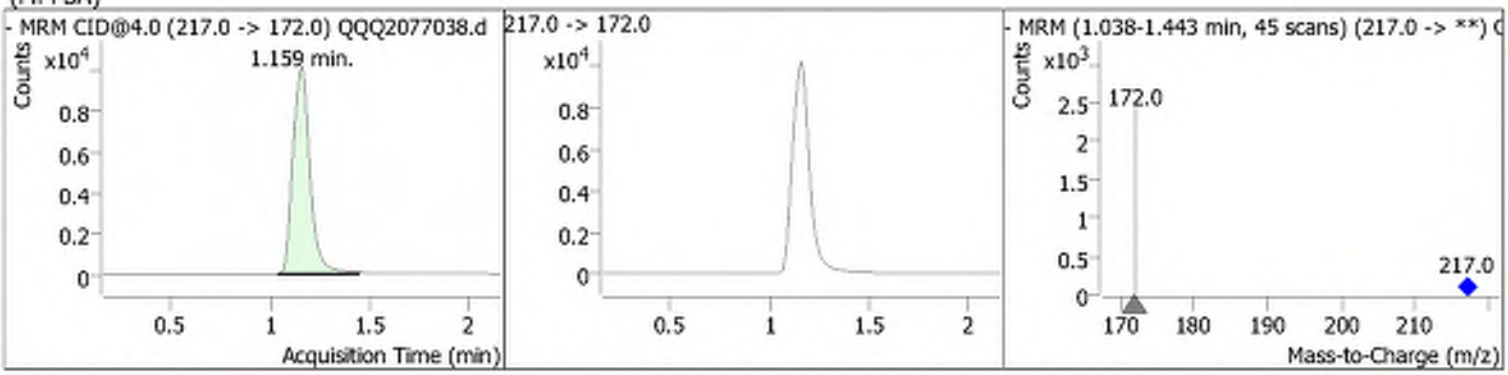
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	30250	2.6382	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	10278	2.1654	ng/ml		100
HFPO-DA	4.904	285.0 -> 169.1	6277	11.2100	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	34313	2.2910	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	12495	2.6010	ng/ml	m	100
5-3FTCA	5.478	341.0 -> 217.0	85947	64.3062	ng/ml		100
ADONA	5.495	377.0 -> 85.0	81223	9.5590	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.932	427.0 -> 407.0	11959	8.8245	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	26003	2.6452	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.015	448.9 -> 80.0	8782	2.3502	ng/ml		100
Perfluorononanoic acid (PFNA)	6.474	463.0 -> 418.8	18974	1.8036	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.501	498.9 -> 79.9	5631	2.9318	ng/ml	m	100
7-3FTCA	6.624	441.0 -> 337.0	125420	60.4141	ng/ml		100
9-Cl-PF3ONS	6.751	531.0 -> 351.0	104443	11.1885	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.901	527.0 -> 80.9	8379	8.8803	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.911	513.0 -> 468.8	21123	2.7084	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.929	548.9 -> 79.9	7748	2.2464	ng/ml		100
N-MeFOSAA	7.097	570.0 -> 418.9	5889	2.4993	ng/ml	m	100
N-EtFOSAA	7.274	584.0 -> 418.8	6192	2.4447	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.292	598.9 -> 98.9	4034	2.7258	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.293	563.0 -> 519.0	22747	3.0916	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	24228	2.0582	ng/ml		100
11-Cl-PF3OUdS	7.486	631.0 -> 451.0	34982	9.7290	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.627	613.0 -> 568.8	15510	2.1325	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.904	699.0 -> 80.0	4100	2.9001	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.914	663.0 -> 618.8	17392	2.4209	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	2467	1.8044	ng/ml	m	100
Perfluorotetradecanoic acid (PFTA)	8.173	713.0 -> 669.0	27836	2.1378	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	57339	23.2675	ng/ml		100
NEtFOSE	8.462	630.0 -> 59.0	77927	26.1894	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	2735	1.0345	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

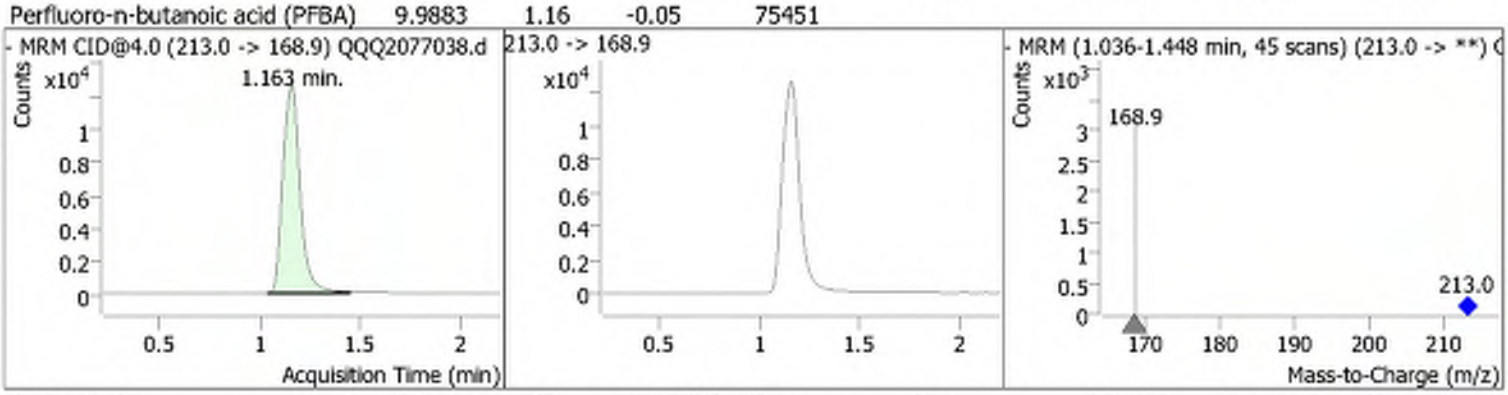
Quantitation Results Report (Not Reviewed)

Agilent

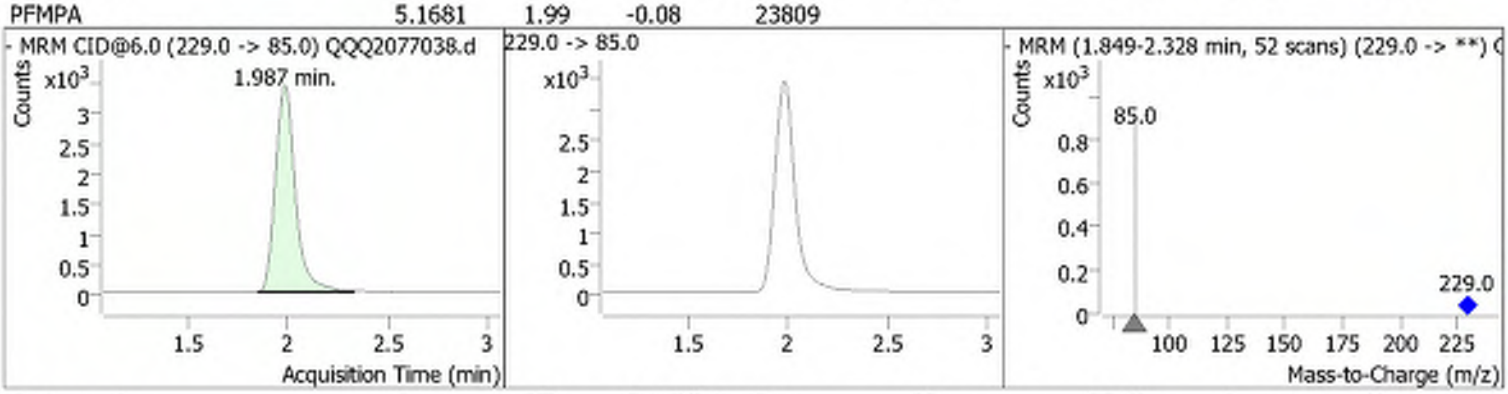
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.3853	1.16	-0.05	59844				



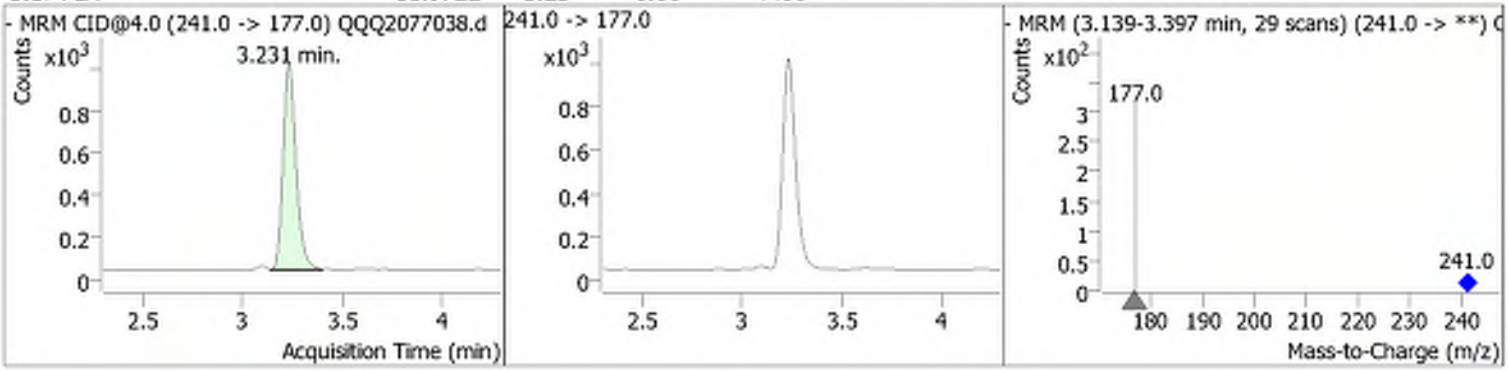
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	9.9883	1.16	-0.05	75451				



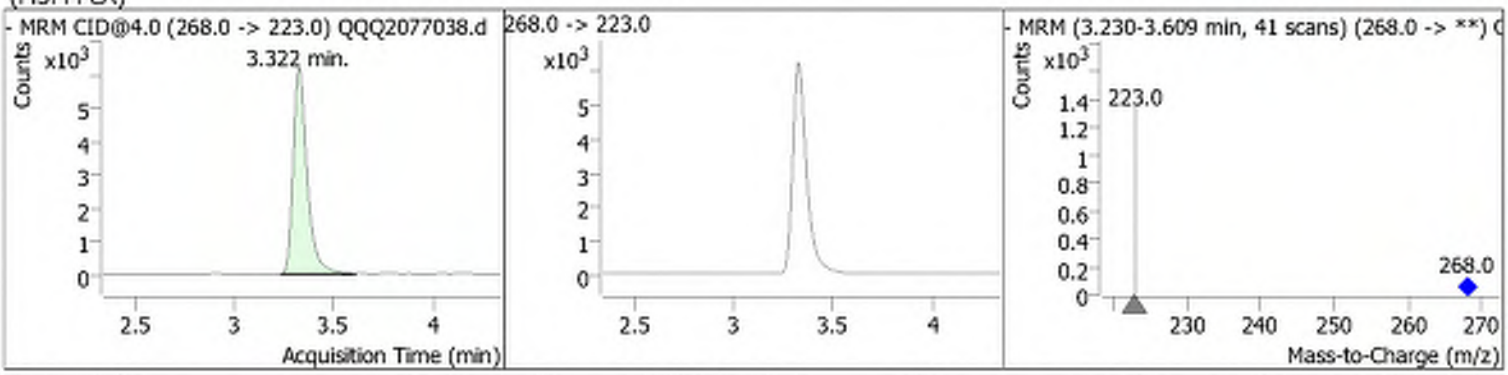
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.1681	1.99	-0.08	23809				



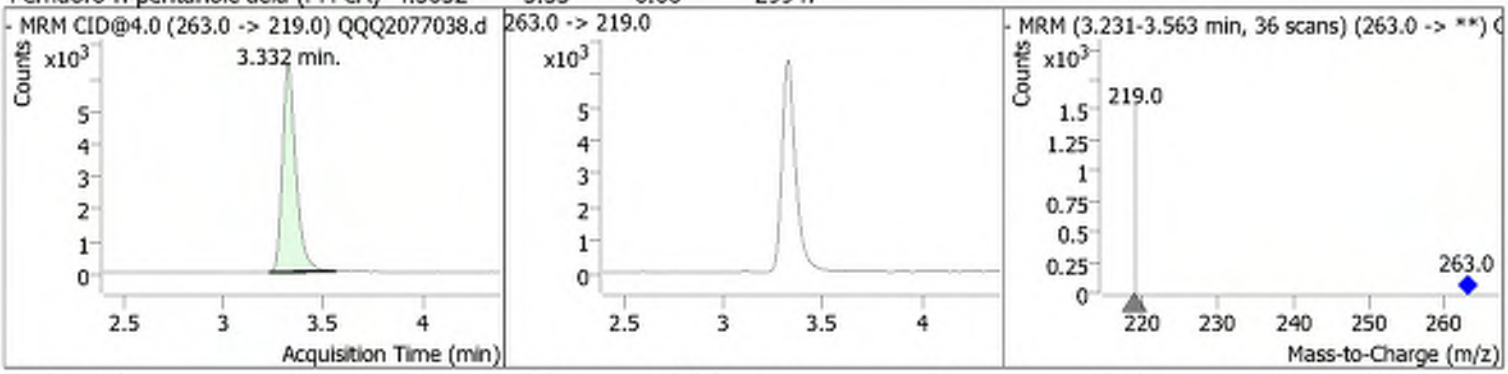
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	11.9722	3.23	-0.06	4406				



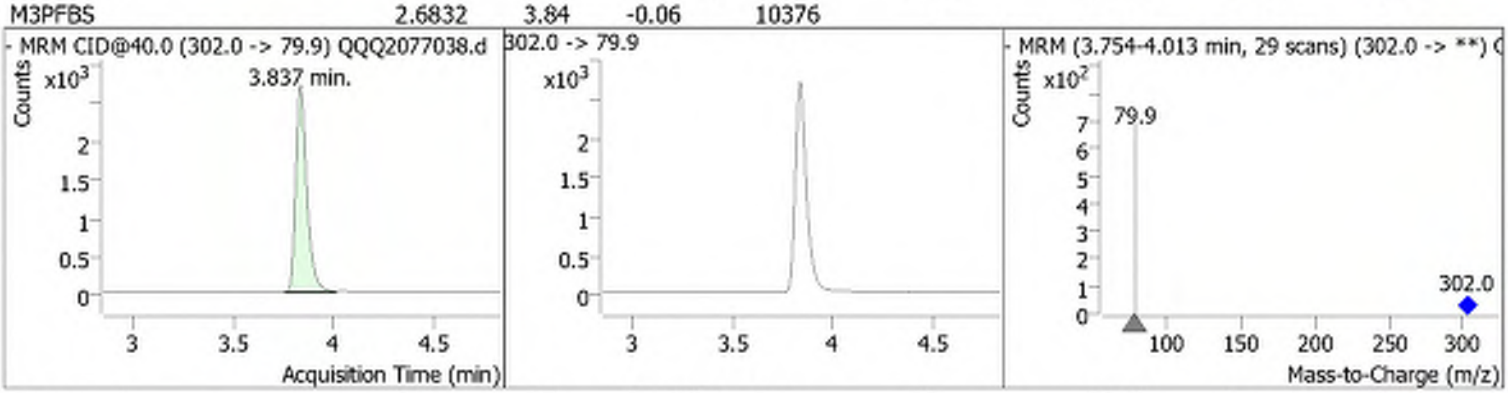
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.0960	3.32	-0.06	29986				



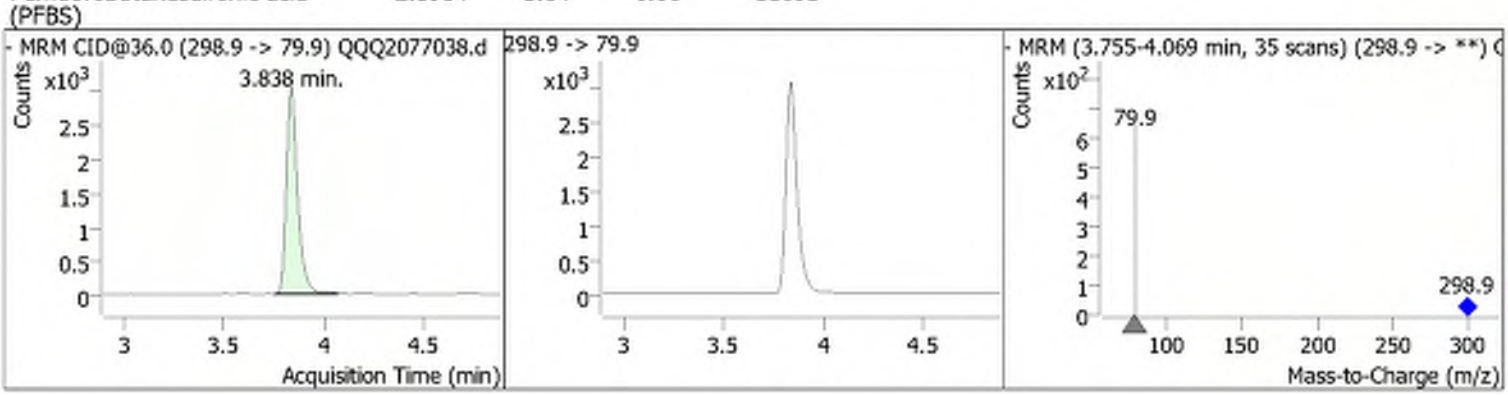
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.5632	3.33	-0.06	29947				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.6832	3.84	-0.06	10376				

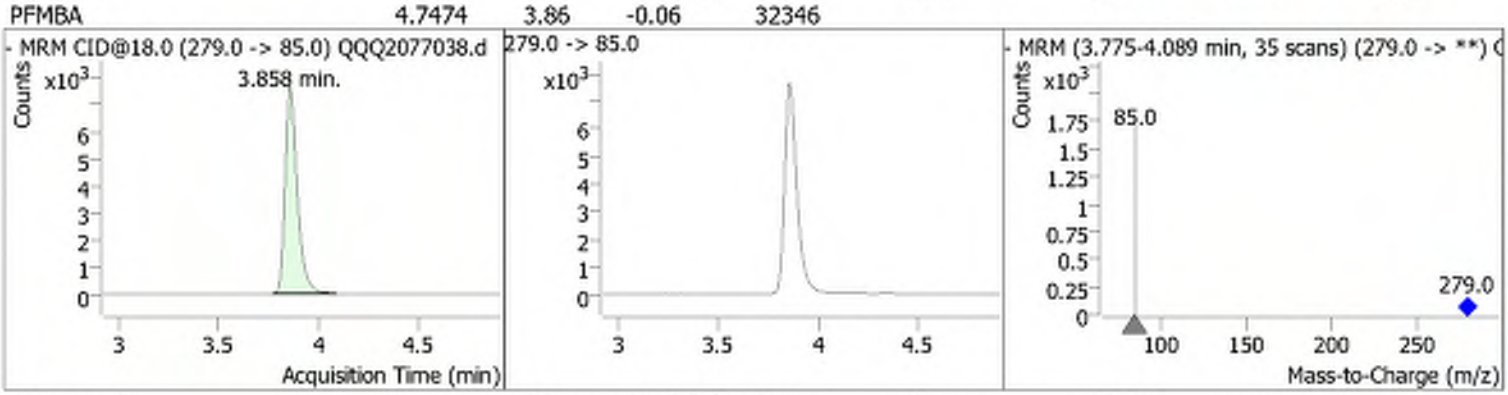


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.1984	3.84	-0.06	11693				

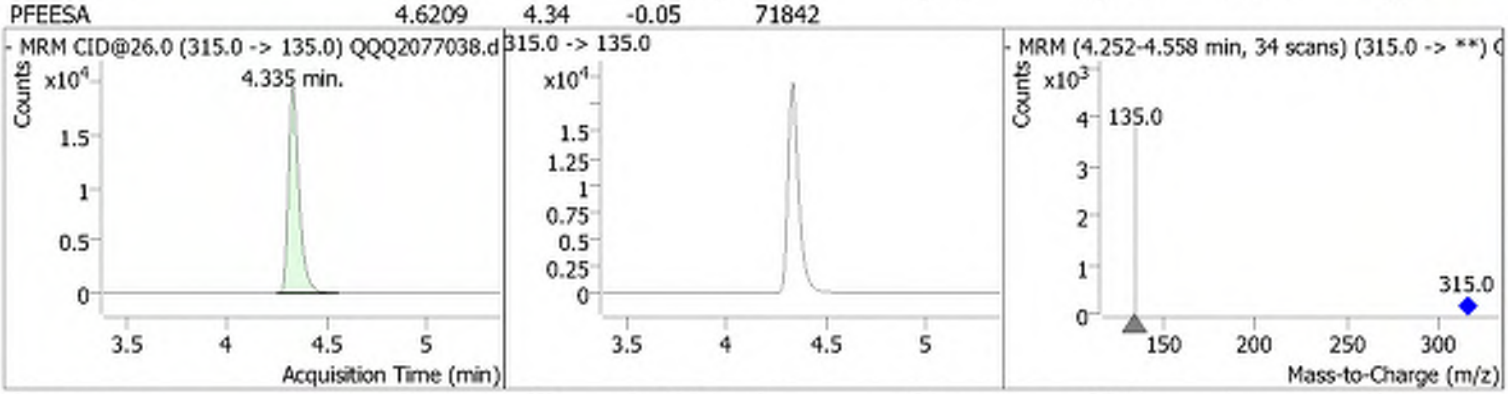


Quantitation Results Report (Not Reviewed)

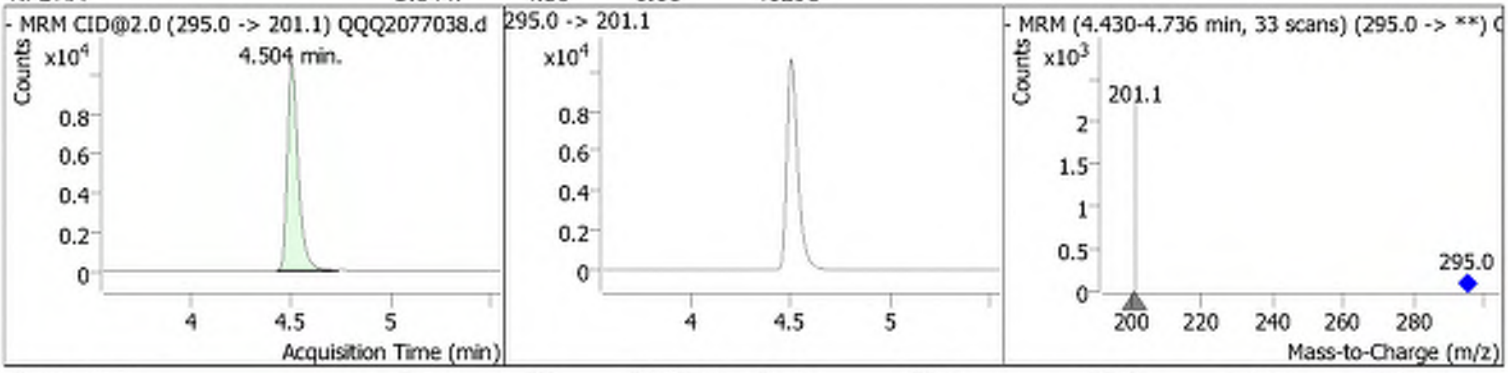
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.7474	3.86	-0.06	32346				



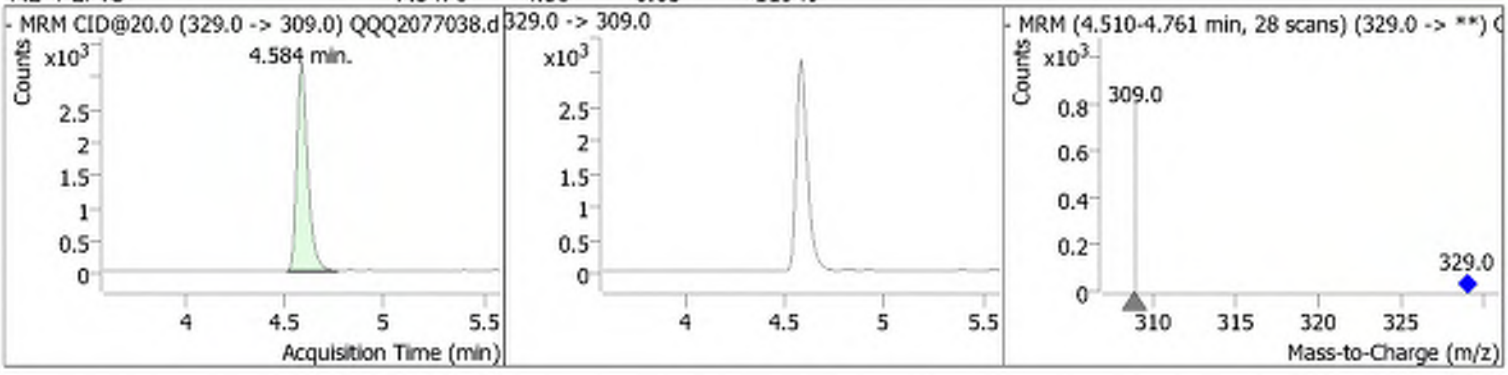
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.6209	4.34	-0.05	71842				



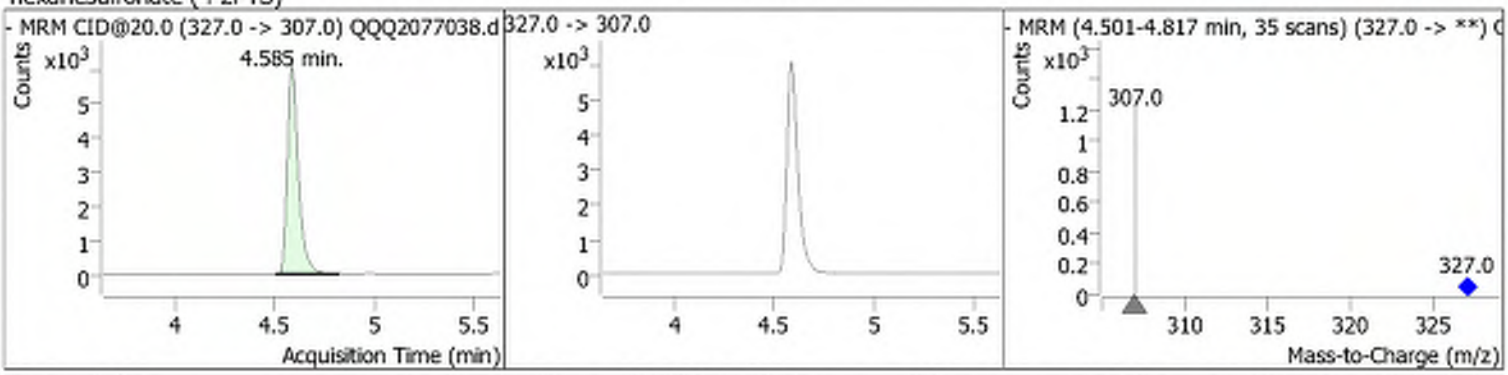
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.8447	4.50	-0.06	40298				



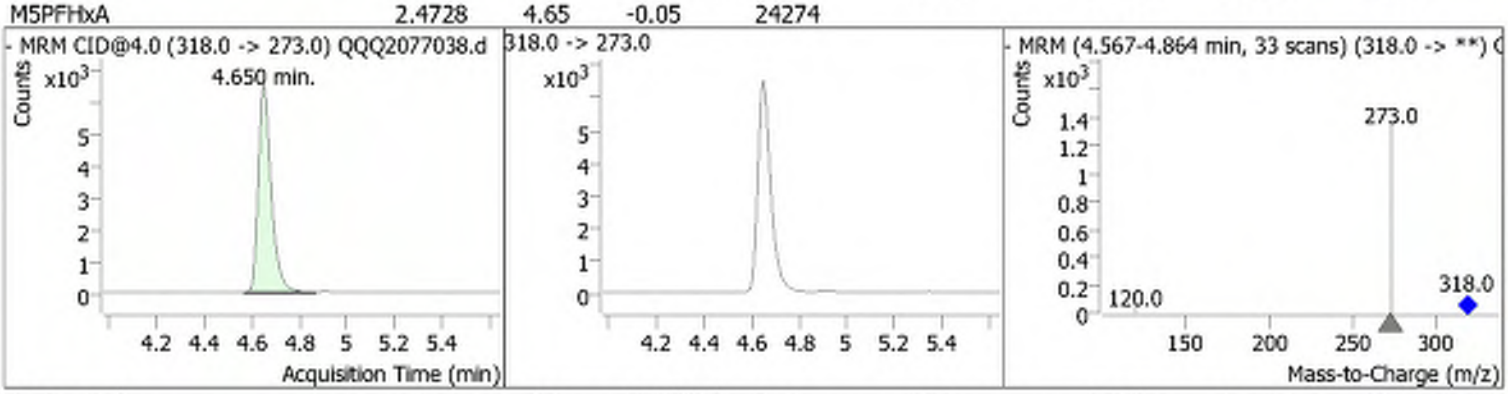
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	7.5476	4.58	-0.05	11949				



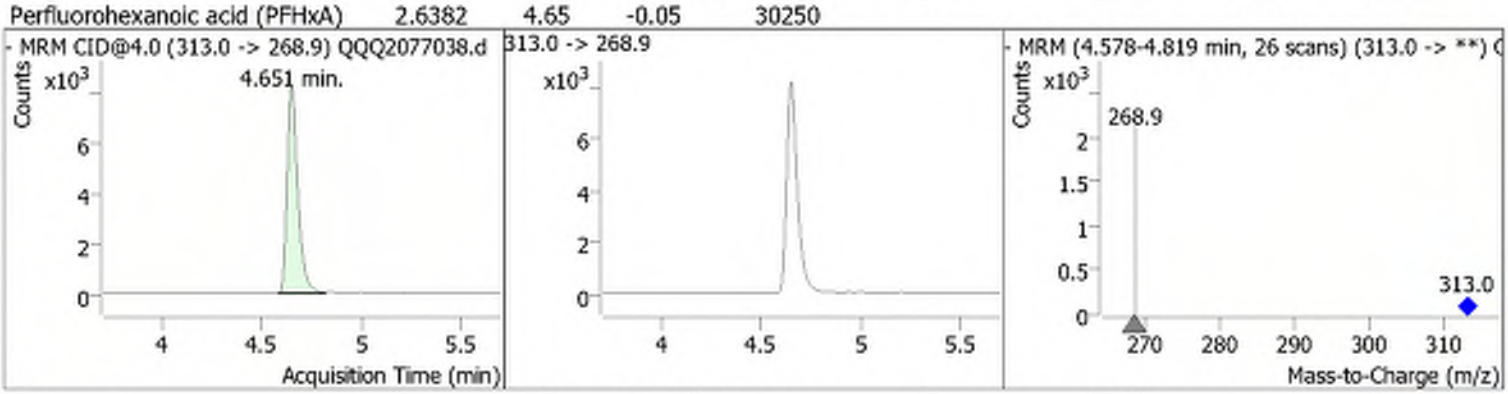
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.8594	4.58	-0.05	23143				



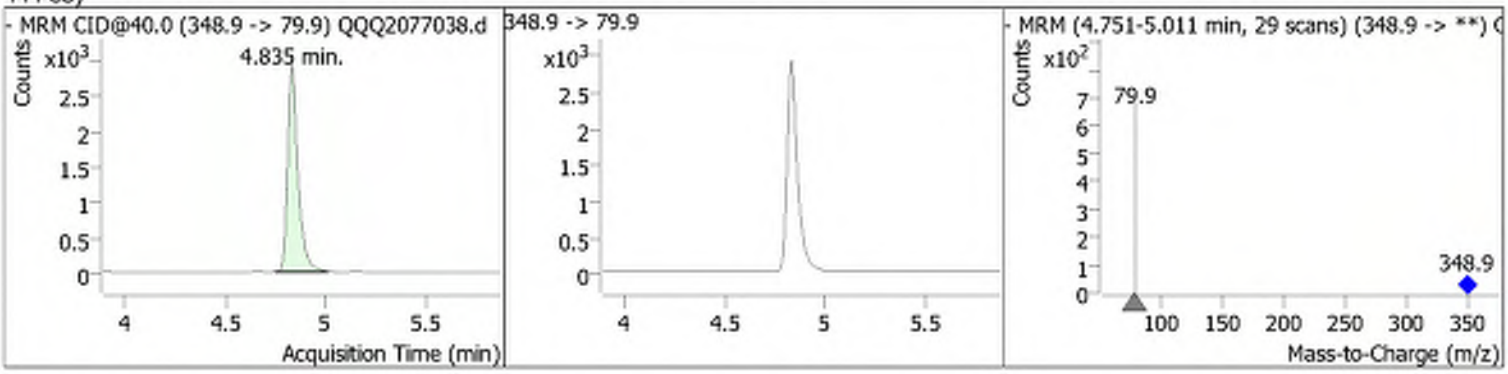
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4728	4.65	-0.05	24274				



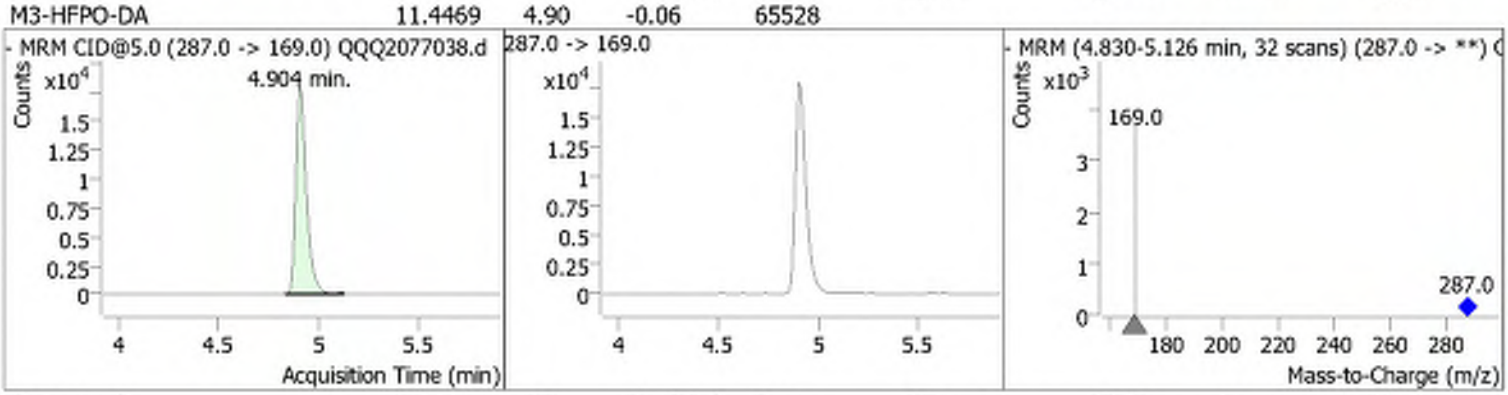
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.6382	4.65	-0.05	30250				



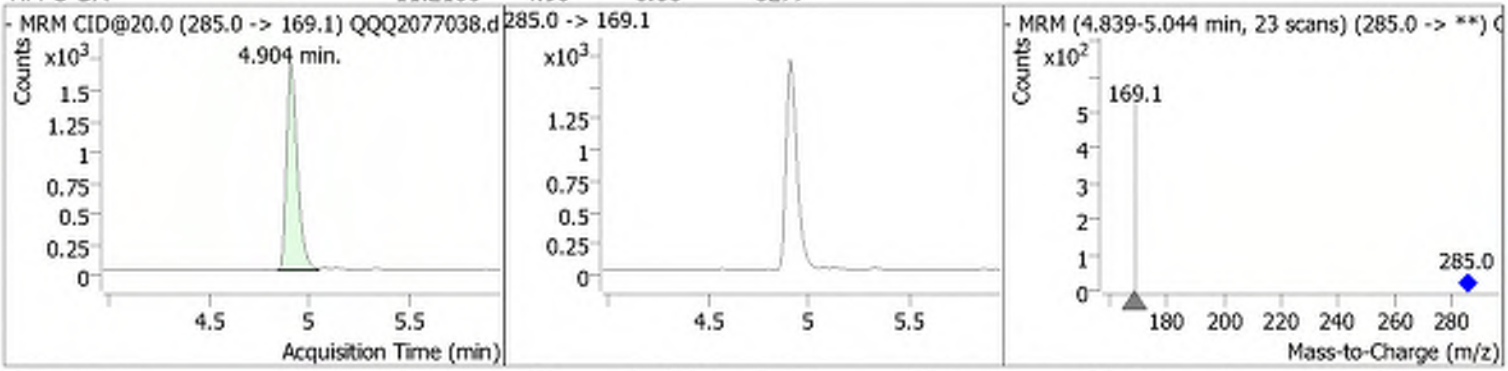
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.1654	4.83	-0.05	10278				



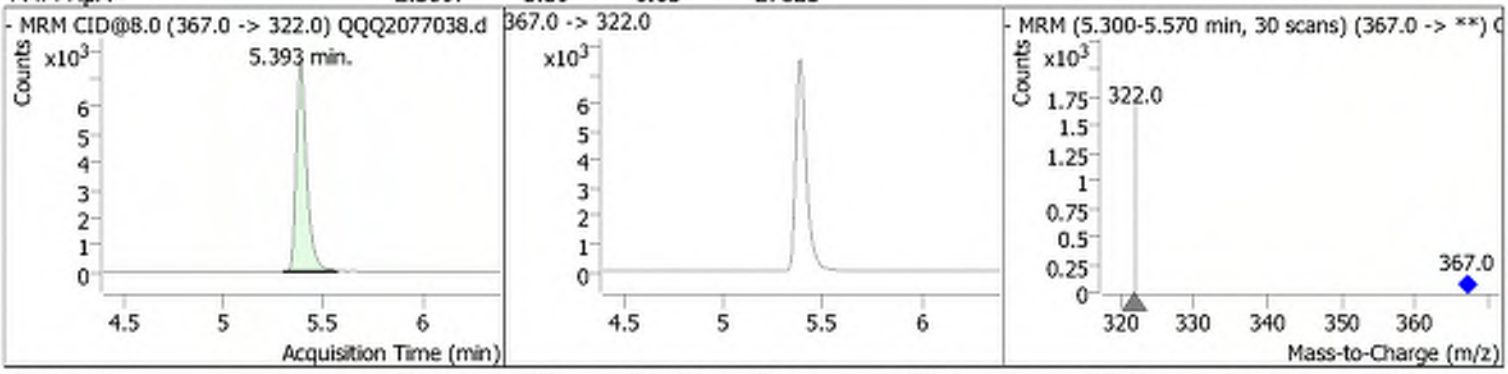
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.4469	4.90	-0.06	65528				



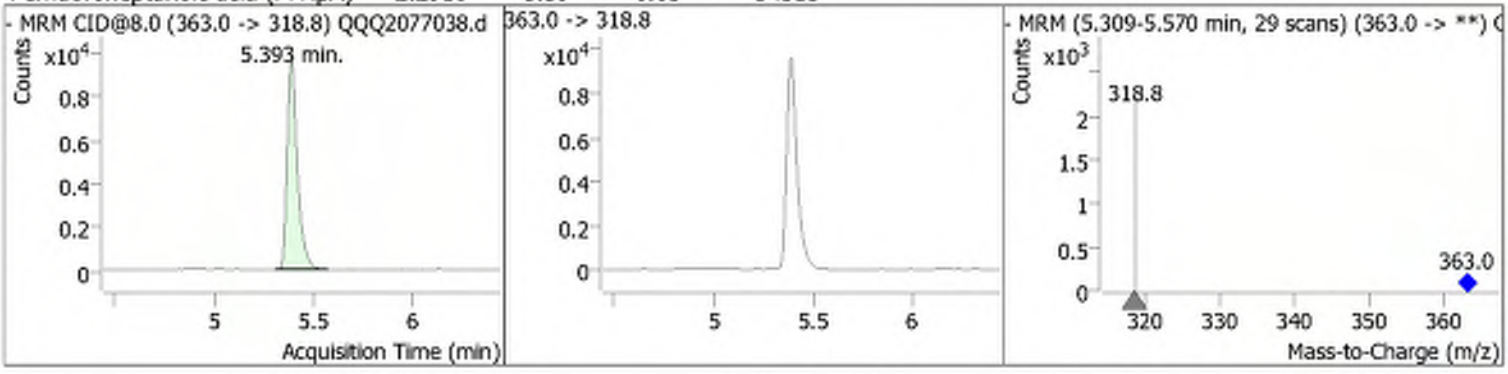
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	11.2100	4.90	-0.06	6277				



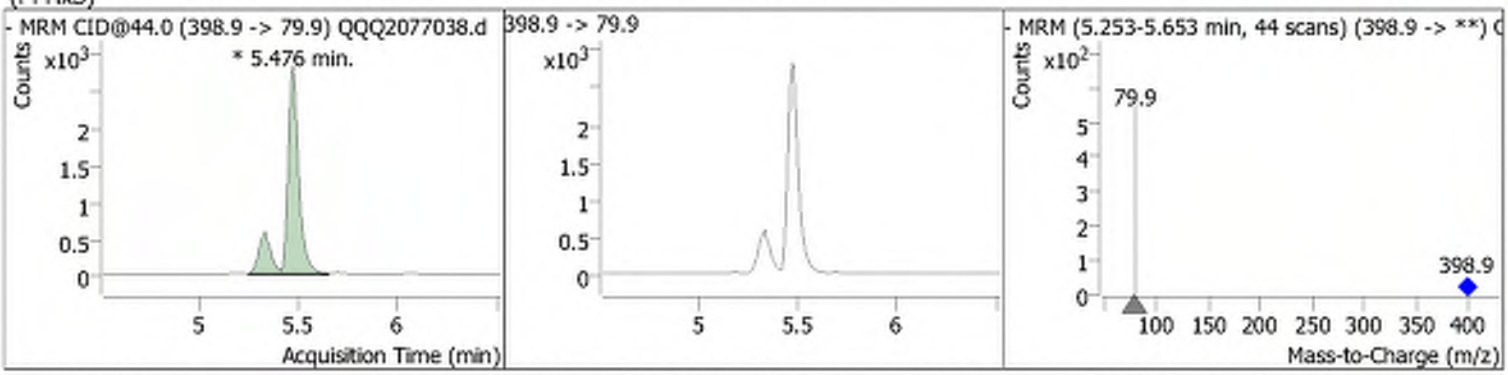
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5097	5.39	-0.05	27825				



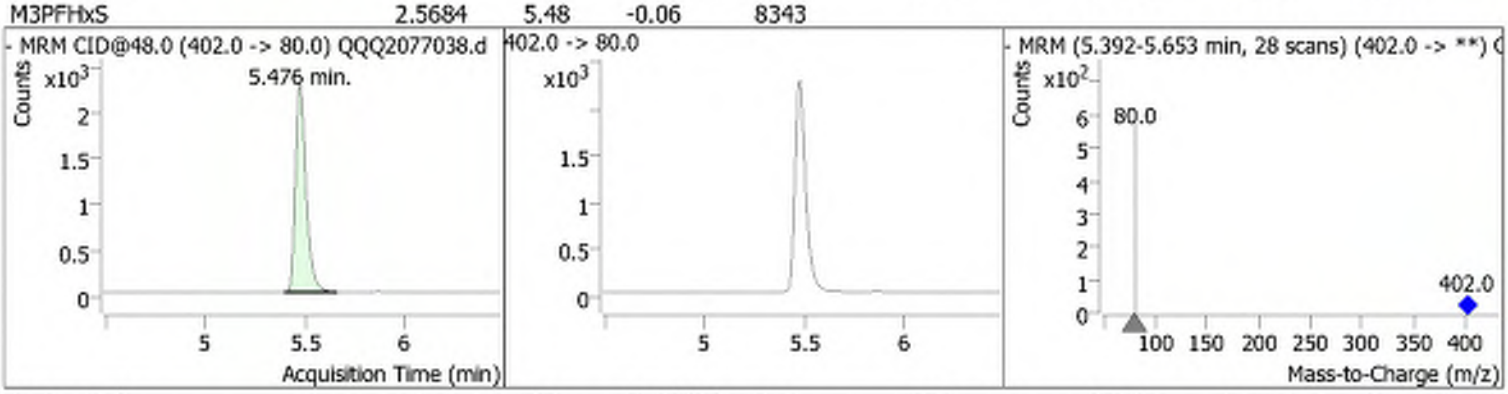
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.2910	5.39	-0.05	34313				



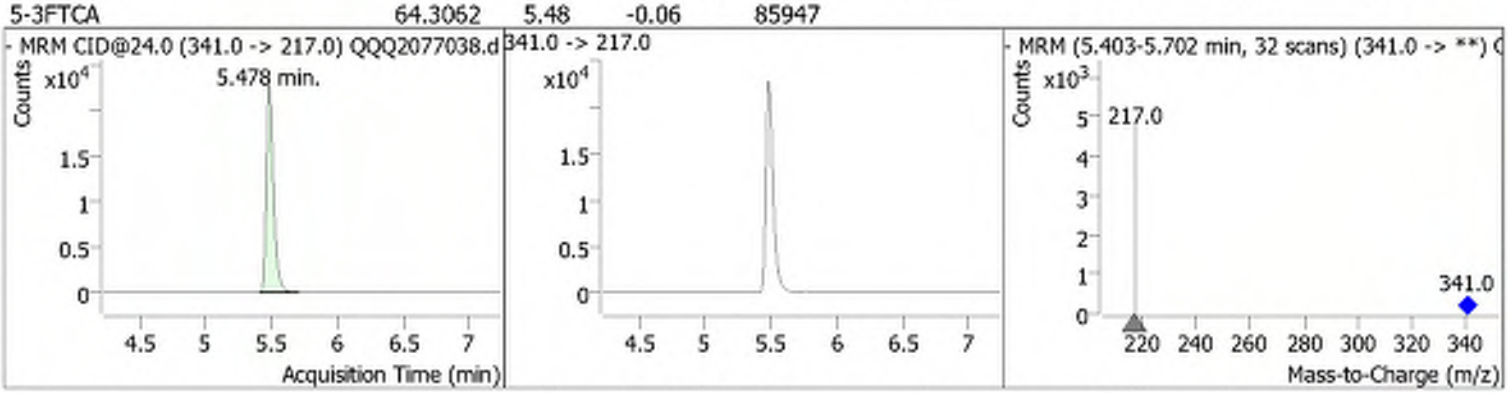
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.6010	5.48	-0.05	12495 (m)				



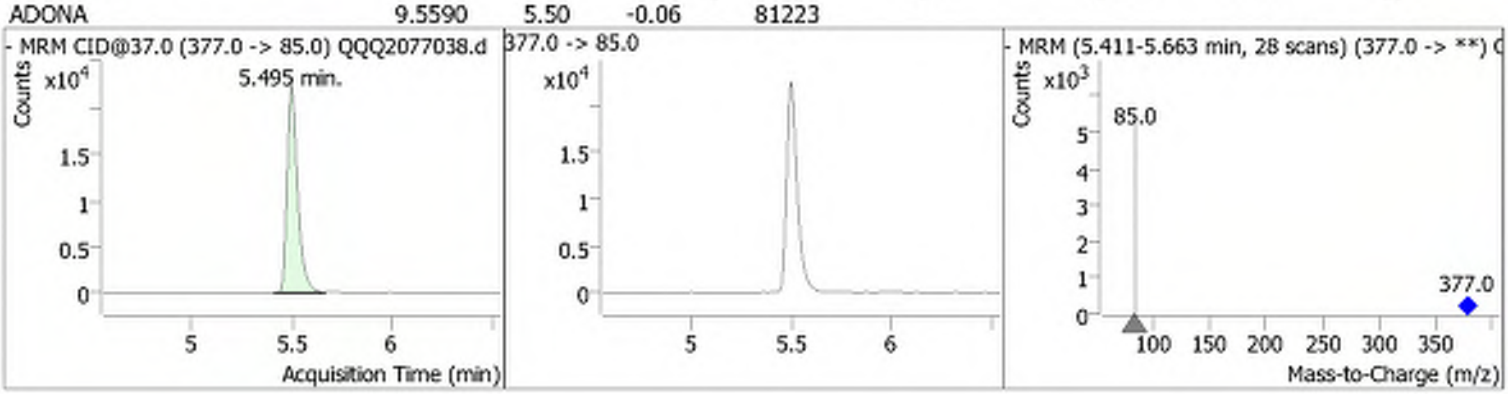
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.5684	5.48	-0.06	8343				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	64.3062	5.48	-0.06	85947				

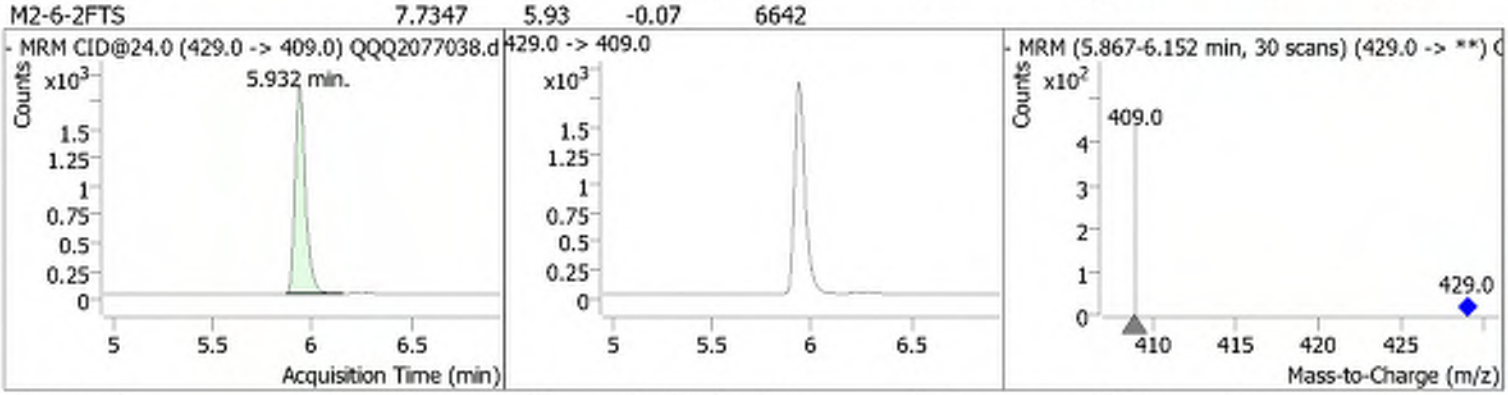


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	9.5590	5.50	-0.06	81223				

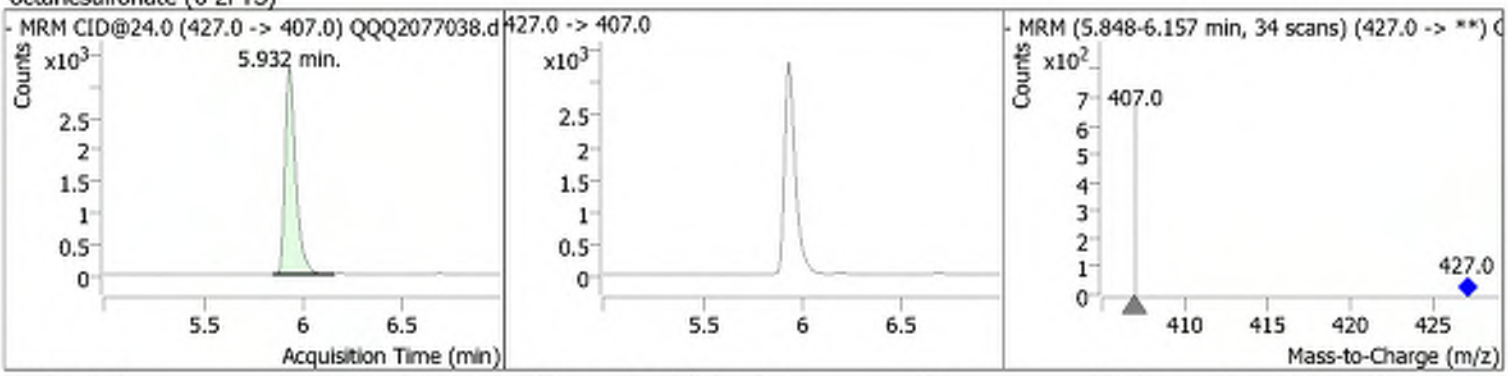


Quantitation Results Report (Not Reviewed)

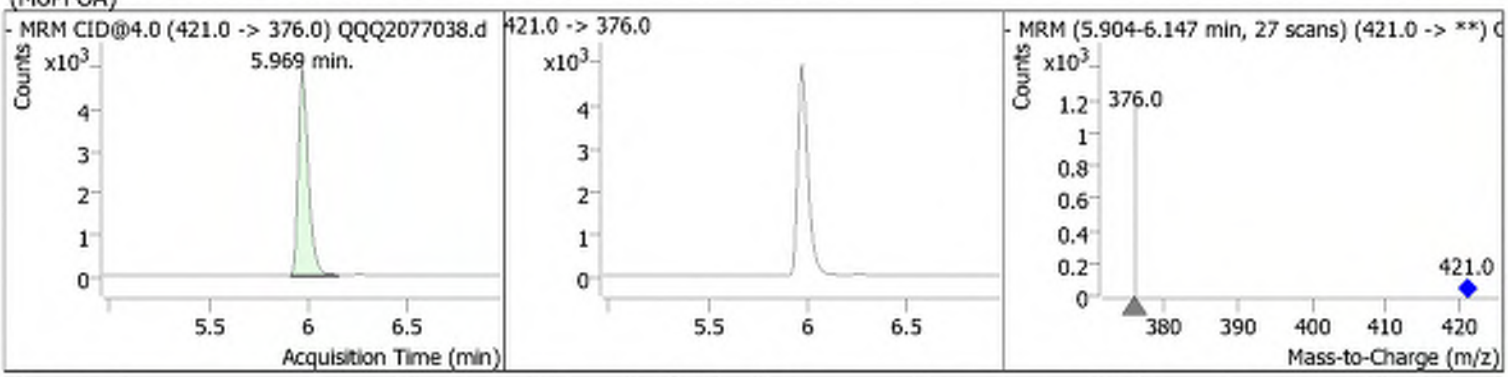
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	7.7347	5.93	-0.07	6642				



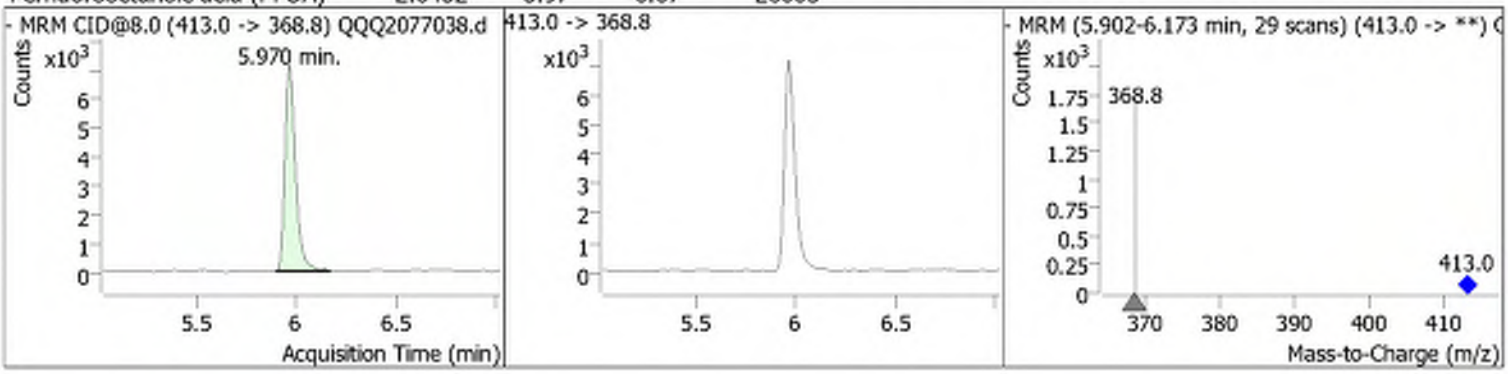
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	8.8245	5.93	-0.07	11959				



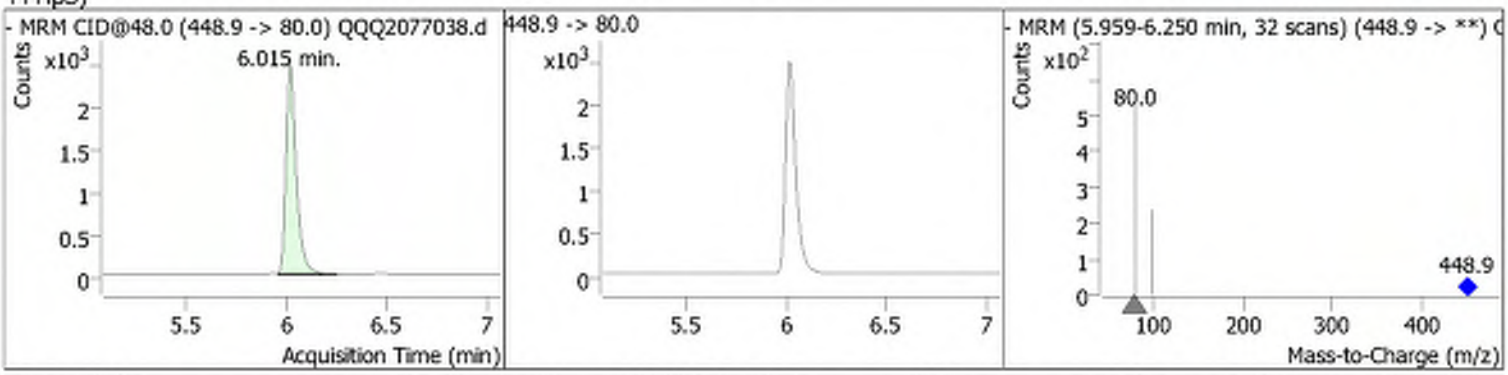
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.3340	5.97	-0.07	16983				



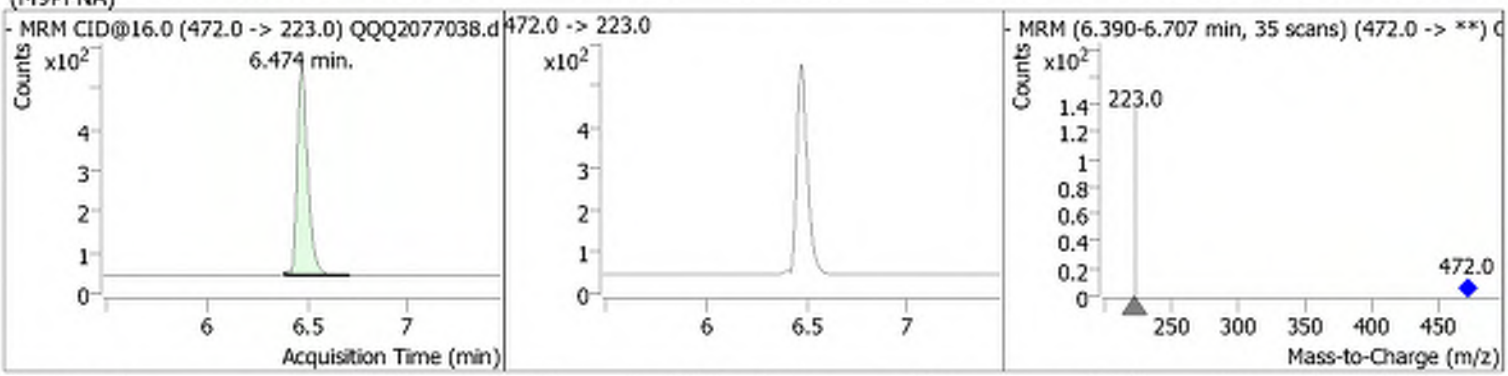
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.6452	5.97	-0.07	26003				



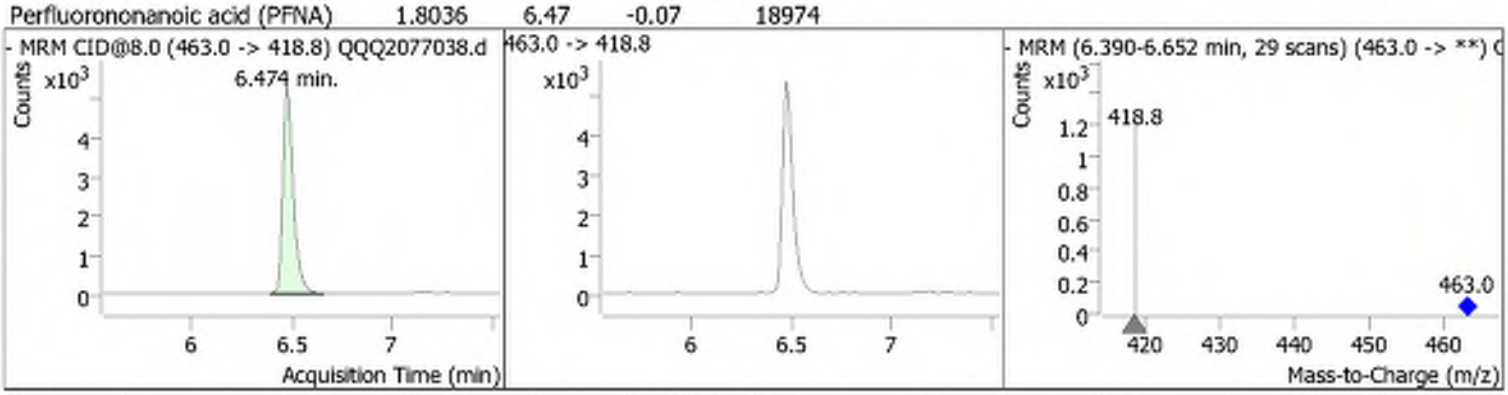
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	2.3502	6.02	-0.07	8782				



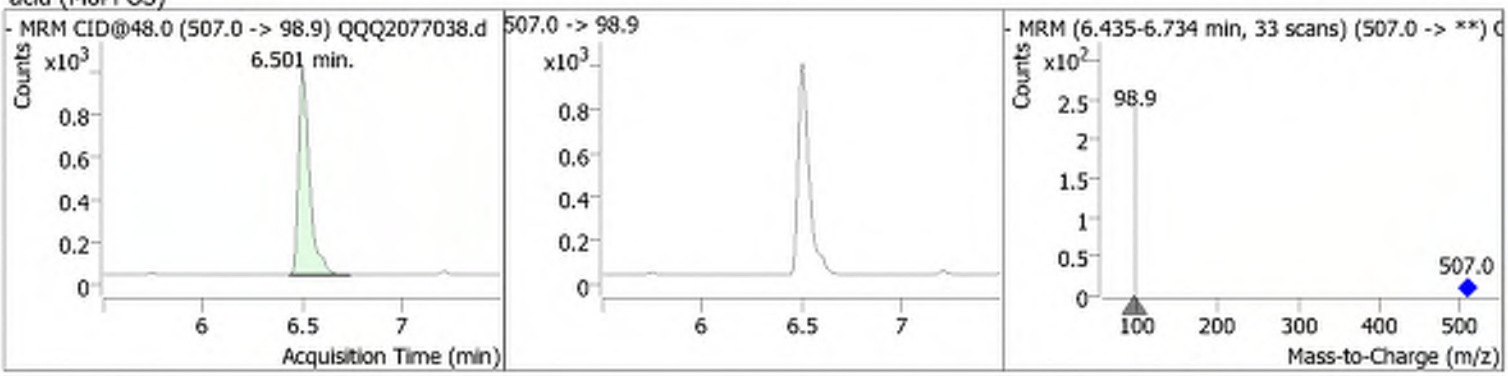
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3822	6.47	-0.07	1854				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	1.8036	6.47	-0.07	18974				

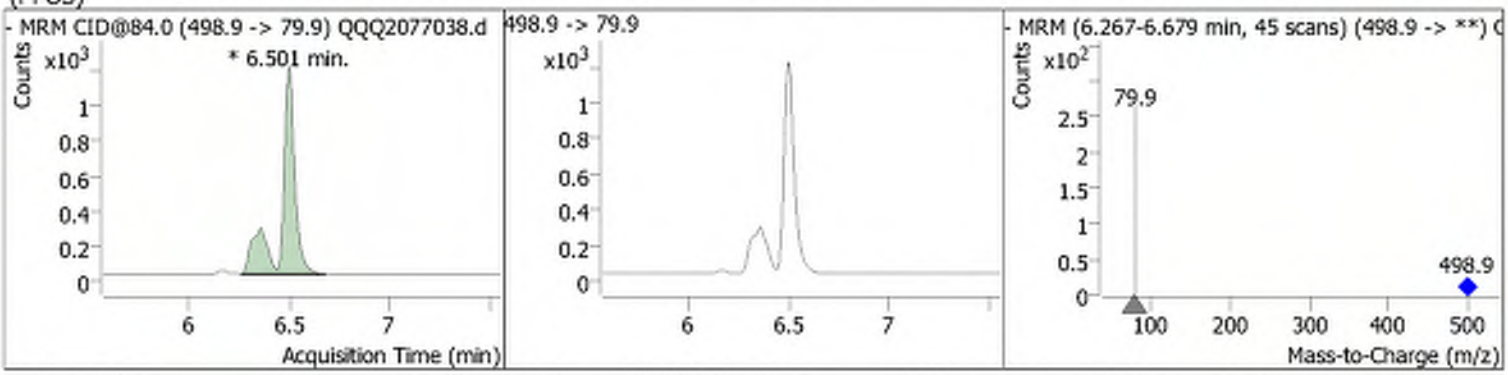


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.9791	6.50	-0.07	3667				

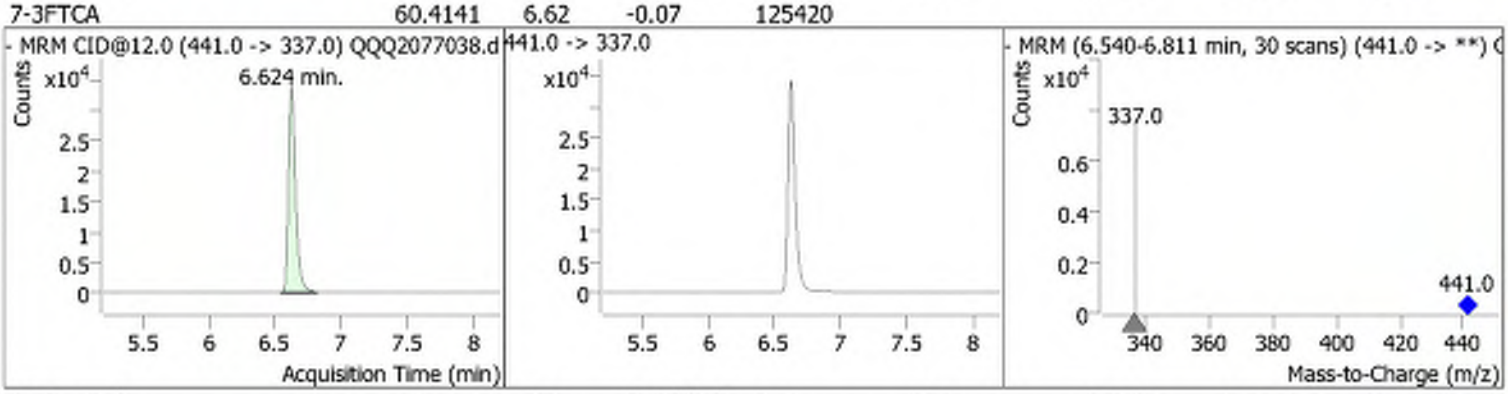


Quantitation Results Report (Not Reviewed)

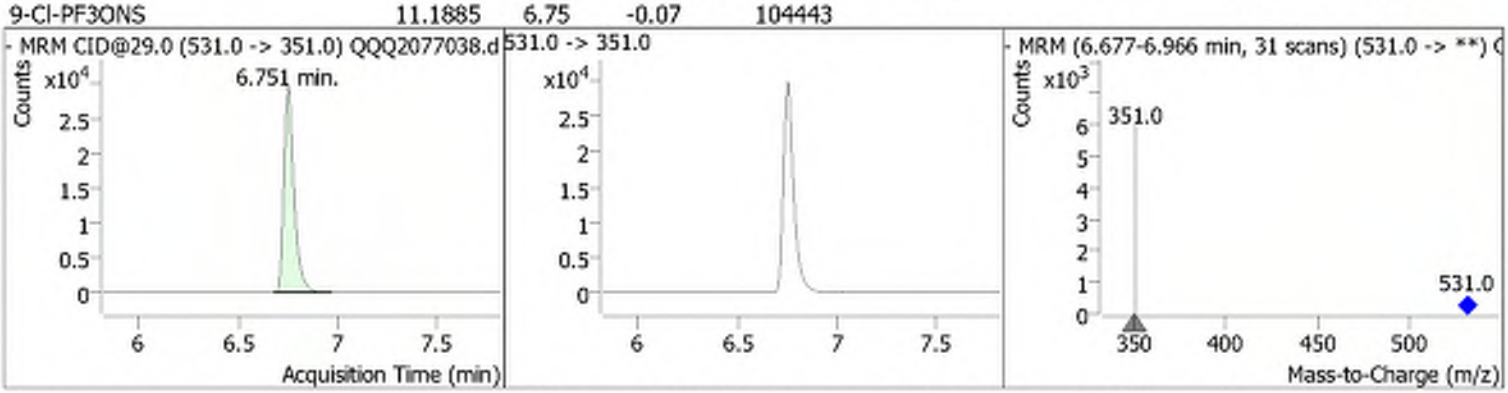
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.9318	6.50	-0.07	5631 (m)				



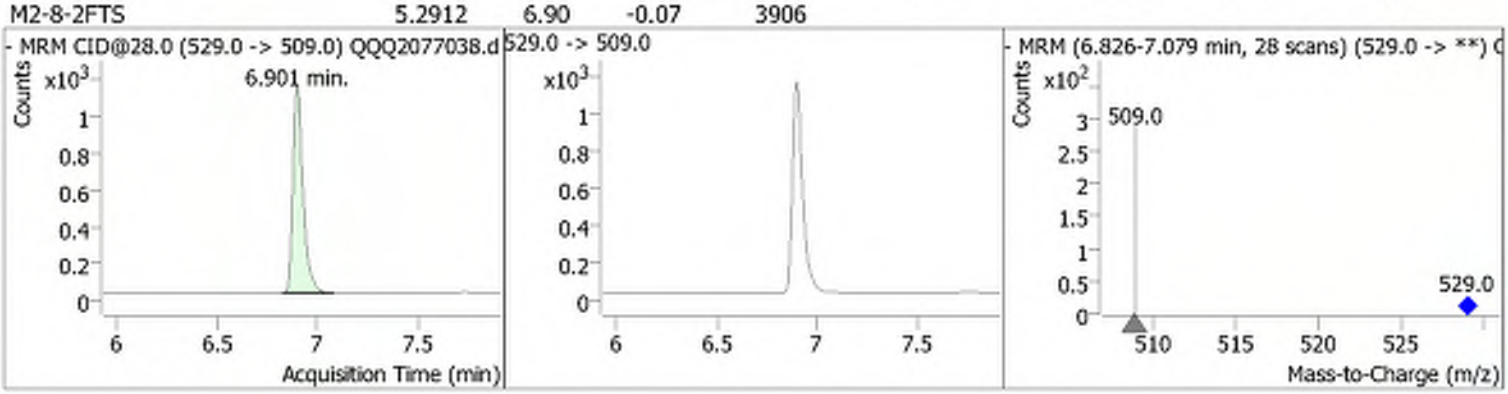
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	60.4141	6.62	-0.07	125420				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	11.1885	6.75	-0.07	104443				



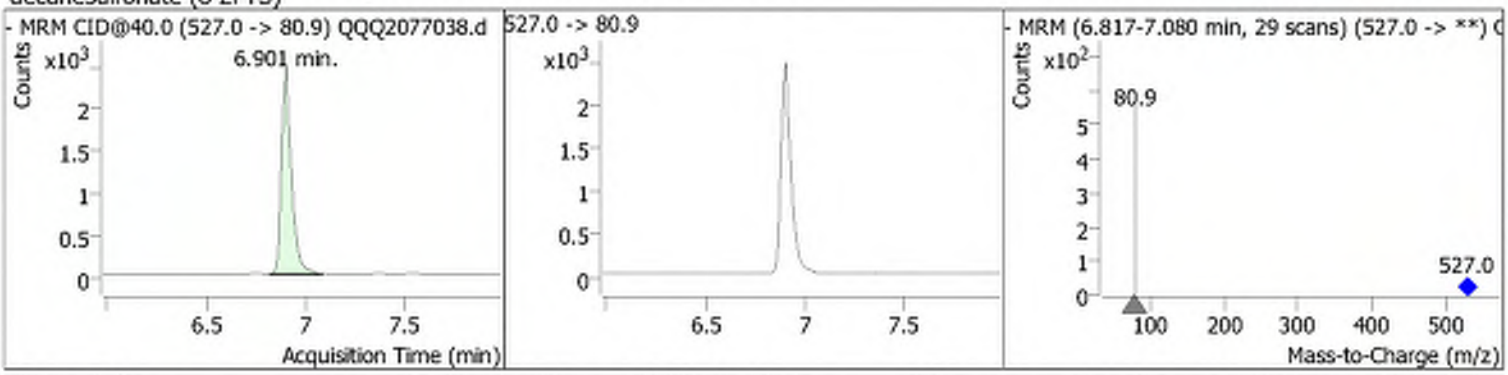
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.2912	6.90	-0.07	3906				



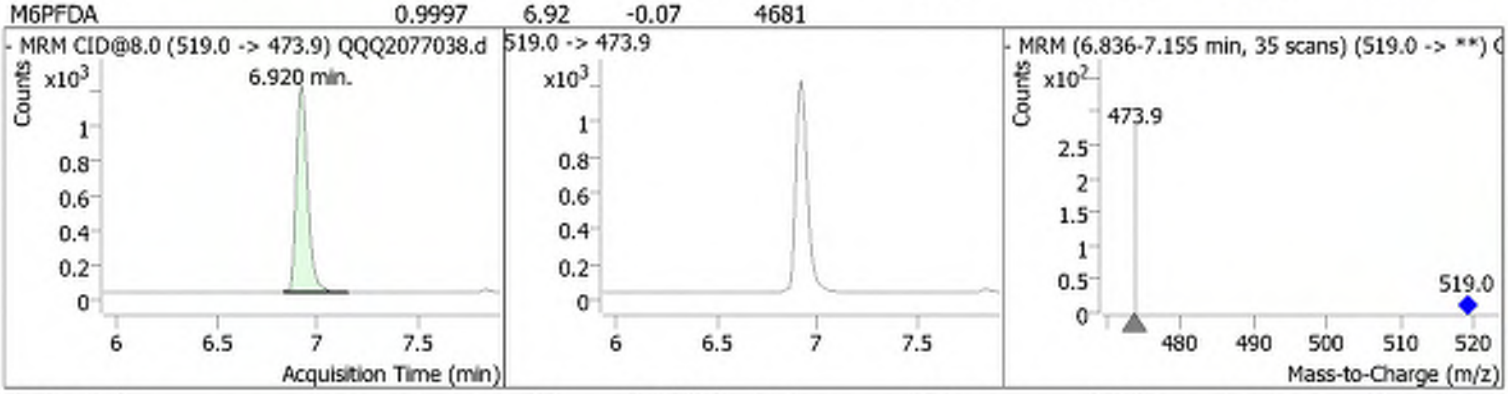
Quantitation Results Report (Not Reviewed)

Agilent

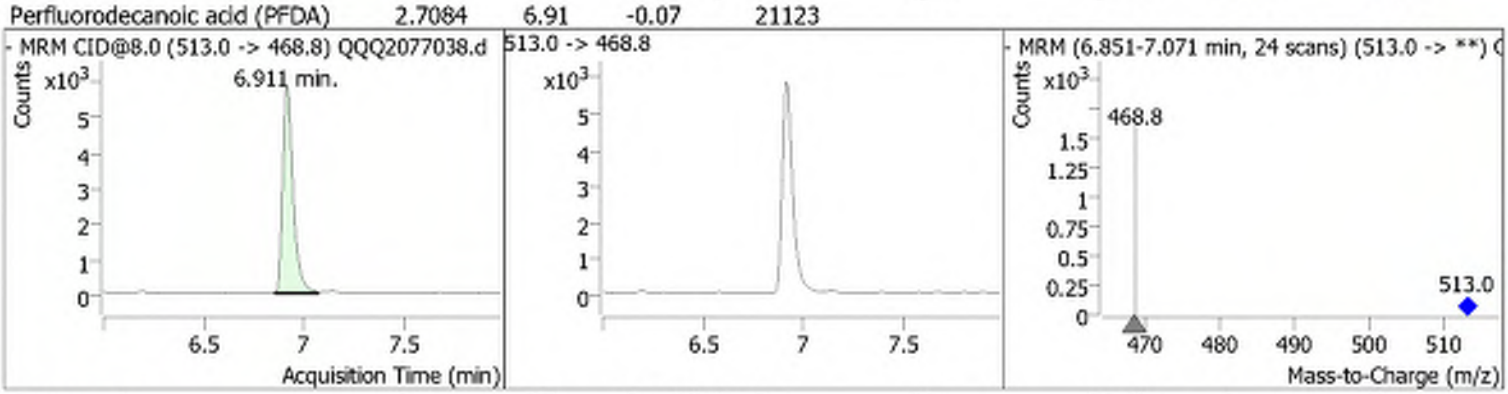
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	8.8803	6.90	-0.08	8379				



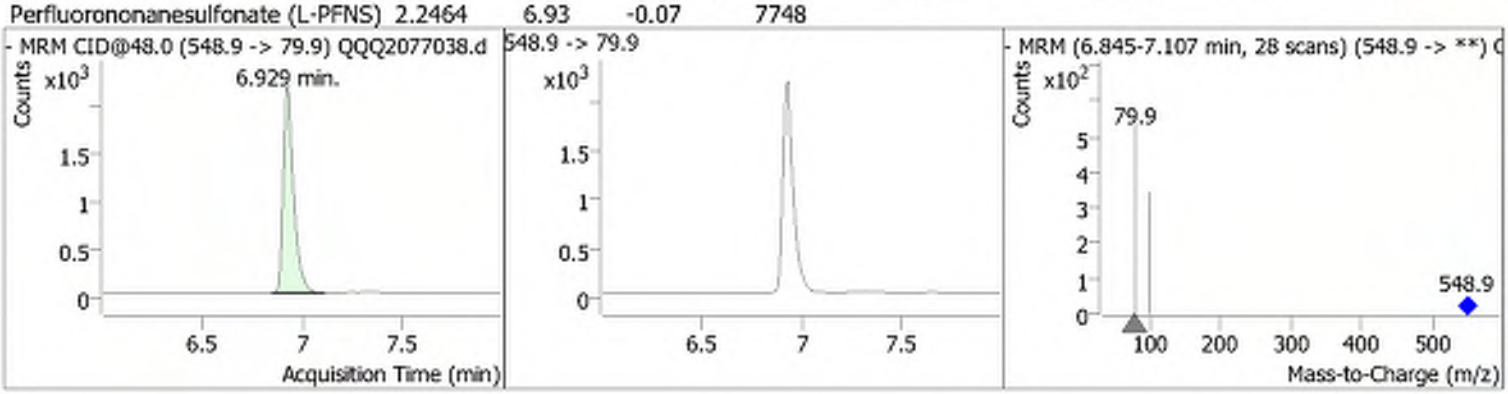
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.9997	6.92	-0.07	4681				



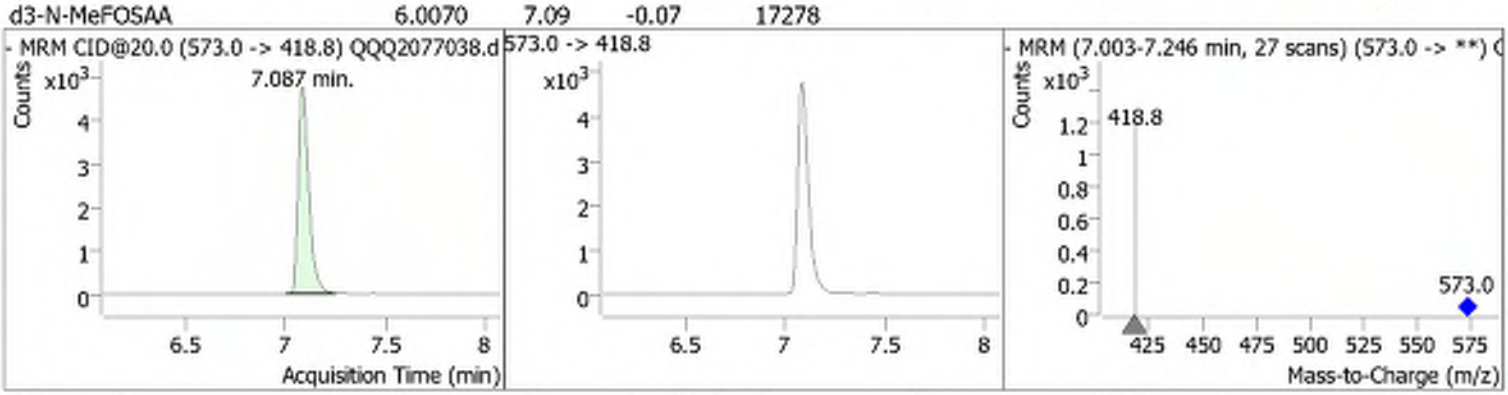
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.7084	6.91	-0.07	21123				



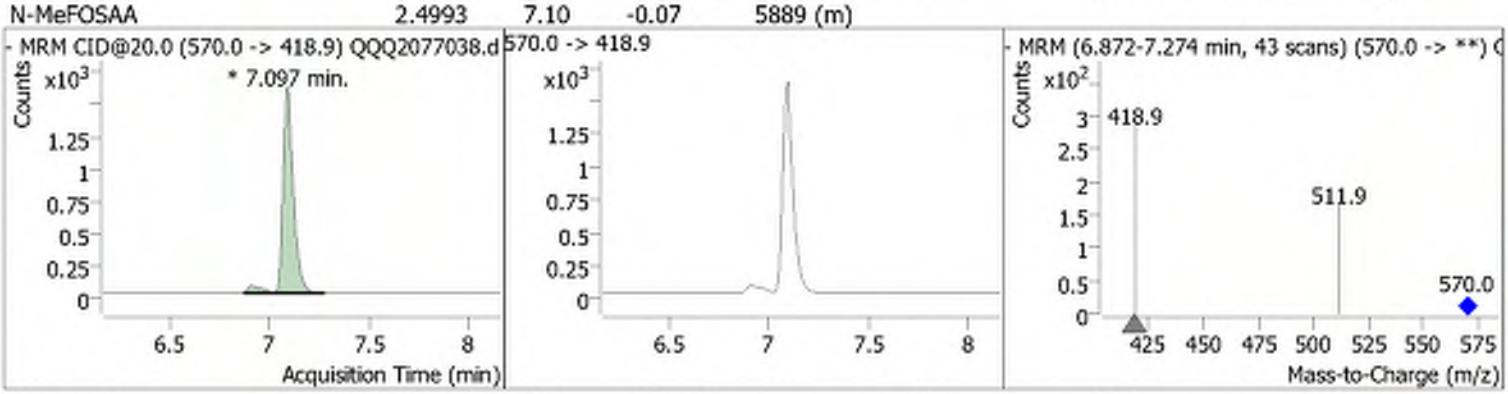
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	2.2464	6.93	-0.07	7748				



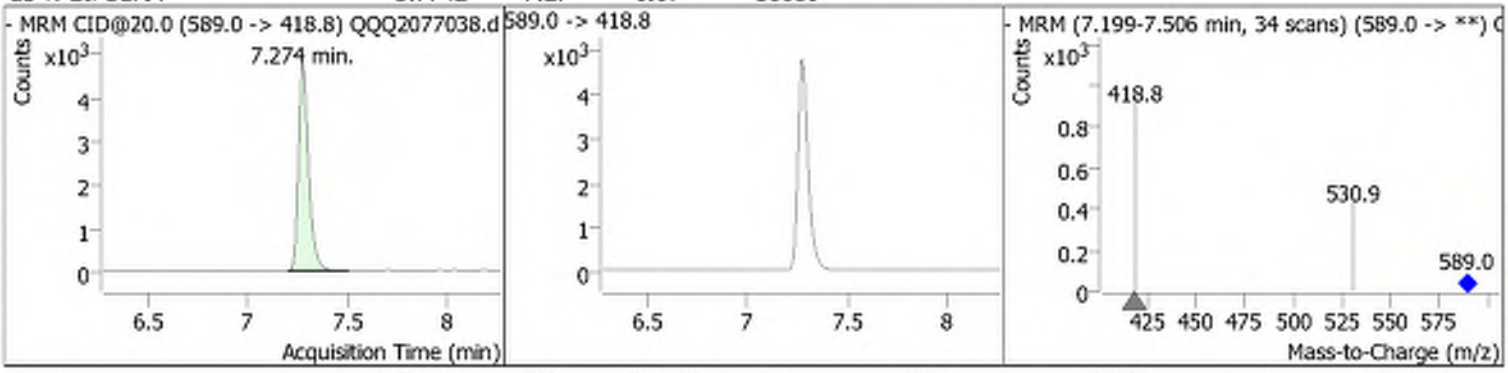
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	6.0070	7.09	-0.07	17278				



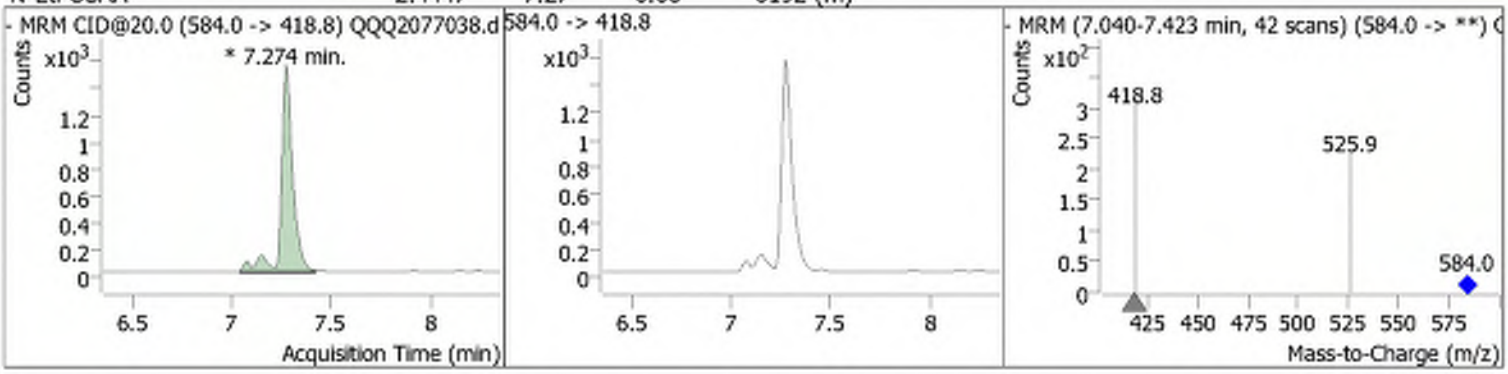
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.4993	7.10	-0.07	5889 (m)				



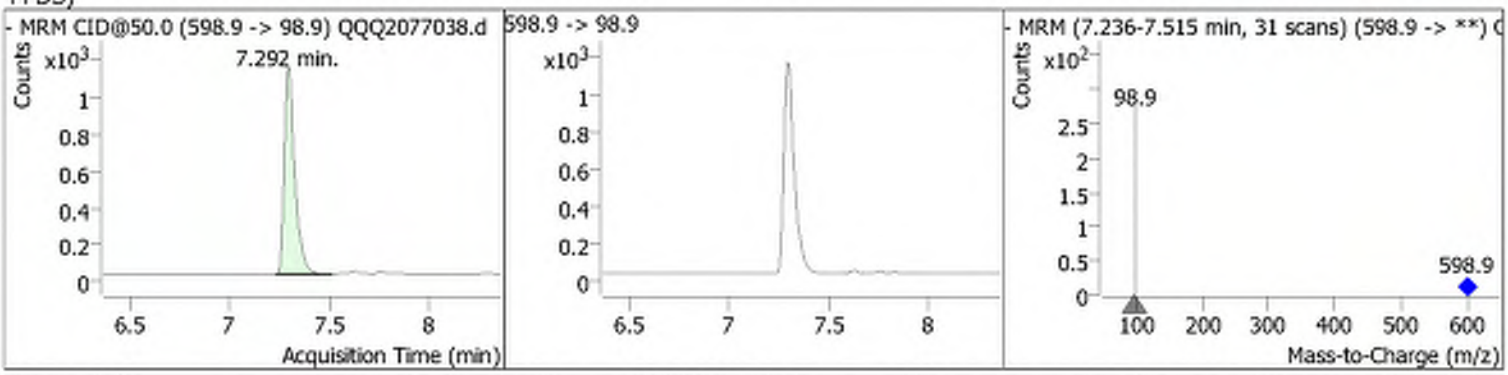
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.7742	7.27	-0.07	16689				



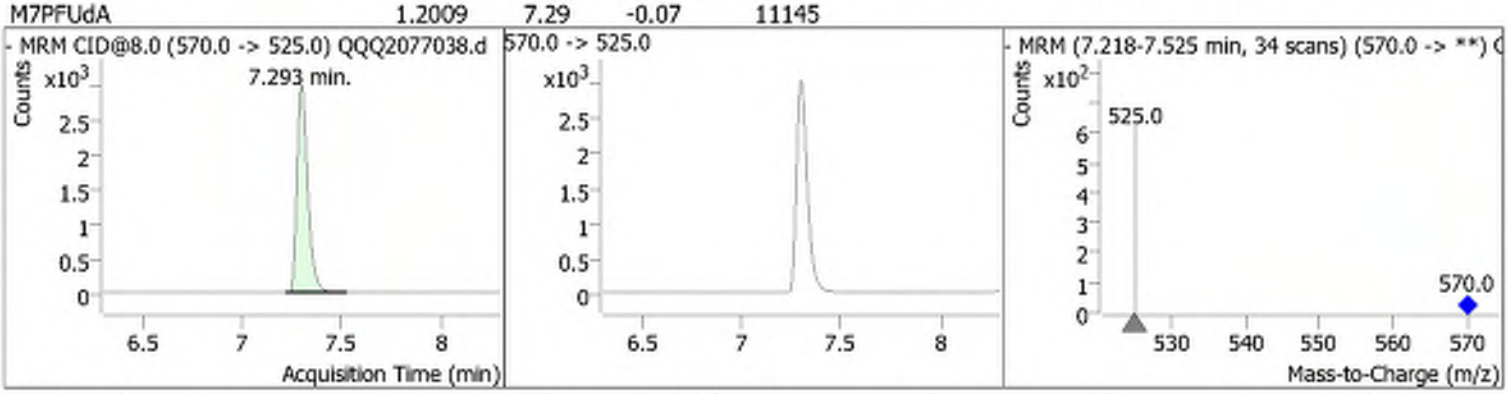
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.4447	7.27	-0.08	6192 (m)				



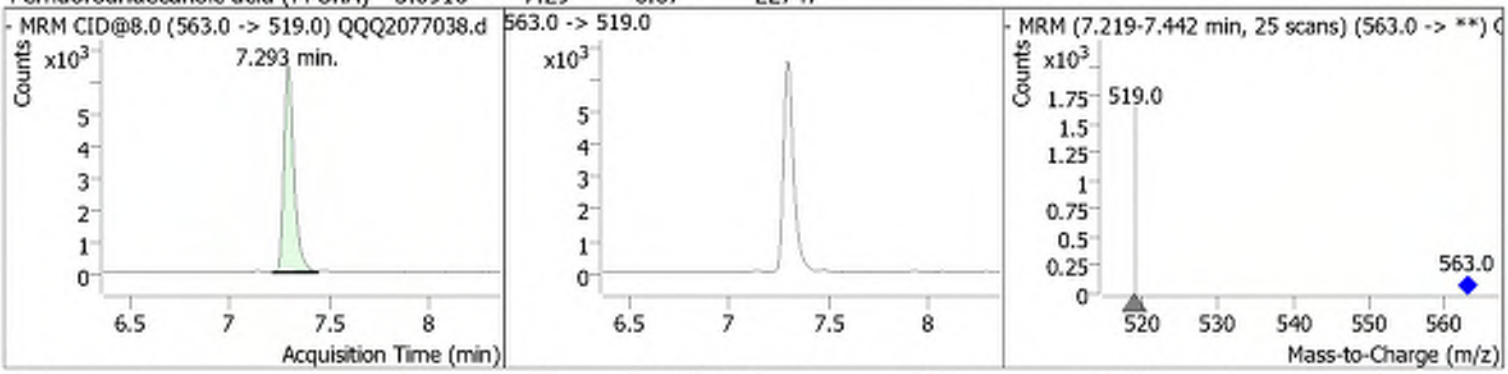
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	2.7258	7.29	-0.07	4034				



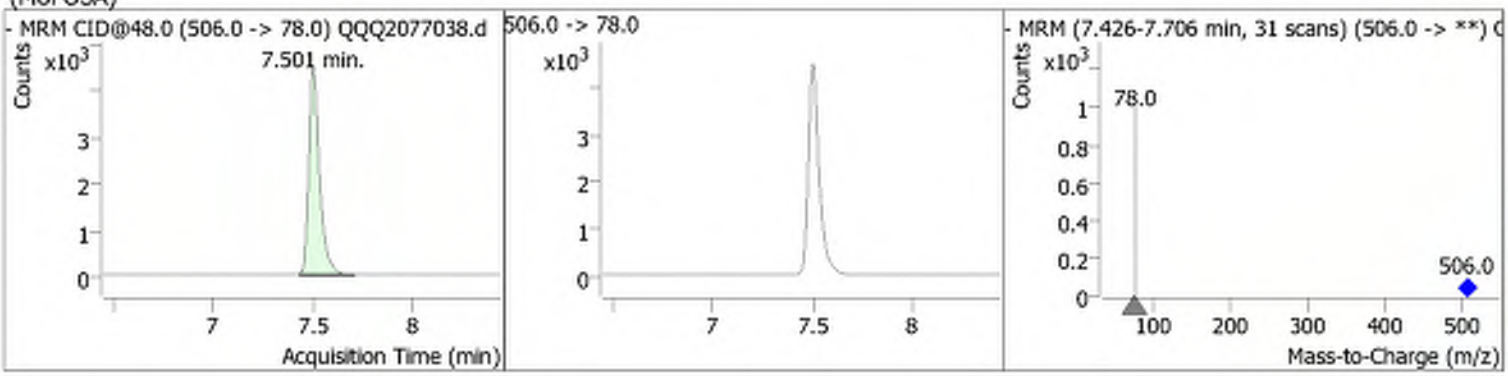
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.2009	7.29	-0.07	11145				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.0916	7.29	-0.07	22747				

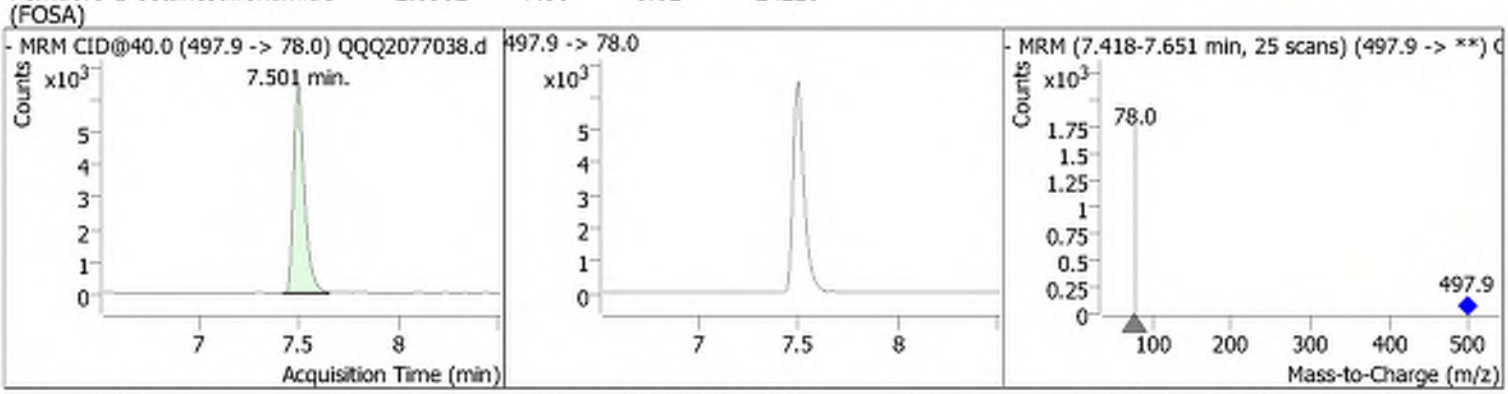


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.3973	7.50	-0.02	16733				

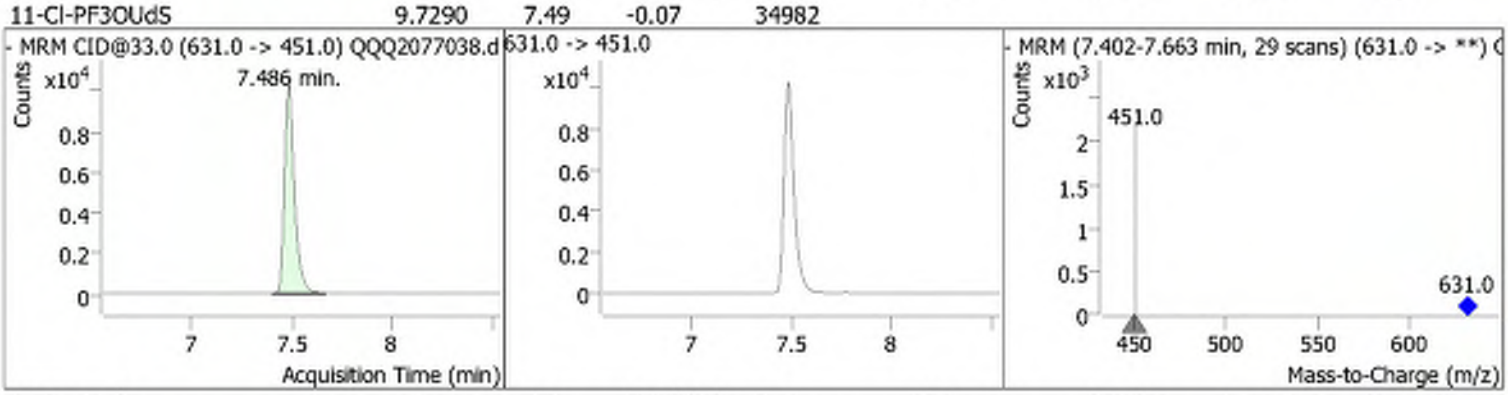


Quantitation Results Report (Not Reviewed)

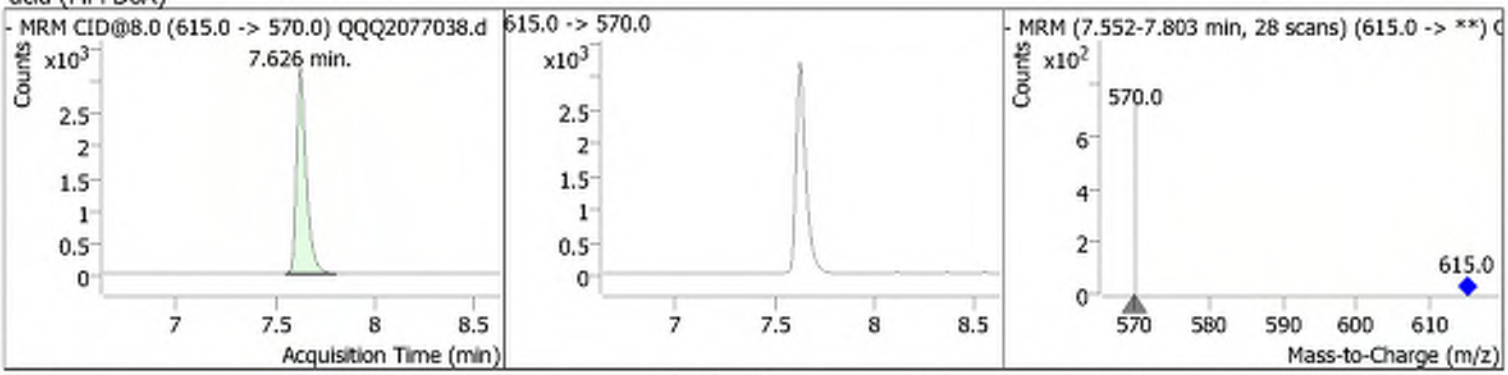
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	2.0582	7.50	-0.02	24228				



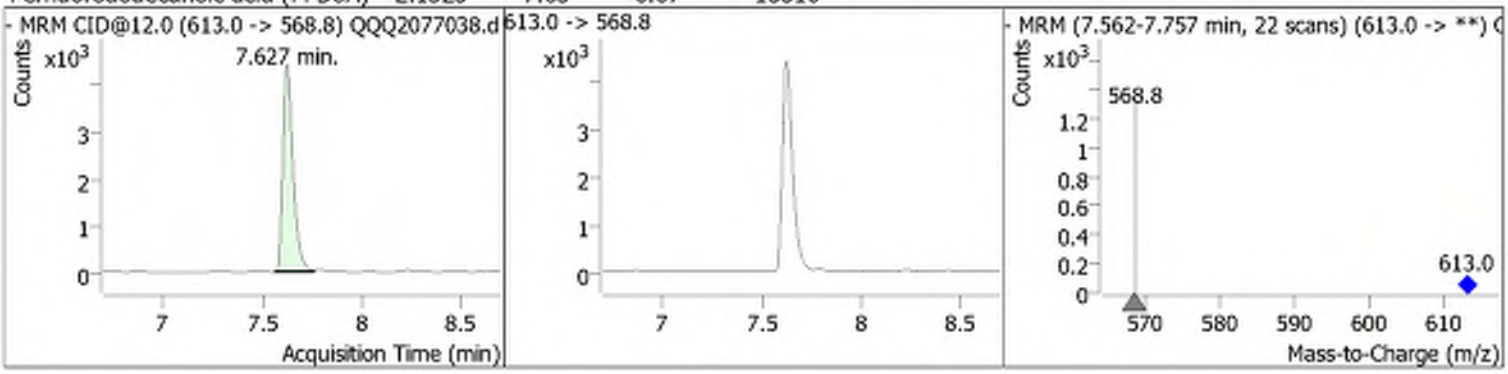
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	9.7290	7.49	-0.07	34982				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.3717	7.63	-0.07	10598				

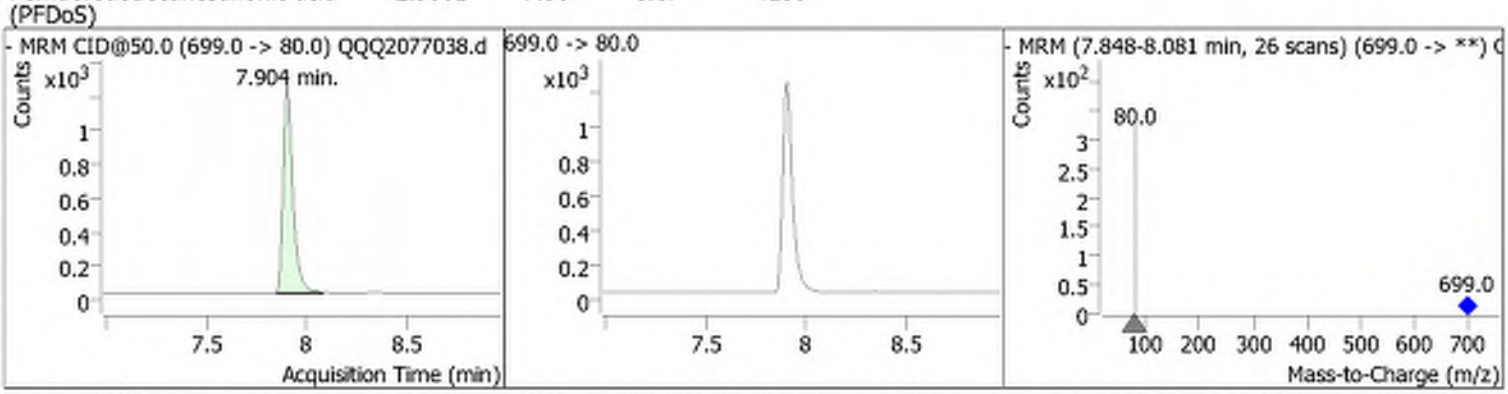


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.1325	7.63	-0.07	15510				

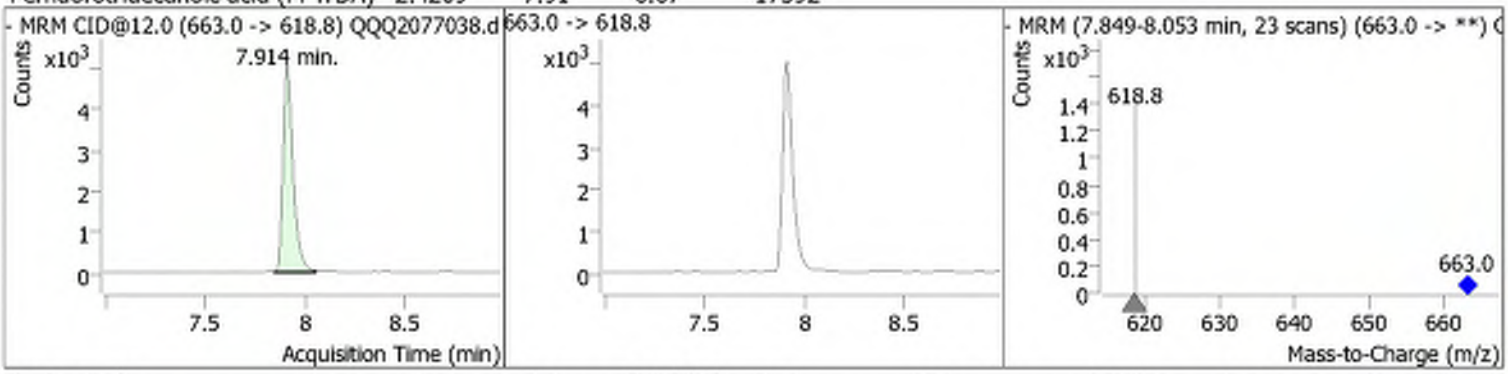


Quantitation Results Report (Not Reviewed)

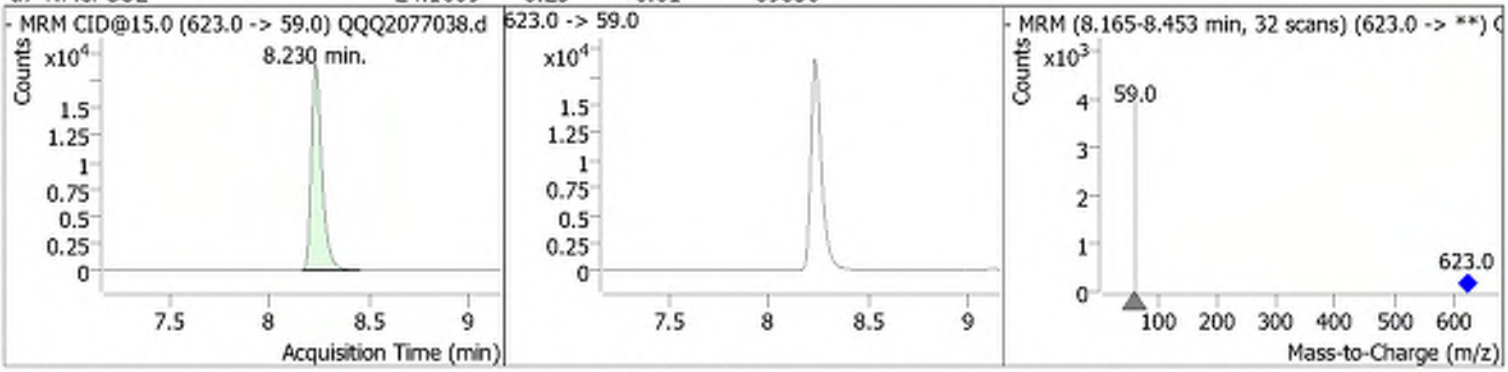
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	2.9001	7.90	-0.07	4100				



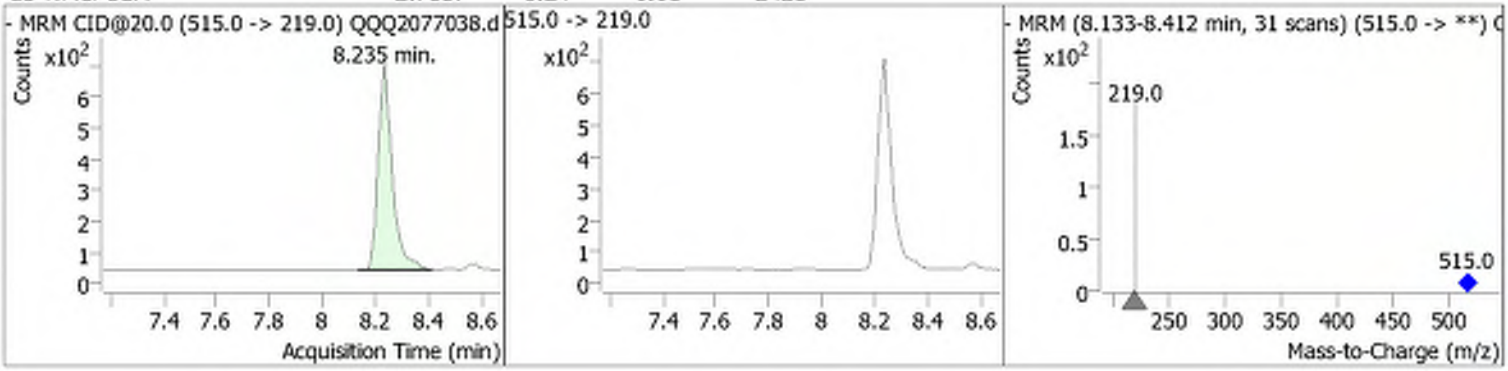
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.4209	7.91	-0.07	17392				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	24.1609	8.23	-0.01	69830				

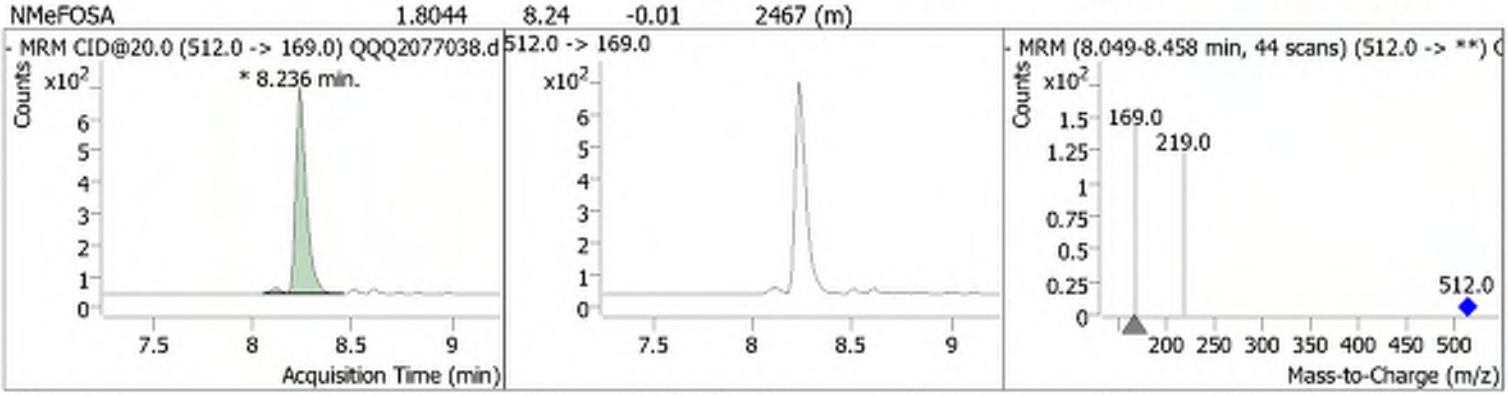


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.7157	8.24	-0.01	2421				

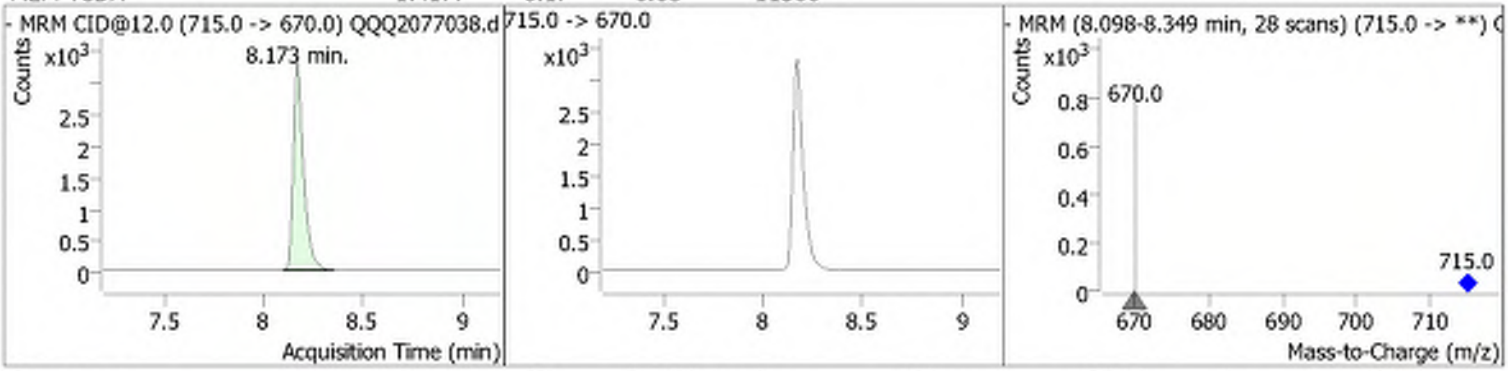


Quantitation Results Report (Not Reviewed)

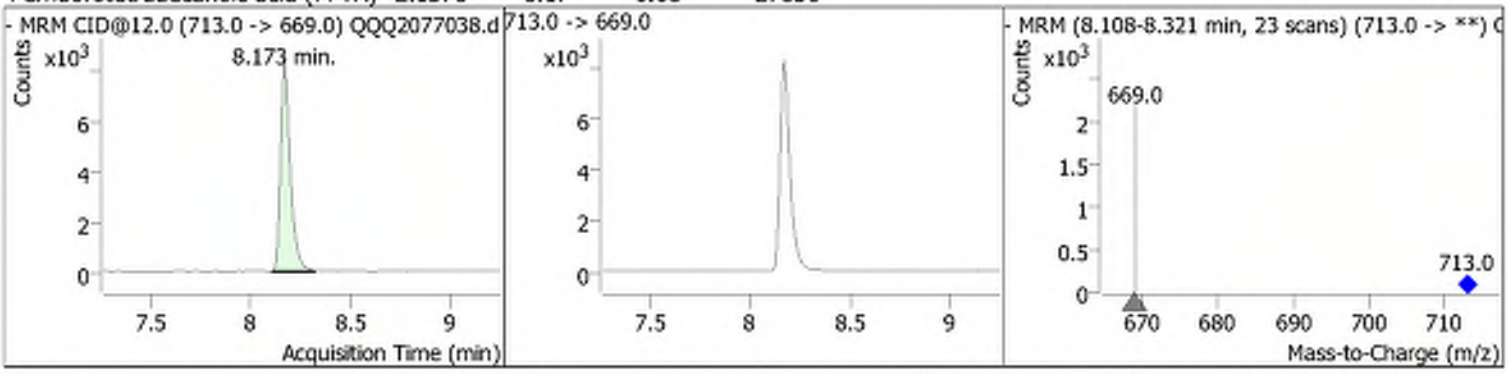
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	1.8044	8.24	-0.01	2467 (m)				



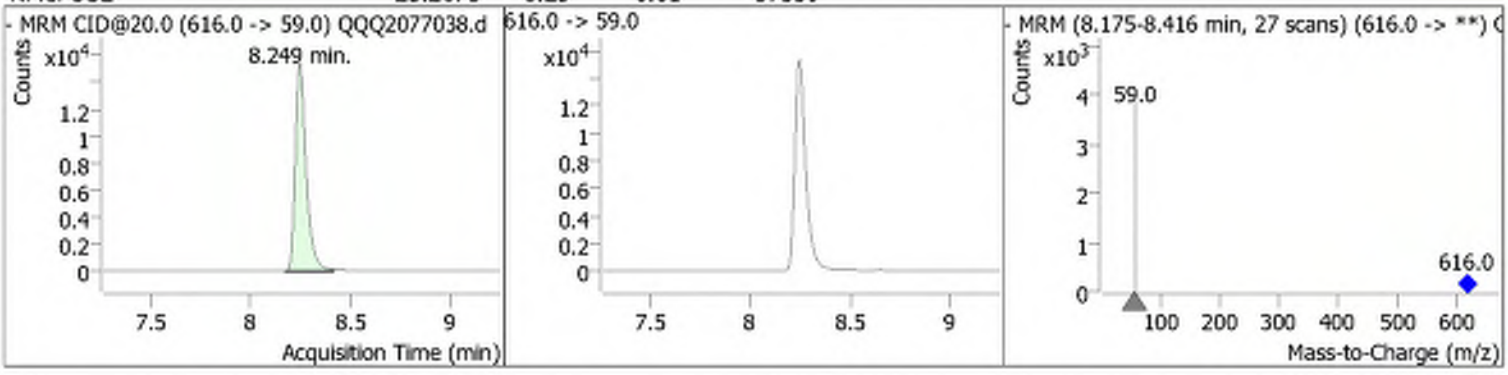
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.4177	8.17	-0.08	11560				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.1378	8.17	-0.08	27836				

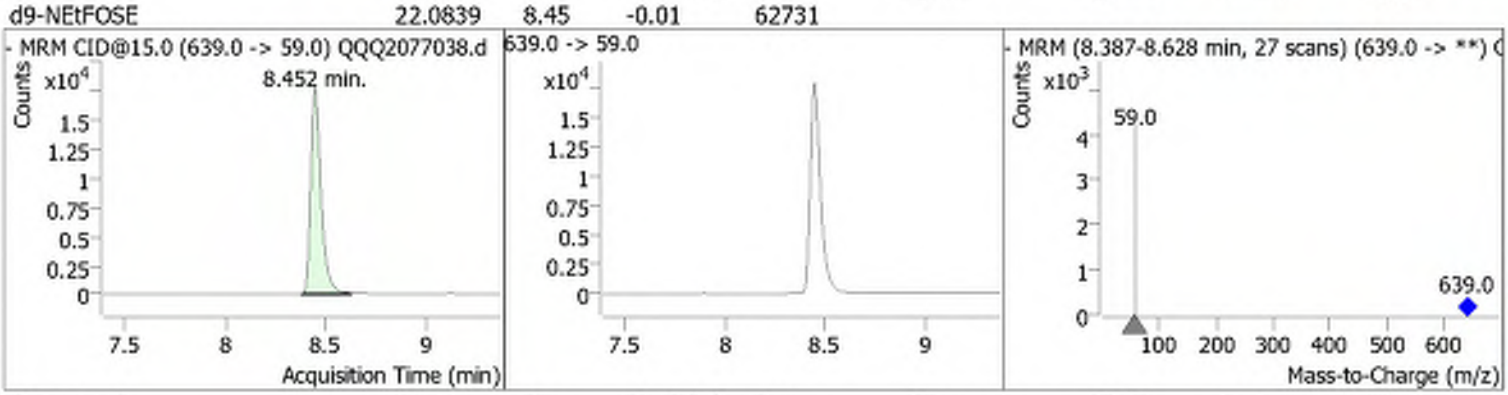


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	23.2675	8.25	-0.01	57339				

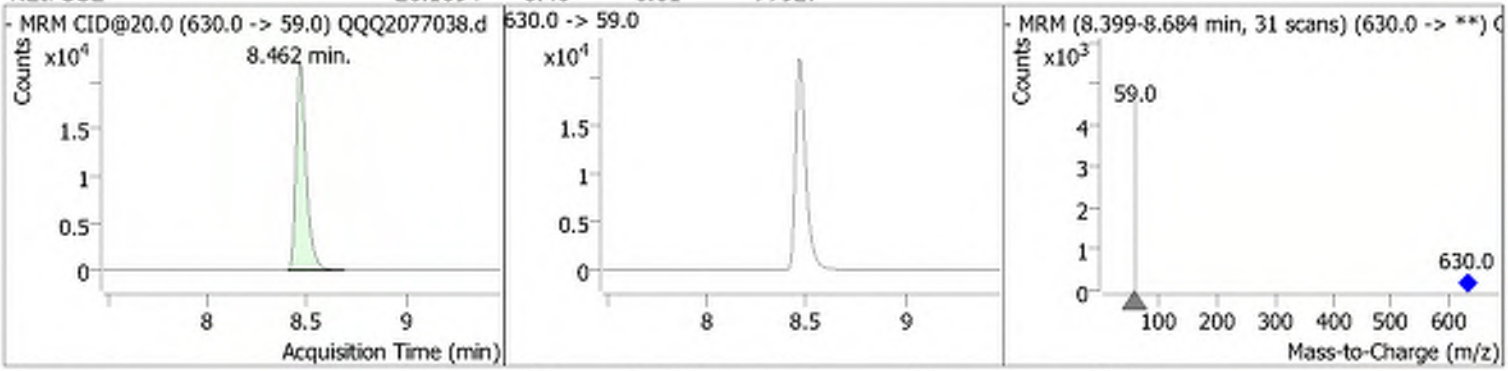


Quantitation Results Report (Not Reviewed)

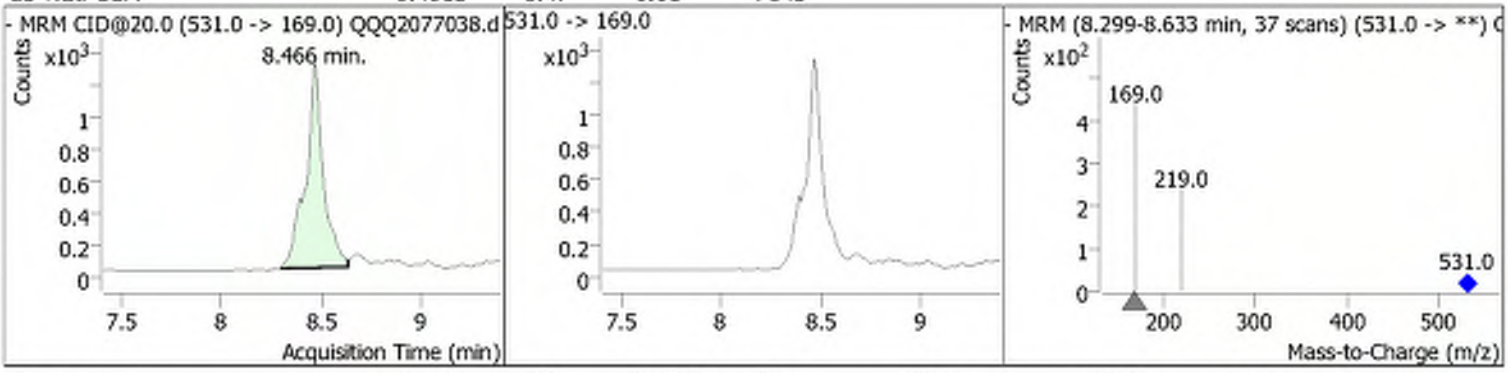
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	22.0839	8.45	-0.01	62731				



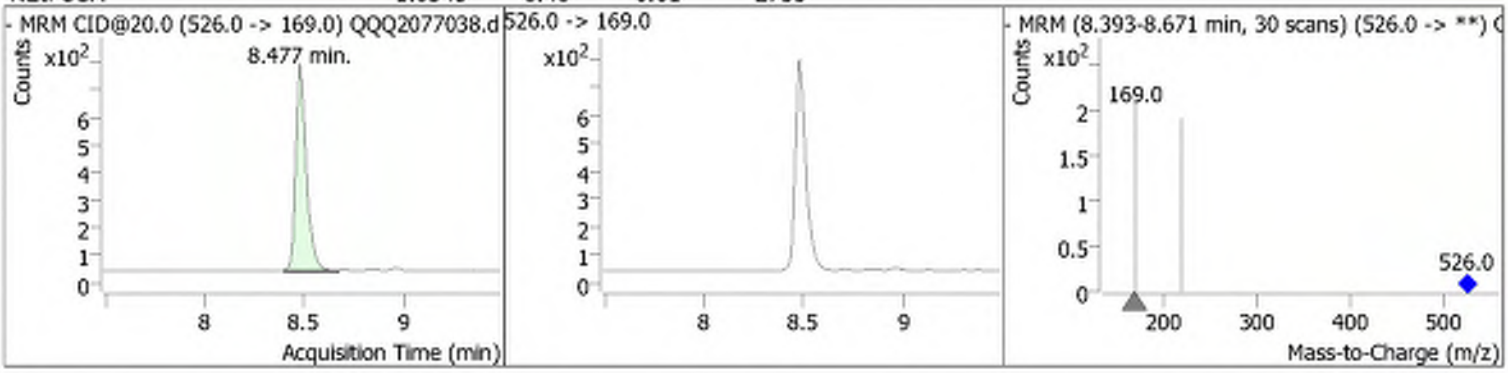
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	26.1894	8.46	-0.01	77927				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	6.4013	8.47	-0.01	7845				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.0345	8.48	-0.01	2735				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077051.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV2	Injection Time:	13:19

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
11CL-PF3OUdS	A	9.45	8.33	0.1365048	0.1209652		-11.8	30
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	12.9	0.9829487	1.564983		59.2	30 *
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	9.03	0.8999592	0.9477918		5.3	30
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	9.73	0.9616406	1.038798		8.0	30
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	10.7	7.481766E-03	6.419175E-03		-82.9	30 *
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	69.3	0.1463629	0.1522588		10.7	30
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	58.2	1.736253	1.622251		365	30 *
9CL-PF3ONS	A	9.35	10.6	0.3910379	0.4046734		13.6	30
ADONA	A	9.45	9.22	0.3374364	0.3163319		-2.4	30
HFPO-DA (Gen-X)	A	10.0	9.94	0.0204781	2.122657E-02		-0.6	30
N-EtFOSA	A	2.50	1.19	0.9890033	0.4019501		-52.3	30 *
N-EtFOSAA	A	2.50	2.66	0.8333015	0.8090632		6.6	30
N-EtFOSE	A	25.0	23.9	1.129564	1.136048		-4.2	30
N-MeFOSA	A	2.50	1.93	1.295508	1.090246		-22.7	30
N-MeFOSAA	A	2.50	2.95	0.7572478	0.8049462		17.9	30
N-MeFOSE	A	25.0	21.9	0.7868612	0.7720609		-12.5	30
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.63	1.613927	1.667169		4.1	30
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	1.96	1.090454	0.8190401		-18.7	30
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	3.02	3.229874	3.244382		26.8	30
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	3.24	2.541268	3.18485		35.1	30 *
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	2.14	1.712752	1.503321		-14.5	30
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.04	1.404147	1.232808		-13.3	30
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.91	0.7000326	0.8387403		18.1	30

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077051.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV2	Injection Time:	13:19

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.17	0.757603	0.7942323		3.4	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.68	1.071309	1.062768		-6.5	30	
Perfluorobutanesulfonic acid (PFBS)	A	2.22	2.26	1.34399	1.303972		1.7	30	
Perfluorodecanoic acid (PFDA)	A	2.50	2.56	1.963699	2.136638		2.6	30	
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	3.19	1.100267	1.27297		31.8	30	*
Perfluorododecanoic acid (PFDoA)	A	2.50	1.85	0.8597345	0.6368822		-25.8	30	
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.39	1.318827	1.28532		-4.5	30	
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	1.92	1.421744	1.208979		-16.0	30	
Perfluorohexanoic acid (PFHxA)	A	2.50	2.56	1.24236	1.209537		2.4	30	
Perfluoro-n-butanoic acid (PFBA)	A	10.0	9.81	1.241515	1.237679		-1.9	30	
Perfluorononanoic acid (PFNA)	A	2.50	2.17	6.653904	6.158435		-7.4	30	
Perfluorooctanesulfonic acid (PFOS)	A	2.32	2.65	1.806429	1.48896		14.1	30	
Perfluorooctanoic acid (PFOA)	A	2.50	2.55	1.548646	1.476573		2.1	30	
Perfluoropentanoic acid (PFPeA)	A	5.00	4.78	1.047367	1.045797		-4.4	30	
Perfluorotetradecanoic acid (PFTA)	A	2.50	2.09	1.414068	1.179641		-16.2	30	
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.31	0.7557259	0.7170478		-7.7	30	
Perfluoroundecanoic acid (PFUnA)	A	2.50	2.79	1.039554	0.918626		11.5	30	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077051.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 1:19:26 PM
Sample Name	SEQ-CCV2	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.152	216.0 -> 172.0	47047	5.0000	ng/ml	-0.055
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.159	217.0 -> 172.0	65572	10.0000	ng/ml	-0.046
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.322	268.0 -> 223.0	31544	5.0000	ng/ml	-0.065
MPFHxA	4.651	315.0 -> 269.8	40379	2.5000	ng/ml	-0.047
MPFHxS	5.476	403.0 -> 103.0	3586	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	10704	2.3300	ng/ml	-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	25709	2.5000	ng/ml	-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	12942	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	10036	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	71435	10.0000	ng/ml	-0.056
M4PFHpA-EIS	5.383	367.0 -> 322.0	28520	2.5000	ng/ml	-0.056
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	7258	4.7550	ng/ml	-0.065
MPFOA	5.970	417.0 -> 372.0	36755	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	19339	2.5000	ng/ml	-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	3169	2.3950	ng/ml	-0.065
MPFNA	6.474	468.0 -> 423.0	11173	1.2500	ng/ml	-0.066
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.464	472.0 -> 223.0	1721	1.2500	ng/ml	-0.075
MPFOS	6.501	503.0 -> 80.0	10031	2.3950	ng/ml	-0.075
M2-8-2FTS-EIS	6.892	529.0 -> 509.0	3020	4.8000	ng/ml	-0.075
MPFDA	6.911	515.0 -> 469.8	14276	1.2500	ng/ml	-0.075
M6PFDA-EIS	6.911	519.0 -> 473.9	5004	1.2500	ng/ml	-0.075
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	15810	5.0000	ng/ml	-0.065
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	15151	5.0000	ng/ml	-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	13173	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	16246	2.5000	ng/ml	-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	10818	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.173	715.0 -> 670.0	10838	1.2500	ng/ml	-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	2341	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	74473	25.0000	ng/ml	-0.009
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	68976	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	8530	2.5000	ng/ml	0.000
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.159	217.0 -> 172.0	65572	10.1754	ng/ml	-0.046
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.322	268.0 -> 223.0	31544	4.8249	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.837	302.0 -> 79.9	10704	2.2440	ng/ml	-0.055
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	12942	6.6267	ng/ml	-0.047

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.650	318.0 -> 273.0	25709	2.3572	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	71435	11.2317	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.383	367.0 -> 322.0	28520	2.3153	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	10036	2.5045	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	7258	6.8520	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	19339	2.3866	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.464	472.0 -> 223.0	1721	1.4969	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	3169	2.1820	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.892	529.0 -> 509.0	3020	3.3162	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.911	519.0 -> 473.9	5004	0.9031	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.087	573.0 -> 418.8	15810	4.6593	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	15151	4.4434	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	13173	1.1995	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	16246	1.9730	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	10818	1.1832	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	74473	21.8415	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	2341	2.2262	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.173	715.0 -> 670.0	10838	1.1232	ng/ml	-0.084
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	68976	20.5826	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	8530	5.8999	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.154	213.0 -> 168.9	81157	9.8051	ng/ml	100
PFMPA	1.987	229.0 -> 85.0	25053	5.1696	ng/ml	100
3:3FTCA	3.222	241.0 -> 177.0	4132	10.6807	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.323	263.0 -> 219.0	32988	4.7783	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	12395	2.2584	ng/ml	100
PFMBA	3.858	279.0 -> 85.0	33523	4.6769	ng/ml	100
PFEESA	4.335	315.0 -> 135.0	76293	4.6334	ng/ml	100
NFDHA	4.504	295.0 -> 201.1	43126	5.9061	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	23011	9.0262	ng/ml	100

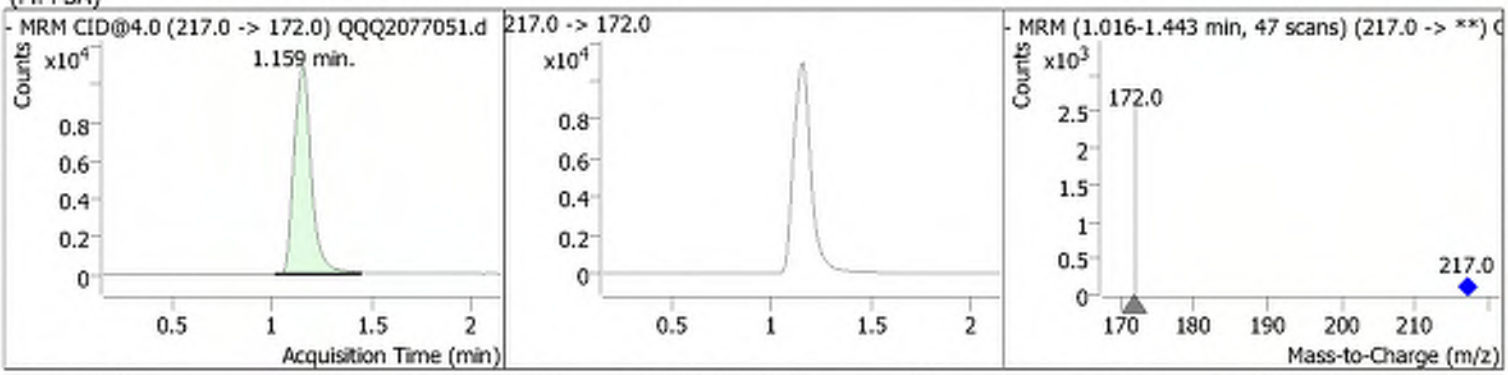
Quantitation Results Report (Not Reviewed)

Agilent

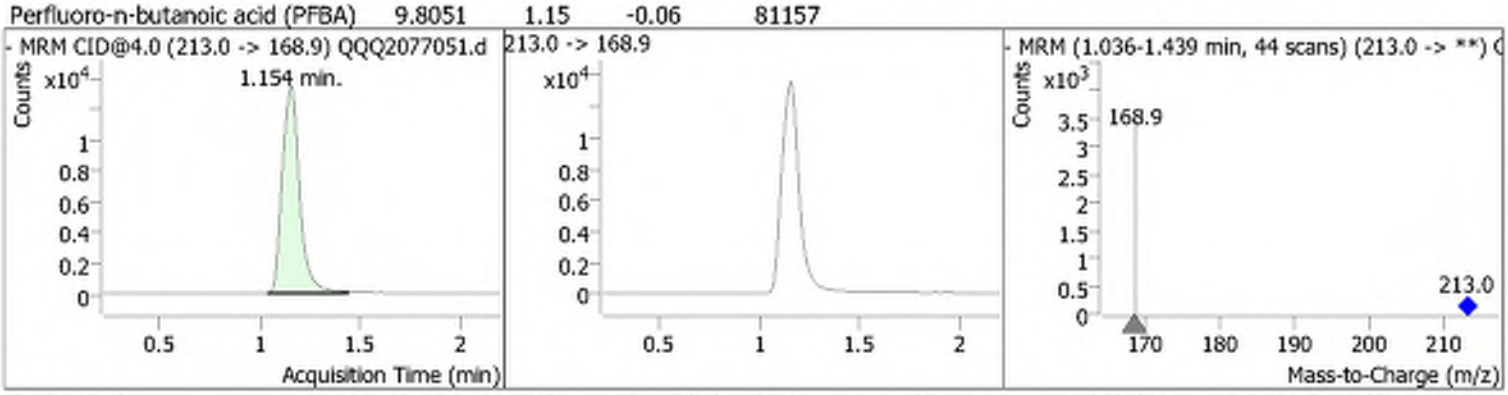
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	31096	2.5610	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	11631	2.0385	ng/ml		100
HFPO-DA	4.904	285.0 -> 169.1	6065	9.9421	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	36657	2.3879	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	11066	1.9163	ng/ml	m	100
5-3FTCA	5.478	341.0 -> 217.0	98017	69.3221	ng/ml		100
ADONA	5.495	377.0 -> 85.0	85417	9.2225	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.932	427.0 -> 407.0	14326	9.7326	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	28556	2.5513	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.015	448.9 -> 80.0	9787	3.0173	ng/ml		100
Perfluorononanoic acid (PFNA)	6.474	463.0 -> 418.8	21200	2.1739	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.501	498.9 -> 79.9	4378	2.6470	ng/ml	m	100
7-3FTCA	6.624	441.0 -> 337.0	127929	58.1525	ng/ml		100
9-Cl-PF3ONS	6.751	531.0 -> 351.0	108115	10.6262	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.892	527.0 -> 80.9	9073	12.8895	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.911	513.0 -> 468.8	21385	2.5647	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.920	548.9 -> 79.9	9688	3.2427	ng/ml		100
N-MeFOSAA	7.088	570.0 -> 418.9	6363	2.9473	ng/ml		100
N-EtFOSAA	7.283	584.0 -> 418.8	6129	2.6645	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.311	598.9 -> 98.9	2502	1.9587	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.293	563.0 -> 519.0	24202	2.7887	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	24423	2.1371	ng/ml		100
11-Cl-PF3OUdS	7.477	631.0 -> 451.0	32663	8.3339	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.627	613.0 -> 568.8	13779	1.8547	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.904	699.0 -> 80.0	3904	3.1901	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.914	663.0 -> 618.8	15543	2.3070	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	2553	1.9314	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.173	713.0 -> 669.0	25570	2.0946	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	57498	21.8683	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	78360	23.9405	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	3429	1.1920	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

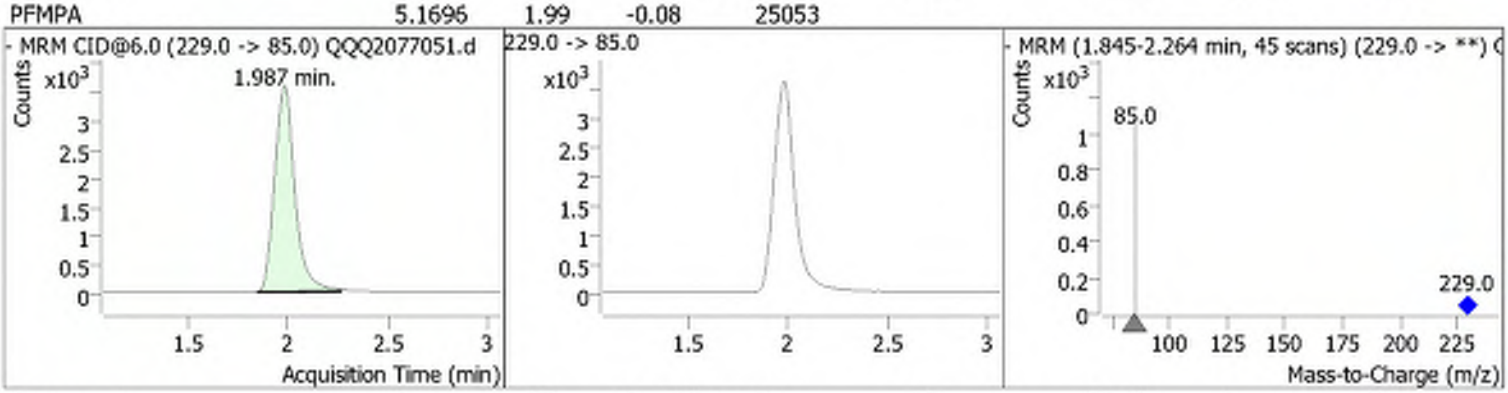
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.1754	1.16	-0.05	65572				



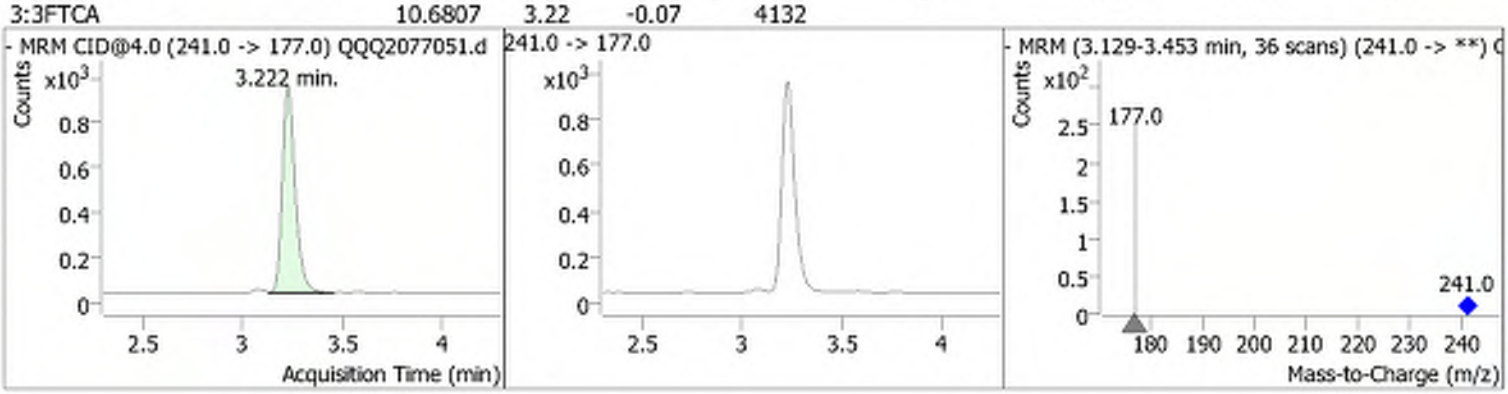
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	9.8051	1.15	-0.06	81157				



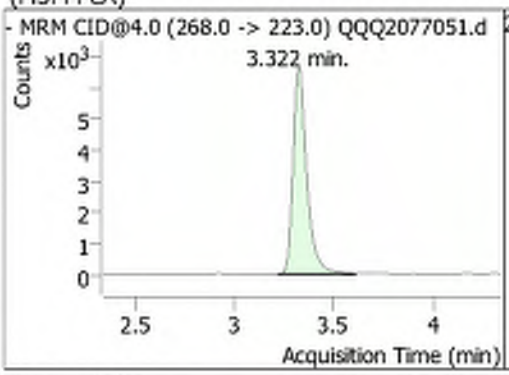
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.1696	1.99	-0.08	25053				

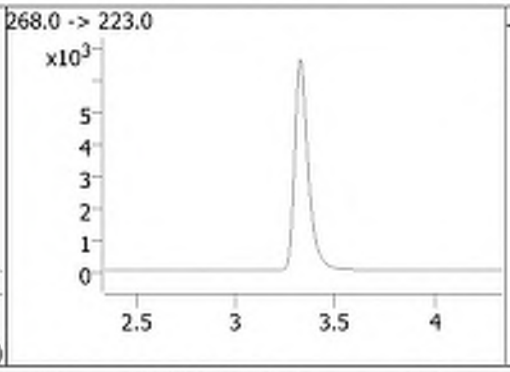


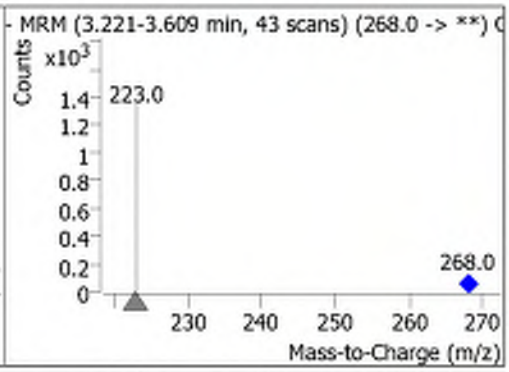
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	10.6807	3.22	-0.07	4132				



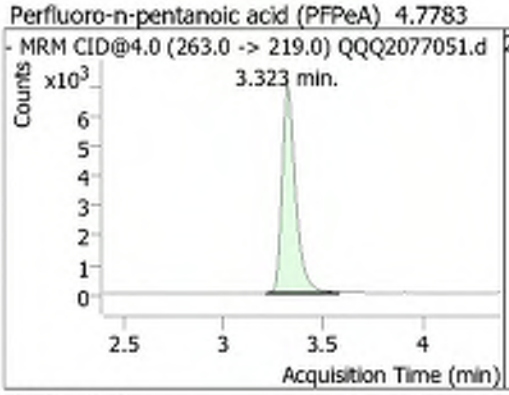
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.8249	3.32	-0.06	31544				

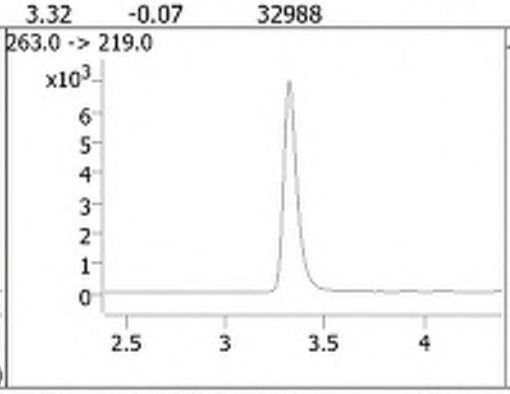


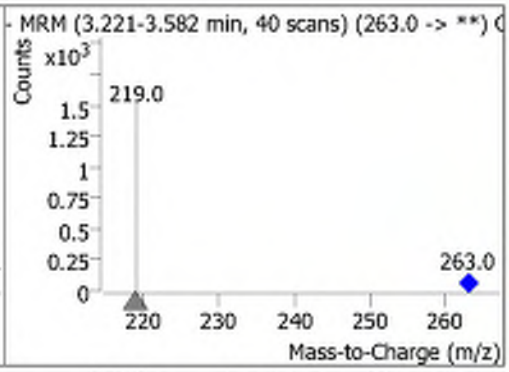




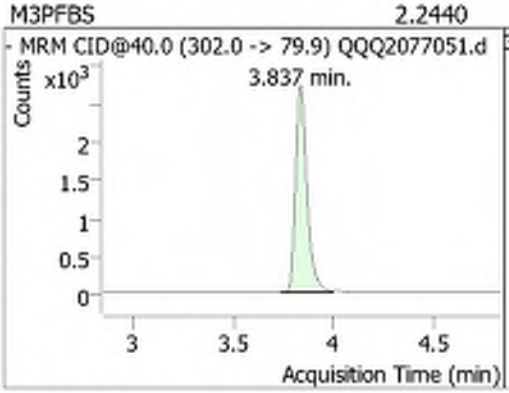
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.7783	3.32	-0.07	32988				

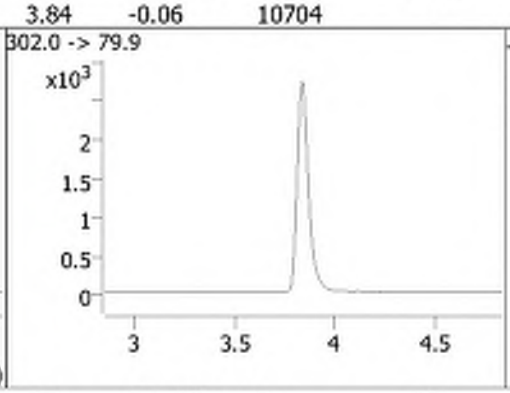


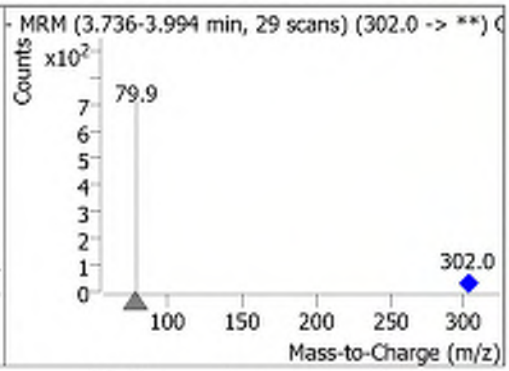




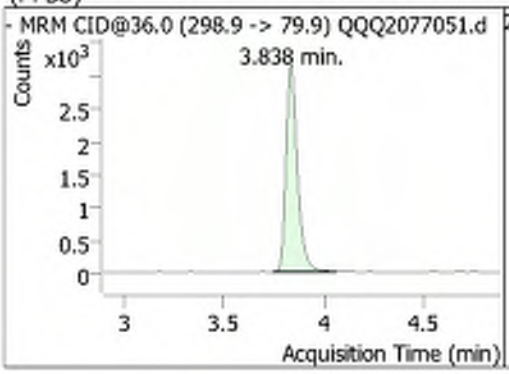
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.2440	3.84	-0.06	10704				

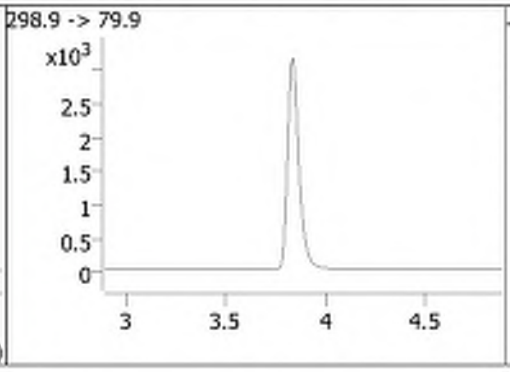


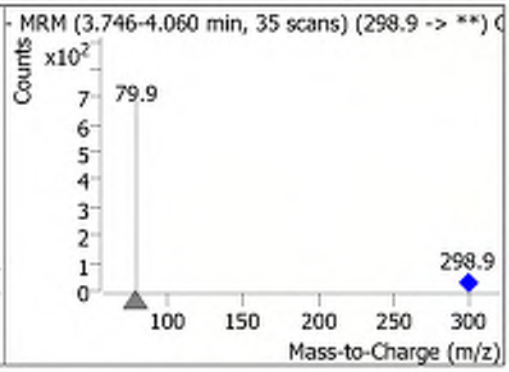




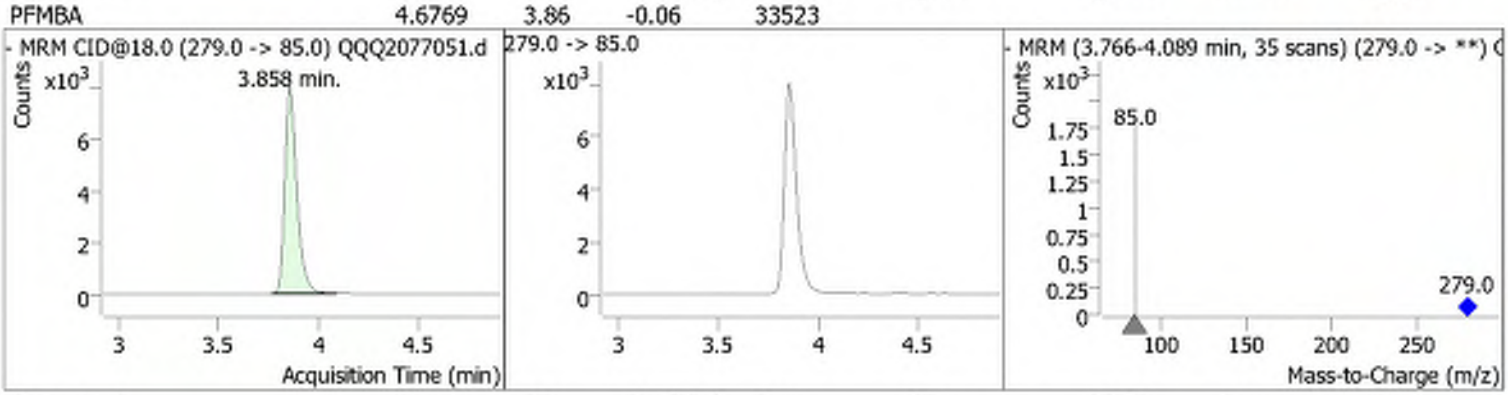
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.2584	3.84	-0.06	12395				



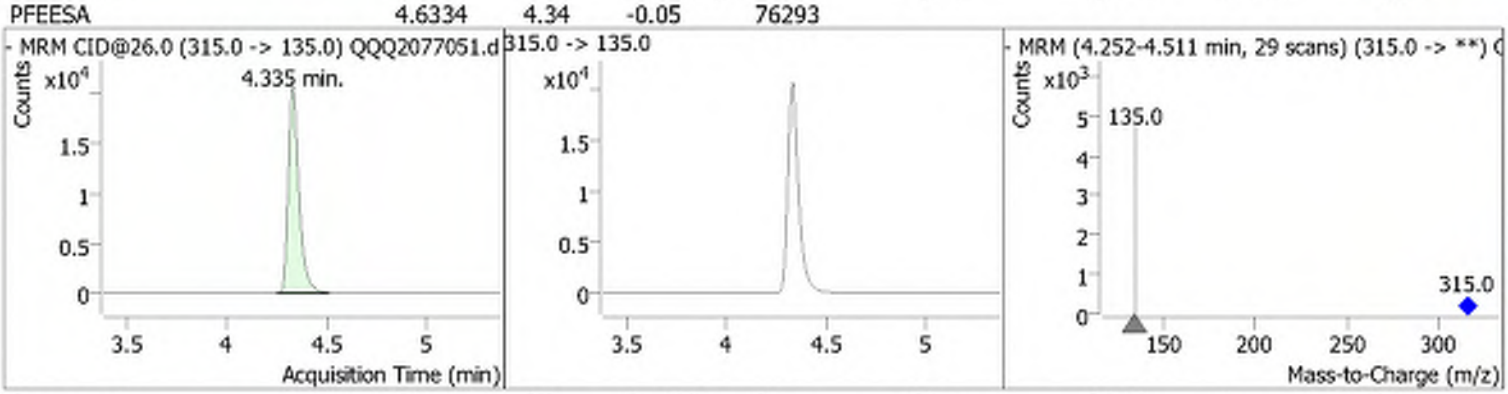




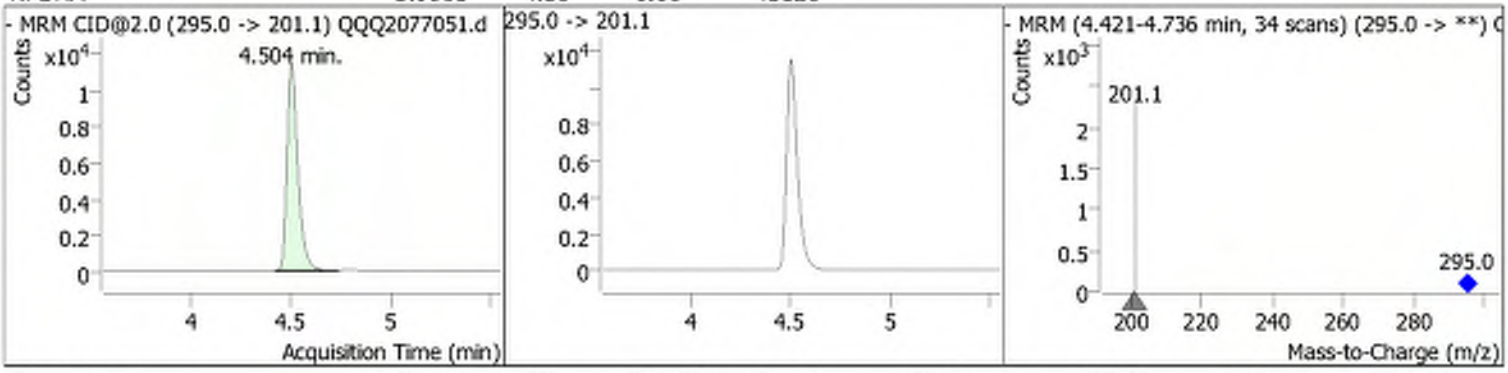
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.6769	3.86	-0.06	33523				



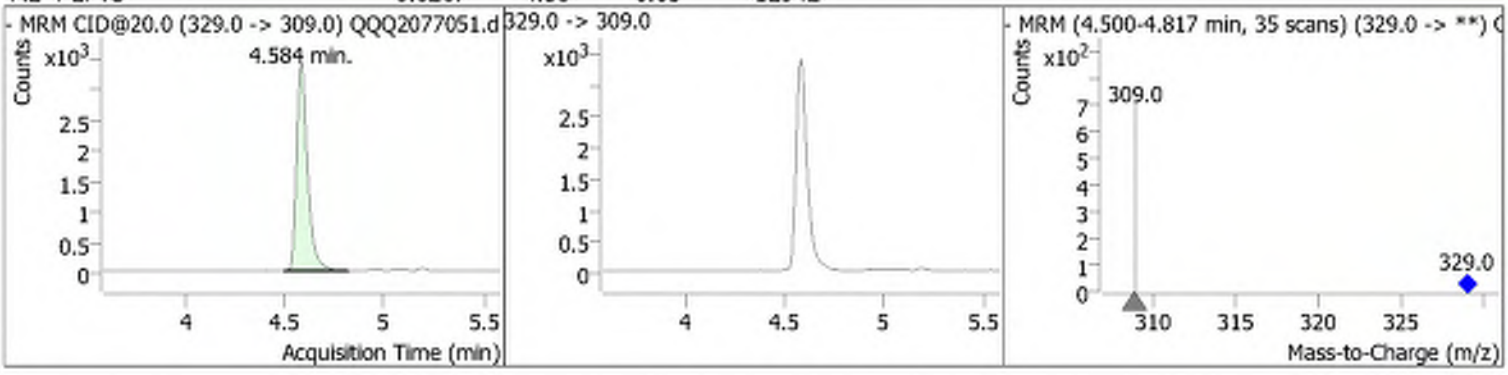
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.6334	4.34	-0.05	76293				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.9061	4.50	-0.06	43126				

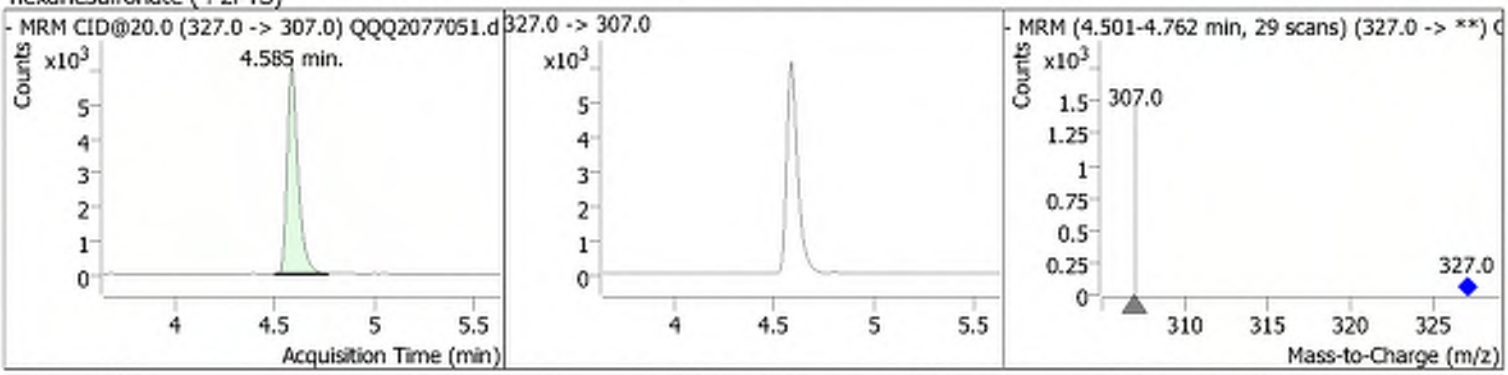


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	6.6267	4.58	-0.05	12942				

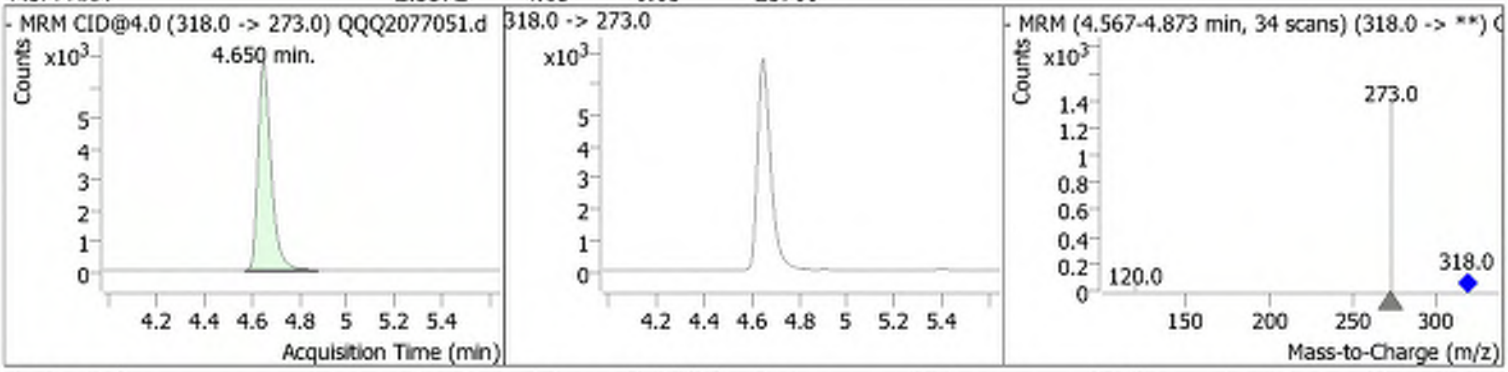


Quantitation Results Report (Not Reviewed)

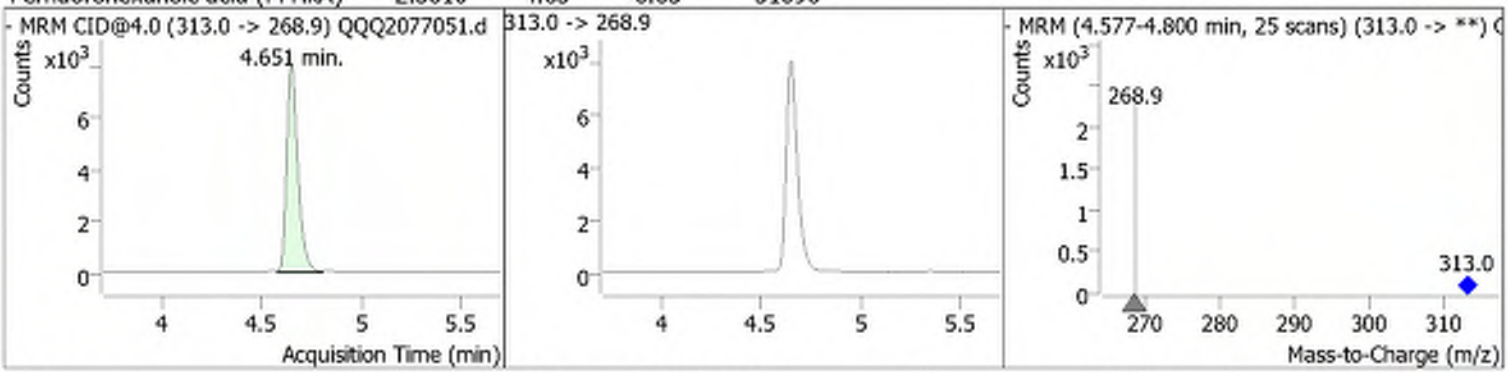
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.0262	4.58	-0.05	23011				



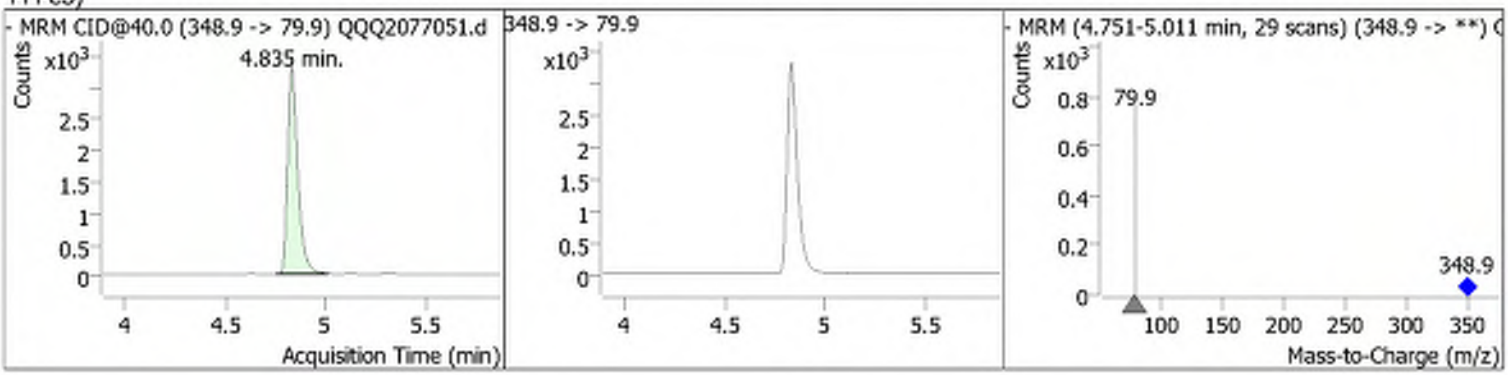
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.3572	4.65	-0.05	25709				



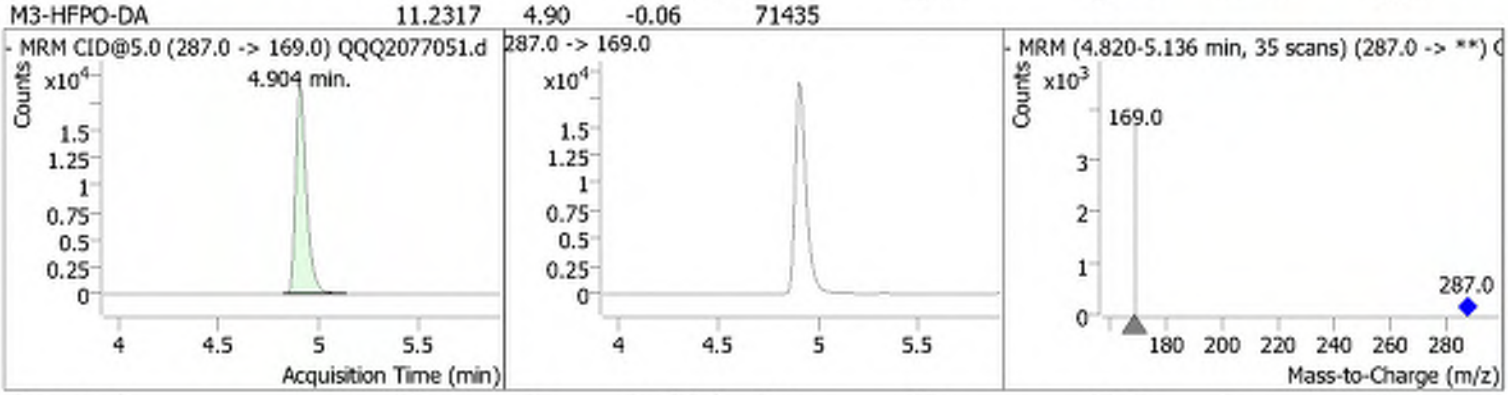
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.5610	4.65	-0.05	31096				



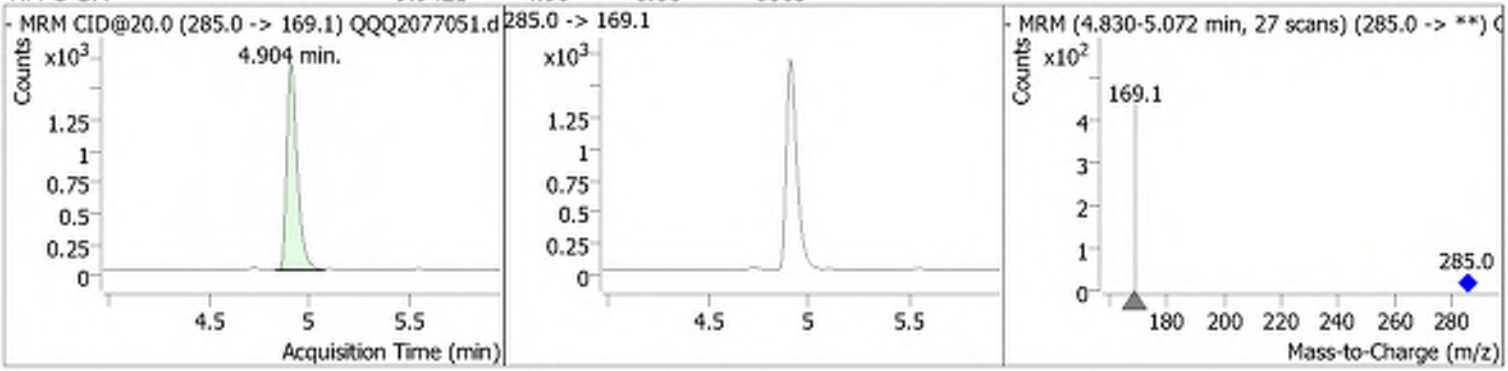
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.0385	4.83	-0.05	11631				



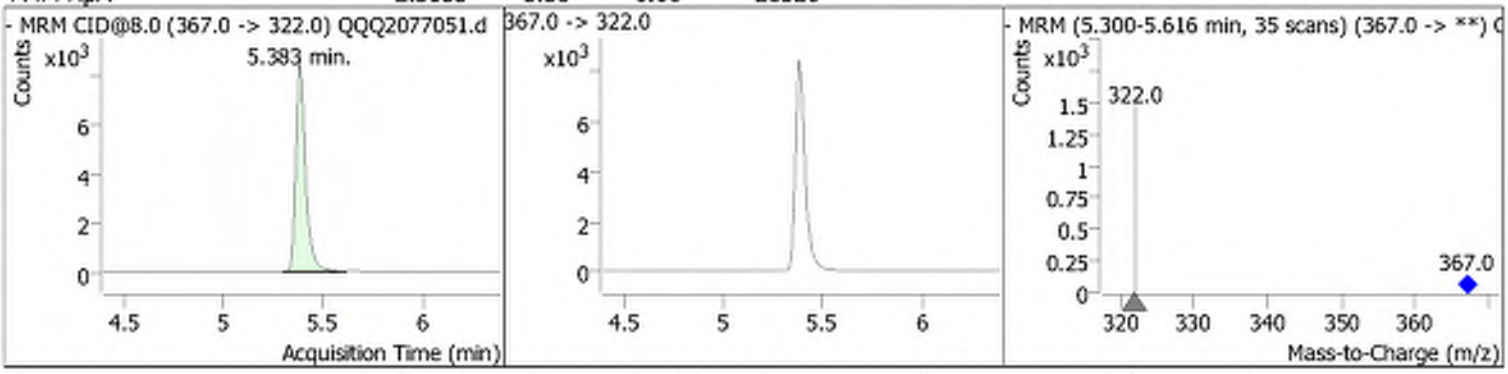
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.2317	4.90	-0.06	71435				



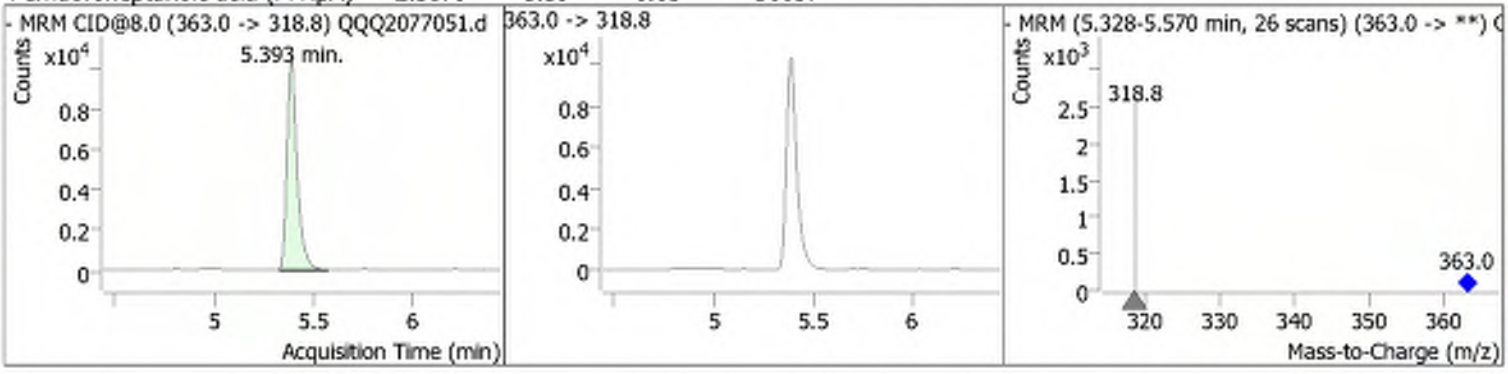
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	9.9421	4.90	-0.06	6065				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.3153	5.38	-0.06	28520				

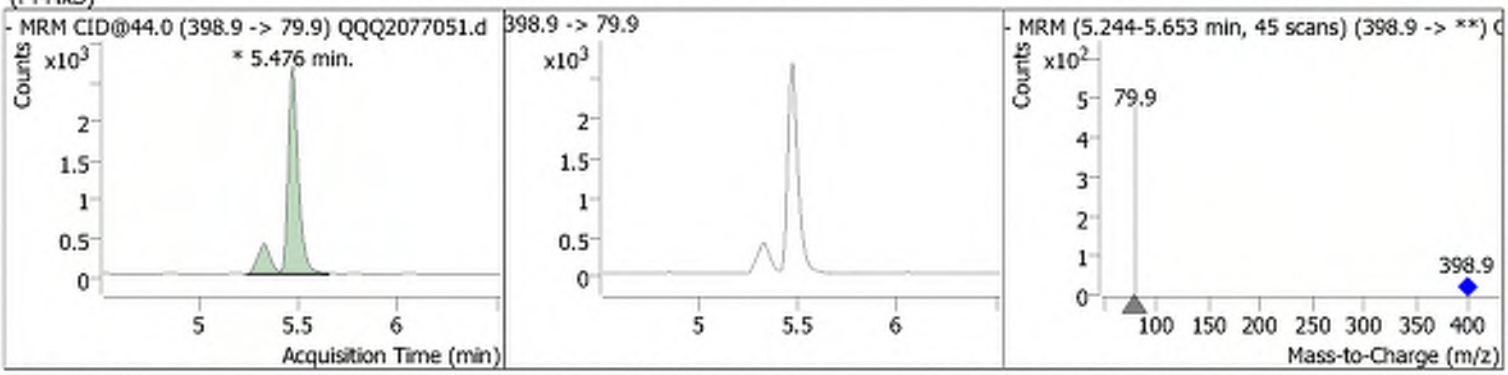


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.3879	5.39	-0.05	36657				

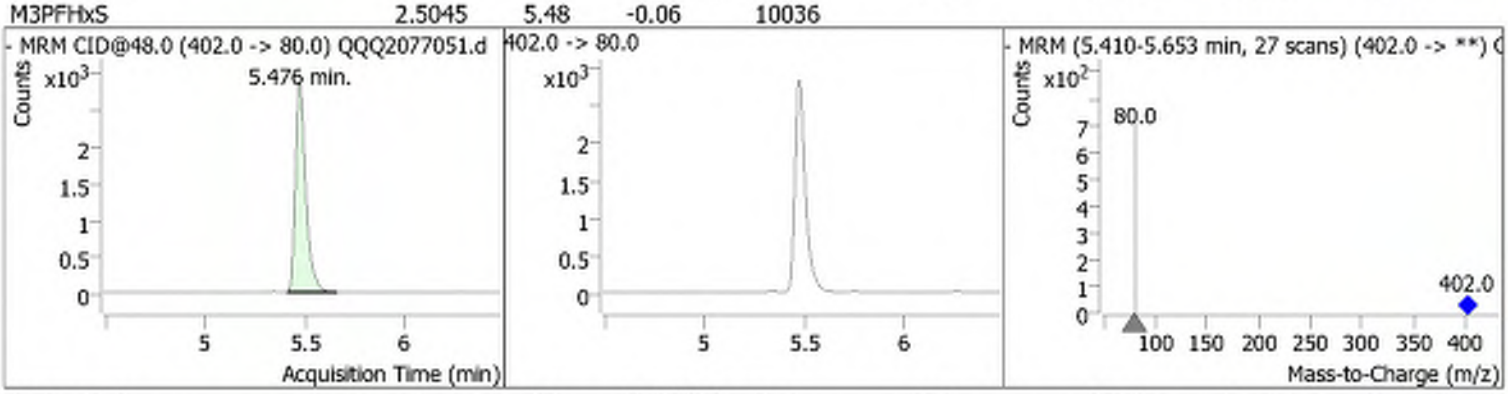


Quantitation Results Report (Not Reviewed)

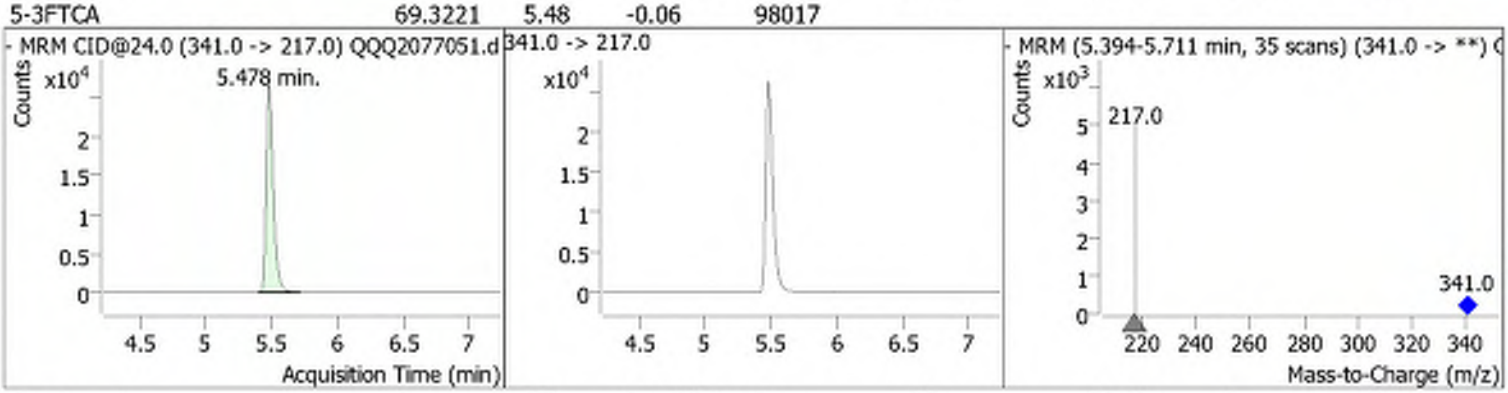
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	1.9163	5.48	-0.05	11066 (m)				



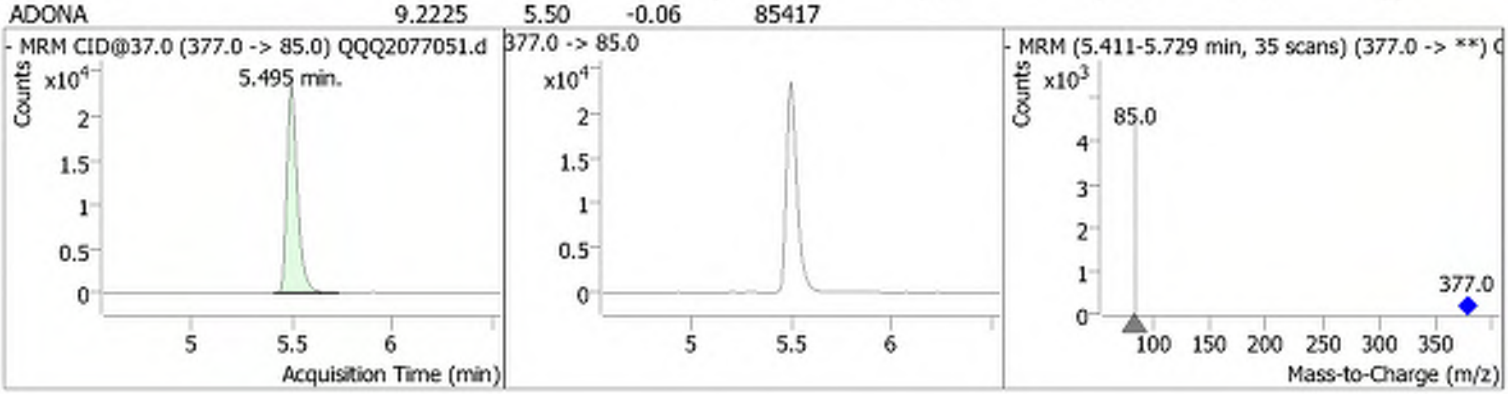
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.5045	5.48	-0.06	10036				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	69.3221	5.48	-0.06	98017				

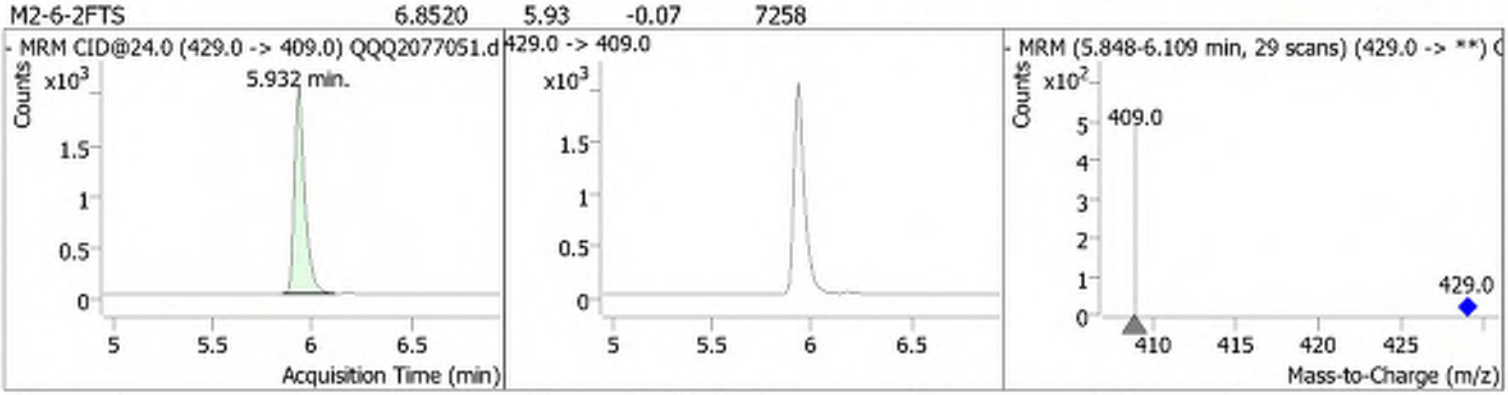


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	9.2225	5.50	-0.06	85417				

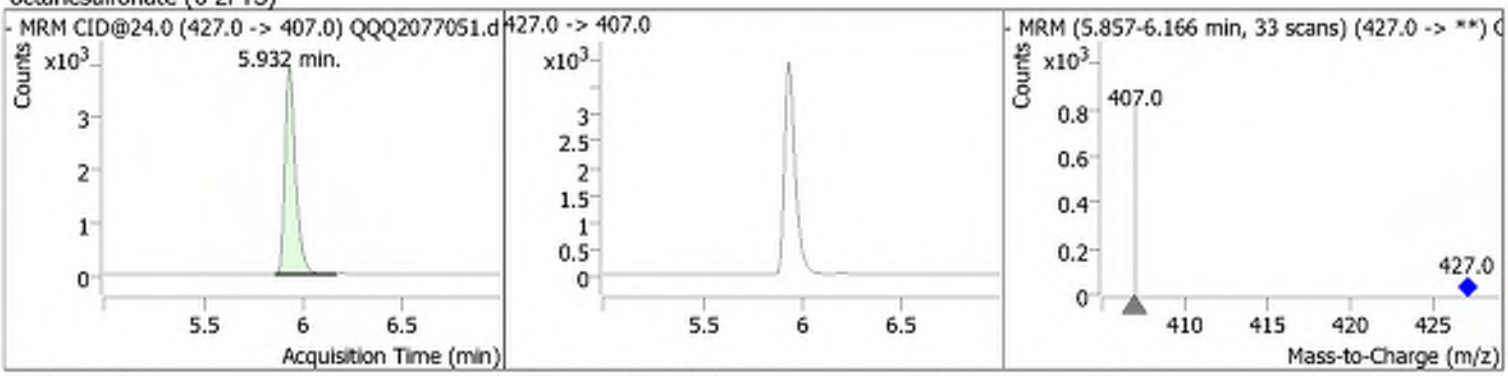


Quantitation Results Report (Not Reviewed)

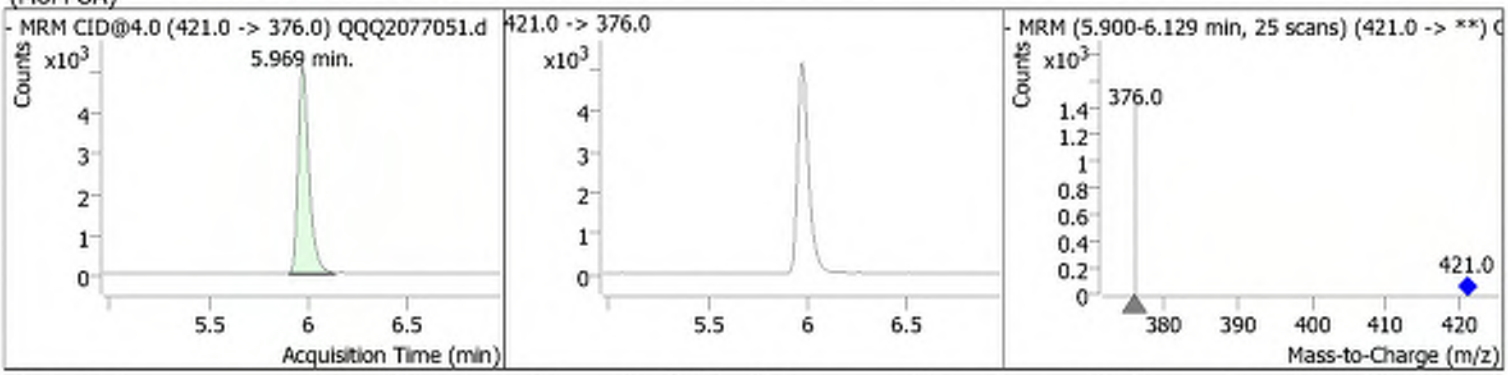
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	6.8520	5.93	-0.07	7258				



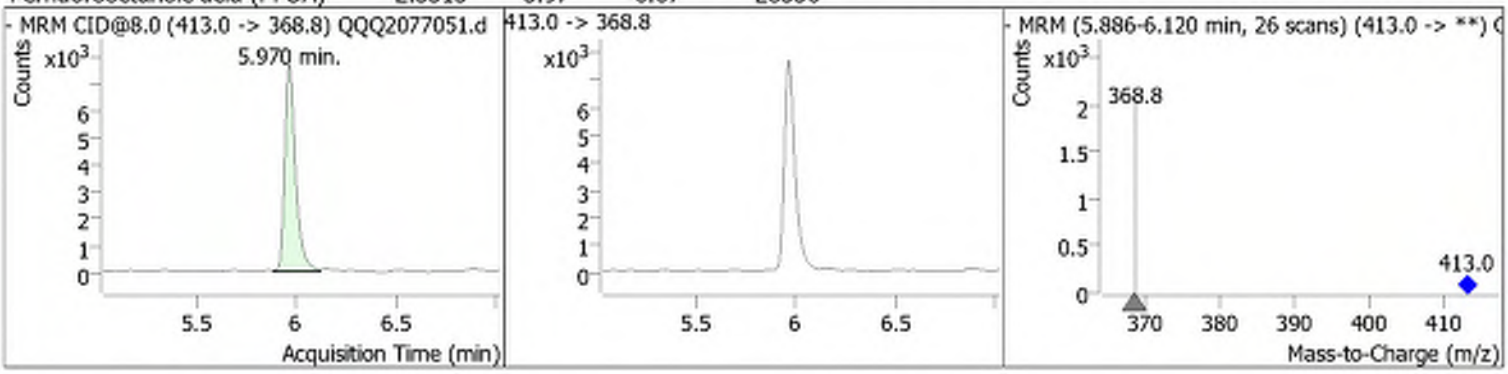
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	9.7326	5.93	-0.07	14326				



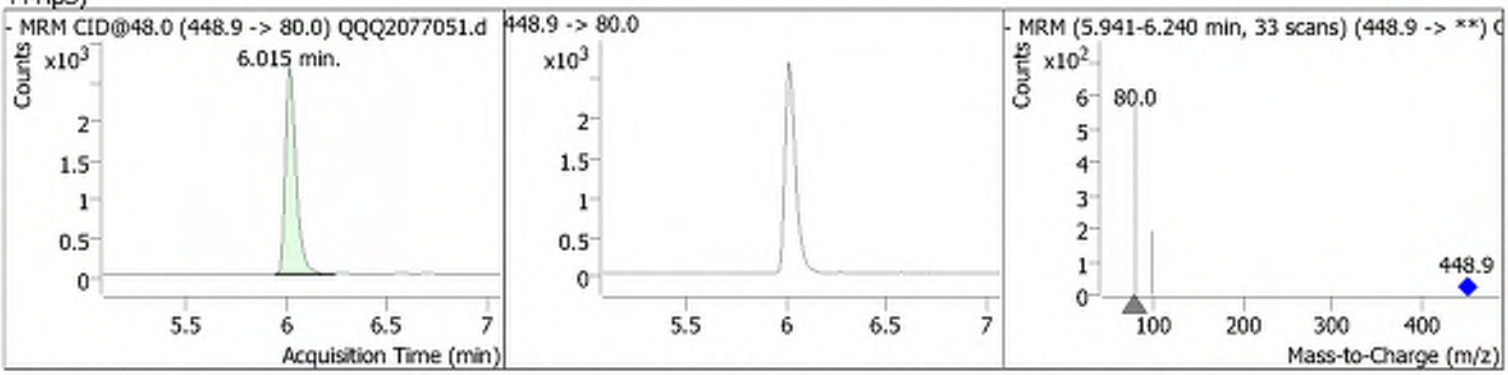
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.3866	5.97	-0.07	19339				



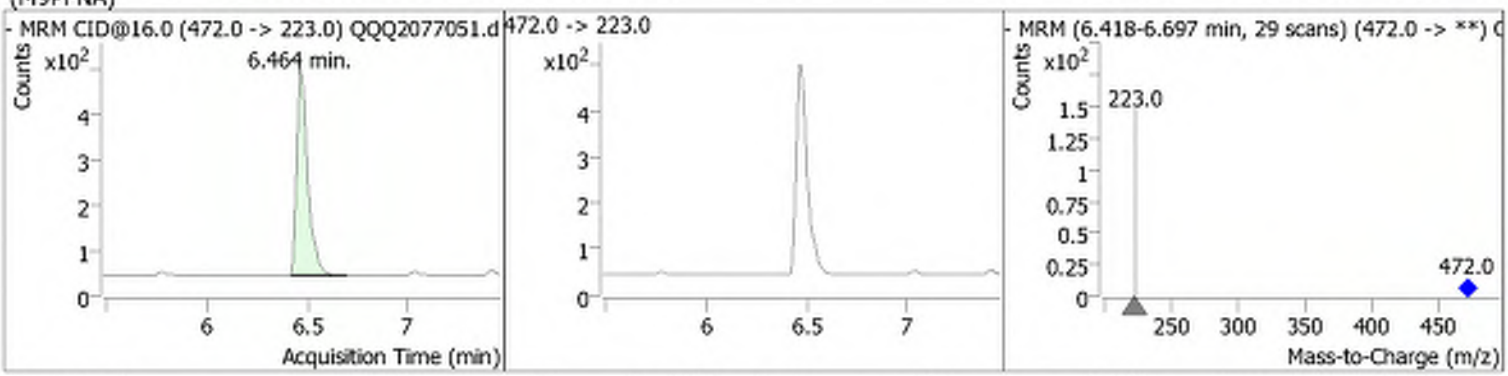
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.5513	5.97	-0.07	28556				



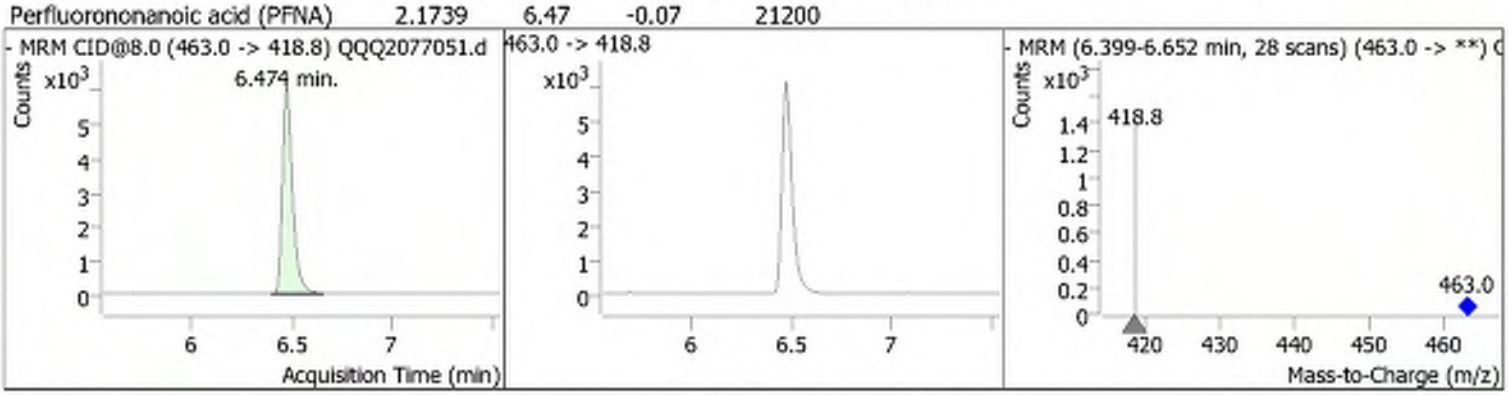
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	3.0173	6.02	-0.07	9787				



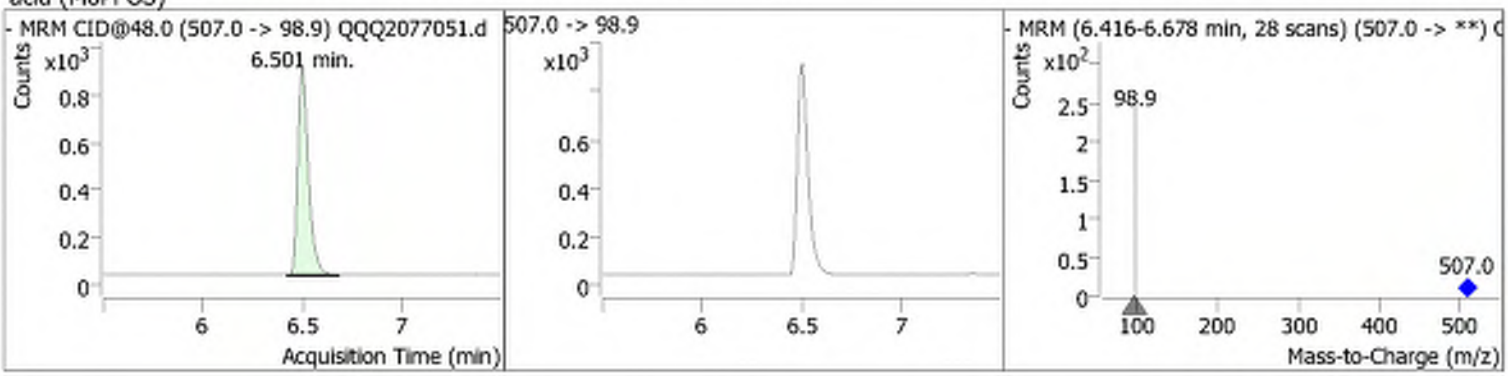
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.4969	6.46	-0.07	1721				



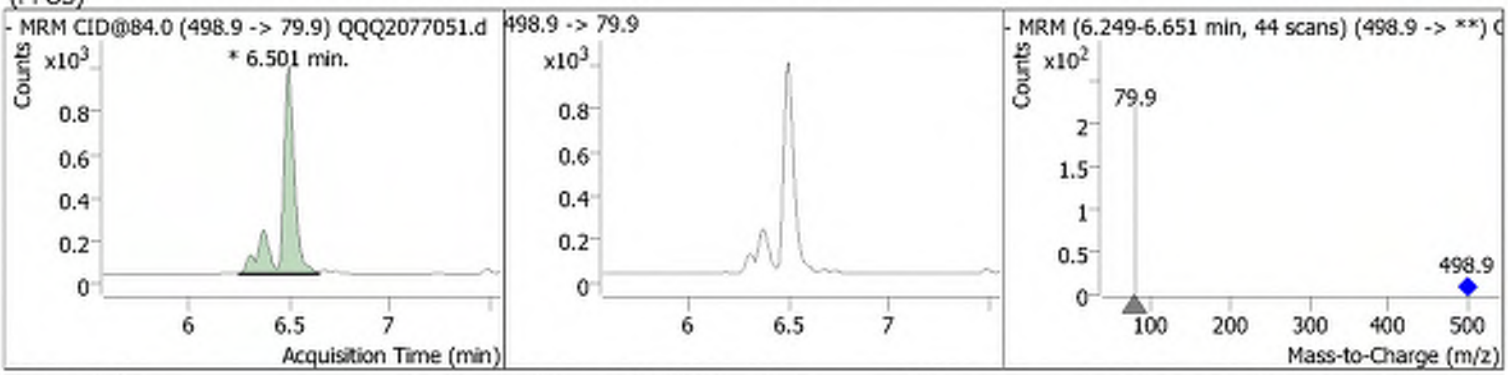
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.1739	6.47	-0.07	21200				



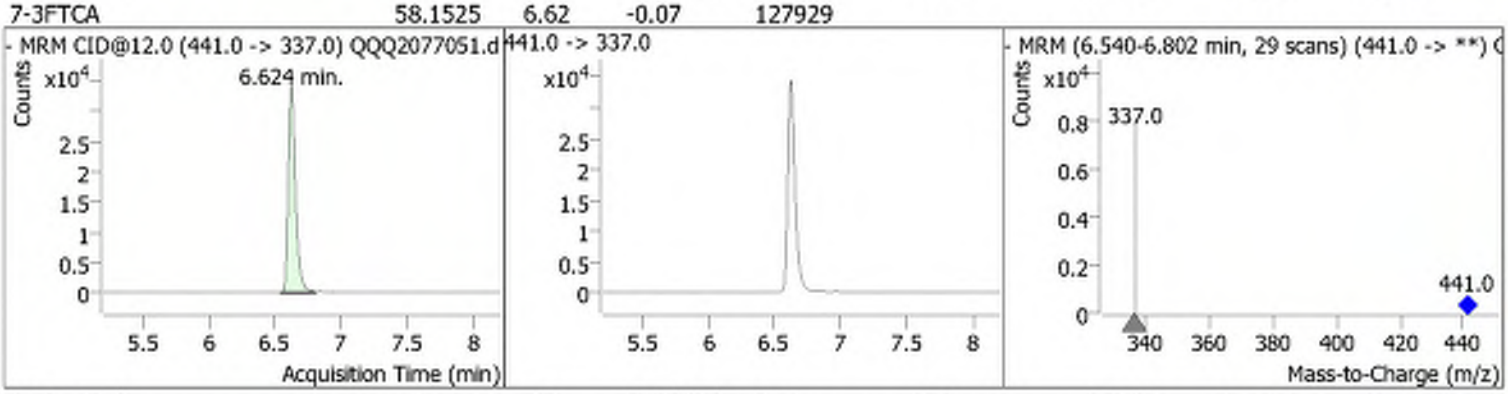
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.1820	6.50	-0.07	3169				



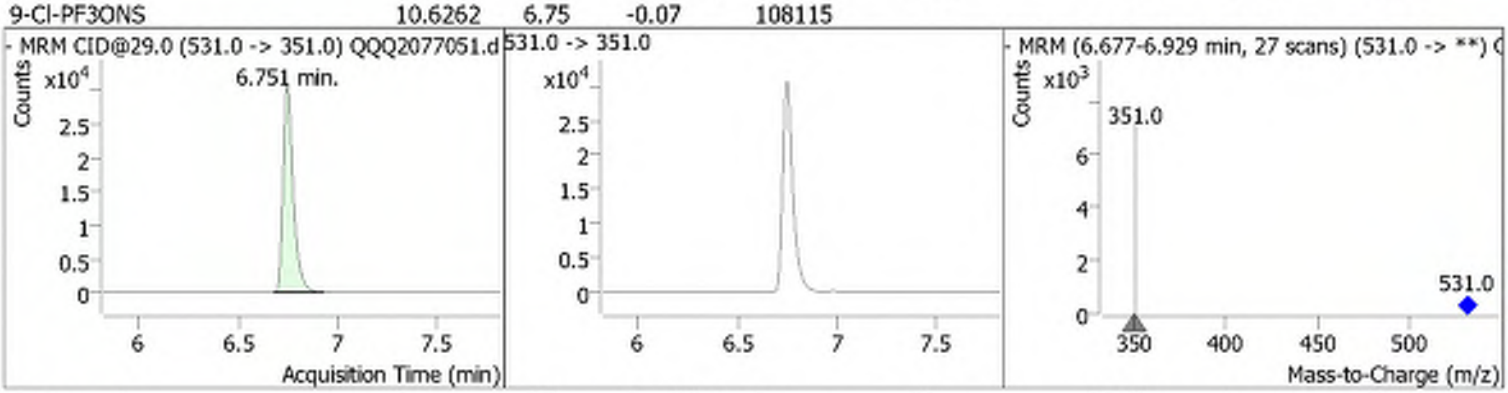
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.6470	6.50	-0.07	4378 (m)				



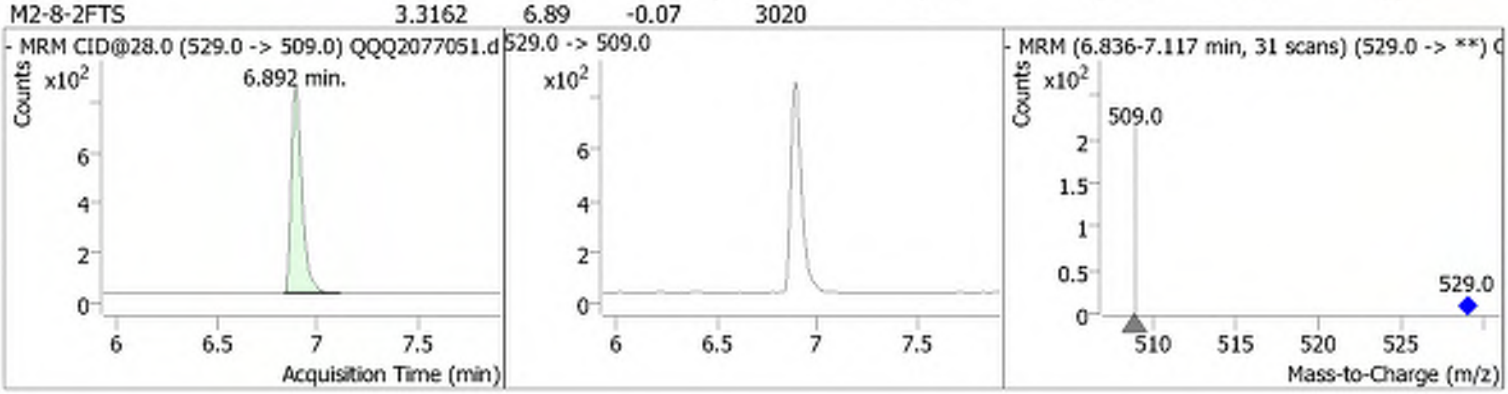
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	58.1525	6.62	-0.07	127929				



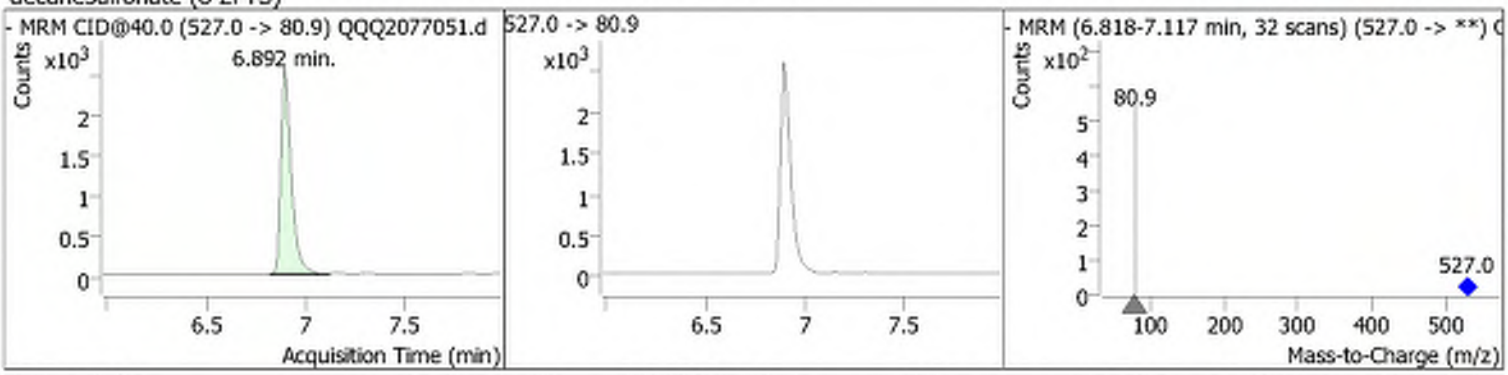
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	10.6262	6.75	-0.07	108115				



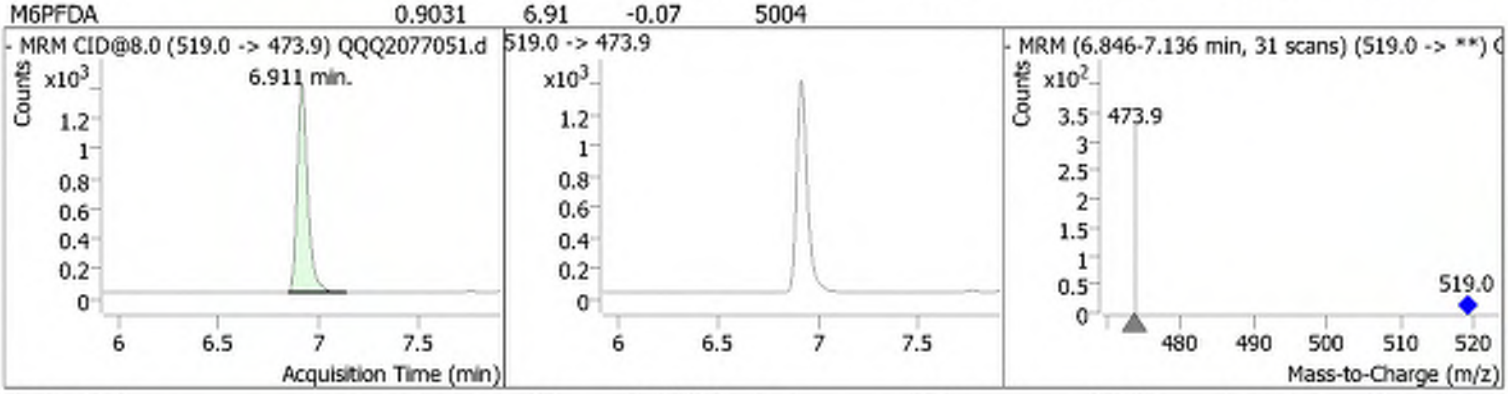
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	3.3162	6.89	-0.07	3020				



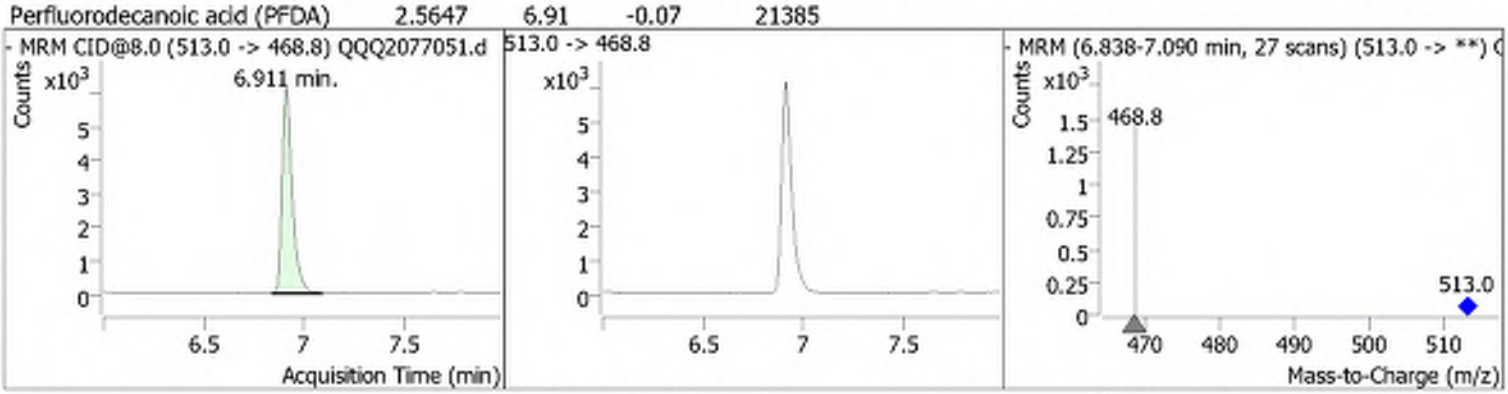
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	12.8895	6.89	-0.08	9073				



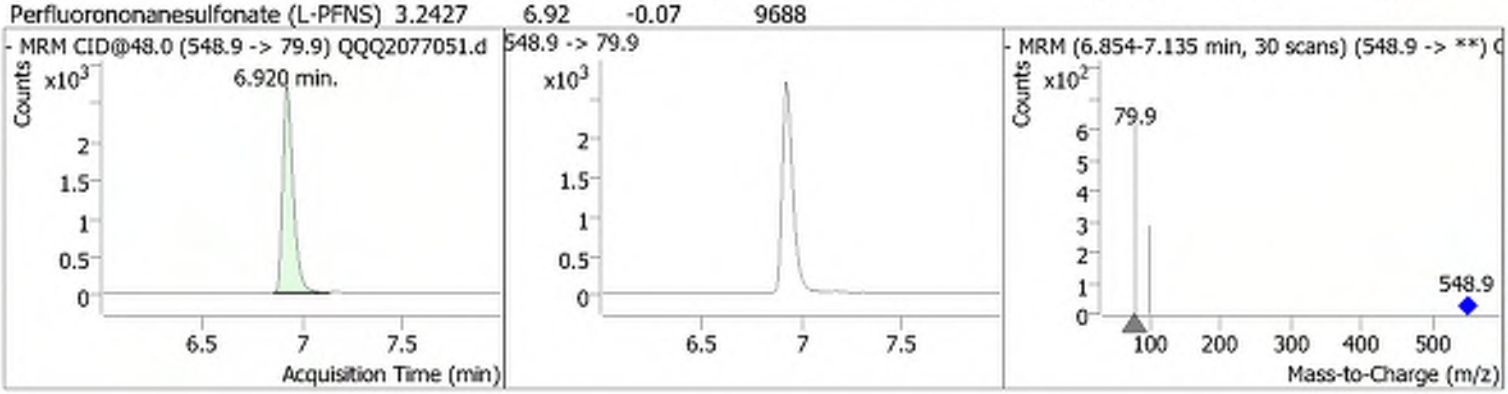
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.9031	6.91	-0.07	5004				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.5647	6.91	-0.07	21385				



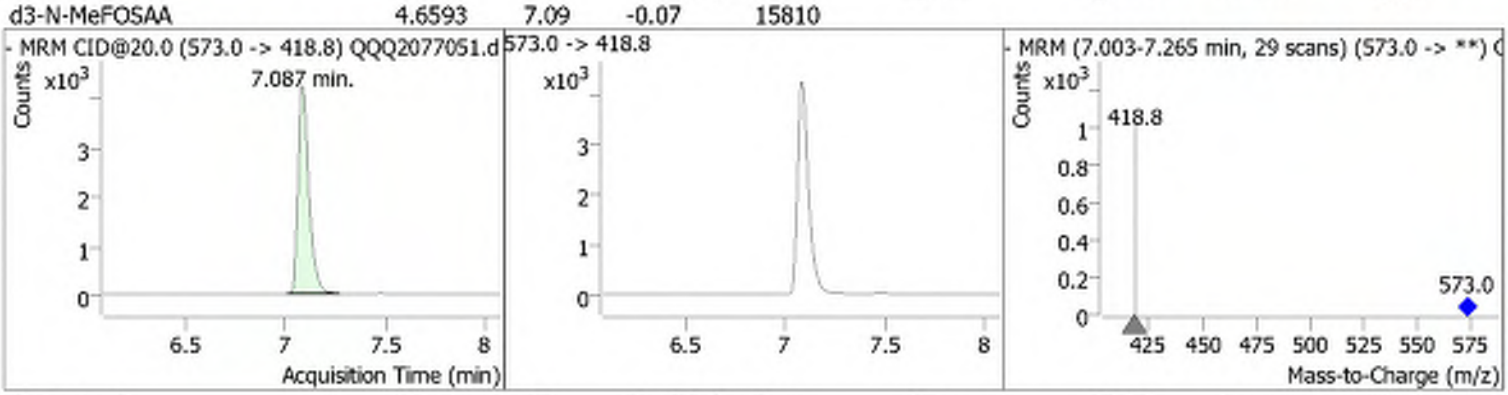
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	3.2427	6.92	-0.07	9688				



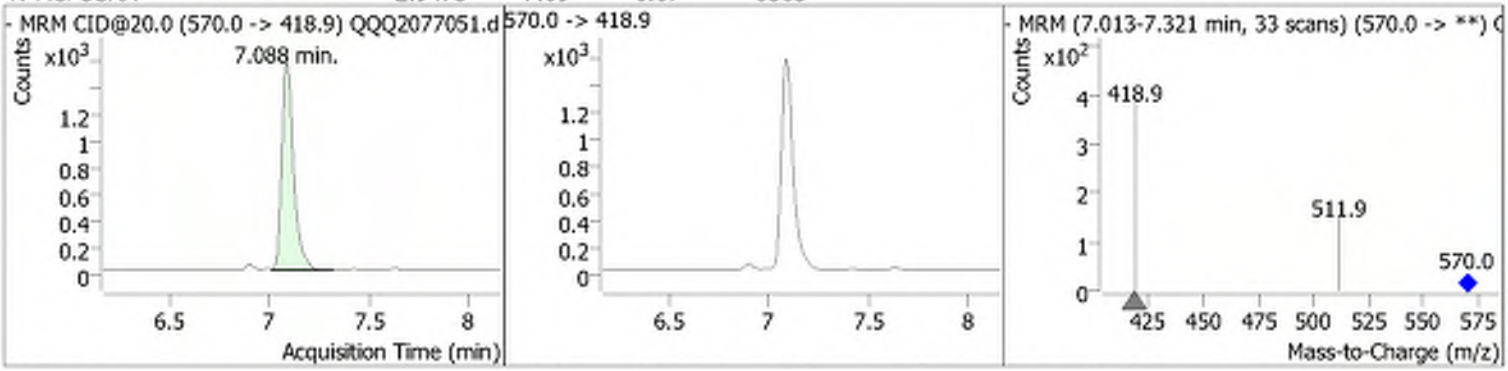
Quantitation Results Report (Not Reviewed)

Agilent

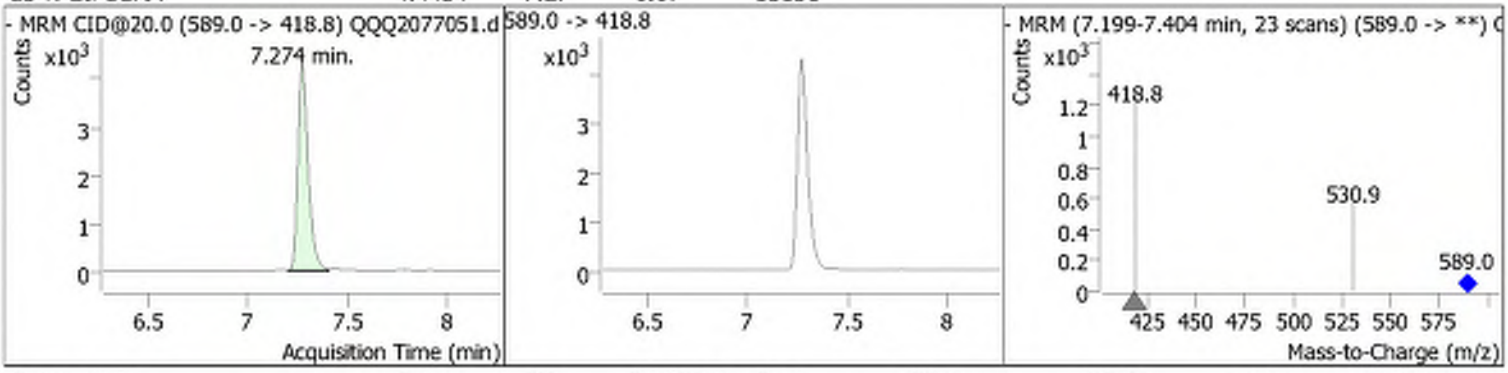
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.6593	7.09	-0.07	15810				



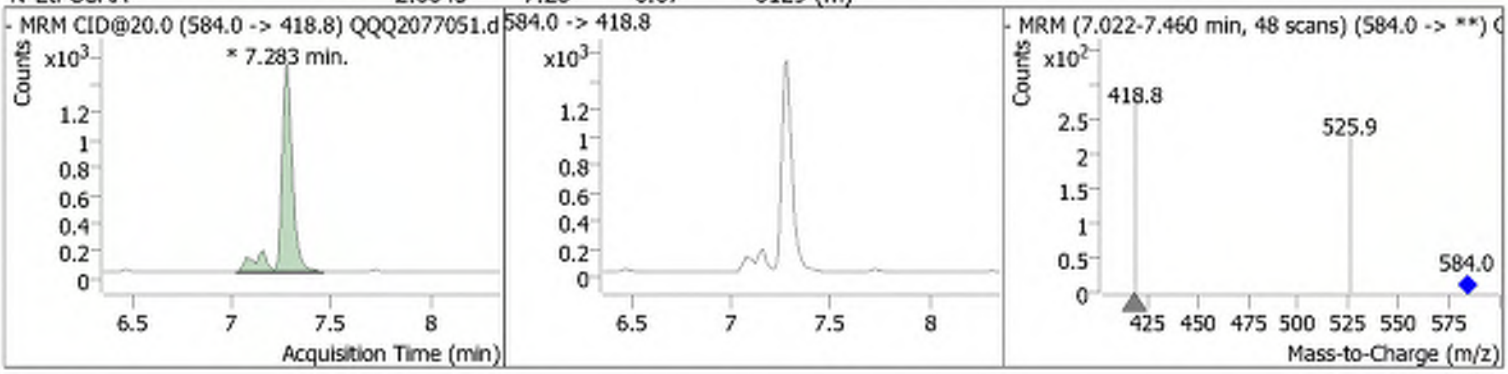
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.9473	7.09	-0.07	6363				



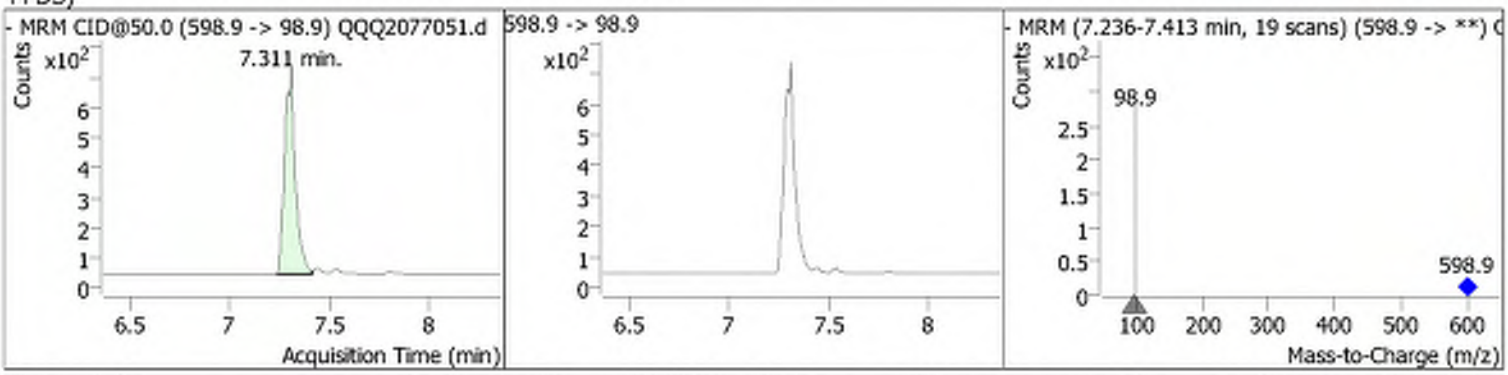
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.4434	7.27	-0.07	15151				



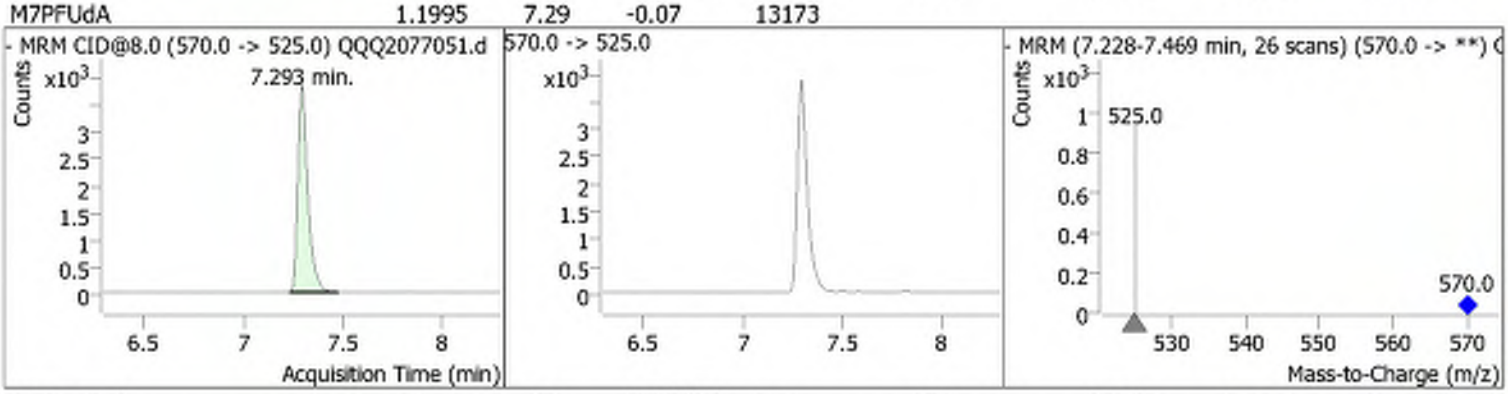
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.6645	7.28	-0.07	6129 (m)				



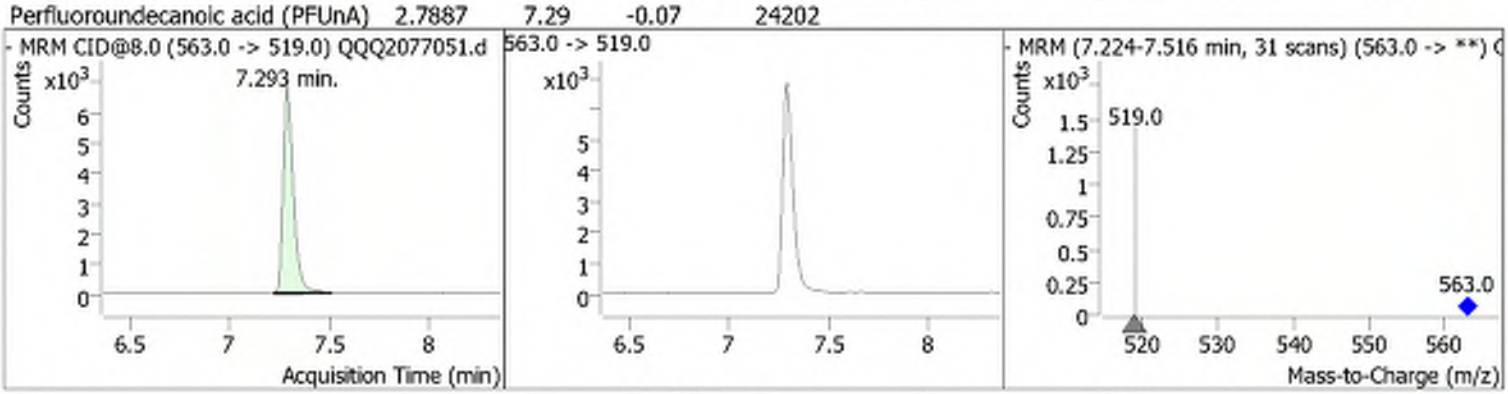
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	1.9587	7.31	-0.06	2502				



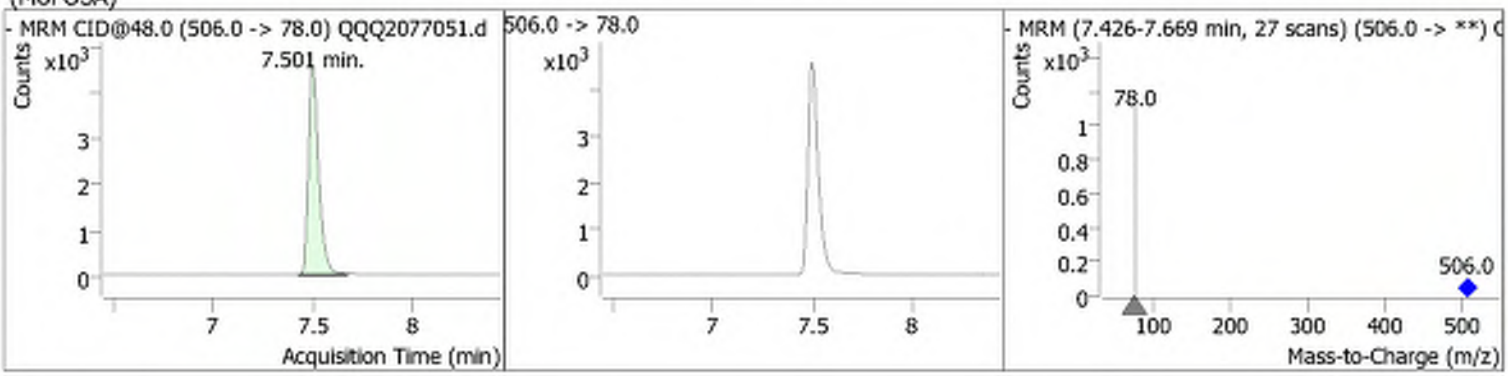
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.1995	7.29	-0.07	13173				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	2.7887	7.29	-0.07	24202				

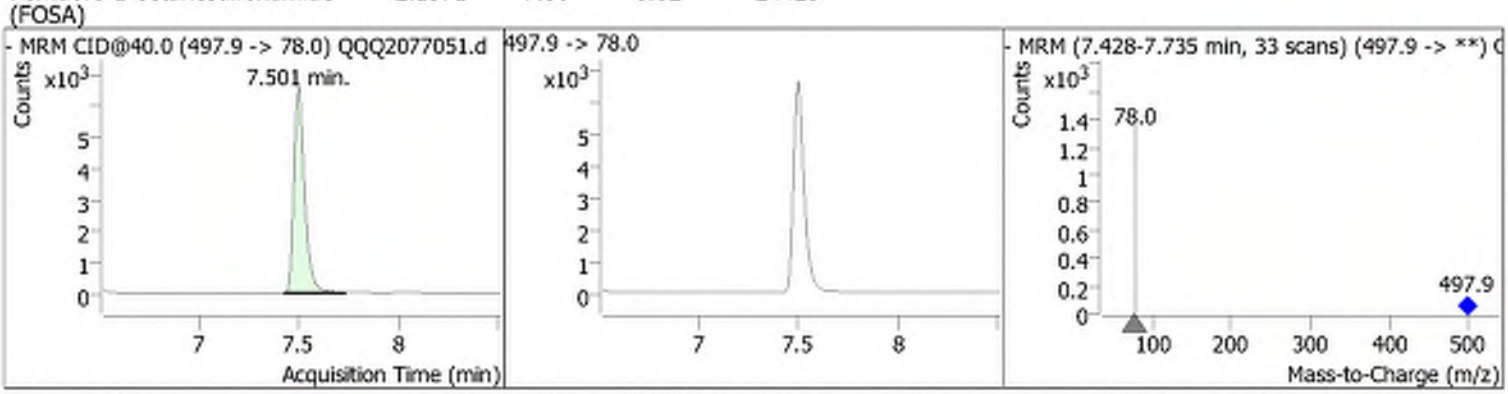


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	1.9730	7.50	-0.02	16246				

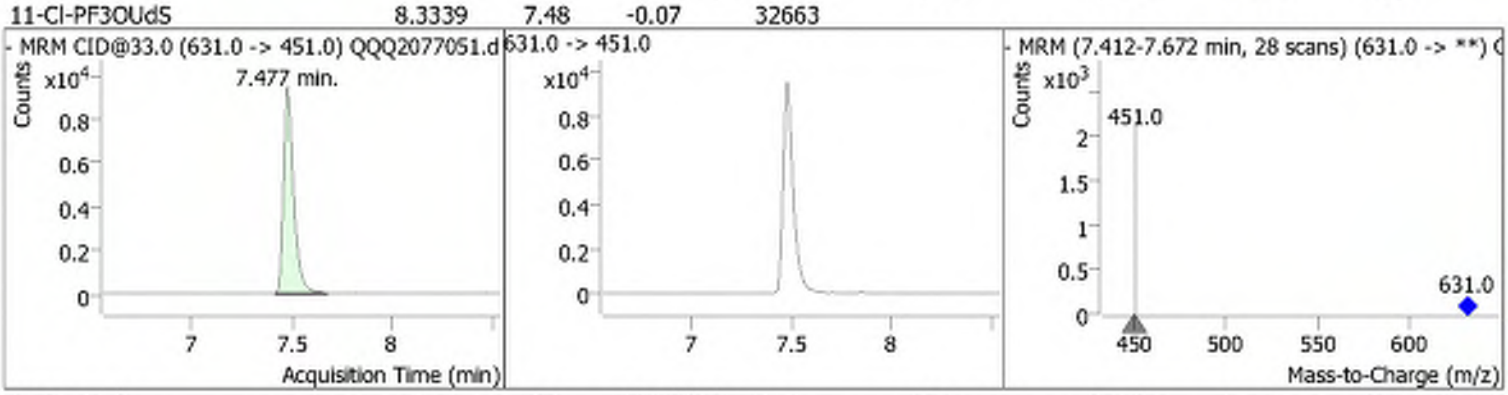


Quantitation Results Report (Not Reviewed)

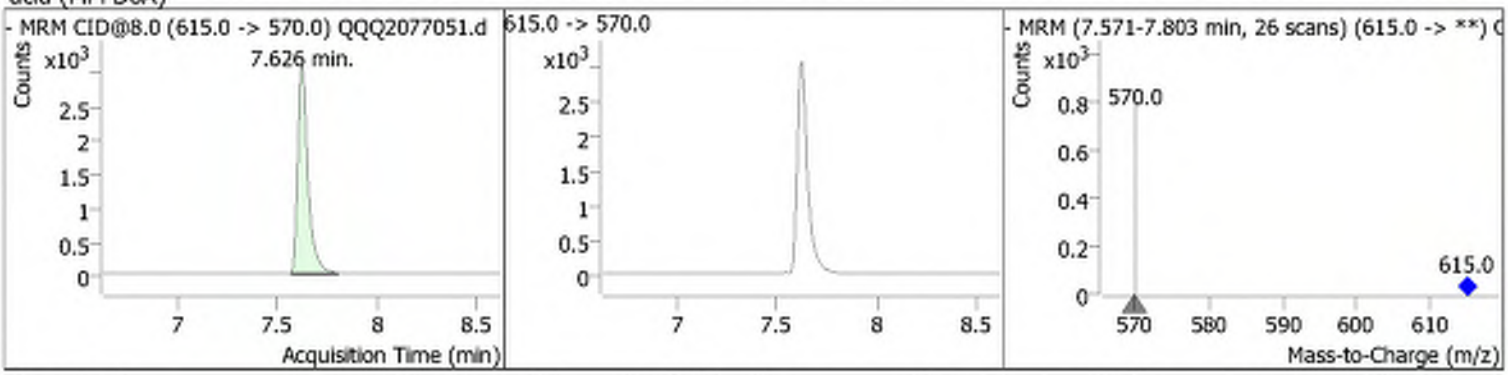
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	2.1371	7.50	-0.02	24423				



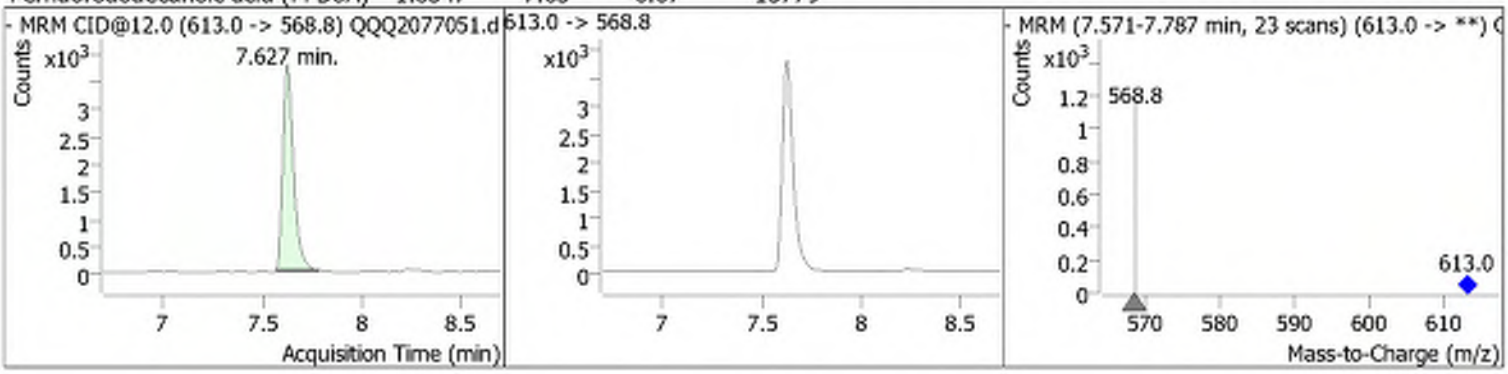
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	8.3339	7.48	-0.07	32663				



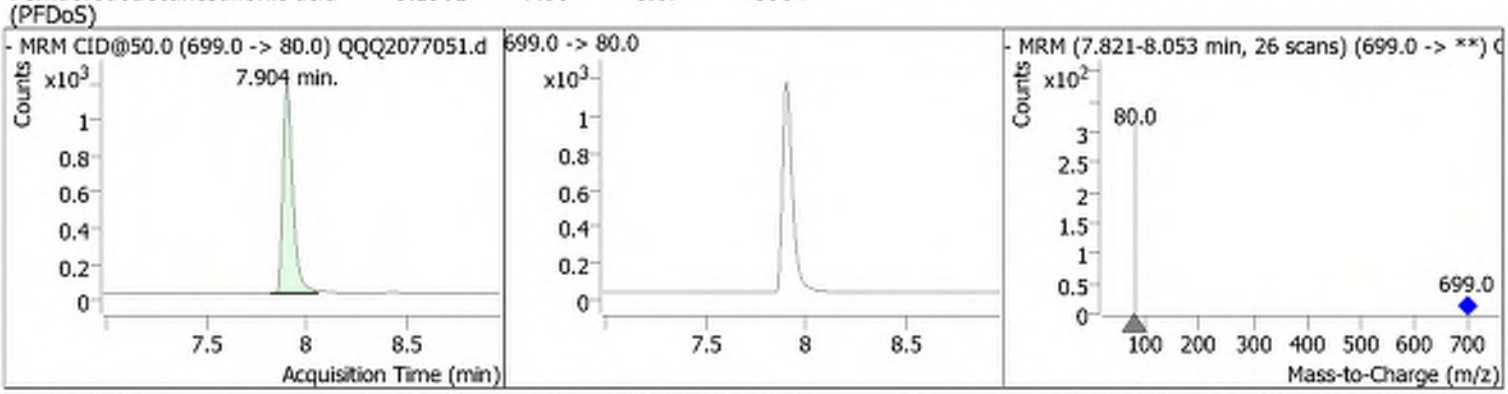
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.1832	7.63	-0.07	10818				



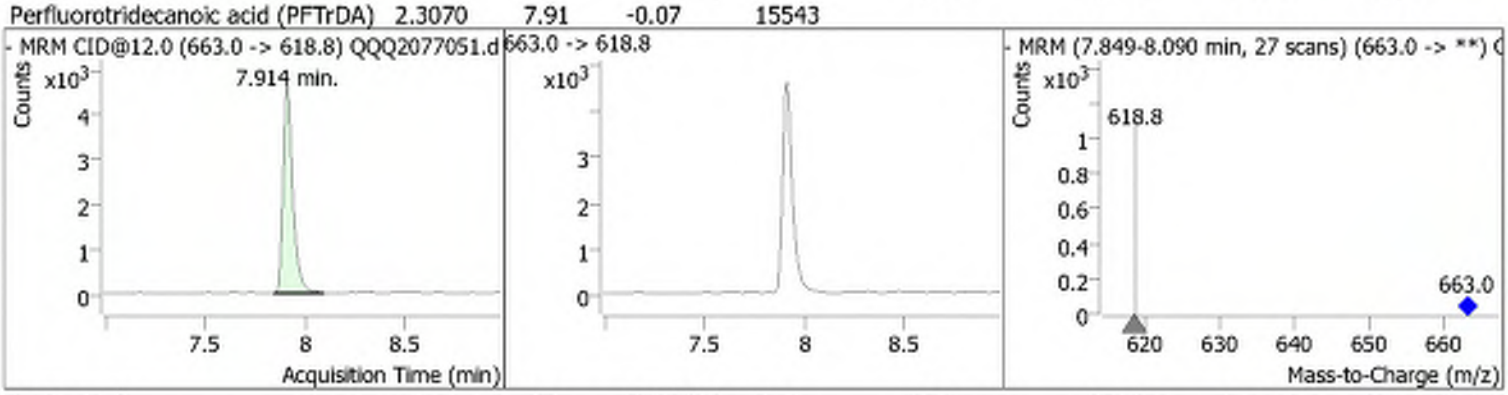
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	1.8547	7.63	-0.07	13779				



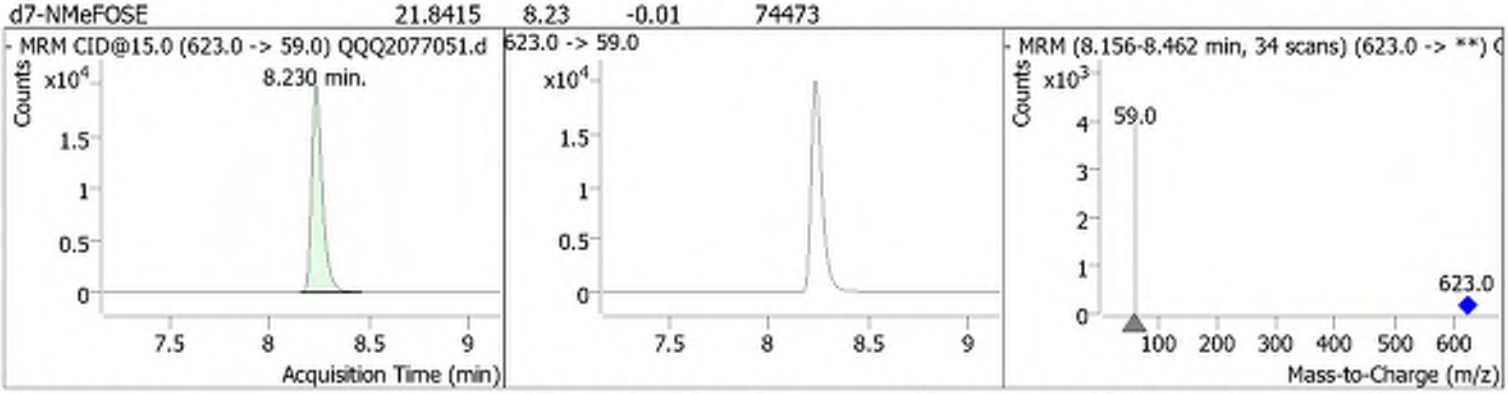
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	3.1901	7.90	-0.07	3904				



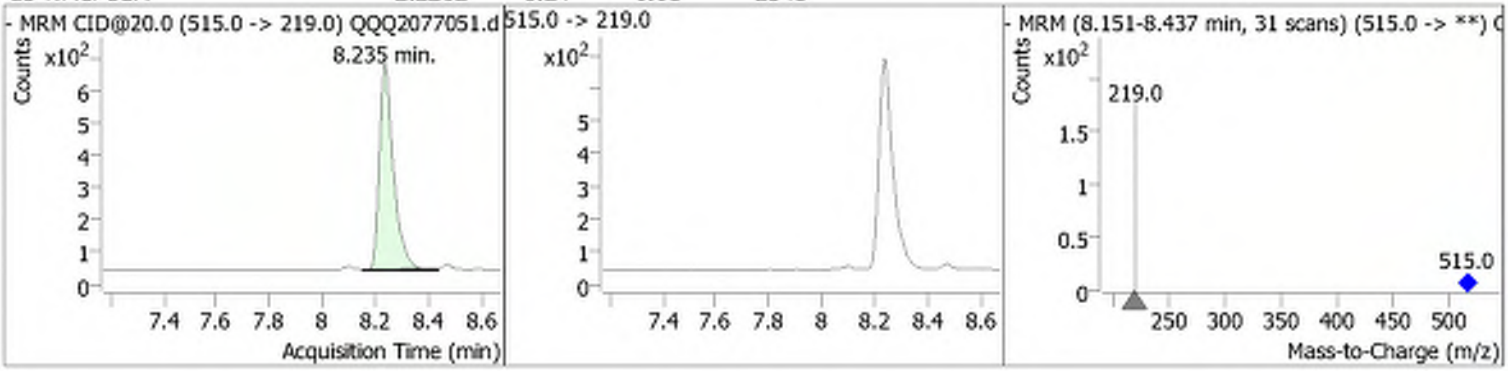
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.3070	7.91	-0.07	15543				



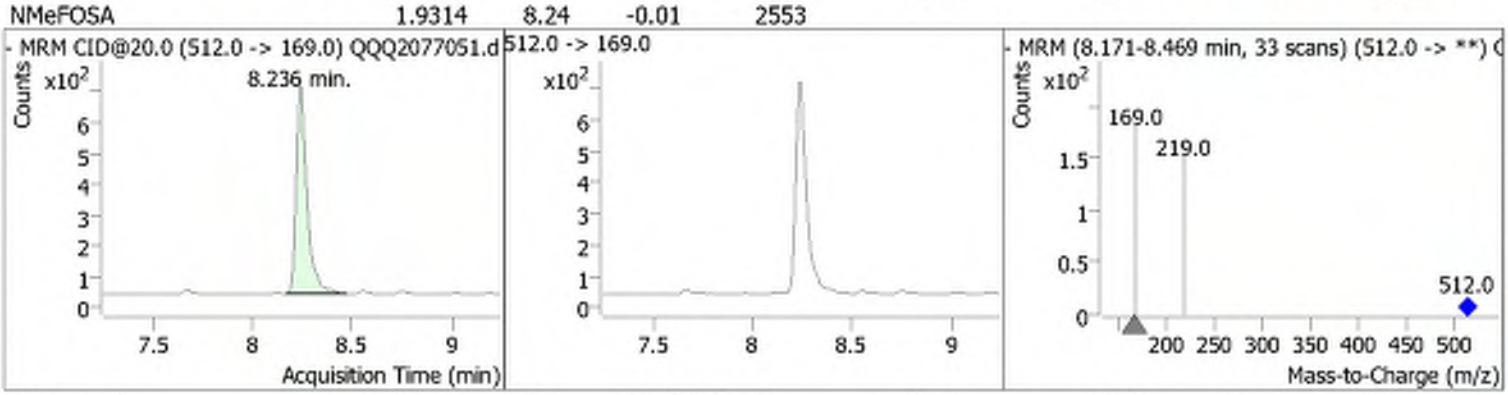
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	21.8415	8.23	-0.01	74473				



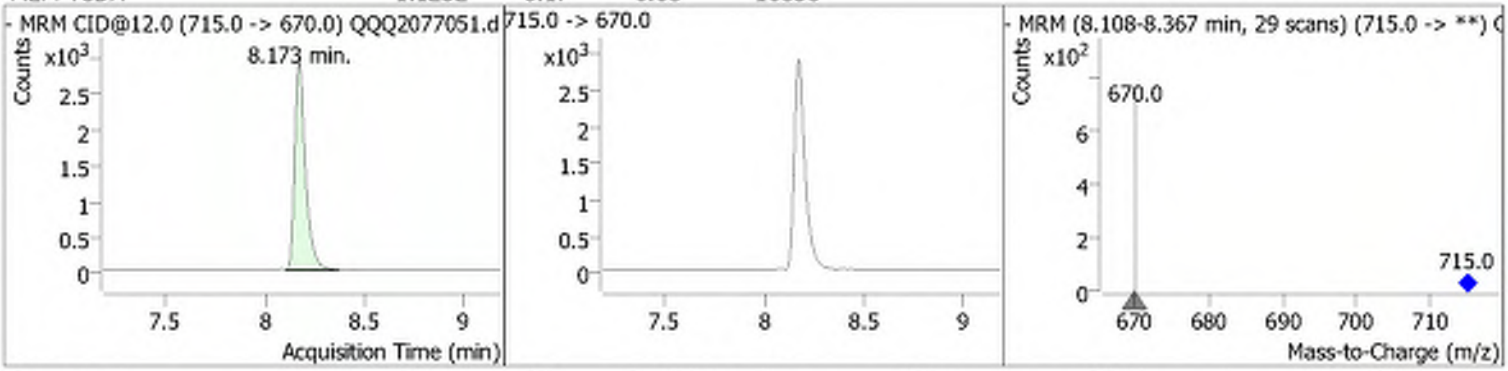
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.2262	8.24	-0.01	2341				



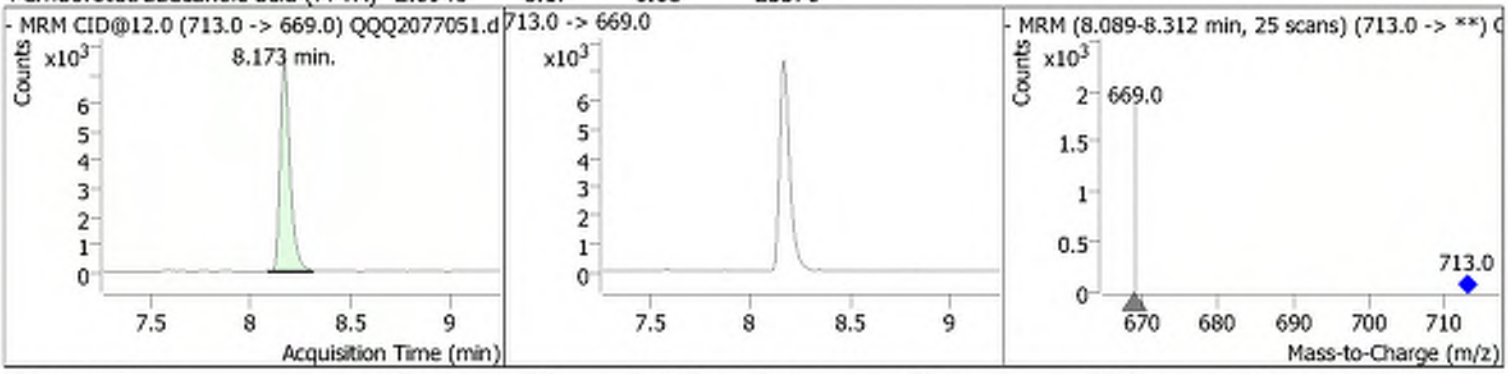
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	1.9314	8.24	-0.01	2553				



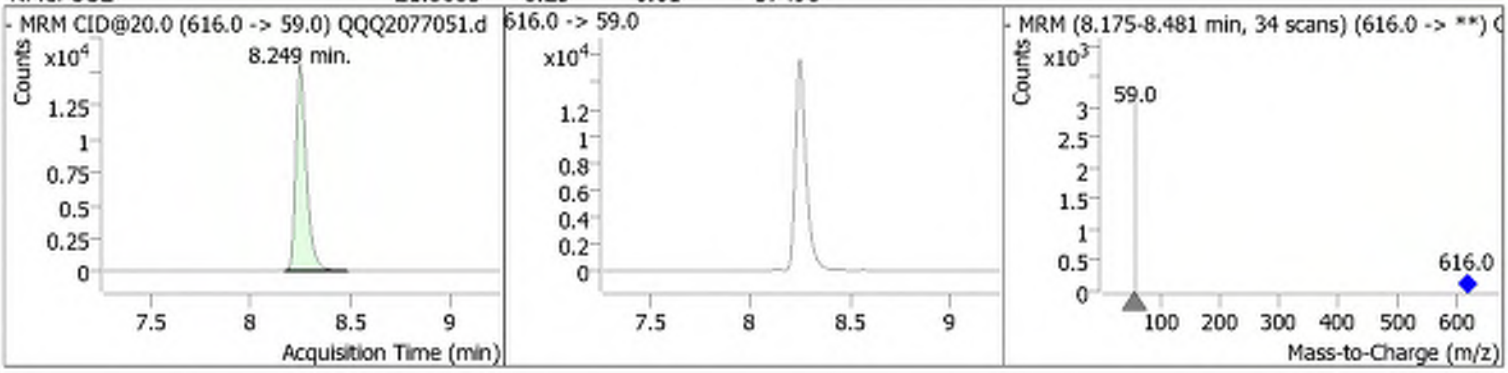
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.1232	8.17	-0.08	10838				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.0946	8.17	-0.08	25570				



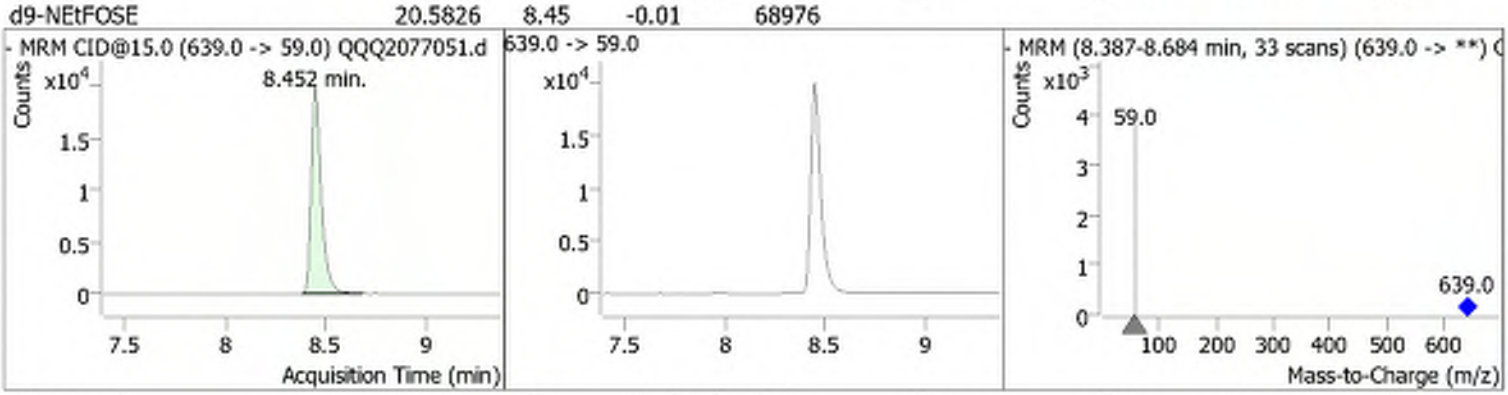
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	21.8683	8.25	-0.01	57498				



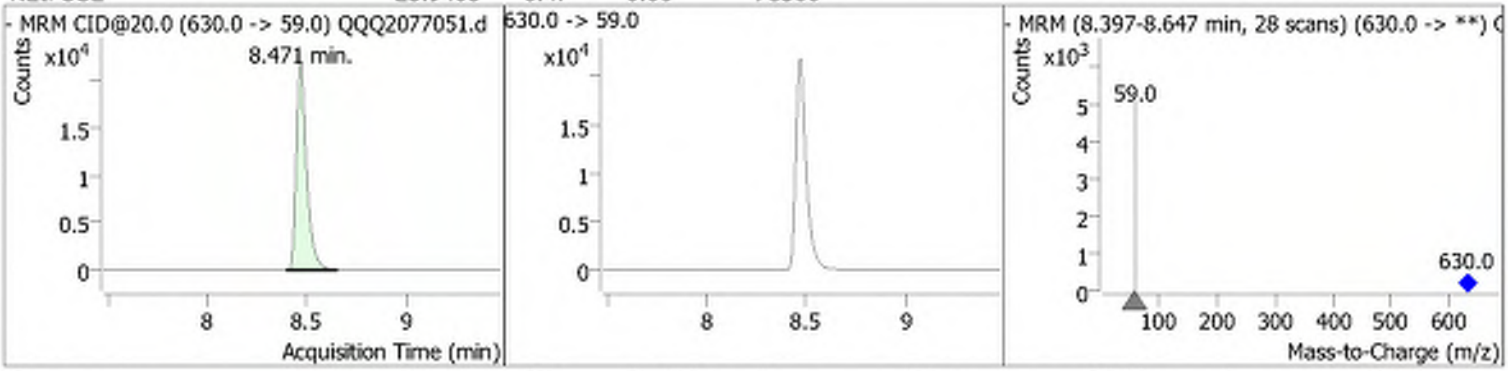
Quantitation Results Report (Not Reviewed)

Agilent

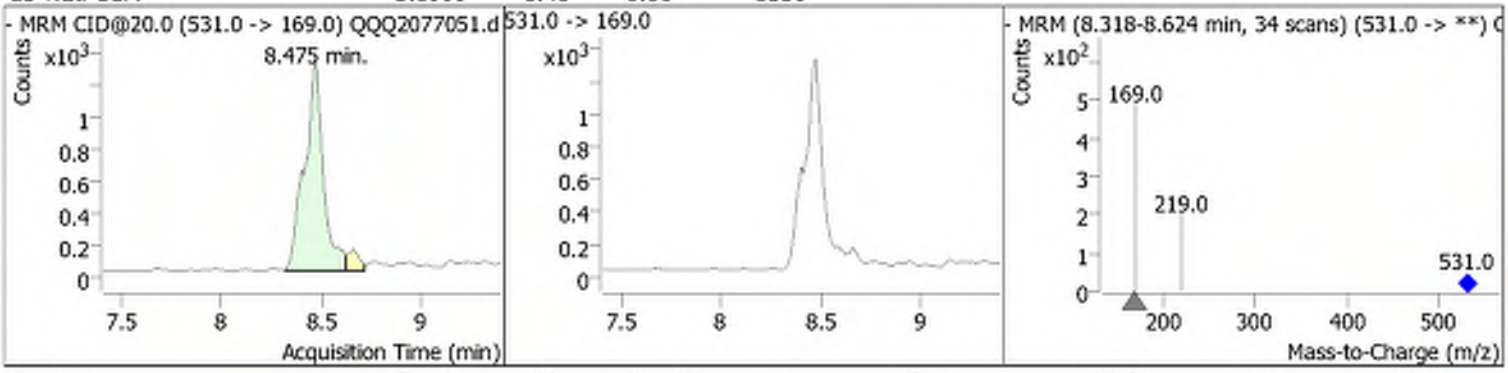
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	20.5826	8.45	-0.01	68976				



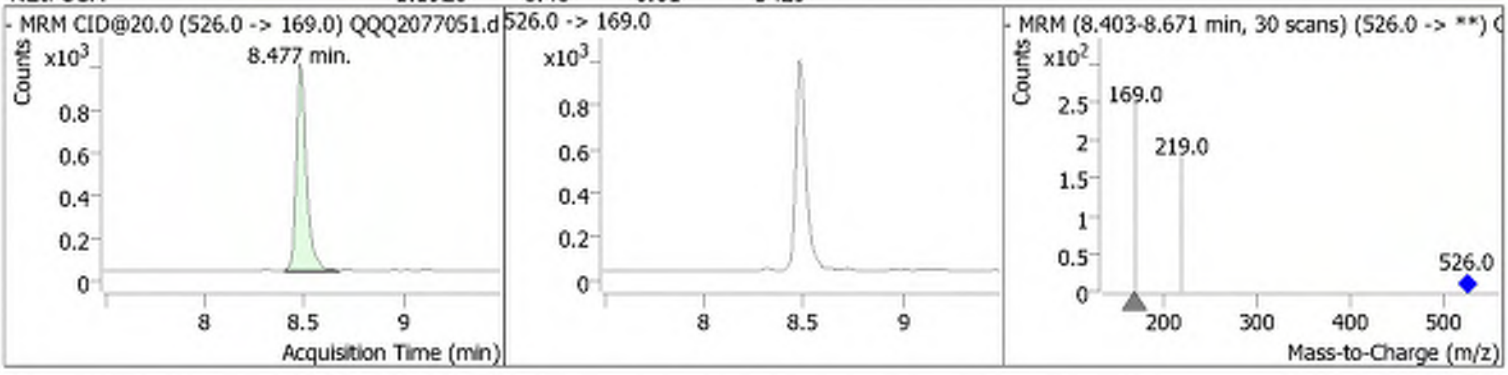
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	23.9405	8.47	0.00	78360				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	5.8999	8.48	0.00	8530				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.1920	8.48	-0.01	3429				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077063.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV3	Injection Time:	15:46

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
11CL-PF3OUdS	A	9.45	8.10	0.1365048	0.1175644		-14.3	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	11.9	0.9829487	1.45864		48.4	30	*
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	9.96	0.8999592	1.042493		15.8	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	9.10	0.9616406	0.9759303		1.5	30	
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	11.1	7.481766E-03	6.503388E-03		-82.3	30	*
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	67.3	0.1463629	0.147803		7.4	30	
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	58.4	1.736253	1.670845		367	30	*
9CL-PF3ONS	A	9.35	10.5	0.3910379	0.3996792		12.3	30	
ADONA	A	9.45	9.15	0.3374364	0.3138978		-3.2	30	
HFPO-DA (Gen-X)	A	10.0	10.7	0.0204781	2.283362E-02		6.9	30	
N-EtFOSA	A	2.50	1.09	0.9890033	0.3659467		-56.6	30	*
N-EtFOSAA	A	2.50	2.16	0.8333015	0.655671		-13.5	30	
N-EtFOSE	A	25.0	24.1	1.129564	1.143963		-3.6	30	
N-MeFOSA	A	2.50	2.31	1.295508	1.304237		-7.5	30	
N-MeFOSAA	A	2.50	2.98	0.7572478	0.8149178		19.3	30	
N-MeFOSE	A	25.0	24.2	0.7868612	0.8552304		-3.0	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.53	1.613927	1.629685		1.8	30	
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	2.42	1.090454	1.013466		0.5	30	
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	2.31	3.229874	2.475236		-2.8	30	
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	2.28	2.541268	2.238386		-4.8	30	
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	2.35	1.712752	1.654172		-5.9	30	
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.19	1.404147	1.323613		-7.0	30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.38	0.7000326	0.7649828		7.7	30	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077063.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV3	Injection Time:	15:46

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.08	0.757603	0.7801775		1.6	30
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.63	1.071309	1.051746		-7.4	30
Perfluorobutanesulfonic acid (PFBS)	A	2.22	2.38	1.34399	1.373107		7.1	30
Perfluorodecanoic acid (PFDA)	A	2.50	2.43	1.963699	2.021739		-2.9	30
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	2.77	1.100267	1.102375		14.5	30
Perfluorododecanoic acid (PFDoA)	A	2.50	2.01	0.8597345	0.6903095		-19.6	30
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.39	1.318827	1.286614		-4.4	30
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	2.16	1.421744	1.364529		-5.2	30
Perfluorohexanoic acid (PFHxA)	A	2.50	2.49	1.24236	1.174945		-0.5	30
Perfluoro-n-butanoic acid (PFBA)	A	10.0	9.79	1.241515	1.23624		-2.1	30
Perfluorononanoic acid (PFNA)	A	2.50	2.19	6.653904	6.203311		-6.8	30
Perfluorooctanesulfonic acid (PFOS)	A	2.32	2.04	1.806429	1.1386		-12.1	30
Perfluorooctanoic acid (PFOA)	A	2.50	2.35	1.548646	1.36198		-5.8	30
Perfluoropentanoic acid (PFPeA)	A	5.00	4.59	1.047367	1.004641		-8.2	30
Perfluorotetradecanoic acid (PFTA)	A	2.50	1.93	1.414068	1.086002		-22.9	30
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.20	0.7557259	0.6836684		-12.0	30
Perfluoroundecanoic acid (PFUnA)	A	2.50	2.42	1.039554	0.7937542		-3.4	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077063.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 3:46:51 PM
Sample Name	SEQ-CCV3	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.152	216.0 -> 172.0	47664	5.0000	ng/ml		-0.055
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.150	217.0 -> 172.0	66419	10.0000	ng/ml		-0.055
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.322	268.0 -> 223.0	33023	5.0000	ng/ml		-0.065
MPFHxA	4.642	315.0 -> 269.8	39625	2.5000	ng/ml		-0.056
MPFHxS	5.476	403.0 -> 103.0	3521	2.3700	ng/ml		-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	10575	2.3300	ng/ml		-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	27598	2.5000	ng/ml		-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	12226	4.6900	ng/ml		-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	9598	2.3700	ng/ml		-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	72601	10.0000	ng/ml		-0.056
M4PFHpA-EIS	5.383	367.0 -> 322.0	31085	2.5000	ng/ml		-0.056
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	7730	4.7550	ng/ml		-0.065
MPFOA	5.970	417.0 -> 372.0	36818	2.5000	ng/ml		-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	20563	2.5000	ng/ml		-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	4287	2.3950	ng/ml		-0.065
MPFNA	6.474	468.0 -> 423.0	13375	1.2500	ng/ml		-0.065
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.464	472.0 -> 223.0	1680	1.2500	ng/ml		-0.075
MPFOS	6.501	503.0 -> 80.0	8401	2.3950	ng/ml		-0.075
M2-8-2FTS-EIS	6.892	529.0 -> 509.0	3579	4.8000	ng/ml		-0.075
MPFDA	6.911	515.0 -> 469.8	12562	1.2500	ng/ml		-0.075
M6PFDA-EIS	6.911	519.0 -> 473.9	5651	1.2500	ng/ml		-0.075
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	14783	5.0000	ng/ml		-0.065
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	17472	5.0000	ng/ml		-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	14044	1.2500	ng/ml		-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	17114	2.5000	ng/ml		-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	11176	1.2500	ng/ml		-0.074
M2PFTeDA-EIS	8.163	715.0 -> 670.0	11434	1.2500	ng/ml		-0.093
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	2338	2.5000	ng/ml		-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	72167	25.0000	ng/ml		-0.009
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	69645	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	8169	2.5000	ng/ml	m	0.000
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.150	217.0 -> 172.0	66419	10.1733	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.322	268.0 -> 223.0	33023	5.1472	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.837	302.0 -> 79.9	10575	2.2581	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.584	329.0 -> 309.0	12226	6.3766	ng/ml		-0.047

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.650	318.0 -> 273.0	27598	2.5785	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	72601	11.6321	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.383	367.0 -> 322.0	31085	2.5716	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	9598	2.4396	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	7730	7.4331	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	20563	2.5334	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.464	472.0 -> 223.0	1680	1.2205	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	4287	3.5252	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.892	529.0 -> 509.0	3579	4.0028	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.911	519.0 -> 473.9	5651	1.1589	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.087	573.0 -> 418.8	14783	5.2019	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	17472	6.1187	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	14044	1.4533	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	17114	2.4817	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	11176	1.3893	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	72167	25.2728	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	2338	2.6538	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.163	715.0 -> 670.0	11434	1.3467	ng/ml	-0.093
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	69645	24.8158	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.475	531.0 -> 169.0	8149	6.7301	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.154	213.0 -> 168.9	82110	9.7938	ng/ml	100
PFMPA	1.978	229.0 -> 85.0	25764	5.0782	ng/ml	100
3:3FTCA	3.222	241.0 -> 177.0	4494	11.0938	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.323	263.0 -> 219.0	33176	4.5904	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.828	298.9 -> 79.9	12895	2.3777	ng/ml	100
PFMBA	3.858	279.0 -> 85.0	34732	4.6282	ng/ml	100
PFEESA	4.335	315.0 -> 135.0	80058	4.5287	ng/ml	100
NFDHA	4.504	295.0 -> 201.1	42224	5.3847	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	23911	9.9582	ng/ml	100

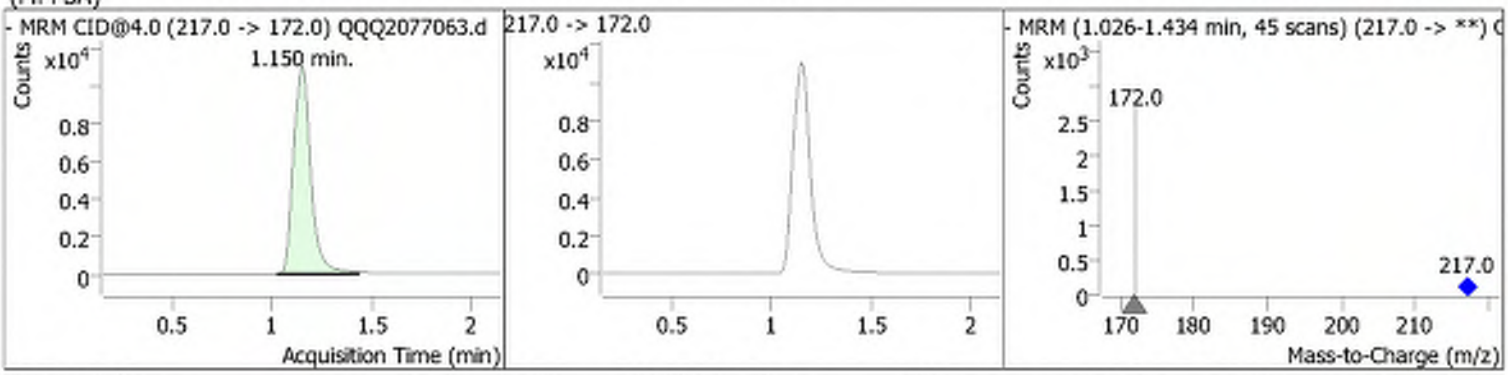
Quantitation Results Report (Not Reviewed)

Agilent

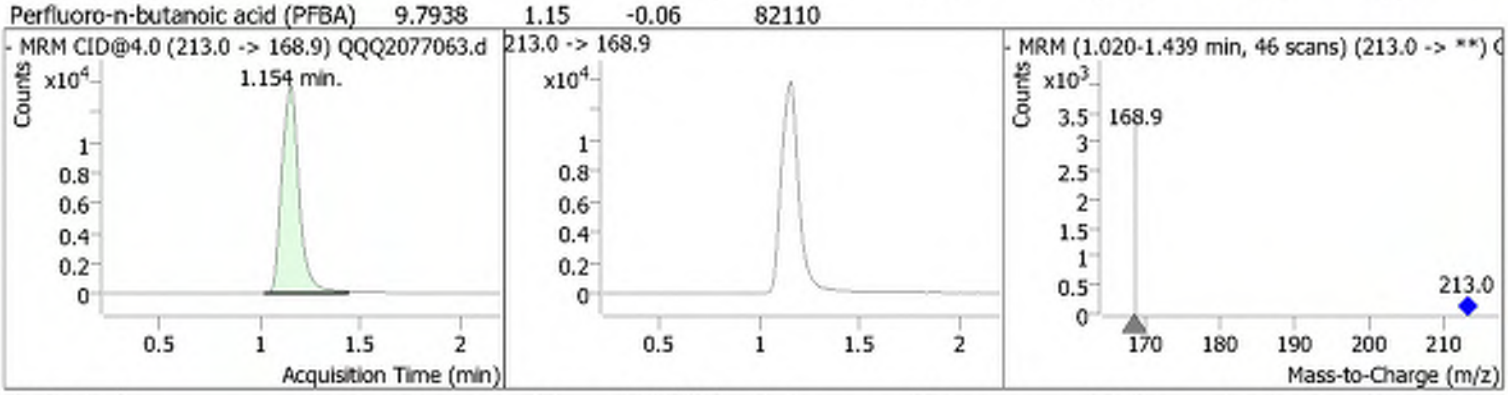
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	32426	2.4880	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	11942	2.1867	ng/ml		100
HFPO-DA	4.904	285.0 -> 169.1	6631	10.6906	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.383	363.0 -> 318.8	39995	2.3903	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	11945	2.1623	ng/ml	m	100
5-3FTCA	5.478	341.0 -> 217.0	102141	67.2624	ng/ml		100
ADONA	5.495	377.0 -> 85.0	86143	9.1518	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.932	427.0 -> 407.0	14334	9.1048	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	28006	2.3540	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.015	448.9 -> 80.0	10102	2.3129	ng/ml		100
Perfluorononanoic acid (PFNA)	6.474	463.0 -> 418.8	20843	2.1899	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.511	498.9 -> 79.9	4530	2.0384	ng/ml	m	100
7-3FTCA	6.615	441.0 -> 337.0	137940	58.4147	ng/ml		100
9-Cl-PF3ONS	6.751	531.0 -> 351.0	108523	10.4955	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.892	527.0 -> 80.9	10022	11.9077	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.911	513.0 -> 468.8	22849	2.4265	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.929	548.9 -> 79.9	9213	2.2845	ng/ml		100
N-MeFOSAA	7.088	570.0 -> 418.9	6023	2.9835	ng/ml	m	100
N-EtFOSAA	7.274	584.0 -> 418.8	5728	2.1614	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.301	598.9 -> 98.9	4189	2.4218	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.293	563.0 -> 519.0	22295	2.4158	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	28310	2.3522	ng/ml		100
11-Cl-PF3OUdS	7.477	631.0 -> 451.0	32263	8.0998	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.627	613.0 -> 568.8	15430	2.0111	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.904	699.0 -> 80.0	4575	2.7707	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.914	663.0 -> 618.8	15634	2.1990	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	3049	2.3126	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.164	713.0 -> 669.0	24835	1.9281	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	61719	24.2410	ng/ml		100
NEtFOSE	8.462	630.0 -> 59.0	79671	24.1080	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	2989	1.0857	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

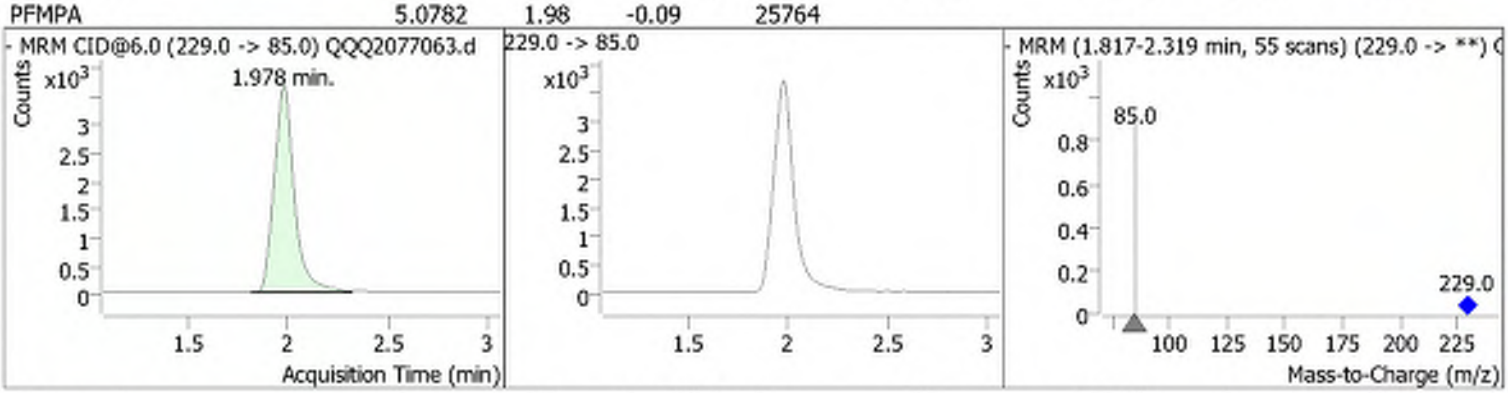
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.1733	1.15	-0.06	66419				



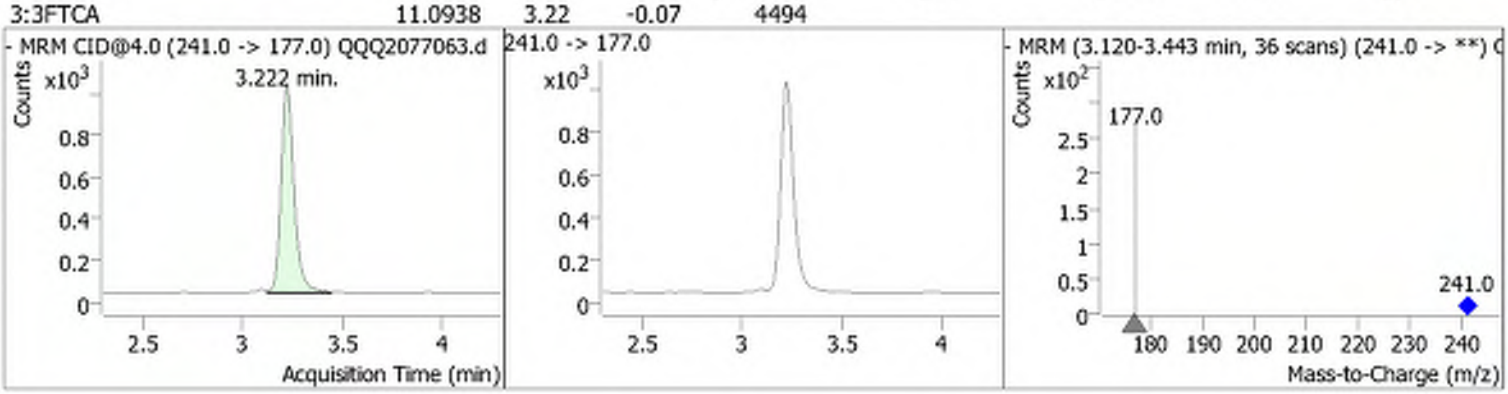
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	9.7938	1.15	-0.06	82110				



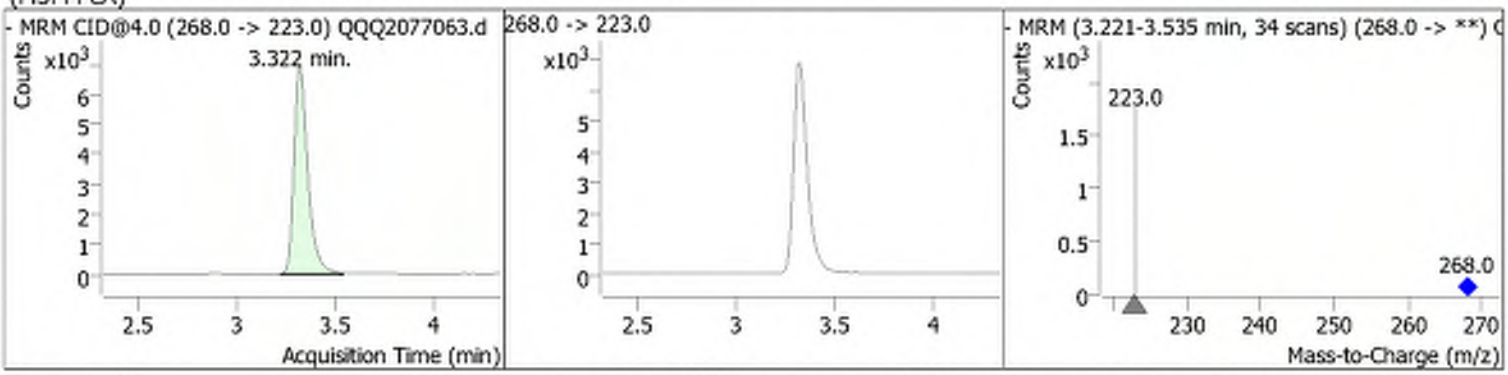
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.0782	1.98	-0.09	25764				



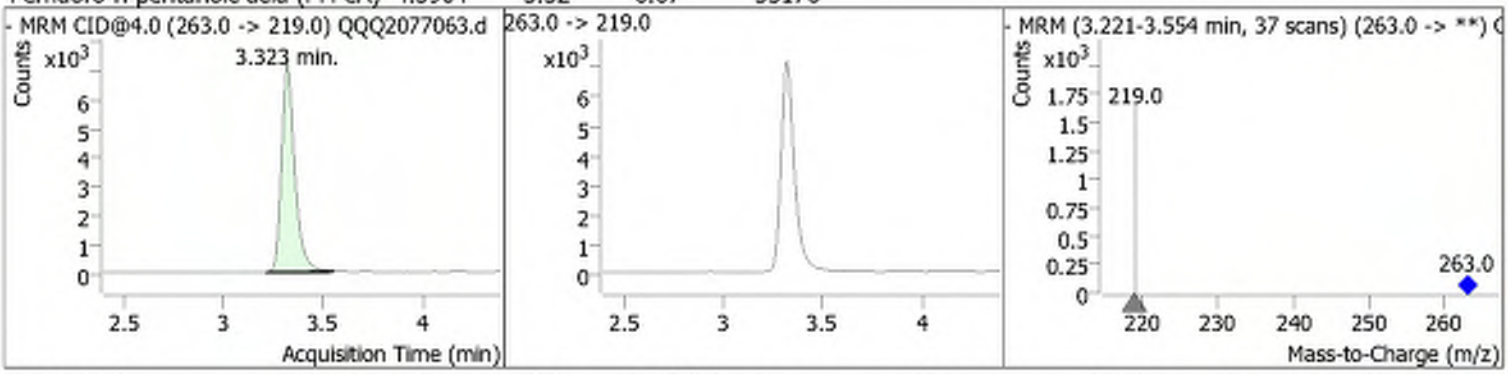
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	11.0938	3.22	-0.07	4494				



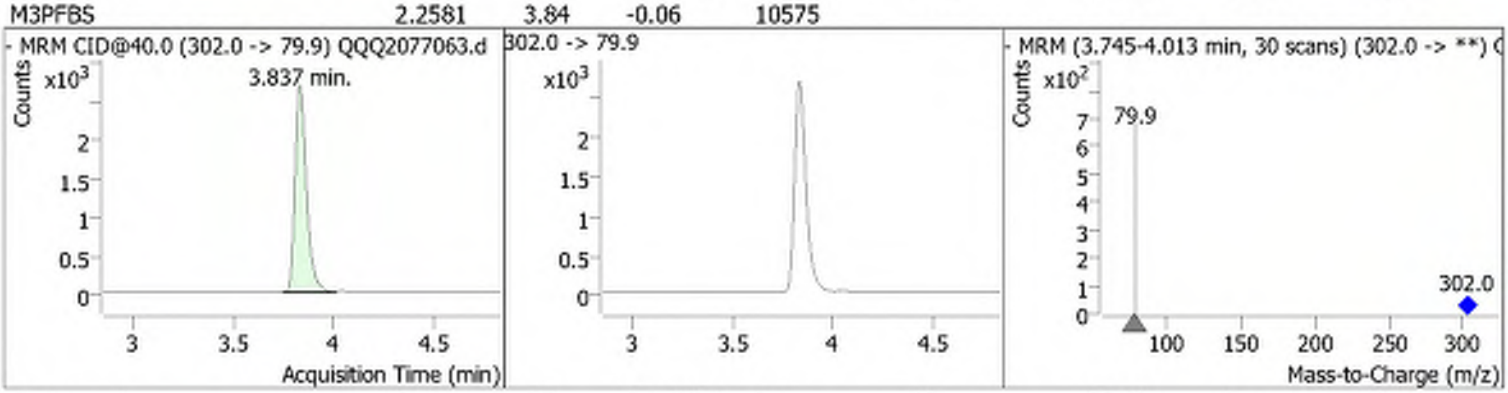
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.1472	3.32	-0.06	33023				



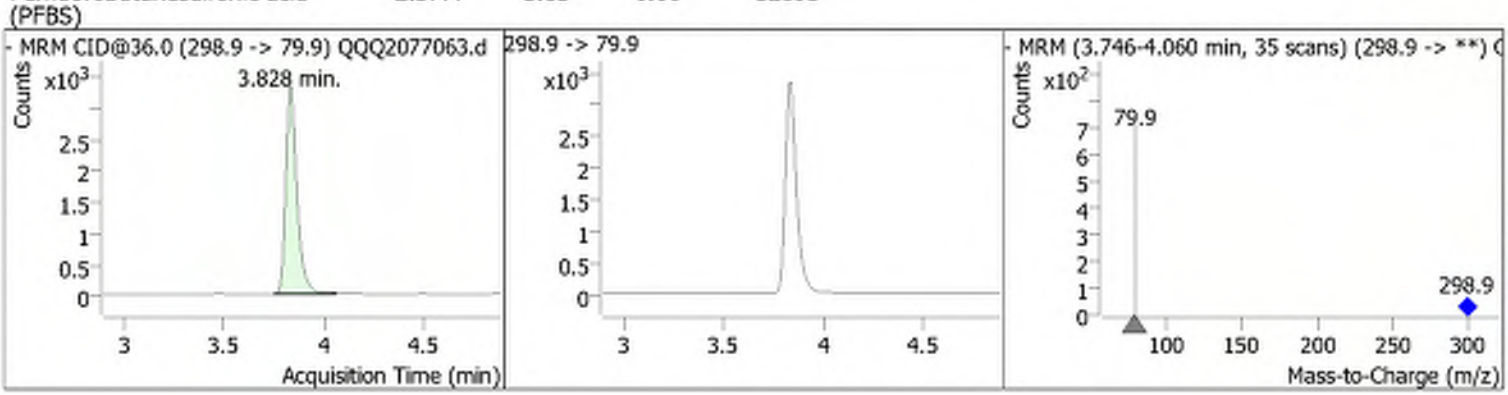
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.5904	3.32	-0.07	33176				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.2581	3.84	-0.06	10575				

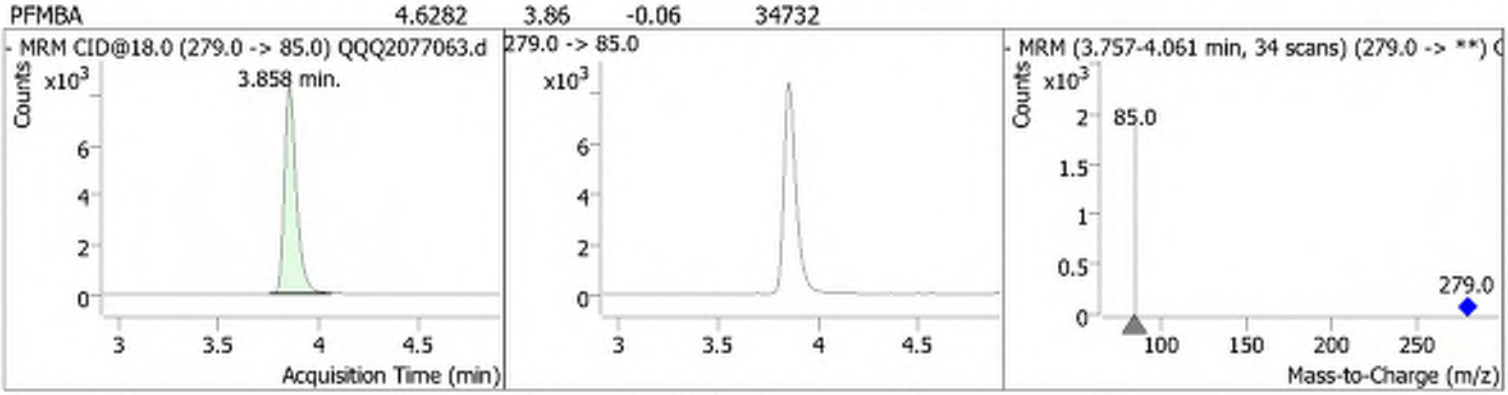


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.3777	3.83	-0.06	12895				

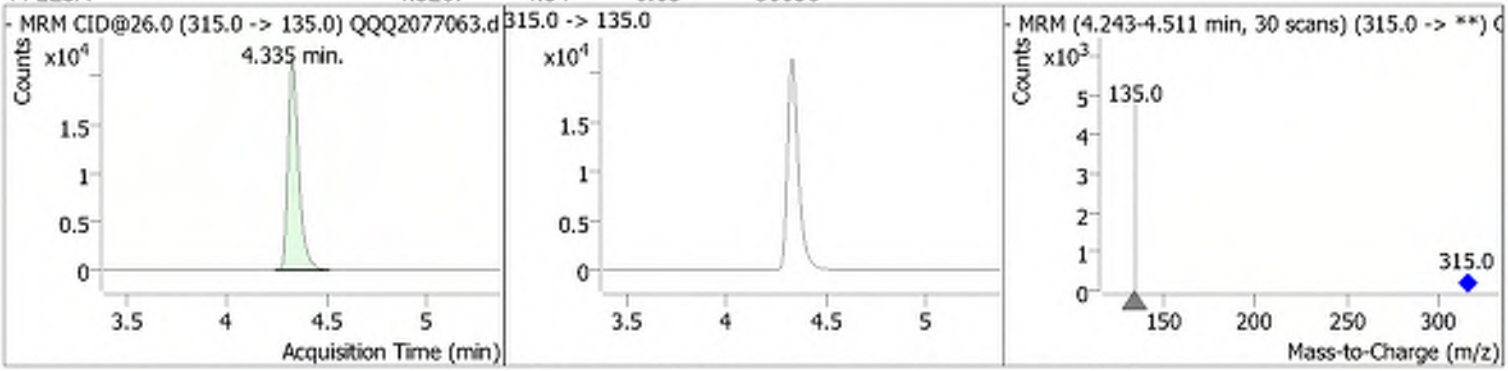


Quantitation Results Report (Not Reviewed)

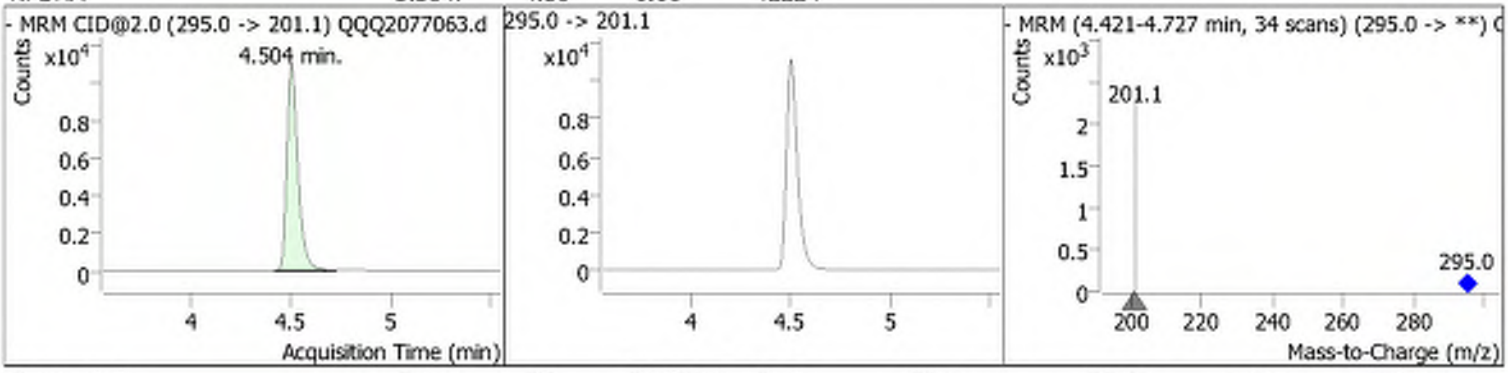
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.6282	3.86	-0.06	34732				



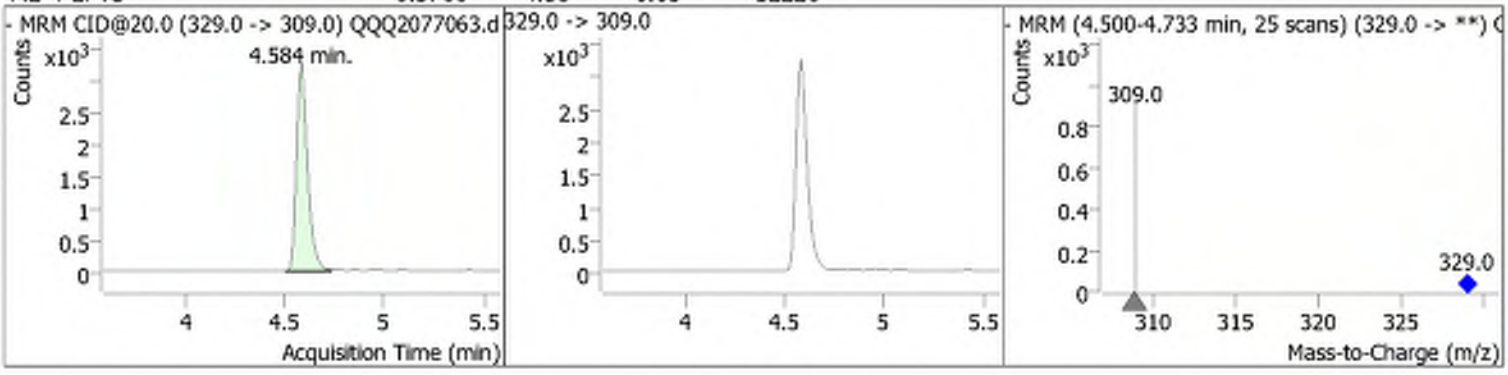
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.5287	4.34	-0.05	80058				



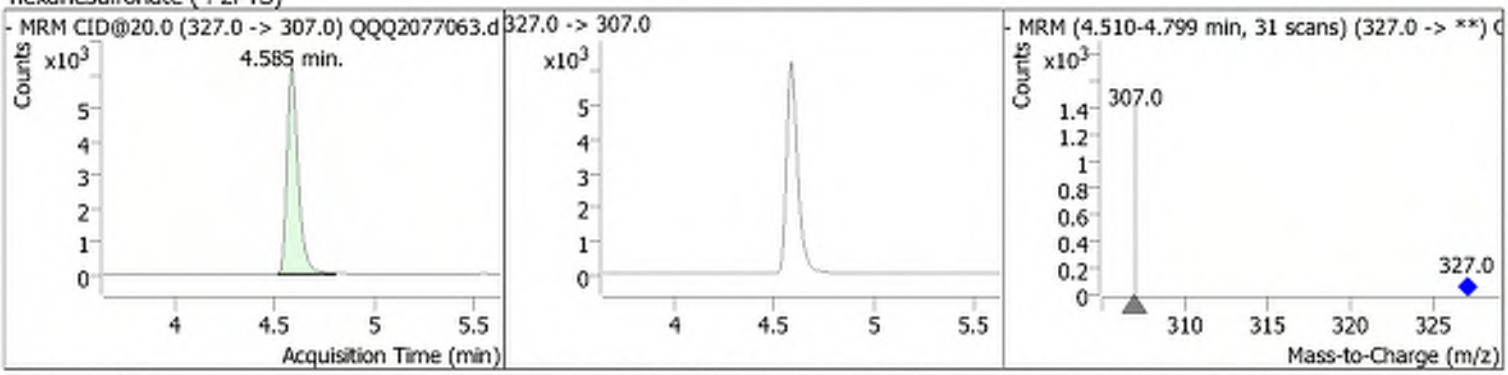
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.3847	4.50	-0.06	42224				



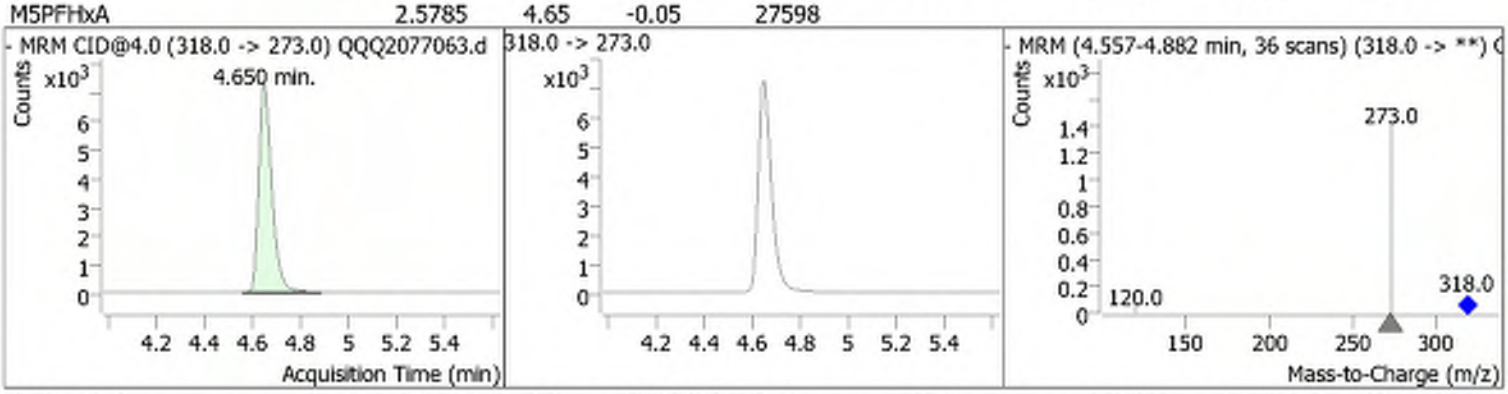
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	6.3766	4.58	-0.05	12226				



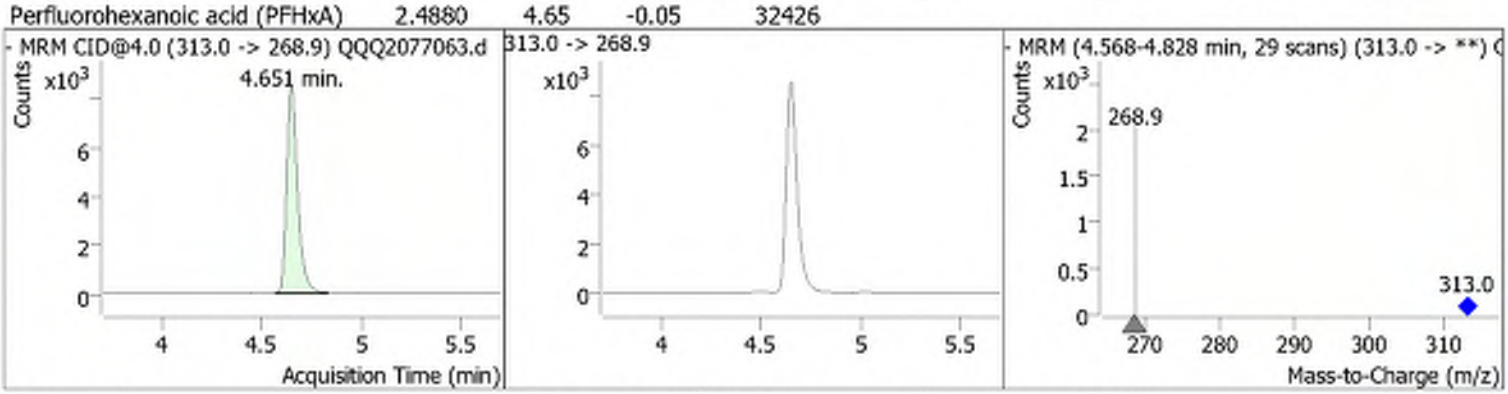
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	9.9582	4.58	-0.05	23911				



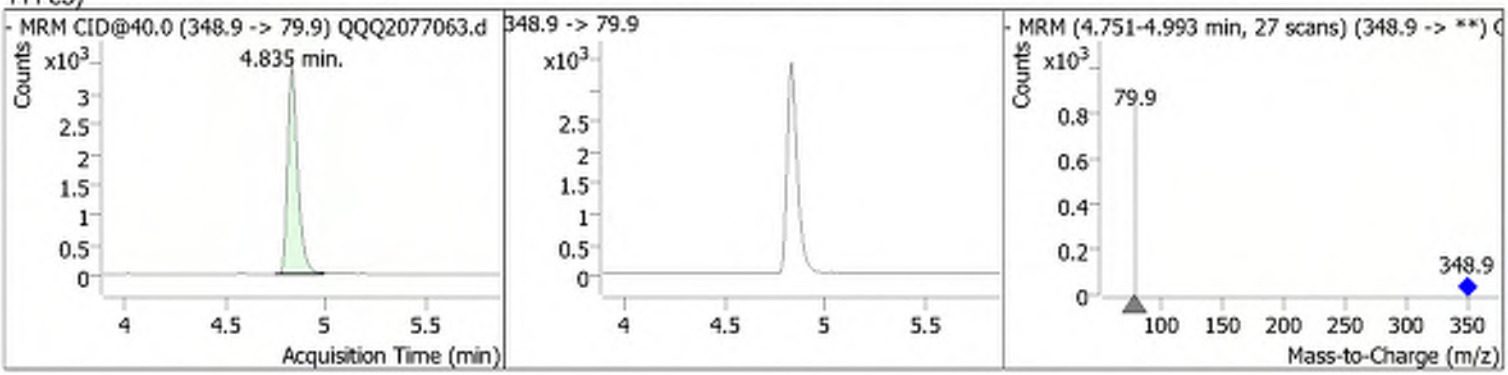
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5785	4.65	-0.05	27598				



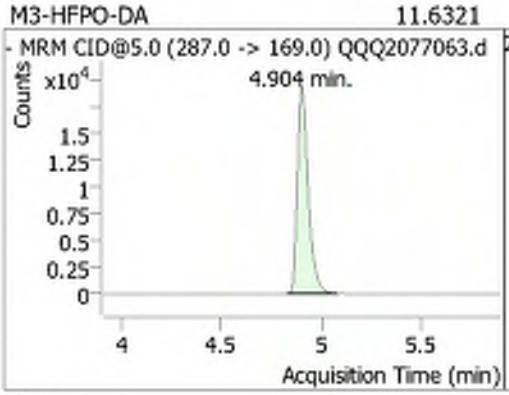
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.4880	4.65	-0.05	32426				

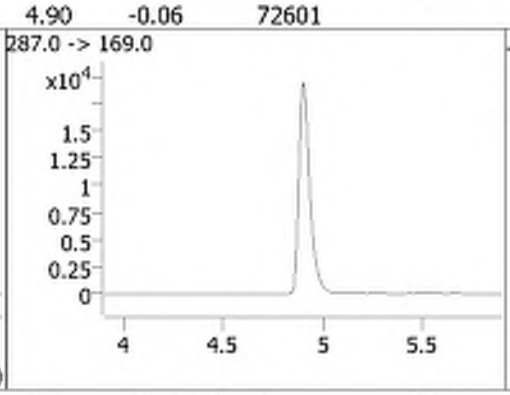


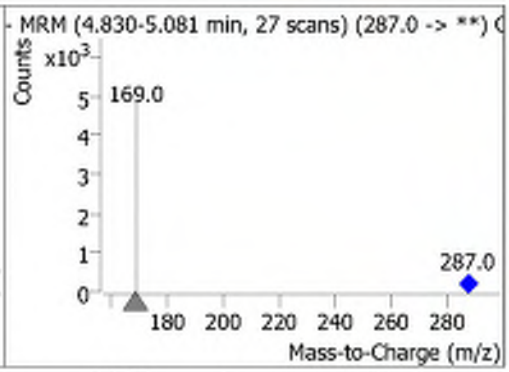
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.1867	4.83	-0.05	11942				



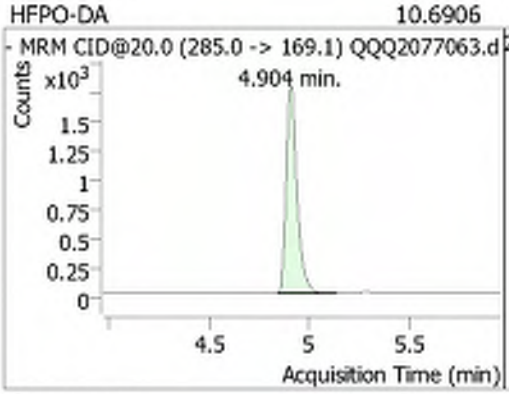
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.6321	4.90	-0.06	72601				

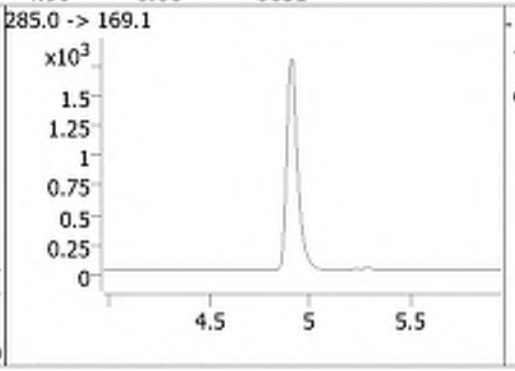


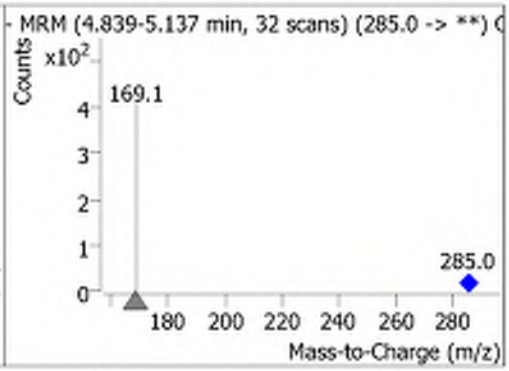




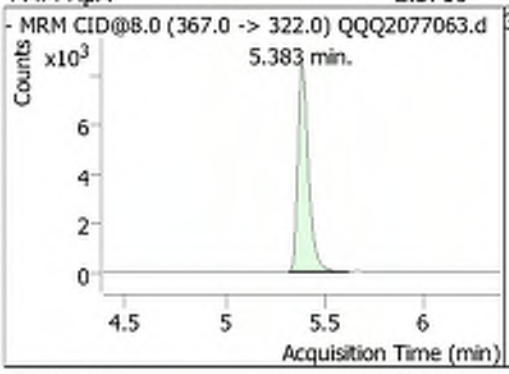
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	10.6906	4.90	-0.06	6631				

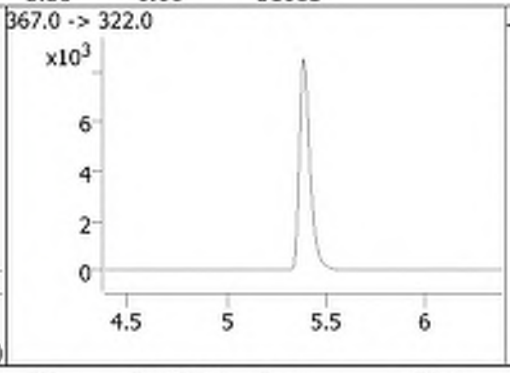


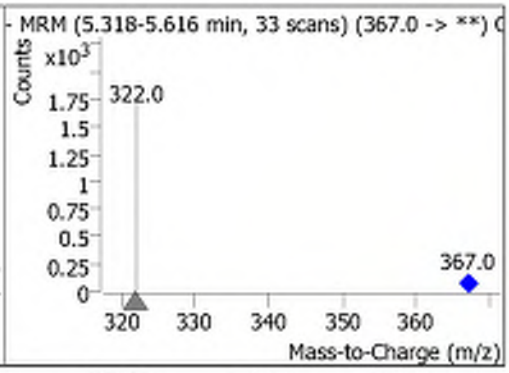




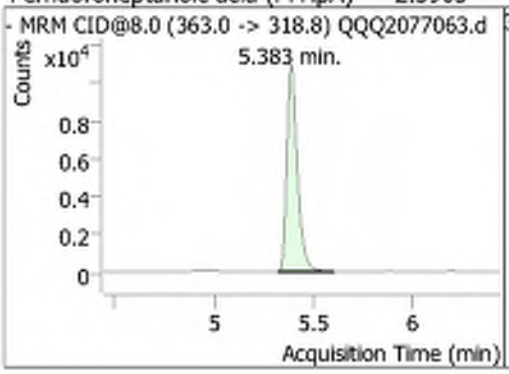
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5716	5.38	-0.06	31085				

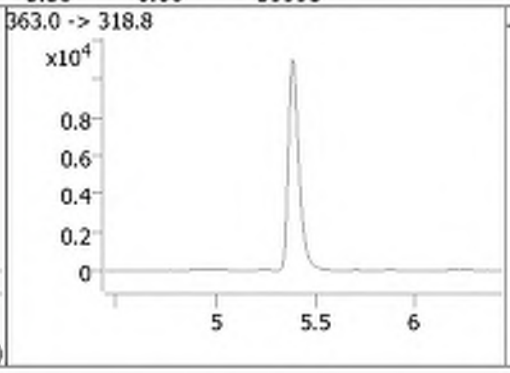


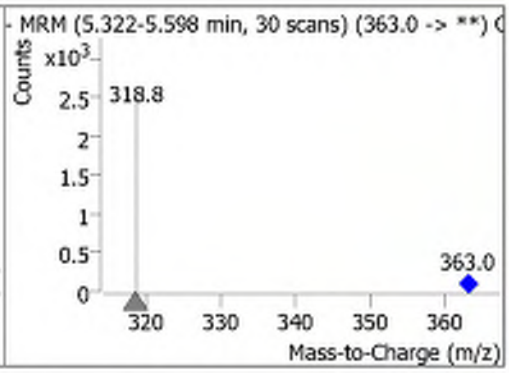




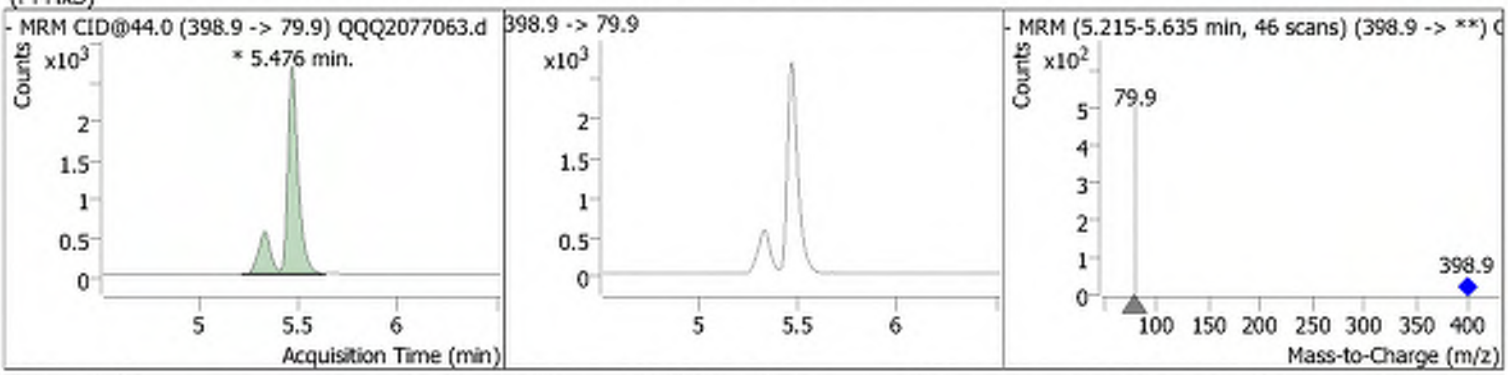
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.3903	5.38	-0.06	39995				



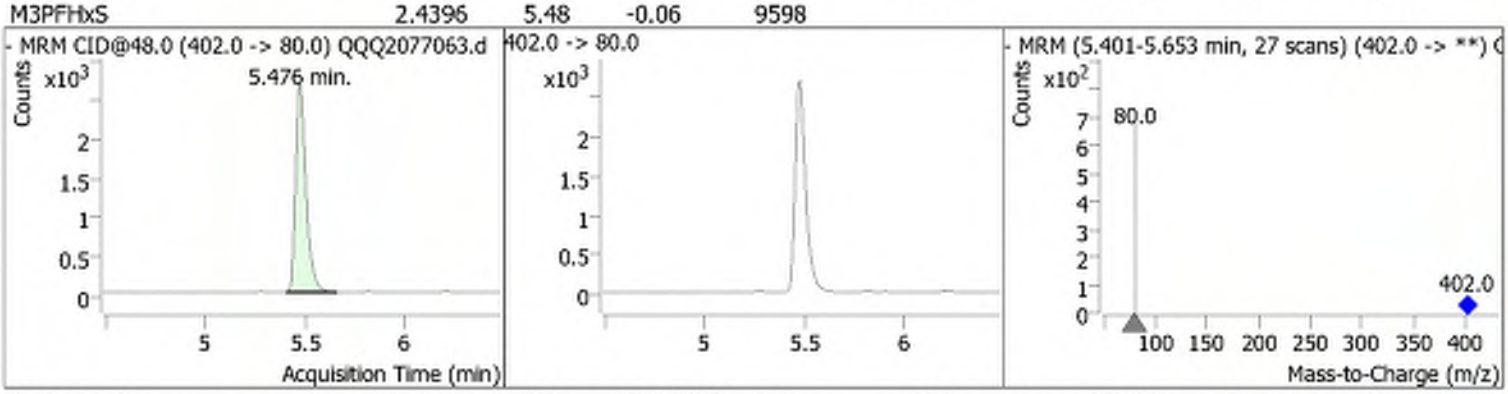




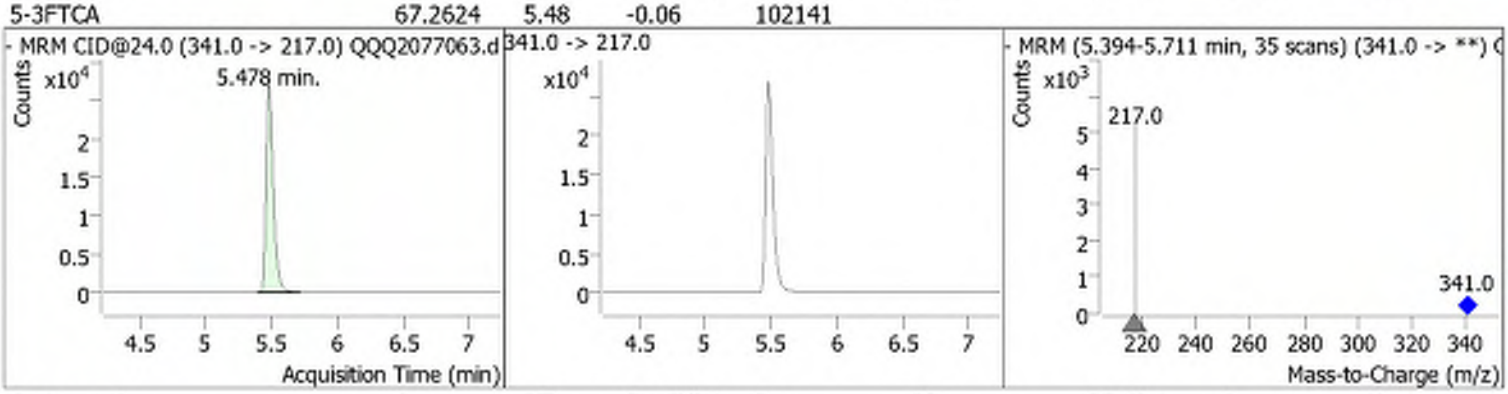
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.1623	5.48	-0.05	11945 (m)				



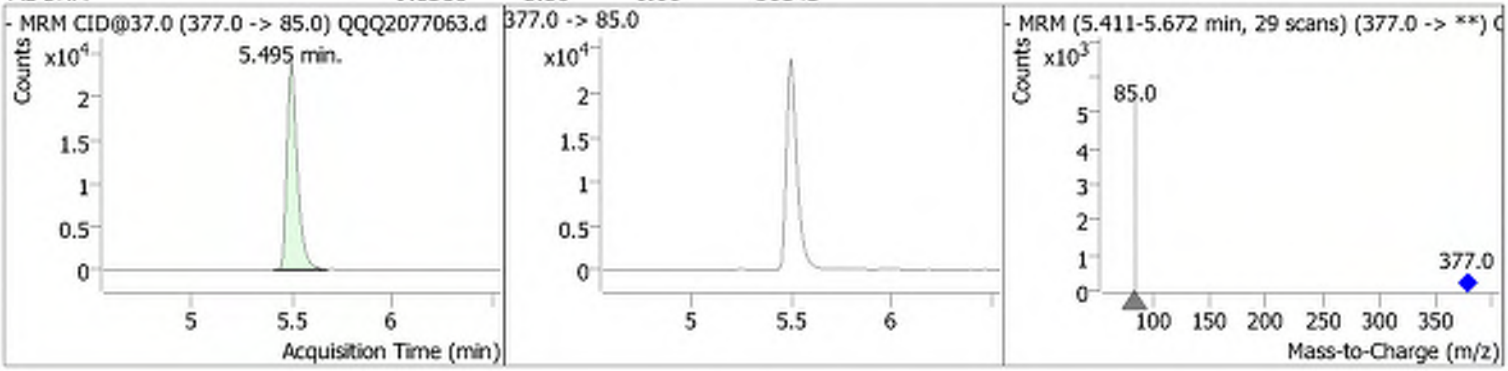
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.4396	5.48	-0.06	9598				



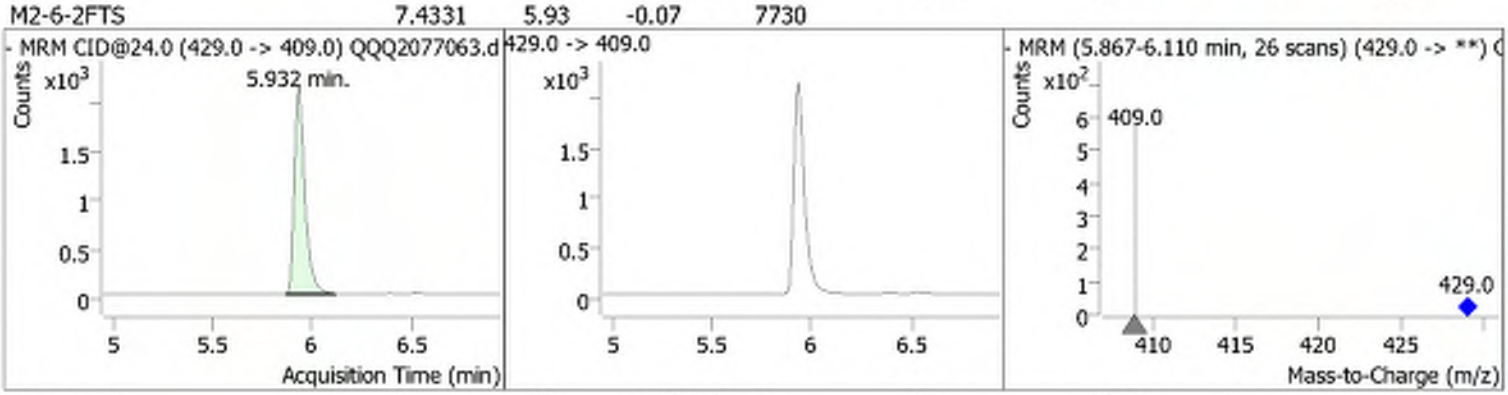
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	67.2624	5.48	-0.06	102141				



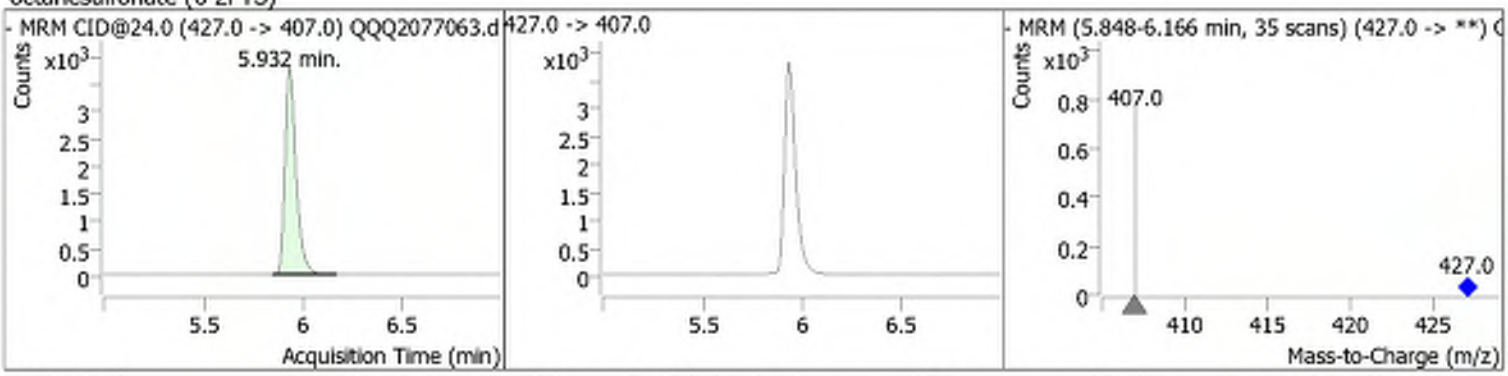
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	9.1518	5.50	-0.06	86143				



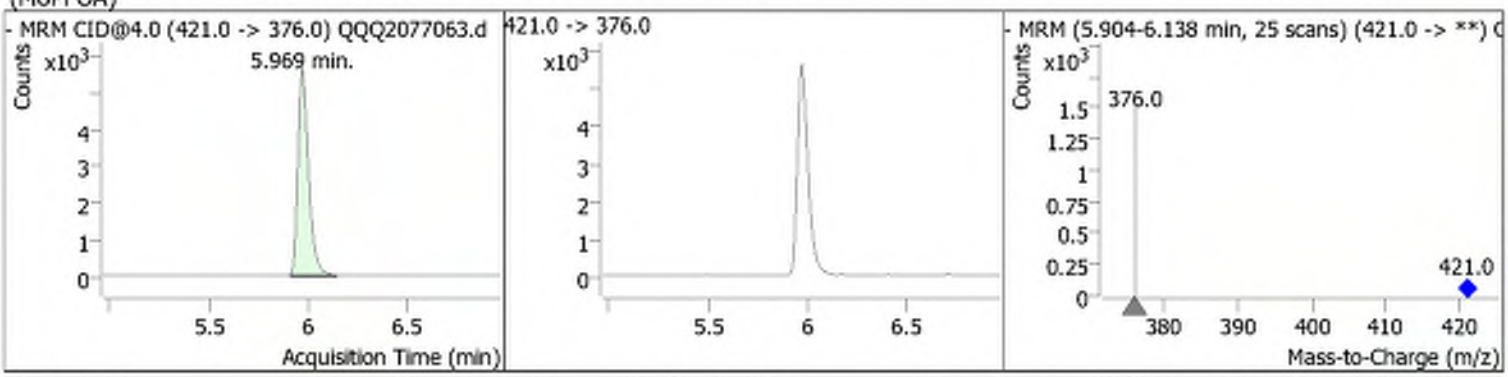
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	7.4331	5.93	-0.07	7730				



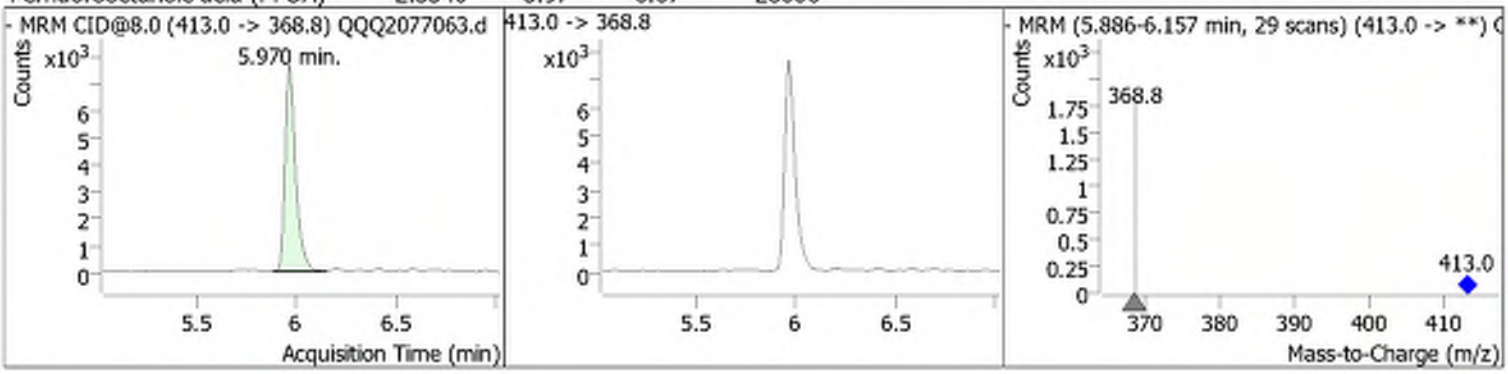
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	9.1048	5.93	-0.07	14334				



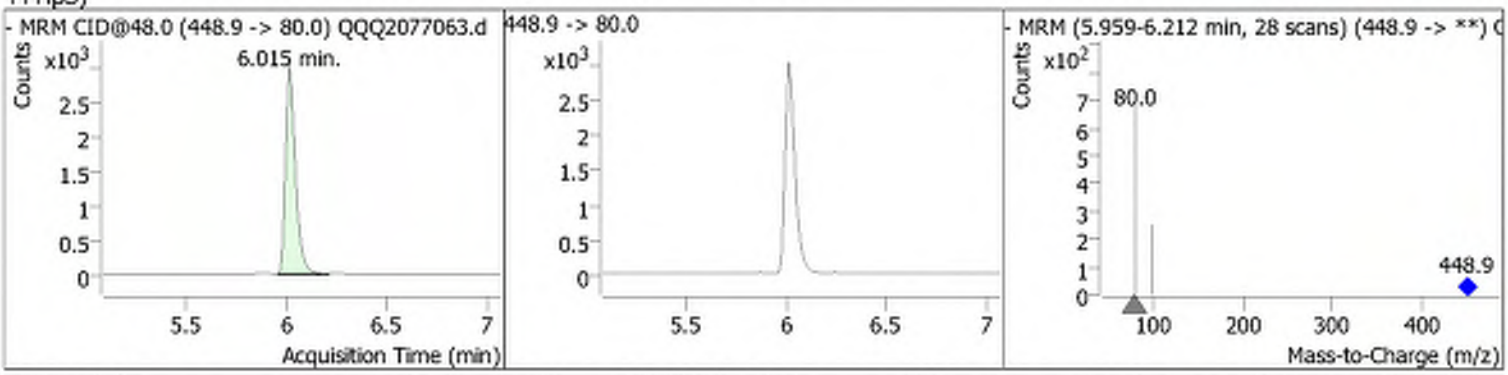
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.5334	5.97	-0.07	20563				



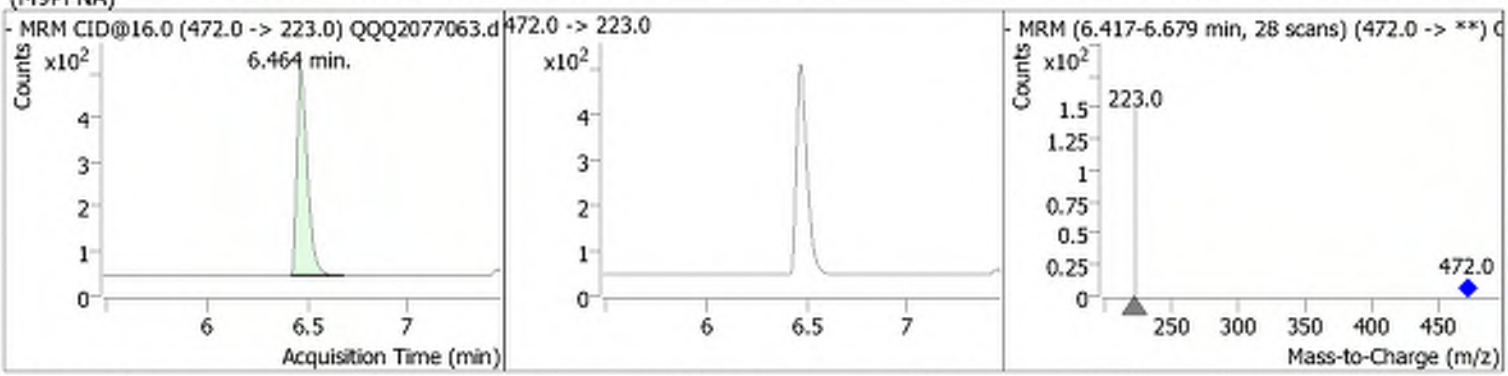
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.3540	5.97	-0.07	28006				



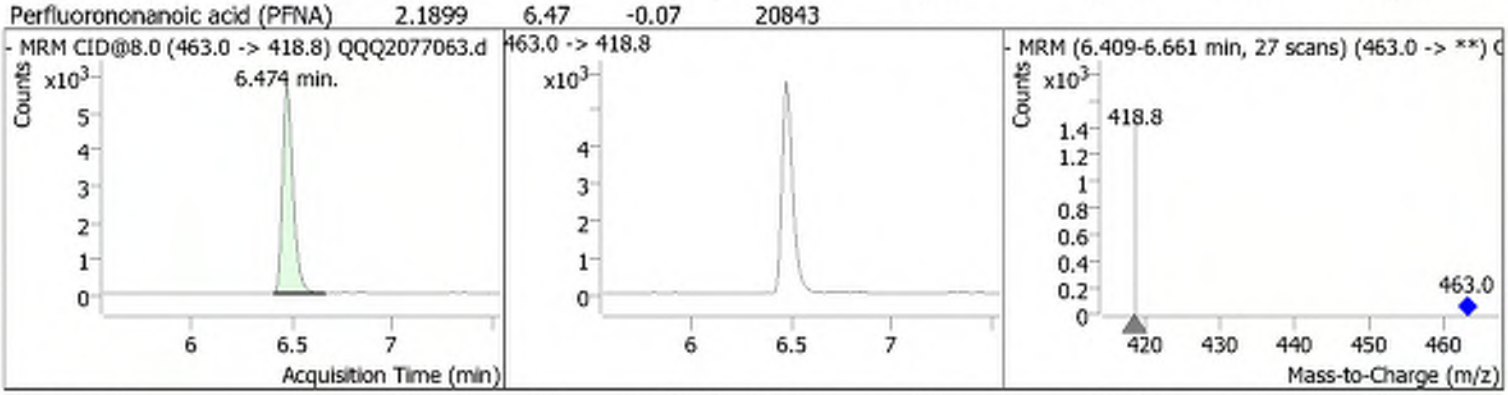
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	2.3129	6.02	-0.07	10102				



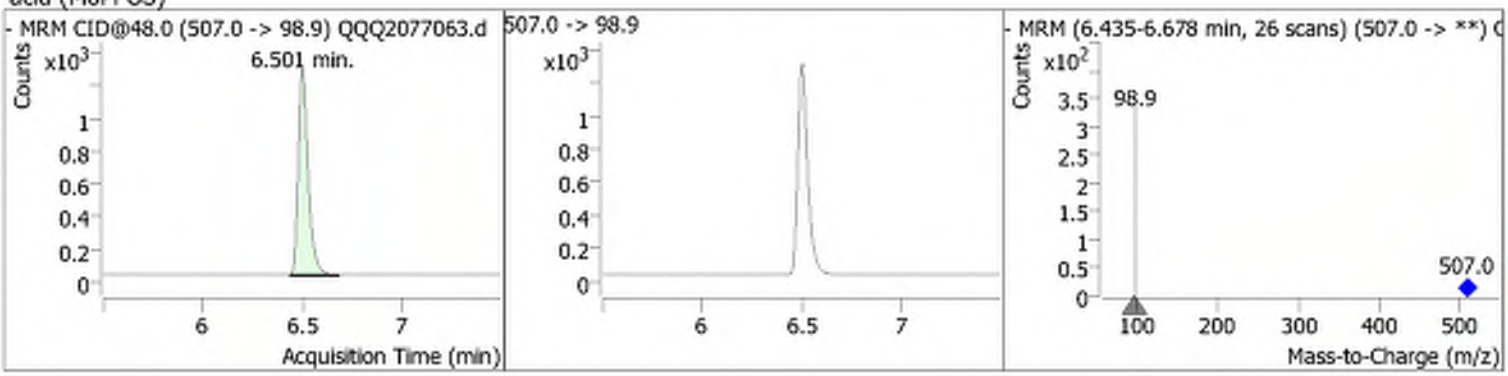
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.2205	6.46	-0.07	1680				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.1899	6.47	-0.07	20843				

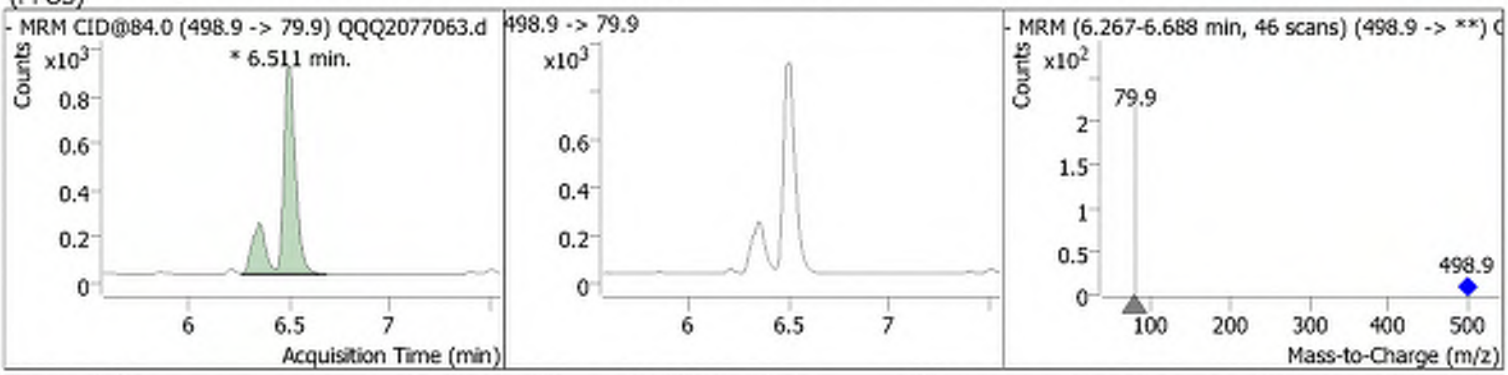


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.5252	6.50	-0.07	4287				

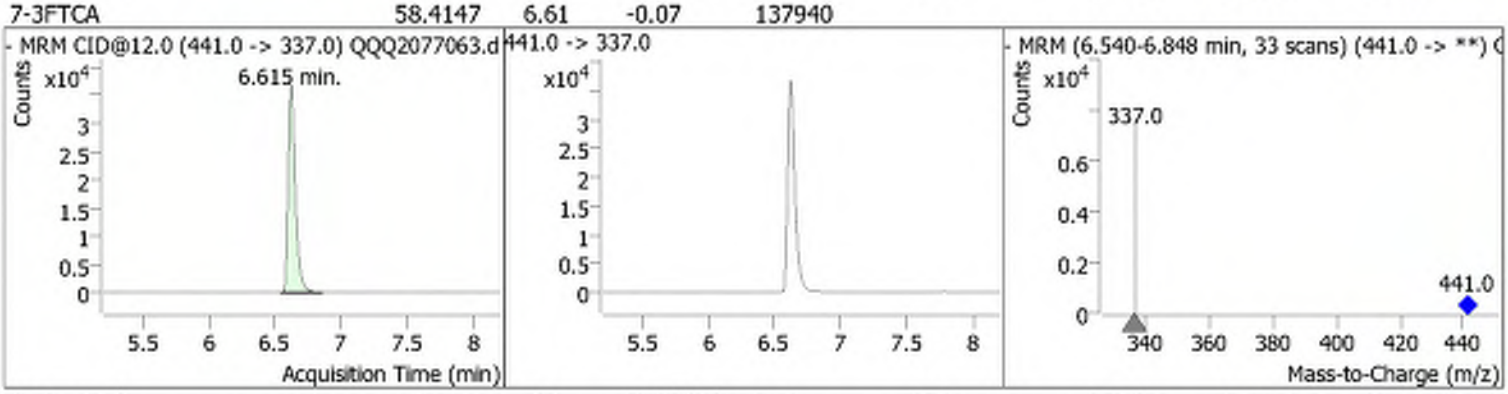


Quantitation Results Report (Not Reviewed)

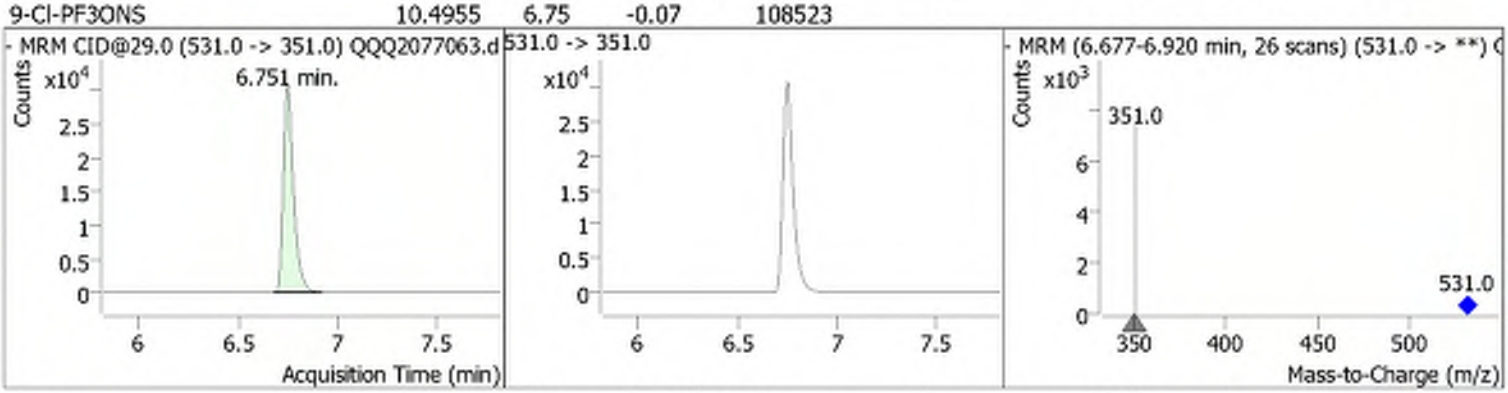
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.0384	6.51	-0.06	4530 (m)				



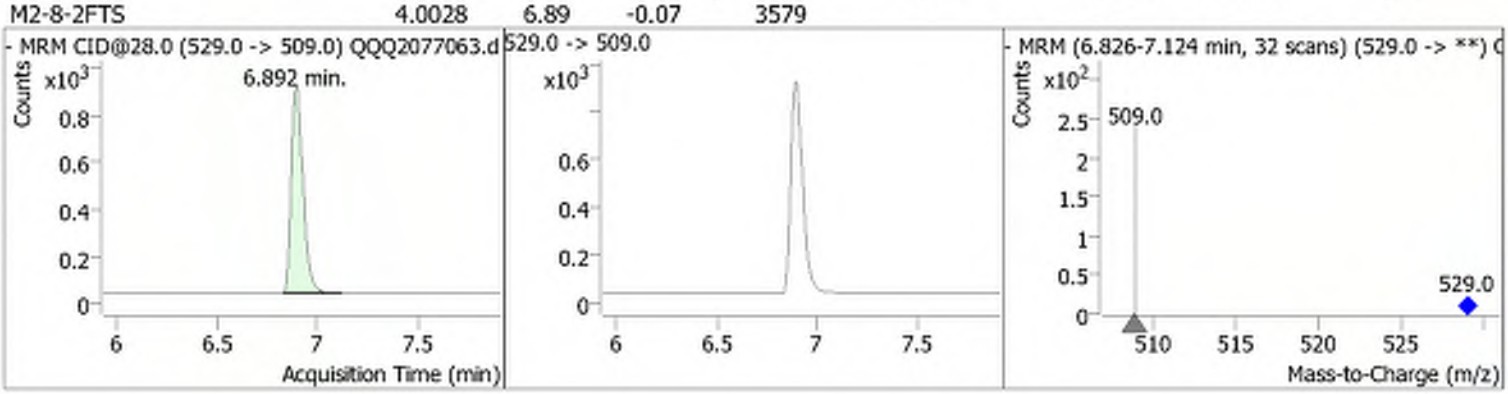
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	58.4147	6.61	-0.07	137940				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	10.4955	6.75	-0.07	108523				

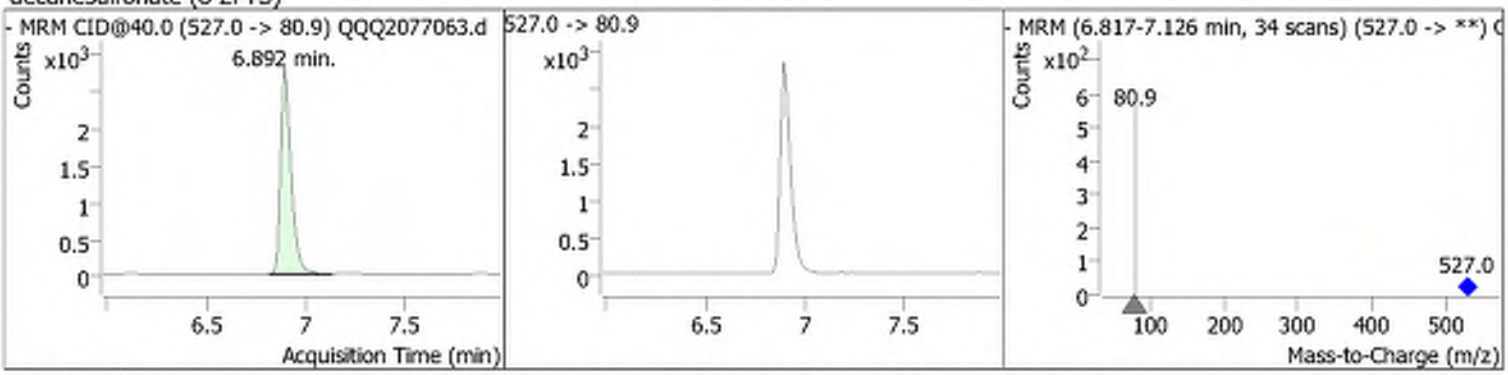


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.0028	6.89	-0.07	3579				

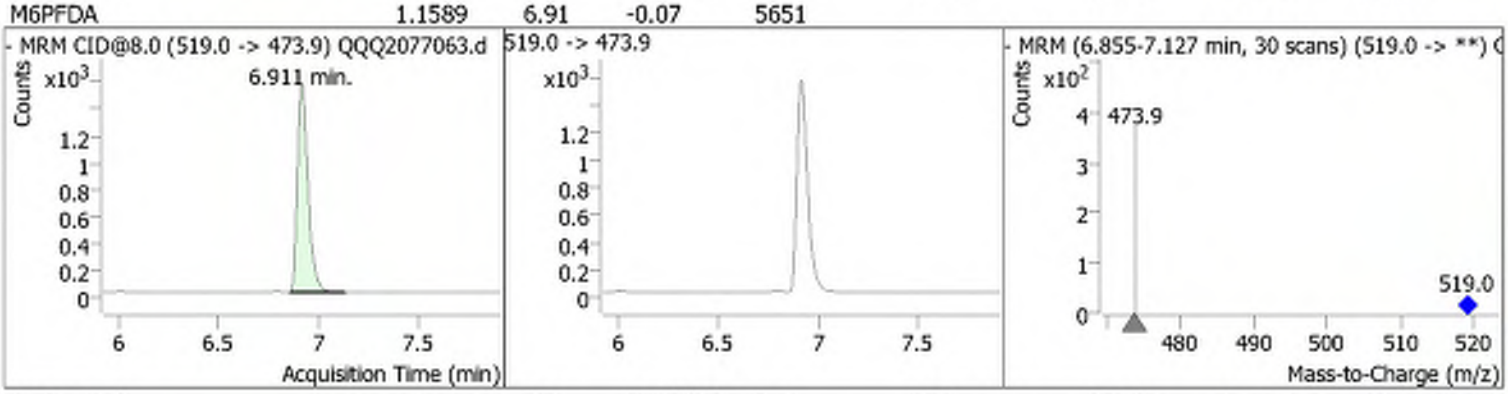


Quantitation Results Report (Not Reviewed)

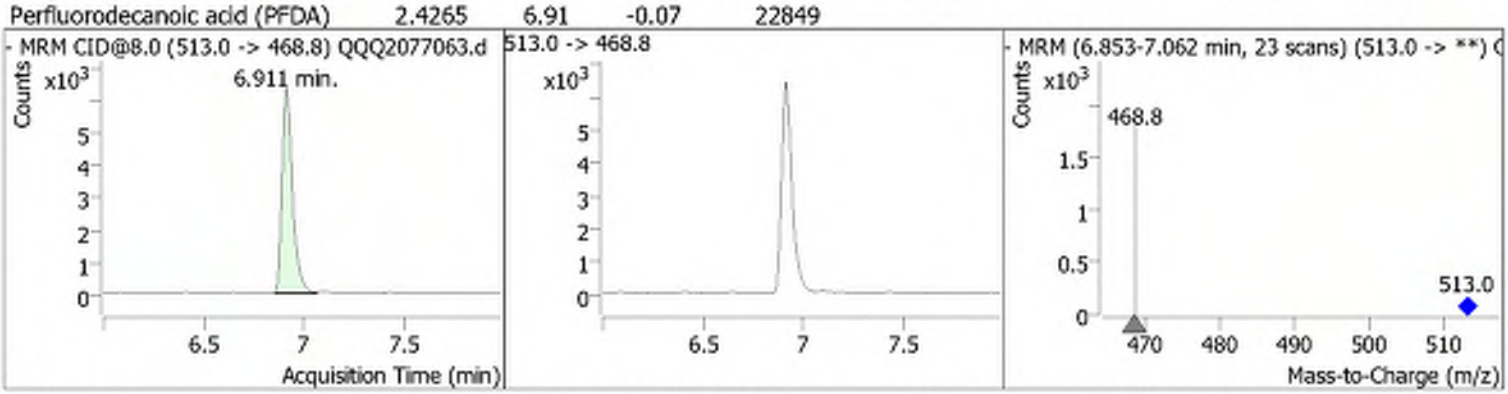
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	11.9077	6.89	-0.08	10022				



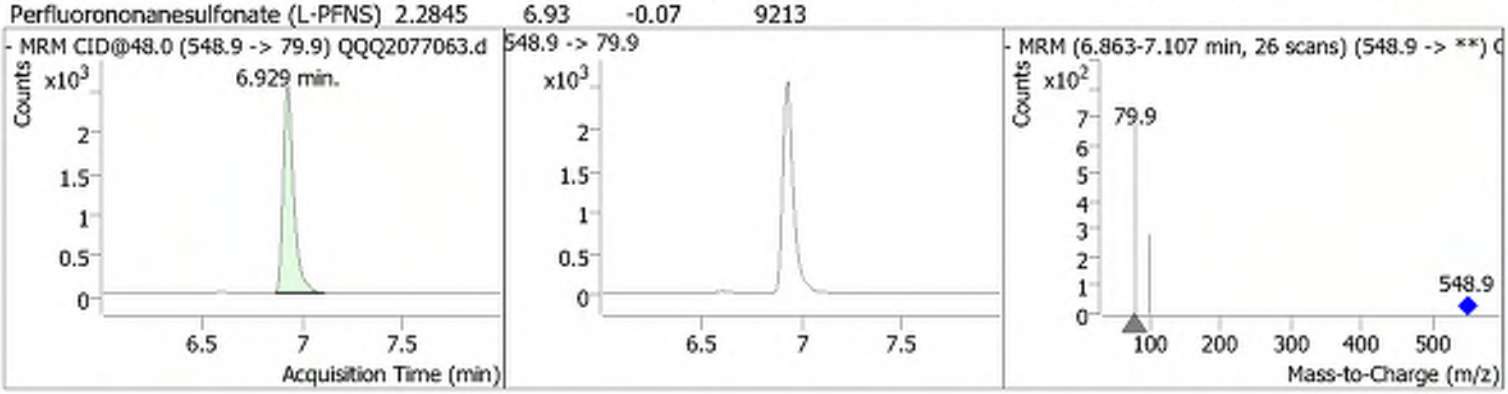
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.1589	6.91	-0.07	5651				



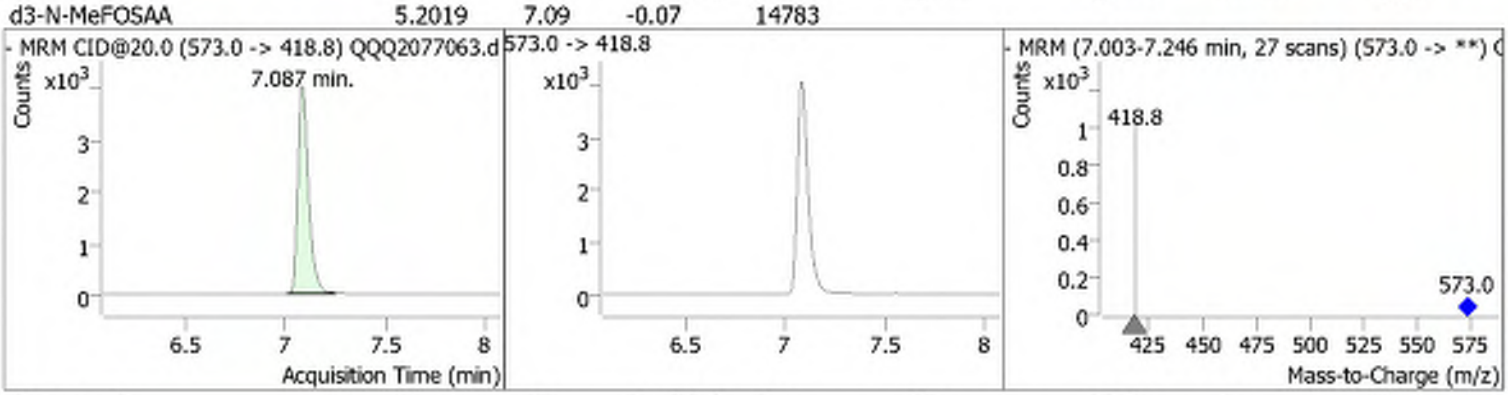
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.4265	6.91	-0.07	22849				



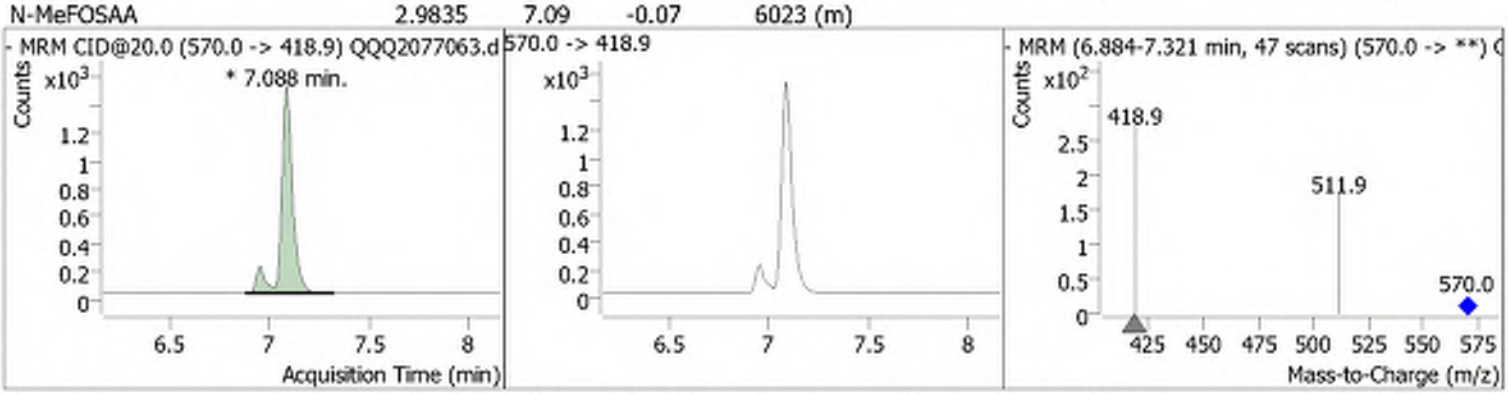
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	2.2845	6.93	-0.07	9213				



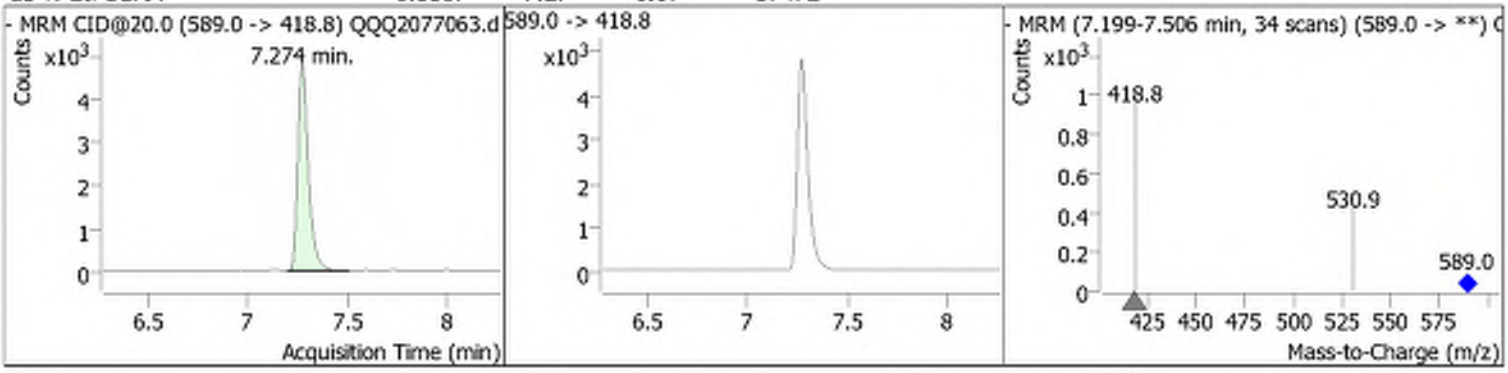
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.2019	7.09	-0.07	14783				



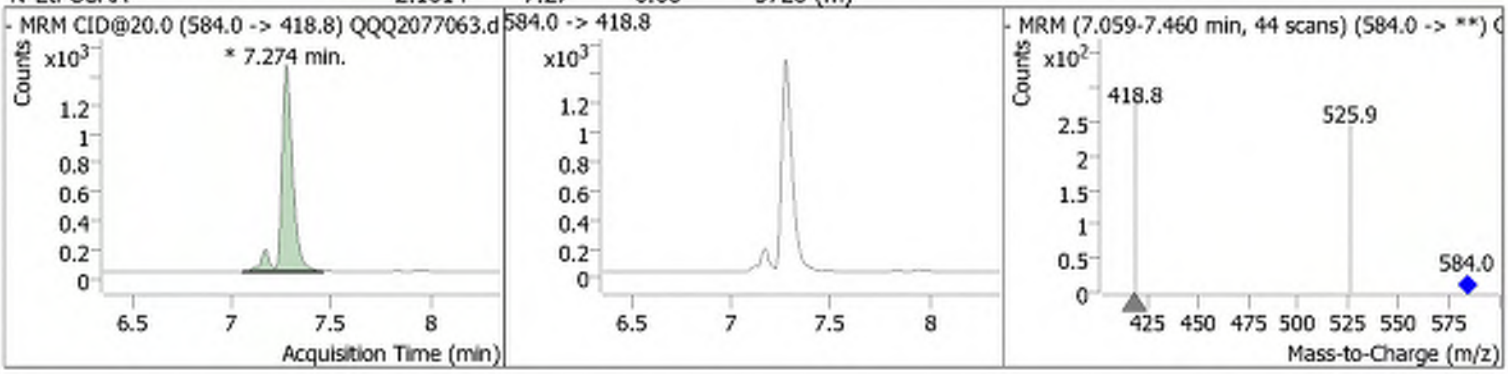
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.9835	7.09	-0.07	6023 (m)				



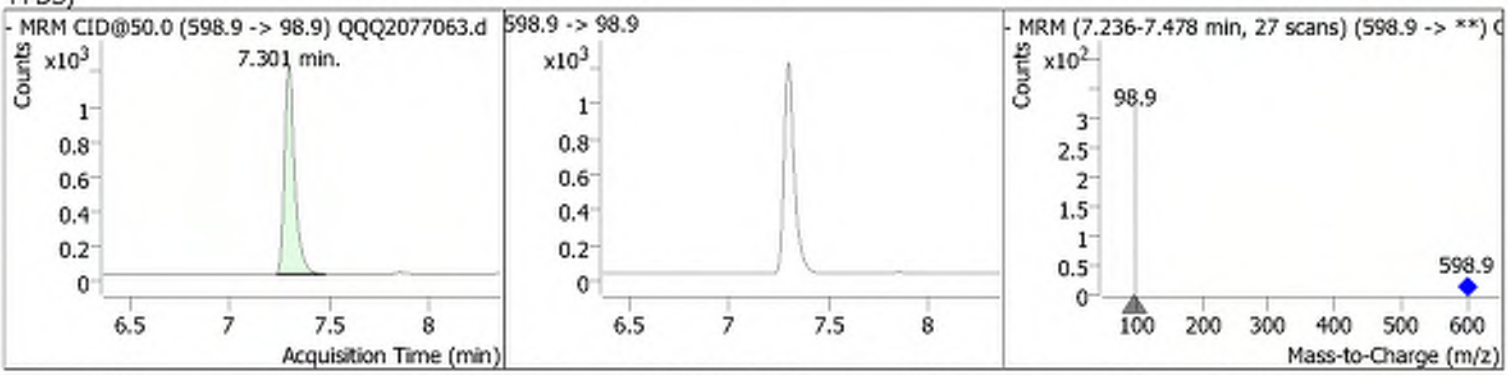
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	6.1187	7.27	-0.07	17472				



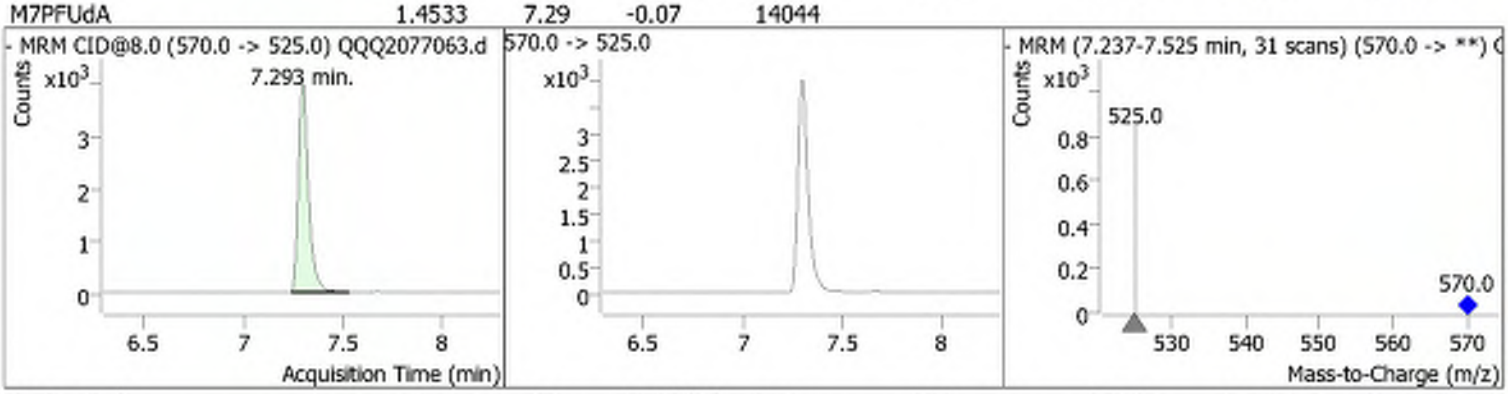
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.1614	7.27	-0.08	5728 (m)				



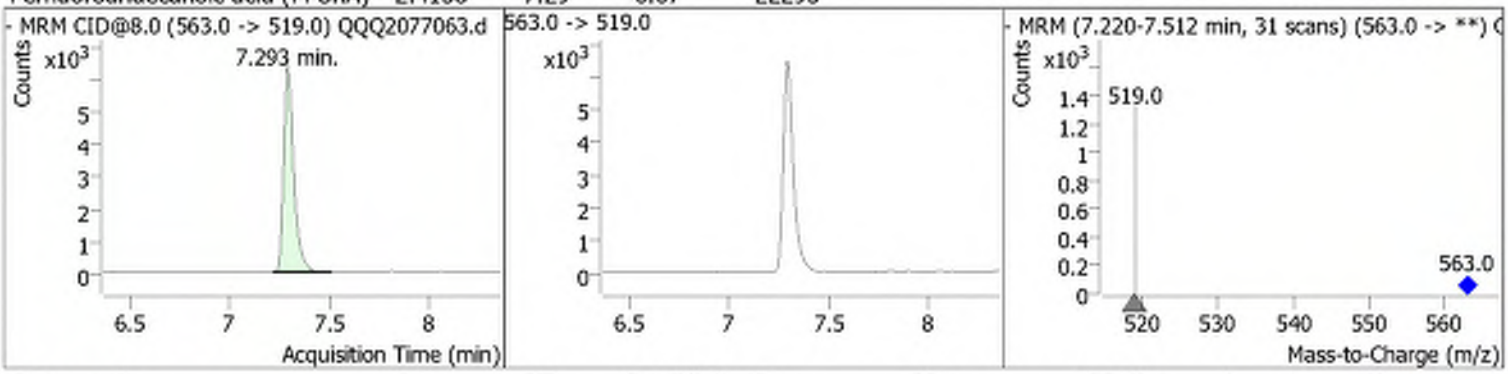
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	2.4218	7.30	-0.07	4189				



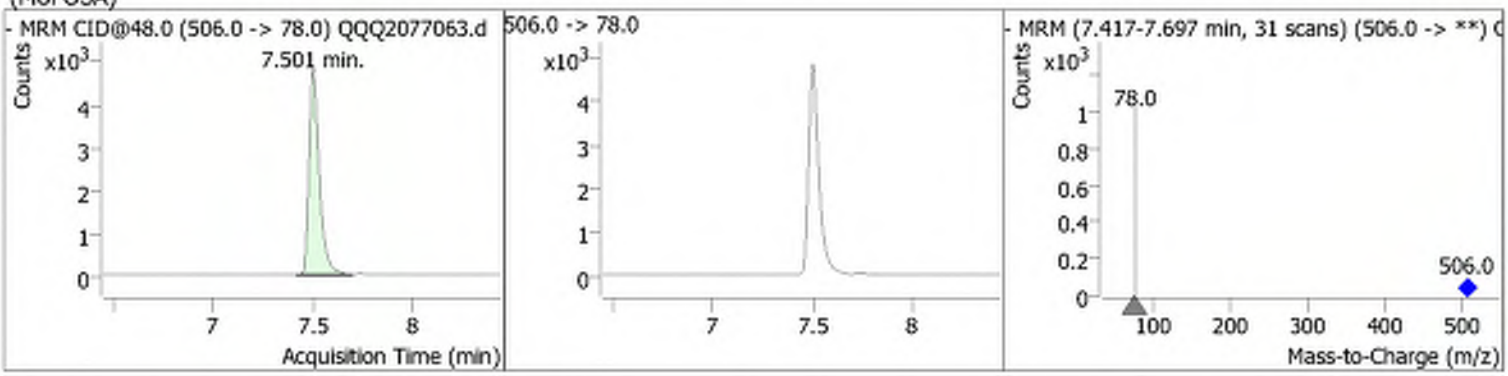
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.4533	7.29	-0.07	14044				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	2.4158	7.29	-0.07	22295				

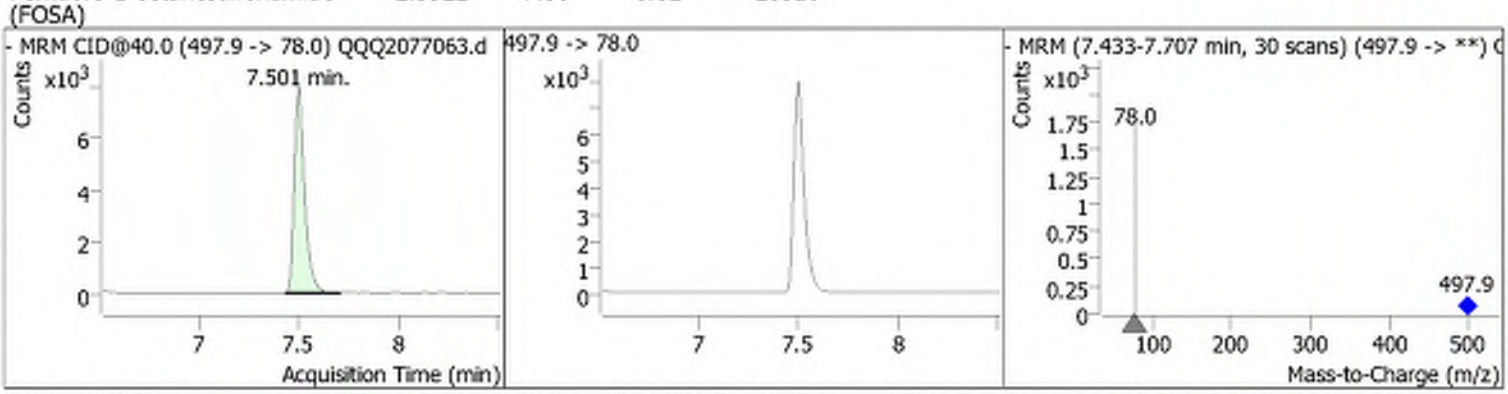


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.4817	7.50	-0.02	17114				

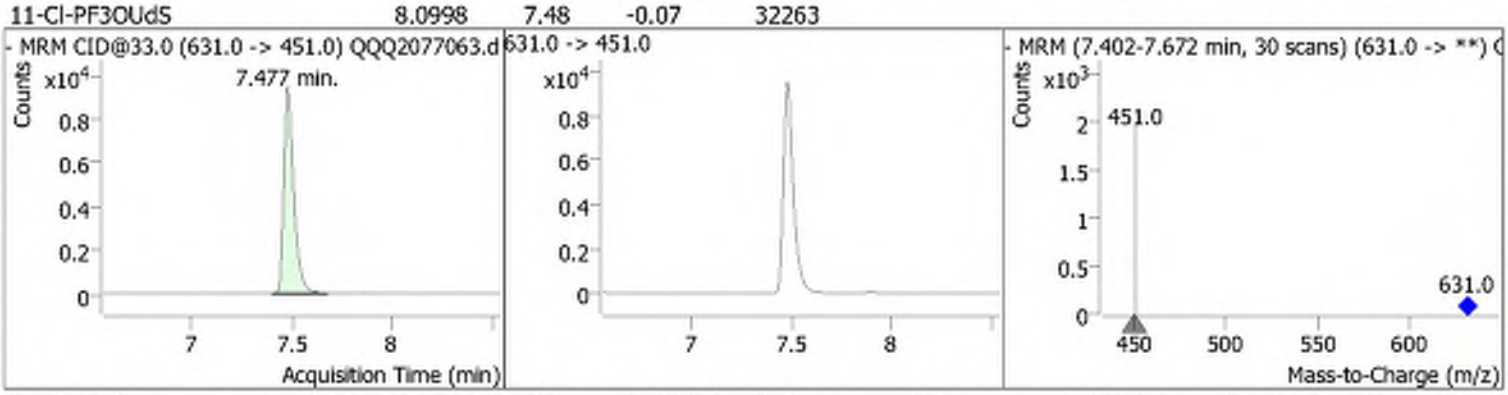


Quantitation Results Report (Not Reviewed)

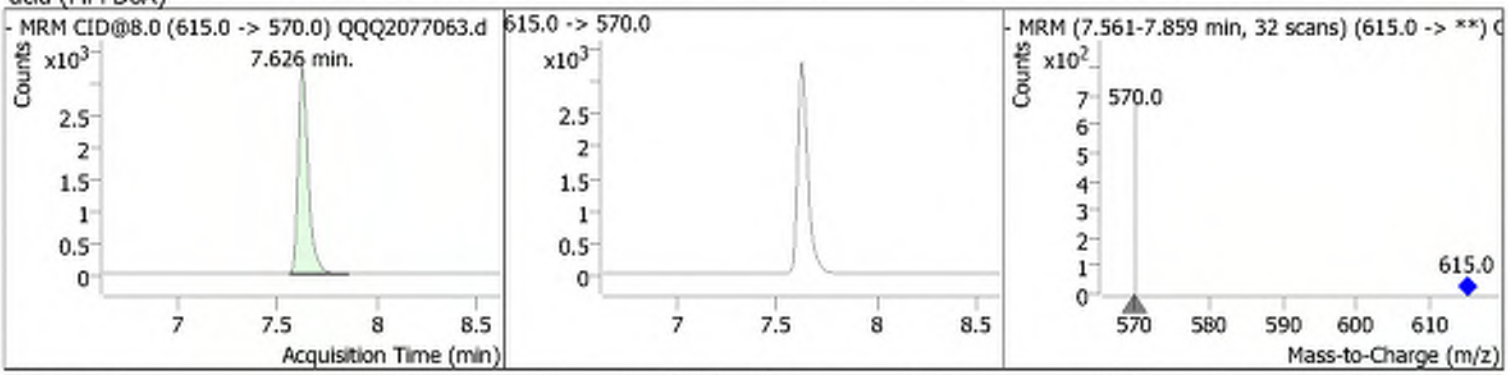
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	2.3522	7.50	-0.02	28310				



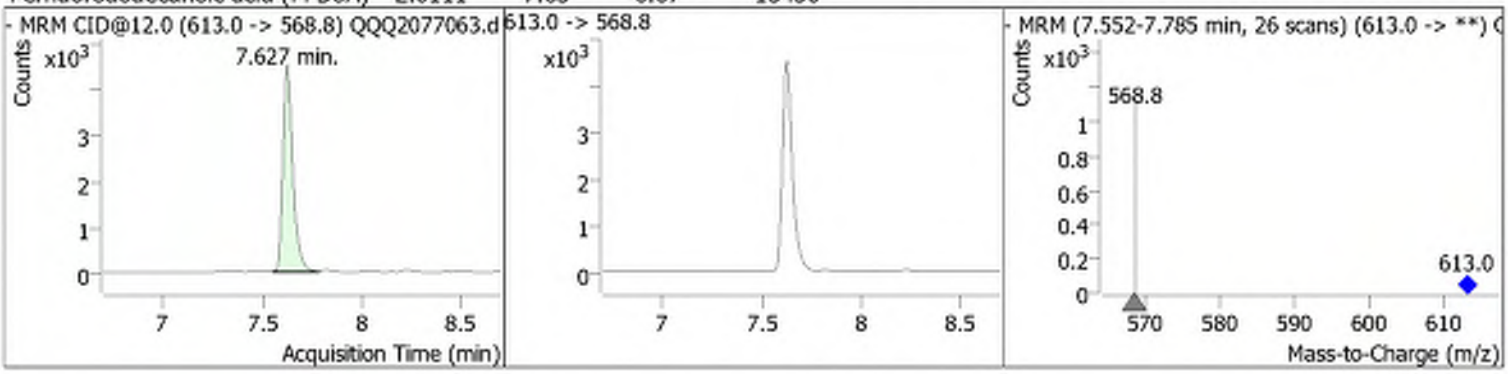
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	8.0998	7.48	-0.07	32263				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.3893	7.63	-0.07	11176				



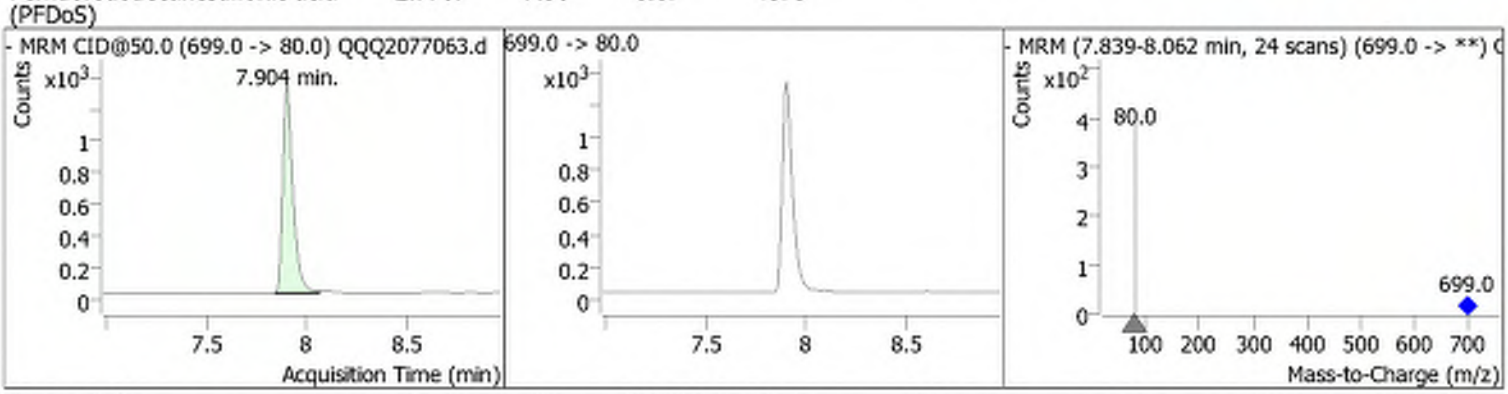
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.0111	7.63	-0.07	15430				



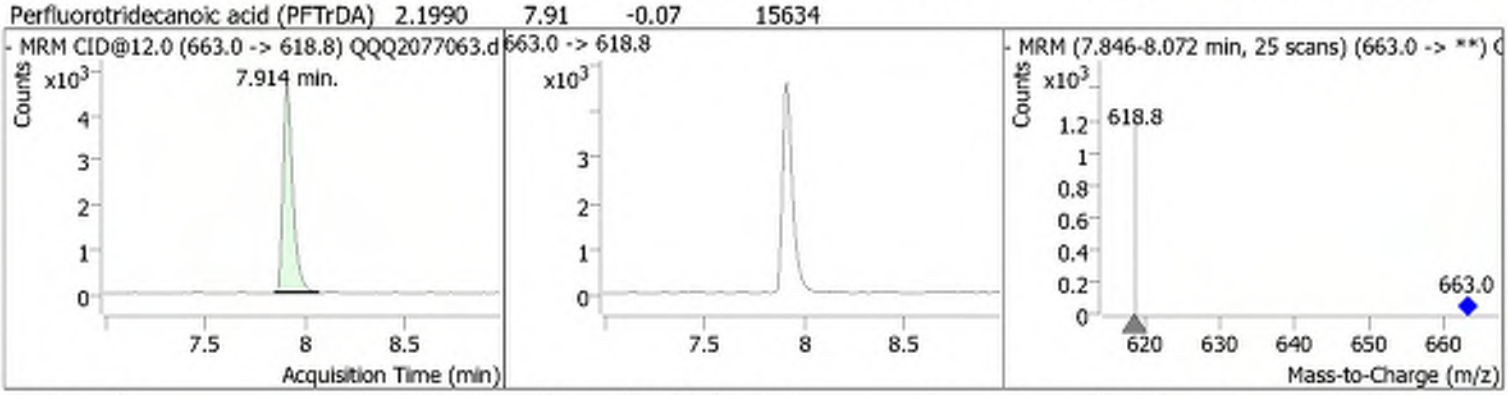
Quantitation Results Report (Not Reviewed)

Agilent

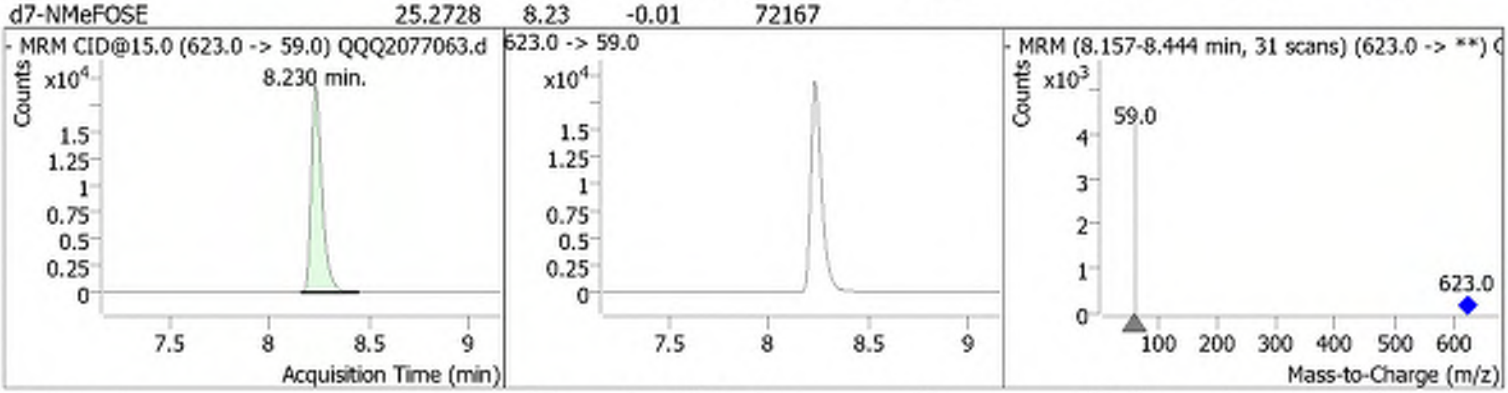
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	2.7707	7.90	-0.07	4575				



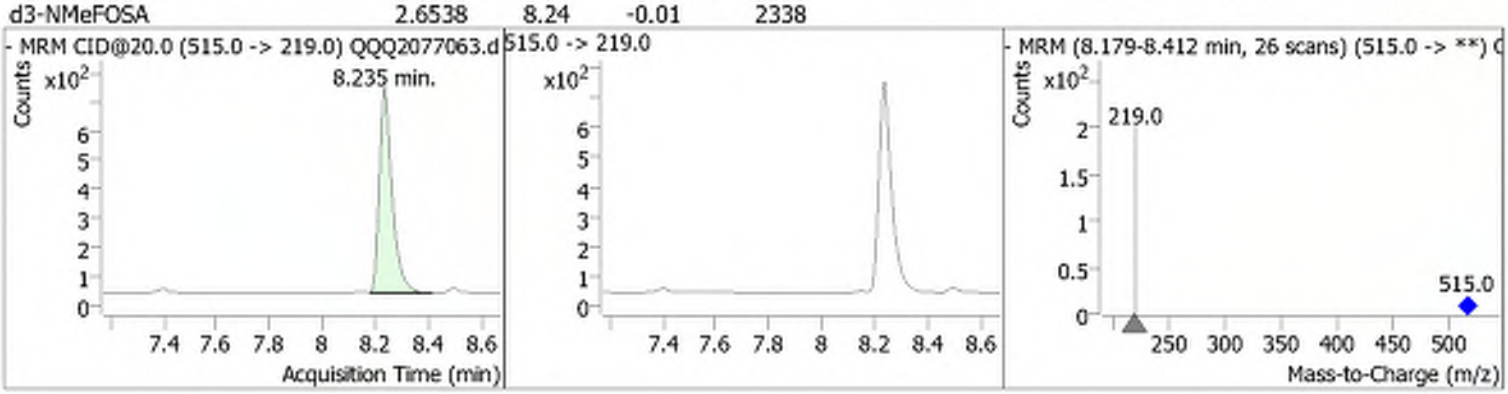
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.1990	7.91	-0.07	15634				



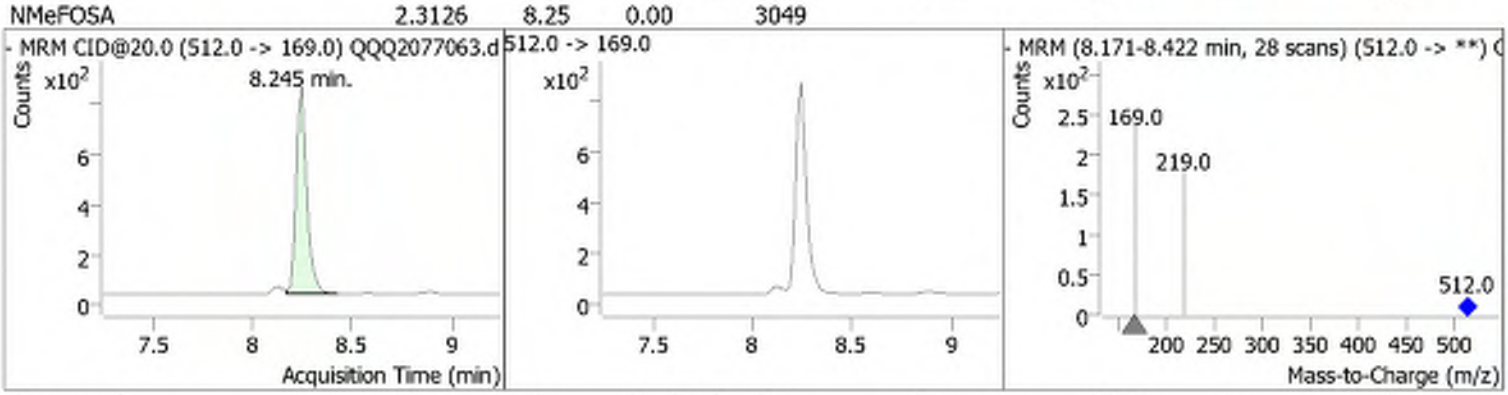
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	25.2728	8.23	-0.01	72167				



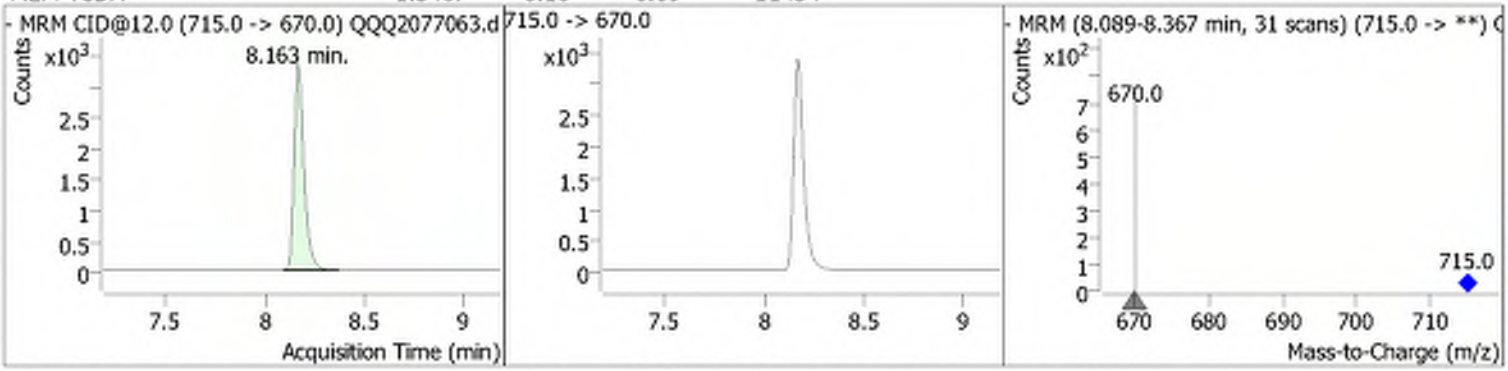
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	2.6538	8.24	-0.01	2338				



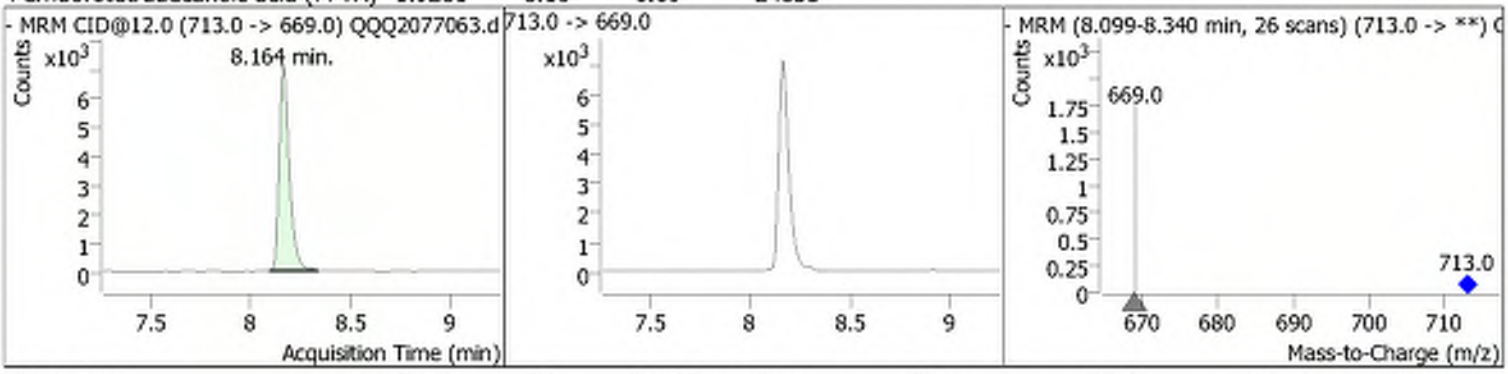
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	2.3126	8.25	0.00	3049				



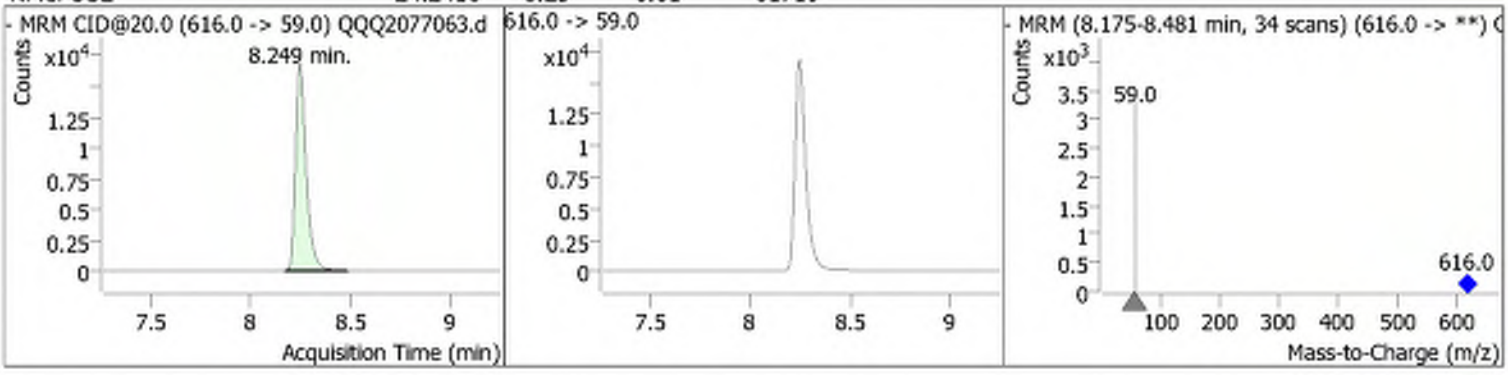
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.3467	8.16	-0.09	11434				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	1.9281	8.16	-0.09	24835				

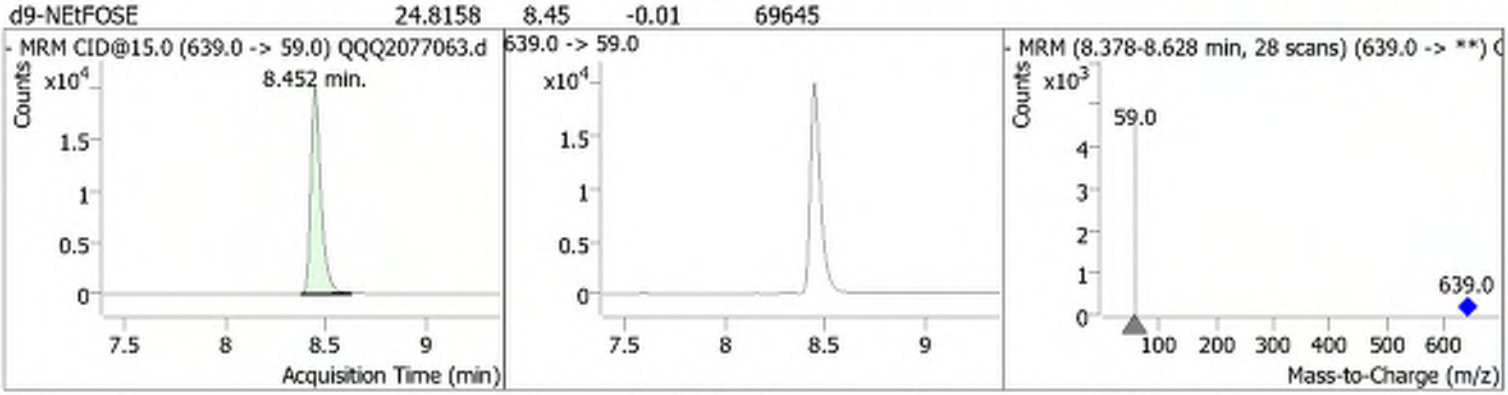


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	24.2410	8.25	-0.01	61719				

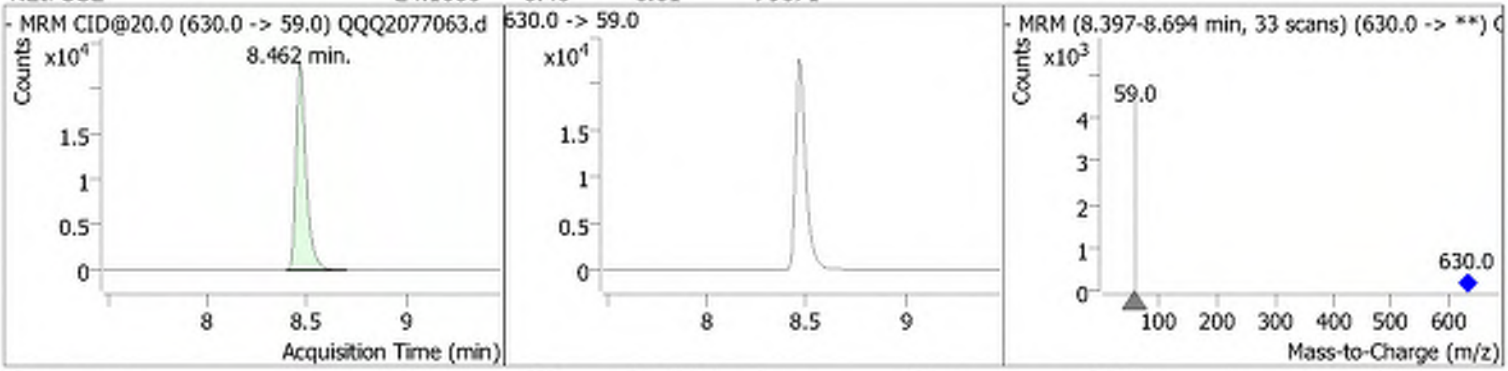


Quantitation Results Report (Not Reviewed)

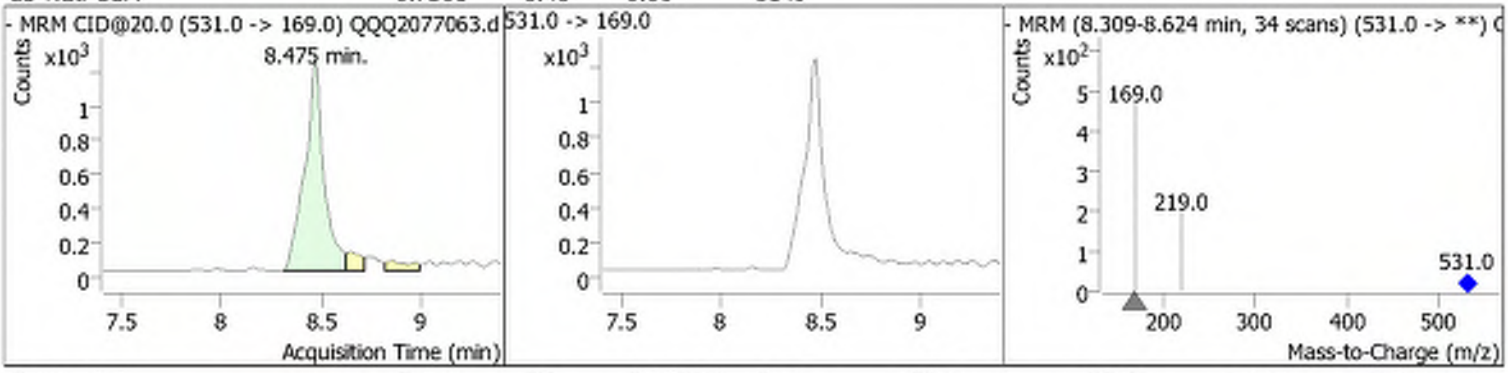
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	24.8158	8.45	-0.01	69645				



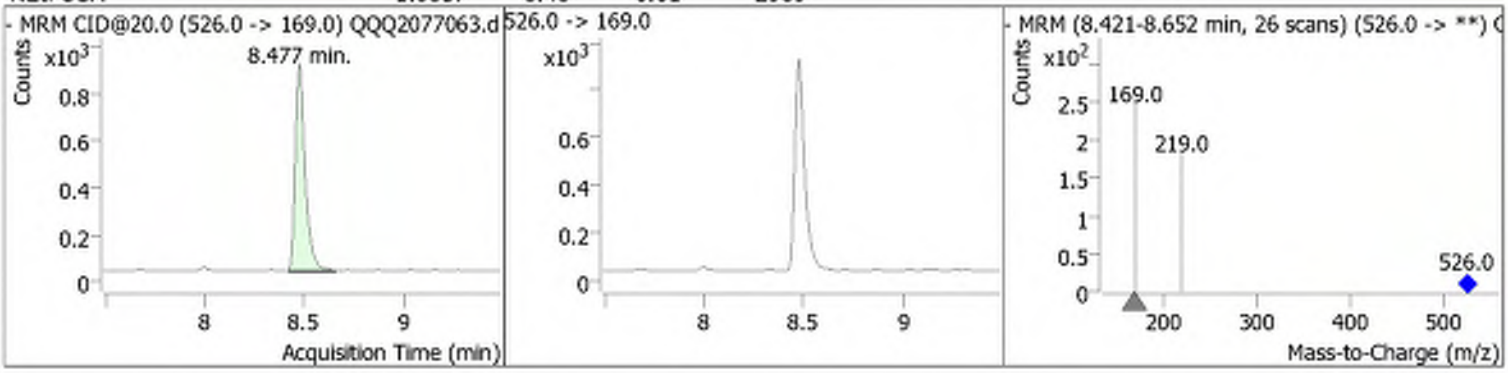
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	24.1080	8.46	-0.01	79671				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	6.7301	8.48	0.00	8149				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.0857	8.48	-0.01	2989				



FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077070.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV4	Injection Time:	17:15

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
11CL-PF3OUdS	A	9.45	8.50	0.1365048	0.1233915		-10.0	30	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	A	9.60	10.2	0.9829487	1.2701		29.2	30	
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	A	9.38	8.14	0.8999592	0.8573571		-4.7	30	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	9.50	9.84	0.9616406	1.049782		9.2	30	
3-Perfluoroheptyl propanoic acid (FHpPA)	A	62.6	10.7	7.481766E-03	6.446322E-03		-82.9	30	*
3-Perfluoropentyl propanoic acid (FPePA)	A	62.6	66.6	0.1463629	0.1464279		6.4	30	
3-Perfluoropropyl propanoic acid (FPrPA)	A	12.5	61.7	1.736253	1.71841		394	30	*
9CL-PF3ONS	A	9.35	9.87	0.3910379	0.3759578		5.6	30	
ADONA	A	9.45	9.51	0.3374364	0.3261962		0.6	30	
HFPO-DA (Gen-X)	A	10.0	10.8	0.0204781	2.310853E-02		8.2	30	
N-EtFOSA	A	2.50	1.27	0.9890033	0.4275098		-49.3	30	*
N-EtFOSAA	A	2.50	2.23	0.8333015	0.6756949		-10.9	30	
N-EtFOSE	A	25.0	23.2	1.129564	1.102047		-7.1	30	
N-MeFOSA	A	2.50	3.56	1.295508	2.000441		42.3	30	*
N-MeFOSAA	A	2.50	2.60	0.7572478	0.7097449		4.1	30	
N-MeFOSE	A	25.0	22.5	0.7868612	0.7949596		-9.9	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	A	4.45	4.88	1.613927	1.7553		9.7	30	
Perfluoro-1-decanesulfonic acid (PFDS)	A	2.41	2.95	1.090454	1.23621		22.5	30	
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	2.38	3.18	3.229874	3.426008		33.7	30	*
Perfluoro-1-nonanesulfonic acid (PFNS)	A	2.40	3.58	2.541268	3.521279		49.3	30	*
Perfluoro-1-octanesulfonamide (FOSA)	A	2.50	1.65	1.712752	1.159183		-34.1	30	*
Perfluoro-1-pentanesulfonate (PFPeS)	A	2.35	2.16	1.404147	1.306075		-8.2	30	
Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	A	5.00	5.56	0.7000326	0.789694		11.2	30	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	QQQ-2	Calibration:	SD30043
Lab File ID:	QQQ2077070.d	Calibration Date:	04/27/23 18:13
Sequence:	S3E1762	Injection Date:	05/17/23
Lab Sample ID:	S3E1762-CCV4	Injection Time:	17:15

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Perfluoro-4-oxapentanoic acid (PFMPA)	A	5.00	5.14	0.757603	0.7896126		2.8	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	A	5.00	4.57	1.071309	1.038217		-8.6	30	
Perfluorobutanesulfonic acid (PFBS)	A	2.22	2.30	1.34399	1.330111		3.8	30	
Perfluorodecanoic acid (PFDA)	A	2.50	2.33	1.963699	1.939151		-6.9	30	
Perfluorododecanesulfonic acid (PFDoS)	A	2.42	3.30	1.100267	1.317056		36.3	30	*
Perfluorododecanoic acid (PFDoA)	A	2.50	2.19	0.8597345	0.7521816		-12.3	30	
Perfluoroheptanoic acid (PFHpA)	A	2.50	2.27	1.318827	1.219711		-9.4	30	
Perfluorohexanesulfonic acid (PFHxS)	A	2.28	2.04	1.421744	1.288447		-10.4	30	
Perfluorohexanoic acid (PFHxA)	A	2.50	2.52	1.24236	1.188604		0.7	30	
Perfluoro-n-butanoic acid (PFBA)	A	10.0	9.61	1.241515	1.212657		-3.9	30	
Perfluorononanoic acid (PFNA)	A	2.50	2.07	6.653904	5.869795		-11.8	30	
Perfluorooctanesulfonic acid (PFOS)	A	2.32	2.86	1.806429	1.612767		23.3	30	
Perfluorooctanoic acid (PFOA)	A	2.50	2.85	1.548646	1.65101		14.1	30	
Perfluoropentanoic acid (PFPeA)	A	5.00	4.62	1.047367	1.011323		-7.6	30	
Perfluorotetradecanoic acid (PFTA)	A	2.50	2.11	1.414068	1.186881		-15.7	30	
Perfluorotridecanoic acid (PFTrDA)	A	2.50	2.54	0.7557259	0.7889423		1.6	30	
Perfluoroundecanoic acid (PFUnA)	A	2.50	3.43	1.039554	1.135718		37.3	30	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077070.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 5:15:09 PM
Sample Name	SEQ-CCV4	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	2.5 - 62.5 ng/mL
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.161	216.0 -> 172.0	49064	5.0000	ng/ml	-0.046
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.168	217.0 -> 172.0	67630	10.0000	ng/ml	-0.037
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.322	268.0 -> 223.0	33074	5.0000	ng/ml	-0.065
MPFHxA	4.651	315.0 -> 269.8	40130	2.5000	ng/ml	-0.047
MPFHxS	5.476	403.0 -> 103.0	3590	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	11290	2.3300	ng/ml	-0.055
M5PFHxA-EIS	4.641	318.0 -> 273.0	26919	2.5000	ng/ml	-0.056
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	13036	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	9702	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	75079	10.0000	ng/ml	-0.056
M4PFHpA-EIS	5.393	367.0 -> 322.0	32470	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	7806	4.7550	ng/ml	-0.065
MPFOA	5.970	417.0 -> 372.0	38292	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	18659	2.5000	ng/ml	-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	3022	2.3950	ng/ml	-0.065
MPFNA	6.474	468.0 -> 423.0	15066	1.2500	ng/ml	-0.066
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	2039	1.2500	ng/ml	-0.066
MPFOS	6.501	503.0 -> 80.0	9467	2.3950	ng/ml	-0.075
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	3677	4.8000	ng/ml	-0.066
MPFDA	6.911	515.0 -> 469.8	12962	1.2500	ng/ml	-0.075
M6PFDA-EIS	6.911	519.0 -> 473.9	5645	1.2500	ng/ml	-0.075
d3-N-MeFOSAA-EIS	7.078	573.0 -> 418.8	15643	5.0000	ng/ml	-0.075
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	16279	5.0000	ng/ml	-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	12269	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	20955	2.5000	ng/ml	-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	10195	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.163	715.0 -> 670.0	10172	1.2500	ng/ml	-0.093
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	1719	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	75043	25.0000	ng/ml	-0.009
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	71034	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	8097	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.168	217.0 -> 172.0	67630	10.0632	ng/ml	-0.037
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.322	268.0 -> 223.0	33074	5.0904	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.837	302.0 -> 79.9	11290	2.3648	ng/ml	-0.055
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	13036	6.6692	ng/ml	-0.047

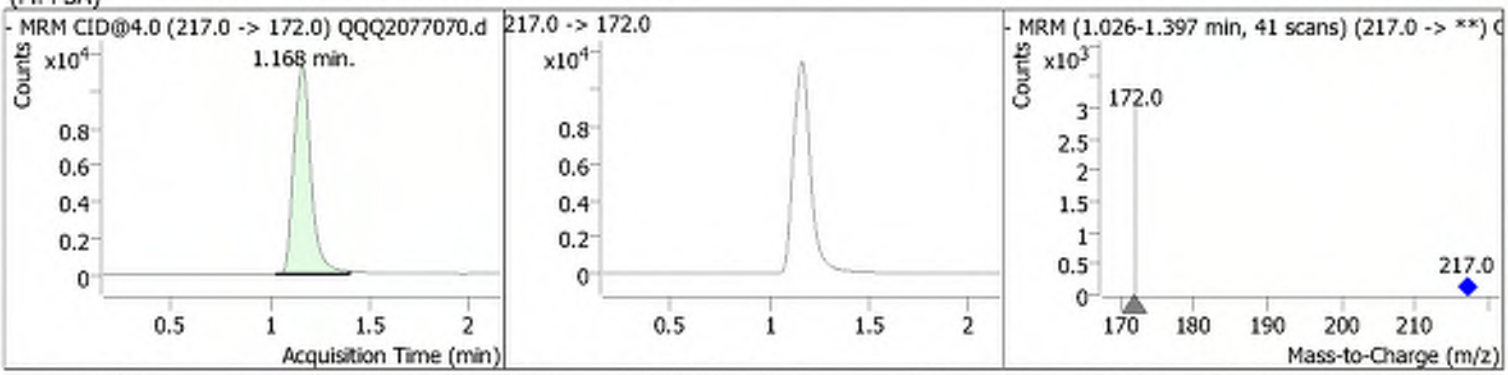
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.641	318.0 -> 273.0	26919	2.4834	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	75079	11.8778	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	32470	2.6523	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	9702	2.4189	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	7806	7.3622	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	18659	2.2102	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	2039	1.3149	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	3022	2.2051	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.901	529.0 -> 509.0	3677	4.0350	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.911	519.0 -> 473.9	5645	1.1219	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.078	573.0 -> 418.8	15643	4.8844	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	16279	5.0585	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	12269	1.2304	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	20955	2.6963	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	10195	1.2282	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	75043	23.3192	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	1719	1.7316	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.163	715.0 -> 670.0	10172	1.1610	ng/ml	-0.093
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	71034	22.4590	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	8097	5.9340	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.163	213.0 -> 168.9	82012	9.6070	ng/ml	100
PFMPA	1.987	229.0 -> 85.0	26116	5.1395	ng/ml	100
3:3FTCA	3.231	241.0 -> 177.0	4345	10.7106	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.323	263.0 -> 219.0	33449	4.6209	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	13335	2.3035	ng/ml	100
PFMBA	3.858	279.0 -> 85.0	34338	4.5685	ng/ml	100
PFEESA	4.335	315.0 -> 135.0	84106	4.8795	ng/ml	100
NFDHA	4.504	295.0 -> 201.1	42515	5.5594	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	20967	8.1416	ng/ml	100

Agilent

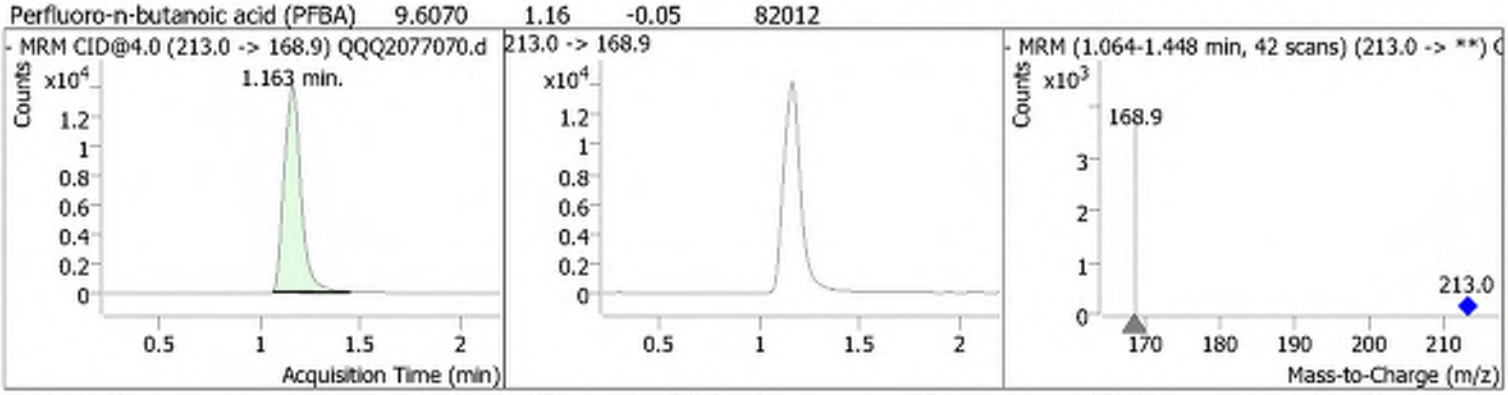
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.642	313.0 -> 268.9	31996	2.5169	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	11911	2.1581	ng/ml		100
HFPO-DA	4.904	285.0 -> 169.1	6940	10.8186	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.383	363.0 -> 318.8	39604	2.2660	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	11400	2.0420	ng/ml	m	100
5-3FTCA	5.487	341.0 -> 217.0	98699	66.6271	ng/ml		100
ADONA	5.495	377.0 -> 85.0	92574	9.5091	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.932	427.0 -> 407.0	15569	9.8429	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	30806	2.8514	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.015	448.9 -> 80.0	9857	3.1827	ng/ml		100
Perfluorononanoic acid (PFNA)	6.474	463.0 -> 418.8	23936	2.0710	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.492	498.9 -> 79.9	4523	2.8600	ng/ml	m	100
7-3FTCA	6.624	441.0 -> 337.0	142088	61.7379	ng/ml		100
9-Cl-PF3ONS	6.751	531.0 -> 351.0	105567	9.8746	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.892	527.0 -> 80.9	8968	10.2131	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.911	513.0 -> 468.8	21892	2.3271	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.929	548.9 -> 79.9	10216	3.5822	ng/ml		100
N-MeFOSAA	7.088	570.0 -> 418.9	5551	2.6013	ng/ml	m	100
N-EtFOSAA	7.283	584.0 -> 418.8	5500	2.2271	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.292	598.9 -> 98.9	3602	2.9516	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.293	563.0 -> 519.0	27867	3.4328	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	24290	1.6470	ng/ml		100
11-Cl-PF3OUdS	7.477	631.0 -> 451.0	35018	8.5010	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.627	613.0 -> 568.8	15338	2.1924	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.904	699.0 -> 80.0	3853	3.2981	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.914	663.0 -> 618.8	16050	2.5398	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	3439	3.5572	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.164	713.0 -> 669.0	24145	2.1074	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	59656	22.5212	ng/ml		100
NEtFOSE	8.462	630.0 -> 59.0	78283	23.2208	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	3462	1.2673	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

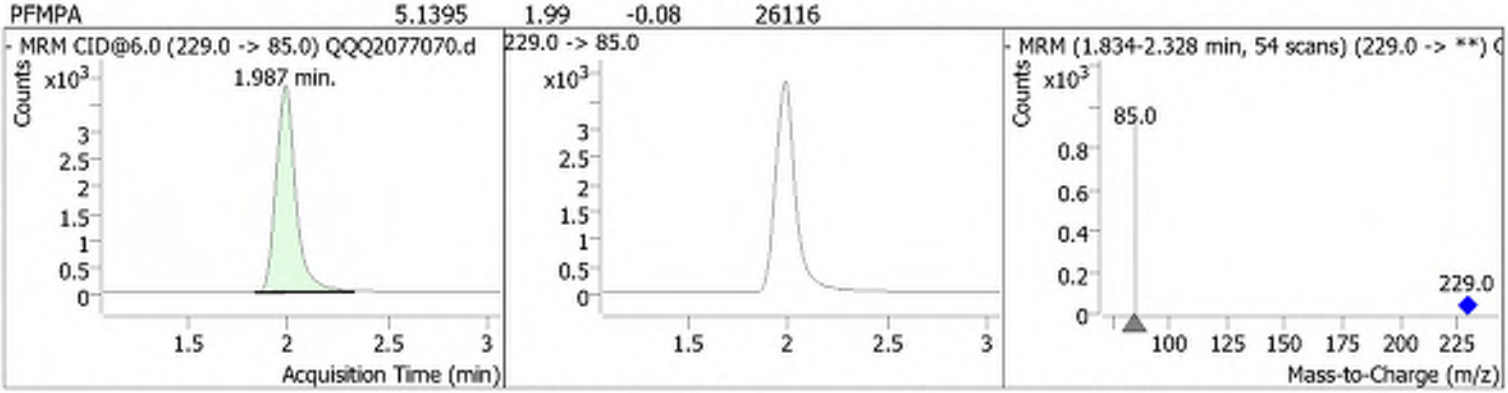
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.0632	1.17	-0.04	67630				



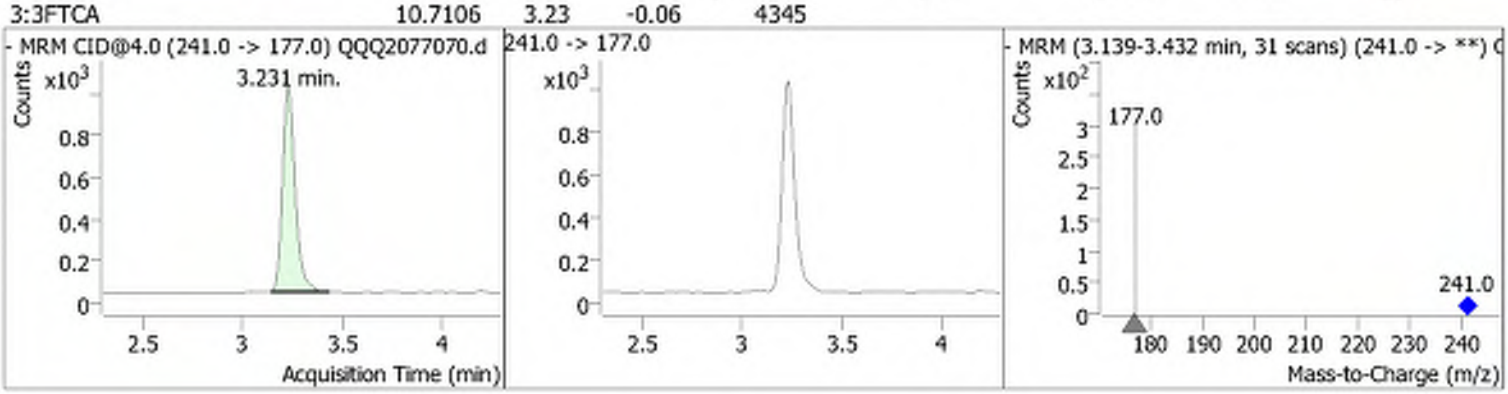
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	9.6070	1.16	-0.05	82012				



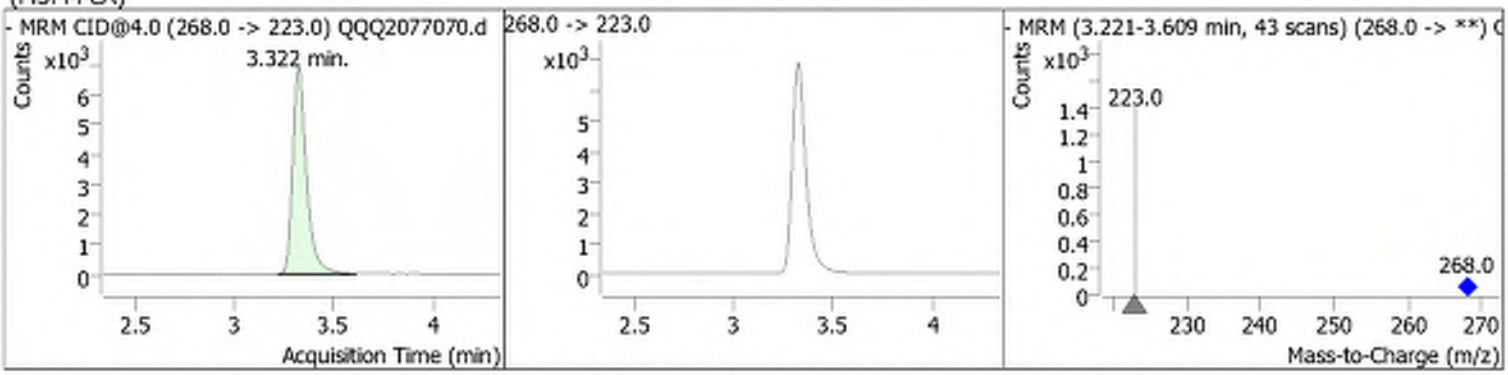
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	5.1395	1.99	-0.08	26116				



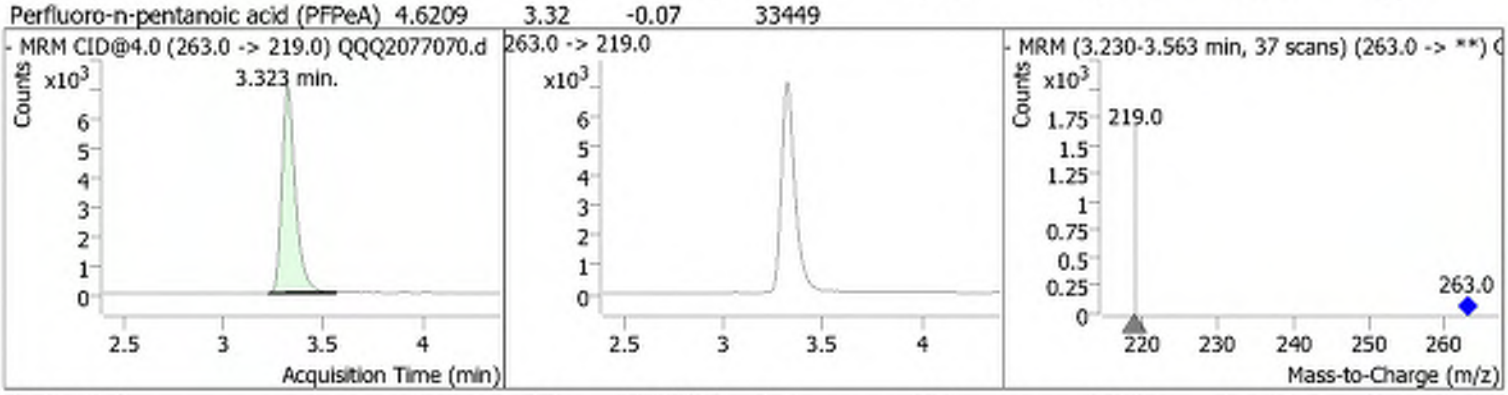
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	10.7106	3.23	-0.06	4345				



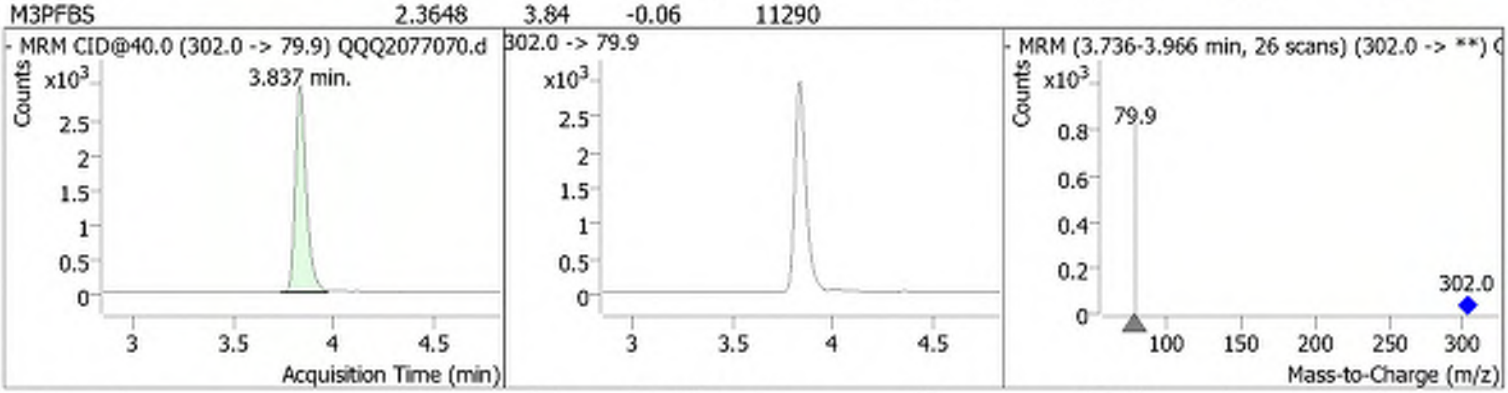
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.0904	3.32	-0.06	33074				



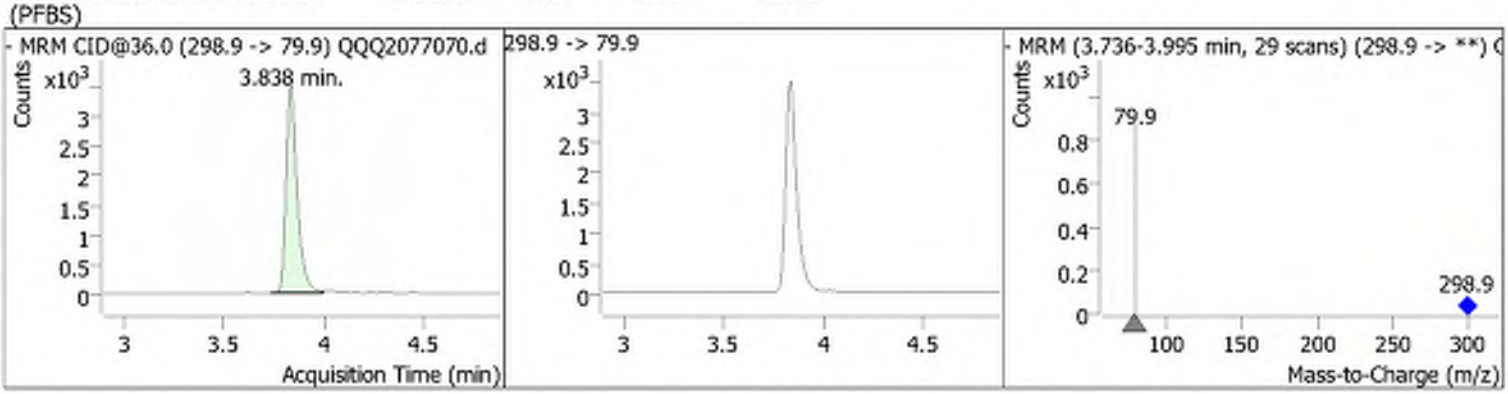
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.6209	3.32	-0.07	33449				



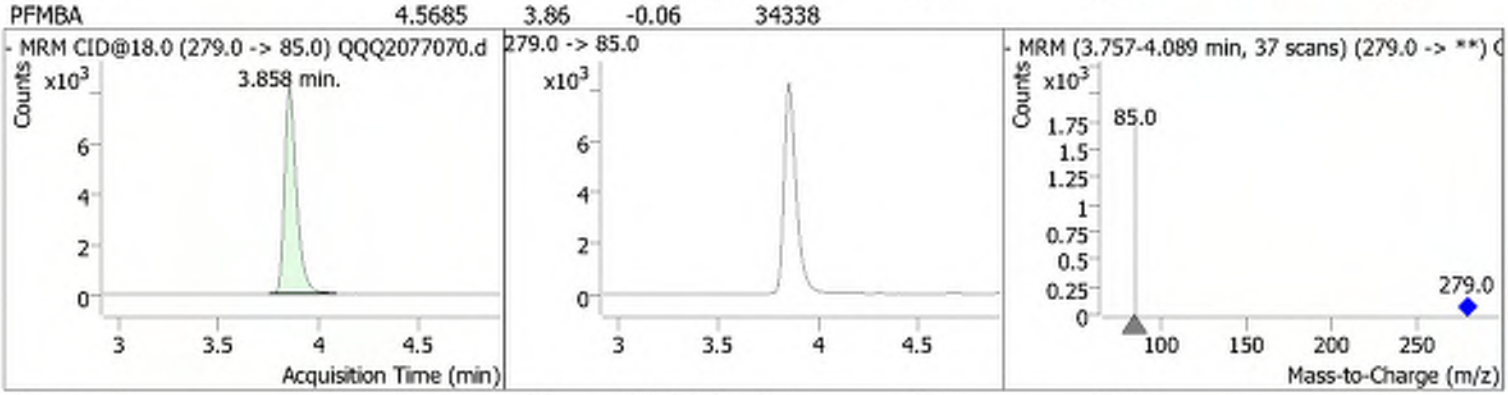
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.3648	3.84	-0.06	11290				



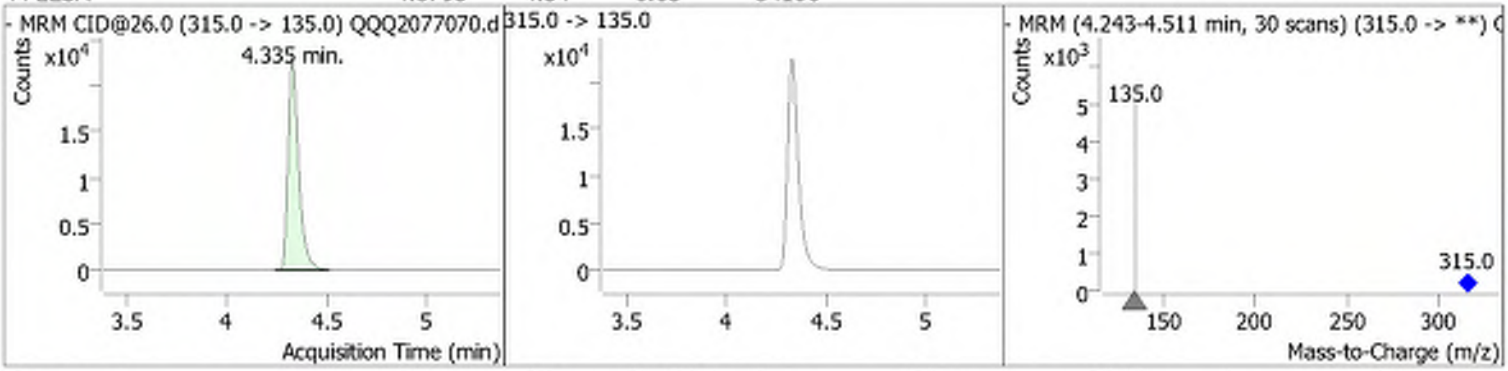
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.3035	3.84	-0.06	13335				



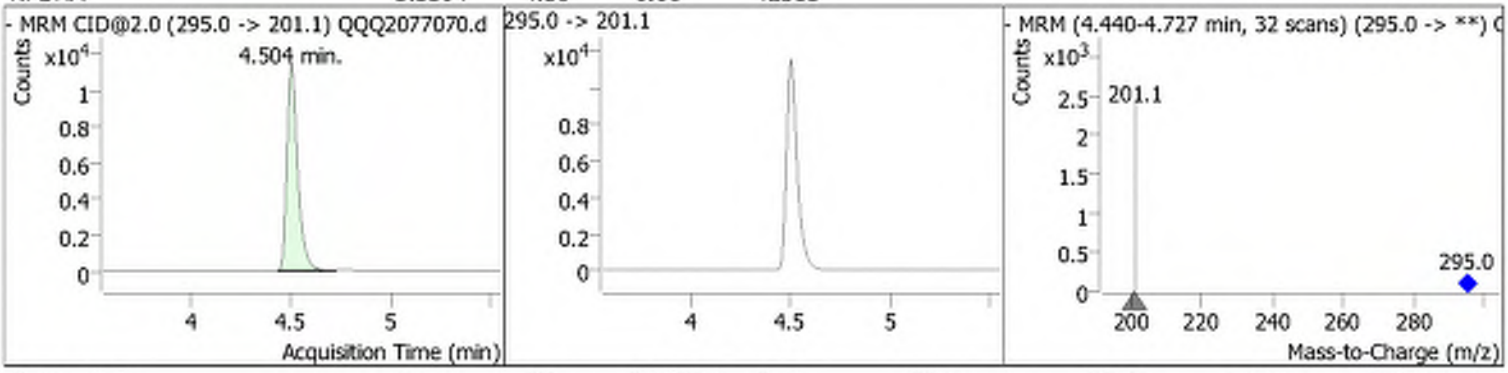
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	4.5685	3.86	-0.06	34338				



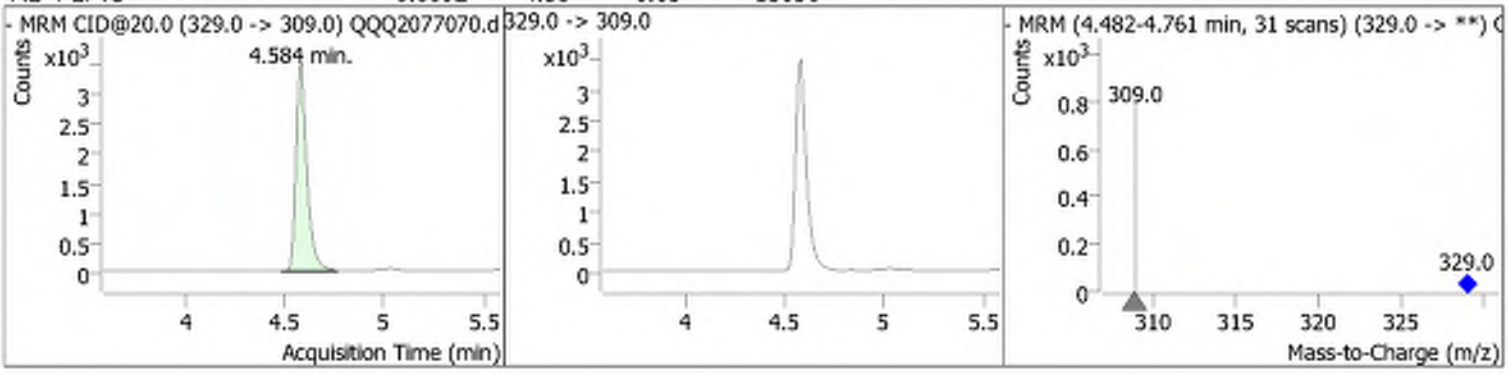
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	4.8795	4.34	-0.05	84106				



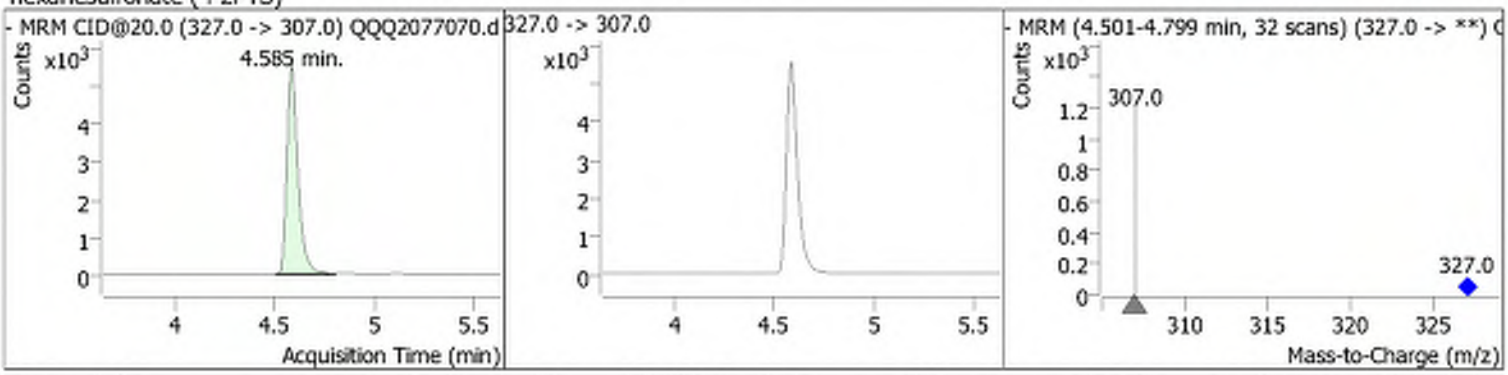
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	5.5594	4.50	-0.06	42515				



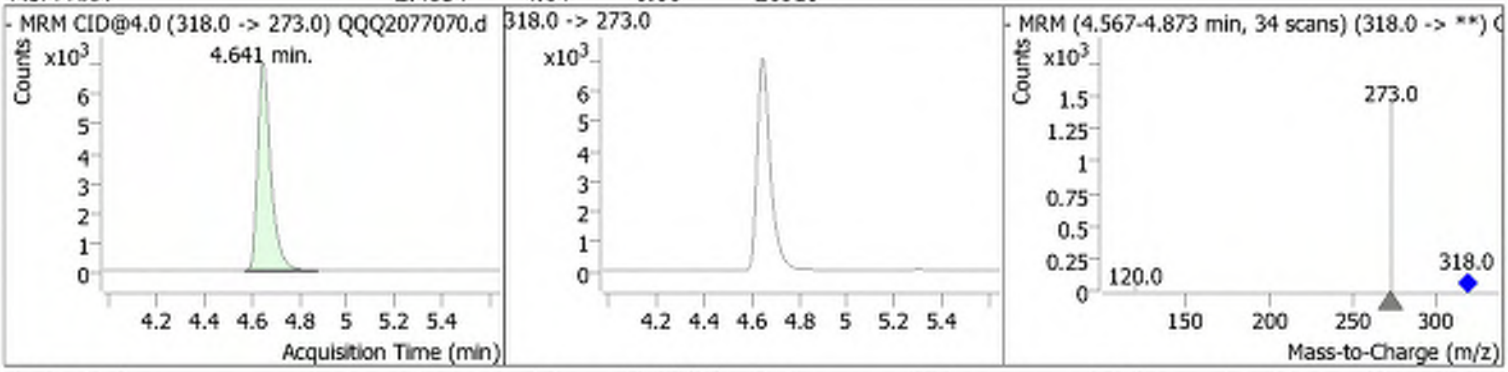
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	6.6692	4.58	-0.05	13036				



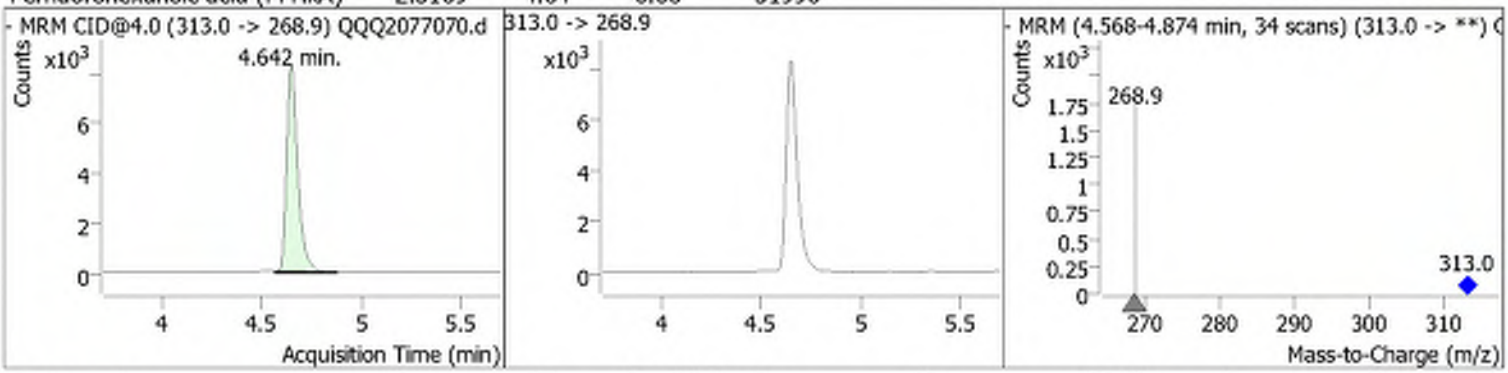
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	8.1416	4.58	-0.05	20967				



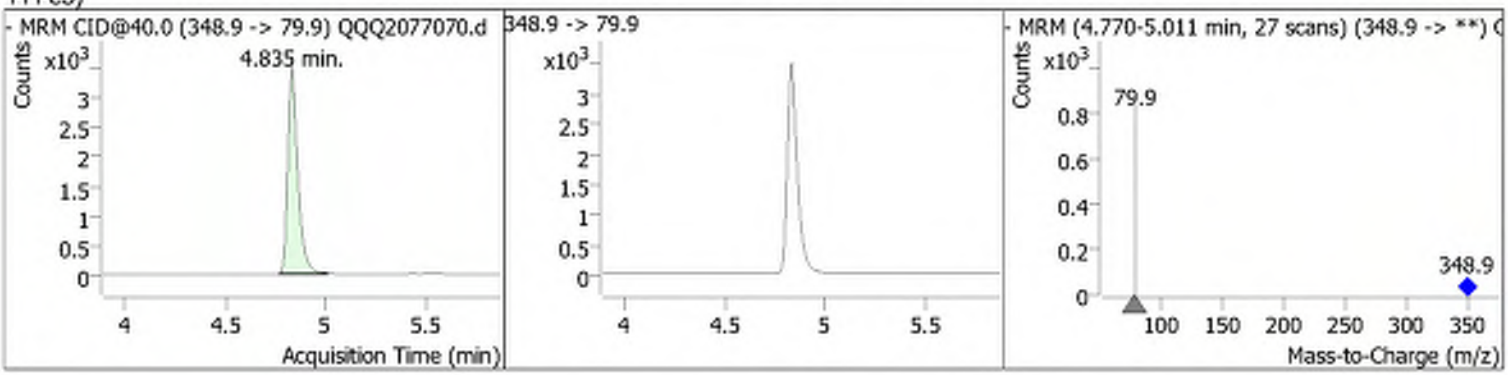
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.4834	4.64	-0.06	26919				



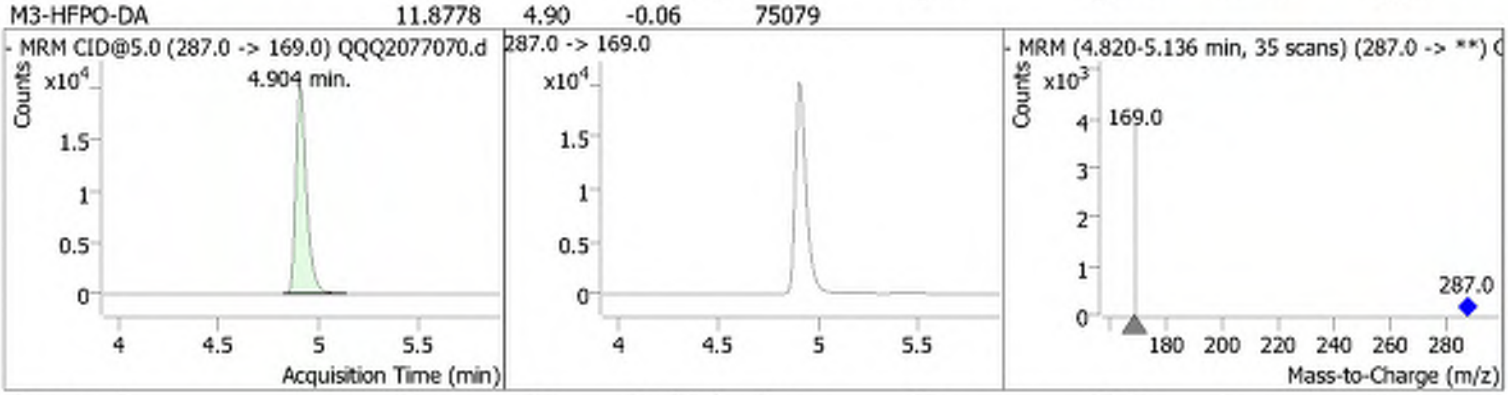
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.5169	4.64	-0.06	31996				



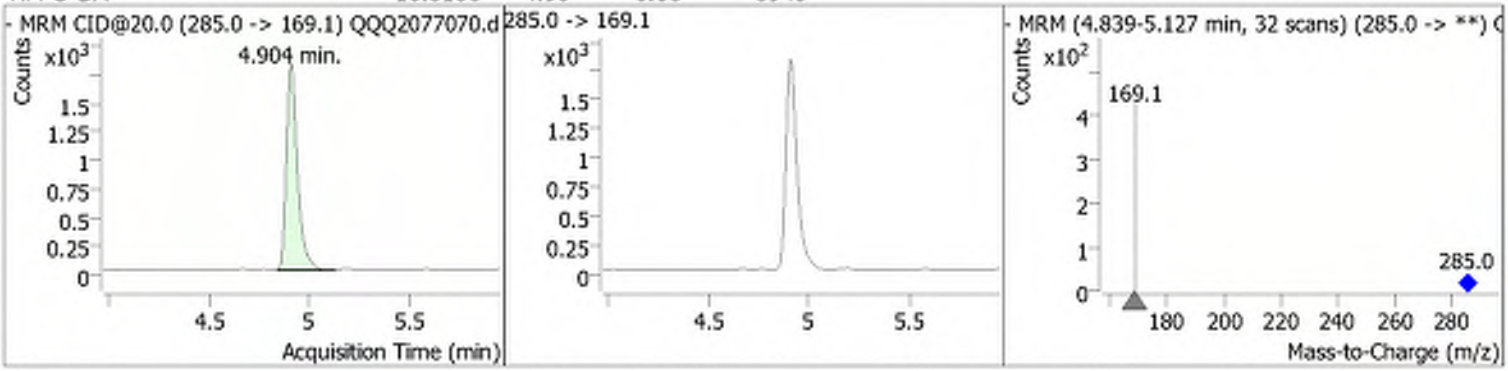
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.1581	4.83	-0.05	11911				



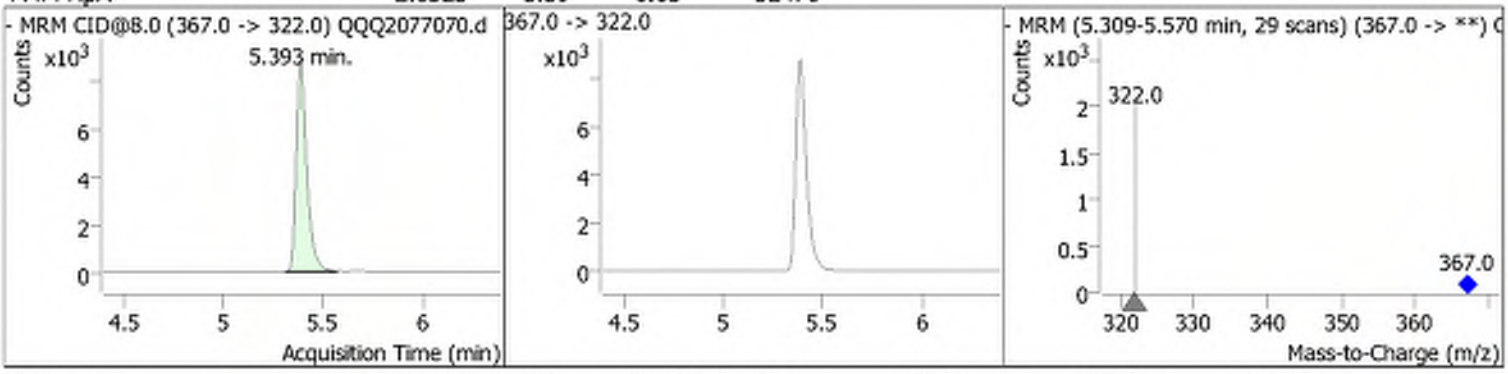
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.8778	4.90	-0.06	75079				



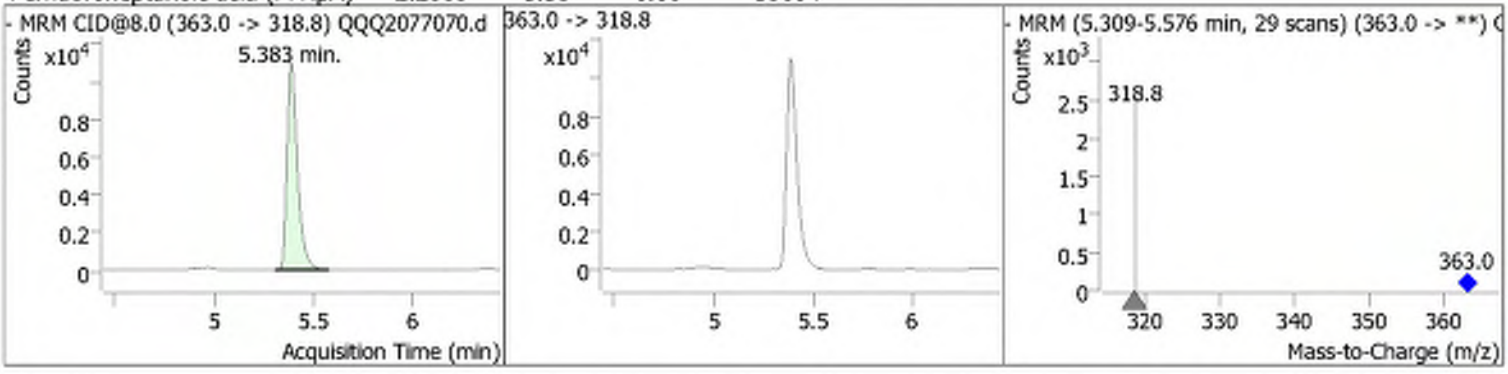
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	10.8186	4.90	-0.06	6940				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.6523	5.39	-0.05	32470				



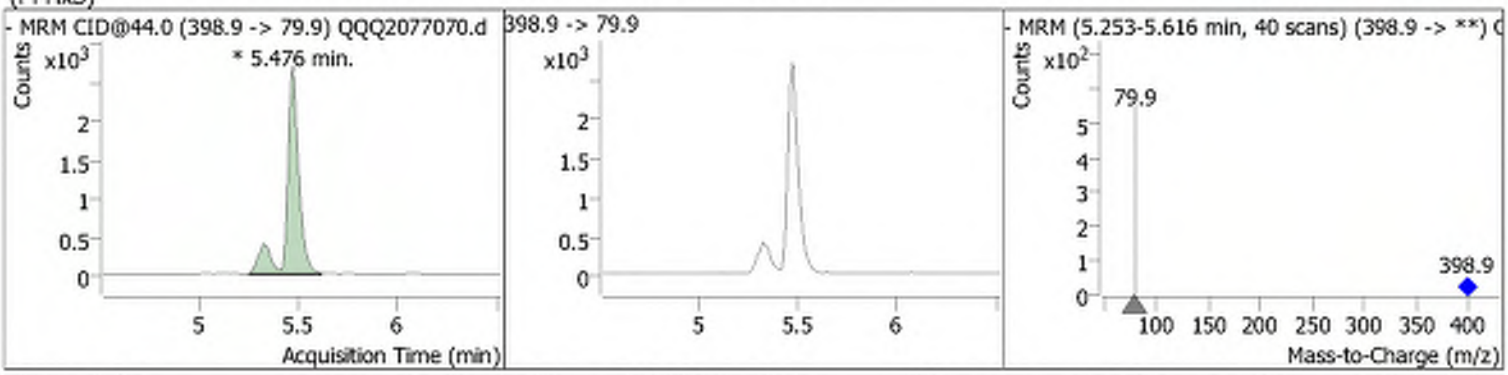
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.2660	5.38	-0.06	39604				



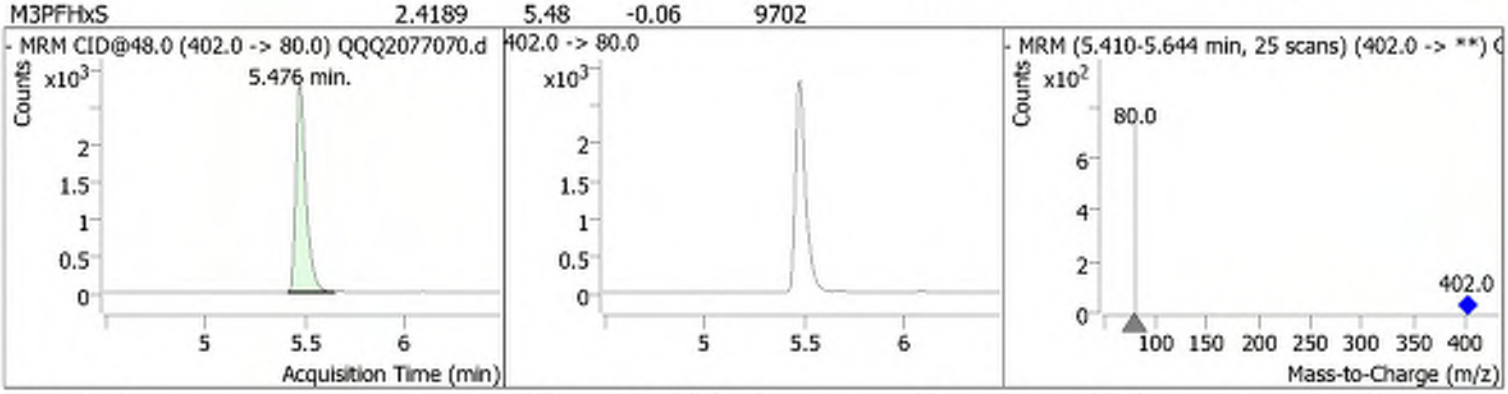
Quantitation Results Report (Not Reviewed)

Agilent

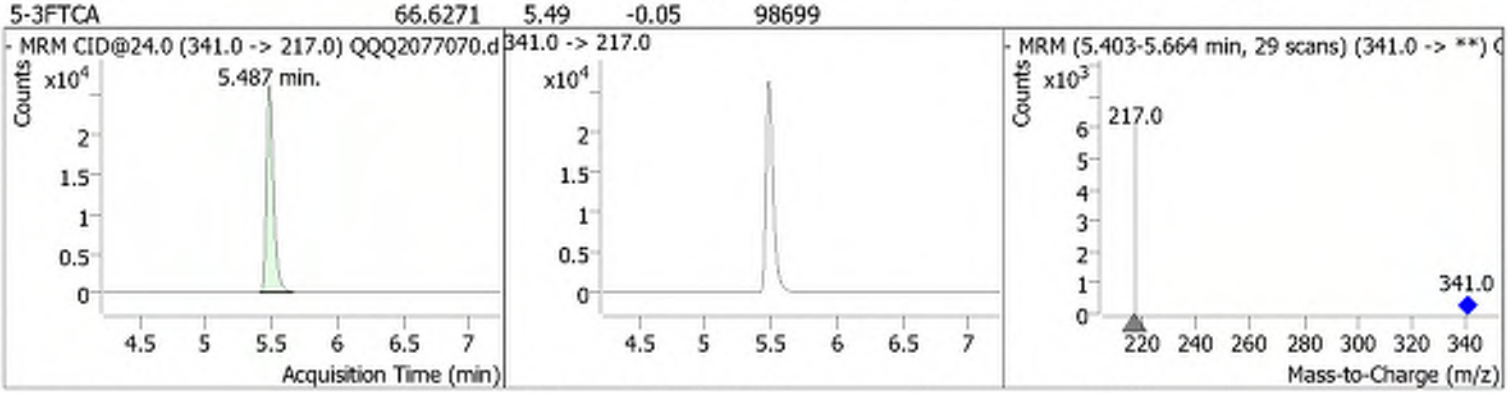
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.0420	5.48	-0.05	11400 (m)				



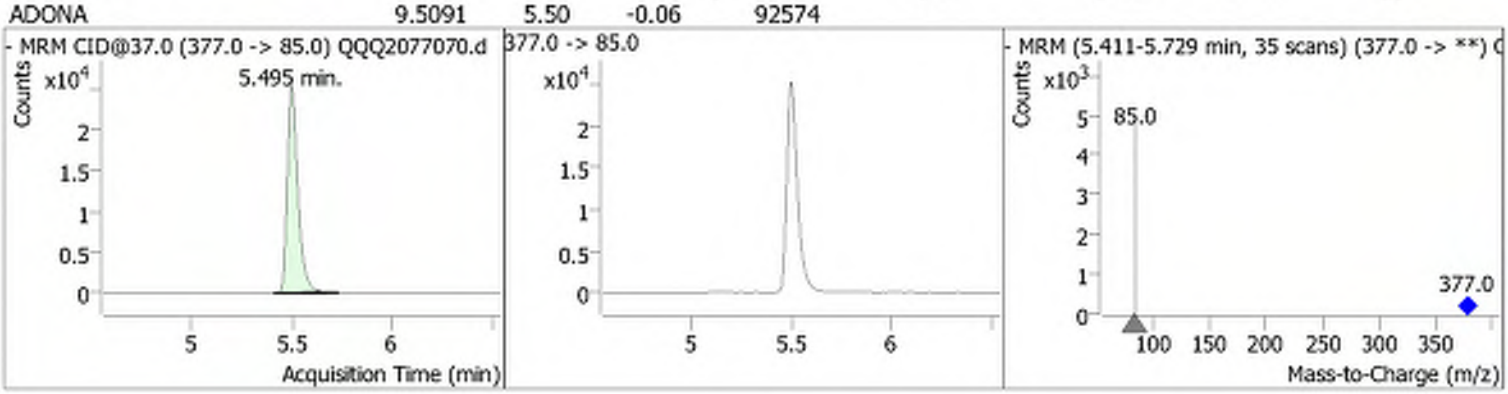
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.4189	5.48	-0.06	9702				



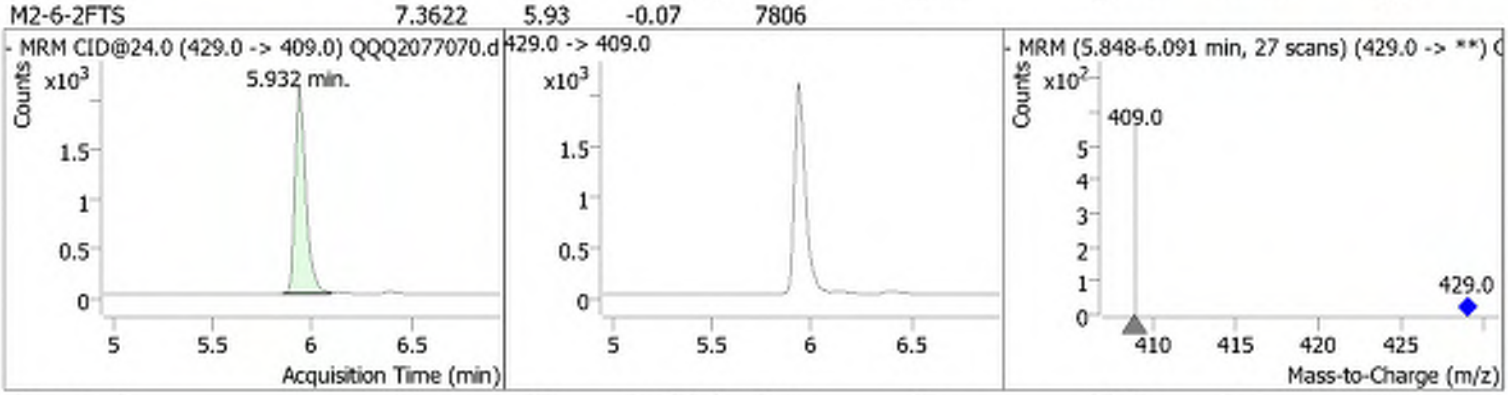
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	66.6271	5.49	-0.05	98699				



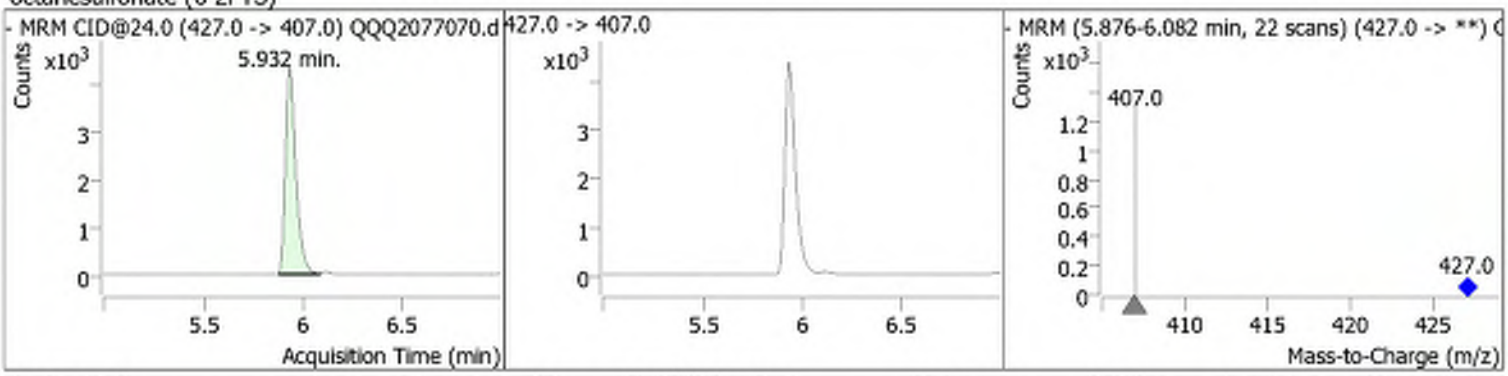
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	9.5091	5.50	-0.06	92574				



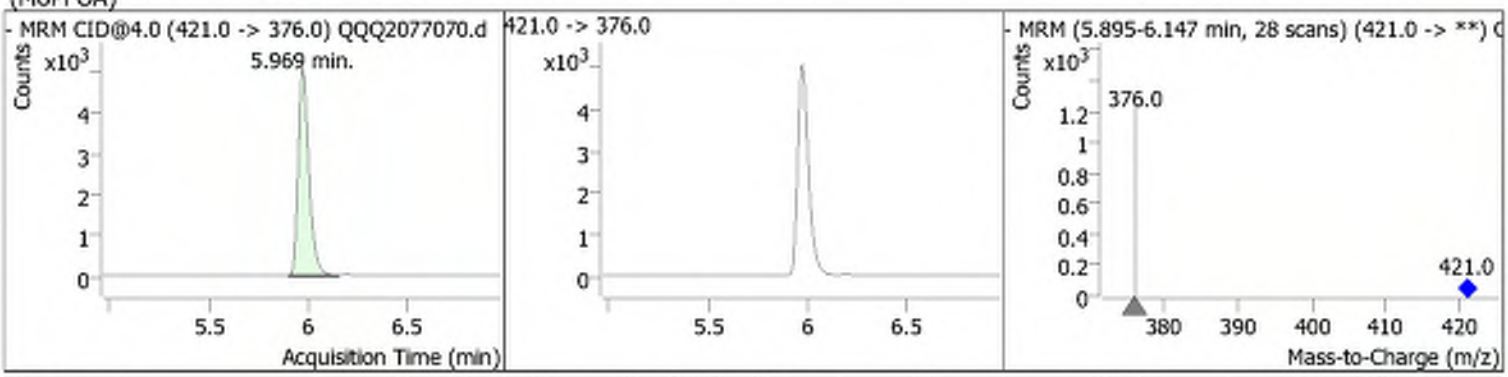
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	7.3622	5.93	-0.07	7806				



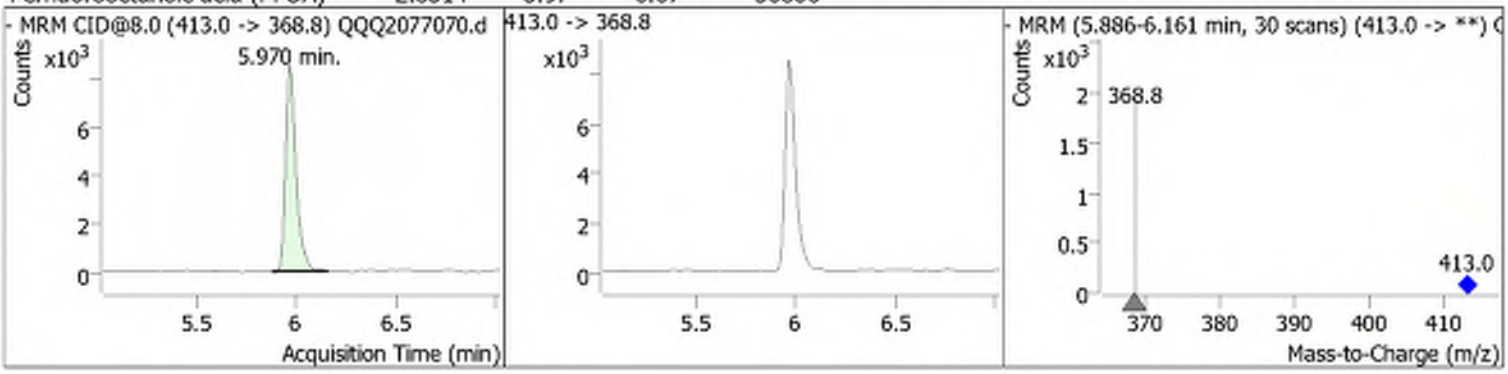
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	9.8429	5.93	-0.07	15569				



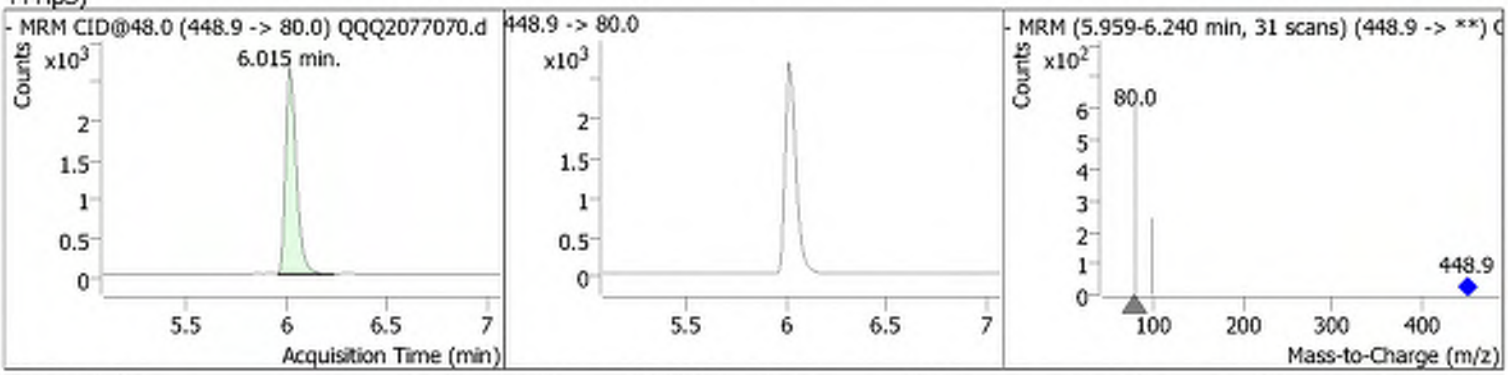
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.2102	5.97	-0.07	18659				



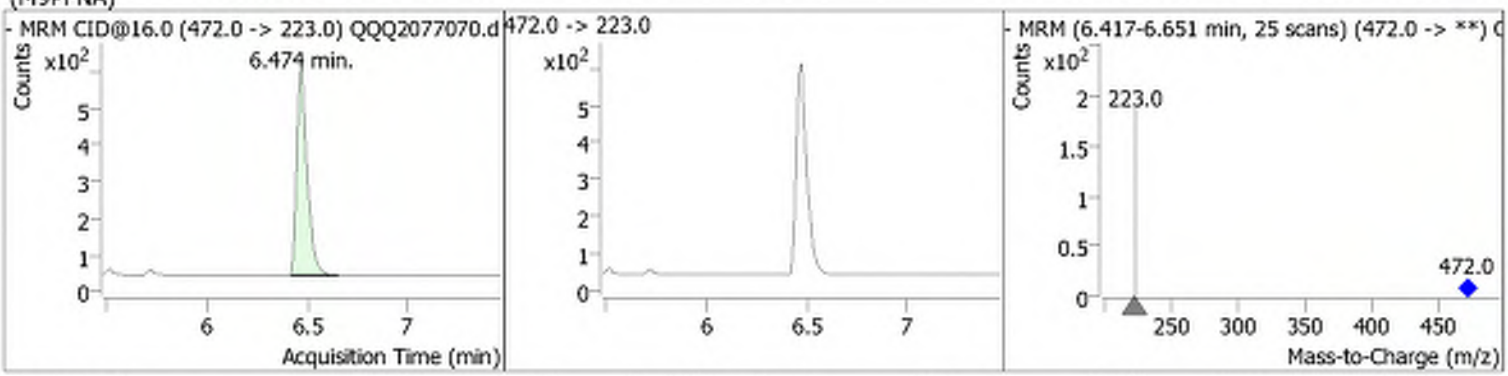
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.8514	5.97	-0.07	30806				



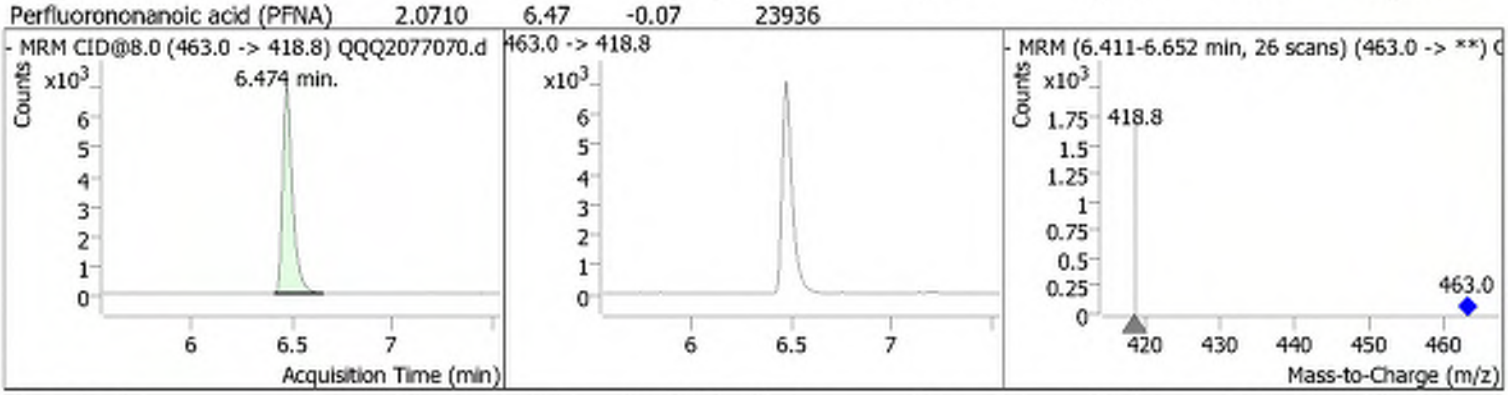
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	3.1827	6.02	-0.07	9857				



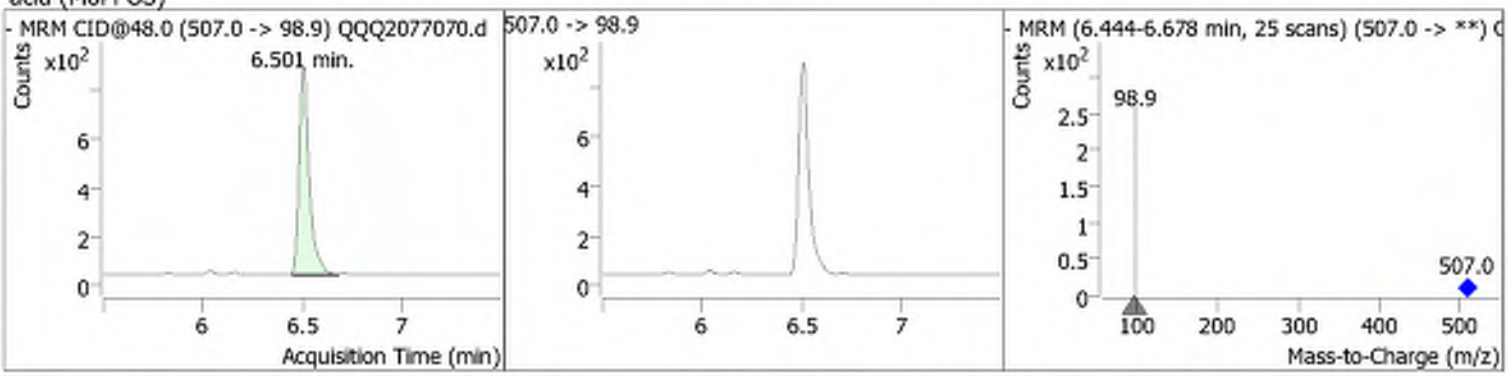
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3149	6.47	-0.07	2039				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.0710	6.47	-0.07	23936				



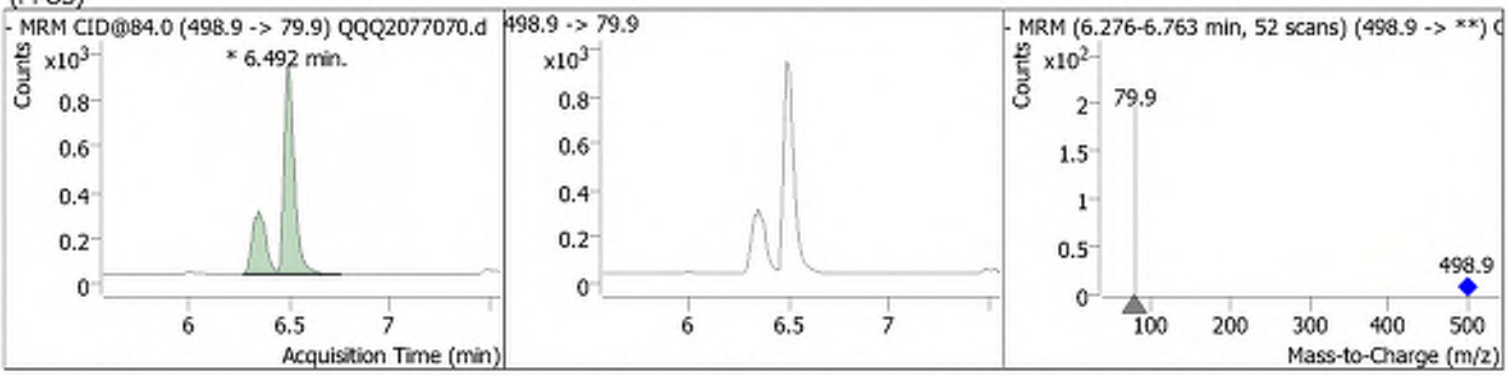
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.2051	6.50	-0.07	3022				



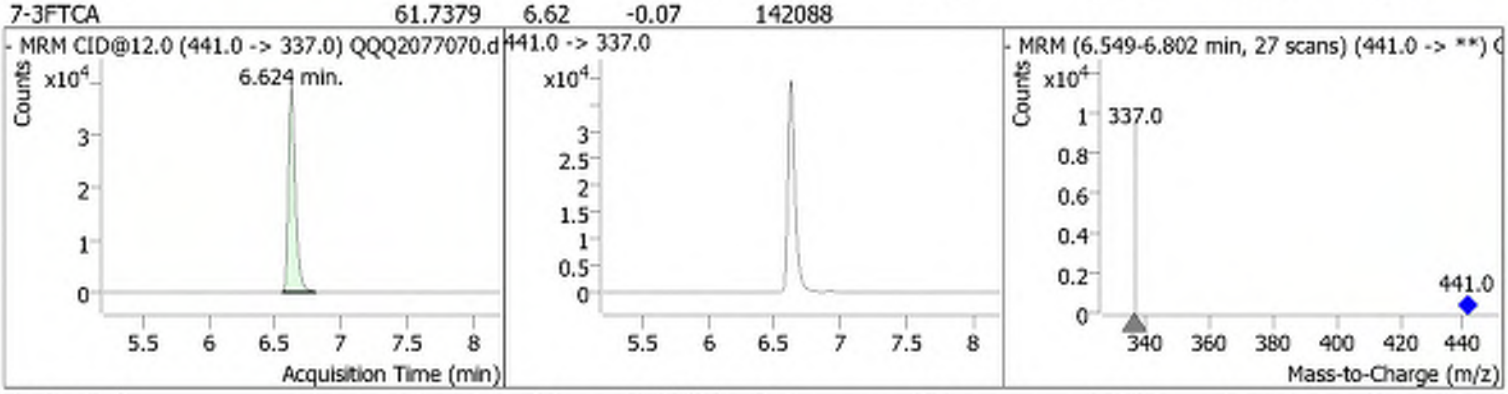
Quantitation Results Report (Not Reviewed)

Agilent

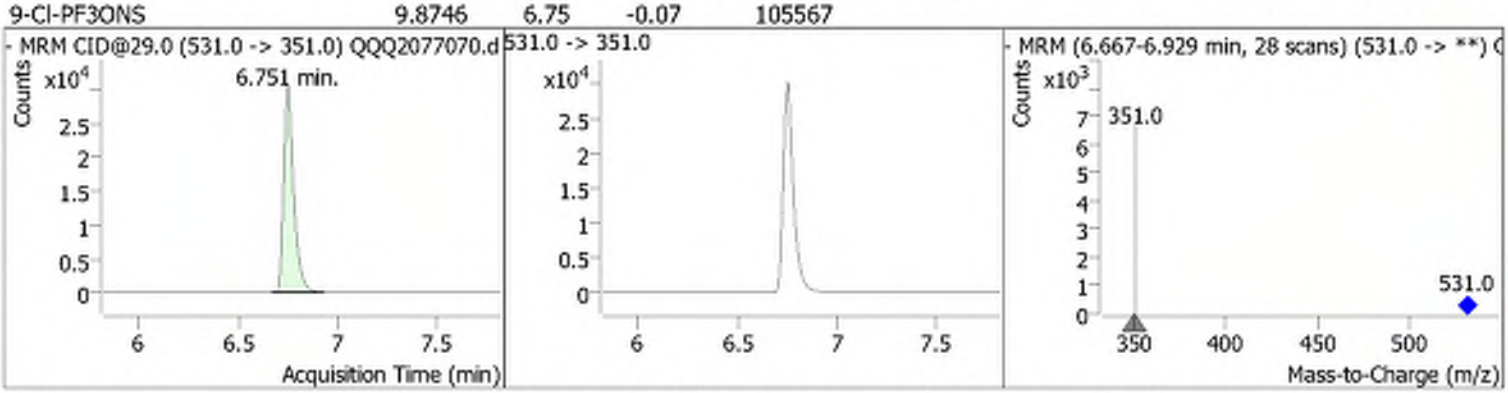
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.8600	6.49	-0.07	4523 (m)				



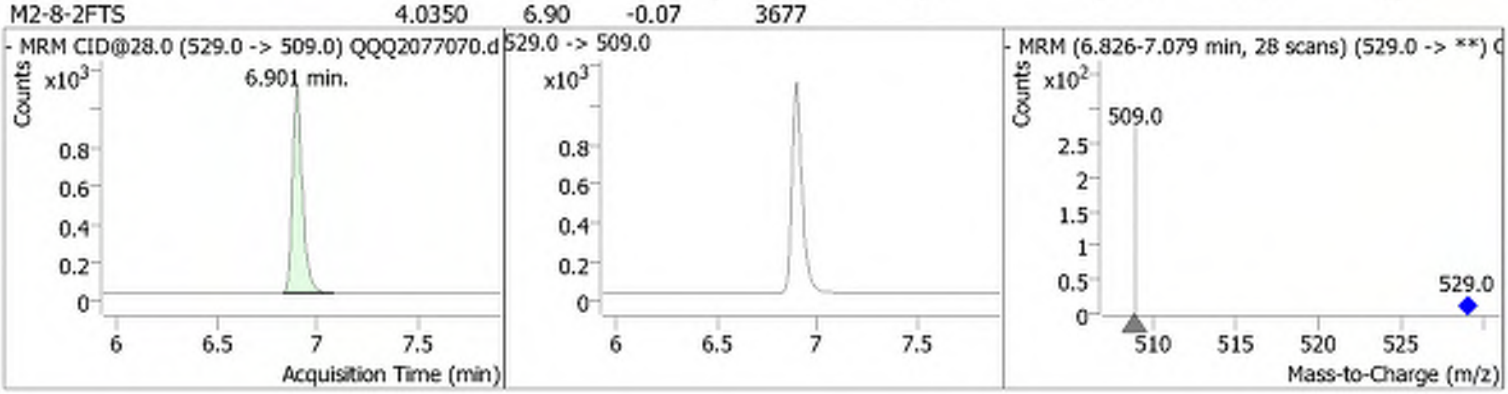
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	61.7379	6.62	-0.07	142088				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	9.8746	6.75	-0.07	105567				

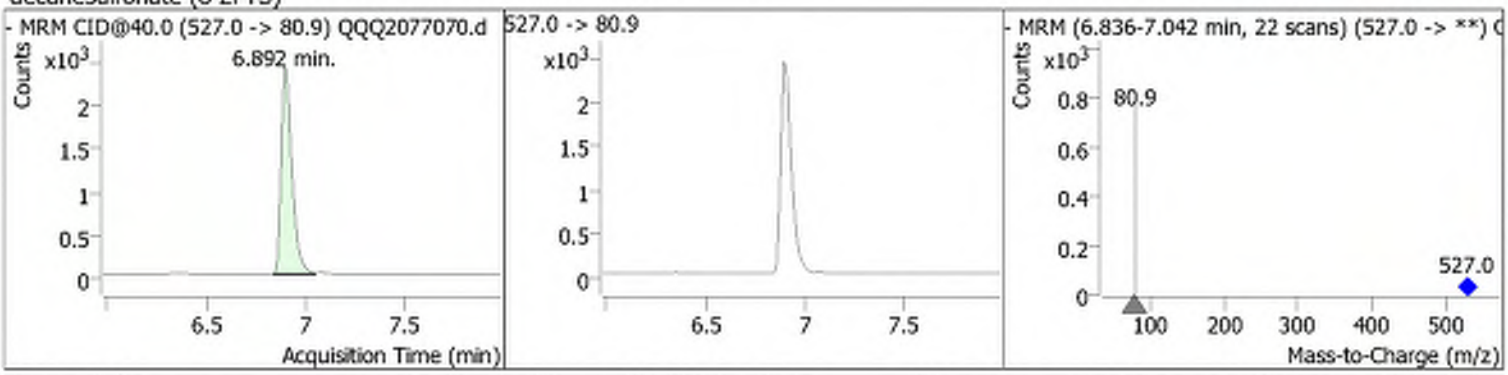


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.0350	6.90	-0.07	3677				

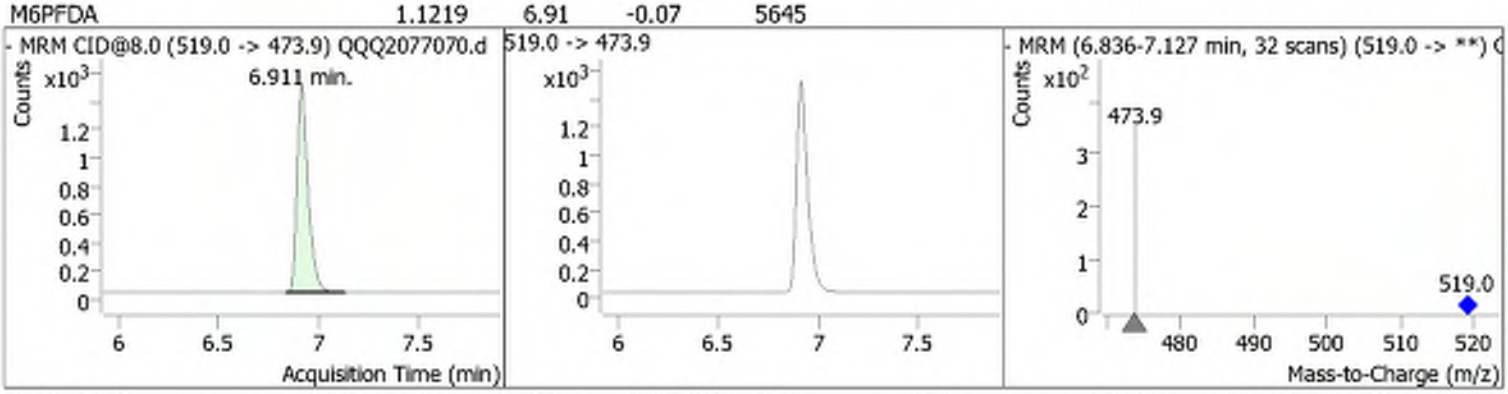


Quantitation Results Report (Not Reviewed)

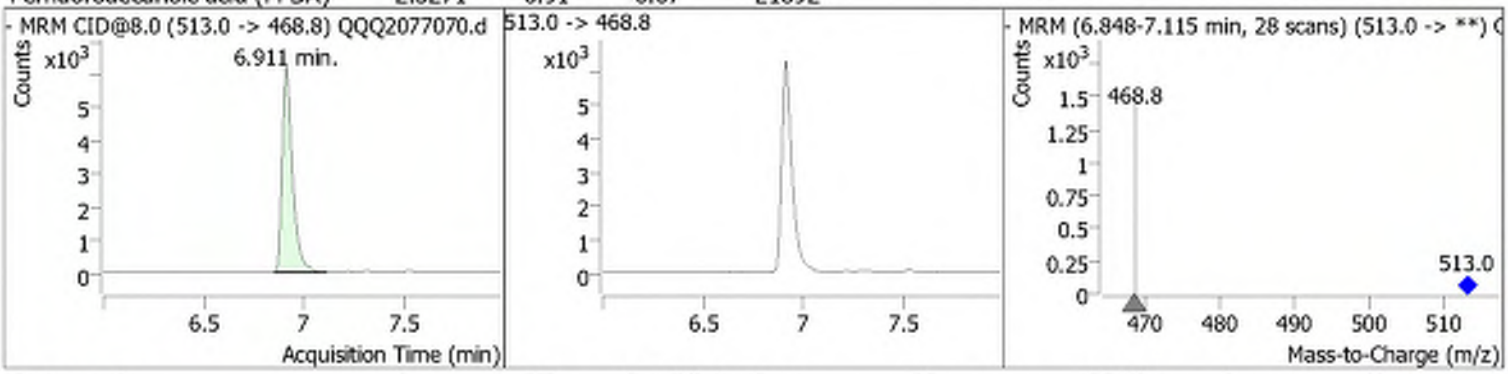
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	10.2131	6.89	-0.08	8968				



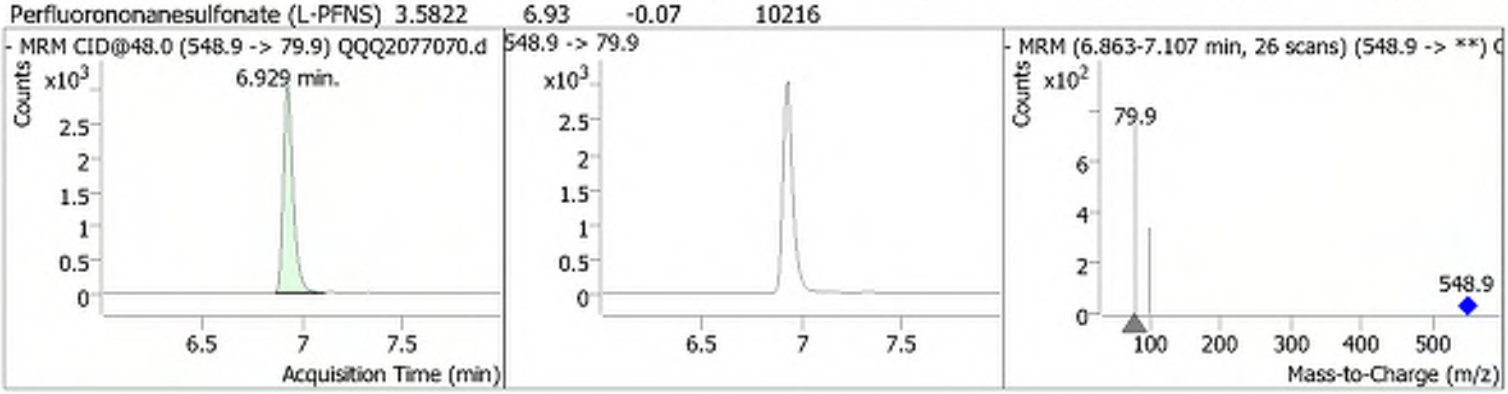
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.1219	6.91	-0.07	5645				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.3271	6.91	-0.07	21892				



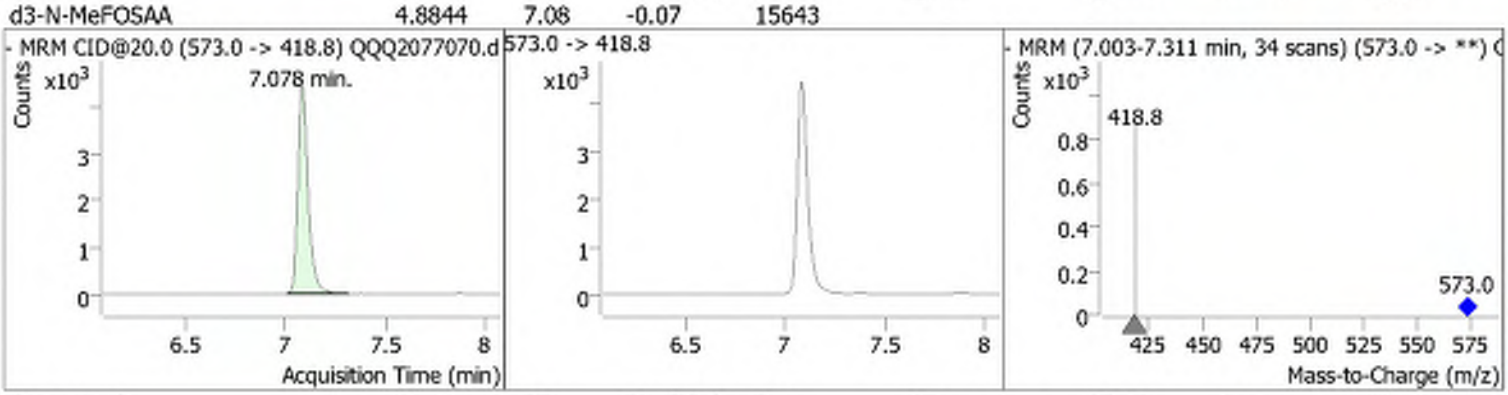
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	3.5822	6.93	-0.07	10216				



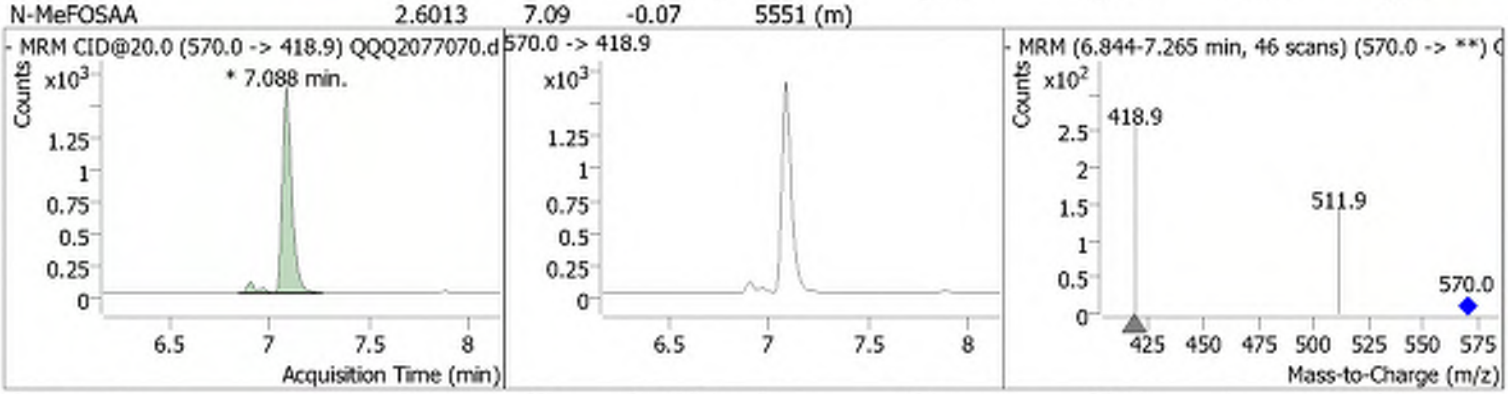
Quantitation Results Report (Not Reviewed)

Agilent

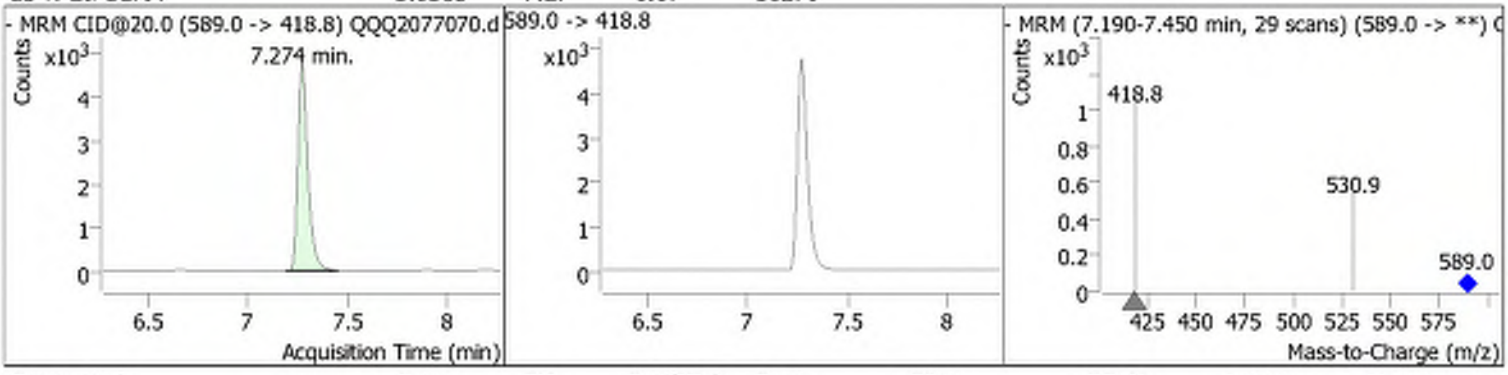
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.8844	7.08	-0.07	15643				



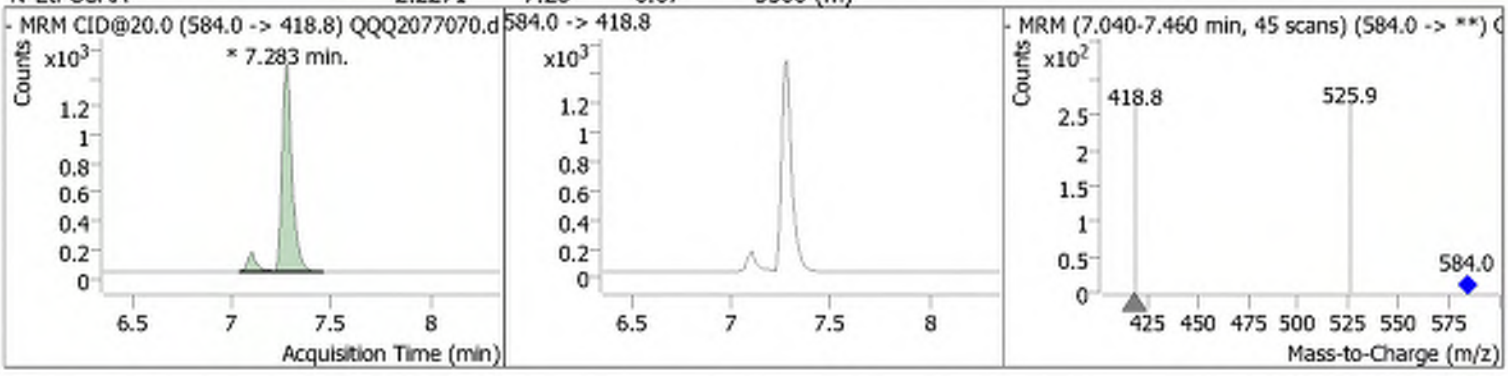
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.6013	7.09	-0.07	5551 (m)				



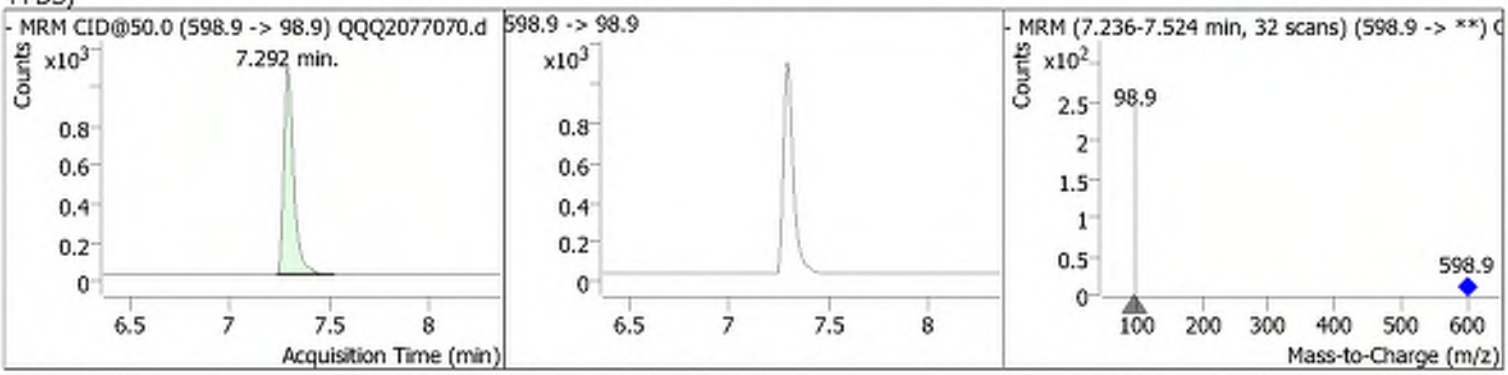
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.0585	7.27	-0.07	16279				



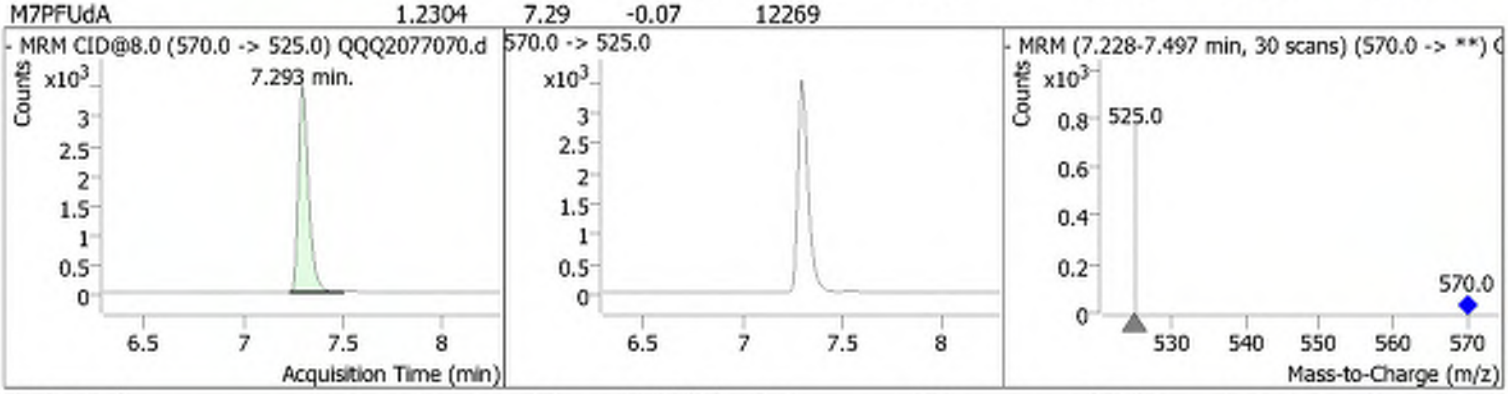
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.2271	7.28	-0.07	5500 (m)				



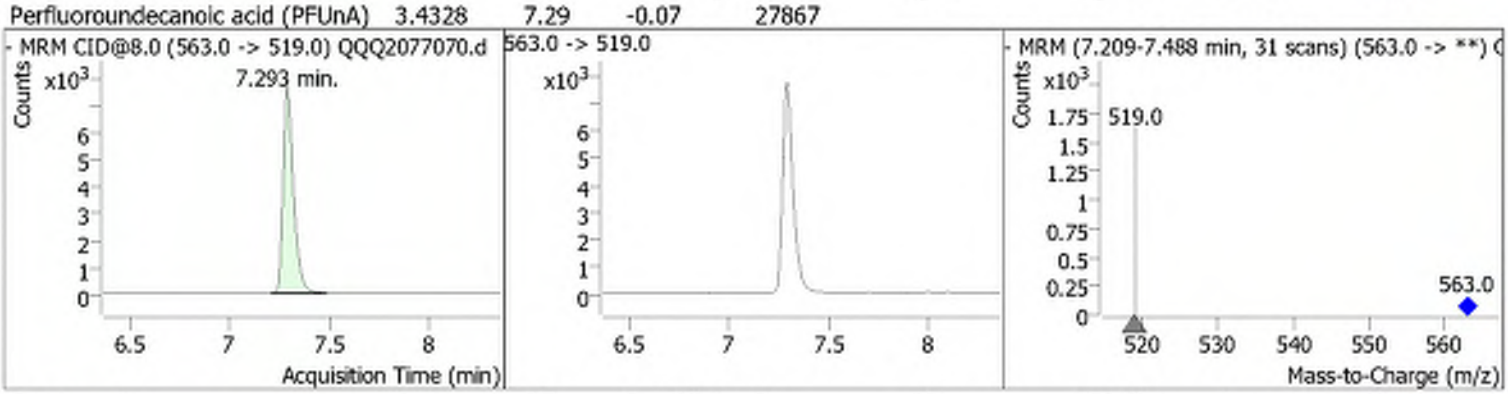
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	2.9516	7.29	-0.07	3602				



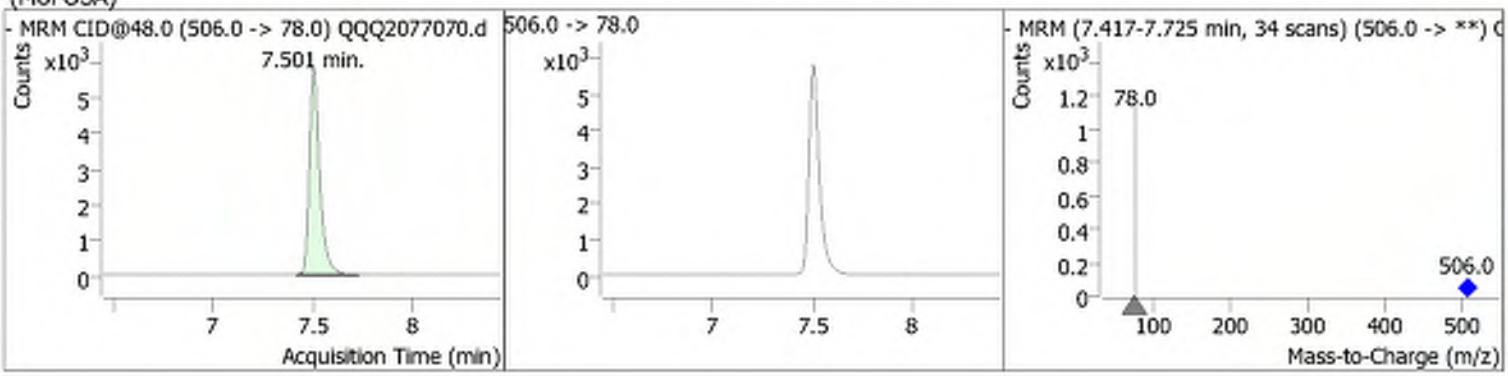
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.2304	7.29	-0.07	12269				



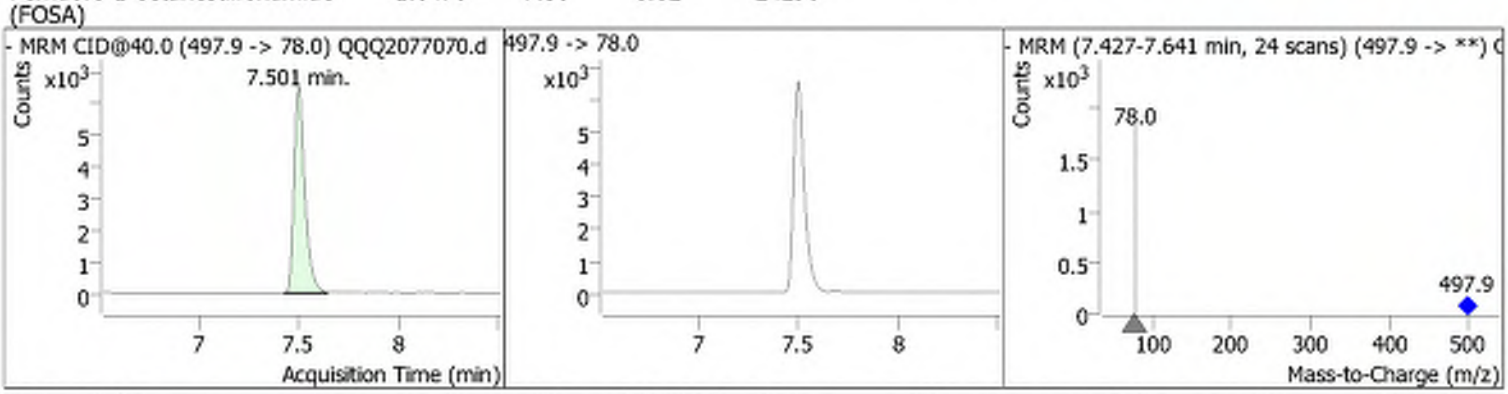
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.4328	7.29	-0.07	27867				



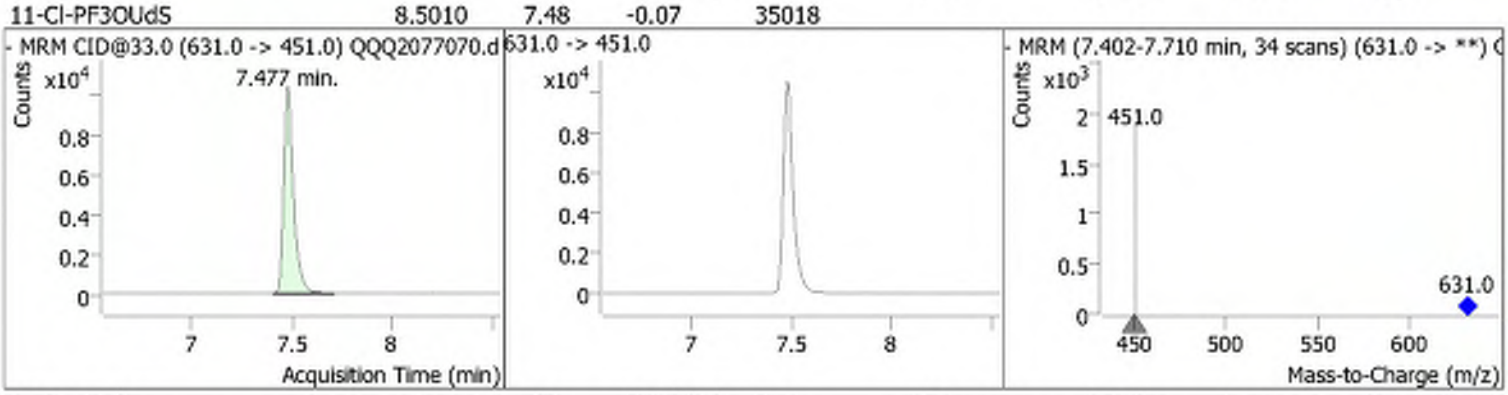
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.6963	7.50	-0.02	20955				



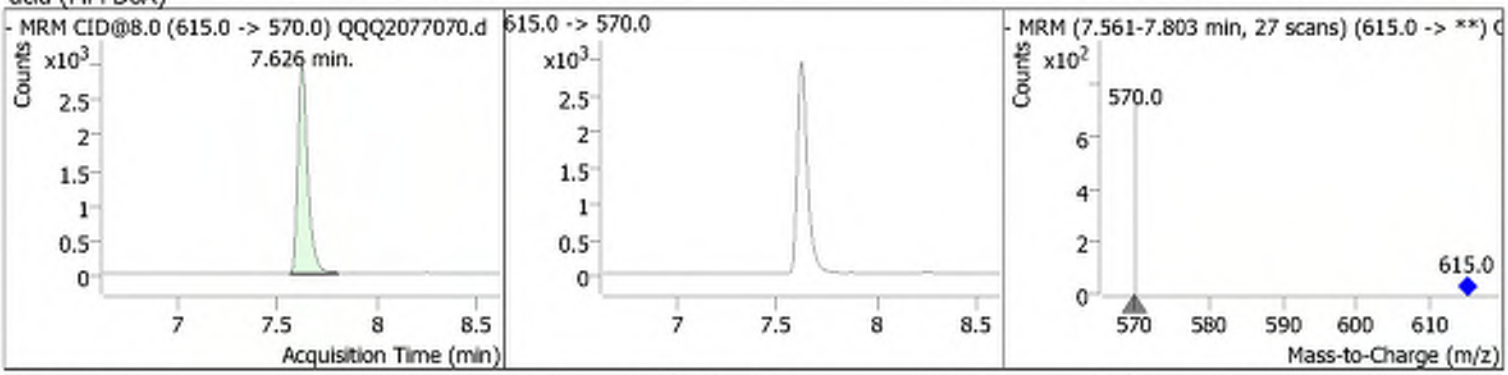
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	1.6470	7.50	-0.02	24290				



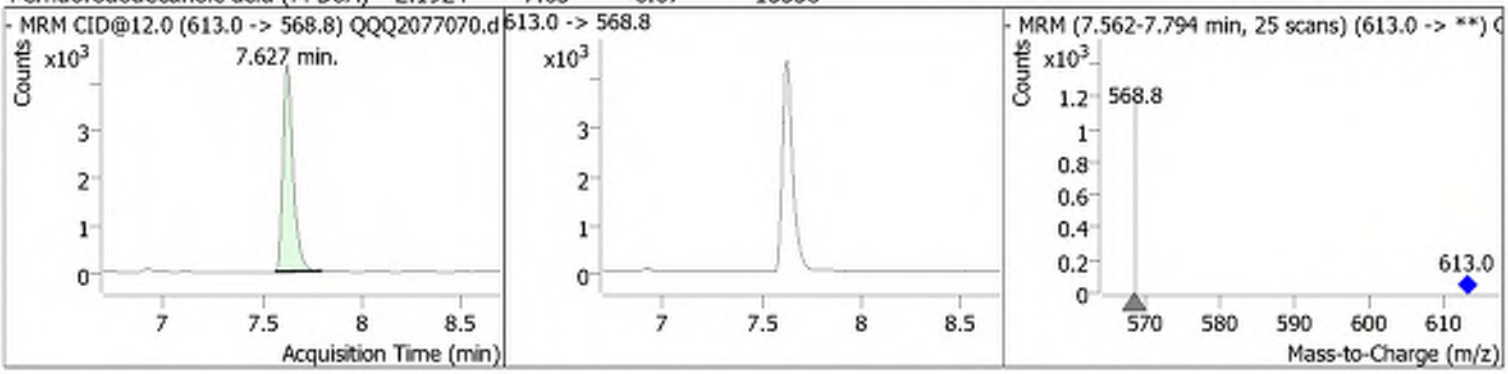
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	8.5010	7.48	-0.07	35018				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.2282	7.63	-0.07	10195				

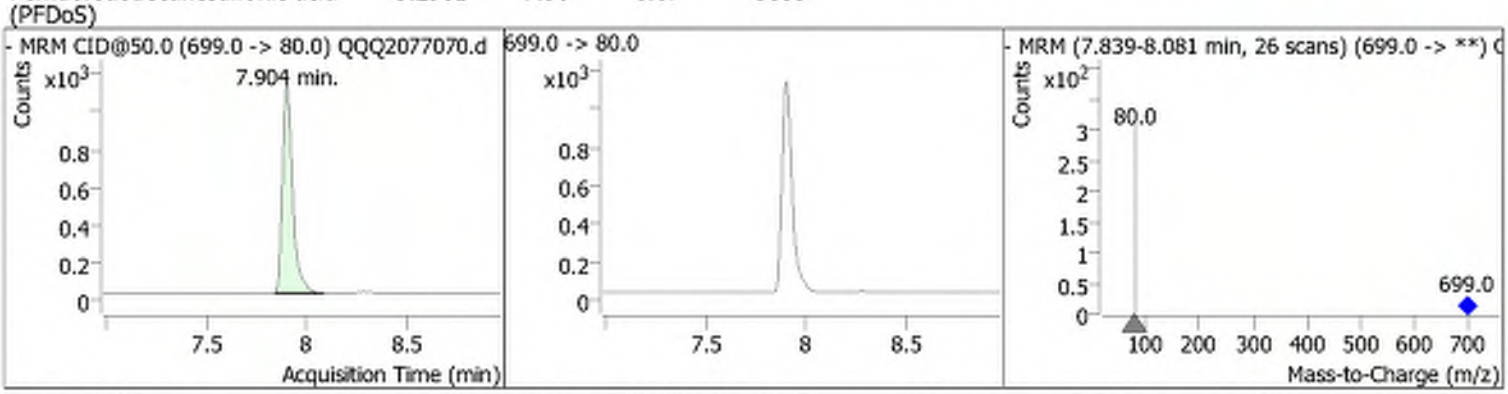


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.1924	7.63	-0.07	15338				

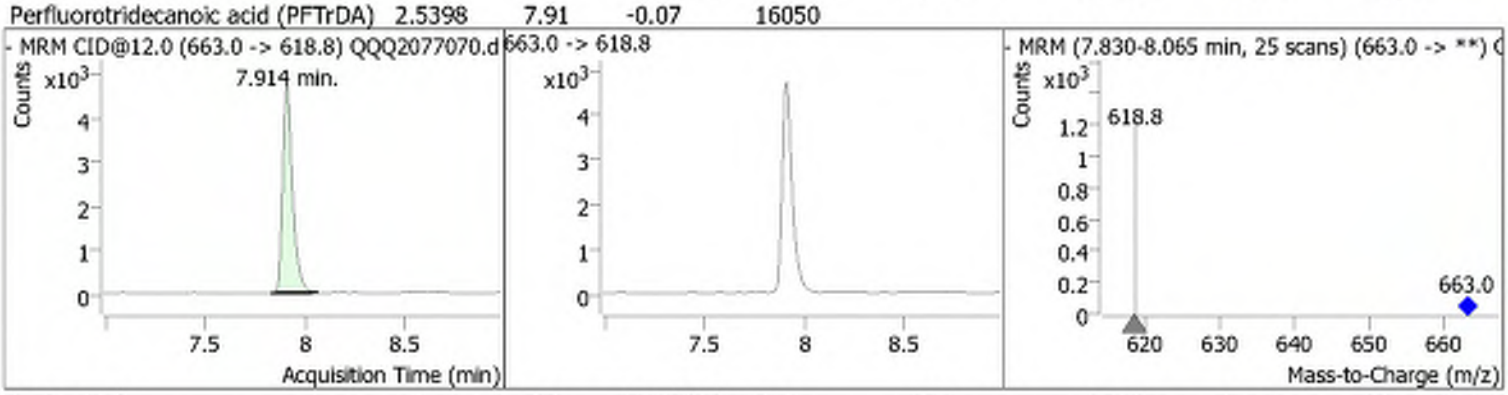


Quantitation Results Report (Not Reviewed)

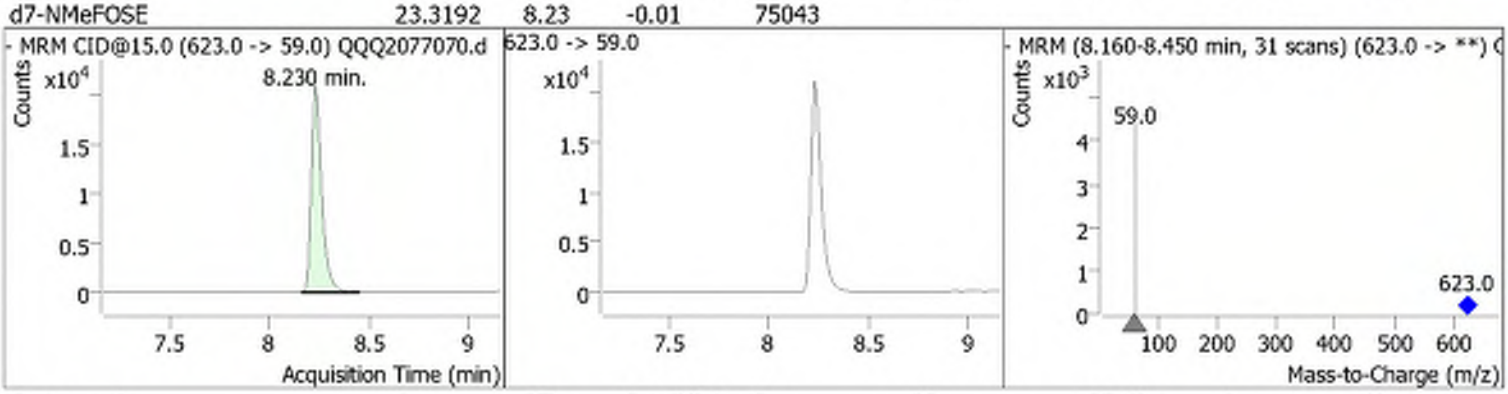
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	3.2981	7.90	-0.07	3853				



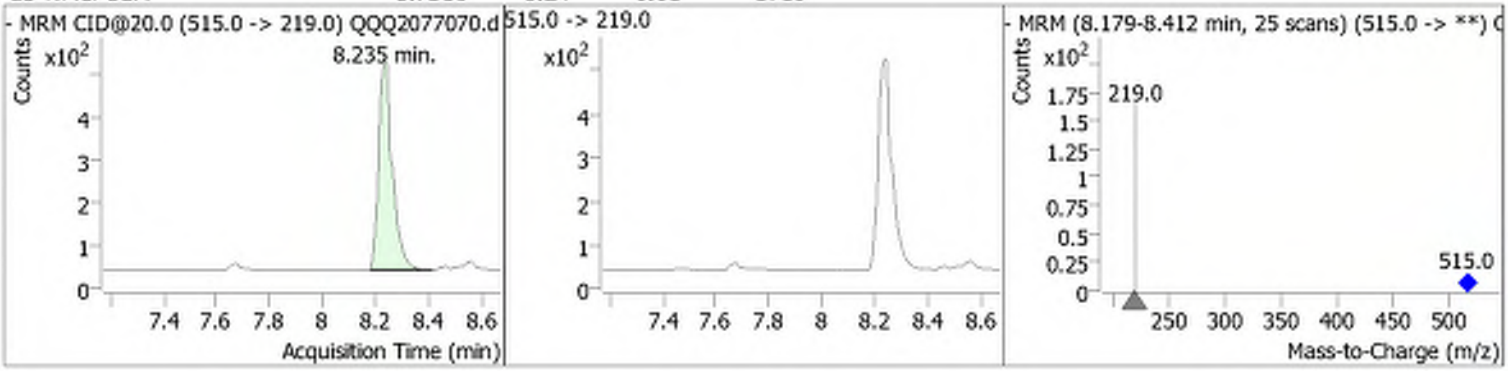
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.5398	7.91	-0.07	16050				



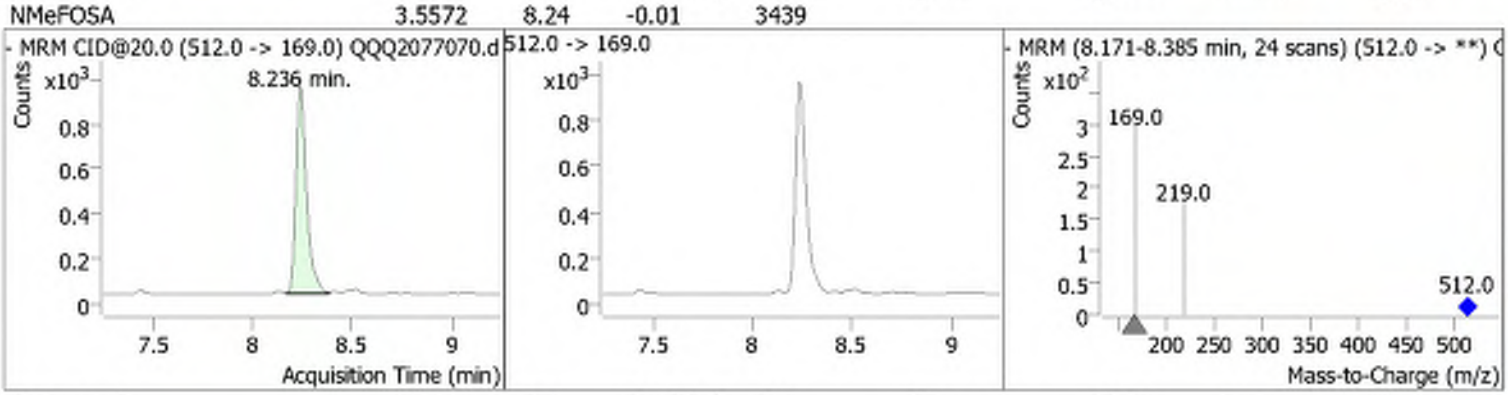
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	23.3192	8.23	-0.01	75043				



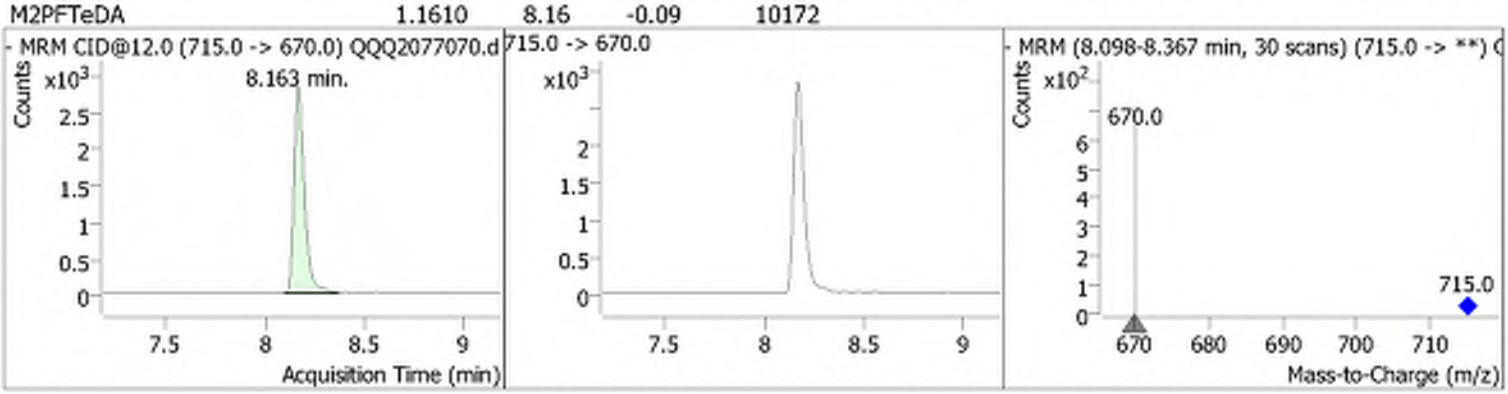
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.7316	8.24	-0.01	1719				



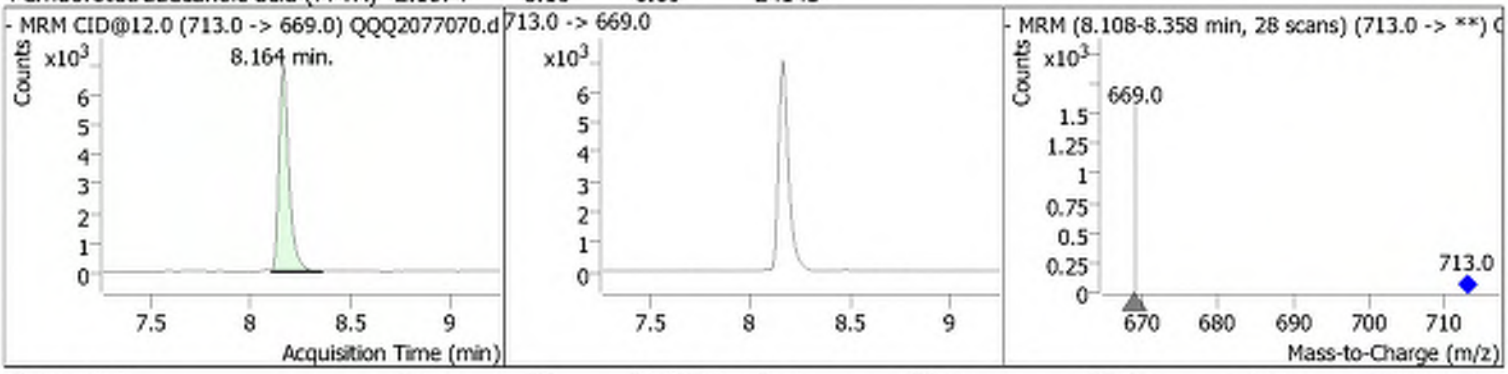
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	3.5572	8.24	-0.01	3439				



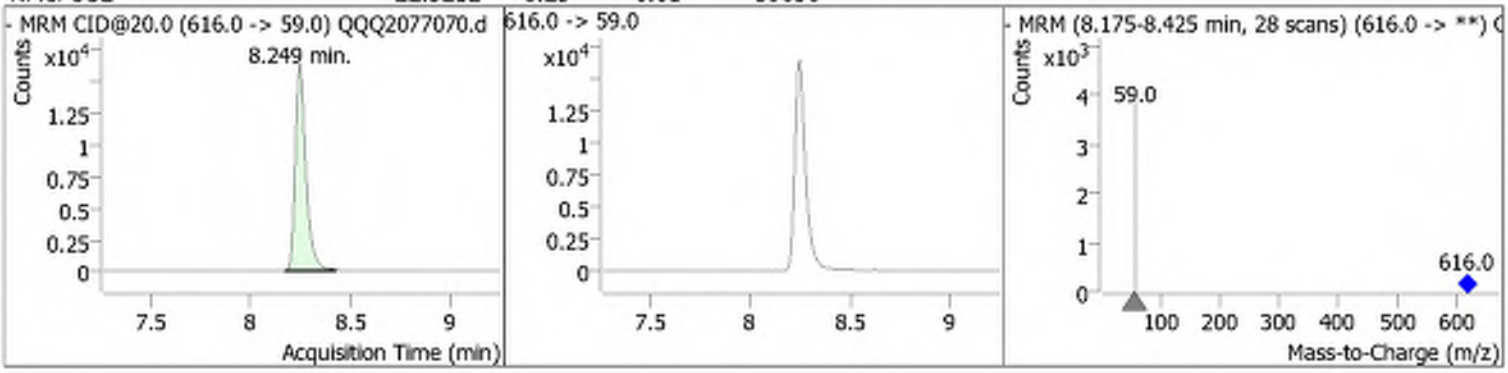
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.1610	8.16	-0.09	10172				



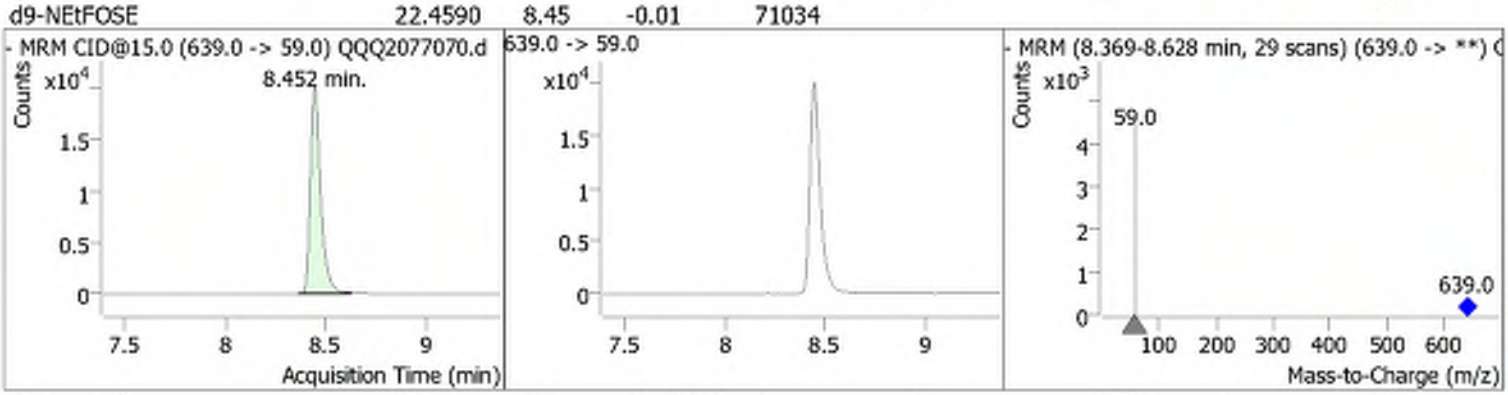
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.1074	8.16	-0.09	24145				



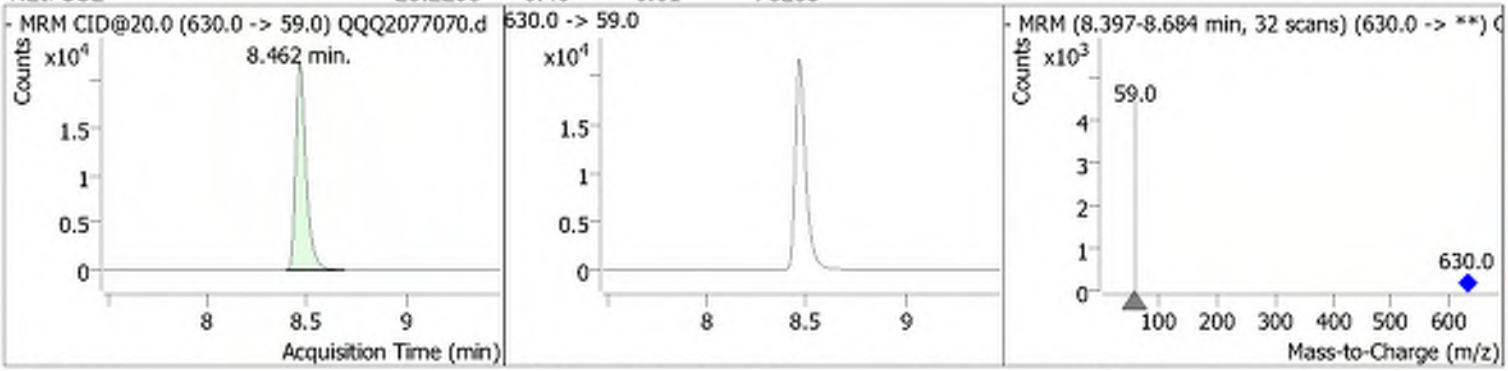
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	22.5212	8.25	-0.01	59656				



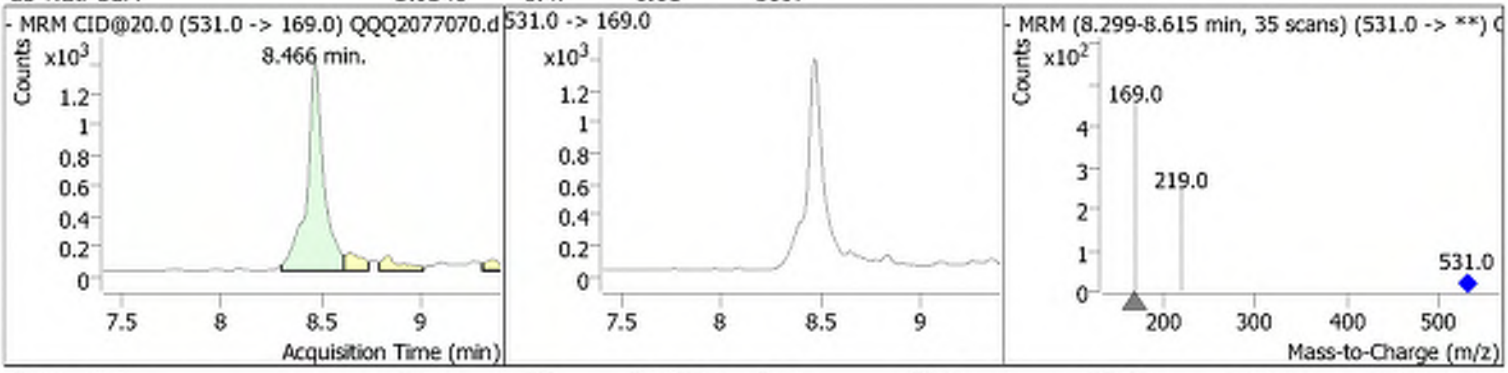
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	22.4590	8.45	-0.01	71034				



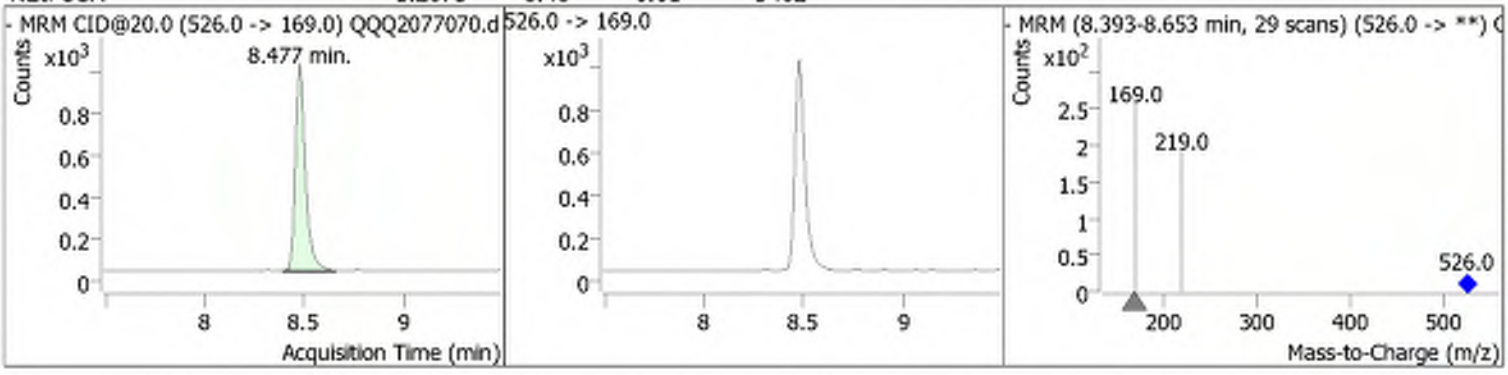
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	23.2208	8.46	-0.01	78283				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	5.9340	8.47	-0.01	8097				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.2673	8.48	-0.01	3462				



METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: PFAS
METHOD: EPA 1633 Draft 2

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.175	U
307-24-4	Perfluorohexanoic acid (PFHxA)	0.198	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.198	U
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.181	U
335-67-1	Perfluorooctanoic acid (PFOA)	0.198	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.184	U
375-95-1	Perfluorononanoic acid (PFNA)	0.198	U
335-76-2	Perfluorodecanoic acid (PFDA)	0.198	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.198	U
307-55-1	Perfluorododecanoic acid (PFDoA)	0.198	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	0.198	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	0.198	U
2355-31-9	N-MeFOSAA	0.198	U
2991-50-6	N-EtFOSAA	0.198	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.395	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	0.198	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	0.198	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	0.191	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.751	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.759	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	0.791	U
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.352	U
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	0.395	U
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	0.395	U
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	0.395	U
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	0.186	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	0.741	U
13252-13-6	HFPO-DA (Gen-X)	0.791	U
763051-92-9	11CL-PF3OUdS	0.747	U
756426-58-1	9CL-PF3ONS	0.739	U

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
919005-14-4	ADONA	0.747	U
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	0.192	U
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	0.190	U
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	0.988	U
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	4.94	U
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	4.94	U
24448-09-7	N-MeFOSE	1.98	U
31506-32-8	N-MeFOSA	0.198	U
1691-99-2	N-EtFOSE	1.98	U
4151-50-2	N-EtFOSA	0.198	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
M3PFBS	2.30	3.07	133	25 - 150	
M5PFHxA	2.47	2.53	103	25 - 150	
M4PFHpA	2.47	2.51	102	25 - 150	
M3PFHxS	2.34	2.11	90.0	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.47	1.68	68.2	25 - 150	
M6PFDA	1.24	0.747	60.5	25 - 150	
M7PFUdA	1.24	0.899	72.8	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.24	0.865	70.1	25 - 150	
M2PFTeDA	1.24	0.851	68.9	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.88	9.59	97.0	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.37	1.40	59.0	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.94	5.33	108	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.47	1.69	68.3	10 - 150	
d3-N-MeFOSAA	4.94	3.63	73.5	25 - 150	
d5-N-EtFOSAA	4.94	3.13	63.4	25 - 150	
M2-6:2 FTS	4.70	4.09	87.1	25 - 200	
M2-8:2 FTS	4.74	2.19	46.1	25 - 200	
M9PFNA	1.24	0.853	69.0	25 - 150	
M2-4:2 FTS	4.63	6.42	138	25 - 150	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
d-N-MeFOSA	2.47	1.23	49.6	25 - 150	
d-N-EtFOSA	2.47	4.71	191	25 - 150	*
M3HFPO-DA	9.88	11.9	120	25 - 150	
d9-N-EtFOSE	24.7	12.8	51.8	25 - 150	
d7-N-MeFOSE	24.7	13.8	55.7	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M3PFBA	30889.11	1.1611	41535.98	1.170283	
MPFDA	7757.067	6.92065	12111.04	6.929983	
MPFHxA	25296.07	4.651033	34350.99	4.651017	
MPFHxS	2231.415	5.4848	2353.21	5.475517	
MPFNA	9214.575	6.483033	11748.85	6.48305	
MPFOA	24400.69	5.9794	31416.88	5.979383	
MPFOS	5901.159	6.510433	8003.365	6.51045	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	818.2249	6.482917	2173.213	6.492567	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	9169.312	5.969467	16839.11	5.979116	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	22091.28	3.3317	27998.21	3.331683	
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	41048.38	1.158817	57179.55	1.168	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	4350.685	7.635783	8627.707	7.635783	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	1207.14	6.509933	3377.967	6.50995	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	8274.225	7.509883	15092.67	7.509883	
M7PFUdA-EIS	5428.191	7.302134	10221.27	7.302134	
M6PFDA-EIS	2276.922	6.920417	4125.718	6.92975	
M5PFHxA-EIS	17512.71	4.65945	23904.9	4.650183	
M4PFHpA-EIS	19584.98	5.392617	29725.46	5.392583	
M3PFHxS-EIS	5316.966	5.485267	9173.132	5.475966	
M3PFBS-EIS	9210.424	3.836967	10243.35	3.83695	
M3-HFPO-DA-EIS	47829.32	4.913317	59955.33	4.9133	
M2PFTeDA-EIS	4517.044	8.172717	9651.079	8.181983	
M2-8-2FTS-EIS	1254.396	6.910634	3017.819	6.910634	
M2-6-2FTS-EIS	2730.035	5.941033	5064.052	5.941033	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30533-BLK1	File ID:	QQQ2076923.d
Prepared:	05/08/23 17:34	Preparation:	EPA 1633 Prep	Initial/Final:	5.06 g / 5 mL
Analyzed:	05/10/23 12:29	Instrument:	QQQ-2		
Batch:	BE30533	Sequence:	S3E1022	Calibration:	SD30043

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M2-4-2FTS-EIS	7892.759	4.5935	9246.764	4.584233	
d9-NEtFOSE-EIS	25515.78	8.4521	61191.54	8.4521	
d7-NMeFOSE-EIS	27915.07	8.239516	68869.74	8.239533	
d5-NEtFOSA-EIS	4096.898	8.475417	4800.792	8.466166	
d5-N-EtFOSAA-EIS	6356.335	7.283017	13917.59	7.283017	
d3-NMeFOSA-EIS	767.8902	8.244766	2199.075	8.235517	
d3-N-MeFOSAA-EIS	7333.225	7.096517	14349.41	7.096517	

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076923.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 12:29:15 PM
Sample Name	BE30533-BLK1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.161	216.0 -> 172.0	30889	5.0000	ng/ml		-0.046
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.159	217.0 -> 172.0	41048	10.0000	ng/ml		-0.046
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.332	268.0 -> 223.0	22091	5.0000	ng/ml		-0.056
MPFHxA	4.651	315.0 -> 269.8	25296	2.5000	ng/ml		-0.047
MPFHxS	5.485	403.0 -> 103.0	2231	2.3700	ng/ml		-0.037
M3PFBS-EIS	3.837	302.0 -> 79.9	9210	2.3300	ng/ml		-0.055
M5PFHxA-EIS	4.659	318.0 -> 273.0	17513	2.5000	ng/ml		-0.037
M2-4-2FTS-EIS	4.594	329.0 -> 309.0	7893	4.6900	ng/ml		-0.037
M3PFHxS-EIS	5.485	402.0 -> 80.0	5317	2.3700	ng/ml		-0.047
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	47829	10.0000	ng/ml		-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	19585	2.5000	ng/ml		-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	2730	4.7550	ng/ml		-0.056
MPFOA	5.979	417.0 -> 372.0	24401	2.5000	ng/ml		-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	9169	2.5000	ng/ml		-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.510	507.0 -> 98.9	1207	2.3950	ng/ml		-0.056
MPFNA	6.483	468.0 -> 423.0	9215	1.2500	ng/ml		-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.483	472.0 -> 223.0	818	1.2500	ng/ml		-0.056
MPFOS	6.510	503.0 -> 80.0	5901	2.3950	ng/ml		-0.065
M2-8-2FTS-EIS	6.911	529.0 -> 509.0	1254	4.8000	ng/ml		-0.056
MPFDA	6.921	515.0 -> 469.8	7757	1.2500	ng/ml		-0.065
M6PFDA-EIS	6.920	519.0 -> 473.9	2277	1.2500	ng/ml		-0.065
d3-N-MeFOSAA-EIS	7.097	573.0 -> 418.8	7333	5.0000	ng/ml		-0.056
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	6356	5.0000	ng/ml		-0.065
M7PFUdA-EIS	7.302	570.0 -> 525.0	5428	1.2500	ng/ml		-0.065
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	8274	2.5000	ng/ml		-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.636	615.0 -> 570.0	4351	1.2500	ng/ml		-0.065
M2PFTeDA-EIS	8.173	715.0 -> 670.0	4517	1.2500	ng/ml		-0.084
d3-NMeFOSA-EIS	8.245	515.0 -> 219.0	768	2.5000	ng/ml		0.000
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	27915	25.0000	ng/ml		0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	25516	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.475	531.0 -> 169.0	4097	2.5000	ng/ml	m	0.000
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.159	217.0 -> 172.0	41048	9.7018	ng/ml		-0.046
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.332	268.0 -> 223.0	22091	5.3938	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.837	302.0 -> 79.9	9210	3.1032	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.594	329.0 -> 309.0	7893	6.4955	ng/ml		-0.037

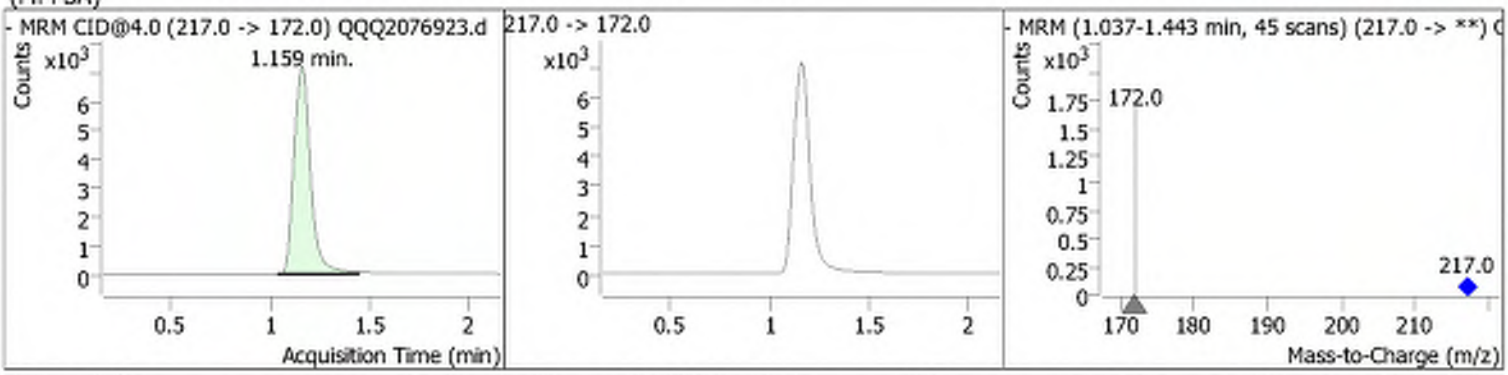
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%			
M5PFHxA	4.659	318.0 -> 273.0	17513	2.5631	ng/ml		-0.037
Spiked Amount:	Range: - %			Recovery = NA%			
M3-HFPO-DA	4.913	287.0 -> 169.0	47829	12.0041	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M4PFHpA	5.393	367.0 -> 322.0	19585	2.5380	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFHxS	5.485	402.0 -> 80.0	5317	2.1325	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M2-6-2FTS	5.941	429.0 -> 409.0	2730	4.1422	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	9169	1.7045	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.483	472.0 -> 223.0	818	0.8628	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.510	507.0 -> 98.9	1207	1.4130	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M2-8-2FTS	6.911	529.0 -> 509.0	1254	2.2141	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M6PFDA	6.920	519.0 -> 473.9	2277	0.7562	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d3-N-MeFOSAA	7.097	573.0 -> 418.8	7333	3.6735	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
d5-N-EtFOSAA	7.283	589.0 -> 418.8	6356	3.1687	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M7PFUdA	7.302	570.0 -> 525.0	5428	0.9097	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	8274	1.7080	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.636	615.0 -> 570.0	4351	0.8758	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d7-NMeFOSE	8.240	623.0 -> 59.0	27915	13.9164	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-NMeFOSA	8.245	515.0 -> 219.0	768	1.2410	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
M2PFTeDA	8.173	715.0 -> 670.0	4517	0.8616	ng/ml		-0.084
Spiked Amount:	Range: - %			Recovery = NA%			
d9-NEtFOSE	8.452	639.0 -> 59.0	25516	12.9424	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d5-NEtFOSA	8.475	531.0 -> 169.0	4052	4.7638	ng/ml	m	0.000
Spiked Amount:	Range: - %			Recovery = NA%			
Target Compounds							QValue
Perfluoro-n-butanoic acid (PFBA)	1.173	213.0 -> 168.9	75	0.0145	ng/ml		100
PFMPA	2.162	229.0 -> 85.0	8	0.0023	ng/ml		100
3:3FTCA	3.536	241.0 -> 177.0	3	0.0105	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	3.517	263.0 -> 219.0	20	0.0041	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	3.847	298.9 -> 79.9	5	0.0011	ng/ml		100
PFMBA	3.941	279.0 -> 85.0	4	0.0008	ng/ml		100
PFEESA	4.354	315.0 -> 135.0	84	0.0074	ng/ml		100
NFDHA	4.523	295.0 -> 201.1	34	0.0067	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	0	0.0002	ng/ml		100

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	26	0.0032	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.844	348.9 -> 79.9	17	0.0056	ng/ml	100
HFPO-DA	5.062	285.0 -> 169.1	14	0.0349	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	5.467	363.0 -> 318.8	40	0.0038	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	5.467	398.9 -> 79.9	32	0.0106	ng/ml	100
5-3FTCA	5.366	341.0 -> 217.0	25	0.0260	ng/ml	100
ADONA	5.607	377.0 -> 85.0	20	0.0033	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.951	427.0 -> 407.0	1	0.0024	ng/ml	100
Perfluorooctanoic acid (PFOA)	6.064	413.0 -> 368.8	232	0.0439	ng/ml	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.250	448.9 -> 80.0	1	0.0007	ng/ml	100
Perfluorononanoic acid (PFNA)	6.399	463.0 -> 418.8	24	0.0052	ng/ml	100
Perfluorooctanesulfonic acid (PFOS)	6.520	498.9 -> 79.9	38	0.0620	ng/ml	100
7-3FTCA	6.624	441.0 -> 337.0	10	0.0067	ng/ml	100
9-Cl-PF3ONS	6.779	531.0 -> 351.0	93	0.0138	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	7.267	527.0 -> 80.9	3	0.0081	ng/ml	100
Perfluorodecanoic acid (PFDA)	7.323	513.0 -> 468.8	41	0.0107	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	7.032	548.9 -> 79.9	0	0.0004	ng/ml	100
N-MeFOSAA	7.069	570.0 -> 418.9	2	0.0016	ng/ml	100
N-EtFOSAA	7.628	584.0 -> 418.8	26	0.0272	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.161	598.9 -> 98.9	2	0.0051	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	7.349	563.0 -> 519.0	382	0.1089	ng/ml	100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	30	0.0052	ng/ml	100
11-Cl-PF3OUdS	7.523	631.0 -> 451.0	2	0.0006	ng/ml	100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	50	0.0166	ng/ml	100
Perfluorododecanesulfonic acid (PFDoS)	7.244	699.0 -> 80.0	39	0.0849	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	8.034	663.0 -> 618.8	10	0.0035	ng/ml	100
NMeFOSA	8.246	512.0 -> 169.0	30	0.0698	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	8.201	713.0 -> 669.0	43	0.0084	ng/ml	100
NMeFOSE	8.268	616.0 -> 59.0	8	0.0077	ng/ml	100
NEtFOSE	8.471	630.0 -> 59.0	81	0.0669	ng/ml	100
NEtFOSA	8.264	526.0 -> 169.0	19	0.0135	ng/ml	100

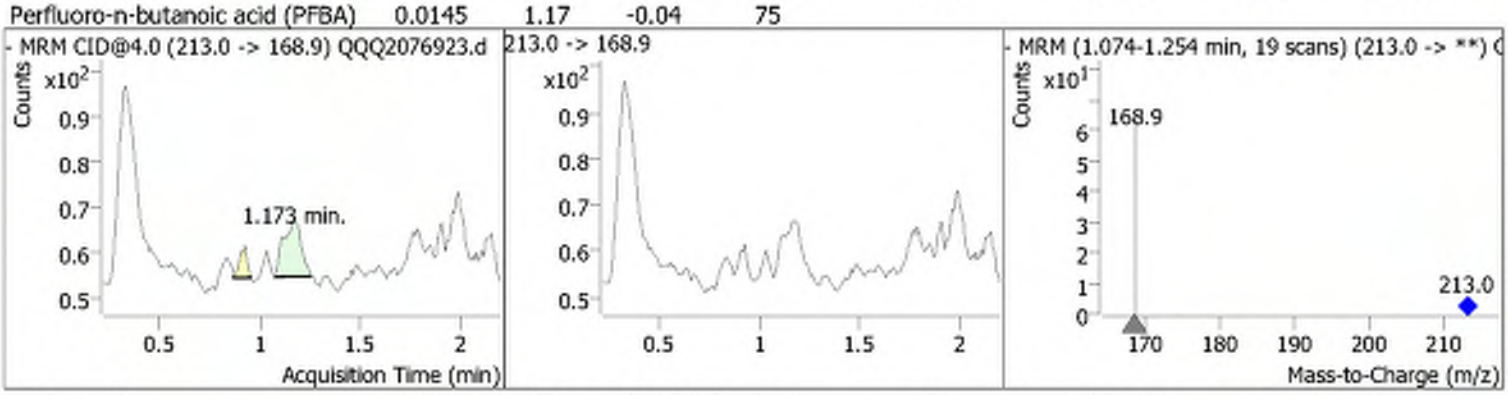
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitation Results Report (Not Reviewed)

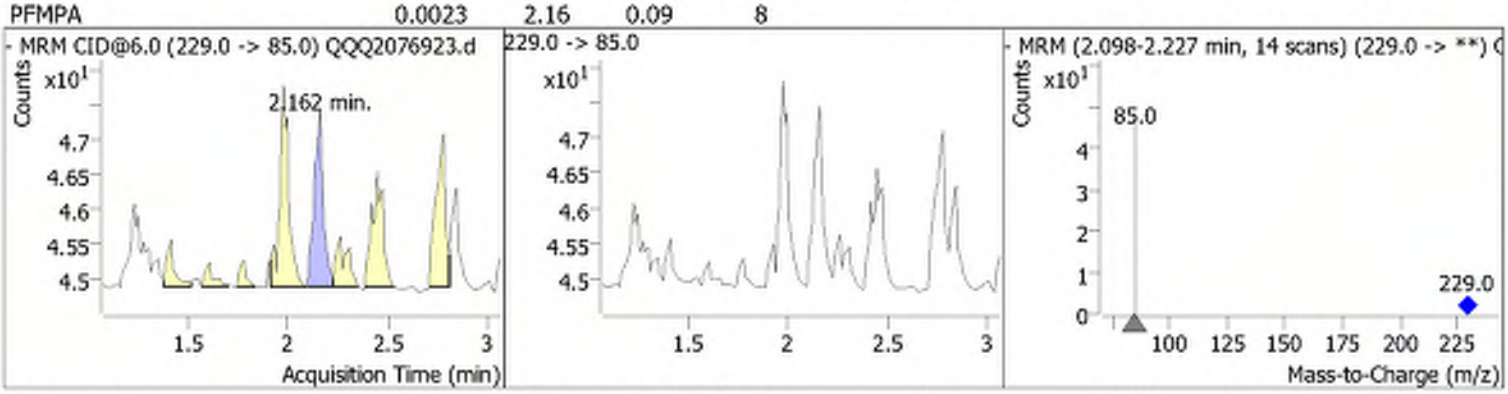
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.7018	1.16	-0.05	41048				



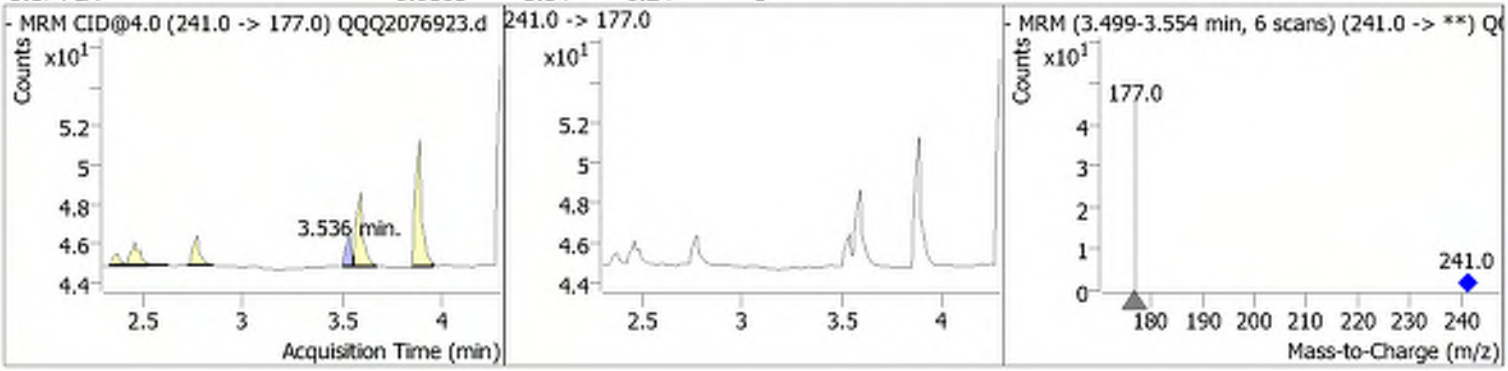
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0145	1.17	-0.04	75				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0023	2.16	0.09	8				

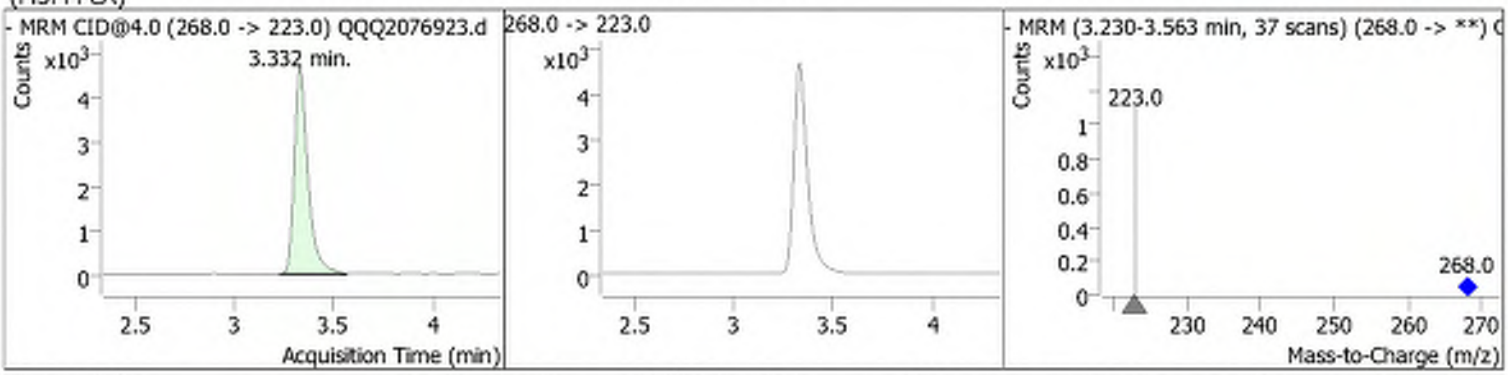


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.0105	3.54	0.24	3				

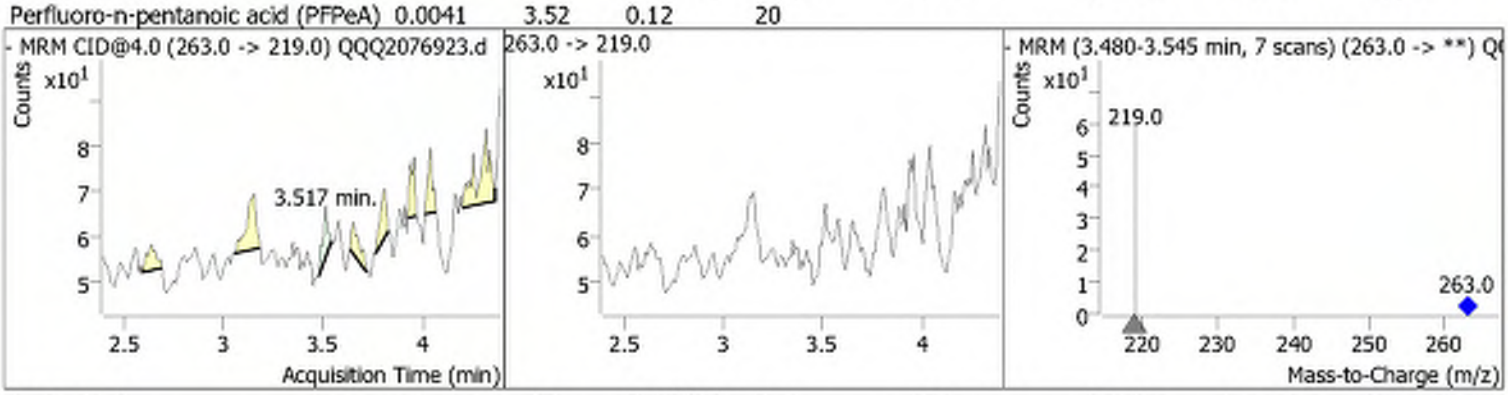


Quantitation Results Report (Not Reviewed)

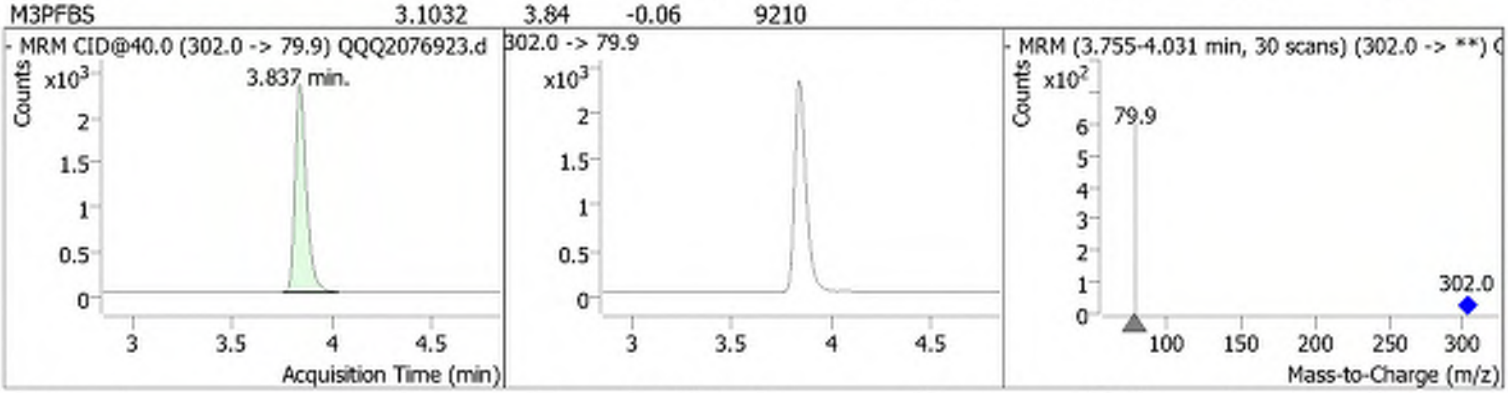
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.3938	3.33	-0.06	22091				



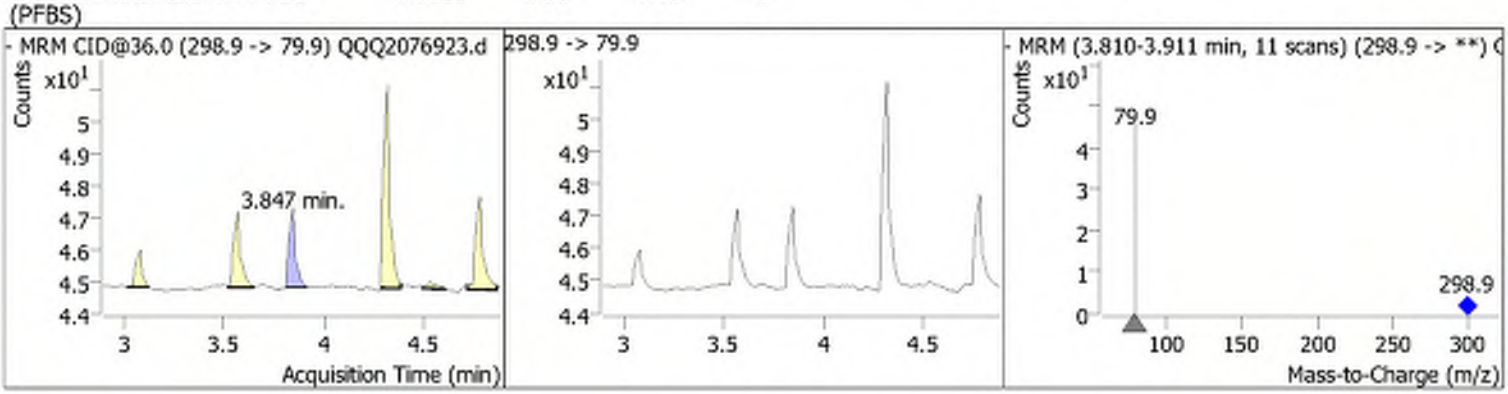
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0041	3.52	0.12	20				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.1032	3.84	-0.06	9210				



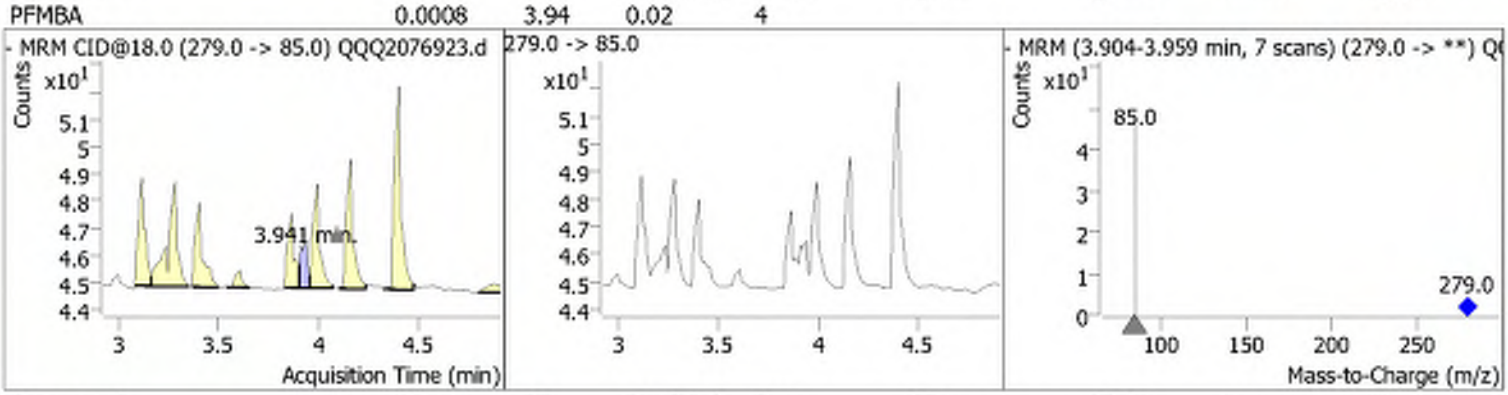
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0011	3.85	-0.05	5				



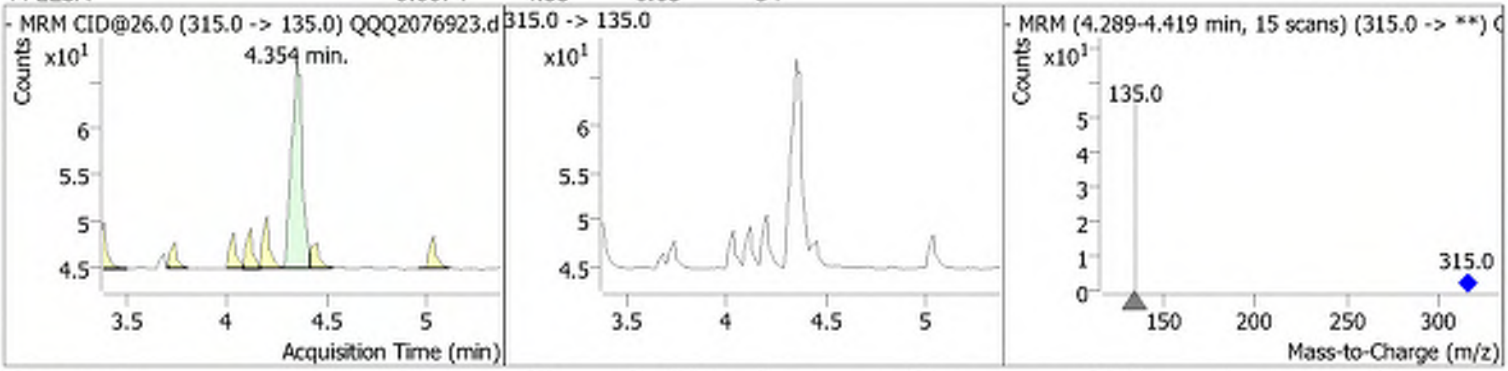
Quantitation Results Report (Not Reviewed)

Agilent

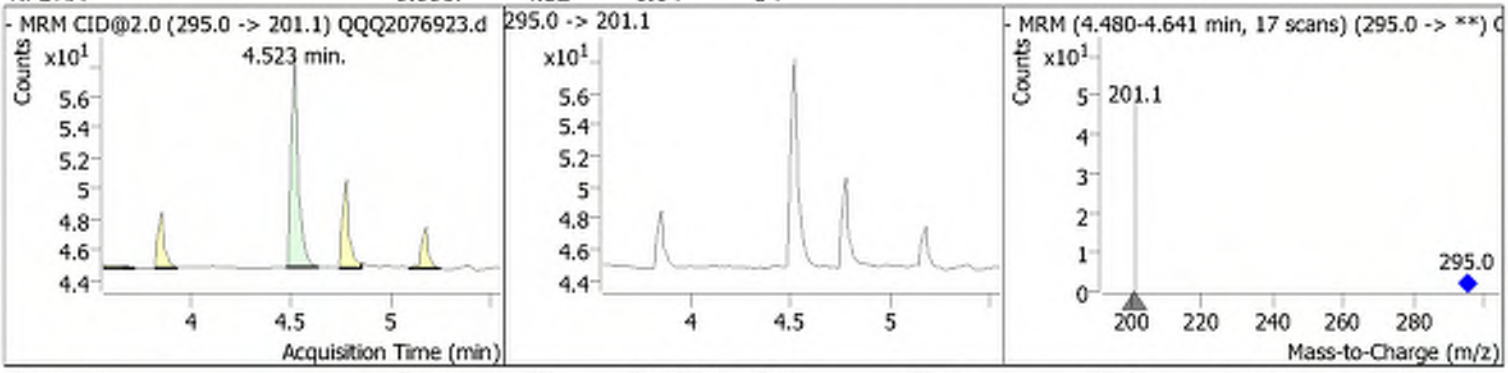
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0008	3.94	0.02	4				



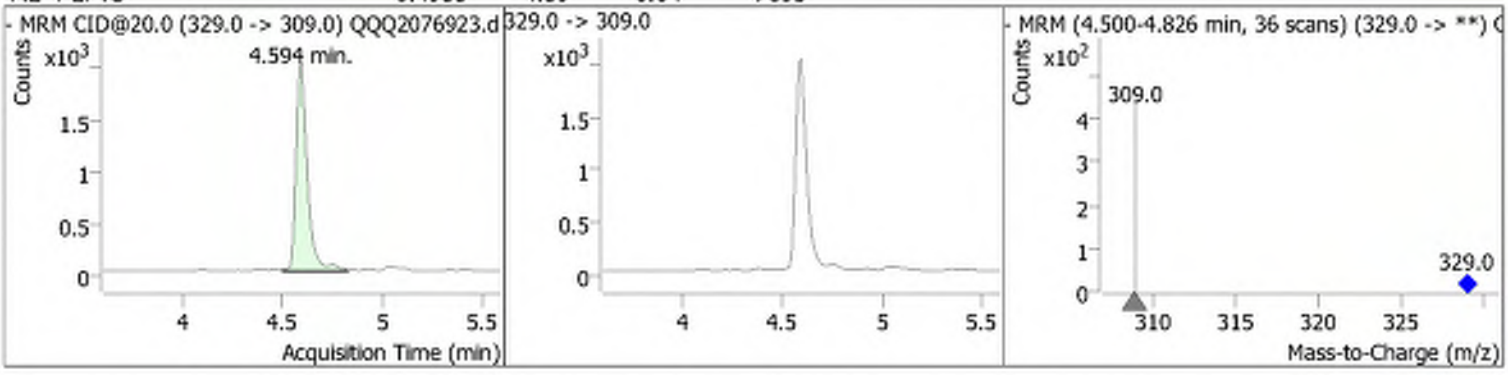
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0074	4.35	-0.03	84				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0067	4.52	-0.04	34				



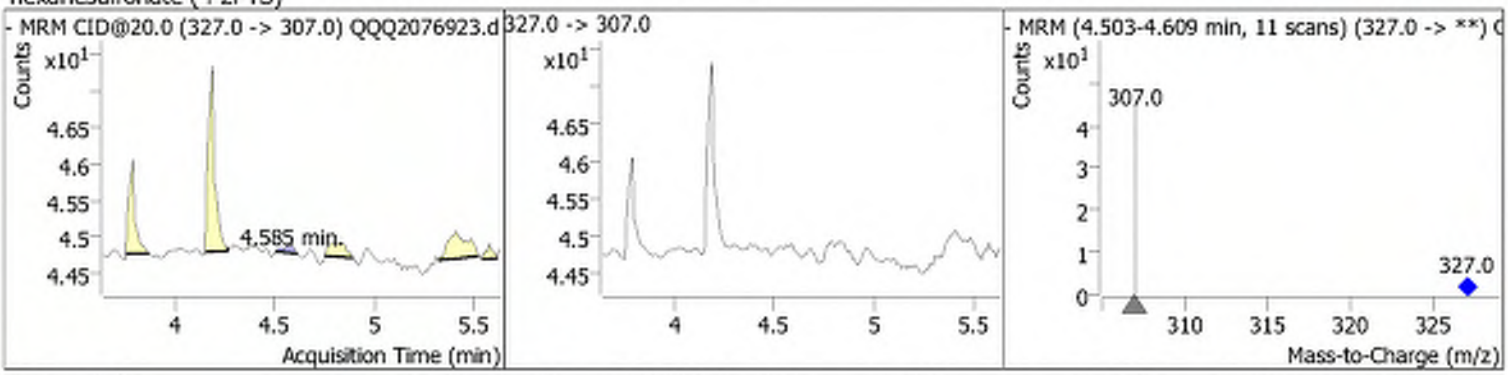
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	6.4955	4.59	-0.04	7893				



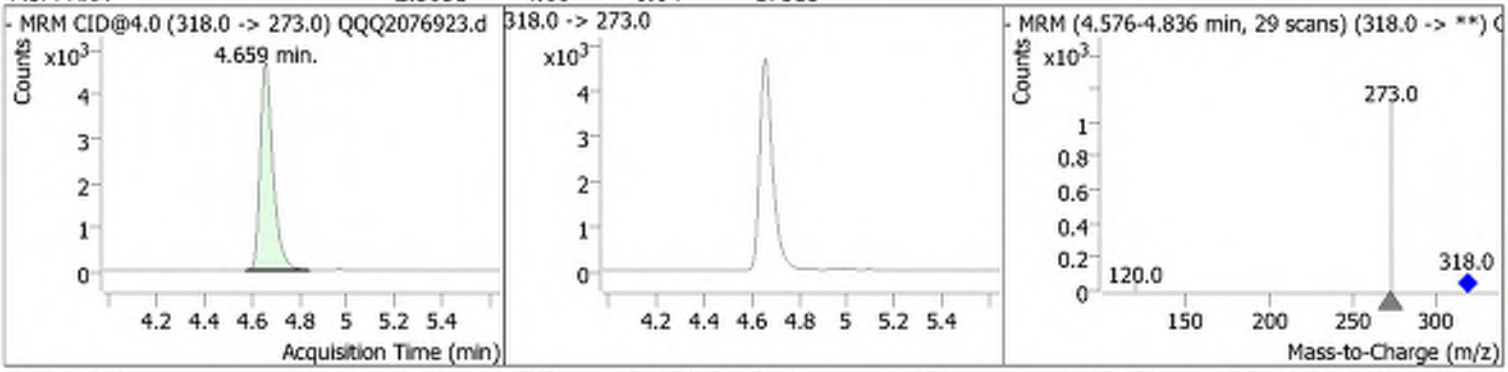
Quantitation Results Report (Not Reviewed)

Agilent

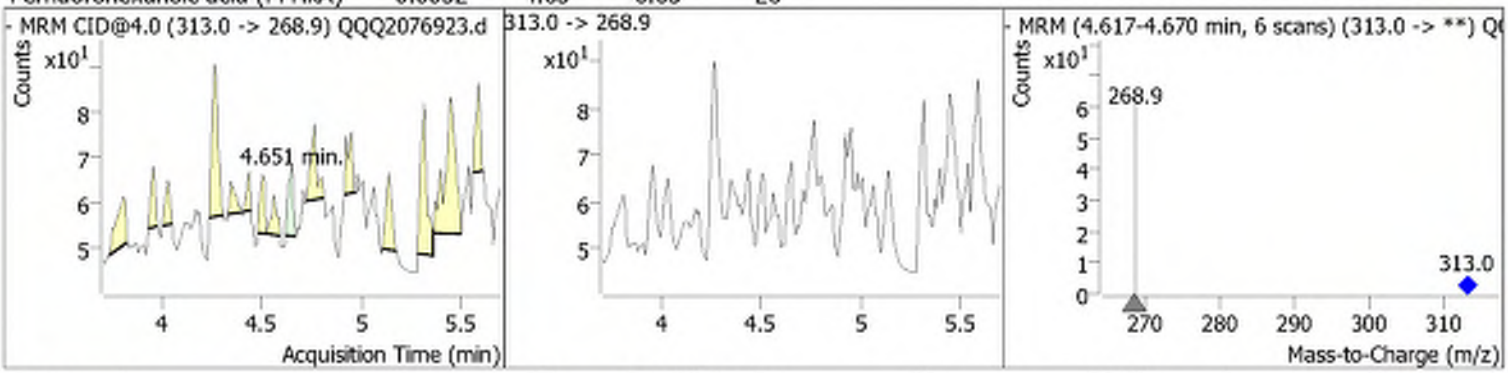
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0002	4.58	-0.05	0				



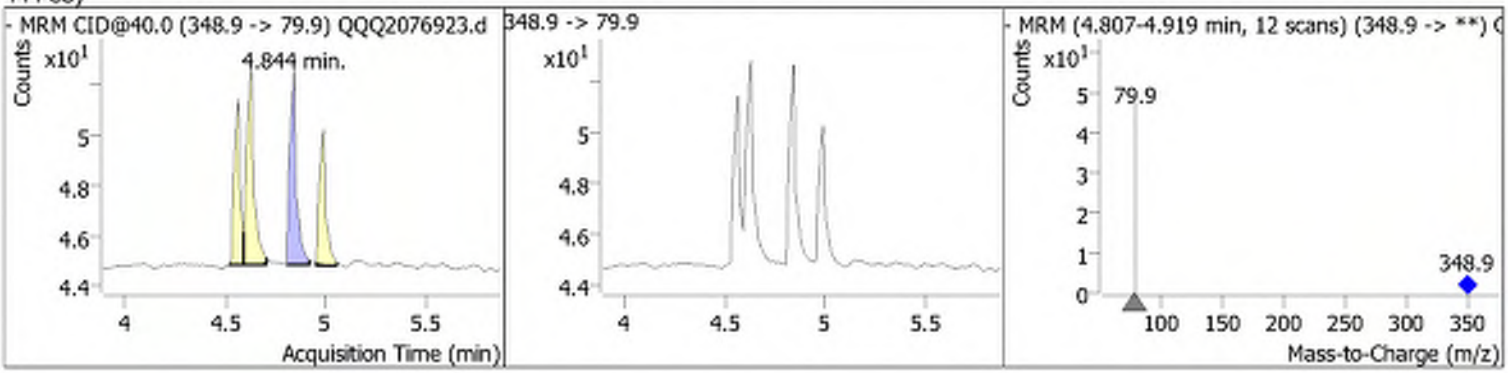
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5631	4.66	-0.04	17513				



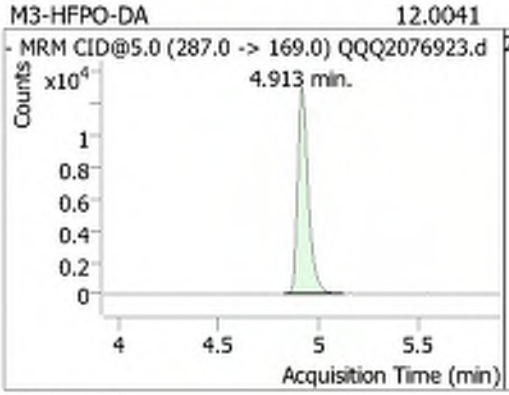
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0032	4.65	-0.05	26				

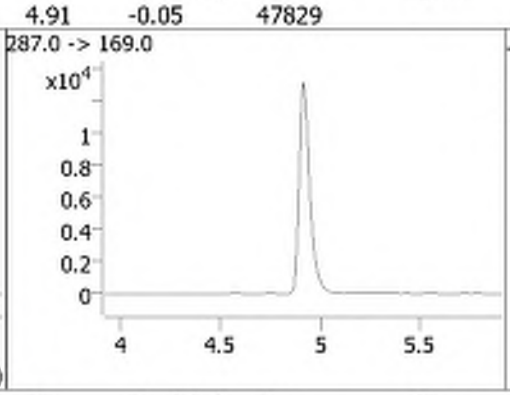


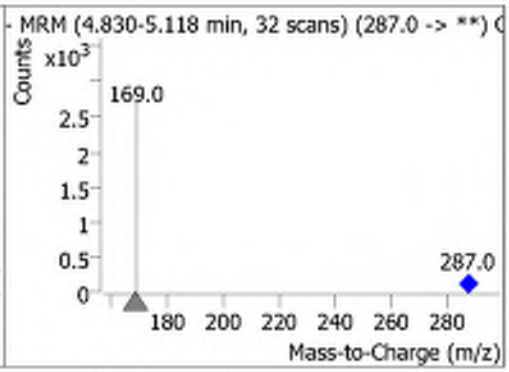
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0056	4.84	-0.04	17				



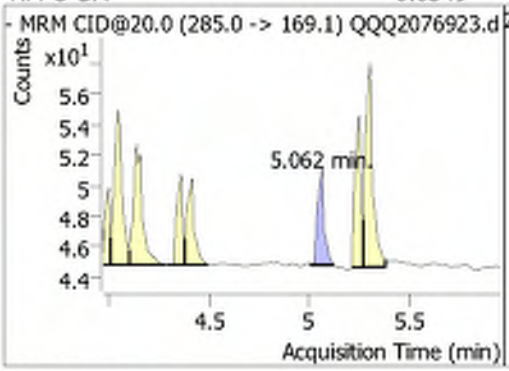
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	12.0041	4.91	-0.05	47829				

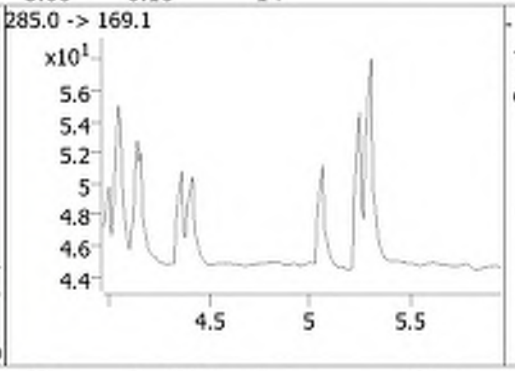


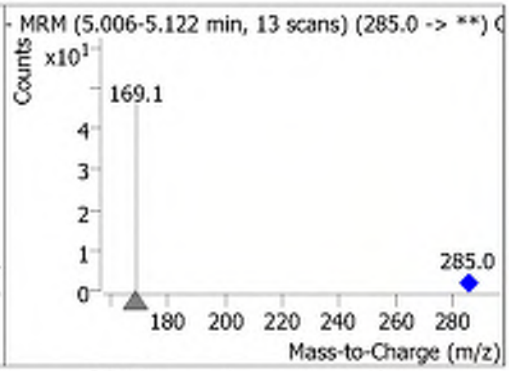




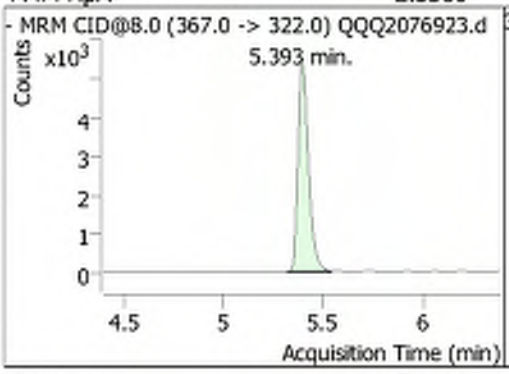
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0349	5.06	0.10	14				

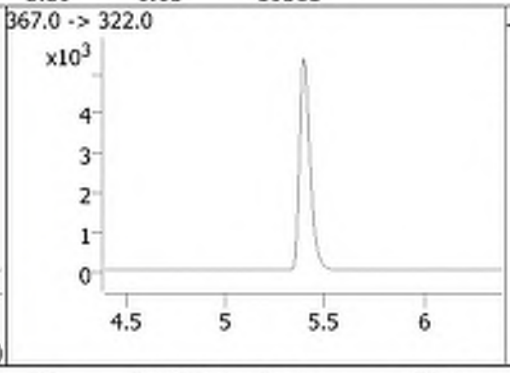


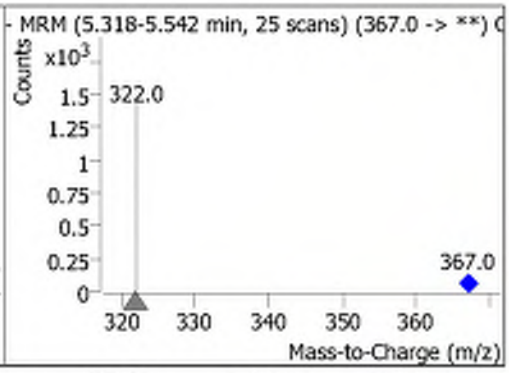




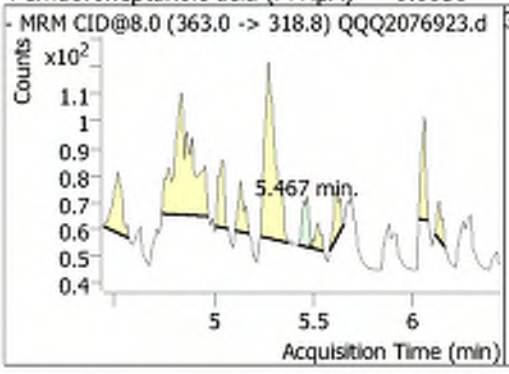
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.5380	5.39	-0.05	19585				

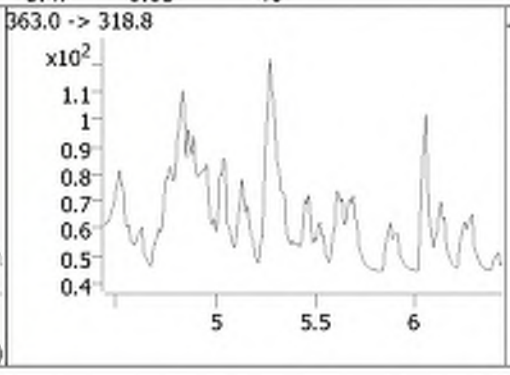


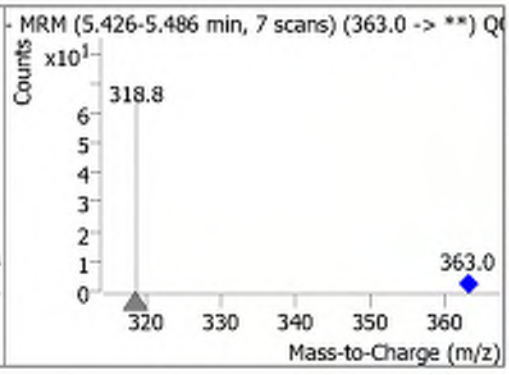




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0038	5.47	0.03	40				



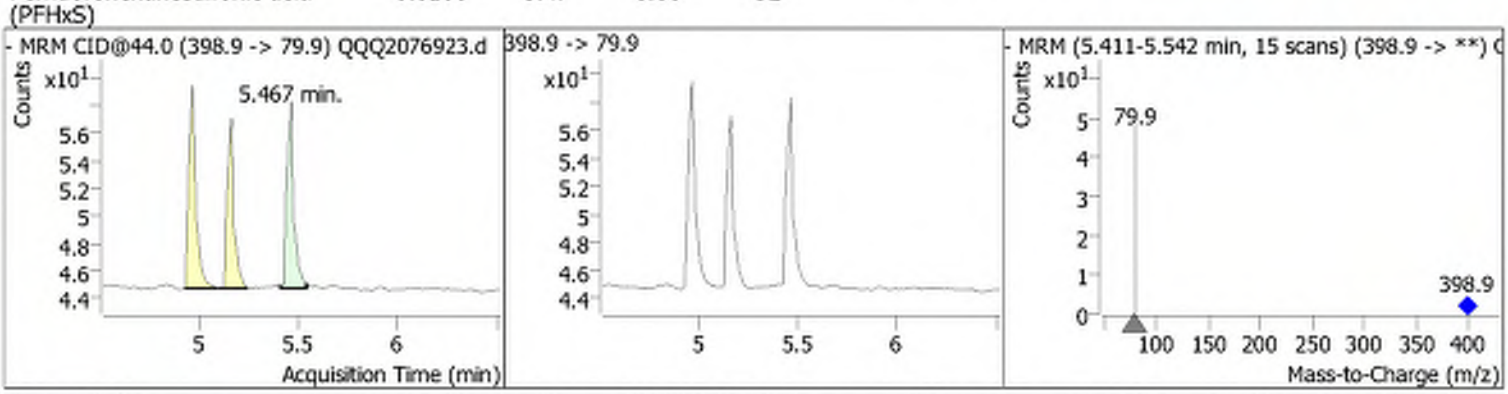




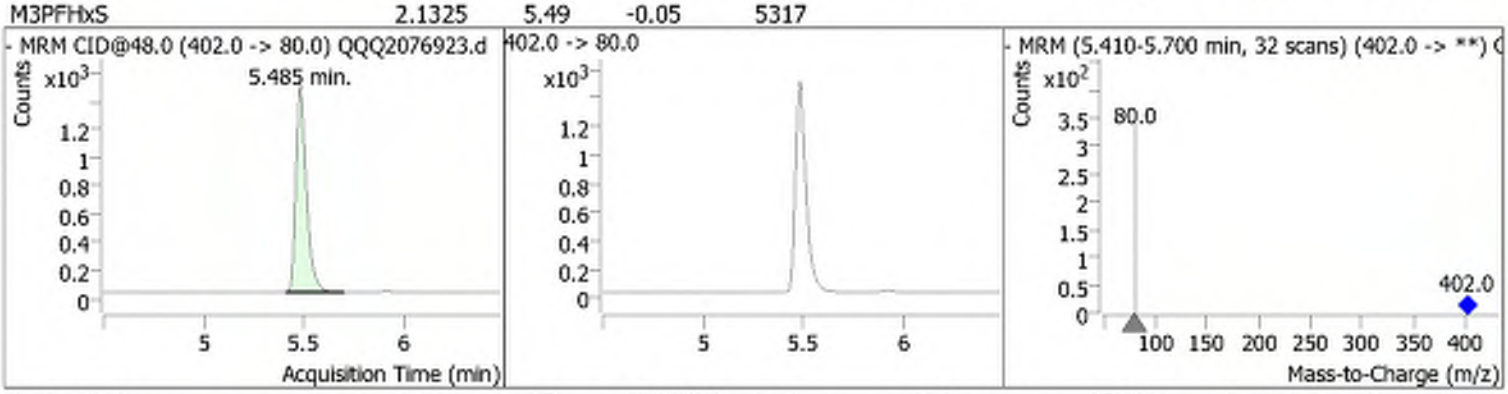
Quantitation Results Report (Not Reviewed)

Agilent

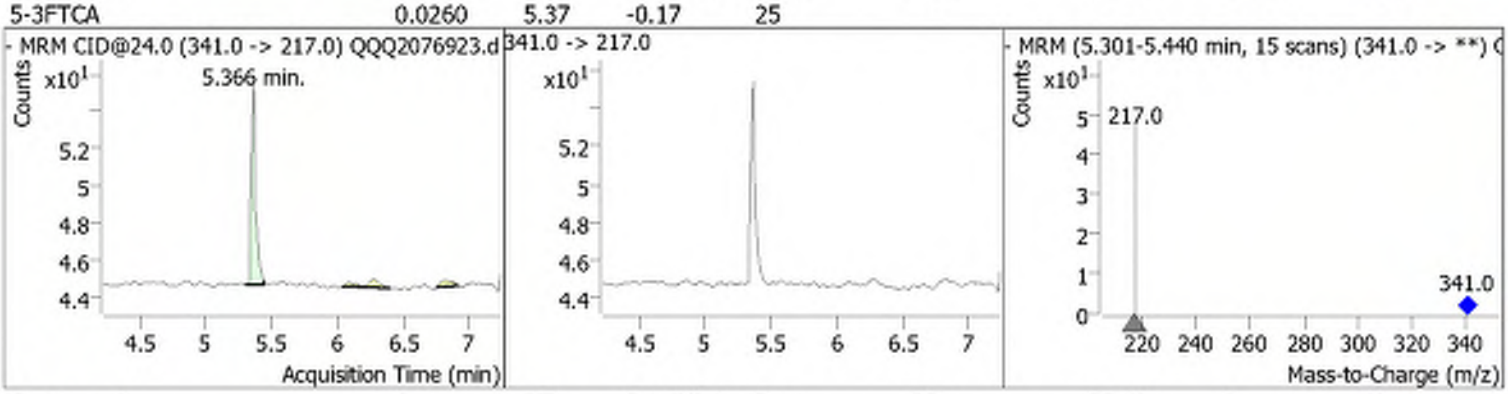
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0106	5.47	-0.06	32				



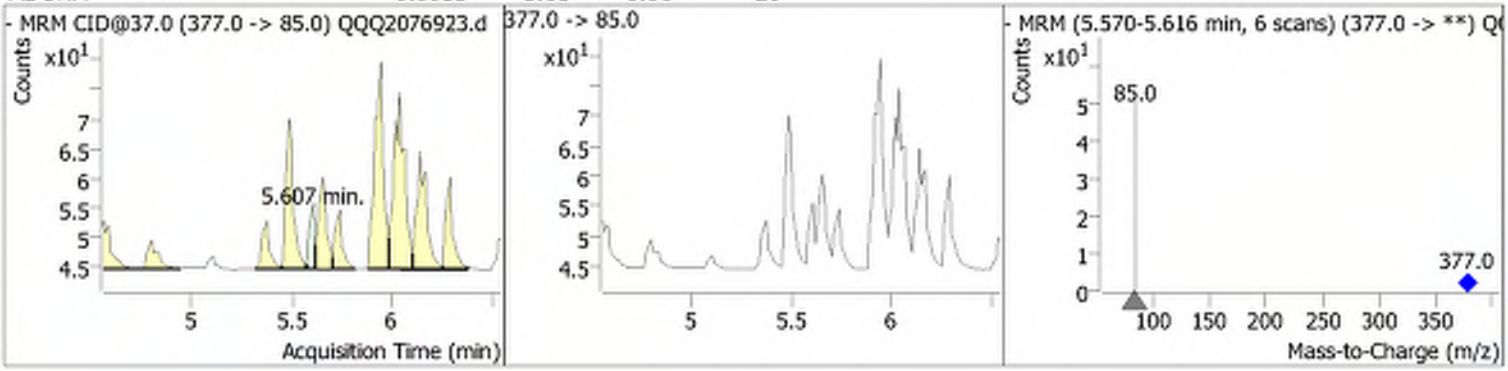
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.1325	5.49	-0.05	5317				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	0.0260	5.37	-0.17	25				

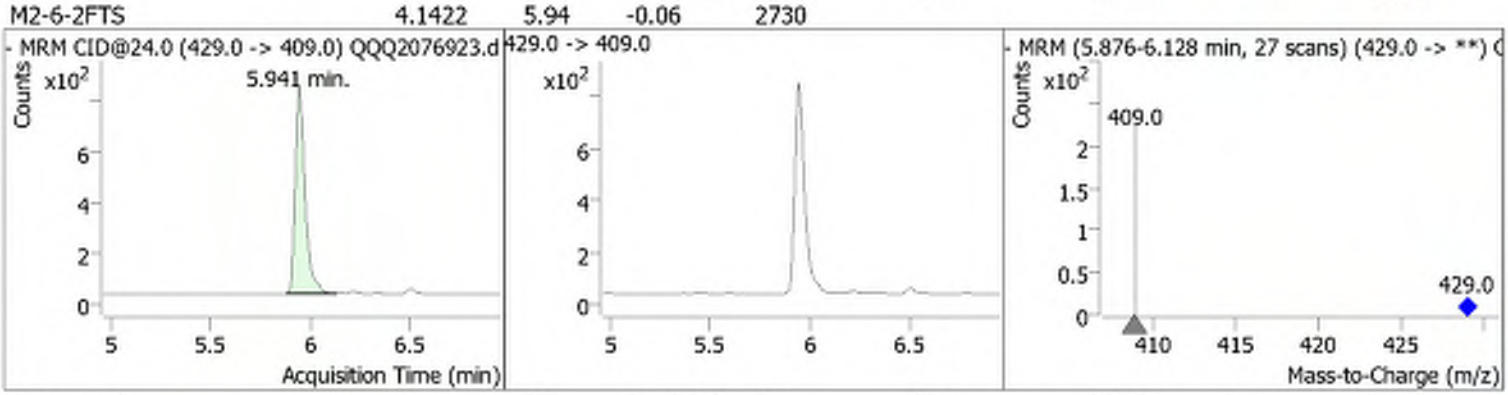


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0033	5.61	0.06	20				

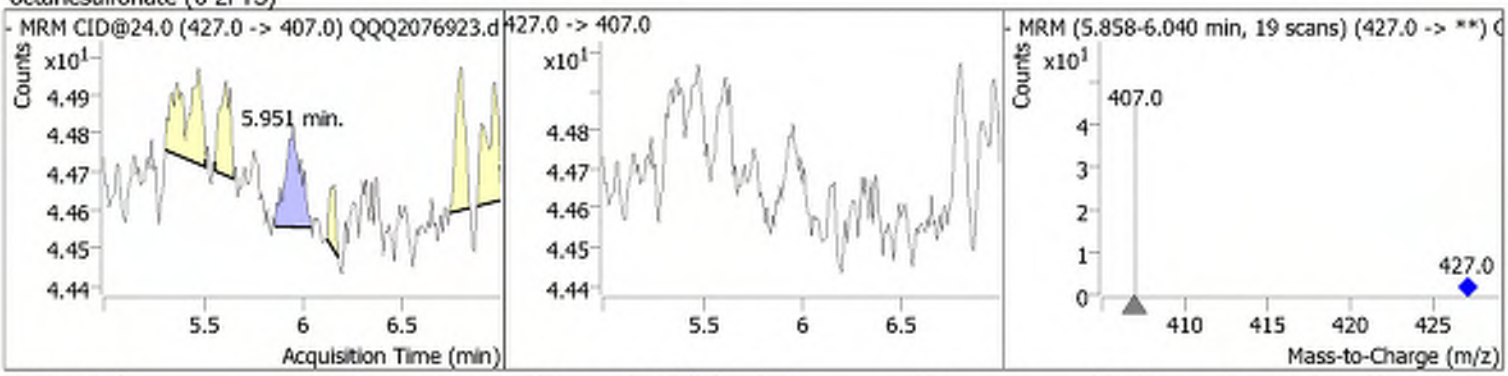


Quantitation Results Report (Not Reviewed)

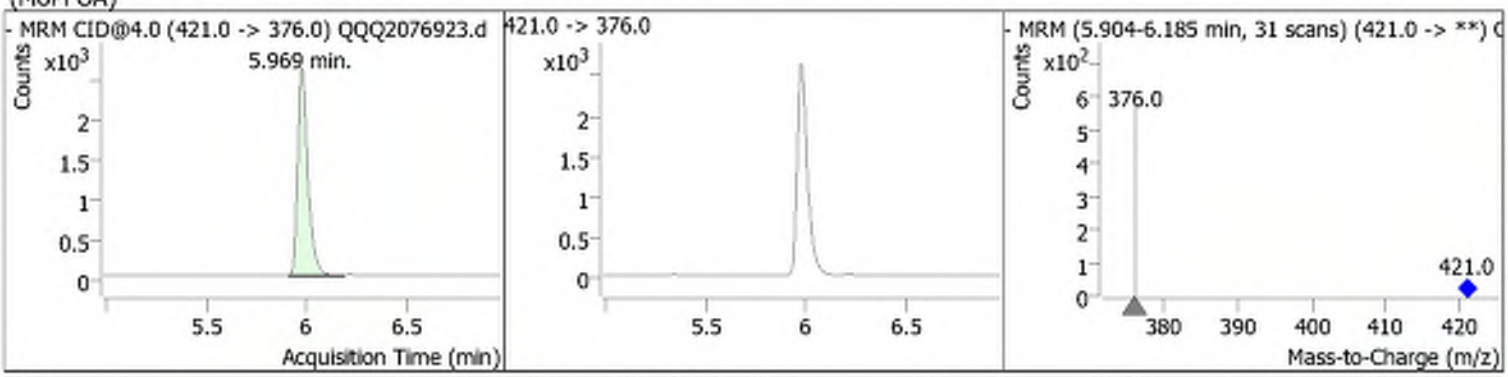
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.1422	5.94	-0.06	2730				



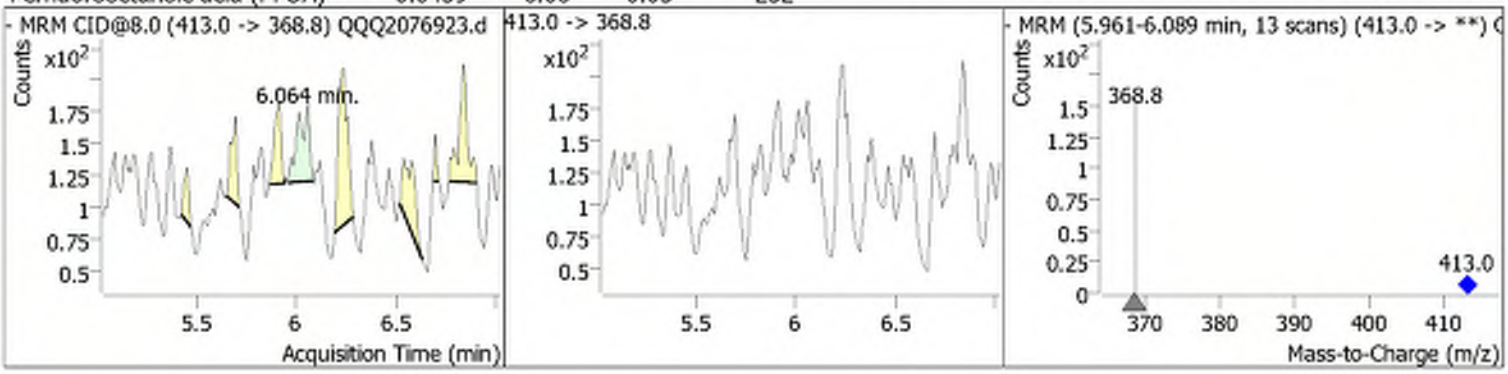
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0024	5.95	-0.05	1				



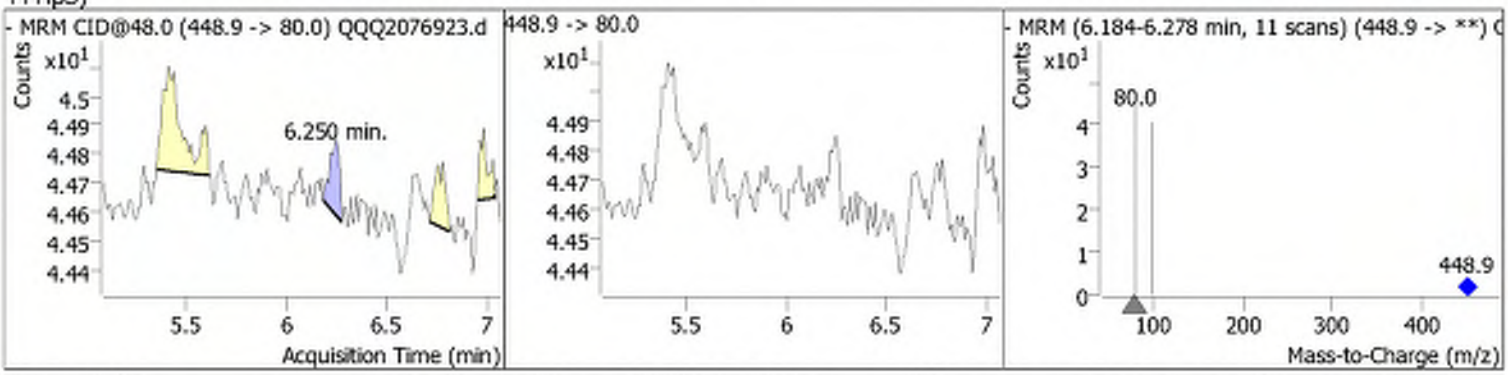
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	1.7045	5.97	-0.07	9169				



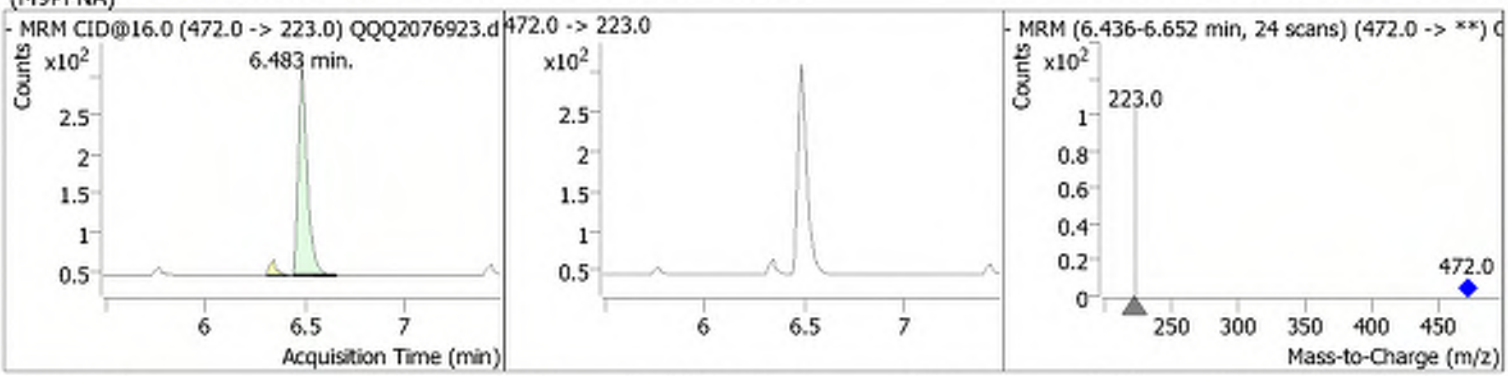
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0439	6.06	0.03	232				



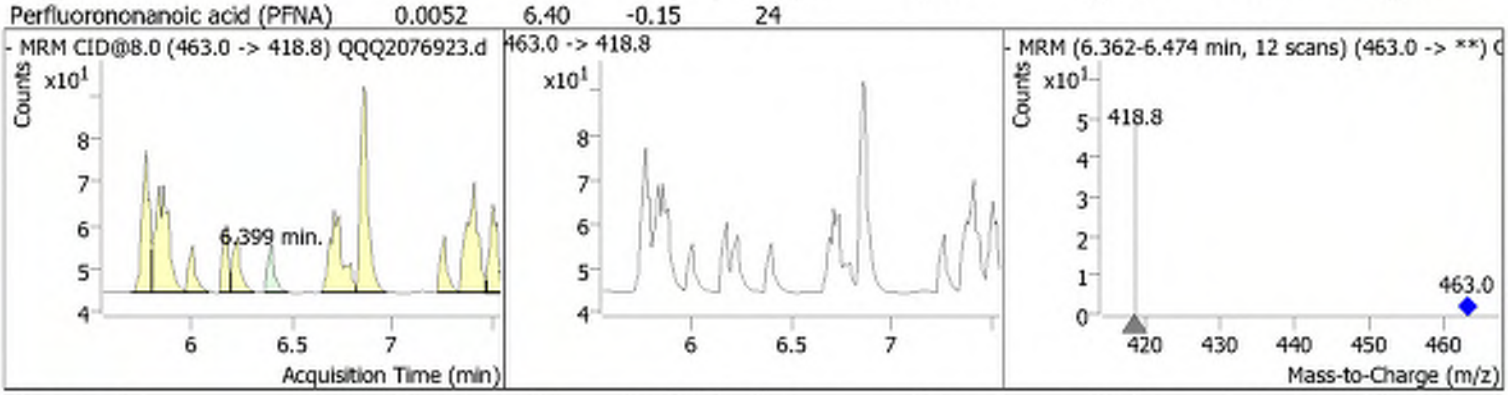
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0007	6.25	0.17	1				



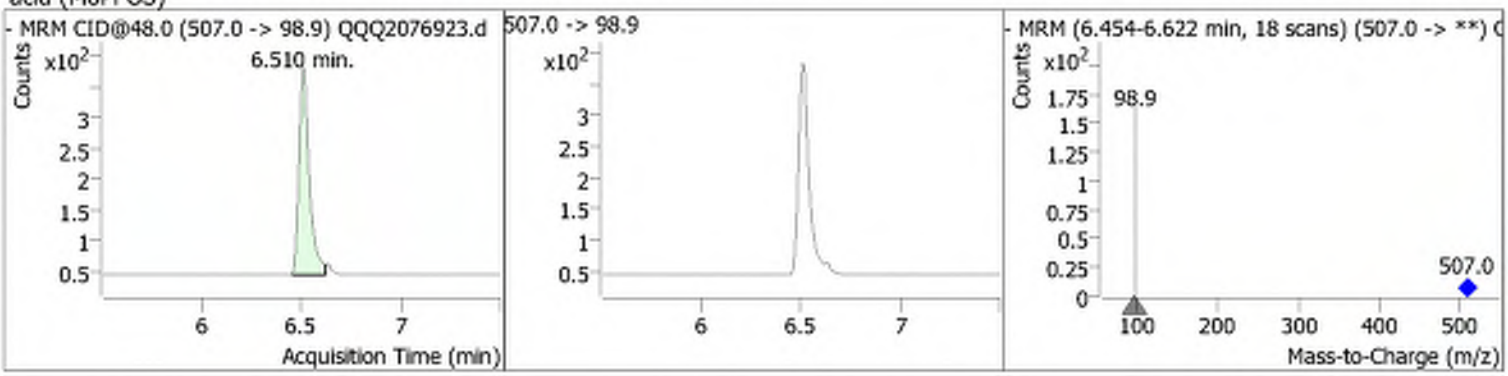
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	0.8628	6.48	-0.06	818				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0052	6.40	-0.15	24				

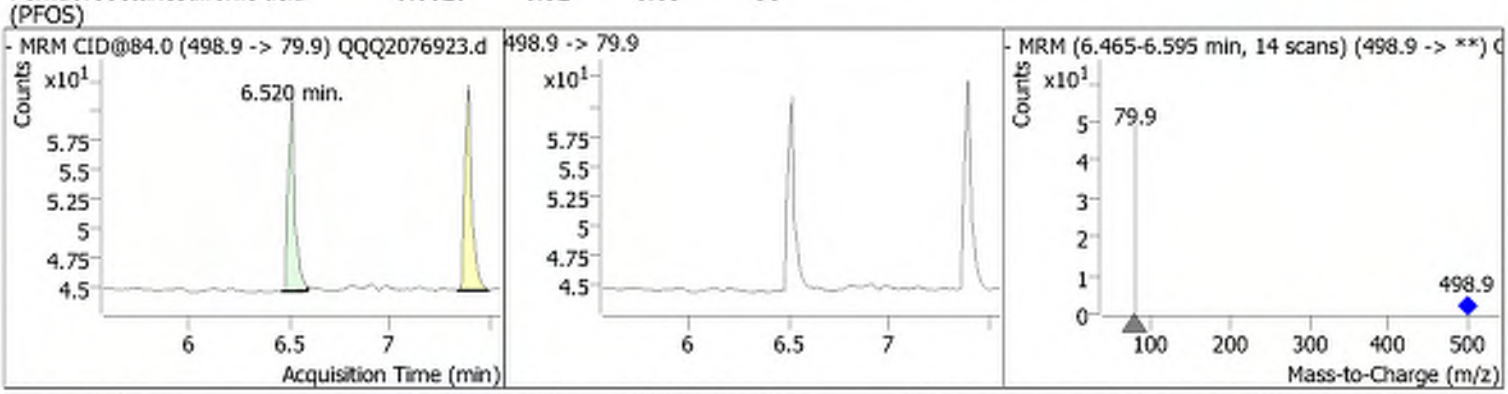


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	1.4130	6.51	-0.06	1207				

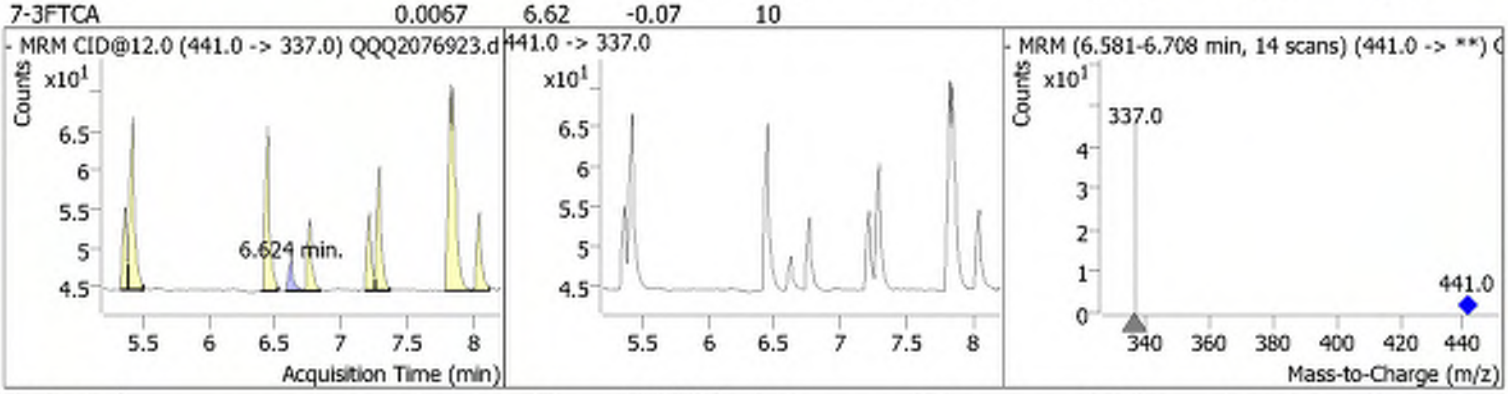


Quantitation Results Report (Not Reviewed)

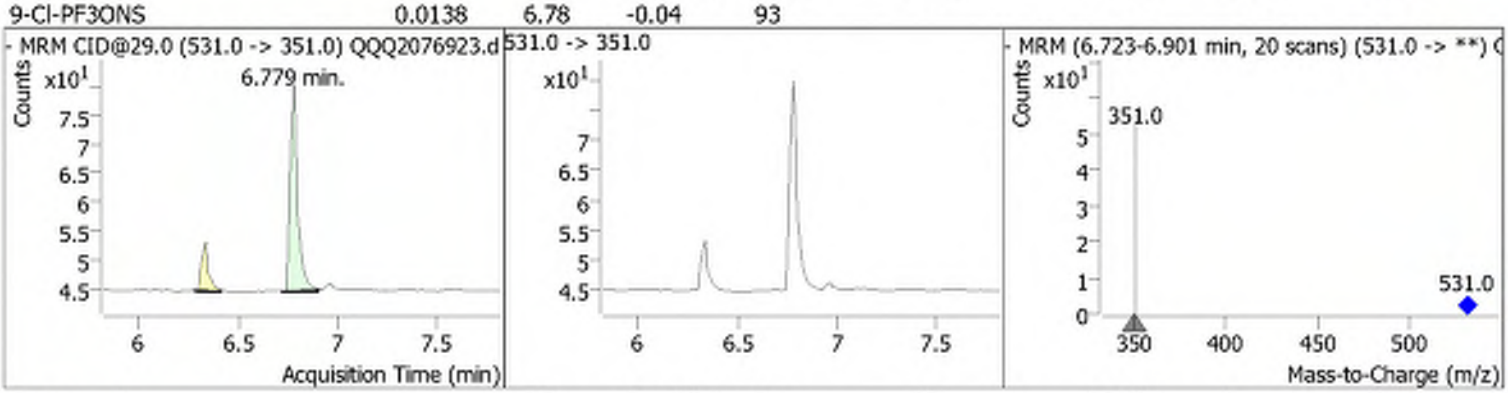
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0620	6.52	-0.05	38				



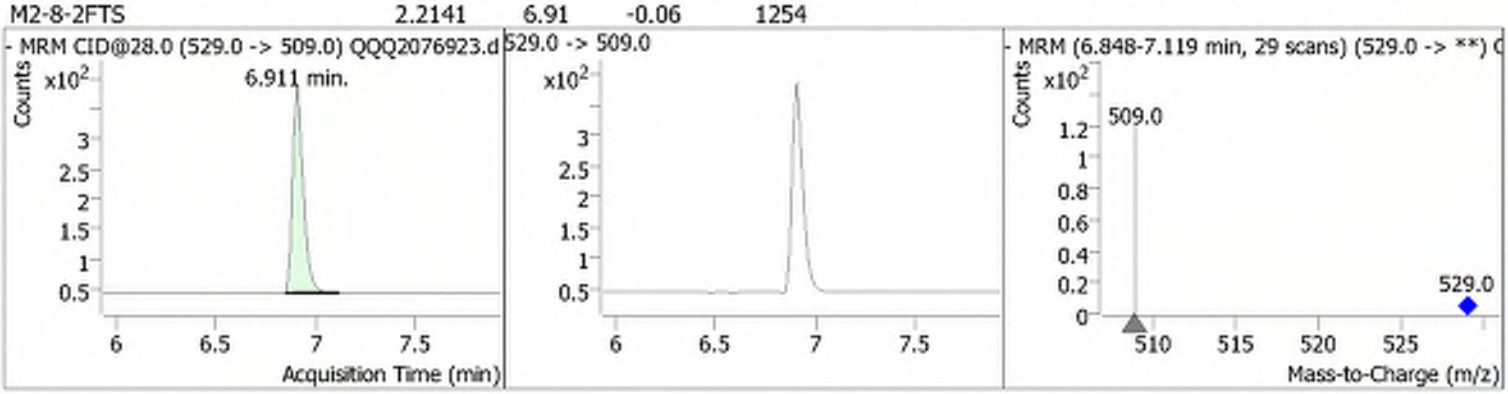
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.0067	6.62	-0.07	10				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0138	6.78	-0.04	93				



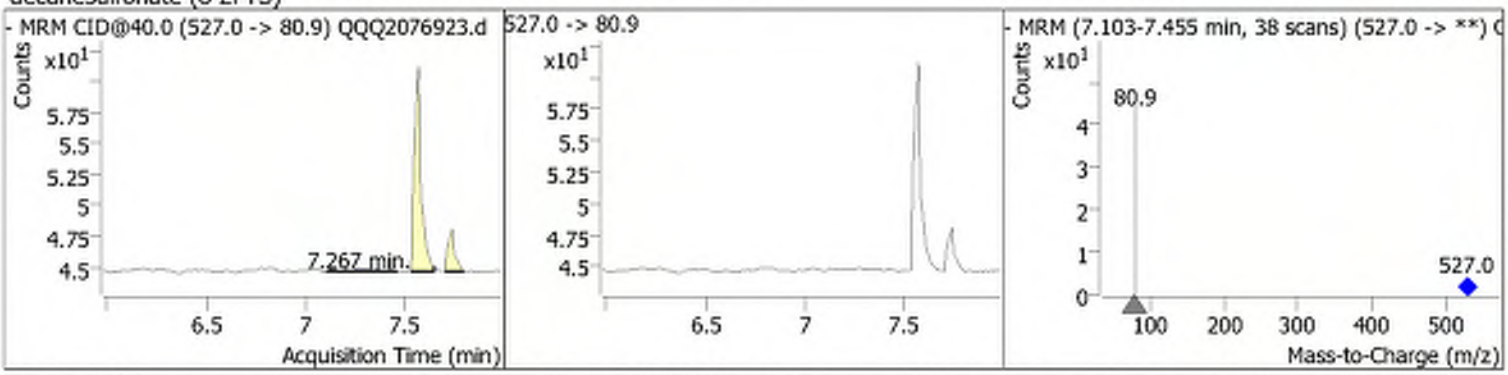
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	2.2141	6.91	-0.06	1254				



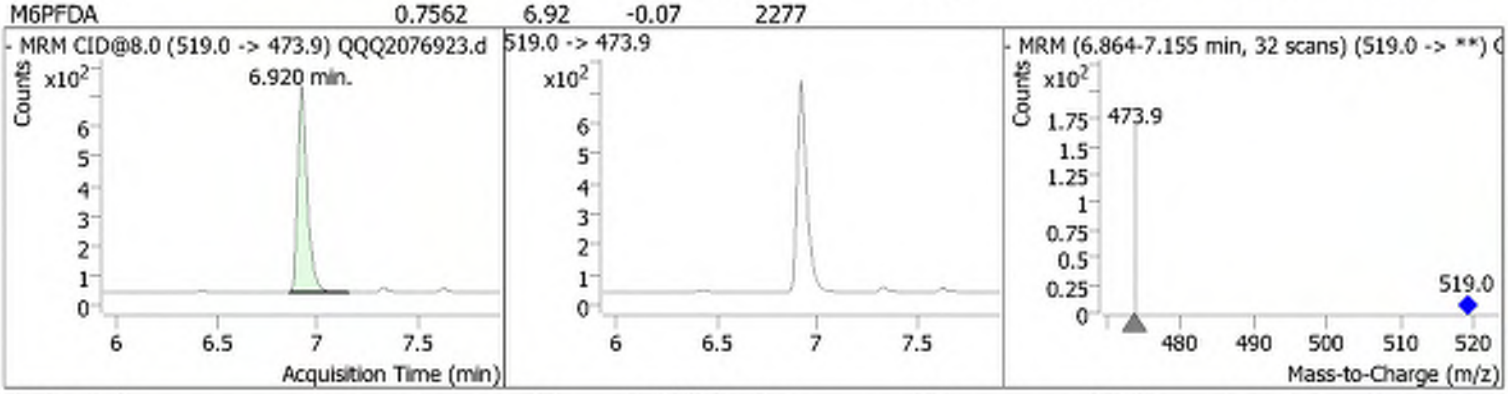
Quantitation Results Report (Not Reviewed)

Agilent

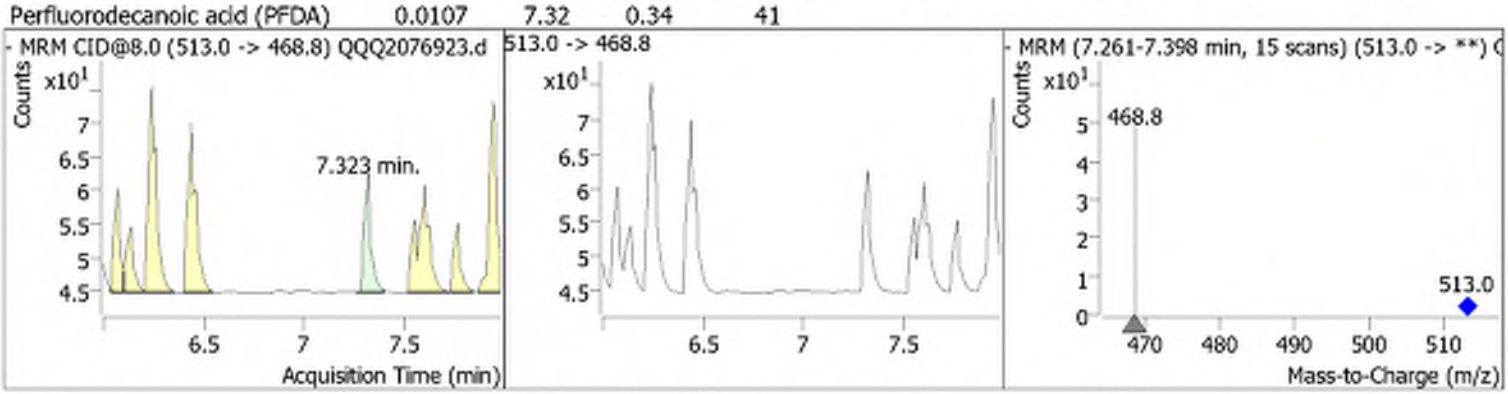
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0081	7.27	0.29	3				



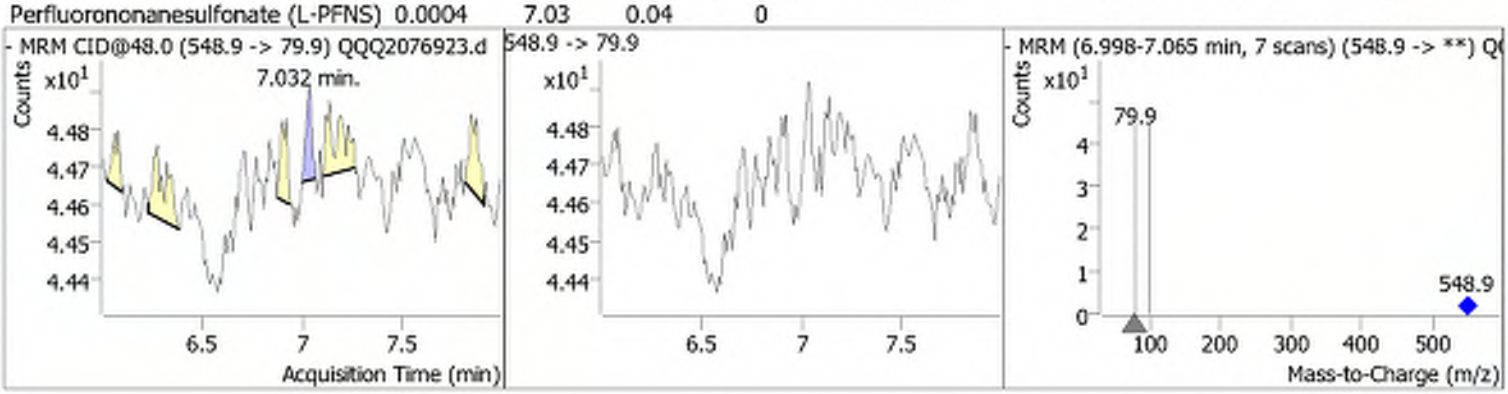
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.7562	6.92	-0.07	2277				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0107	7.32	0.34	41				



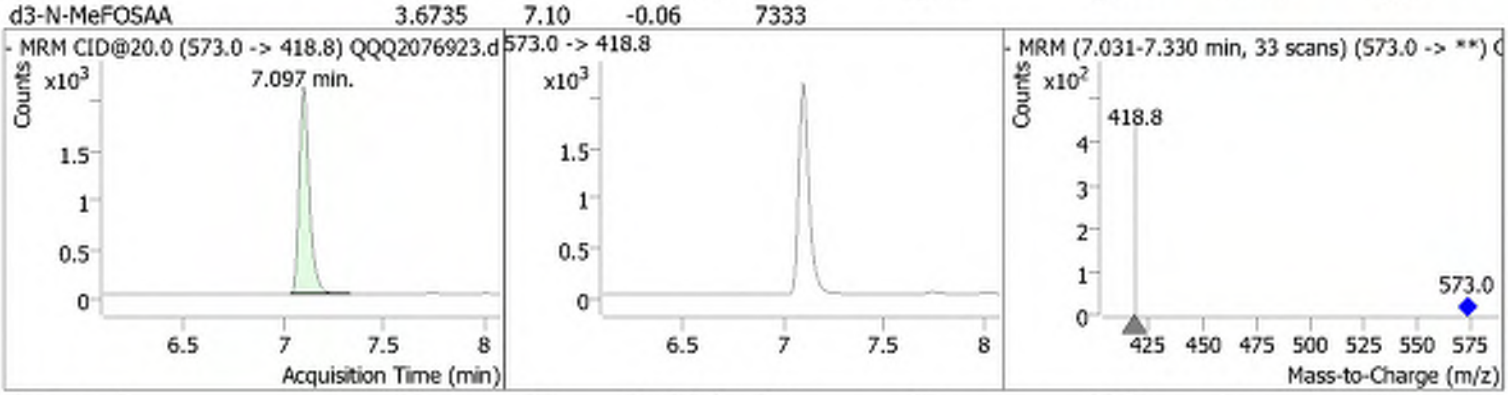
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0004	7.03	0.04	0				



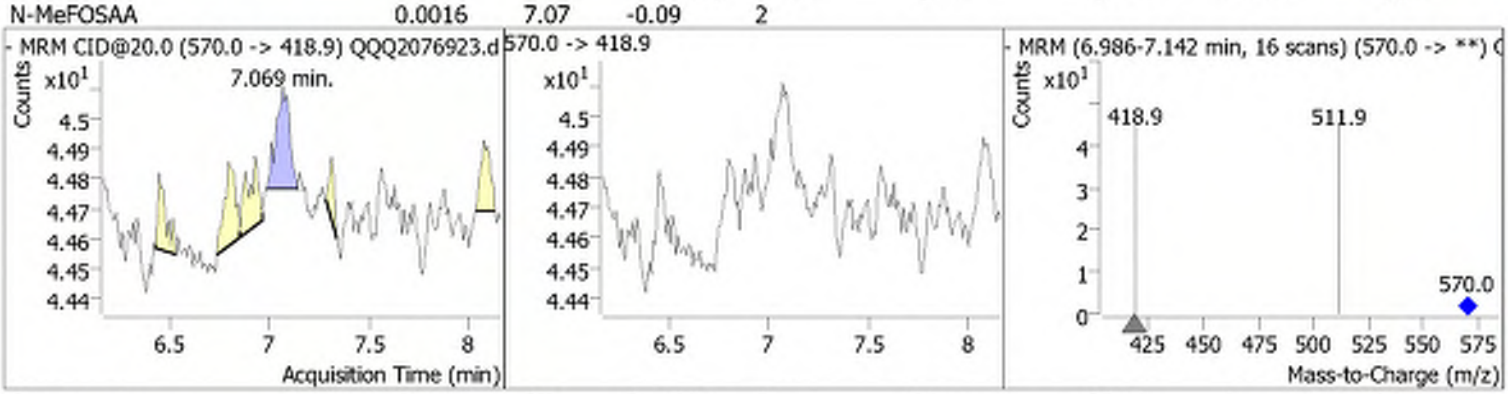
Quantitation Results Report (Not Reviewed)

Agilent

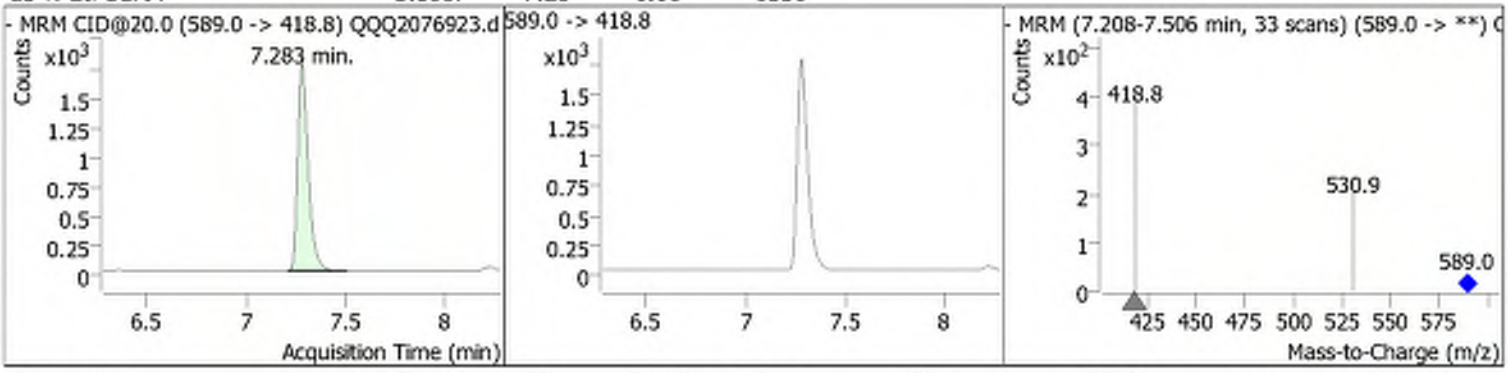
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.6735	7.10	-0.06	7333				



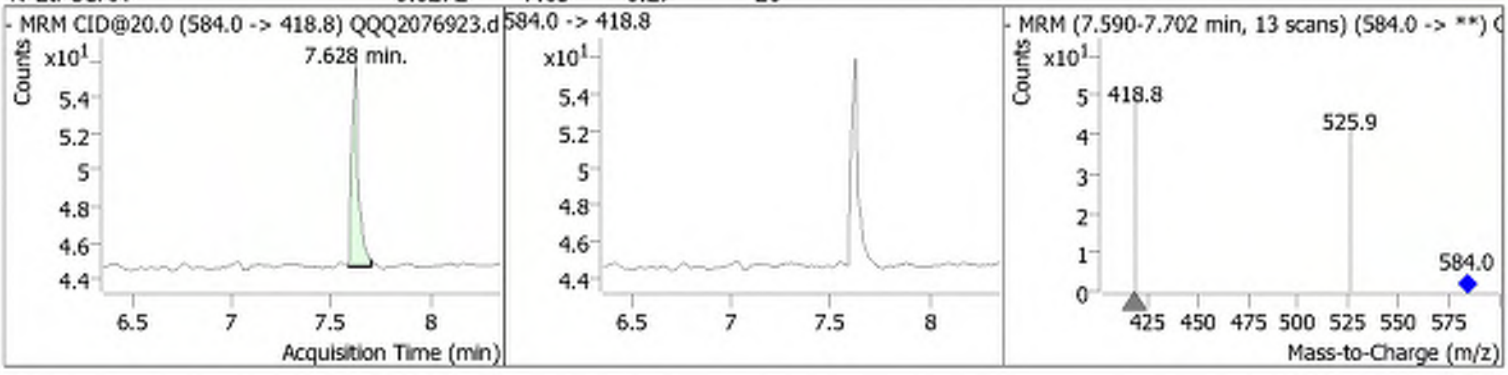
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0016	7.07	-0.09	2				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.1687	7.28	-0.06	6356				



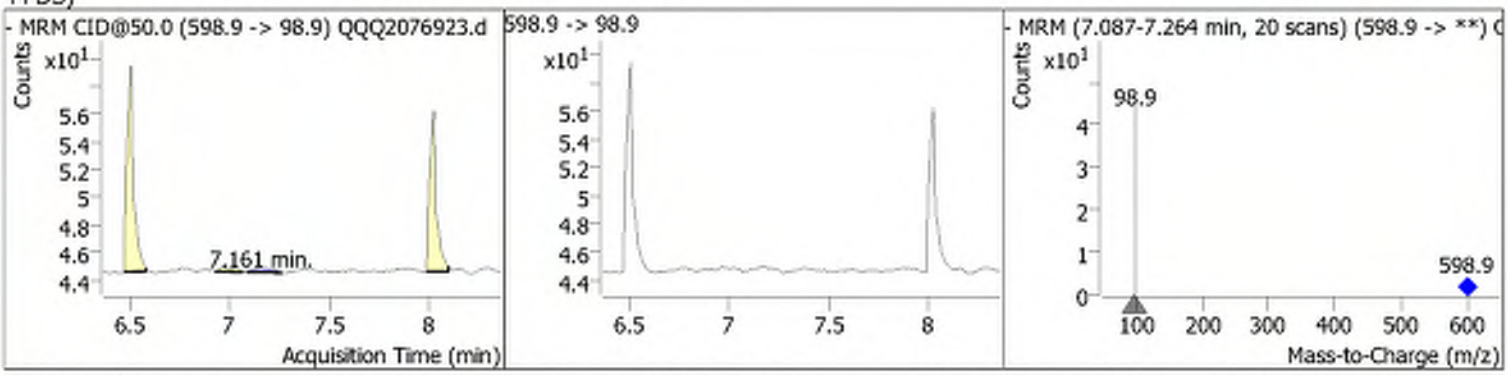
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0272	7.63	0.27	26				



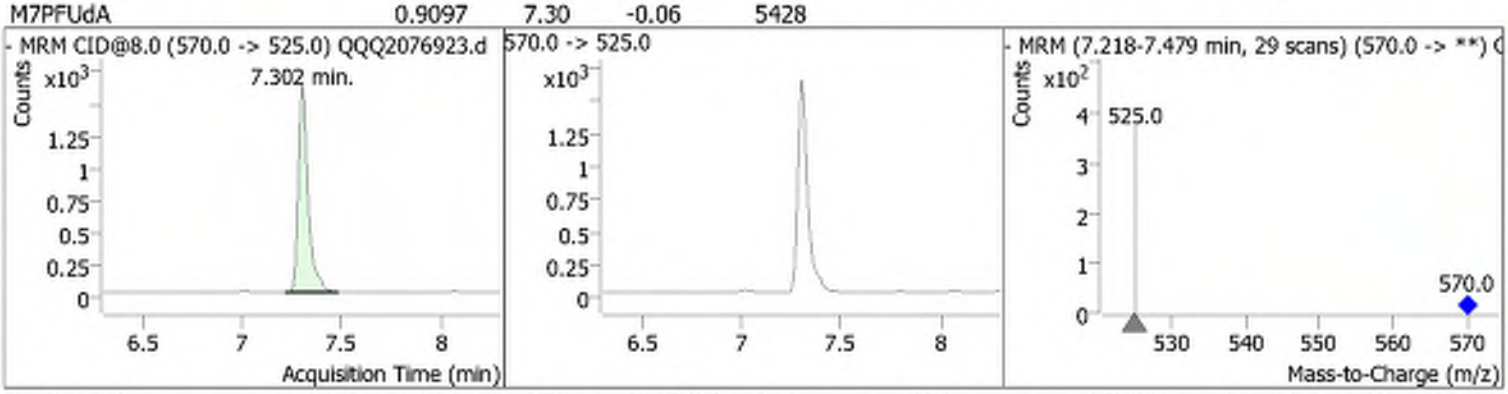
Quantitation Results Report (Not Reviewed)

Agilent

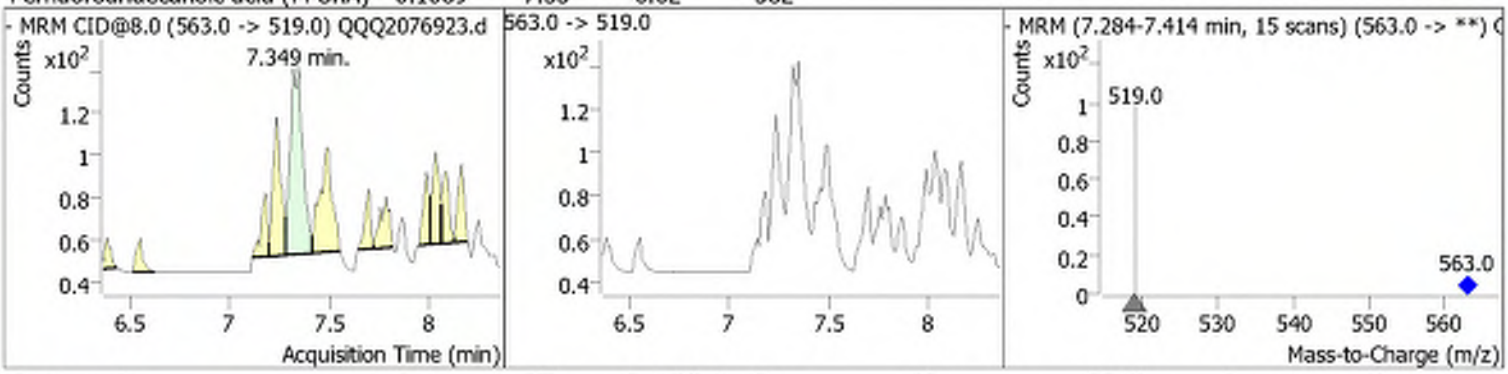
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0051	7.16	-0.20	2				



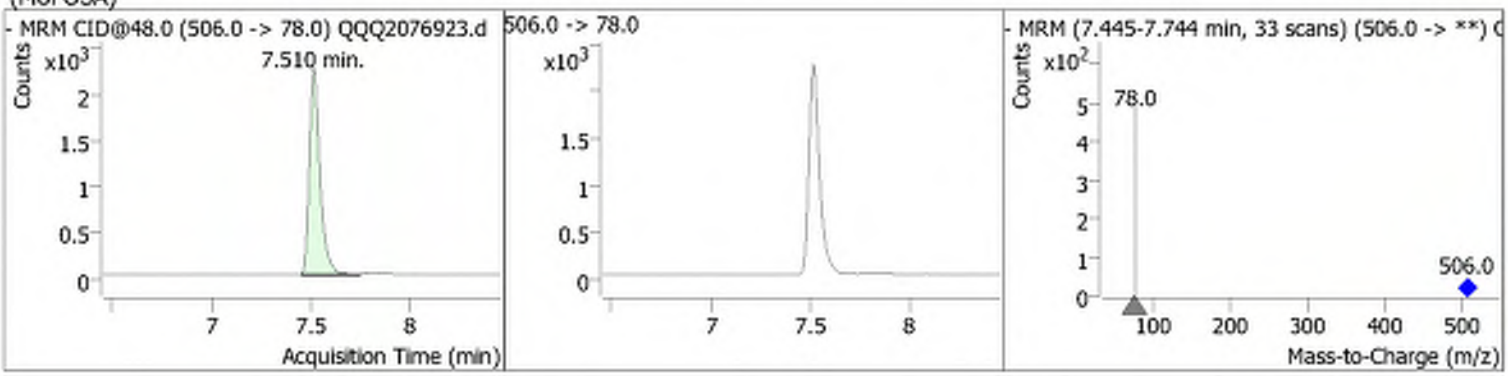
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.9097	7.30	-0.06	5428				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.1089	7.35	-0.02	382				

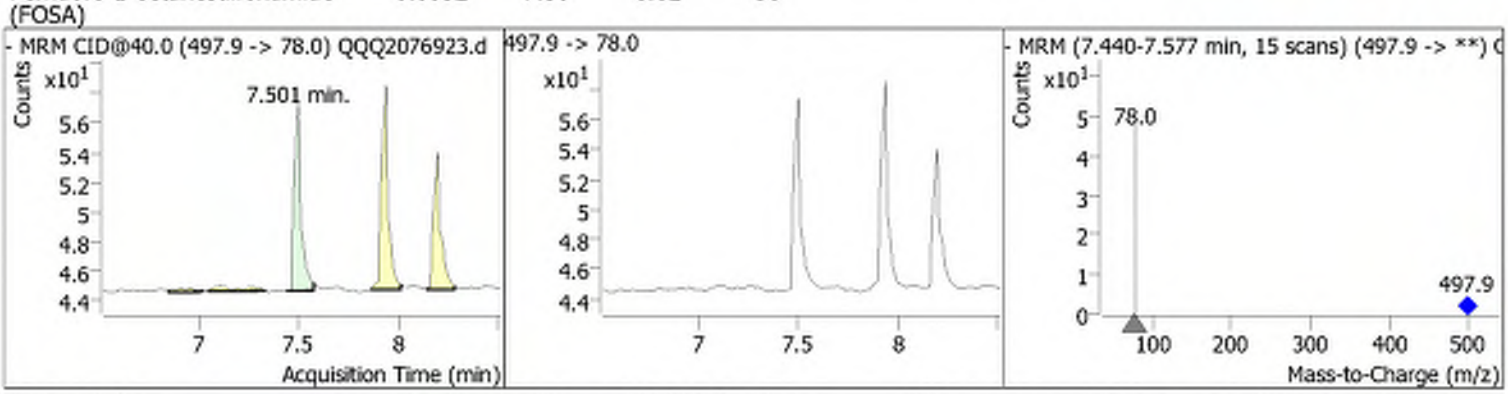


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	1.7080	7.51	-0.01	8274				

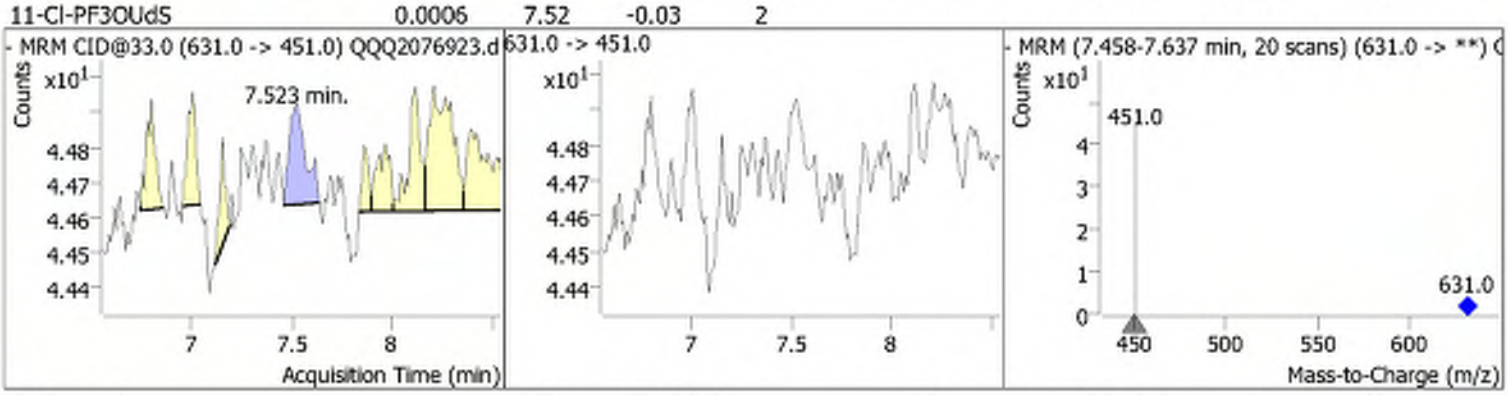


Quantitation Results Report (Not Reviewed)

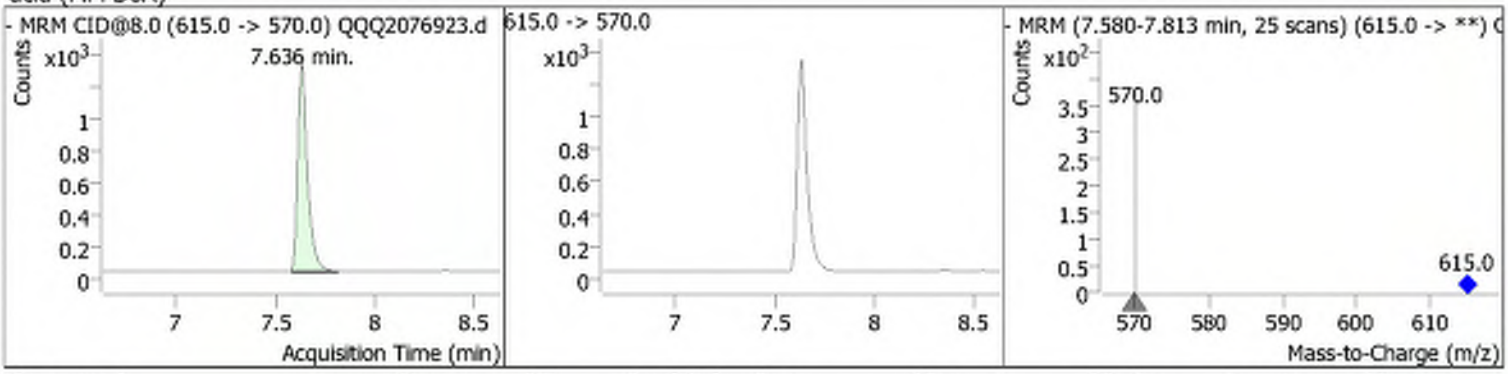
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0052	7.50	-0.02	30				



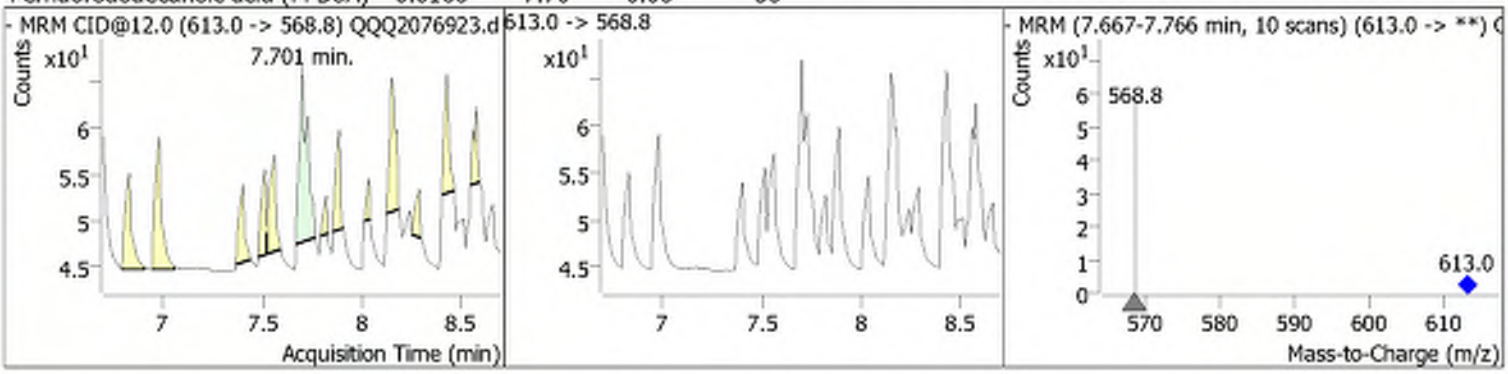
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.0006	7.52	-0.03	2				



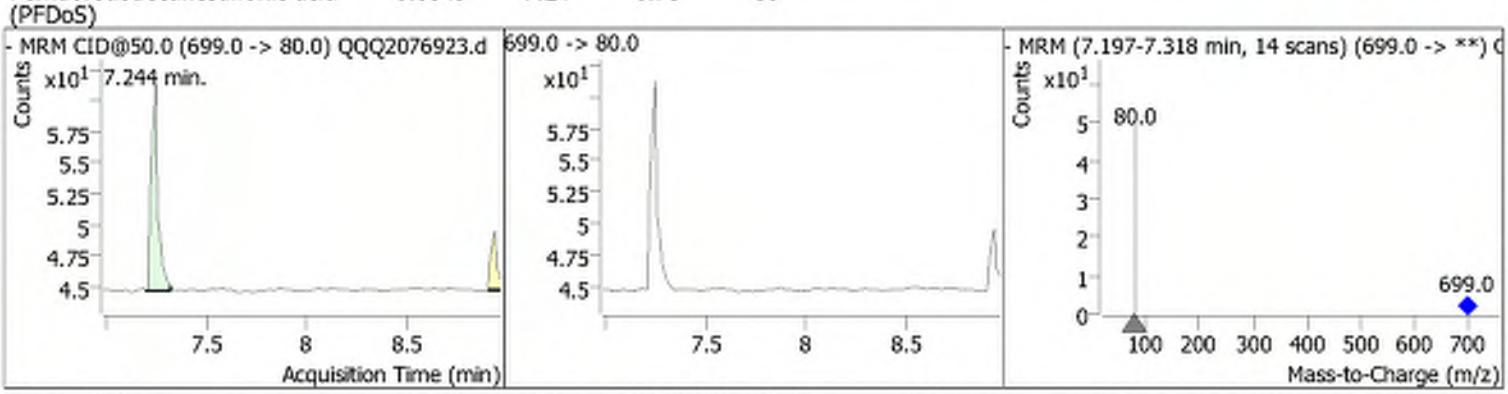
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.8758	7.64	-0.07	4351				



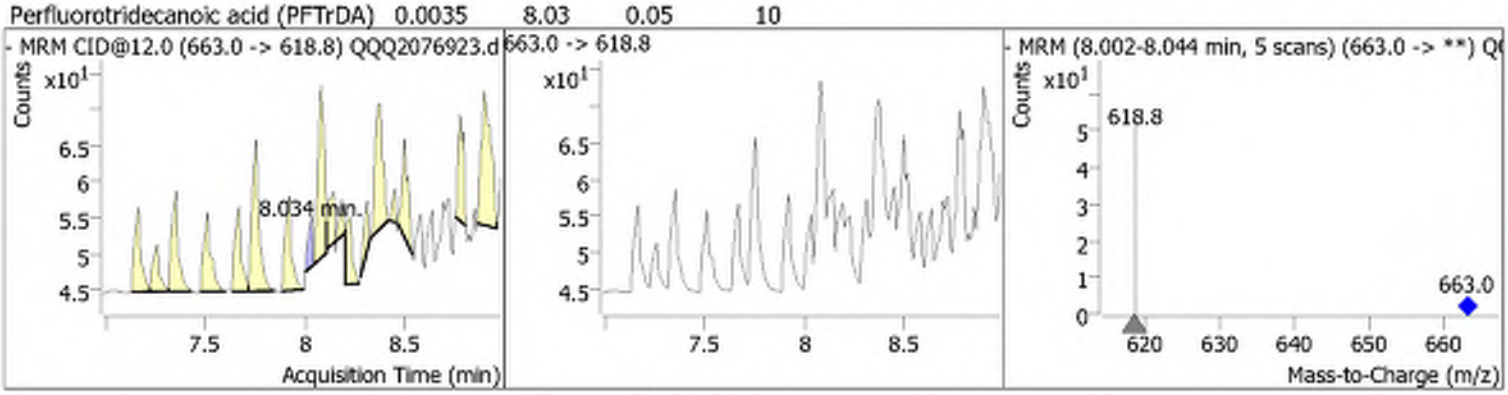
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0166	7.70	0.00	50				



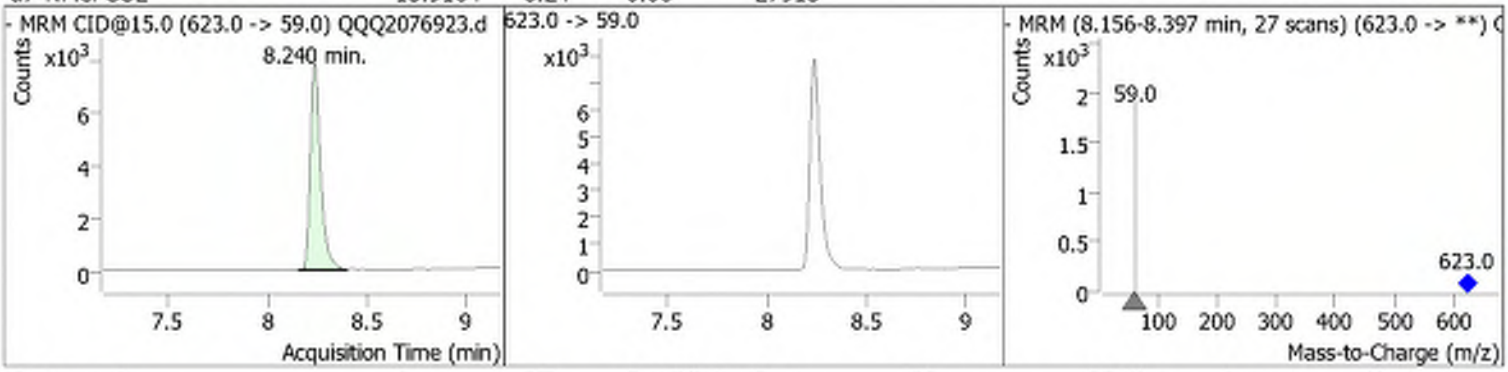
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0849	7.24	-0.73	39				



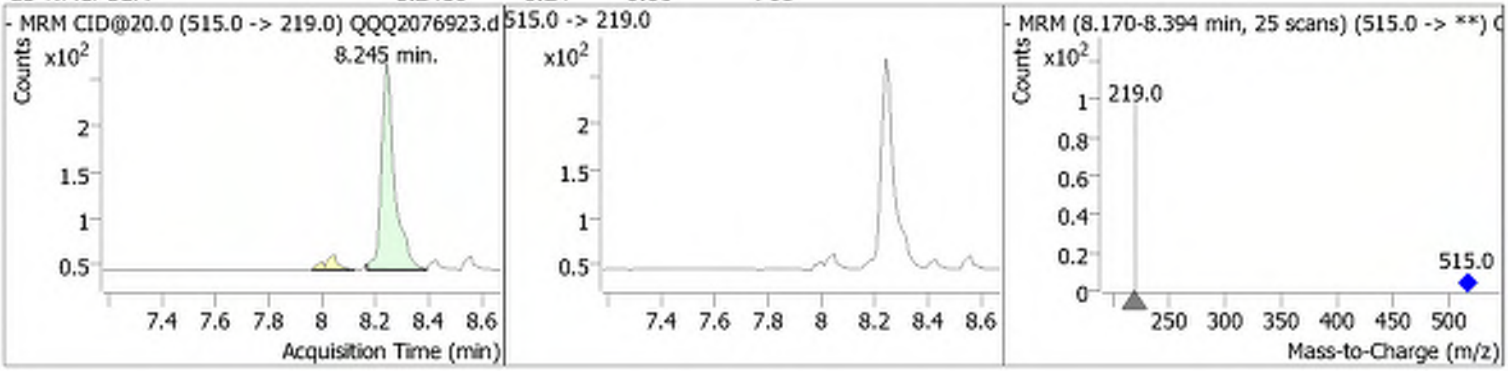
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0035	8.03	0.05	10				



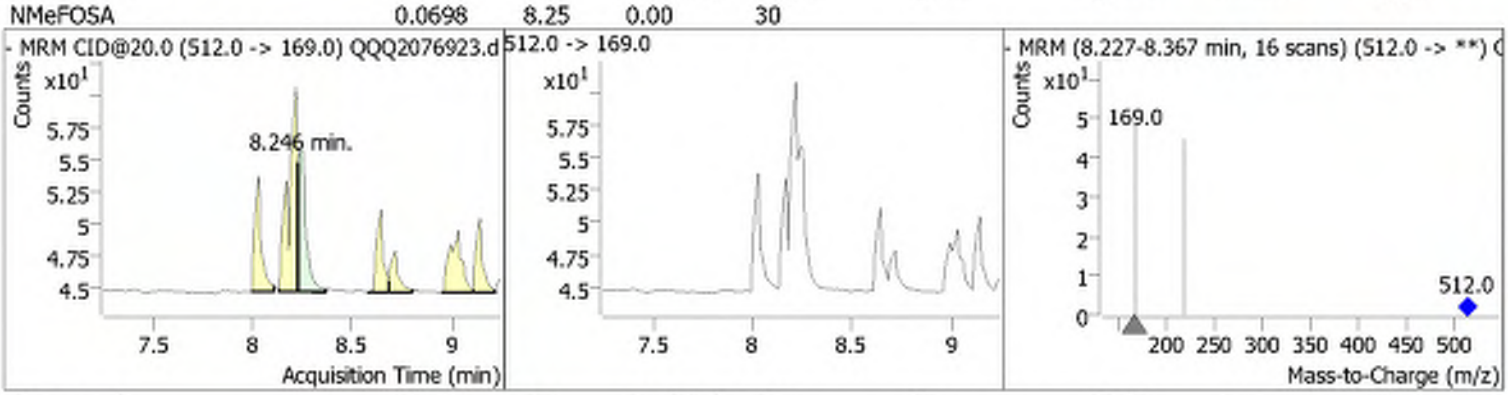
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	13.9164	8.24	0.00	27915				



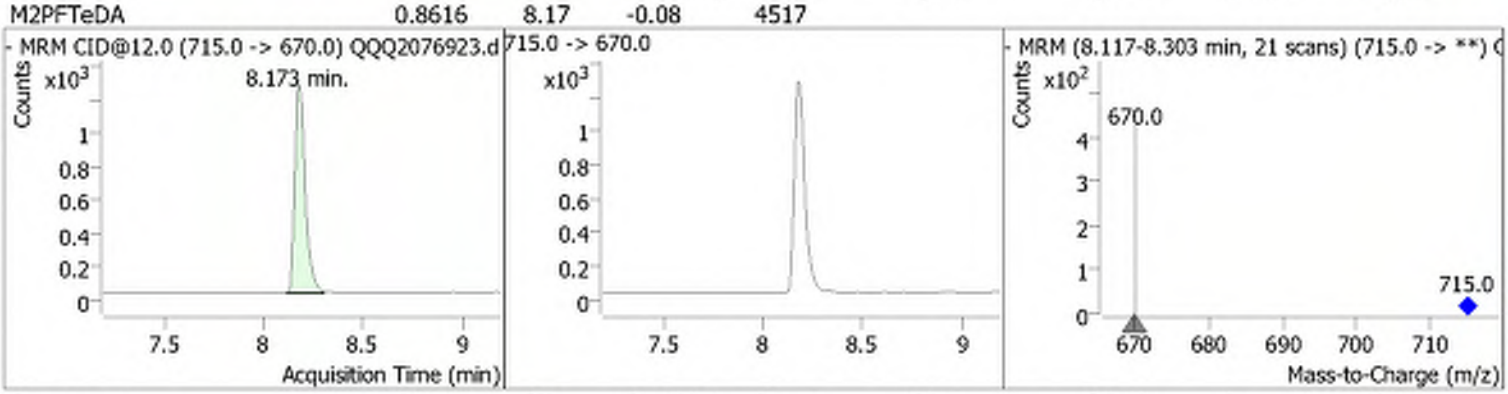
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.2410	8.24	0.00	768				



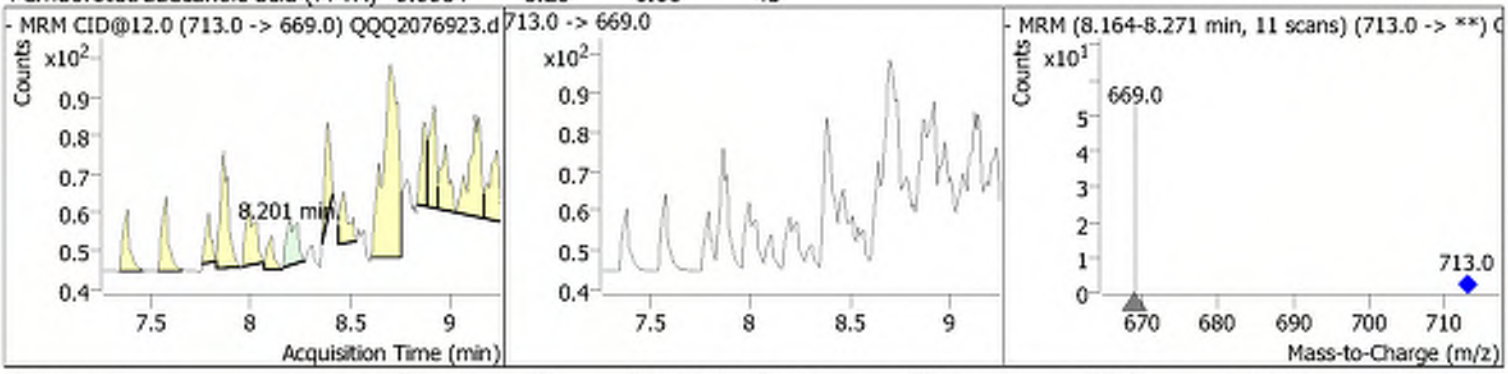
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.0698	8.25	0.00	30				



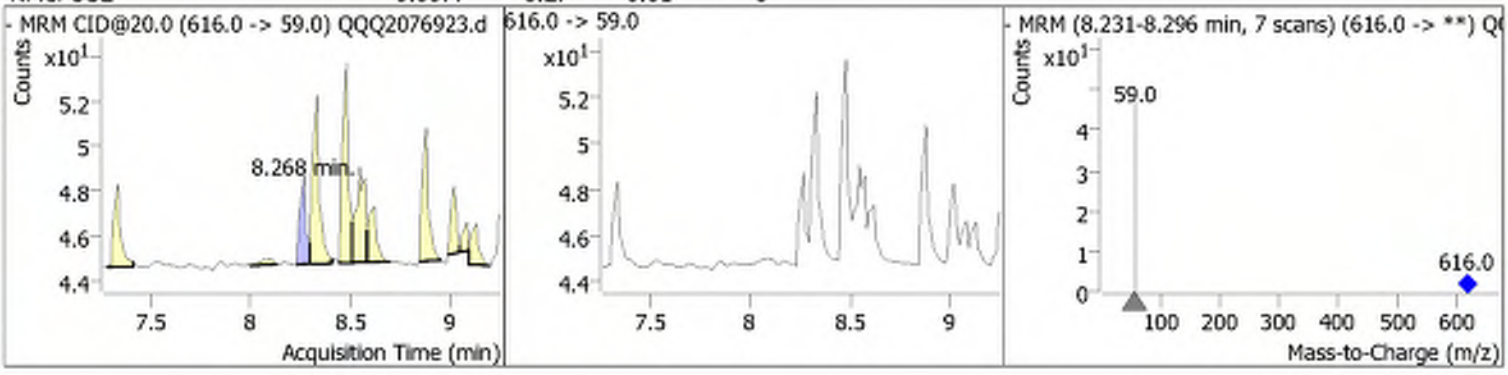
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.8616	8.17	-0.08	4517				



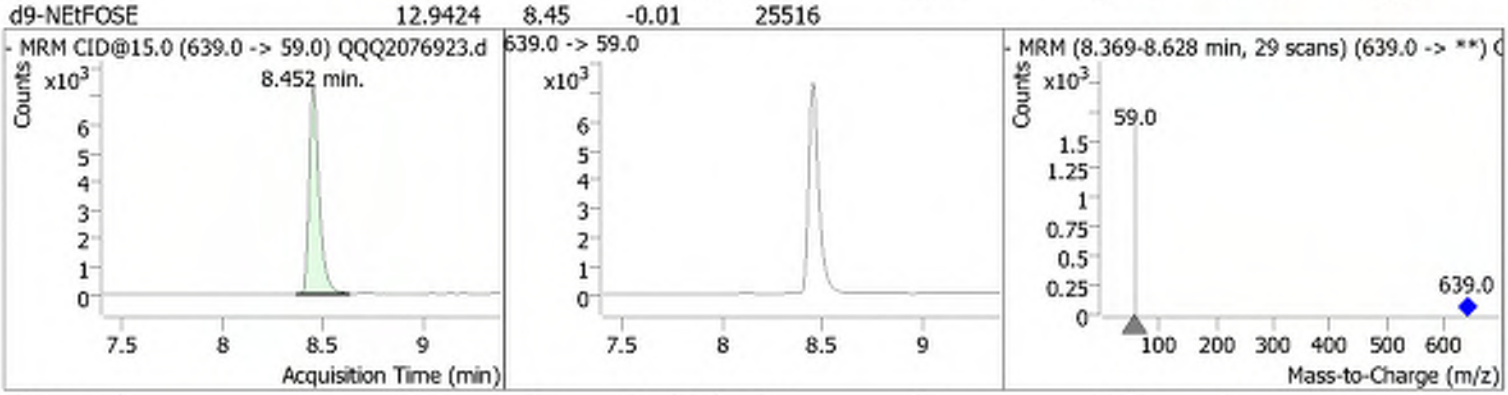
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0084	8.20	-0.06	43				



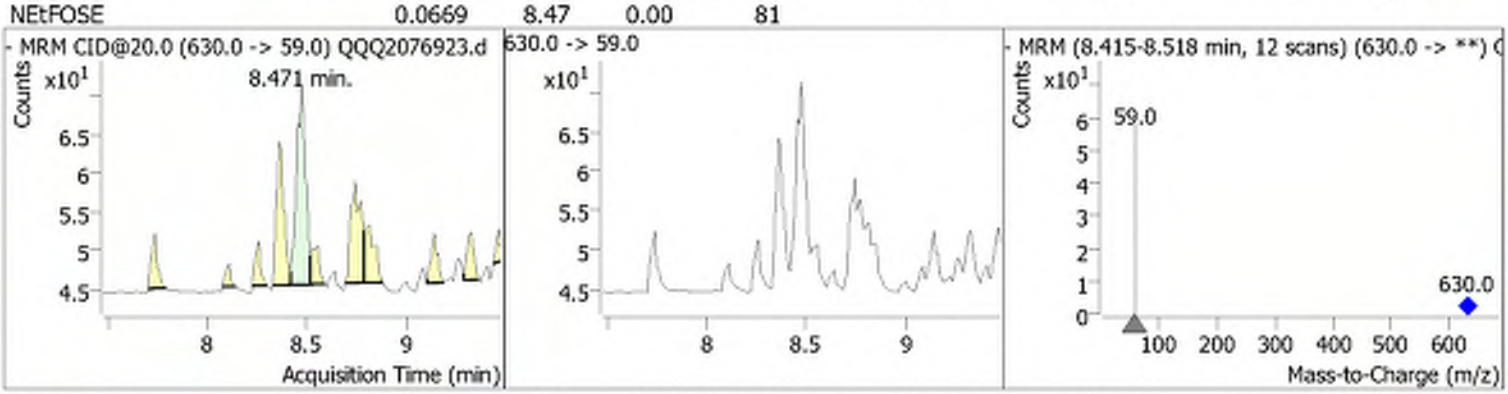
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	0.0077	8.27	0.01	8				



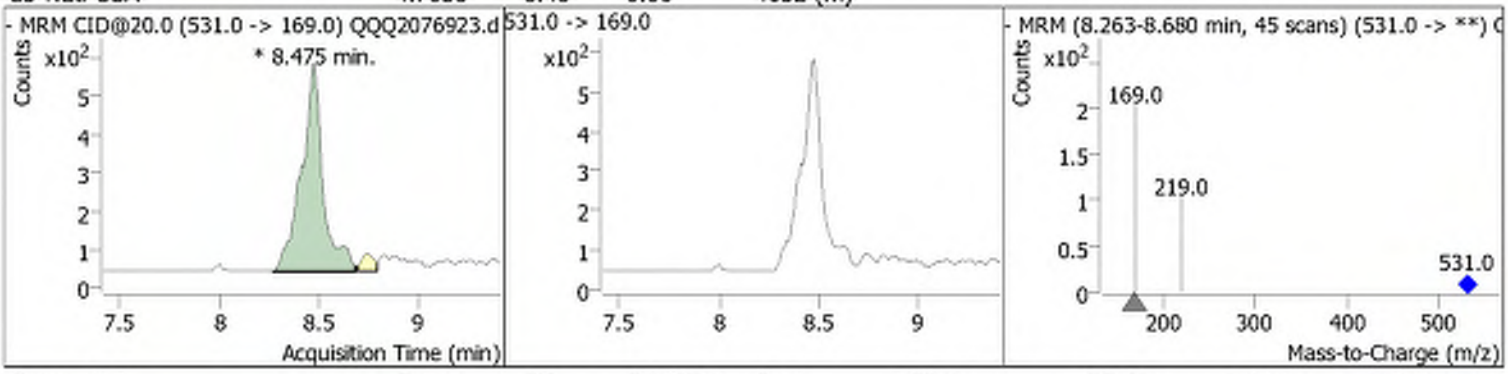
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	12.9424	8.45	-0.01	25516				



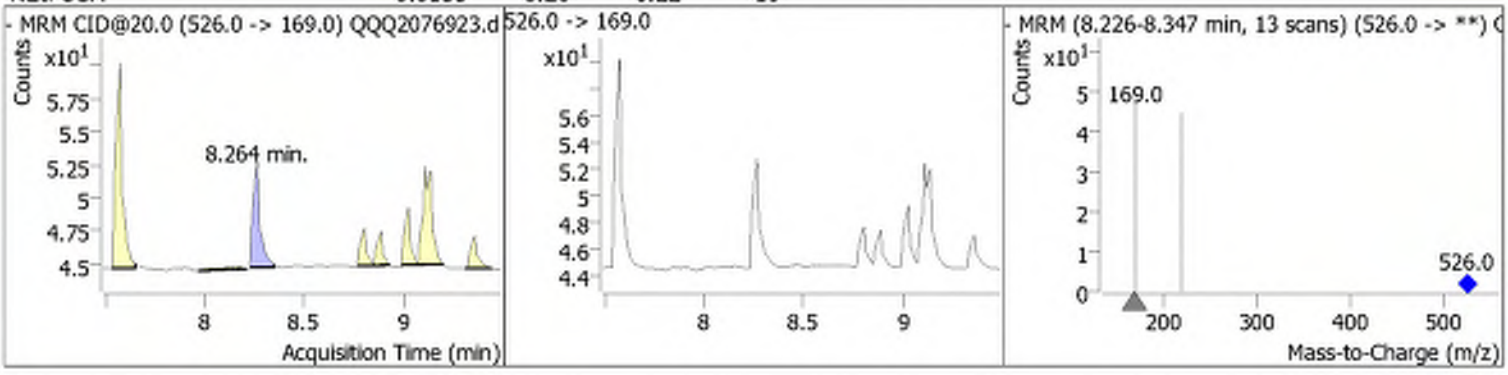
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	0.0669	8.47	0.00	81				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	4.7638	8.48	0.00	4052 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.0135	8.26	-0.22	19				



METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: PFAS
METHOD: EPA 1633 Draft 2

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ng/L)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3.54	U
307-24-4	Perfluorohexanoic acid (PFHxA)	4.00	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.00	U
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.66	U
335-67-1	Perfluorooctanoic acid (PFOA)	0.875	J
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.72	U
375-95-1	Perfluorononanoic acid (PFNA)	4.00	U
335-76-2	Perfluorodecanoic acid (PFDA)	4.00	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	4.00	U
307-55-1	Perfluorododecanoic acid (PFDoA)	4.00	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	4.00	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	4.00	U
2355-31-9	N-MeFOSAA	4.00	U
2991-50-6	N-EtFOSAA	4.00	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	8.00	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	4.00	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	3.82	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	3.86	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	15.2	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	15.4	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	16.0	U
113507-82-7	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	7.12	U
151772-58-6	Perfluoro-3,6-dioxaheptanoic acid (NFDHA)	8.00	U
377-73-1	Perfluoro-4-oxapentanoic acid (PFMPA)	8.00	U
863090-89-5	Perfluoro-5-oxahexanoic acid (PFMBA)	8.00	U
2706-91-4	Perfluoro-1-pentanesulfonate (PFPeS)	3.76	U
757124-72-4	1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	15.0	U
13252-13-6	HFPO-DA (Gen-X)	16.0	U
763051-92-9	11CL-PF3OUdS	15.1	U
756426-58-1	9CL-PF3ONS	15.0	U

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

CAS NO.	COMPOUND	CONC. (ng/L)	Q
919005-14-4	ADONA	1.15	J
79780-39-5	Perfluorododecanesulfonic acid (PFDoS)	3.88	U
68259-12-1	Perfluoro-1-nonanesulfonic acid (PFNS)	3.84	U
356-02-5	3-Perfluoropropyl propanoic acid (FPrPA)	10.0	U
914637-49-3	3-Perfluoropentyl propanoic acid (FPePA)	50.0	U
812-70-4	3-Perfluoroheptyl propanoic acid (FHpPA)	50.0	U
24448-09-7	N-MeFOSE	40.0	U
31506-32-8	N-MeFOSA	4.00	U
1691-99-2	N-EtFOSE	40.0	U
4151-50-2	N-EtFOSA	4.00	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
M3PFBS	46.6	62.0	133	25 - 150	
M5PFHxA	50.0	60.9	122	25 - 150	
M4PFHpA	50.0	54.9	110	25 - 150	
M3PFHxS	47.4	55.3	117	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	50.0	59.0	118	25 - 150	
M6PFDA	25.0	21.6	86.3	25 - 150	
M7PFUdA	25.0	19.8	79.1	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	25.0	23.5	94.2	25 - 150	
M2PFTeDA	25.0	17.3	69.2	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	200	231	115	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	47.9	63.6	133	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	100	126	126	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	50.0	49.8	99.6	10 - 150	
d3-N-MeFOSAA	100	122	122	25 - 150	
d5-N-EtFOSAA	100	126	126	25 - 150	
M2-6:2 FTS	95.1	284	299	25 - 200	*
M2-8:2 FTS	96.0	186	194	25 - 200	
M9PFNA	25.0	38.3	153	25 - 150	*
M2-4:2 FTS	93.8	205	218	25 - 150	*

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
d-N-MeFOSA	50.0	39.1	78.2	25 - 150	
d-N-EtFOSA	50.0	304	609	25 - 150	*
M3HFPO-DA	200	265	132	25 - 150	
d9-N-EtFOSE	500	285	56.9	25 - 150	
d7-N-MeFOSE	500	368	73.6	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M3PFBA	27700.75	1.14275	42068.82	1.1611	
MPFDA	8881.083	6.9113	12064.13	6.920617	
MPFHxA	20865.79	4.641767	36343.42	4.651017	
MPFHxS	1900.077	5.4755	2907.181	5.4755	
MPFNA	8524.698	6.473717	13031.33	6.473717	
MPFOA	21238.55	5.969717	33005.6	5.969717	
MPFOS	5458.542	6.5011	8502.604	6.5011	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	1682.121	6.473583	1853.677	6.473583	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	13803.53	5.96945	16982.8	5.96945	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	21230.38	3.313283	29986.22	3.322483	
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	43813.24	1.14045	59843.77	1.158817	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	6695.671	7.62645	10597.95	7.626433	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	2513.946	6.5006	3666.996	6.500583	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	11153.31	7.50055	16732.87	7.500533	
M7PFUdA-EIS	6757.633	7.2928	11145.32	7.292783	
M6PFDA-EIS	3720.355	6.920383	4681.368	6.920367	
M5PFHxA-EIS	17152.84	4.650183	24274.19	4.650183	
M4PFHpA-EIS	17489.46	5.392583	27825.21	5.392583	
M3PFHxS-EIS	5872.777	5.475966	8343.078	5.475966	
M3PFBS-EIS	7830.391	3.827733	10375.57	3.83695	
M3-HFPO-DA-EIS	43531.42	4.903584	65527.83	4.903584	
M2PFTeDA-EIS	5192.568	8.172667	11560.25	8.17265	
M2-8-2FTS-EIS	4481.982	6.90095	3905.602	6.900933	
M2-6-2FTS-EIS	7976.774	5.941017	6641.646	5.931716	

FORM I

METHOD BLANK DATA SHEET

EPA 1633 Draft 2

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Water	Laboratory ID:	BE30673-BLK1	File ID:	QQQ2077041.d
Prepared:	05/15/23 12:21	Preparation:	EPA 1633 Prep	Initial/Final:	250.02 mL / 5 mL
Analyzed:	05/17/23 11:16	Instrument:	QQQ-2		
Batch:	BE30673	Sequence:	S3E1762	Calibration:	SD30043

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
M2-4-2FTS-EIS	10584.91	4.58425	11948.52	4.58425	
d9-NEtFOSE-EIS	25951.58	8.45205	62731.32	8.452033	
d7-NMeFOSE-EIS	34123.66	8.230217	69829.86	8.2302	
d5-NEtFOSA-EIS	11973.53	8.45685	7845.189	8.4661	
d5-N-EtFOSAA-EIS	11705.52	7.273684	16688.83	7.273667	
d3-NMeFOSA-EIS	1119.085	8.23545	2421.225	8.23545	
d3-N-MeFOSAA-EIS	11222.77	7.087167	17278.1	7.08715	

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077041.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 11:16:37 AM
Sample Name	BE30673-BLK1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.143	216.0 -> 172.0	27701	5.0000	ng/ml	-0.064
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.140	217.0 -> 172.0	43813	10.0000	ng/ml	-0.064
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.313	268.0 -> 223.0	21230	5.0000	ng/ml	-0.074
MPFHxA	4.642	315.0 -> 269.8	20866	2.5000	ng/ml	-0.056
MPFHxS	5.476	403.0 -> 103.0	1900	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.828	302.0 -> 79.9	7830	2.3300	ng/ml	-0.065
M5PFHxA-EIS	4.650	318.0 -> 273.0	17153	2.5000	ng/ml	-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	10585	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	5873	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	43531	10.0000	ng/ml	-0.056
M4PFHpA-EIS	5.393	367.0 -> 322.0	17489	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	7977	4.7550	ng/ml	-0.056
MPFOA	5.970	417.0 -> 372.0	21239	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	13804	2.5000	ng/ml	-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	2514	2.3950	ng/ml	-0.065
MPFNA	6.474	468.0 -> 423.0	8525	1.2500	ng/ml	-0.065
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1682	1.2500	ng/ml	-0.066
MPFOS	6.501	503.0 -> 80.0	5459	2.3950	ng/ml	-0.075
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	4482	4.8000	ng/ml	-0.066
MPFDA	6.911	515.0 -> 469.8	8881	1.2500	ng/ml	-0.075
M6PFDA-EIS	6.920	519.0 -> 473.9	3720	1.2500	ng/ml	-0.066
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	11223	5.0000	ng/ml	-0.065
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	11706	5.0000	ng/ml	-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	6758	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	11153	2.5000	ng/ml	-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	6696	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.173	715.0 -> 670.0	5193	1.2500	ng/ml	-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	1119	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	34124	25.0000	ng/ml	-0.009
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	25952	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.457	531.0 -> 169.0	11974	2.5000	ng/ml	-0.018
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.140	217.0 -> 172.0	43813	11.5472	ng/ml	-0.064
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.313	268.0 -> 223.0	21230	6.2843	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.828	302.0 -> 79.9	7830	3.0983	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	10585	10.2302	ng/ml	-0.047

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.650	318.0 -> 273.0	17153	3.0434	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	43531	13.2452	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	17489	2.7476	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	5873	2.7662	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.941	429.0 -> 409.0	7977	14.2133	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	13804	2.9481	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1682	1.9173	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	2514	3.1813	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.901	529.0 -> 509.0	4482	9.2905	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.920	519.0 -> 473.9	3720	1.0792	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.087	573.0 -> 418.8	11223	6.0777	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	11706	6.3086	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	6758	0.9891	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	11153	2.4890	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	6696	1.1773	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	34124	18.3909	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	1119	1.9552	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.173	715.0 -> 670.0	5193	0.8651	ng/ml	-0.084
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	25952	14.2308	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.457	531.0 -> 169.0	11974	15.2181	ng/ml	-0.018
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.209	213.0 -> 168.9	44	0.0080	ng/ml	100
PFMPA	2.190	229.0 -> 85.0	7	0.0021	ng/ml	100
3:3FTCA	3.324	241.0 -> 177.0	9	0.0341	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.323	263.0 -> 219.0	91	0.0196	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.995	298.9 -> 79.9	11	0.0029	ng/ml	100
PFMBA	3.913	279.0 -> 85.0	36	0.0075	ng/ml	100
PFEESA	4.456	315.0 -> 135.0	22	0.0020	ng/ml	100
NFDHA	4.514	295.0 -> 201.1	16	0.0034	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	5.069	327.0 -> 307.0	26	0.0121	ng/ml	100

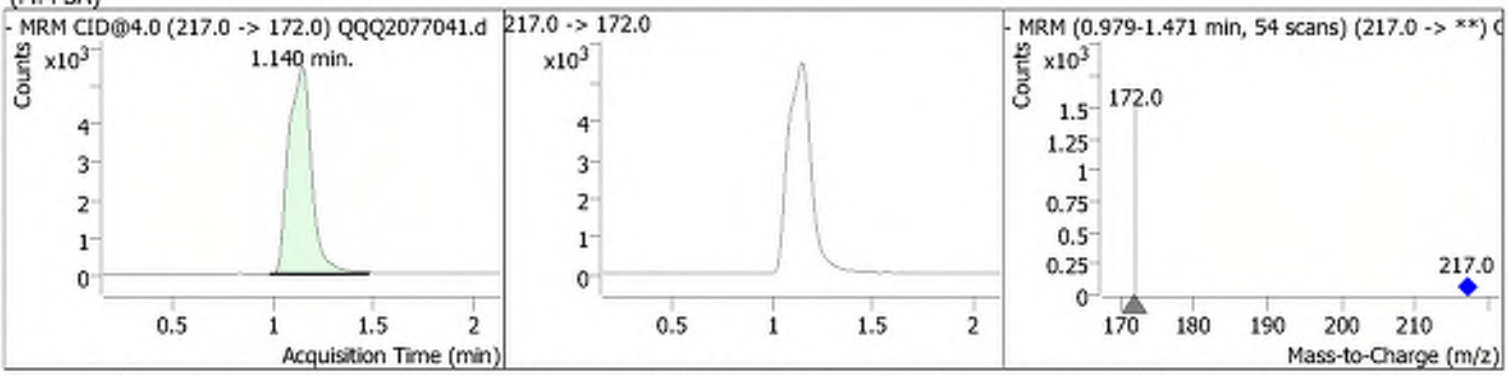
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.670	313.0 -> 268.9	248	0.0307	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.872	348.9 -> 79.9	13	0.0040	ng/ml	100
HFPO-DA	4.997	285.0 -> 169.1	10	0.0283	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	5.533	363.0 -> 318.8	197	0.0209	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	20	0.0059	ng/ml	100
5-3FTCA	5.552	341.0 -> 217.0	71	0.0737	ng/ml	100
ADONA	5.561	377.0 -> 85.0	324	0.0577	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	6.203	427.0 -> 407.0	1	0.0005	ng/ml	100
Perfluorooctanoic acid (PFOA)	5.933	413.0 -> 368.8	348	0.0437	ng/ml	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.484	448.9 -> 80.0	30	0.0117	ng/ml	100
Perfluorononanoic acid (PFNA)	6.381	463.0 -> 418.8	105	0.0109	ng/ml	100
Perfluorooctanesulfonic acid (PFOS)	6.623	498.9 -> 79.9	4	0.0035	ng/ml	100
7-3FTCA	6.605	441.0 -> 337.0	26	0.0173	ng/ml	100
9-Cl-PF3ONS	6.742	531.0 -> 351.0	20	0.0032	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.911	527.0 -> 80.9	37	0.0317	ng/ml	100
Perfluorodecanoic acid (PFDA)	6.902	513.0 -> 468.8	231	0.0372	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	7.069	548.9 -> 79.9	3	0.0011	ng/ml	100
N-MeFOSAA	7.628	570.0 -> 418.9	32	0.0208	ng/ml	100
N-EtFOSAA	7.385	584.0 -> 418.8	32	0.0181	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.496	598.9 -> 98.9	2	0.0018	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	7.302	563.0 -> 519.0	67	0.0153	ng/ml	100
Perfluoro-1-octanesulfonamide (FOSA)	7.492	497.9 -> 78.0	28	0.0035	ng/ml	100
11-Cl-PF3OUdS	7.551	631.0 -> 451.0	27	0.0113	ng/ml	100
Perfluorododecanoic acid (PFDoA)	7.673	613.0 -> 568.8	43	0.0092	ng/ml	100
Perfluorododecanesulfonic acid (PFDoS)	7.839	699.0 -> 80.0	2	0.0026	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	8.006	663.0 -> 618.8	29	0.0090	ng/ml	100
NMeFOSA	8.218	512.0 -> 169.0	19	0.0306	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	8.154	713.0 -> 669.0	61	0.0105	ng/ml	100
NMeFOSE	8.249	616.0 -> 59.0	21	0.0171	ng/ml	100
NEtFOSE	8.480	630.0 -> 59.0	26	0.0208	ng/ml	100
NEtFOSA	8.412	526.0 -> 169.0	77	0.0191	ng/ml	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

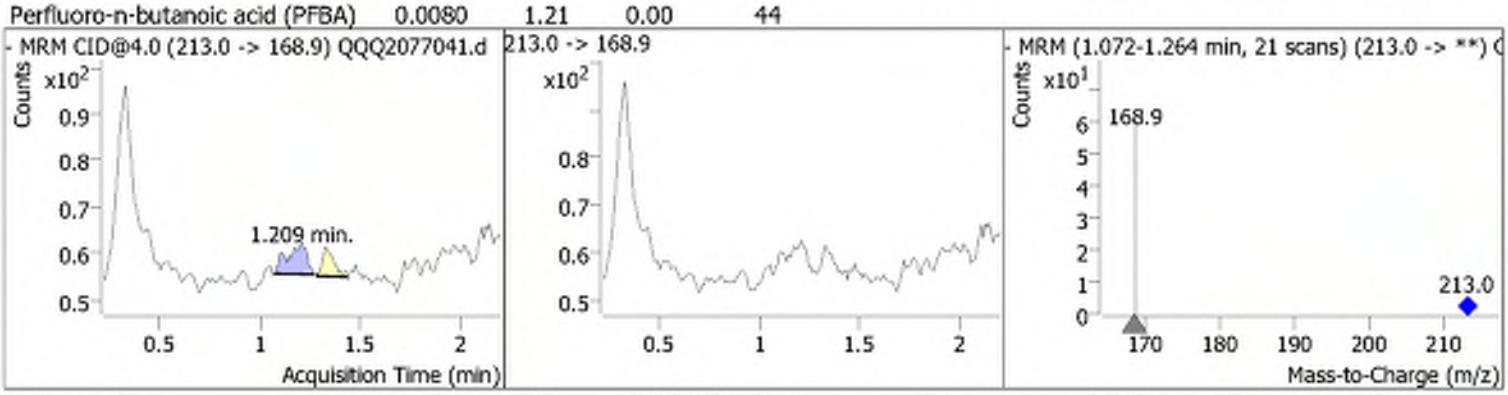
Quantitation Results Report (Not Reviewed)

Agilent

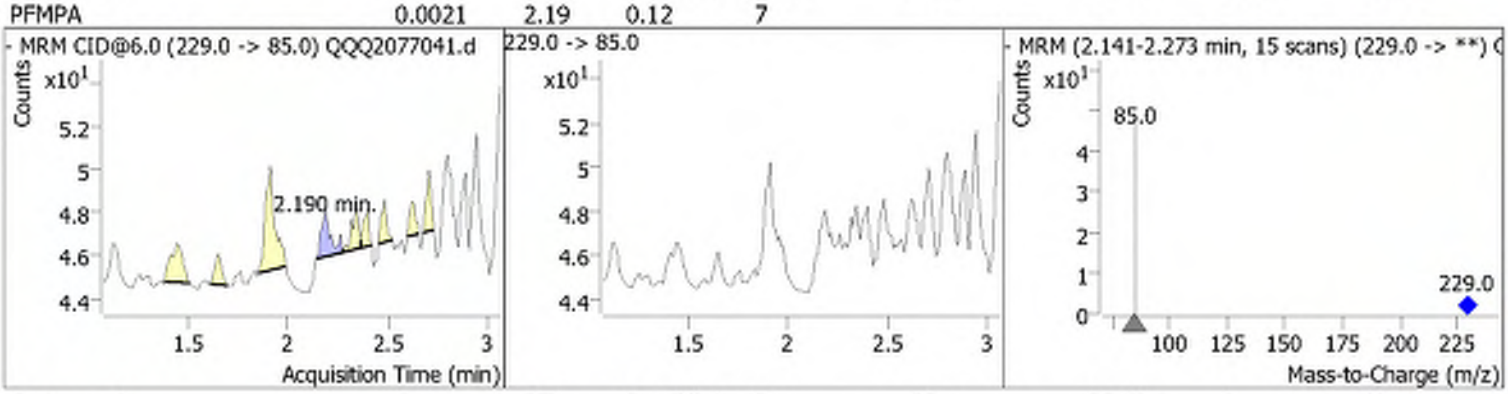
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	11.5472	1.14	-0.06	43813				



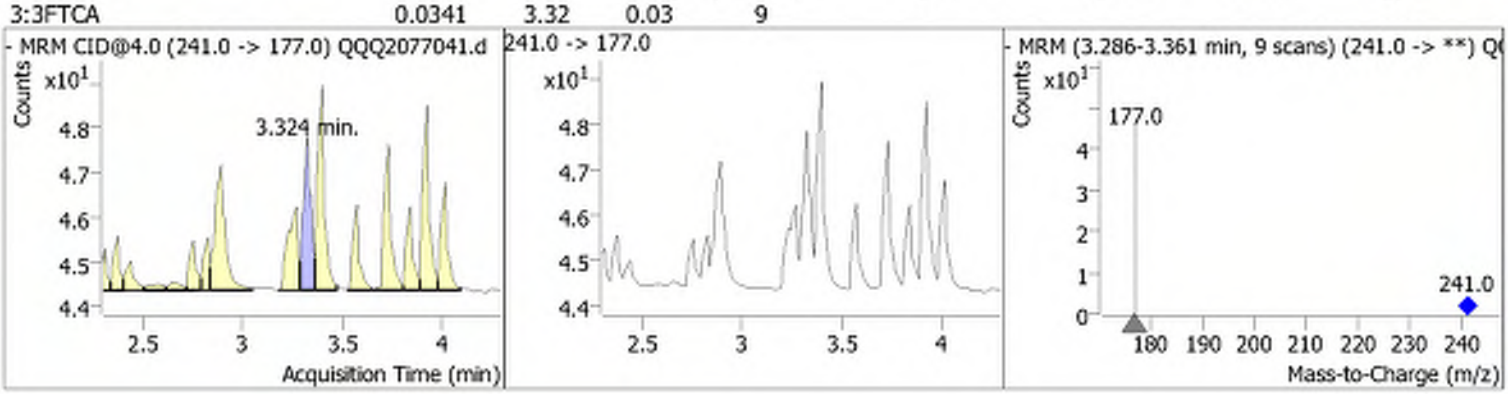
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0080	1.21	0.00	44				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0021	2.19	0.12	7				



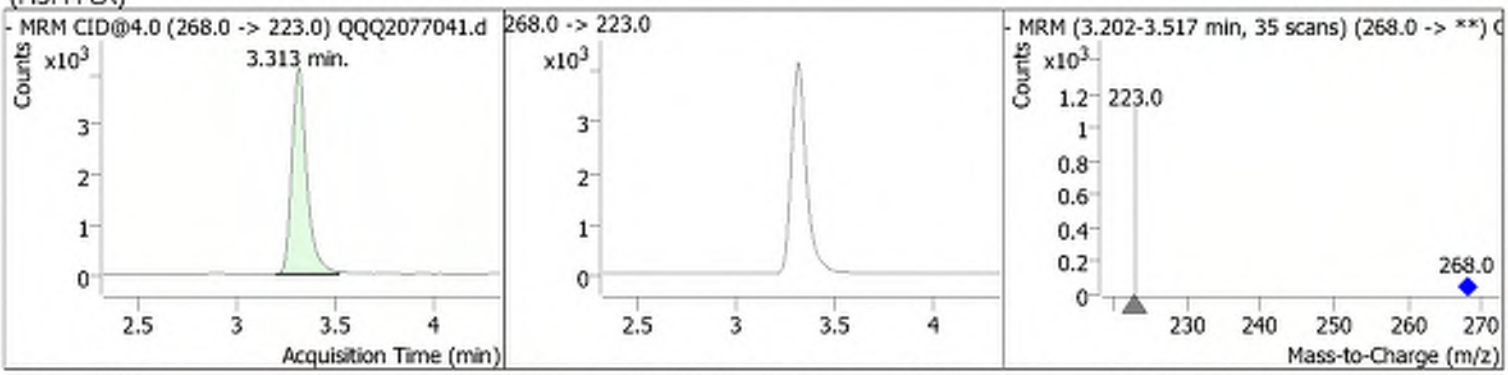
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.0341	3.32	0.03	9				



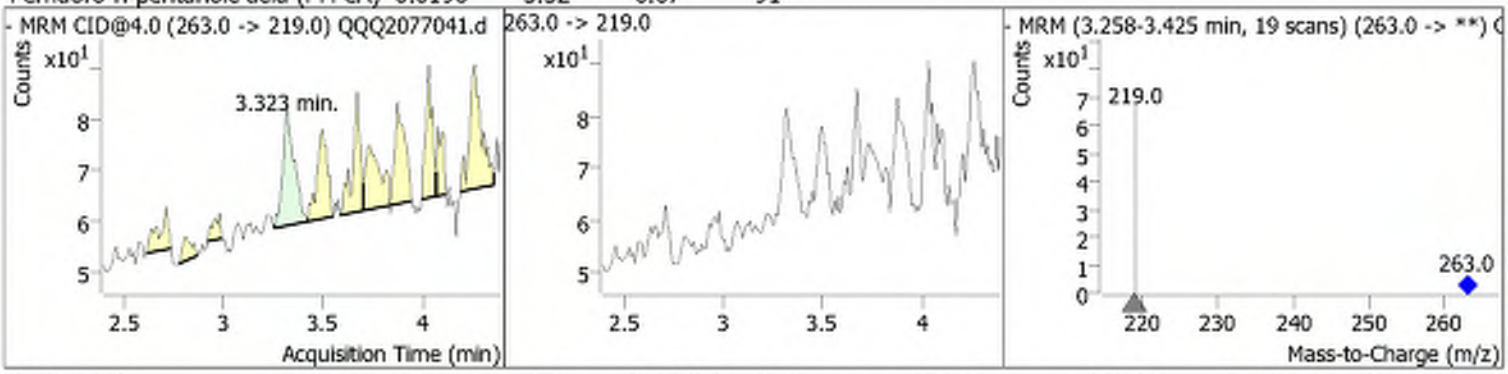
Quantitation Results Report (Not Reviewed)

Agilent

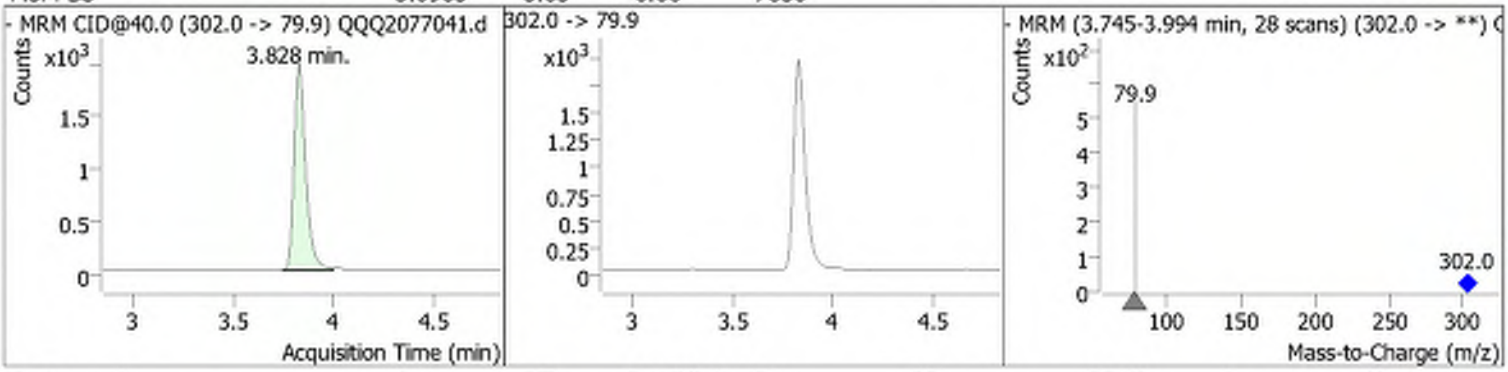
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	6.2843	3.31	-0.07	21230				



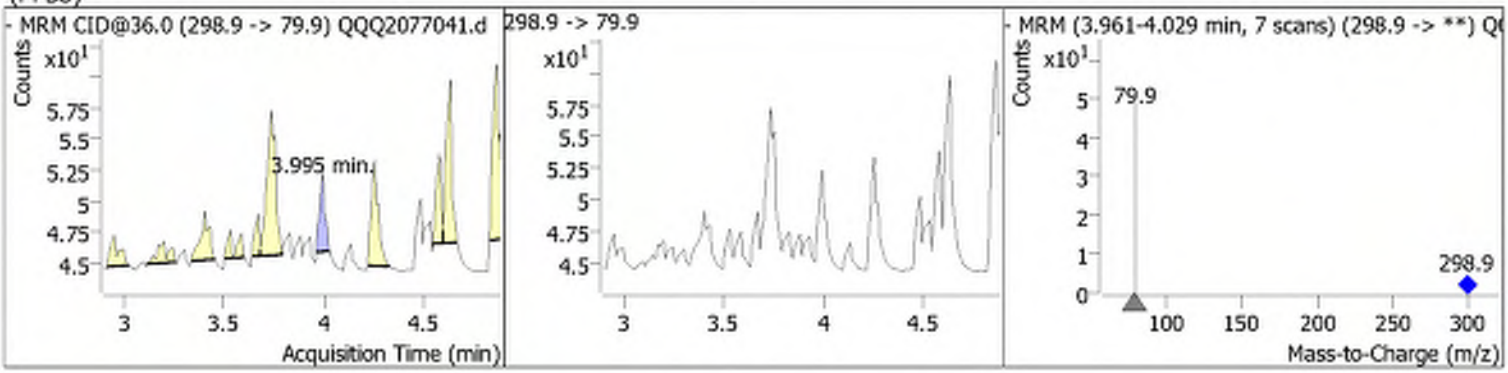
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0196	3.32	-0.07	91				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.0983	3.83	-0.06	7830				

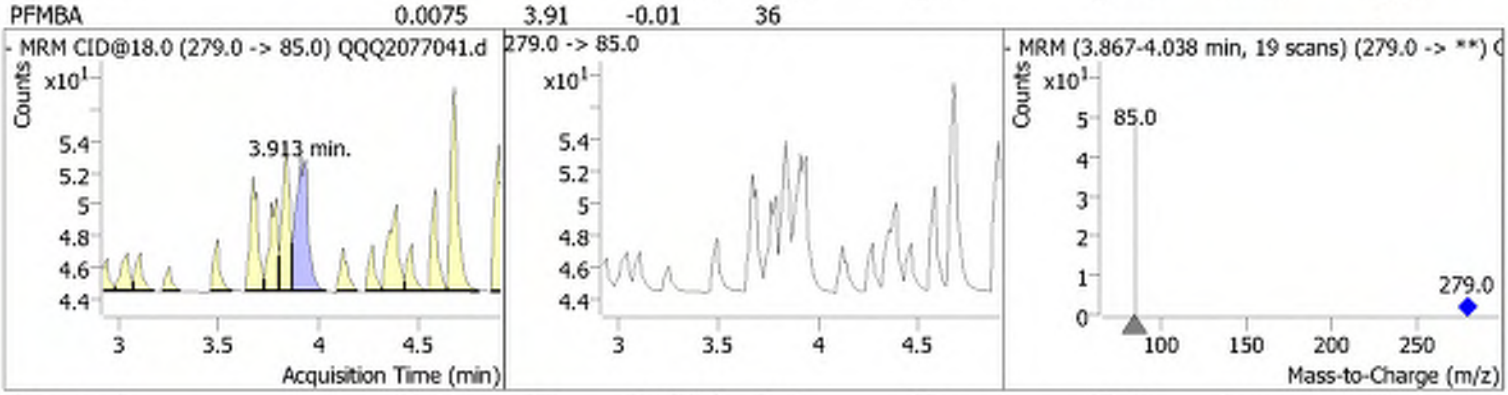


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0029	3.99	0.10	11				

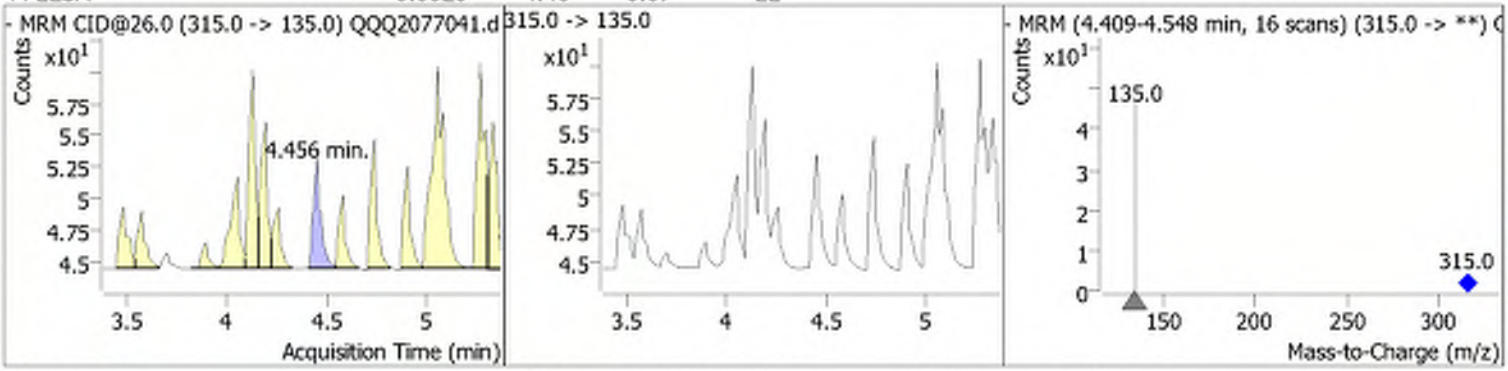


Quantitation Results Report (Not Reviewed)

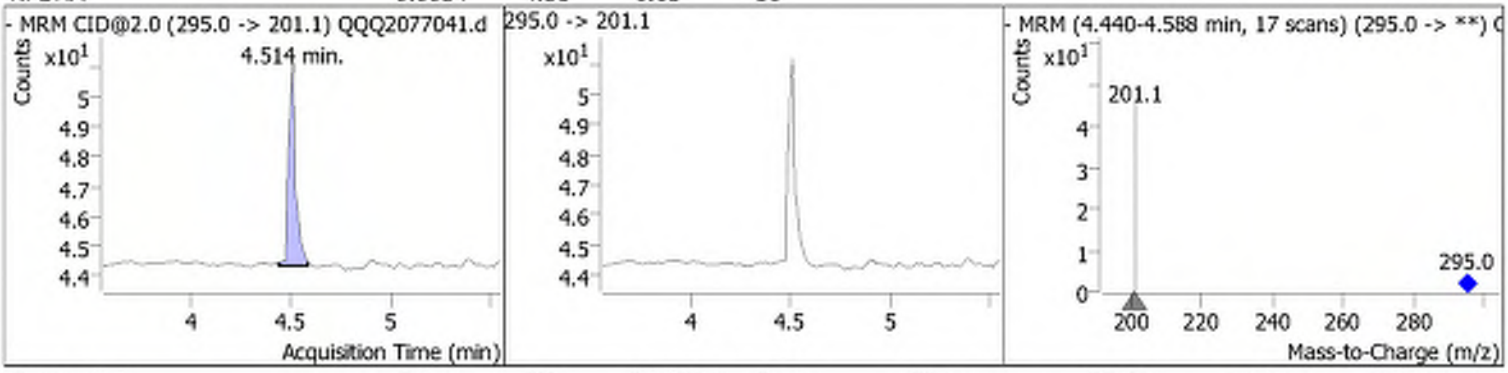
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0075	3.91	-0.01	36				



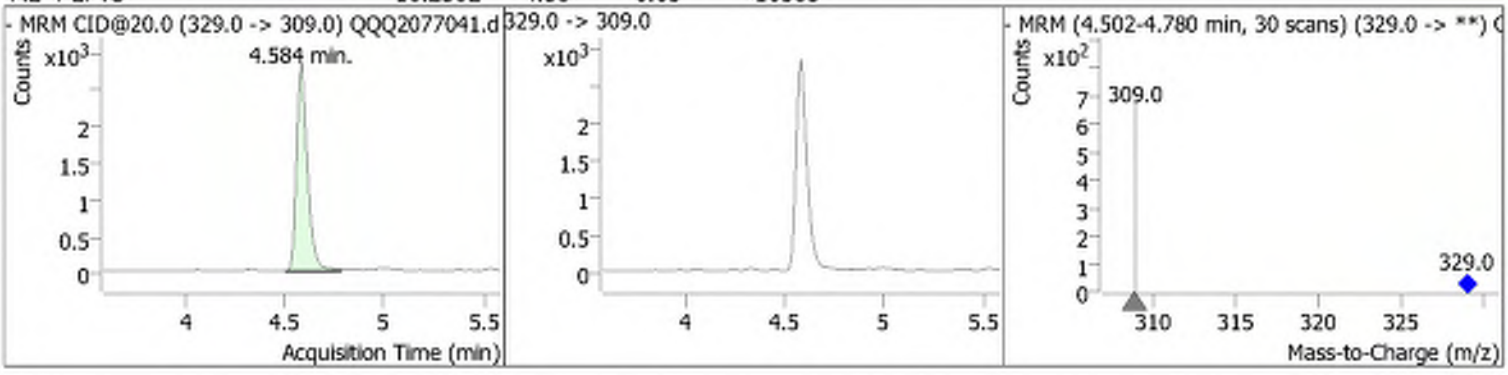
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0020	4.46	0.07	22				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0034	4.51	-0.05	16				

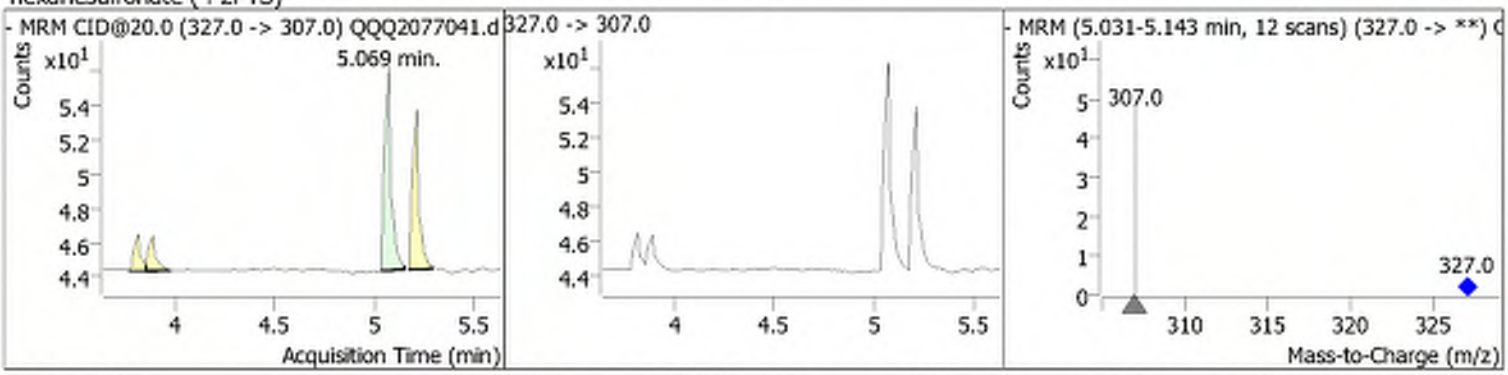


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	10.2302	4.58	-0.05	10585				

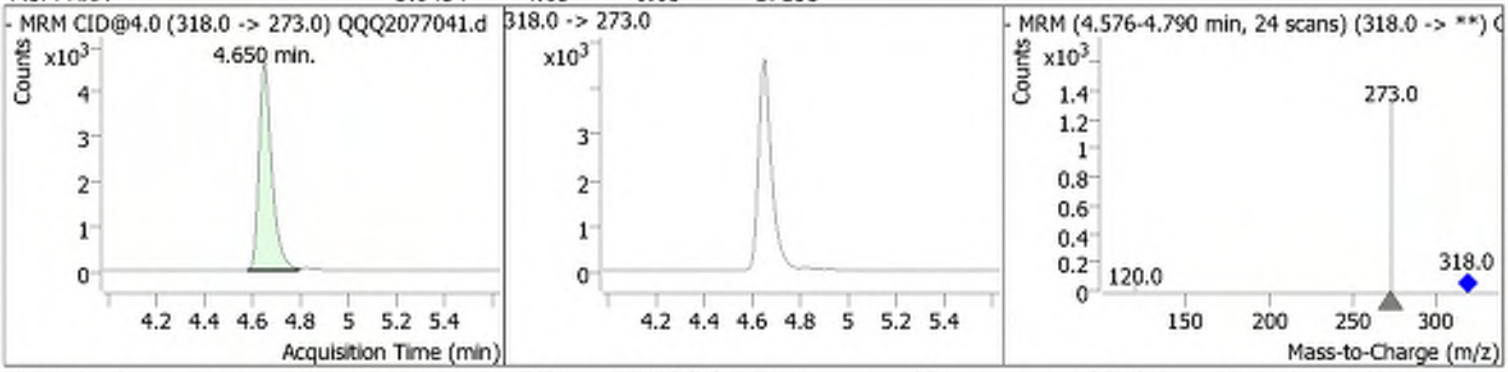


Quantitation Results Report (Not Reviewed)

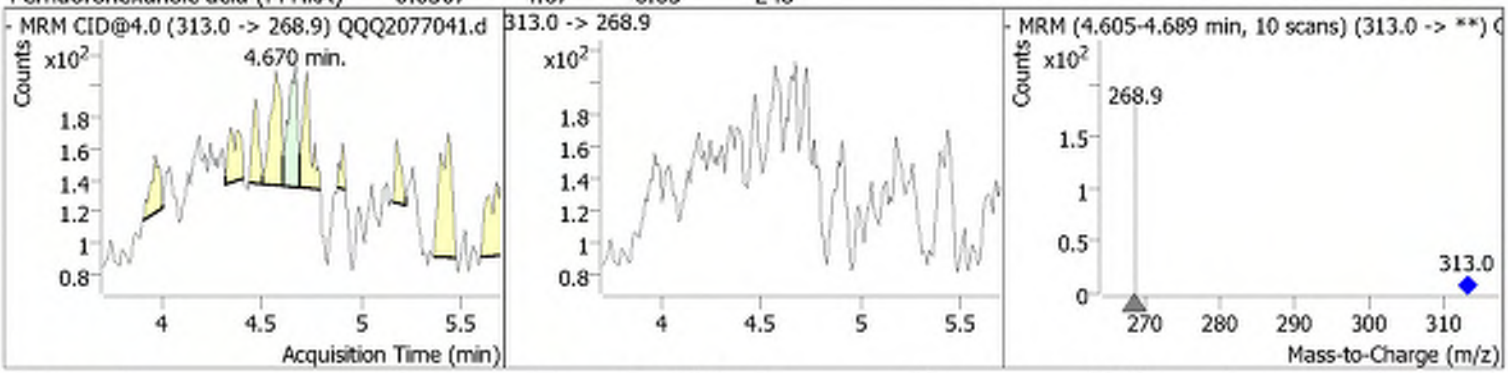
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0121	5.07	0.44	26				



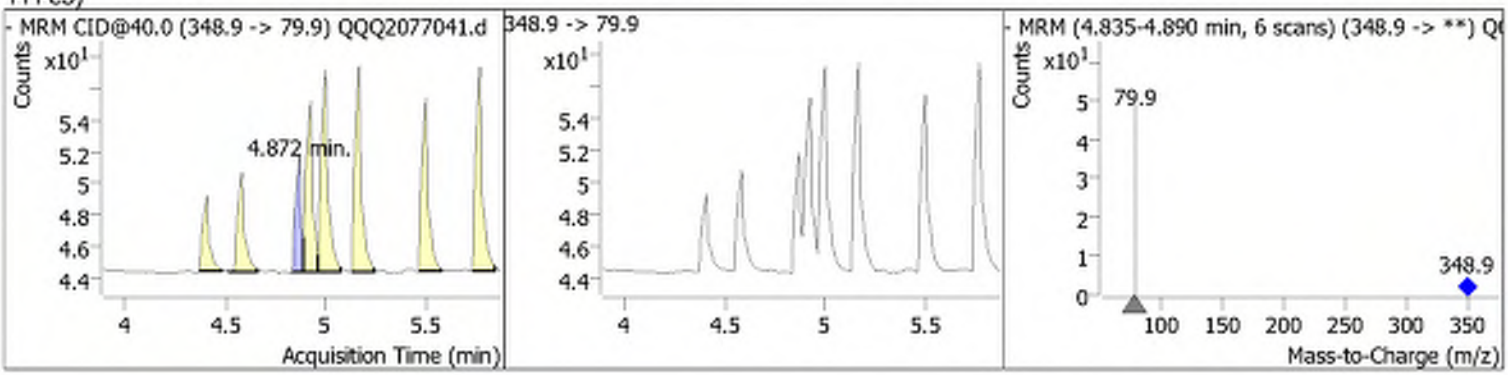
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	3.0434	4.65	-0.05	17153				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0307	4.67	-0.03	248				

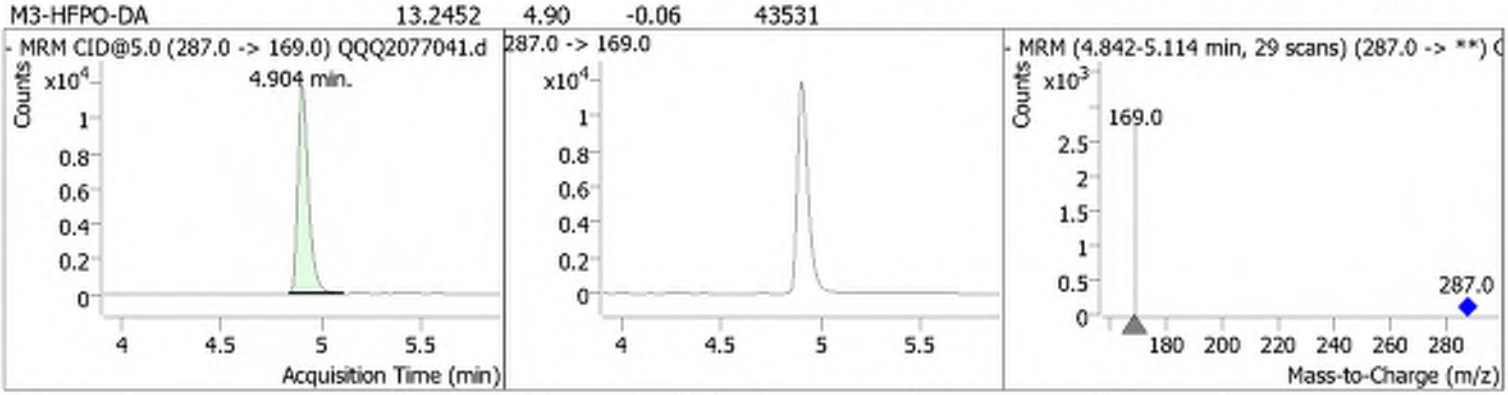


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0040	4.87	-0.01	13				

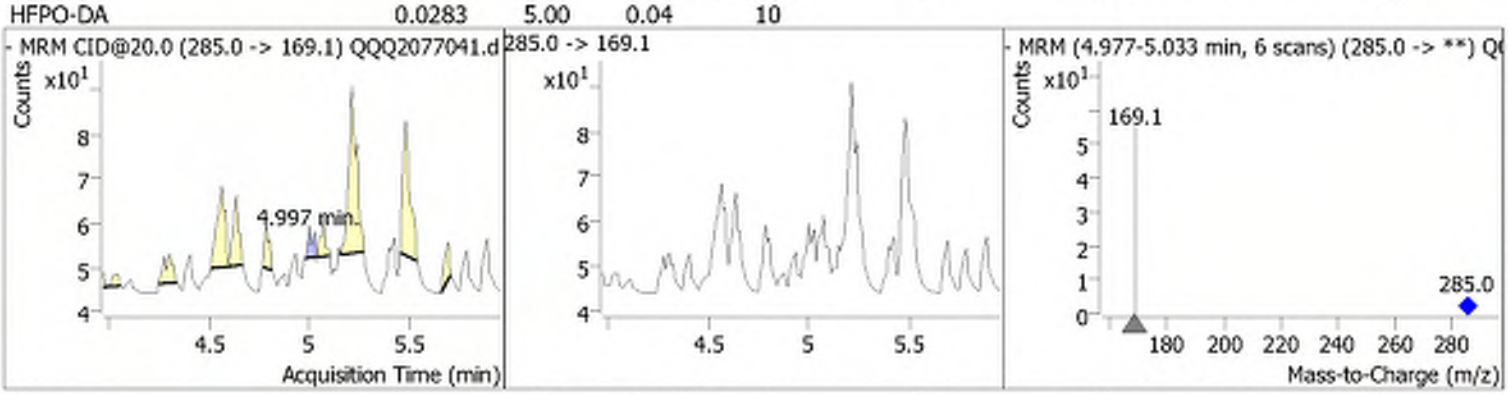


Quantitation Results Report (Not Reviewed)

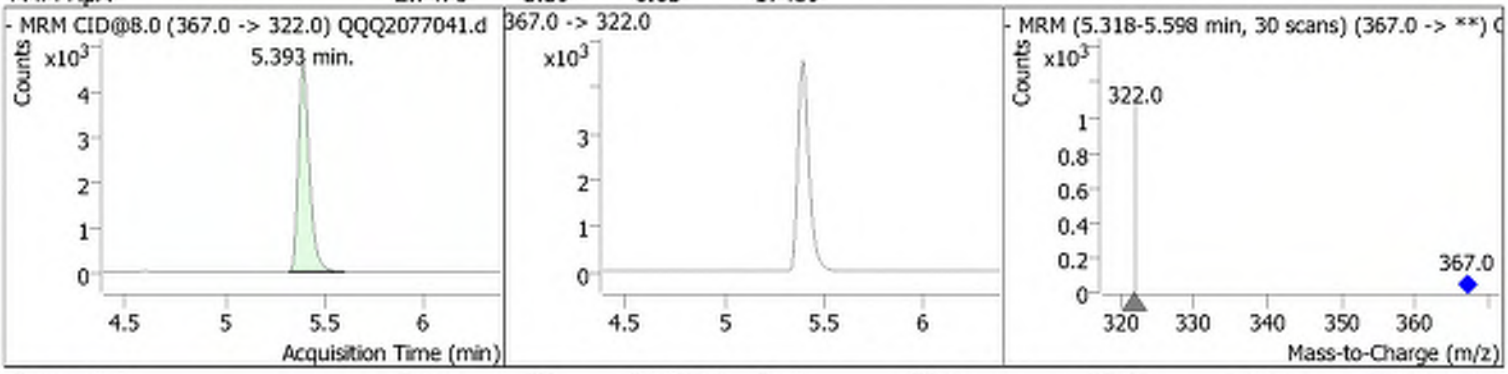
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	13.2452	4.90	-0.06	43531				



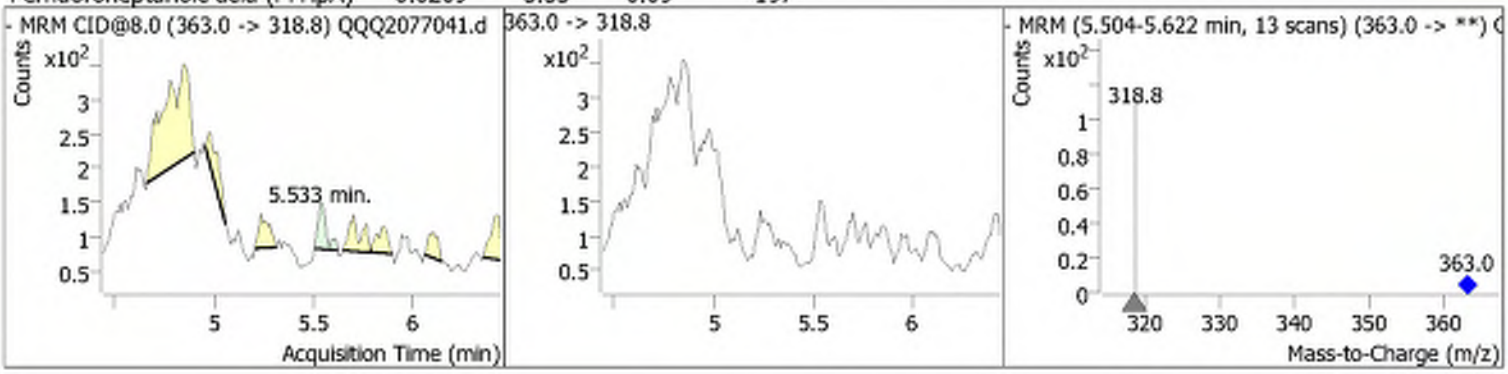
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0283	5.00	0.04	10				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.7476	5.39	-0.05	17489				



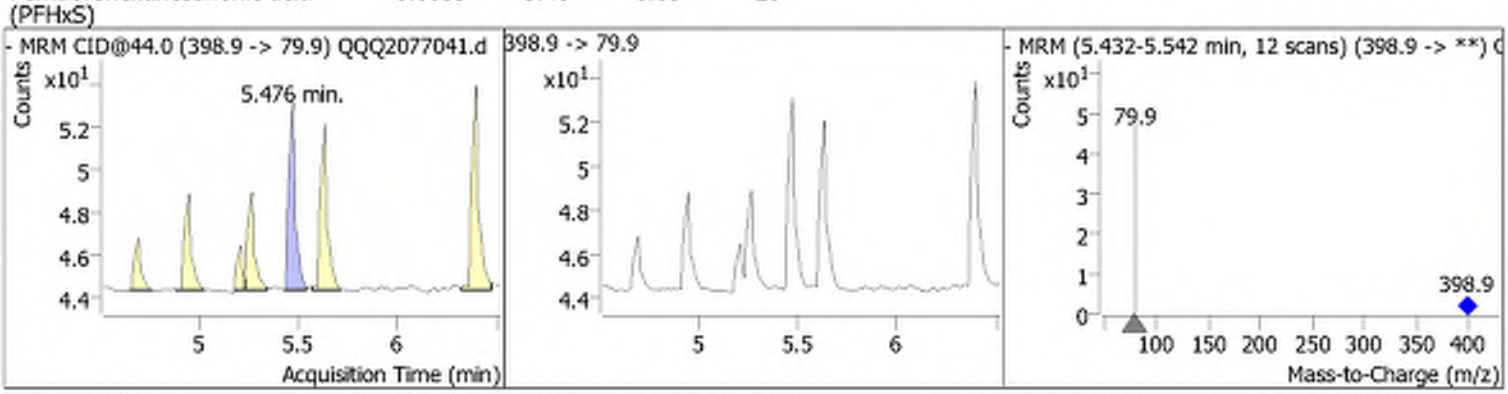
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0209	5.53	0.09	197				



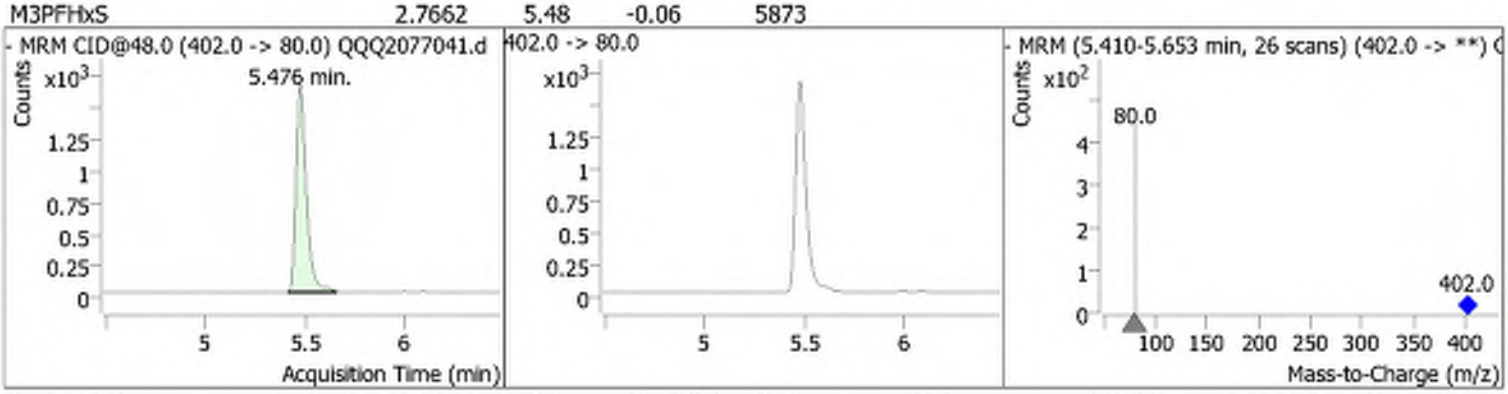
Quantitation Results Report (Not Reviewed)

Agilent

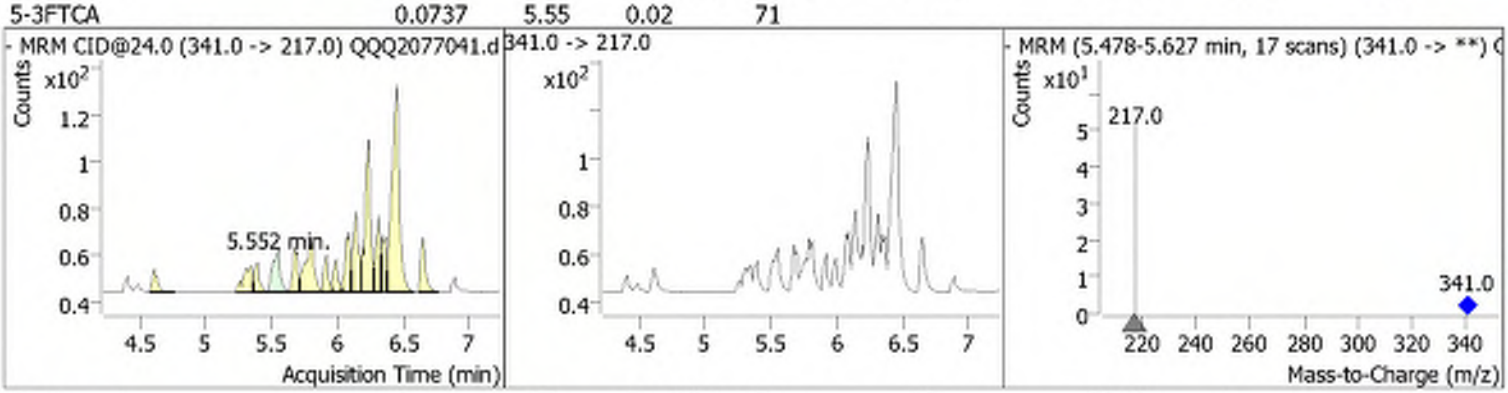
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0059	5.48	-0.05	20				



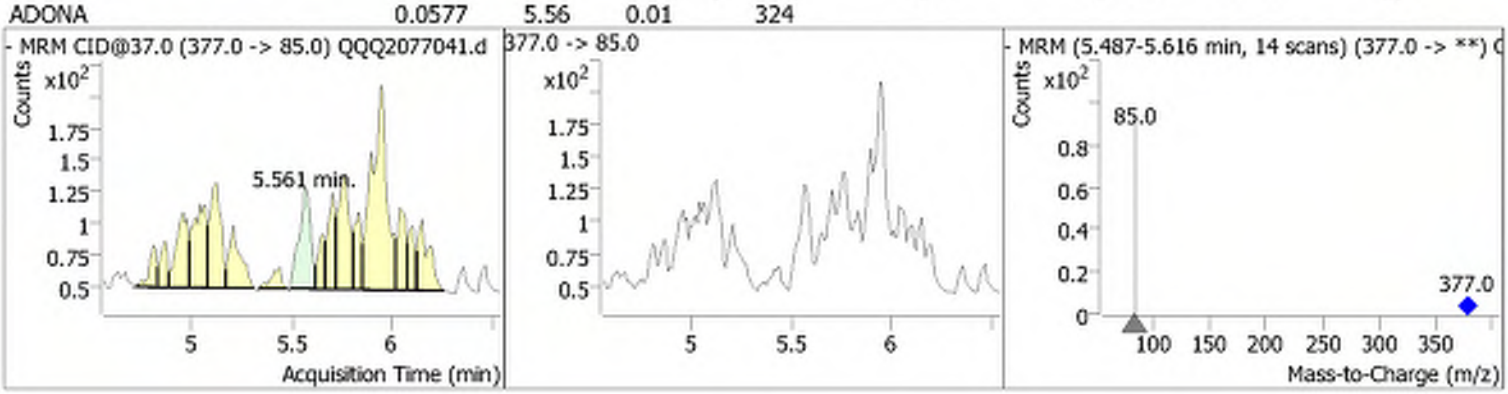
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.7662	5.48	-0.06	5873				



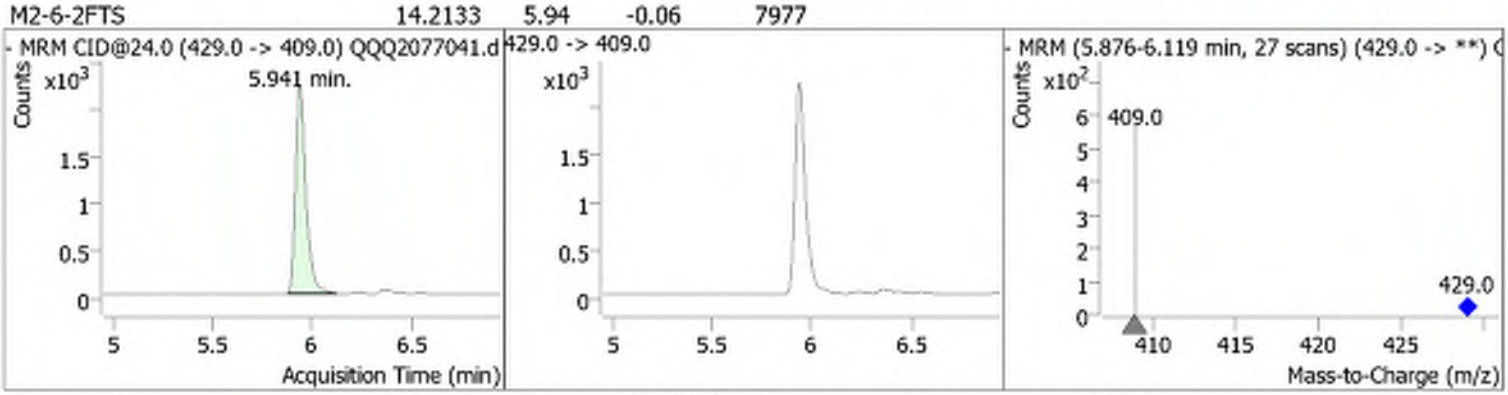
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	0.0737	5.55	0.02	71				



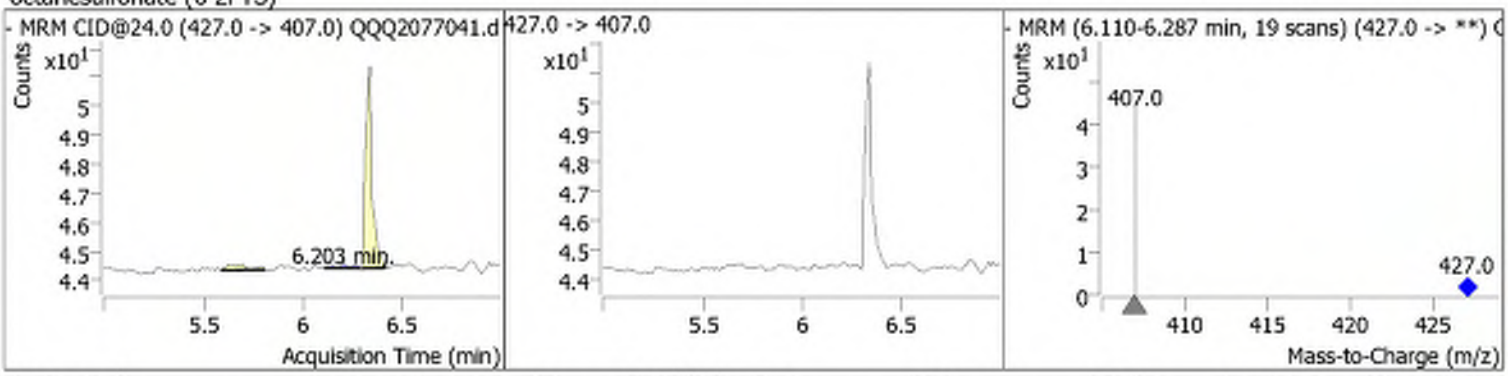
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0577	5.56	0.01	324				



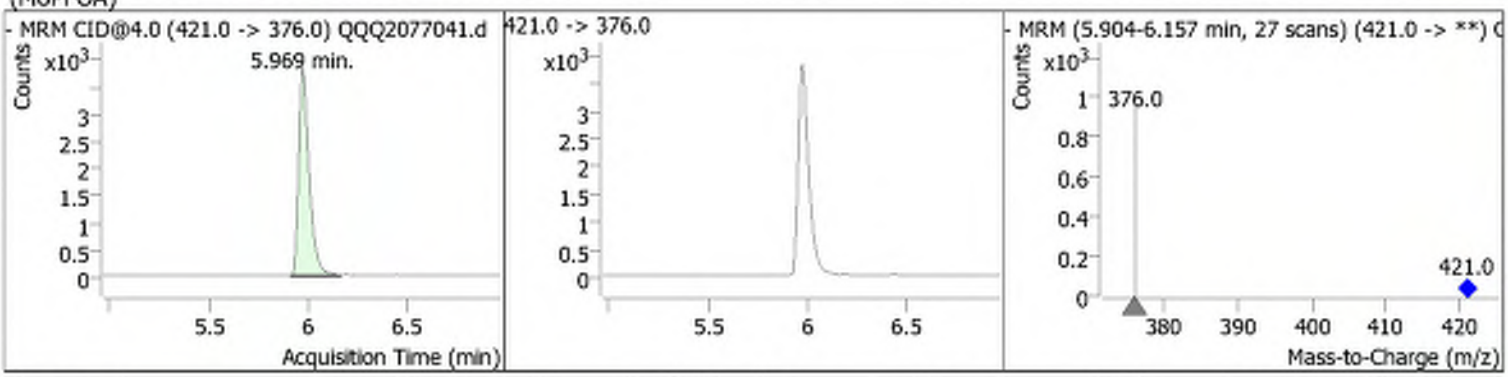
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	14.2133	5.94	-0.06	7977				



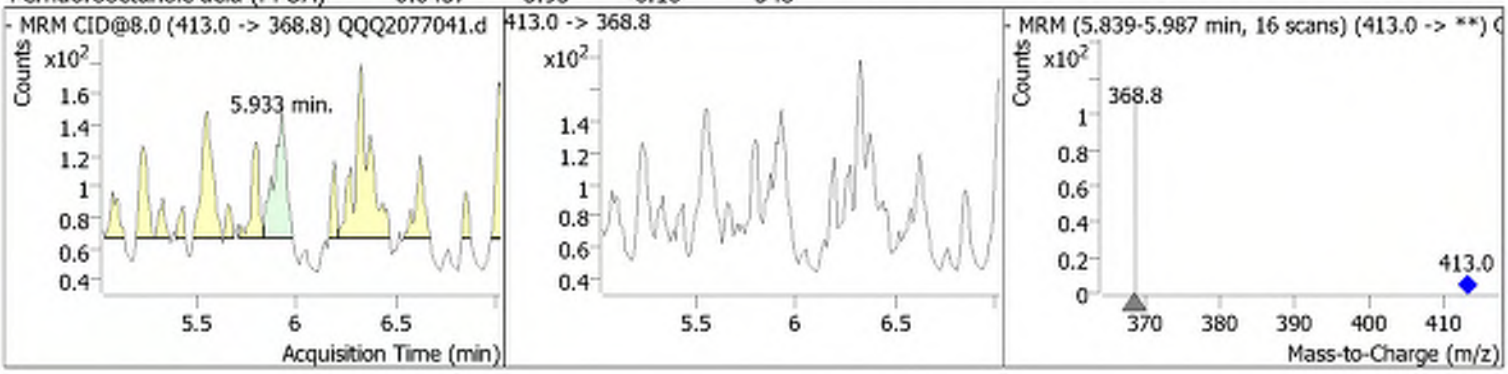
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0005	6.20	0.21	1				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.9481	5.97	-0.07	13804				

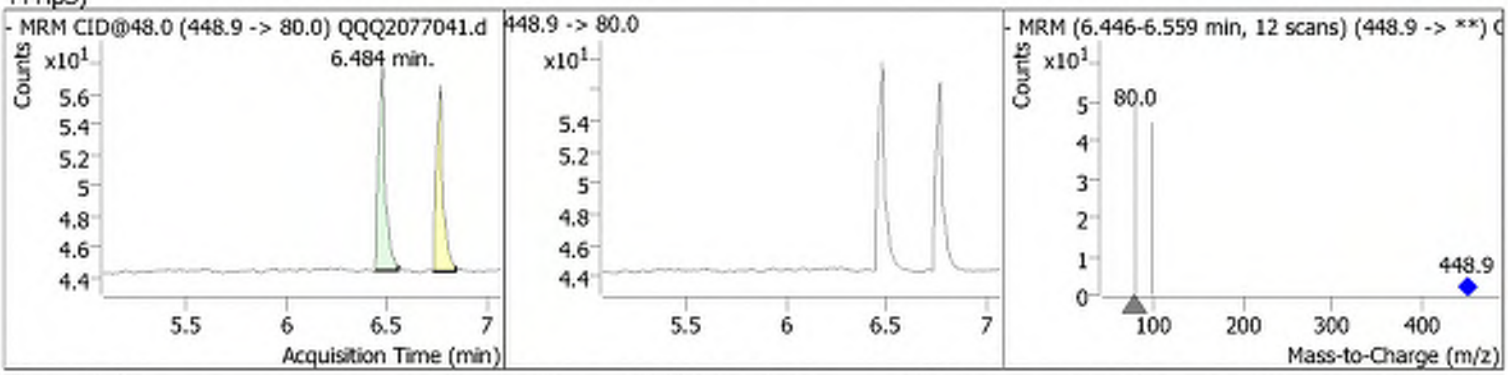


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0437	5.93	-0.10	348				

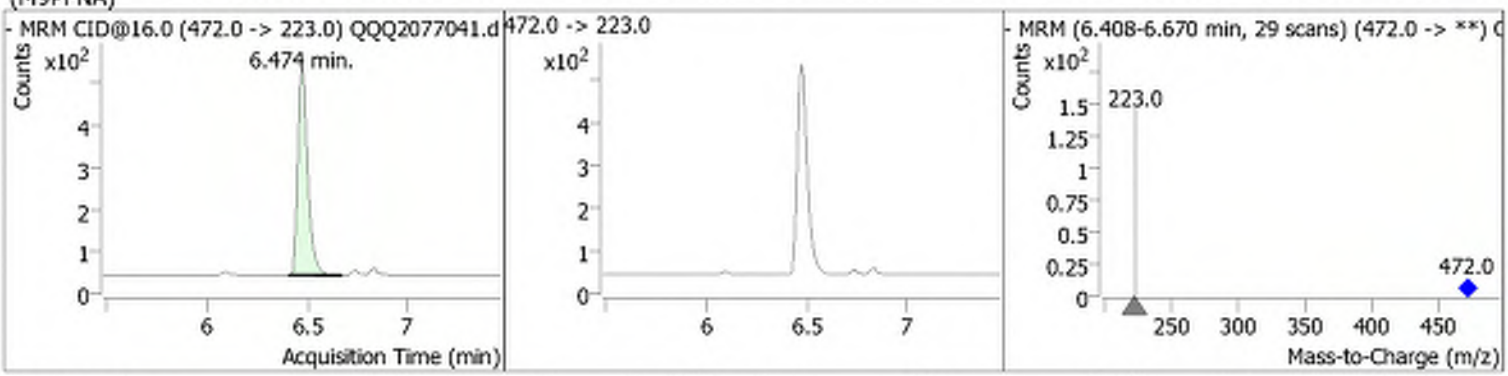


Quantitation Results Report (Not Reviewed)

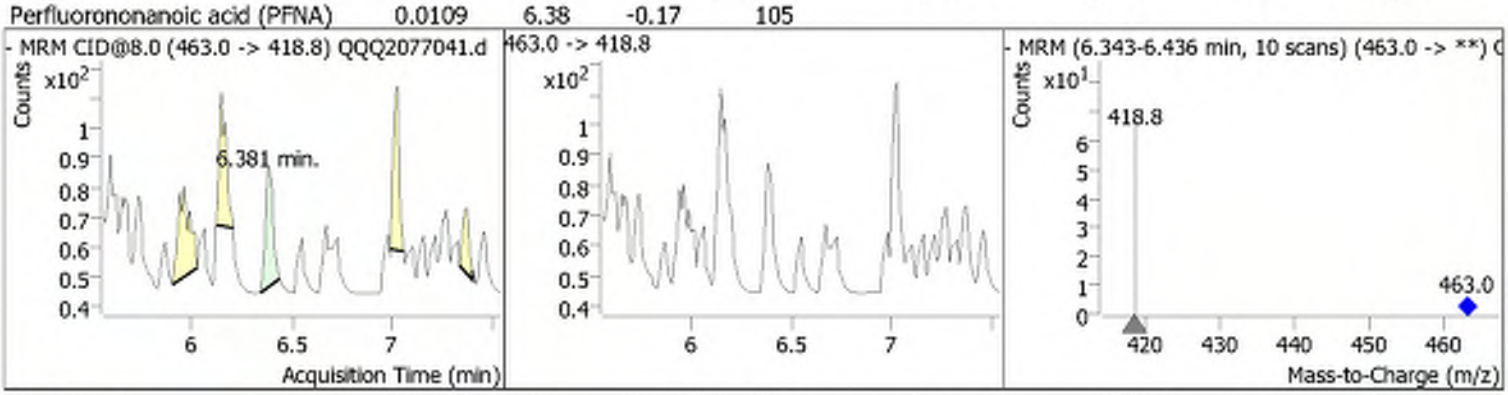
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0117	6.48	0.40	30				



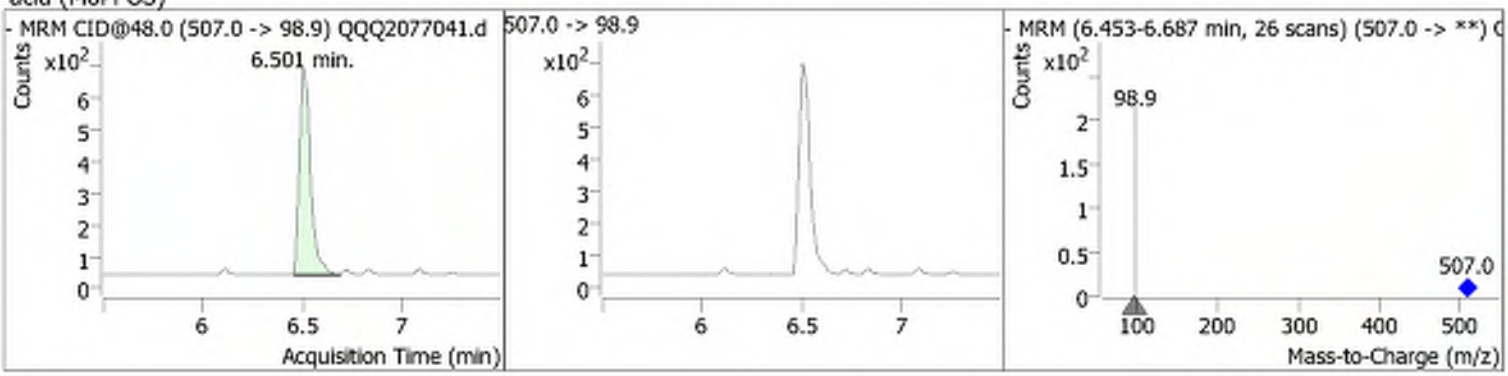
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.9173	6.47	-0.07	1682				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0109	6.38	-0.17	105				

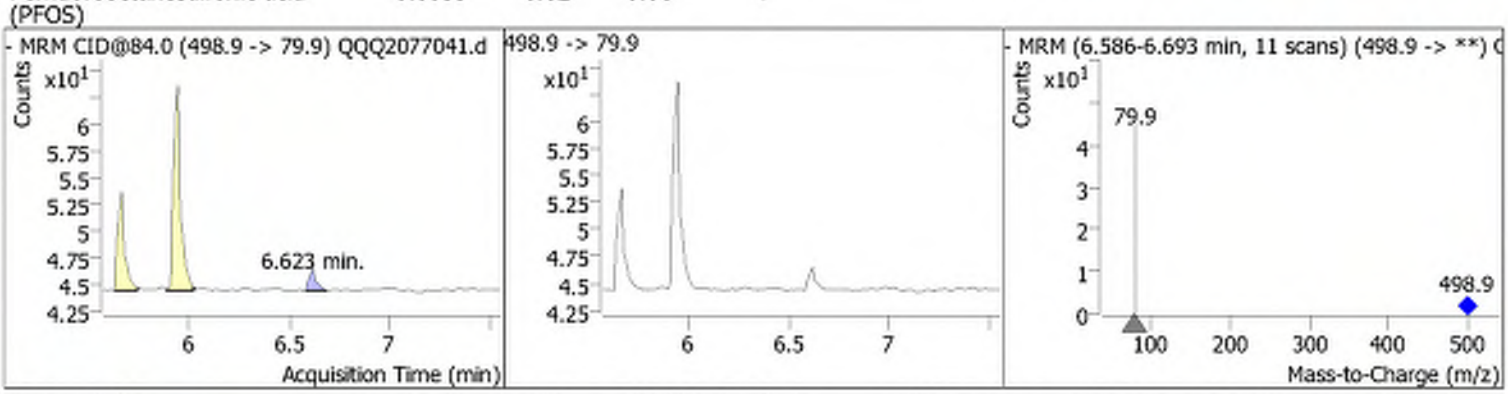


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.1813	6.50	-0.07	2514				

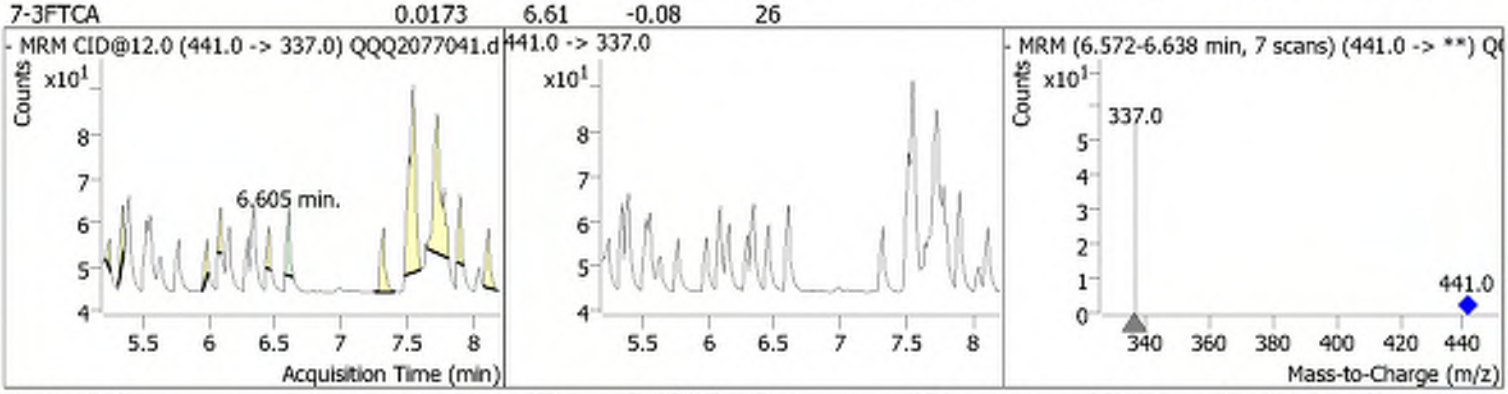


Quantitation Results Report (Not Reviewed)

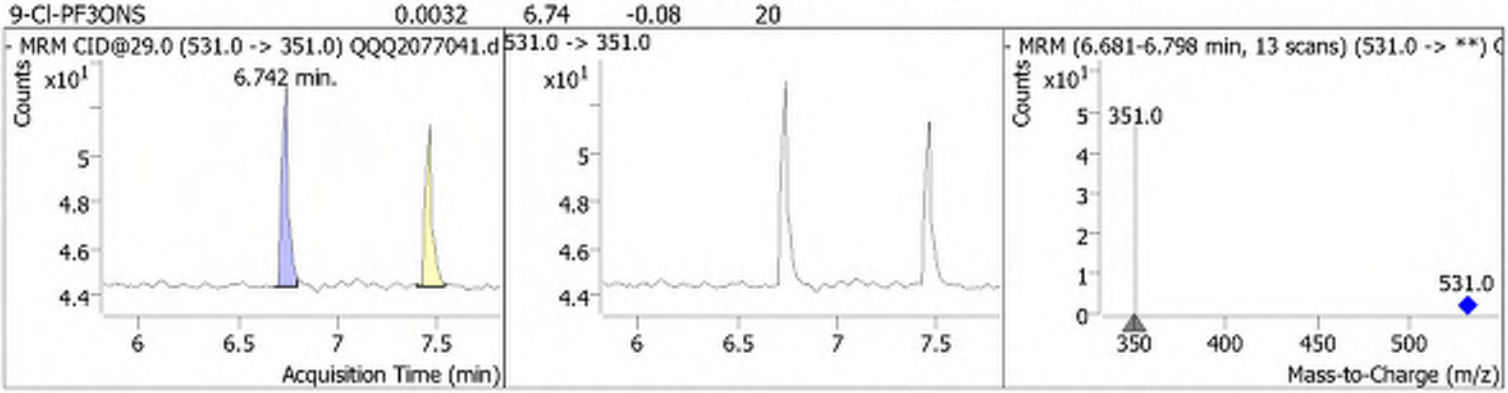
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0035	6.62	0.06	4				



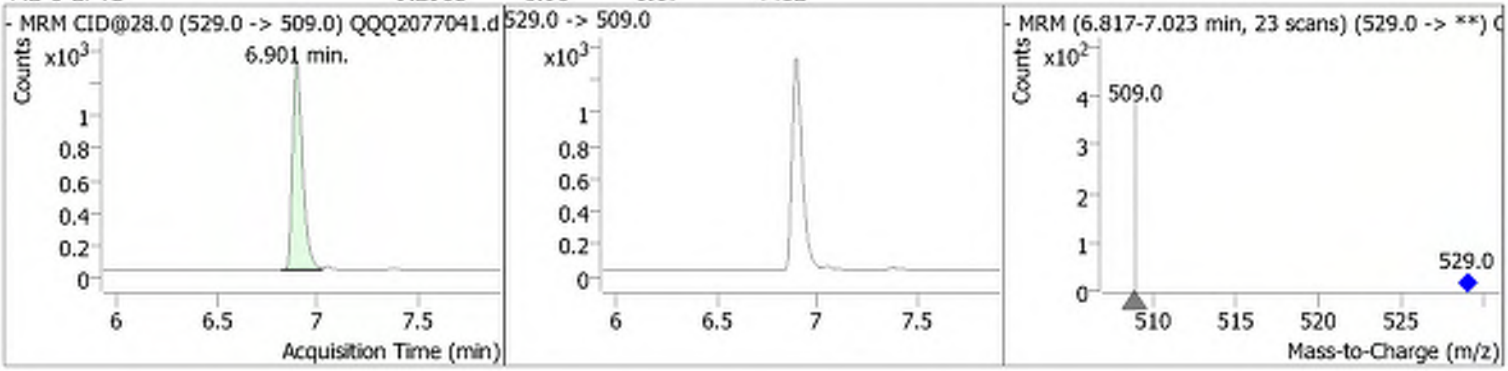
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.0173	6.61	-0.08	26				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0032	6.74	-0.08	20				



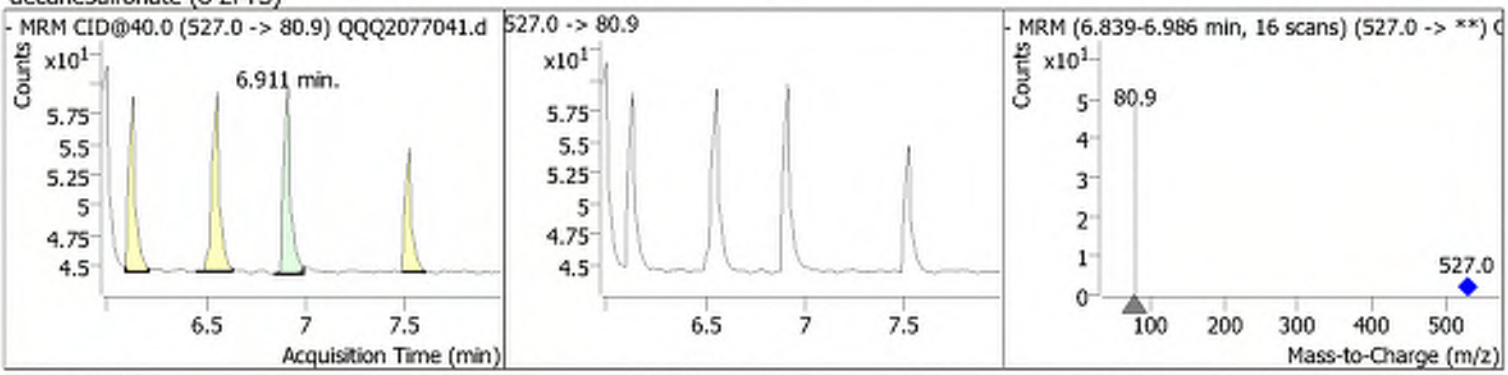
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	9.2905	6.90	-0.07	4482				



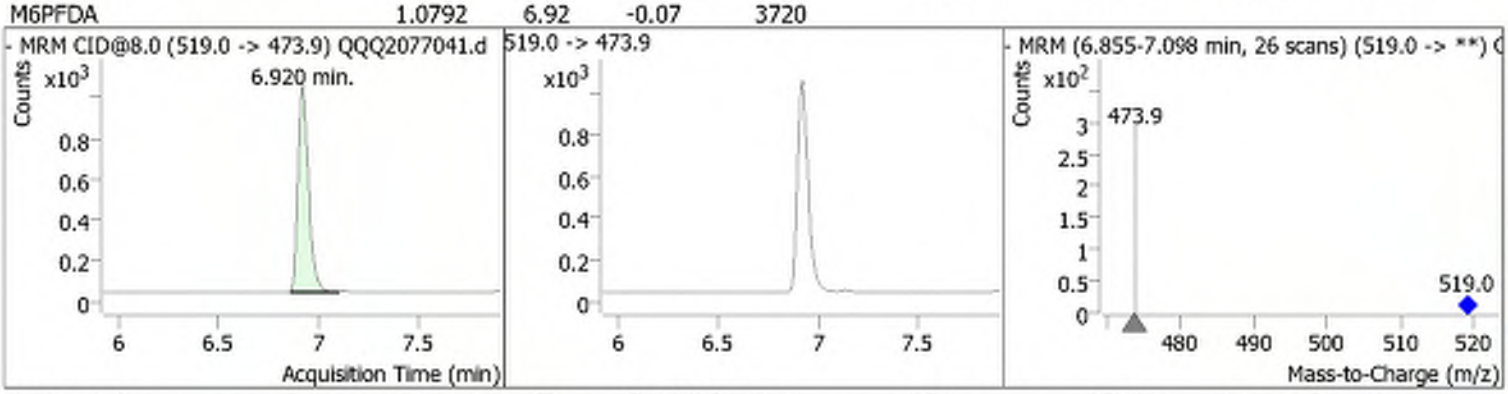
Quantitation Results Report (Not Reviewed)

Agilent

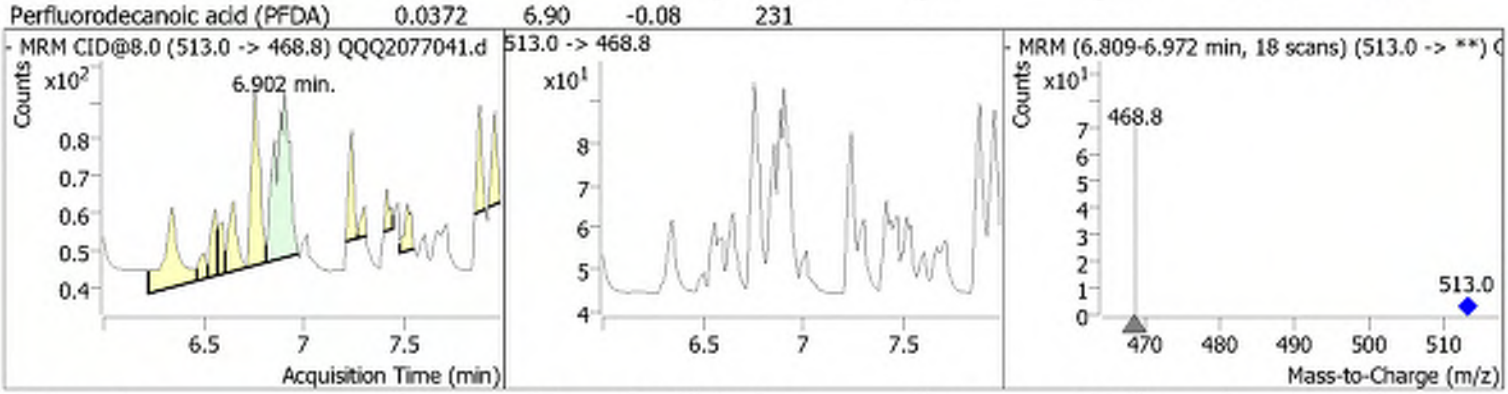
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0317	6.91	-0.07	37				



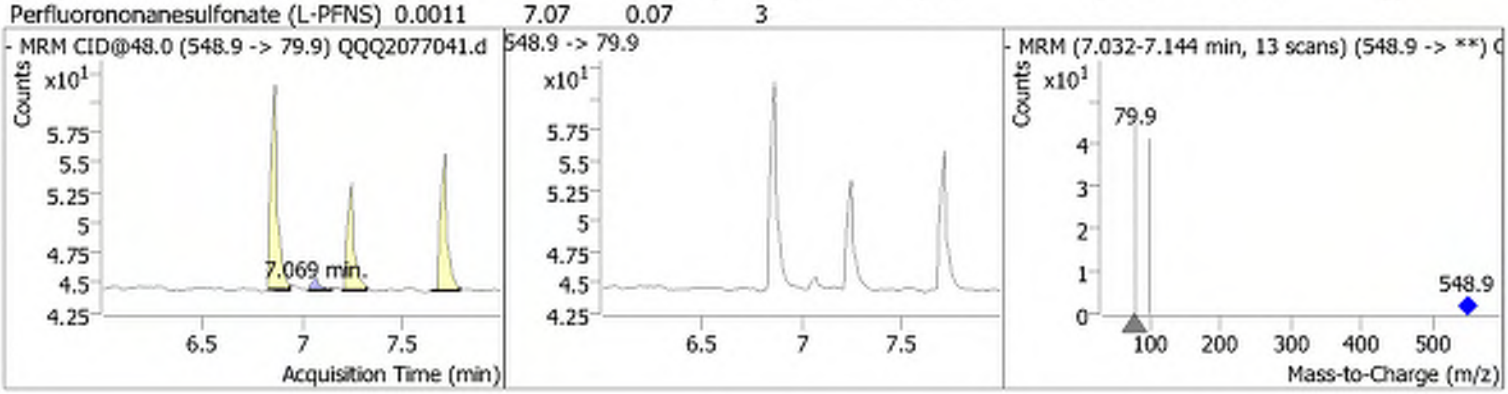
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.0792	6.92	-0.07	3720				



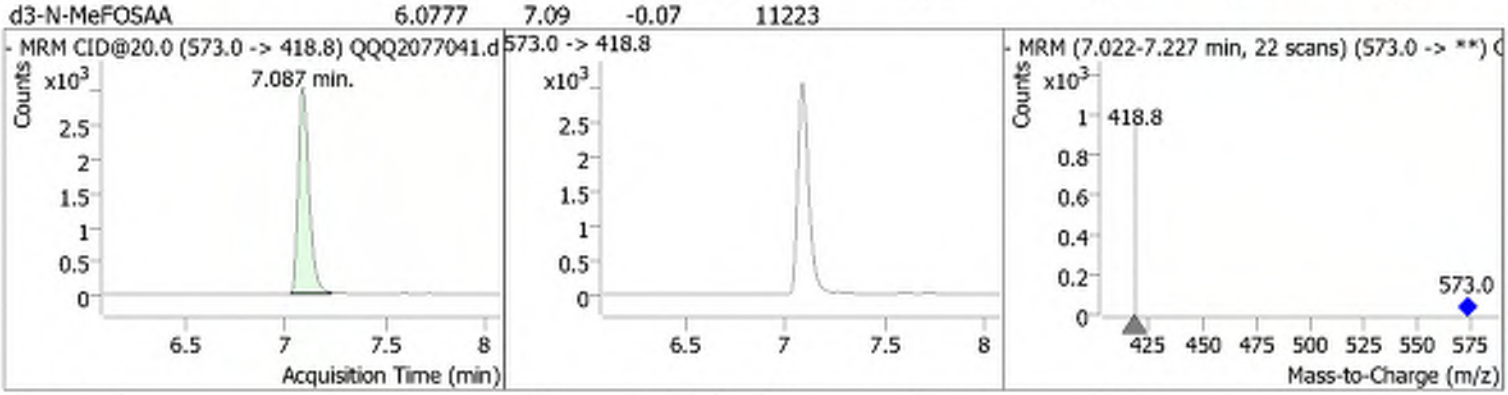
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0372	6.90	-0.08	231				



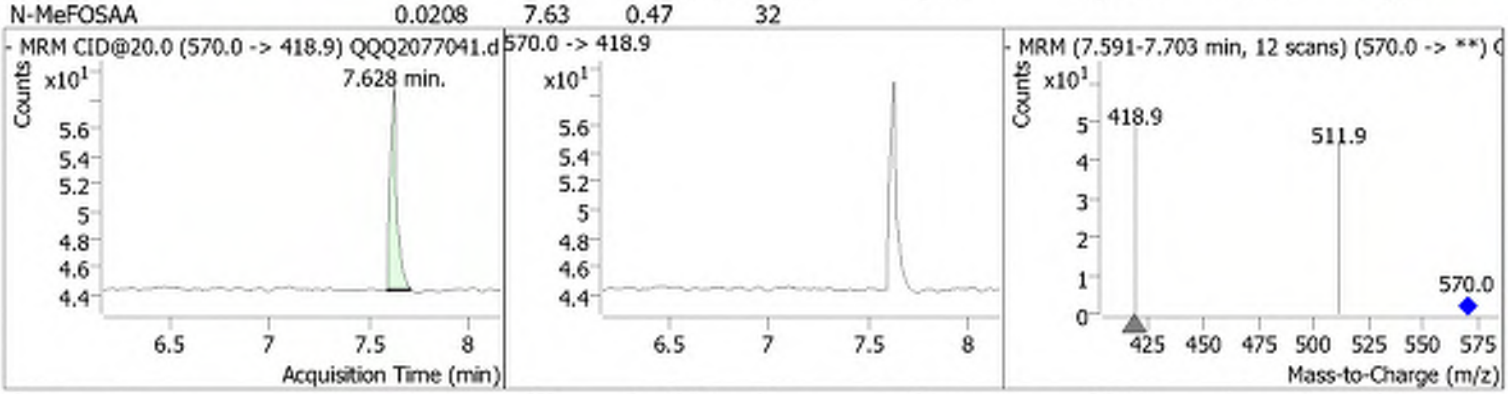
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0011	7.07	0.07	3				



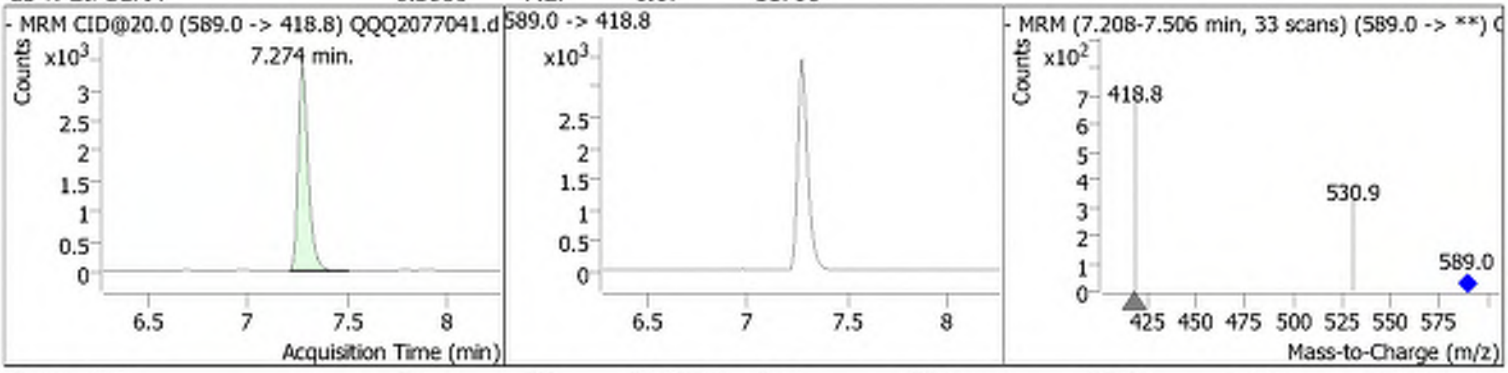
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	6.0777	7.09	-0.07	11223				



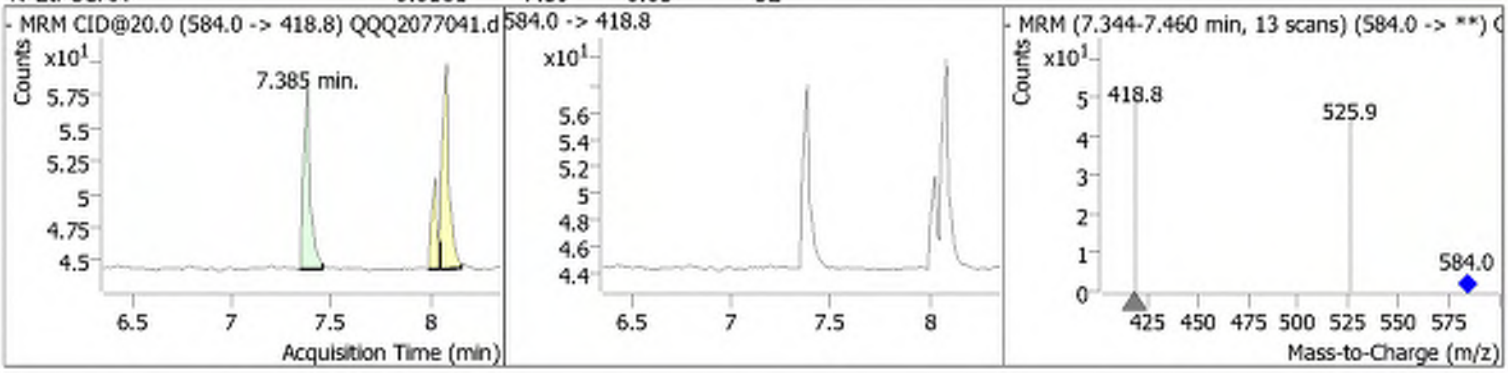
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0208	7.63	0.47	32				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	6.3086	7.27	-0.07	11706				



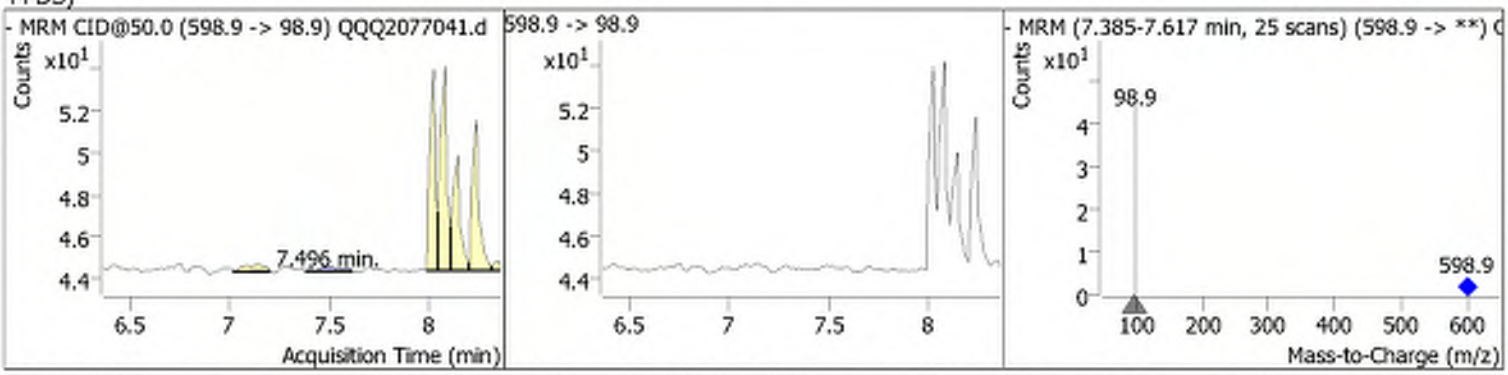
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0181	7.39	0.03	32				



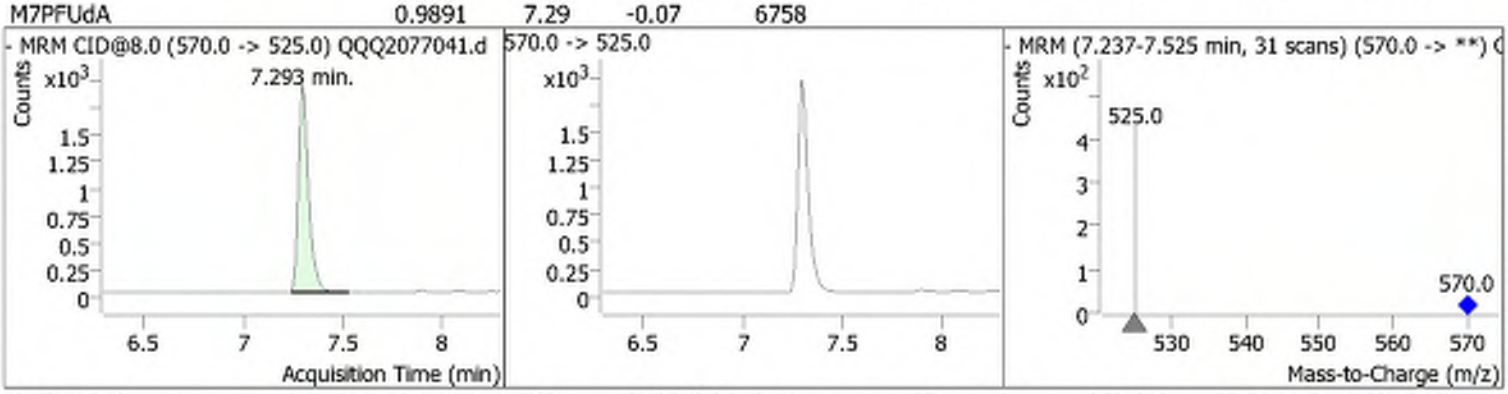
Quantitation Results Report (Not Reviewed)

Agilent

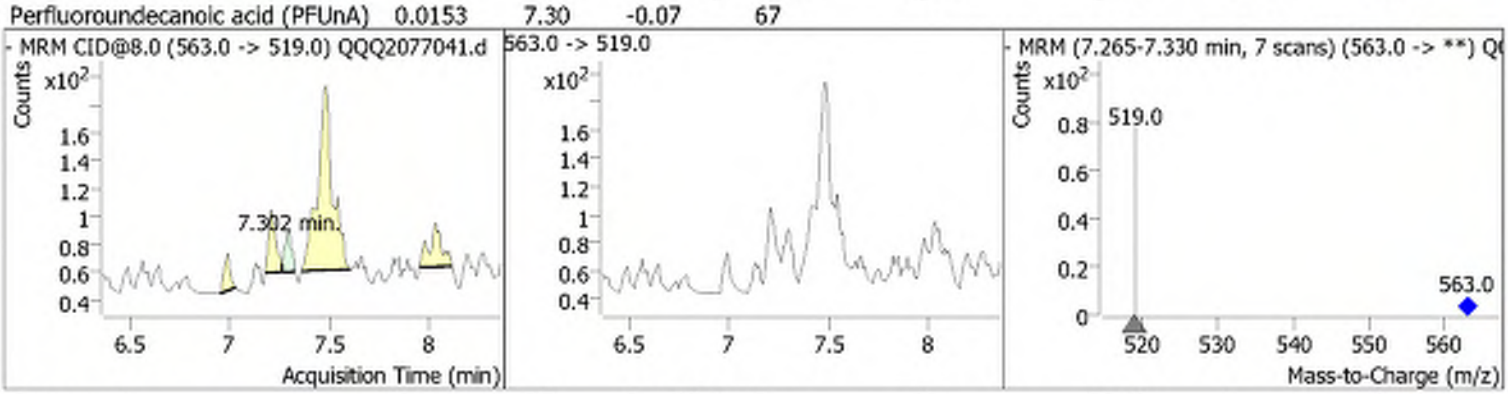
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0018	7.50	0.13	2				



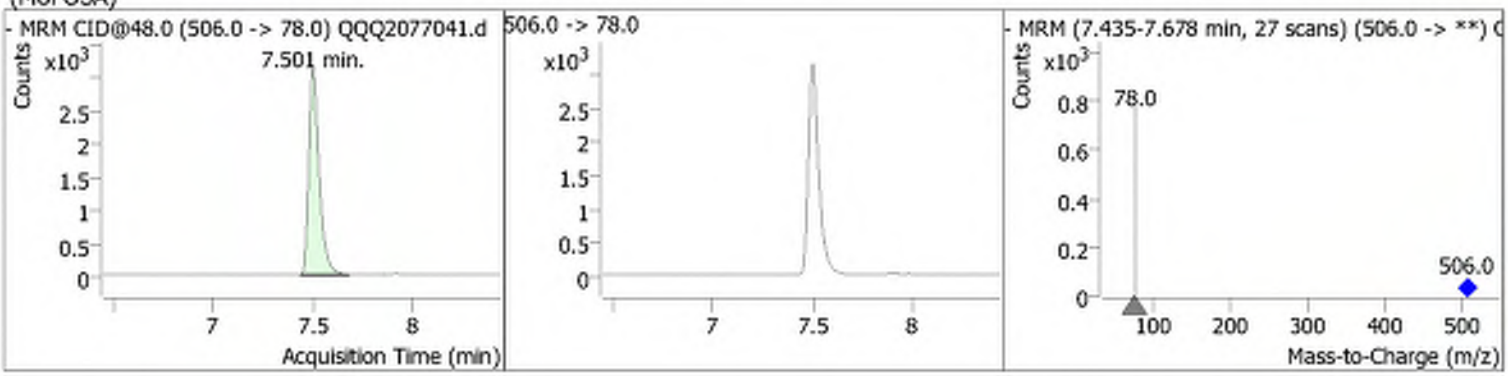
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.9891	7.29	-0.07	6758				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0153	7.30	-0.07	67				



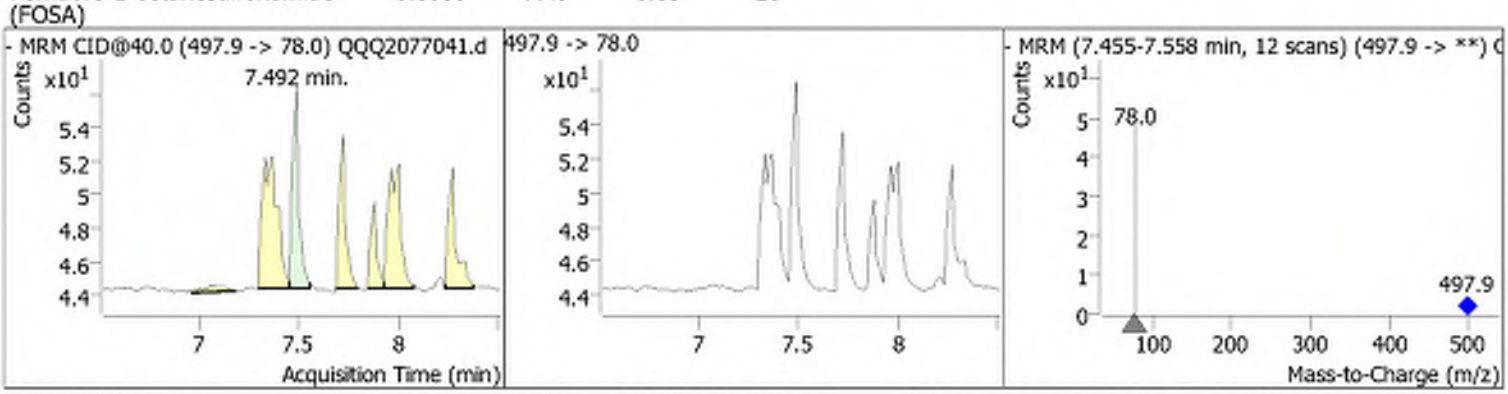
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.4890	7.50	-0.02	11153				



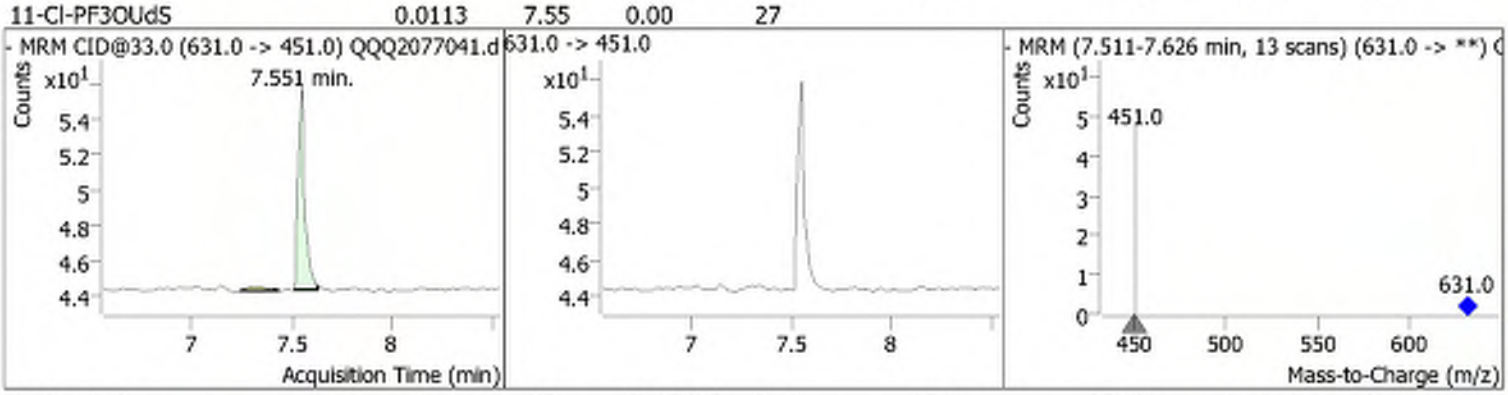
Quantitation Results Report (Not Reviewed)

Agilent

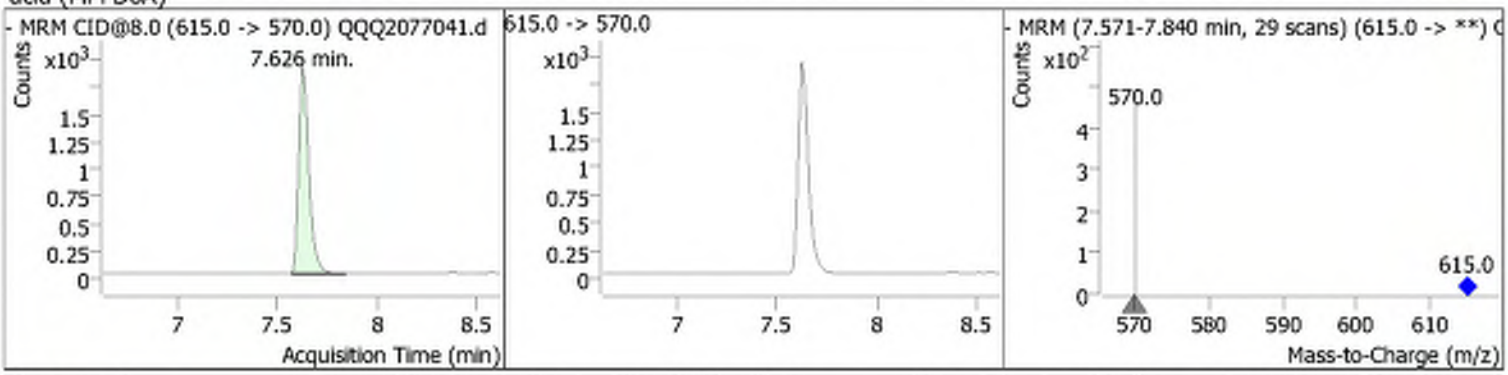
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0035	7.49	-0.03	28				



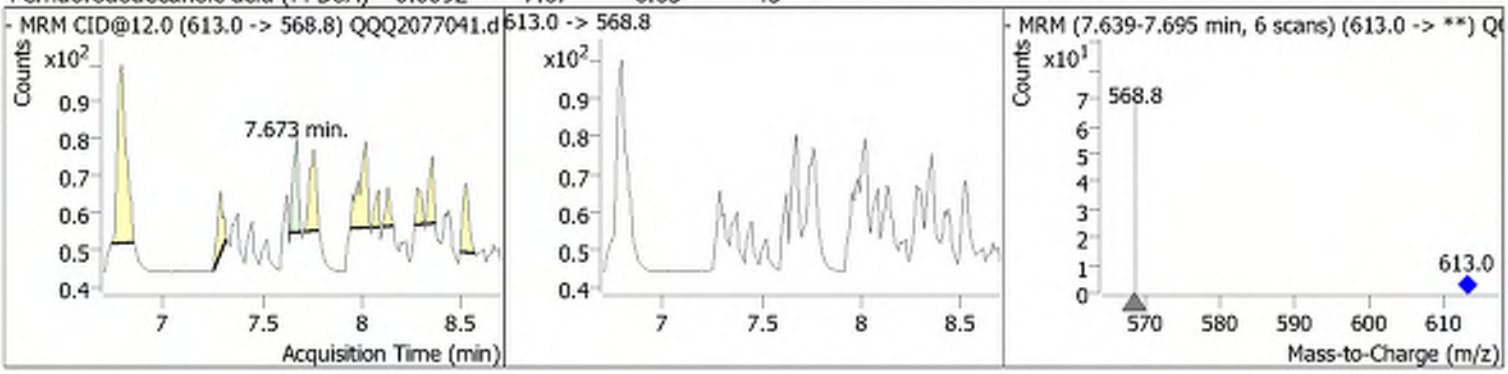
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.0113	7.55	0.00	27				



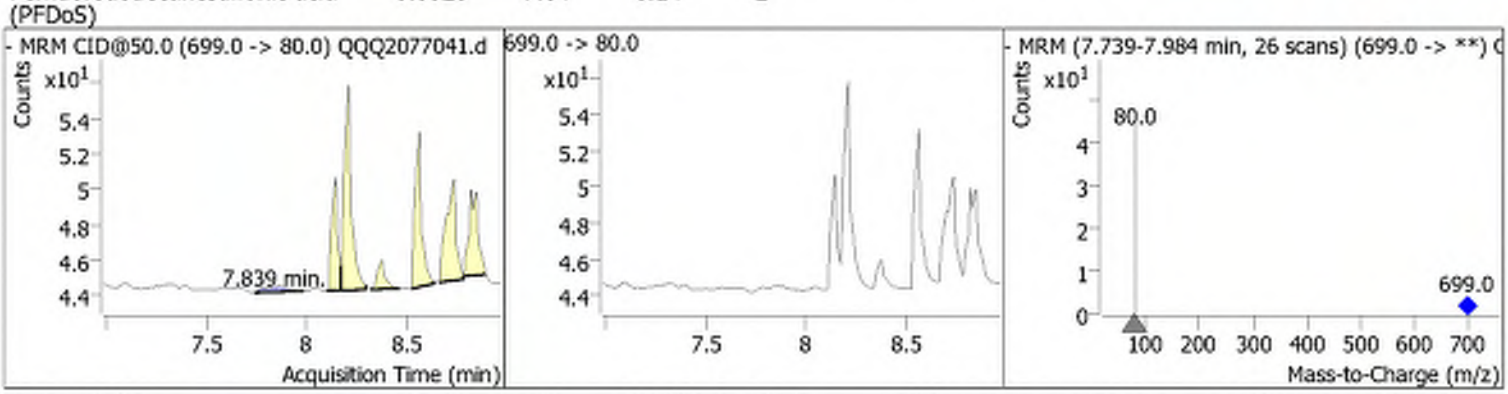
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.1773	7.63	-0.07	6696				



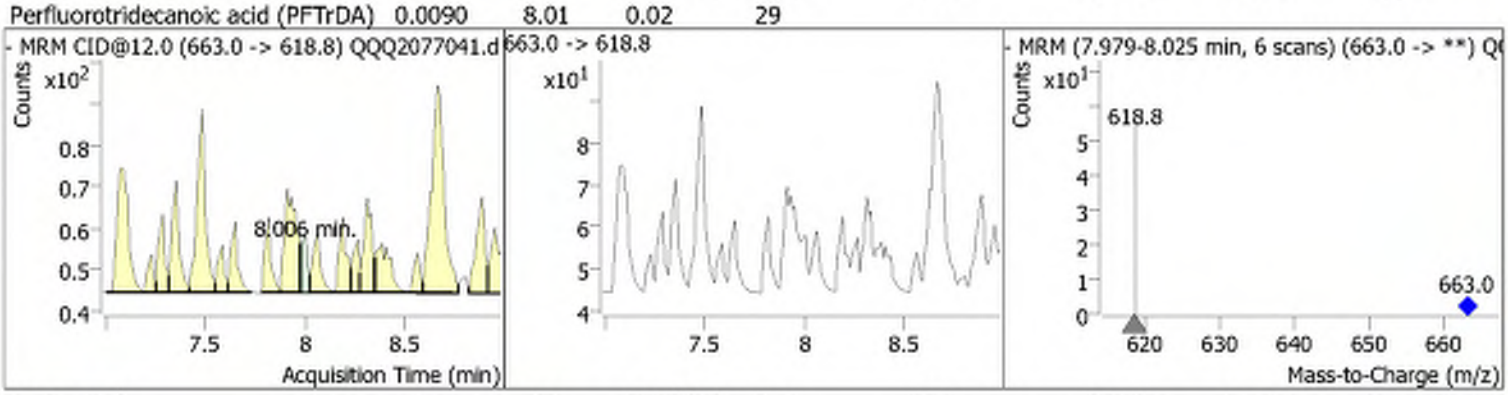
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0092	7.67	-0.03	43				



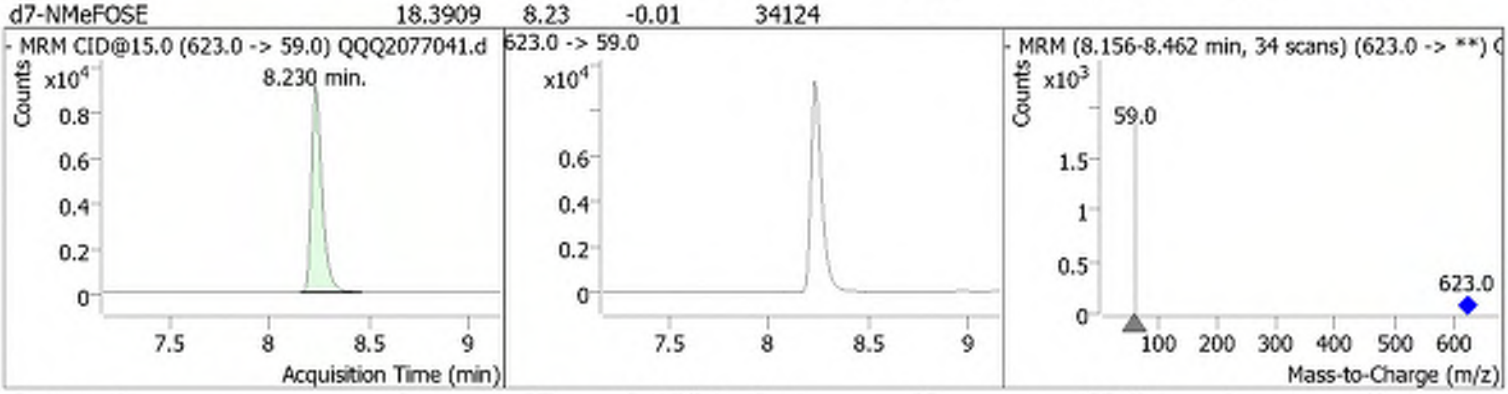
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0026	7.84	-0.14	2				



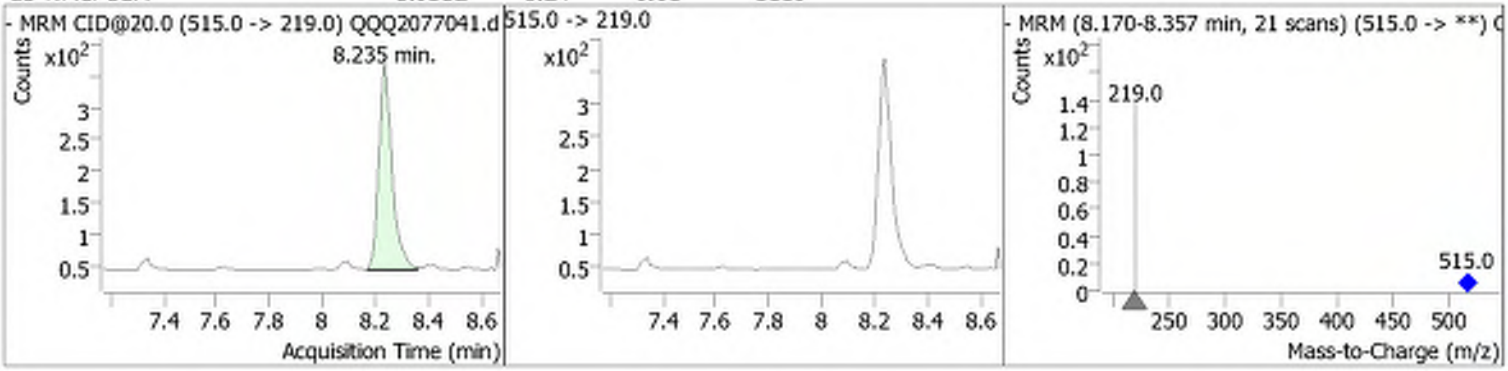
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0090	8.01	0.02	29				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	18.3909	8.23	-0.01	34124				



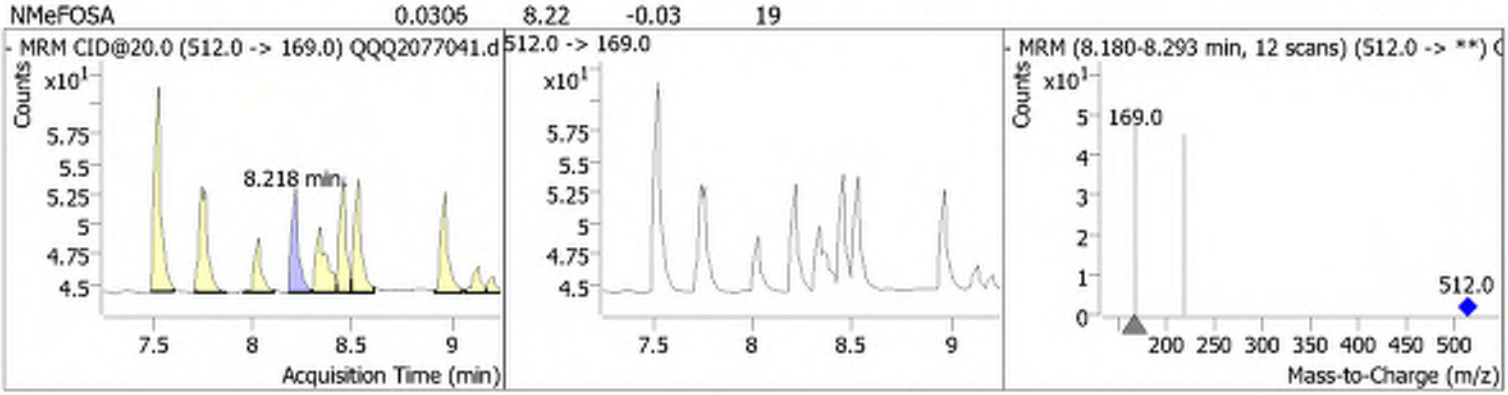
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.9552	8.24	-0.01	1119				



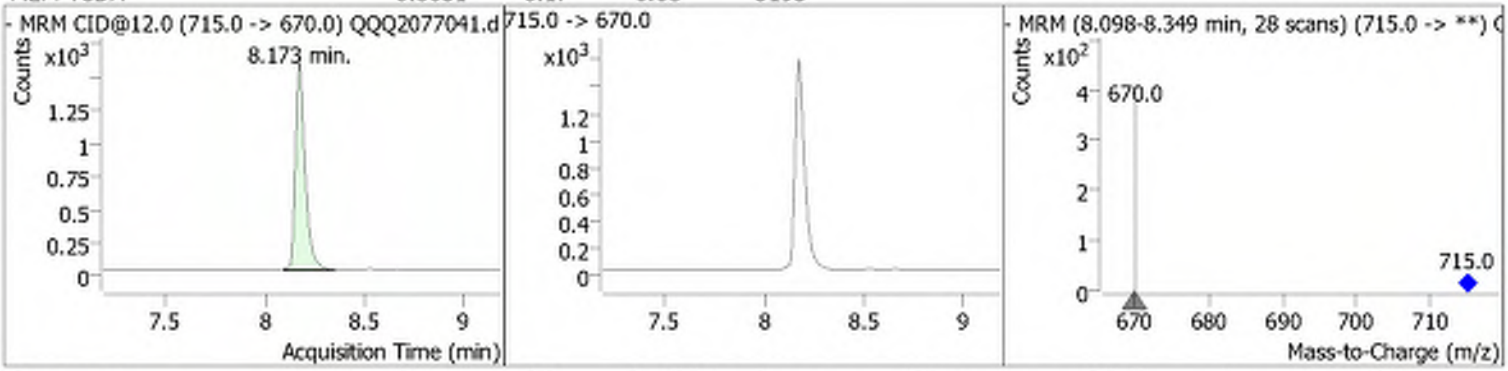
Quantitation Results Report (Not Reviewed)

Agilent

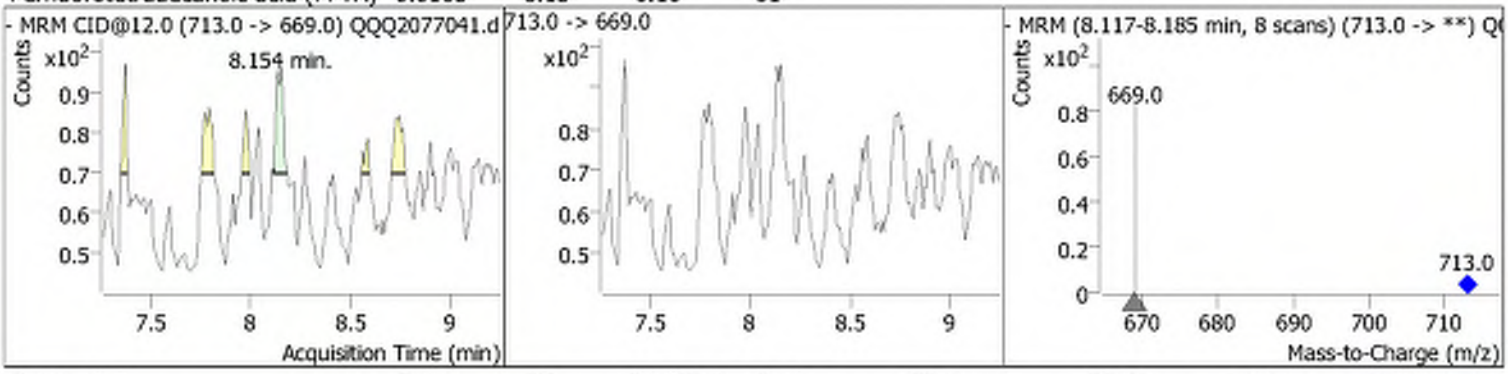
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.0306	8.22	-0.03	19				



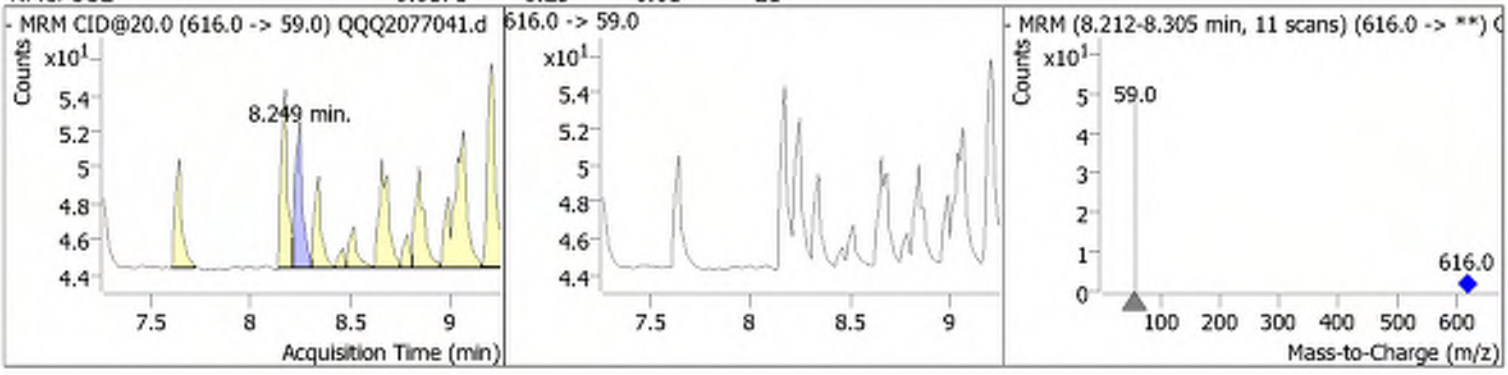
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.8651	8.17	-0.08	5193				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0105	8.15	-0.10	61				



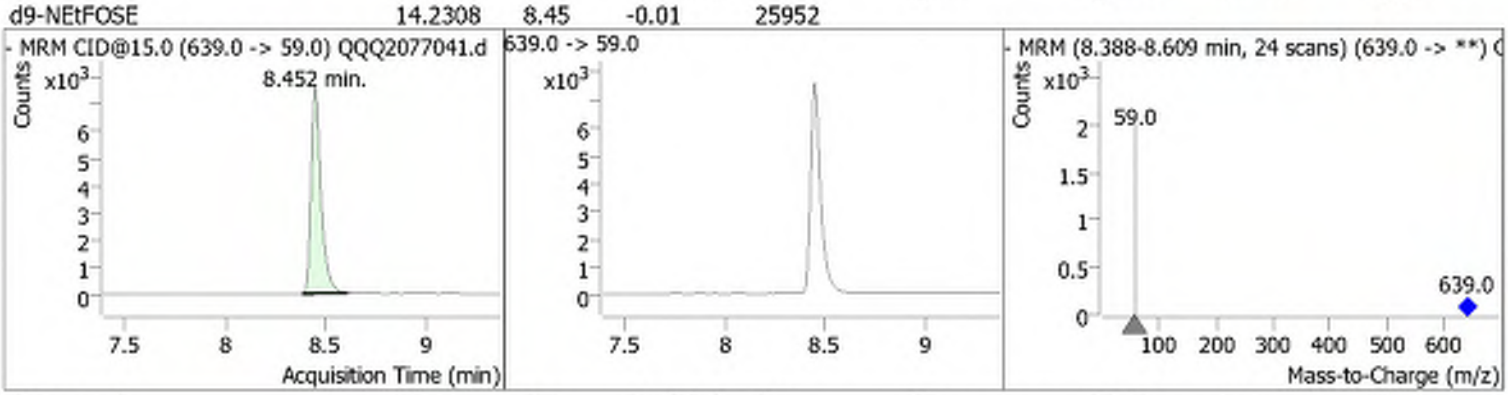
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	0.0171	8.25	-0.01	21				



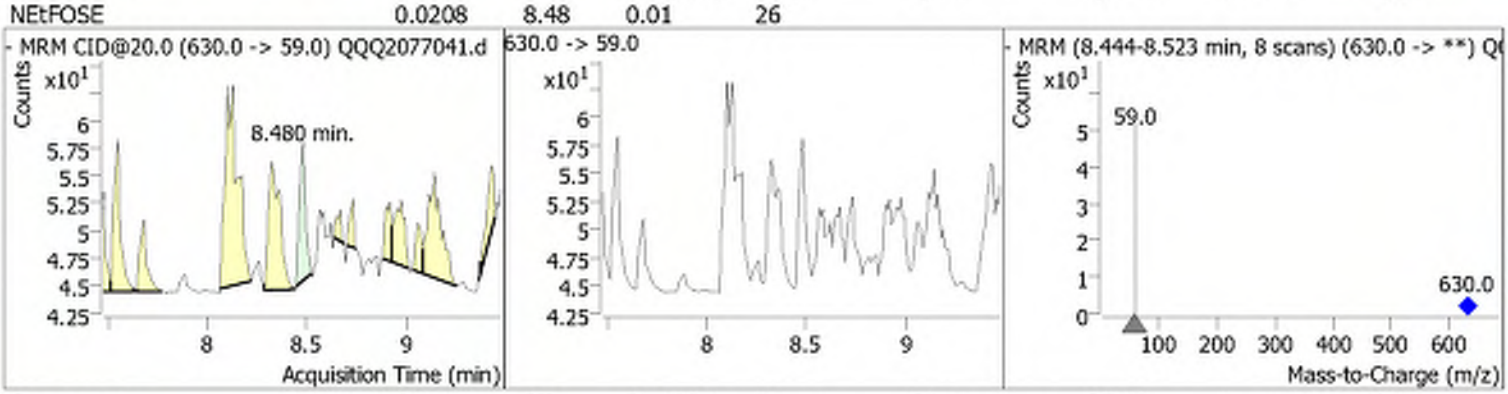
Quantitation Results Report (Not Reviewed)

Agilent

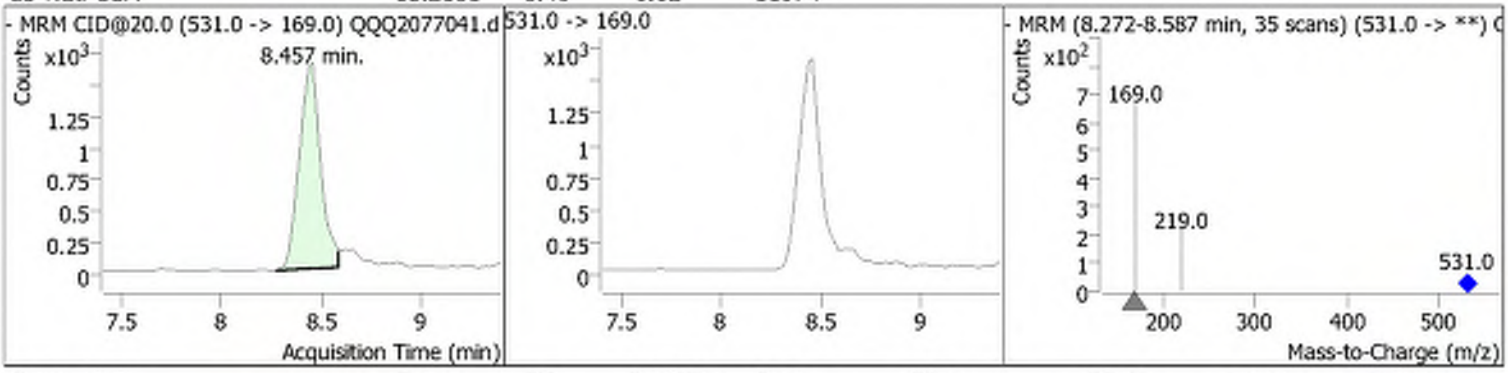
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	14.2308	8.45	-0.01	25952				



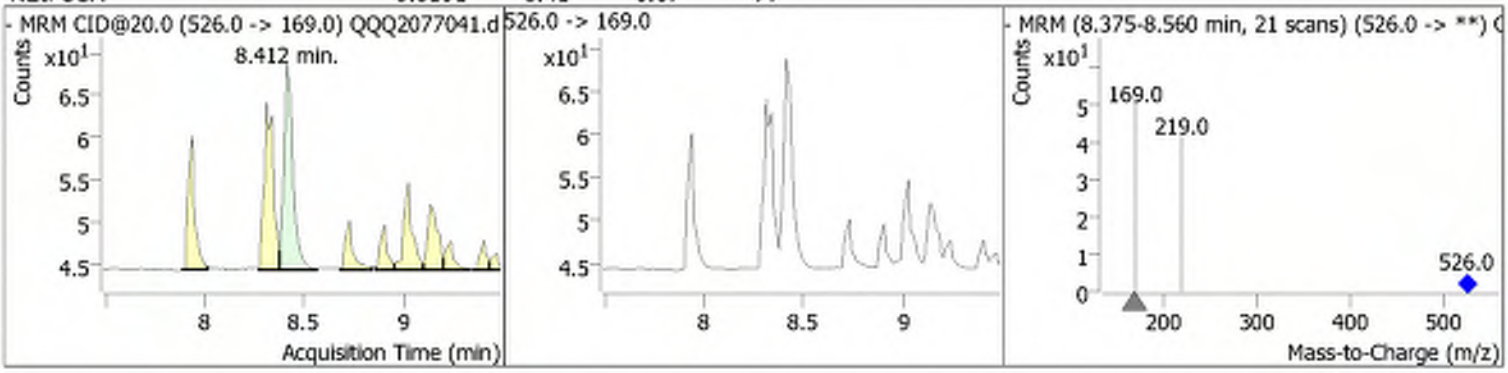
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	0.0208	8.48	0.01	26				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	15.2181	8.46	-0.02	11974				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.0191	8.41	-0.07	77				



DUPLICATE RAW DATA

SDG: 23E0419
CLASS: PFAS
METHOD: EPA 1633 Draft 2

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077049.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 12:54:52 PM
Sample Name	BE30673-DUP1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

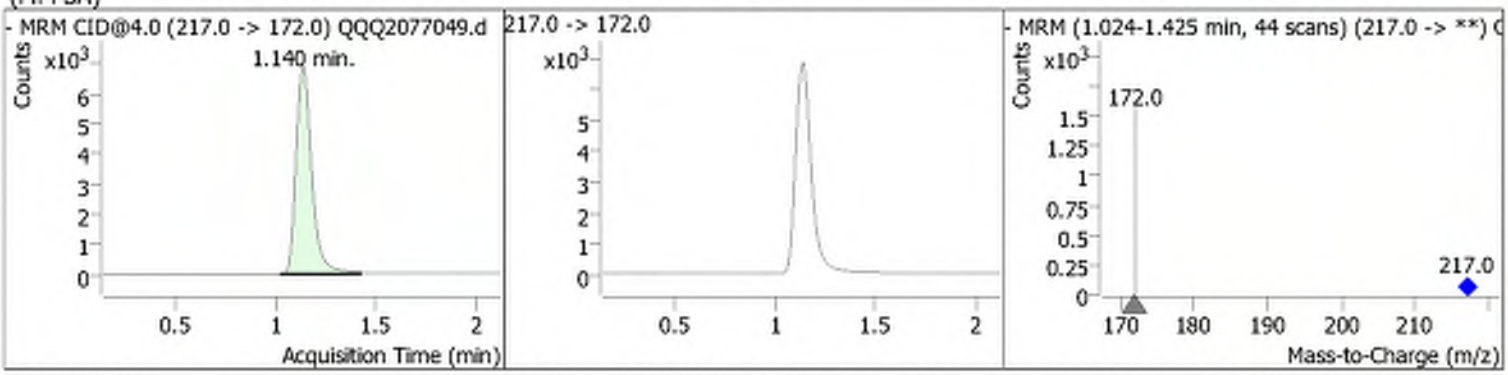
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.134	216.0 -> 172.0	27805	5.0000	ng/ml	-0.073
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.140	217.0 -> 172.0	37484	10.0000	ng/ml	-0.064
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.313	268.0 -> 223.0	17600	5.0000	ng/ml	-0.074
MPFHxA	4.642	315.0 -> 269.8	22075	2.5000	ng/ml	-0.056
MPFHxS	5.476	403.0 -> 103.0	2482	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.828	302.0 -> 79.9	6717	2.3300	ng/ml	-0.065
M5PFHxA-EIS	4.641	318.0 -> 273.0	15404	2.5000	ng/ml	-0.056
M2-4-2FTS-EIS	4.575	329.0 -> 309.0	6793	4.6900	ng/ml	-0.056
M3PFHxS-EIS	5.476	402.0 -> 80.0	5931	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	40665	10.0000	ng/ml	-0.056
M4PFHpA-EIS	5.383	367.0 -> 322.0	17692	2.5000	ng/ml	-0.056
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	4308	4.7550	ng/ml	-0.065
MPFOA	5.970	417.0 -> 372.0	20692	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	10582	2.5000	ng/ml	-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	1720	2.3950	ng/ml	-0.065
MPFNA	6.464	468.0 -> 423.0	8613	1.2500	ng/ml	-0.075
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	901	1.2500	ng/ml	-0.066
MPFOS	6.501	503.0 -> 80.0	5561	2.3950	ng/ml	-0.075
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	1914	4.8000	ng/ml	-0.066
MPFDA	6.911	515.0 -> 469.8	7460	1.2500	ng/ml	-0.075
M6PFDA-EIS	6.911	519.0 -> 473.9	3153	1.2500	ng/ml	-0.075
d3-N-MeFOSAA-EIS	7.078	573.0 -> 418.8	5470	5.0000	ng/ml	-0.075
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	5383	5.0000	ng/ml	-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	6305	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	6884	2.5000	ng/ml	-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	3771	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.163	715.0 -> 670.0	1747	1.2500	ng/ml	-0.093
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	563	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.230	623.0 -> 59.0	8428	25.0000	ng/ml	-0.009
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	4862	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	6551	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.140	217.0 -> 172.0	37484	9.8422	ng/ml	-0.064
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.313	268.0 -> 223.0	17600	4.9244	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.828	302.0 -> 79.9	6717	2.0345	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.575	329.0 -> 309.0	6793	5.0260	ng/ml	-0.056

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.641	318.0 -> 273.0	15404	2.5834	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	40665	11.6954	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.383	367.0 -> 322.0	17692	2.6273	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	5931	2.1385	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	4308	5.8759	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	10582	2.3198	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	901	1.0165	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	1720	2.1365	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.901	529.0 -> 509.0	1914	3.0371	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.911	519.0 -> 473.9	3153	1.0887	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.078	573.0 -> 418.8	5470	2.9079	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	5383	2.8475	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	6305	1.0987	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	6884	1.5080	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	3771	0.7894	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.230	623.0 -> 59.0	8428	4.4587	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	563	0.9662	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.163	715.0 -> 670.0	1747	0.3464	ng/ml	-0.093
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	4862	2.6169	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	6551	8.1734	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.173	213.0 -> 168.9	38	0.0080	ng/ml	100
PFMPA	2.134	229.0 -> 85.0	2	0.0007	ng/ml	100
3:3FTCA	3.259	241.0 -> 177.0	10	0.0480	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.295	263.0 -> 219.0	65	0.0170	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.884	298.9 -> 79.9	12	0.0034	ng/ml	100
PFMBA	3.941	279.0 -> 85.0	3	0.0007	ng/ml	100
PFEESA	4.308	315.0 -> 135.0	21	0.0021	ng/ml	100
NFDHA	5.145	295.0 -> 201.1	1	0.0002	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.436	327.0 -> 307.0	2	0.0011	ng/ml	100

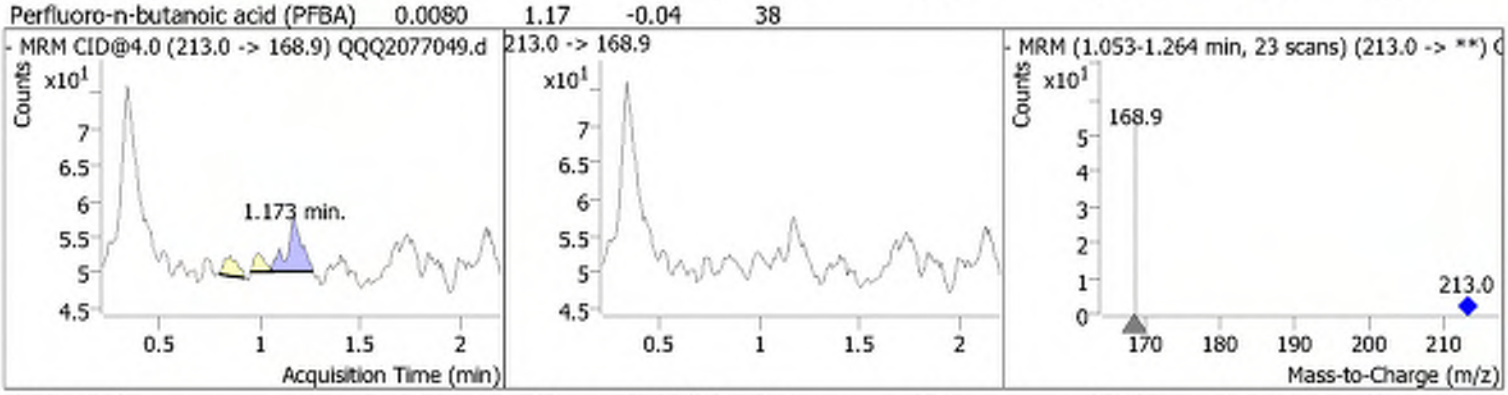
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.661	313.0 -> 268.9	541	0.0746	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.463	348.9 -> 79.9	9	0.0027	ng/ml	100
HFPO-DA	4.941	285.0 -> 169.1	24	0.0704	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	5.383	363.0 -> 318.8	49	0.0052	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	5.467	398.9 -> 79.9	46	0.0134	ng/ml	100
5-3FTCA	5.562	341.0 -> 217.0	16	0.0189	ng/ml	100
ADONA	5.523	377.0 -> 85.0	22	0.0043	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.913	427.0 -> 407.0	0	0.0003	ng/ml	100
Perfluorooctanoic acid (PFOA)	5.989	413.0 -> 368.8	253	0.0414	ng/ml	100
Perfluoro-1-heptanesulfonate (L-PFHpS)	5.978	448.9 -> 80.0	0	0.0002	ng/ml	100
Perfluorononanoic acid (PFNA)	6.577	463.0 -> 418.8	17	0.0032	ng/ml	100
Perfluorooctanesulfonic acid (PFOS)	7.175	498.9 -> 79.9	44	0.0508	ng/ml	100
7-3FTCA	6.297	441.0 -> 337.0	24	0.0178	ng/ml	100
9-Cl-PF3ONS	6.966	531.0 -> 351.0	19	0.0033	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	7.276	527.0 -> 80.9	11	0.0218	ng/ml	100
Perfluorodecanoic acid (PFDA)	6.977	513.0 -> 468.8	30	0.0058	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	7.228	548.9 -> 79.9	1	0.0005	ng/ml	100
N-MeFOSAA	7.228	570.0 -> 418.9	1	0.0012	ng/ml	100
N-EtFOSAA	7.860	584.0 -> 418.8	28	0.0343	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.208	598.9 -> 98.9	42	0.0610	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	7.349	563.0 -> 519.0	62	0.0153	ng/ml	100
Perfluoro-1-octanesulfonamide (FOSA)	7.053	497.9 -> 78.0	1	0.0003	ng/ml	100
11-Cl-PF3OUdS	7.579	631.0 -> 451.0	0	0.0002	ng/ml	100
Perfluorododecanoic acid (PFDoA)	7.701	613.0 -> 568.8	72	0.0277	ng/ml	100
Perfluorododecanesulfonic acid (PFDoS)	8.081	699.0 -> 80.0	15	0.0230	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	7.904	663.0 -> 618.8	30	0.0277	ng/ml	100
NMeFOSA	8.265	512.0 -> 169.0	31	0.0976	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	8.312	713.0 -> 669.0	30	0.0154	ng/ml	100
NMeFOSE	8.175	616.0 -> 59.0	15	0.0509	ng/ml	100
NEtFOSE	8.462	630.0 -> 59.0	16	0.0693	ng/ml	100
NEtFOSA	8.365	526.0 -> 169.0	19	0.0087	ng/ml	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

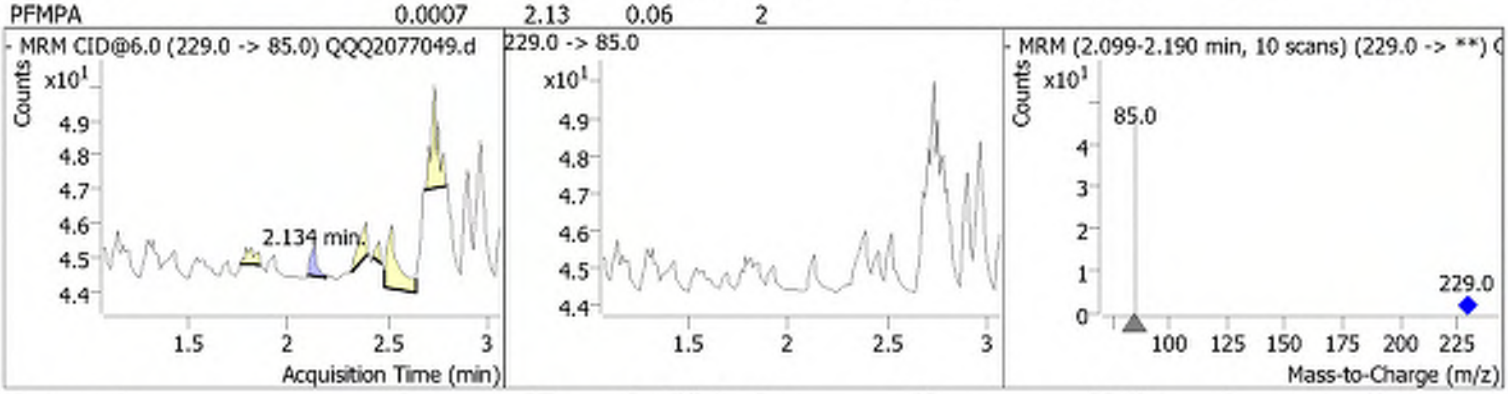
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	9.8422	1.14	-0.06	37484				



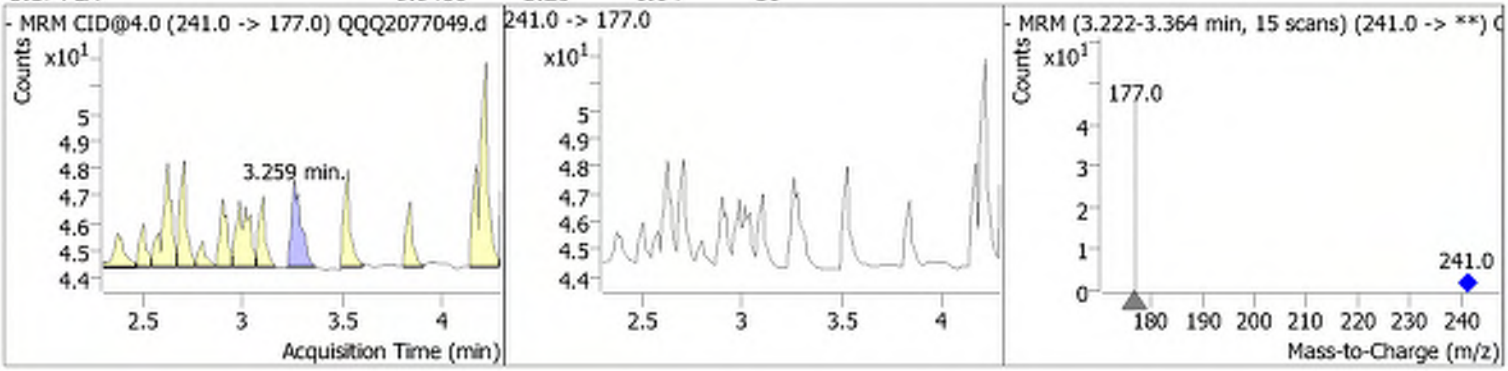
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0080	1.17	-0.04	38				



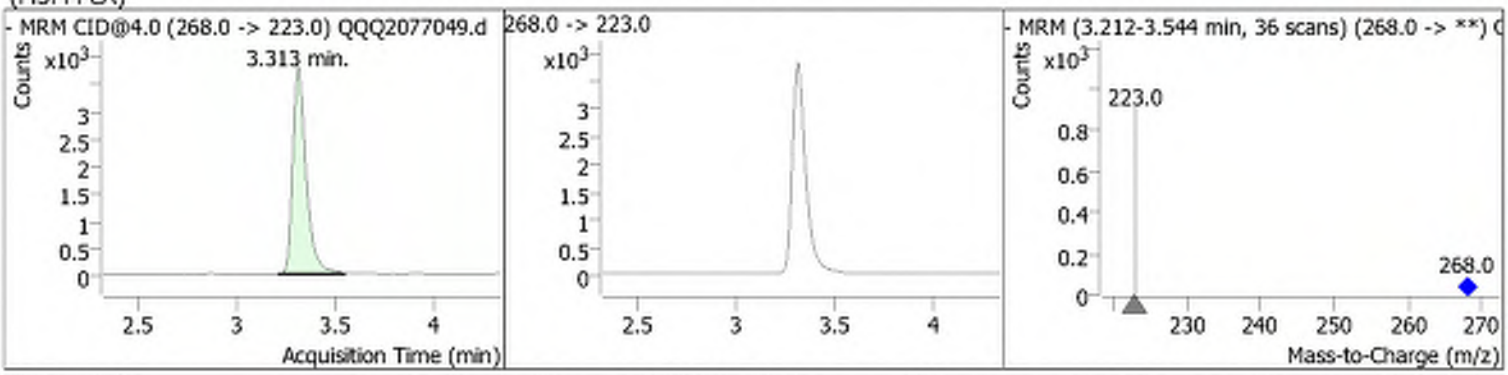
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	0.0007	2.13	0.06	2				



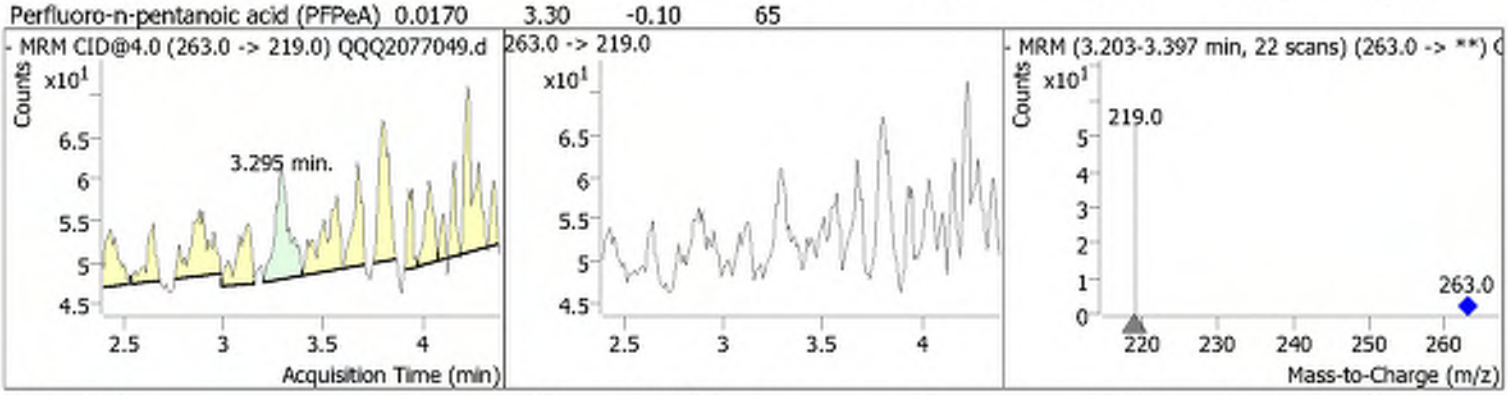
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	0.0480	3.26	-0.04	10				



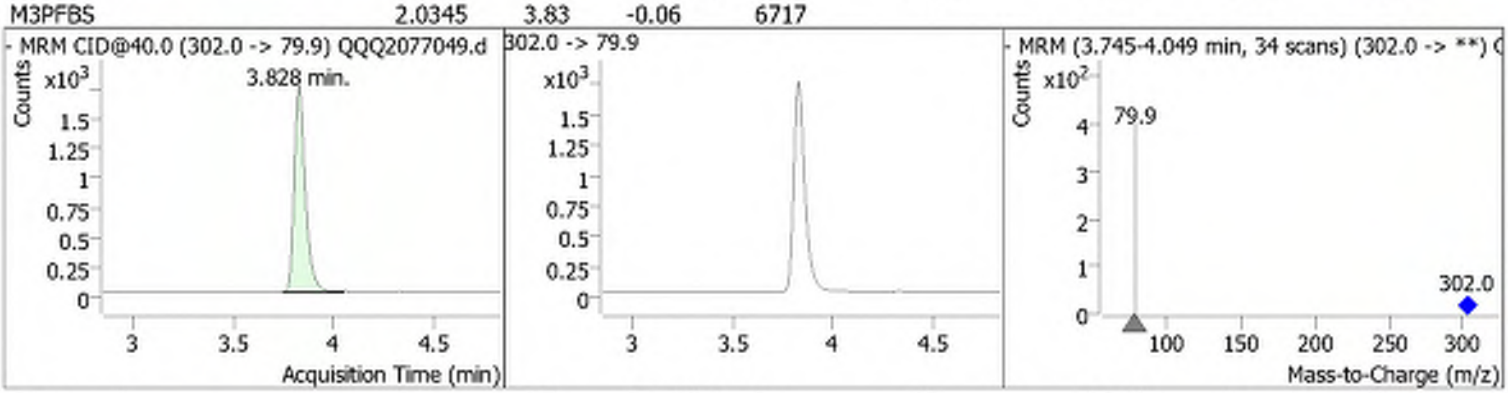
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.9244	3.31	-0.07	17600				



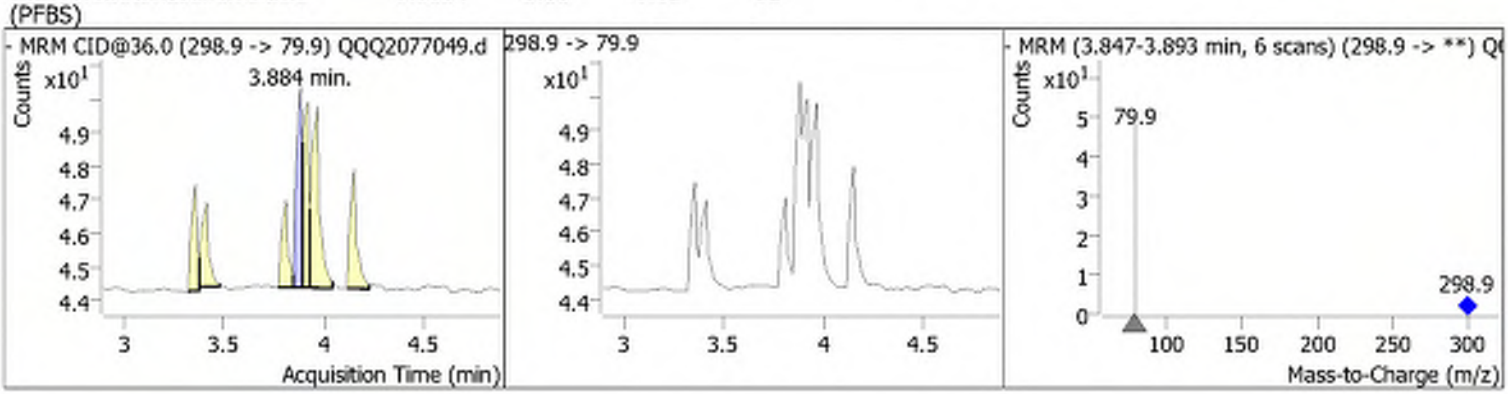
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0170	3.30	-0.10	65				



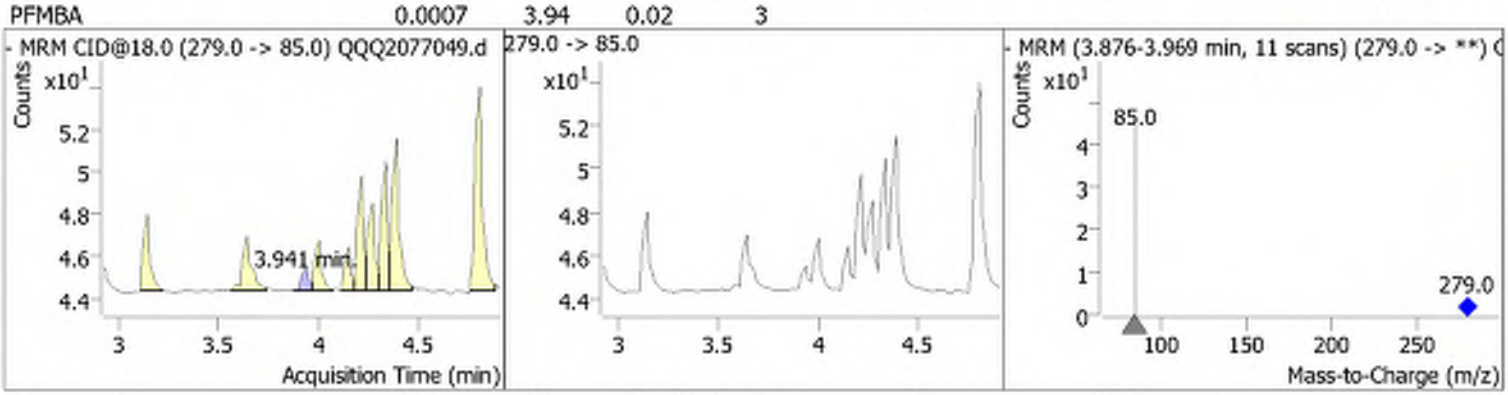
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.0345	3.83	-0.06	6717				



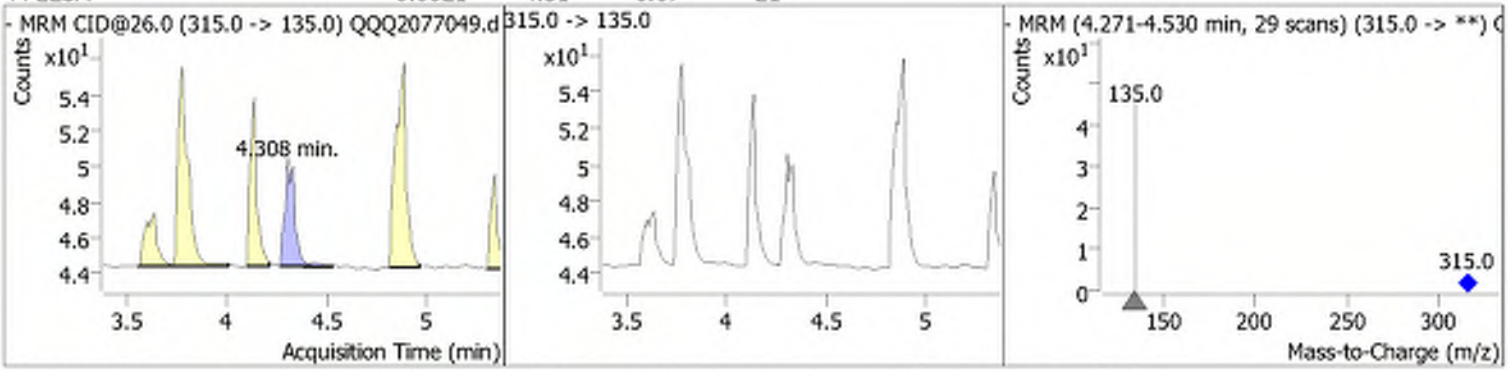
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0034	3.88	-0.01	12				



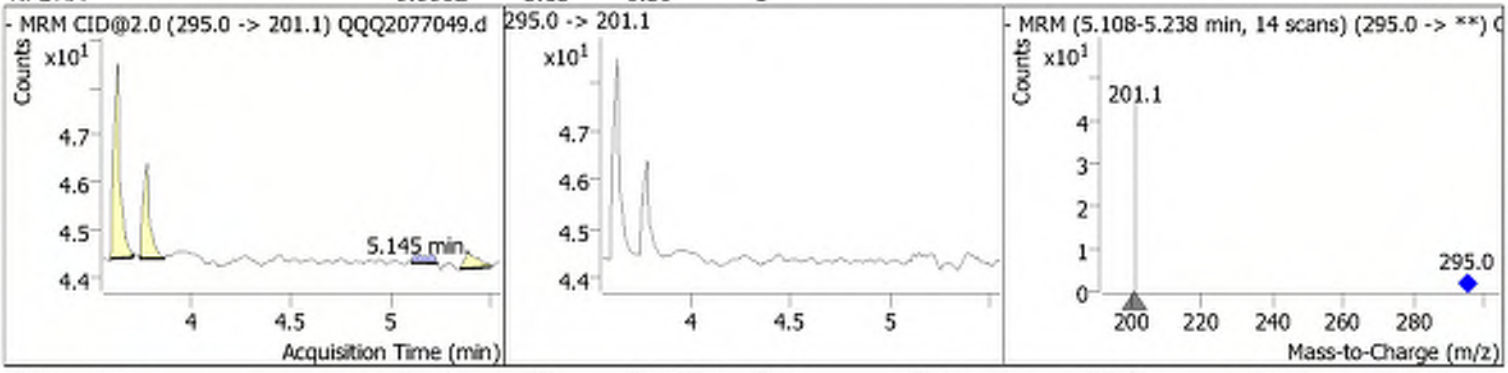
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	0.0007	3.94	0.02	3				



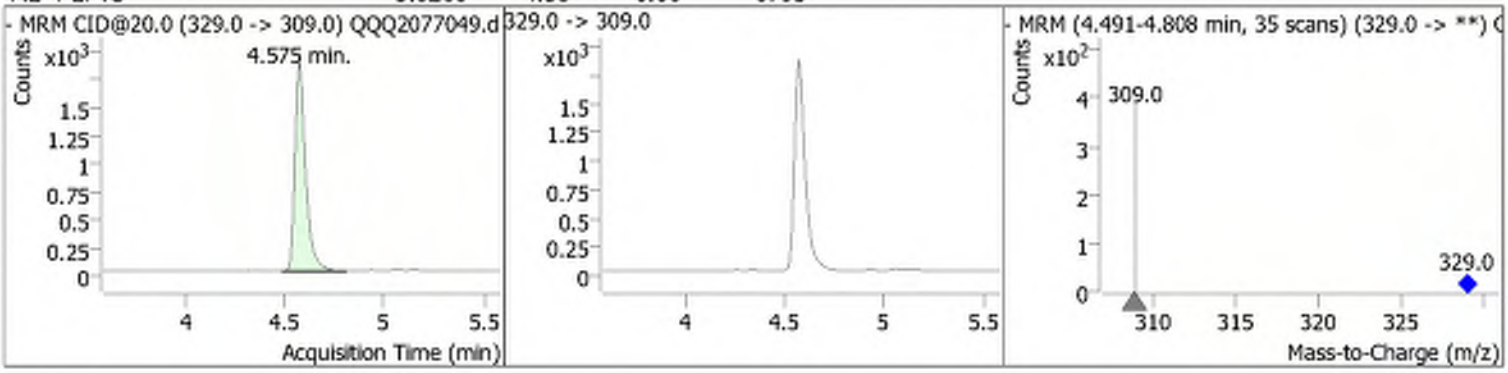
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	0.0021	4.31	-0.07	21				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	0.0002	5.15	0.59	1				



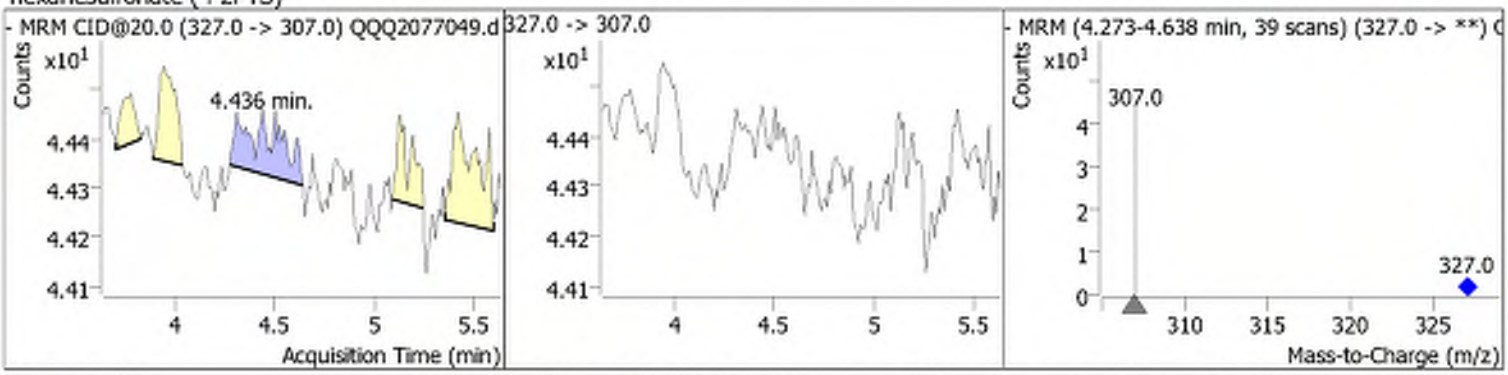
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.0260	4.58	-0.06	6793				



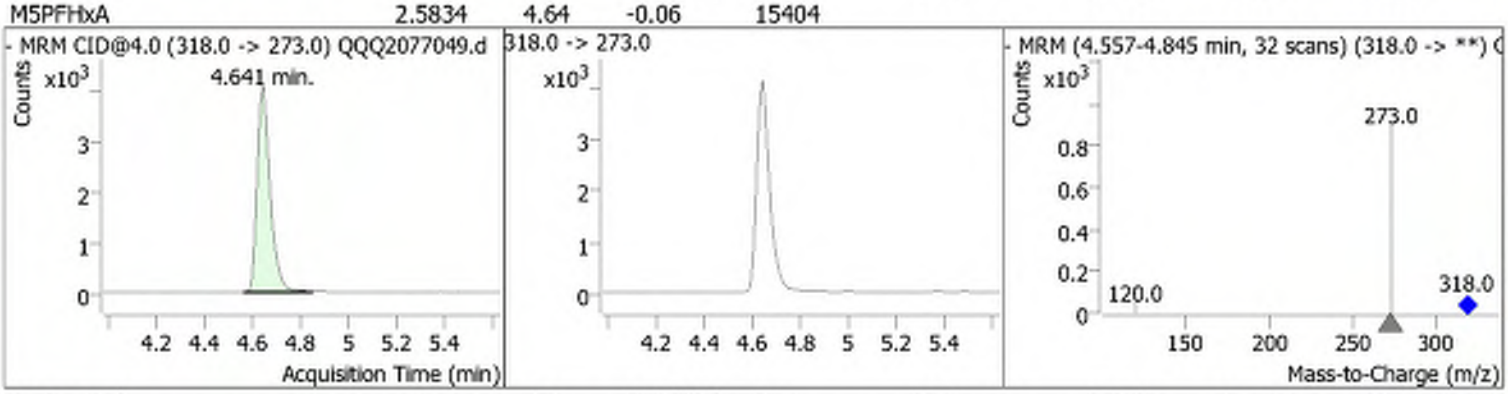
Quantitation Results Report (Not Reviewed)

Agilent

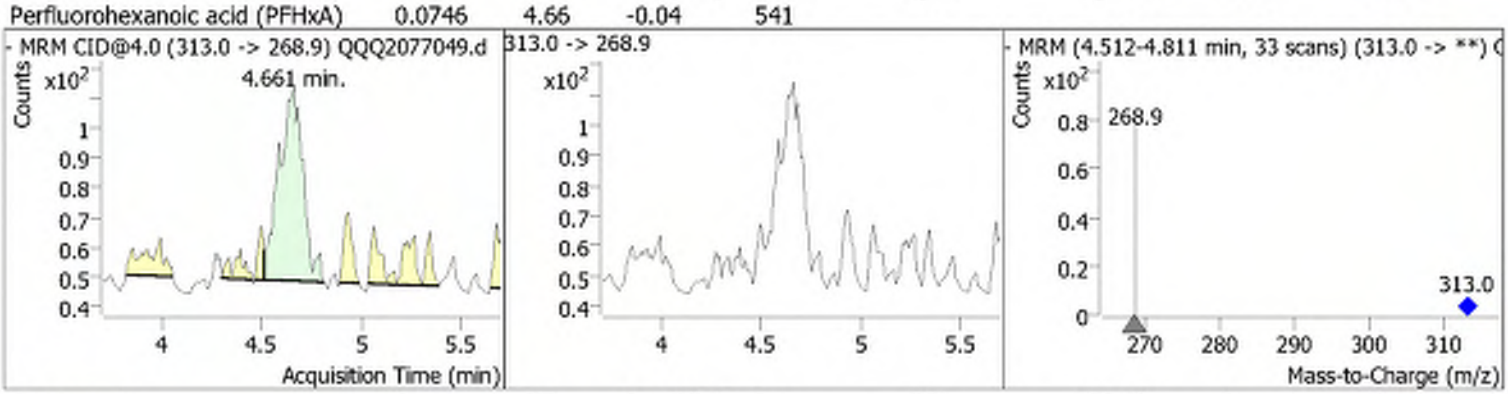
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0011	4.44	-0.20	2				



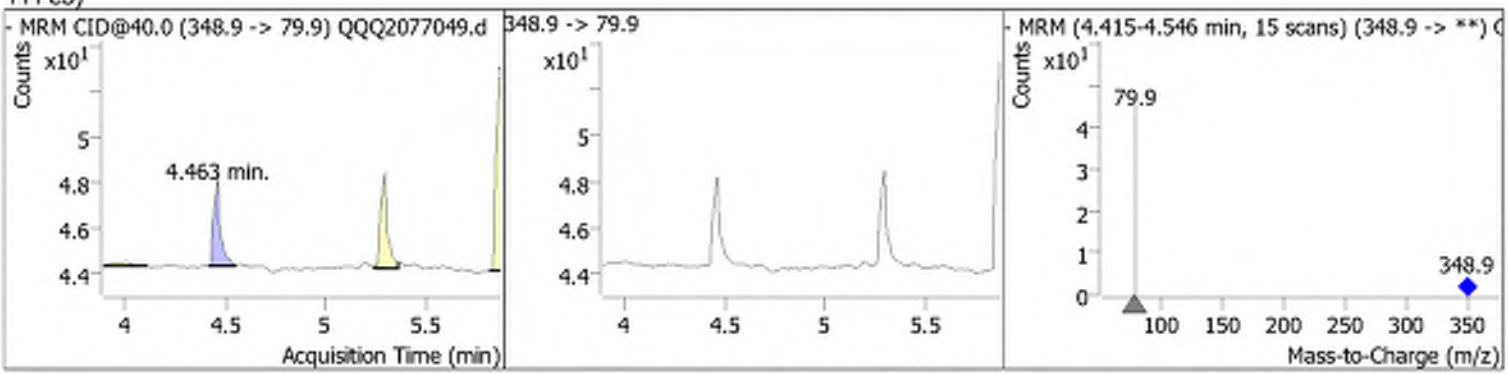
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.5834	4.64	-0.06	15404				



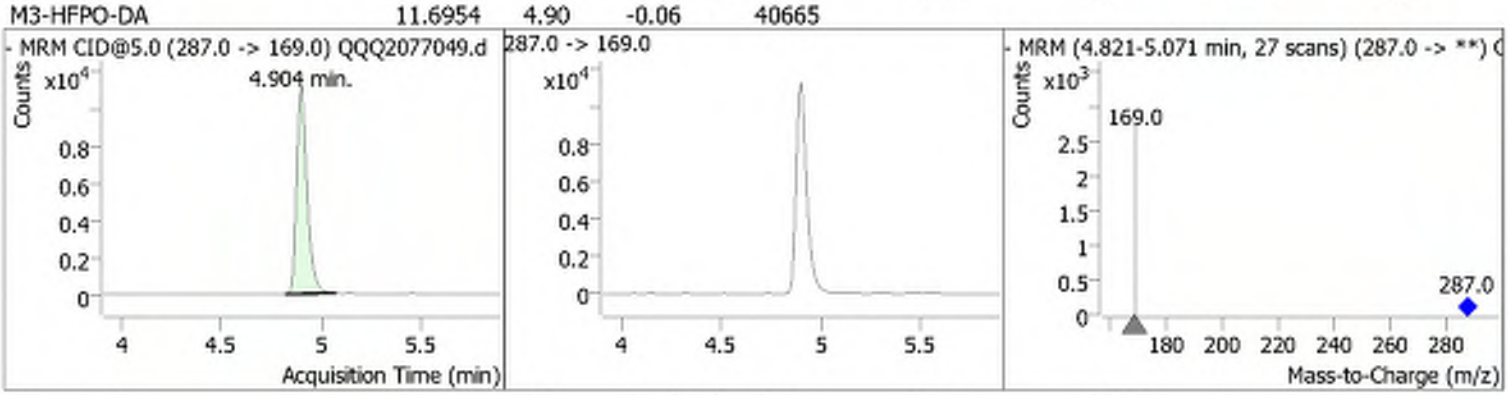
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0746	4.66	-0.04	541				



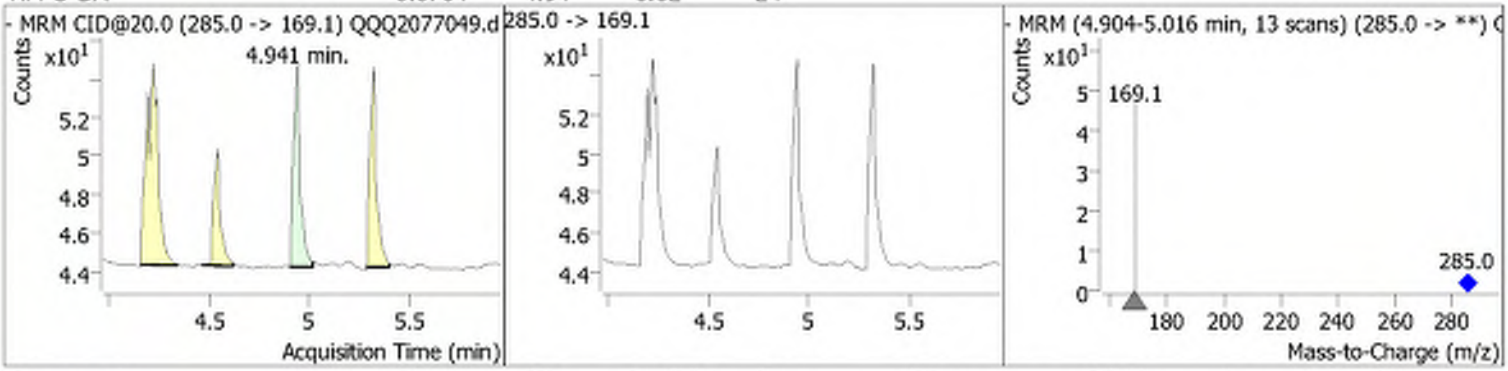
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0027	4.46	-0.42	9				



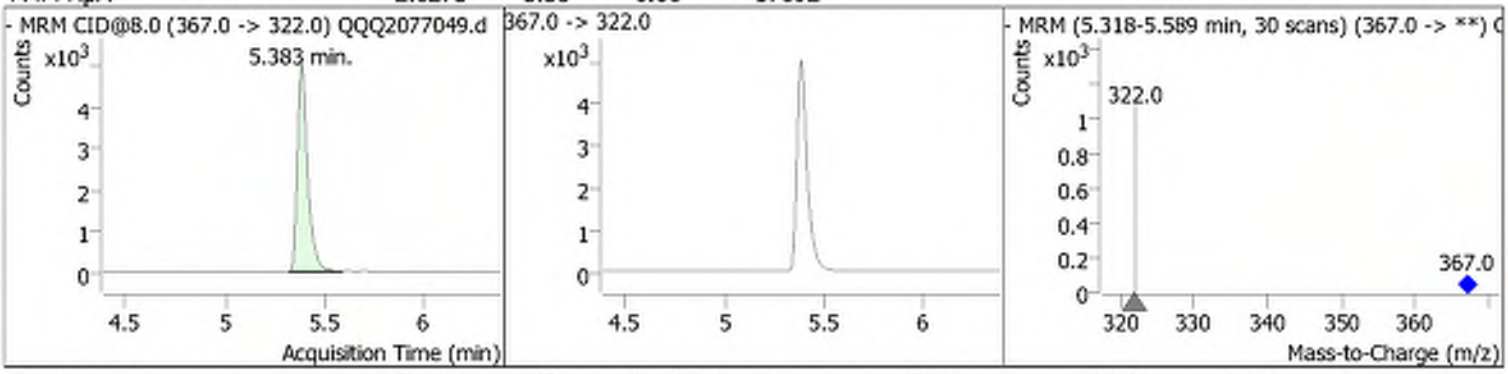
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.6954	4.90	-0.06	40665				



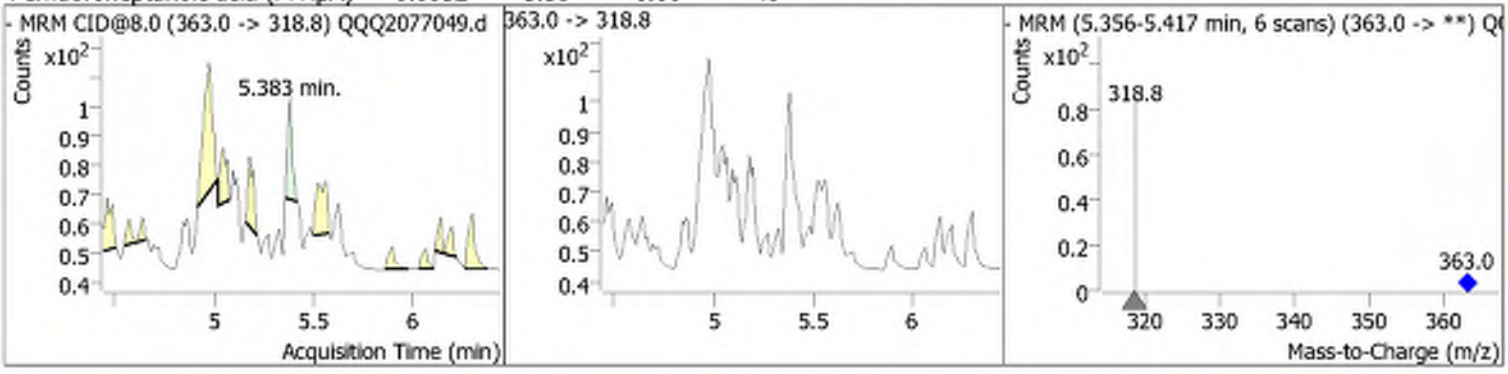
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	0.0704	4.94	-0.02	24				



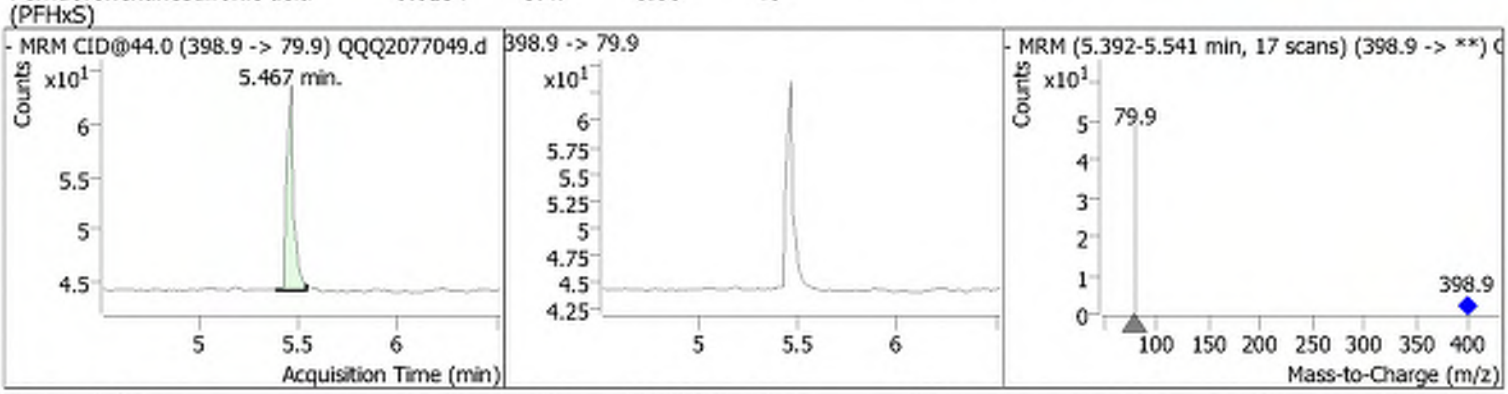
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.6273	5.38	-0.06	17692				



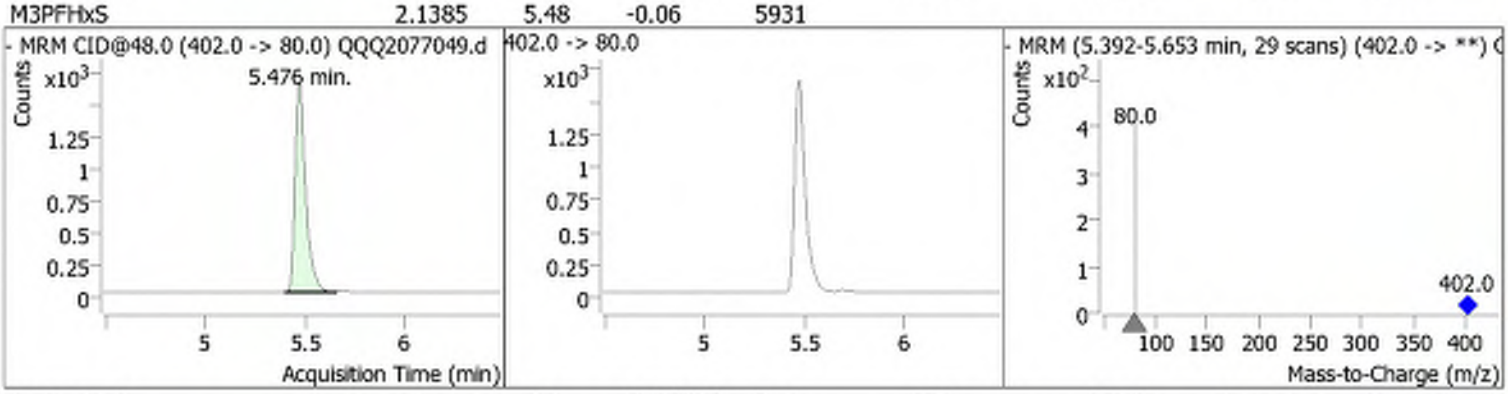
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0052	5.38	-0.06	49				



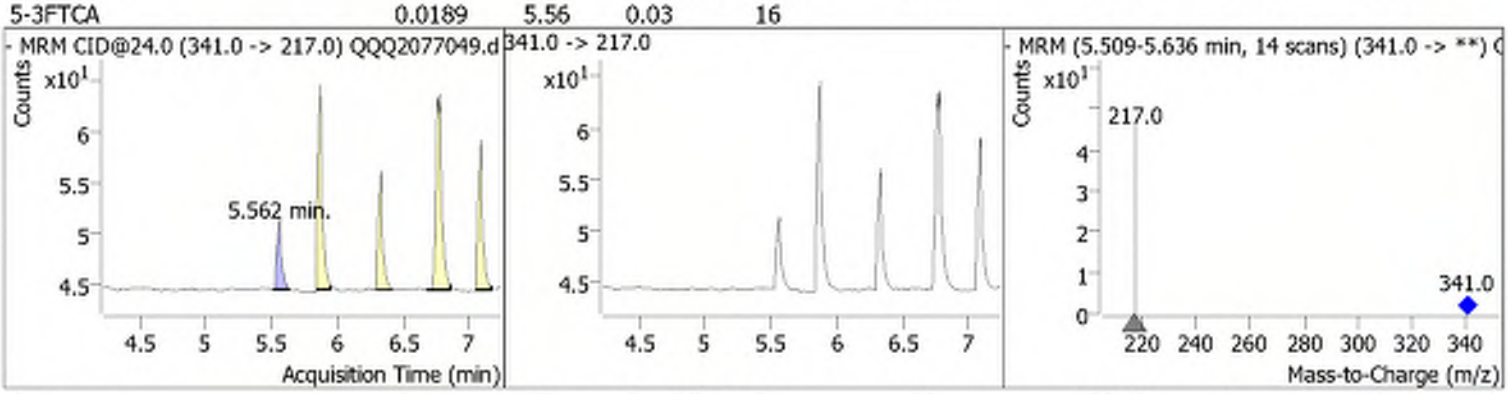
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0134	5.47	-0.06	46				



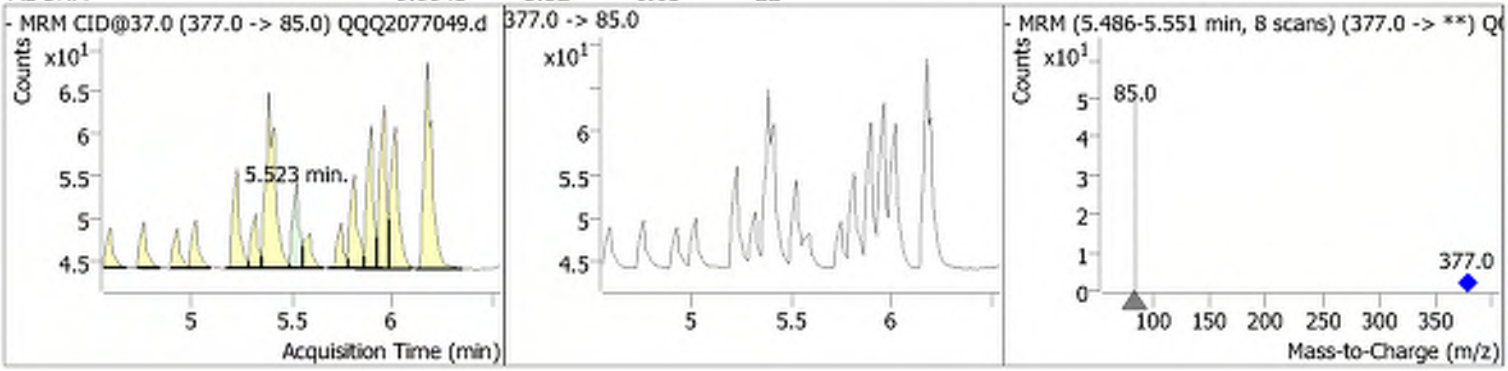
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.1385	5.48	-0.06	5931				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	0.0189	5.56	0.03	16				

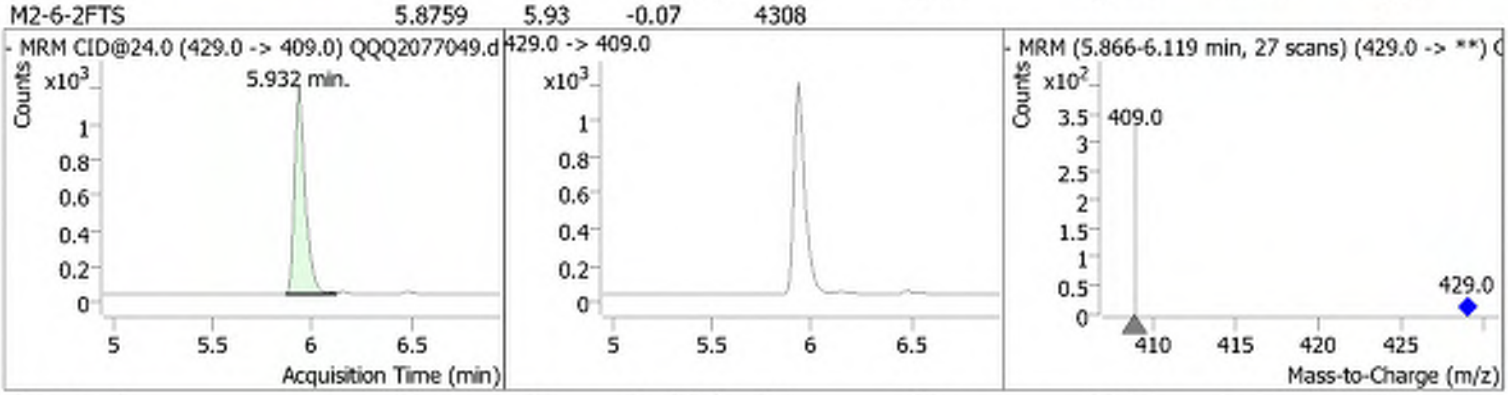


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	0.0043	5.52	-0.03	22				

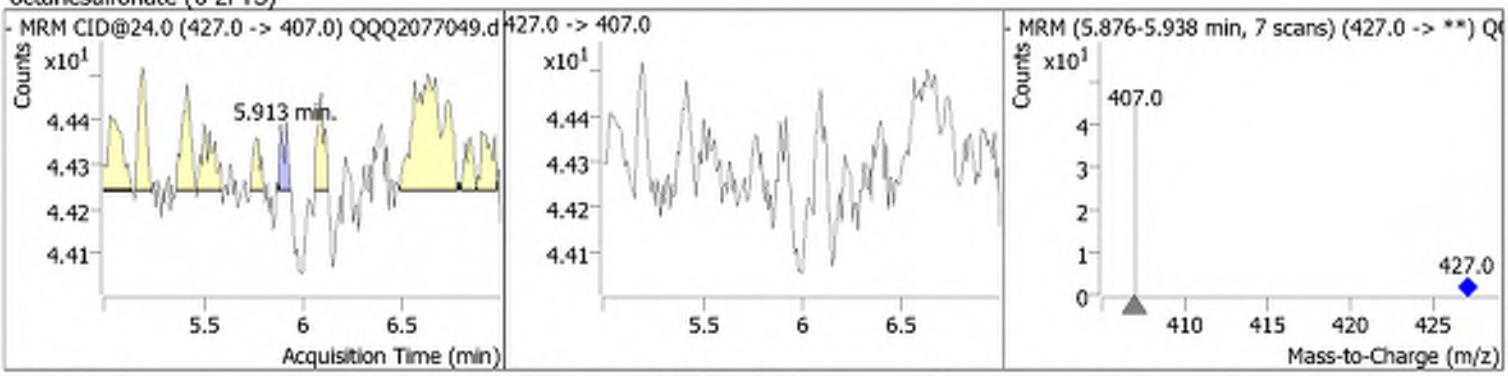


Quantitation Results Report (Not Reviewed)

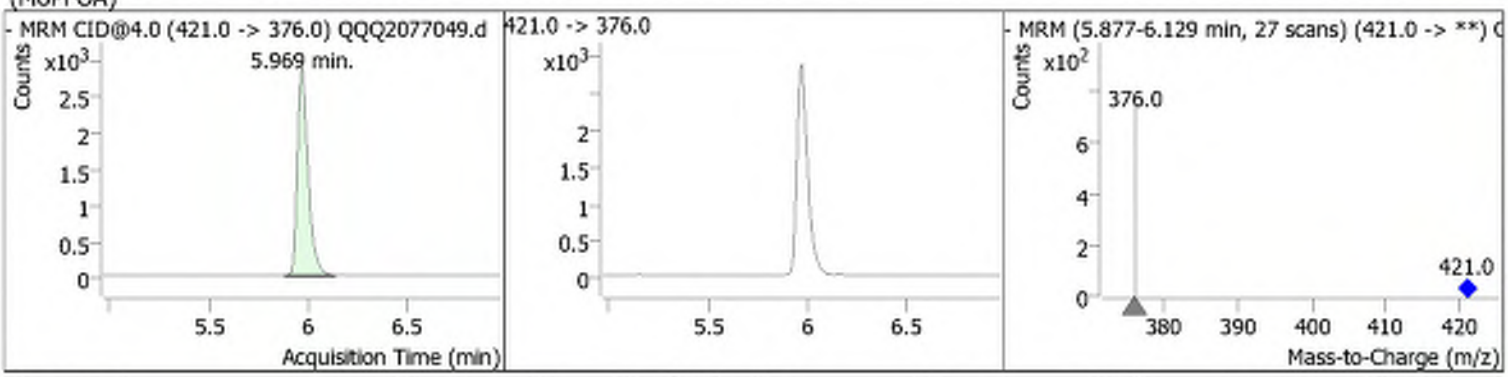
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.8759	5.93	-0.07	4308				



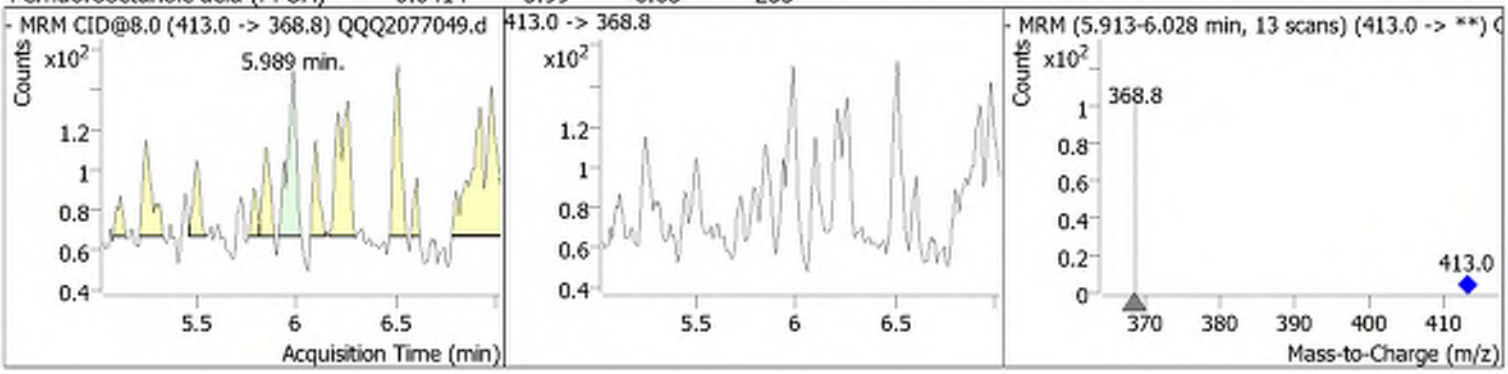
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0003	5.91	-0.08	0				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.3198	5.97	-0.07	10582				

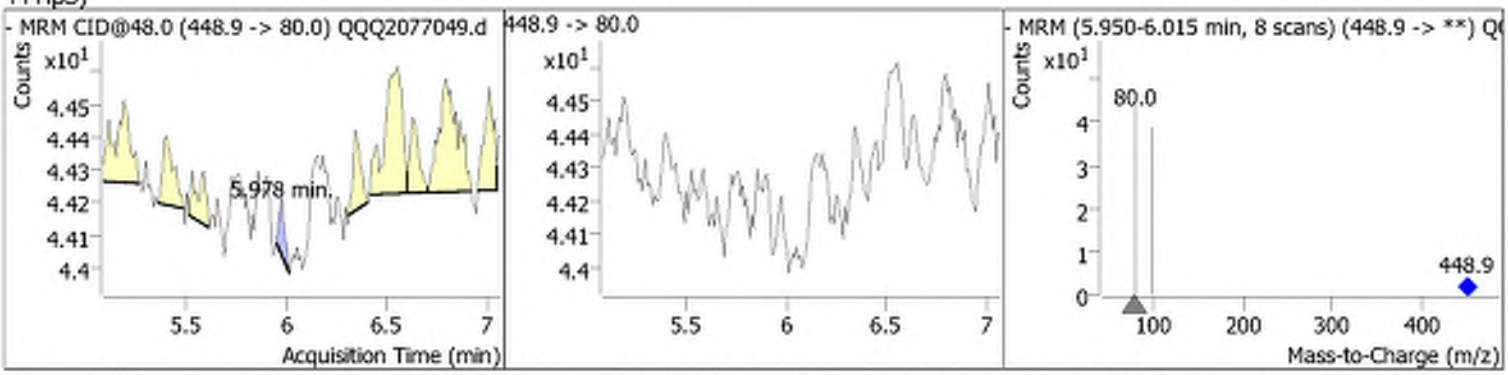


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0414	5.99	-0.05	253				

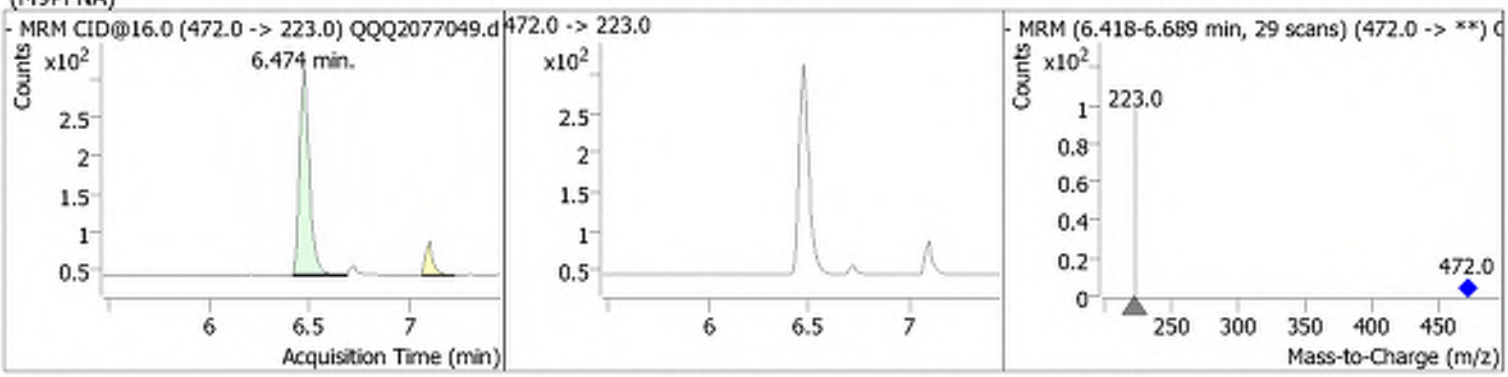


Quantitation Results Report (Not Reviewed)

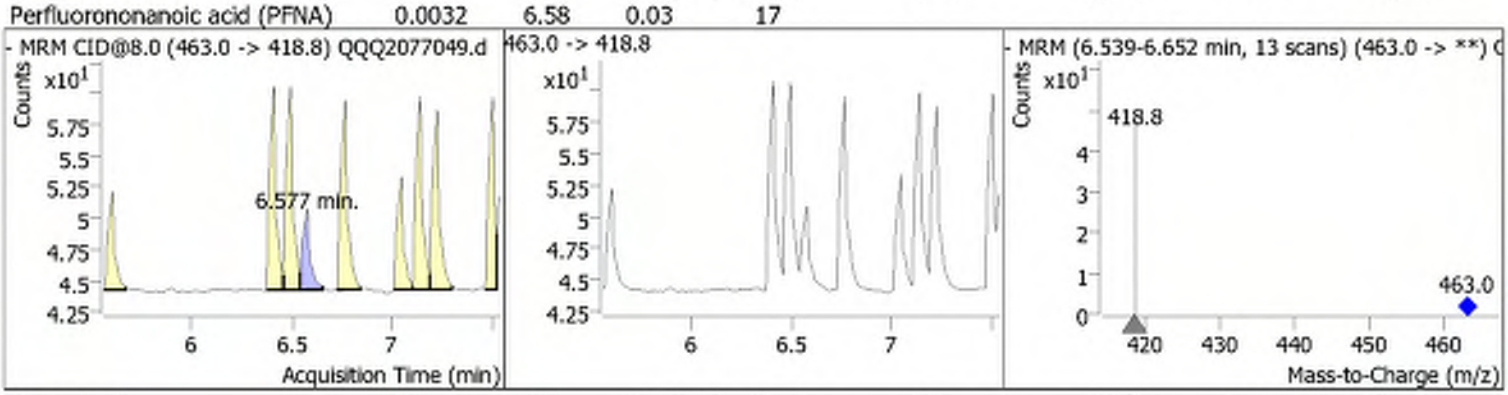
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0002	5.98	-0.10	0				



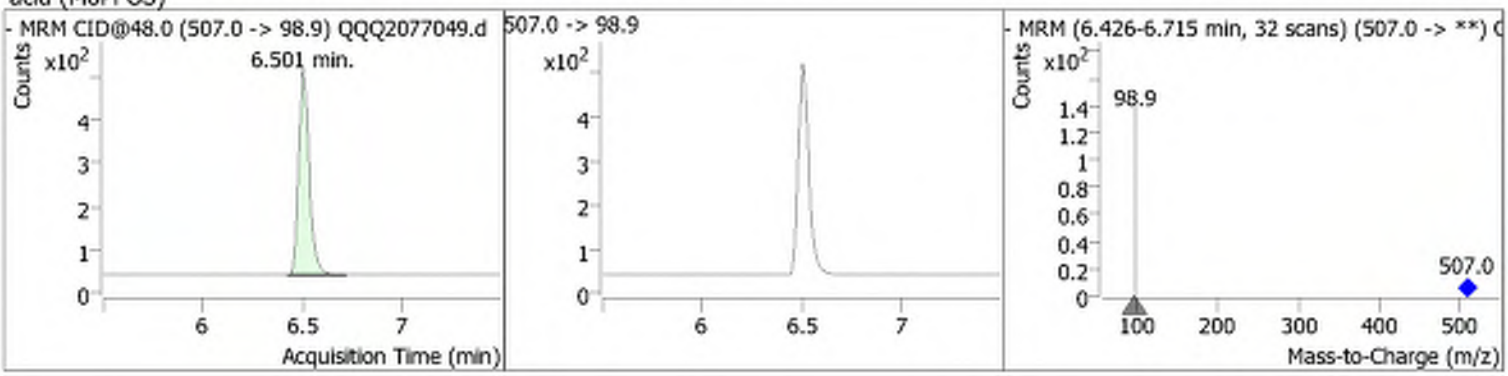
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.0165	6.47	-0.07	901				



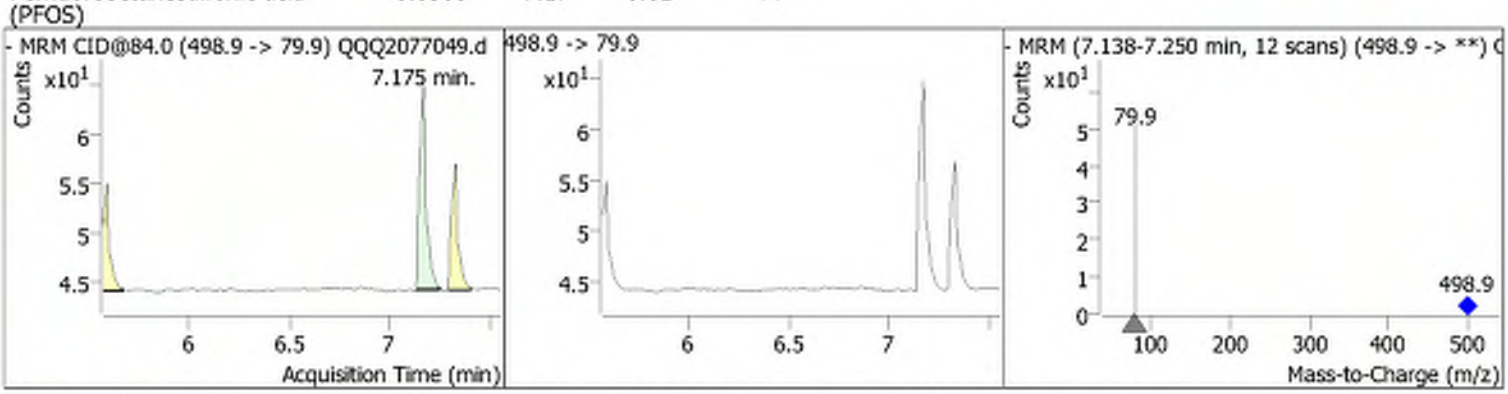
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0032	6.58	0.03	17				



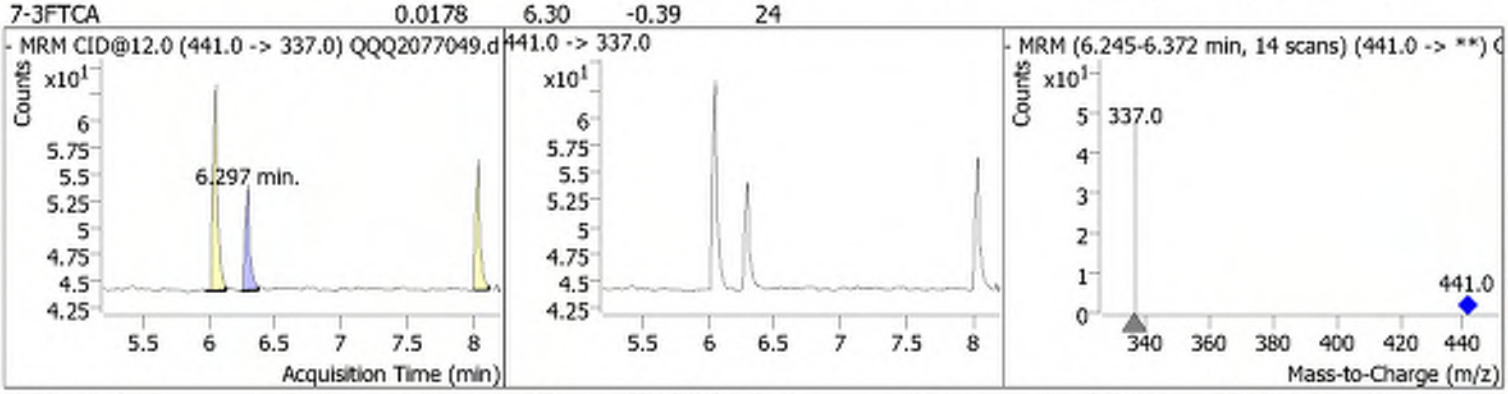
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.1365	6.50	-0.07	1720				



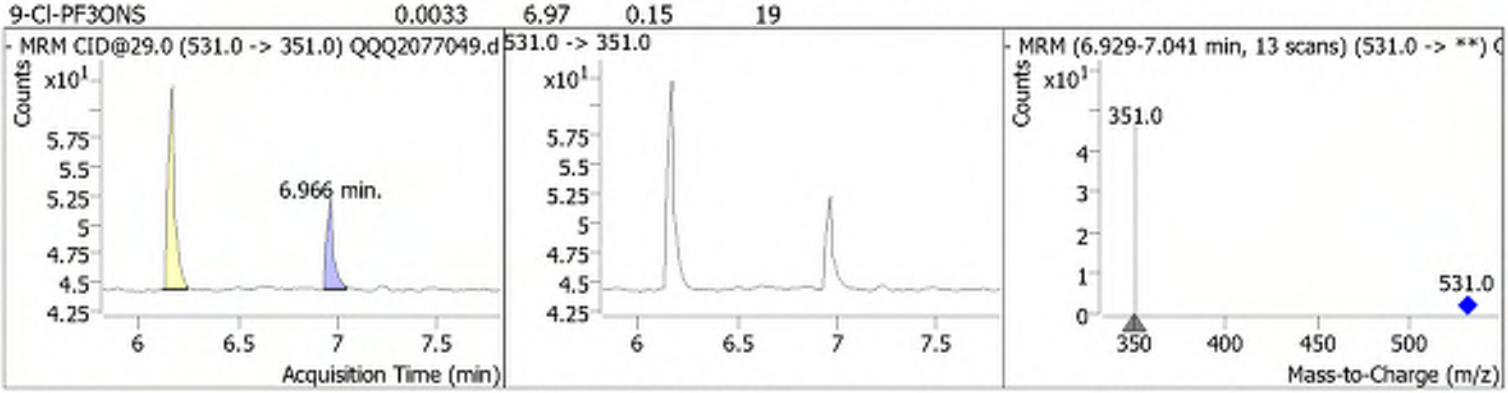
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0508	7.17	0.61	44				



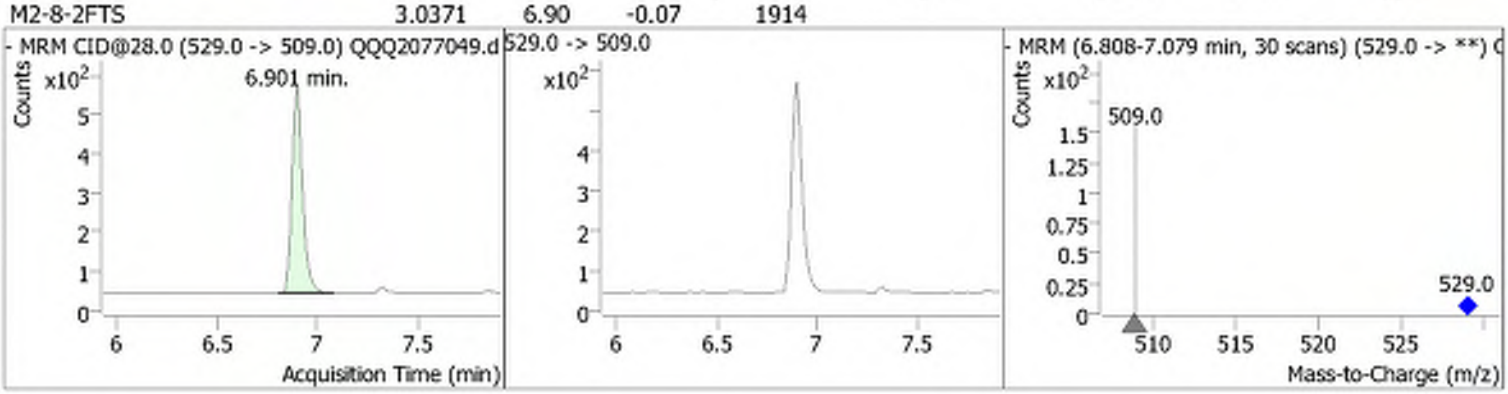
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	0.0178	6.30	-0.39	24				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	0.0033	6.97	0.15	19				

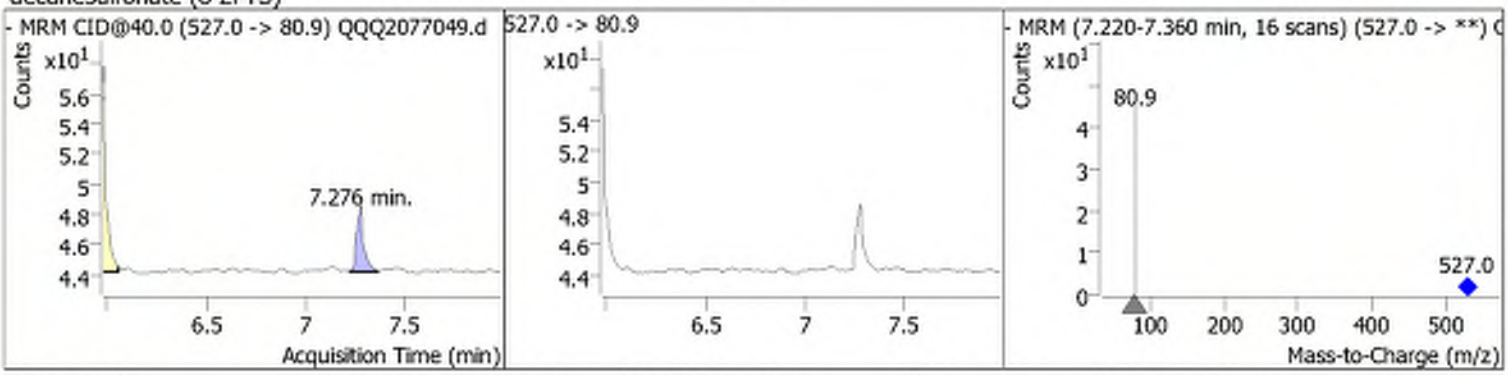


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	3.0371	6.90	-0.07	1914				

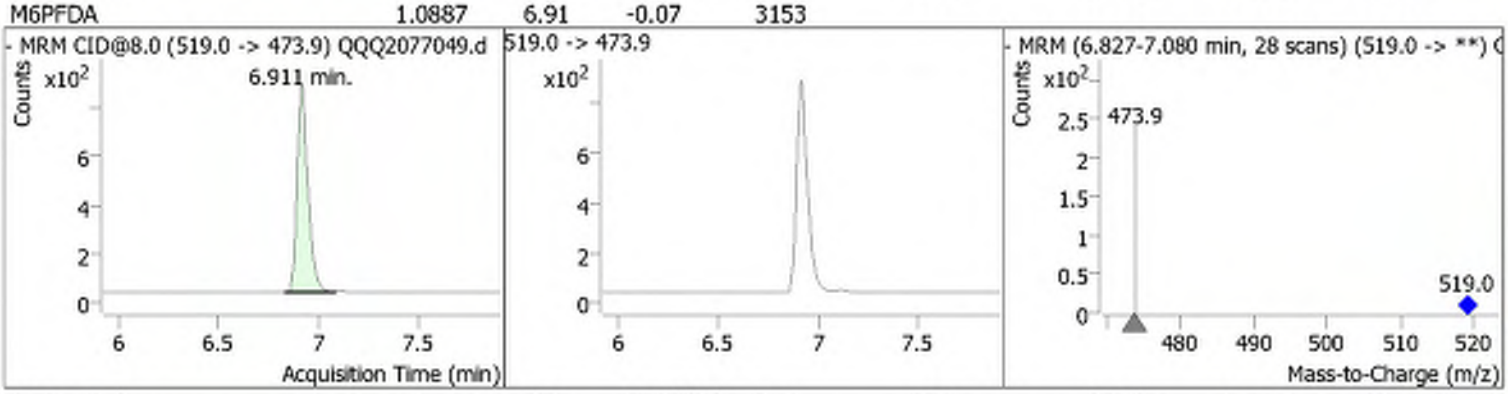


Quantitation Results Report (Not Reviewed)

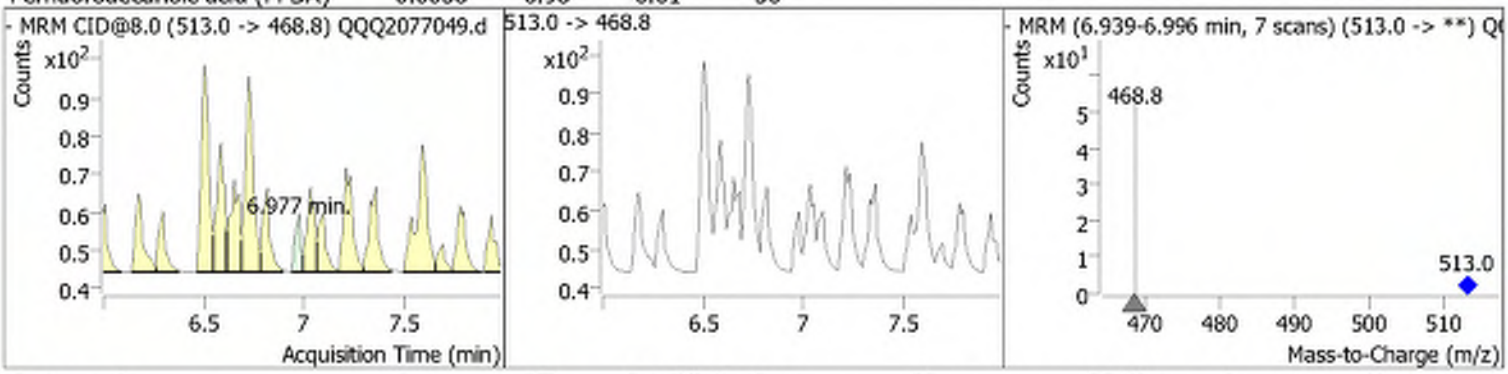
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0218	7.28	0.30	11				



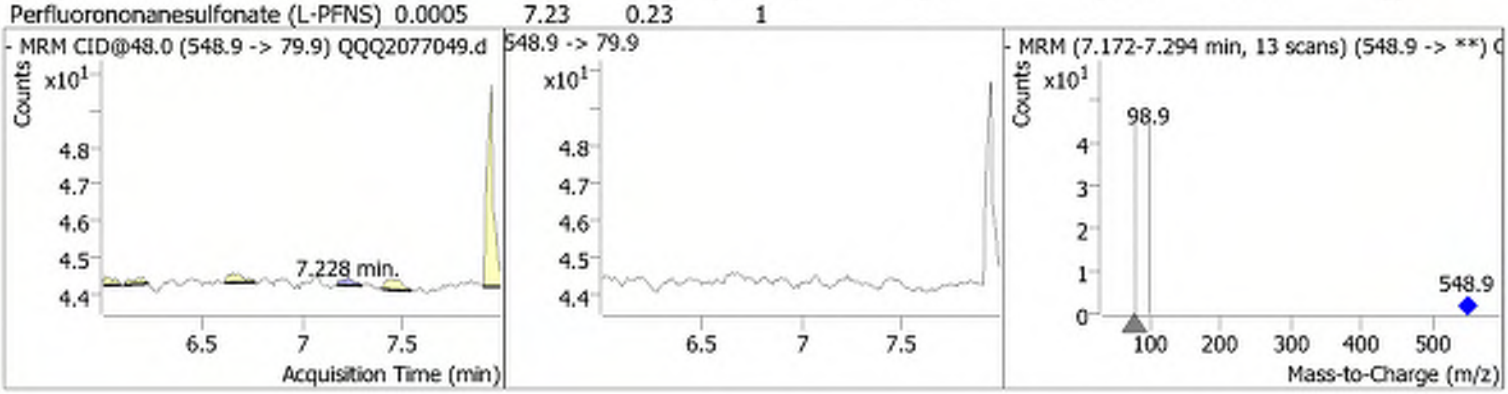
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.0887	6.91	-0.07	3153				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0058	6.98	-0.01	30				



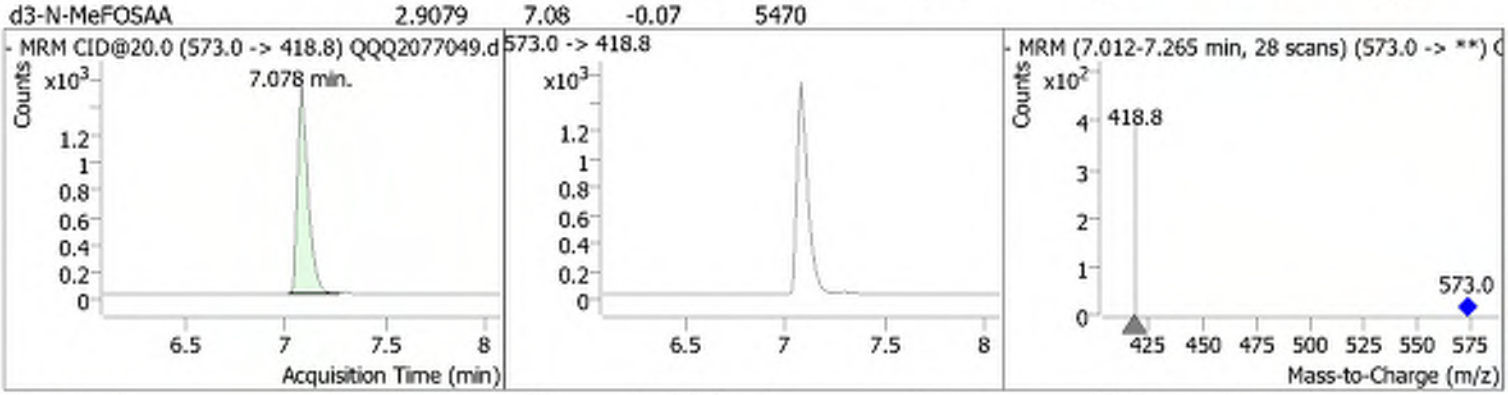
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0005	7.23	0.23	1				



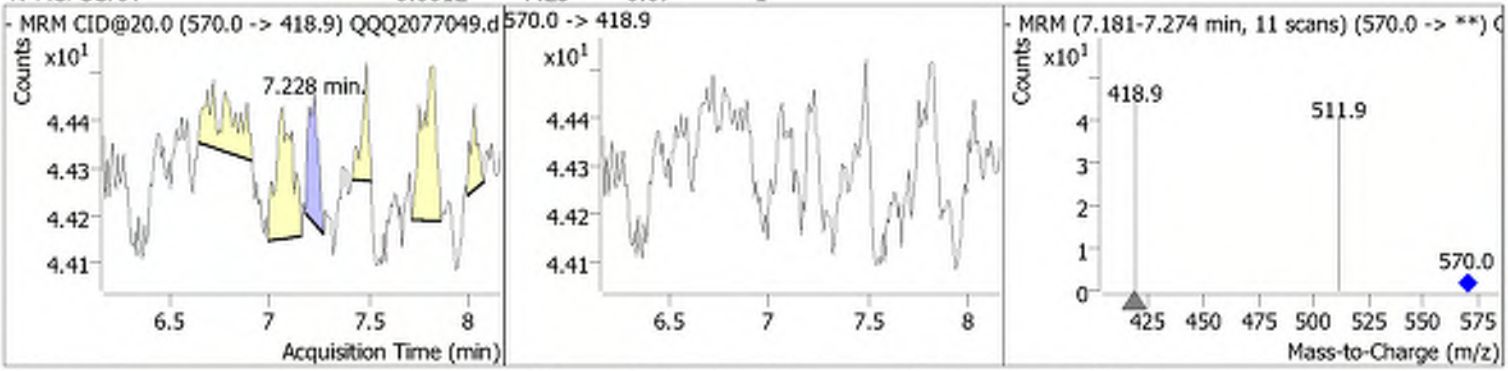
Quantitation Results Report (Not Reviewed)

Agilent

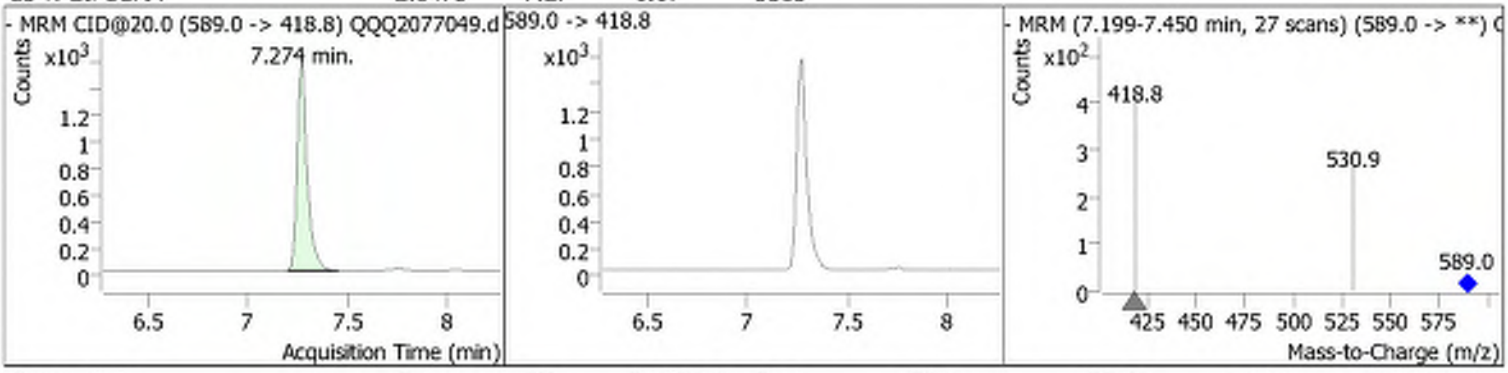
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	2.9079	7.08	-0.07	5470				



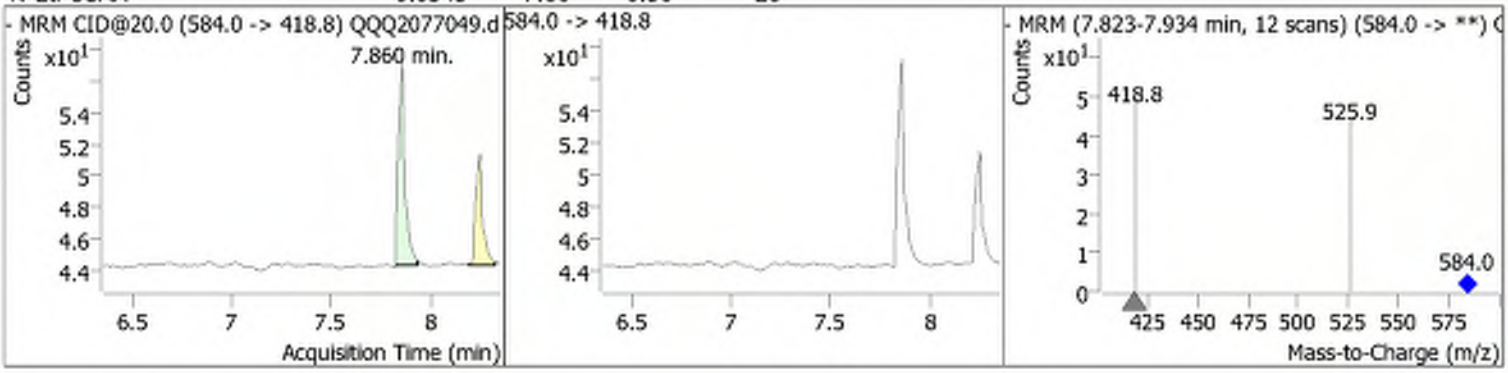
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0012	7.23	0.07	1				



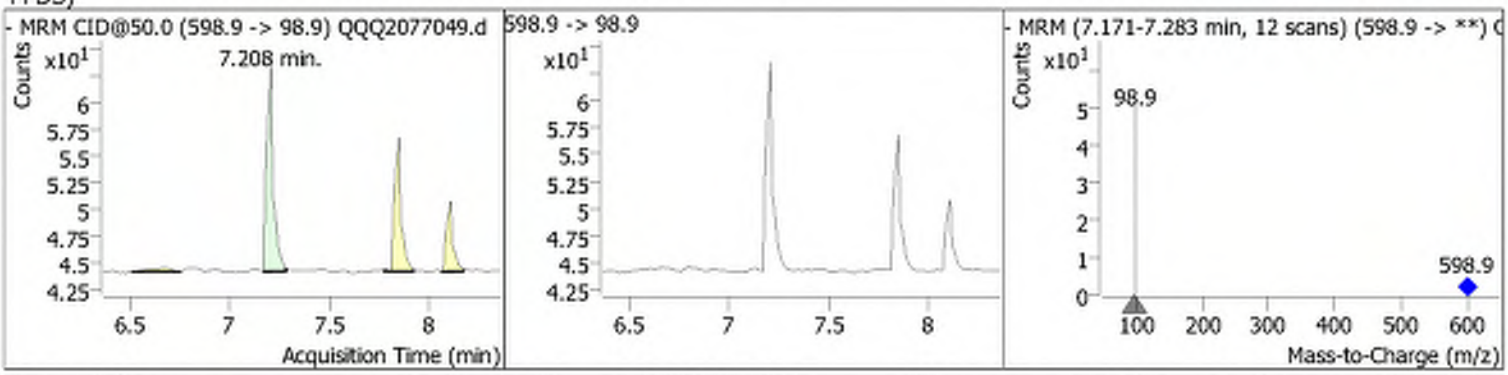
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	2.8475	7.27	-0.07	5383				



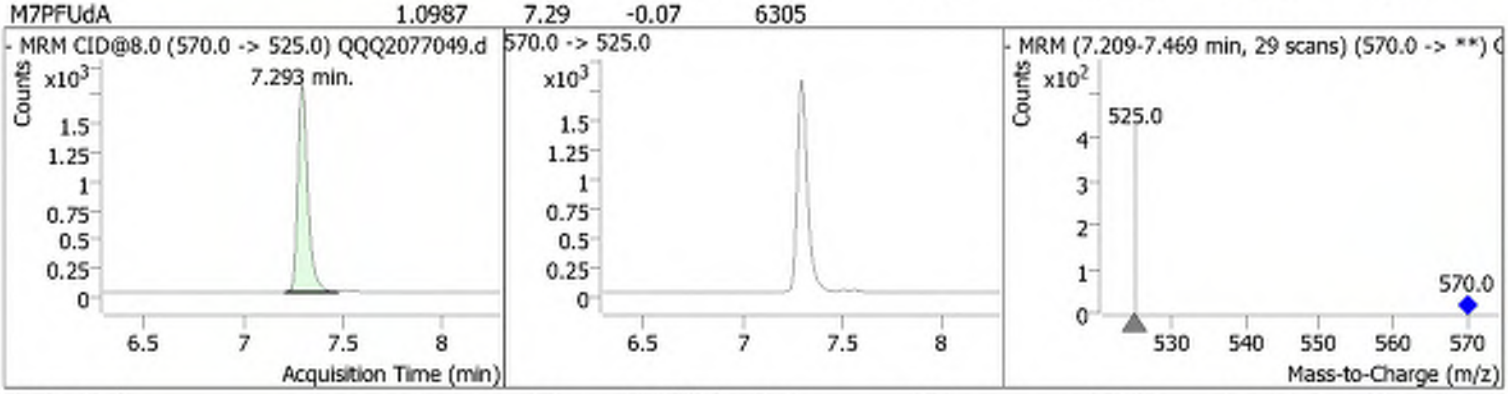
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0343	7.86	0.50	28				



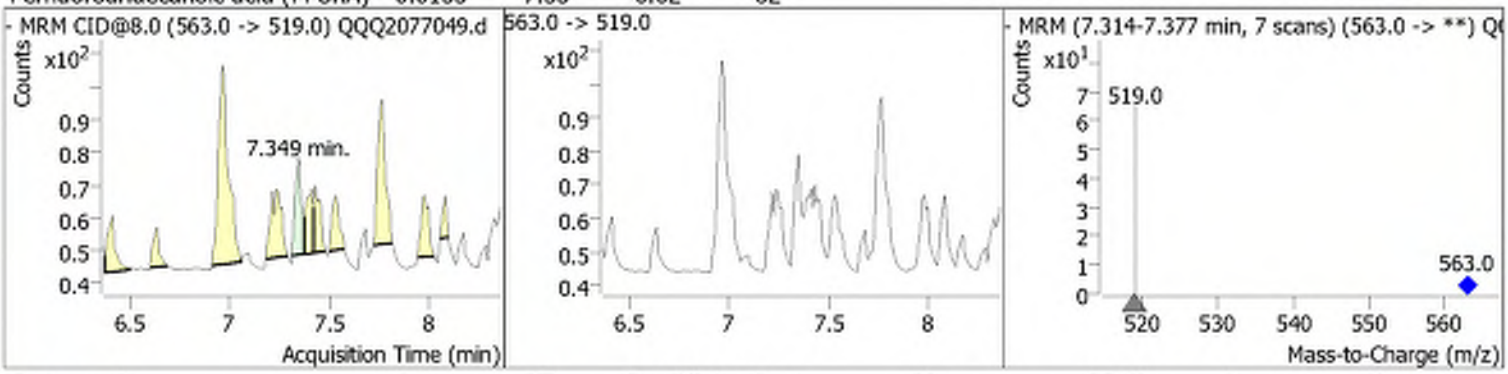
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0610	7.21	-0.16	42				



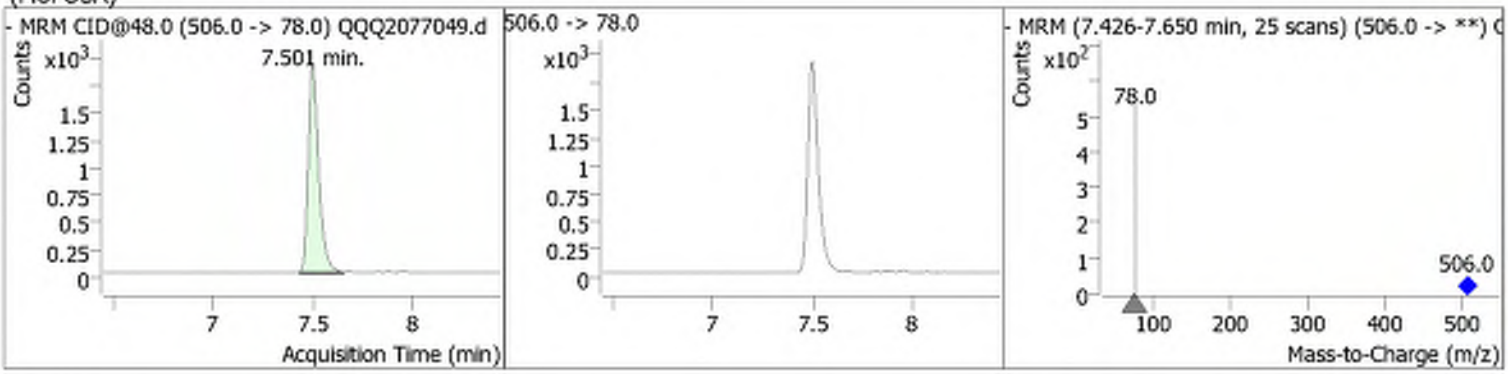
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.0987	7.29	-0.07	6305				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0153	7.35	-0.02	62				



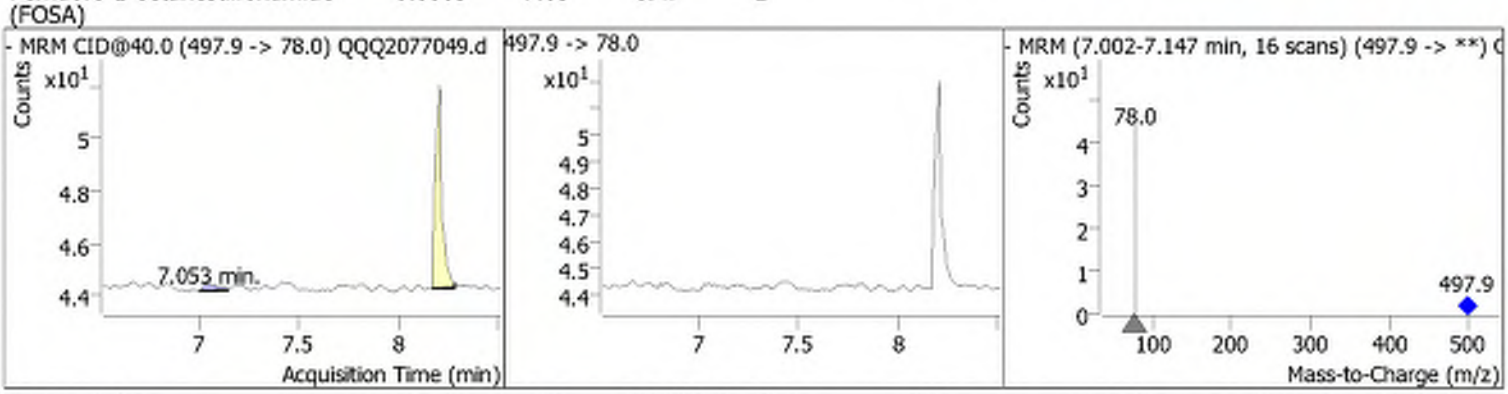
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	1.5080	7.50	-0.02	6884				



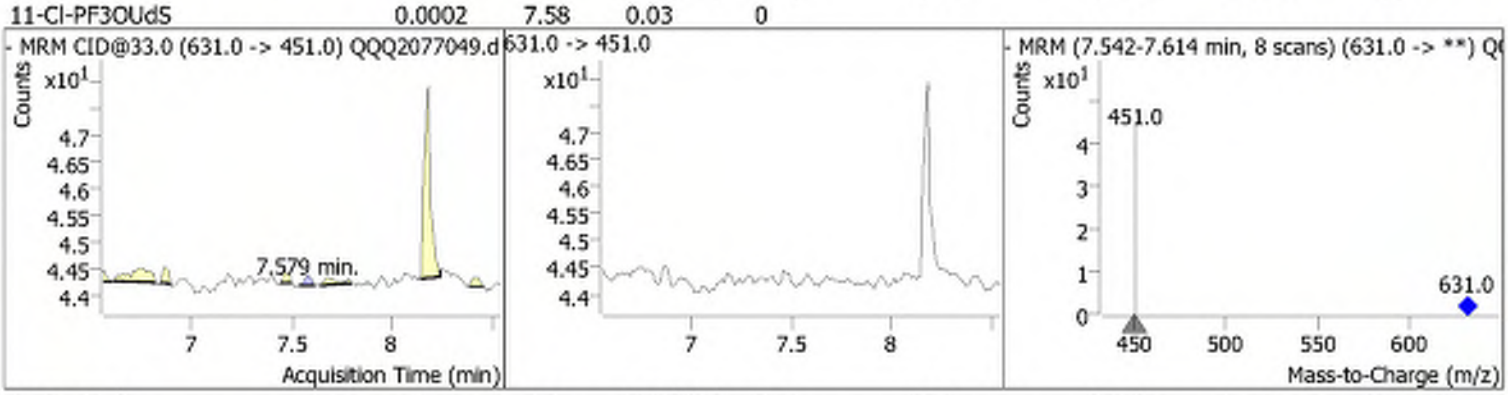
Quantitation Results Report (Not Reviewed)

Agilent

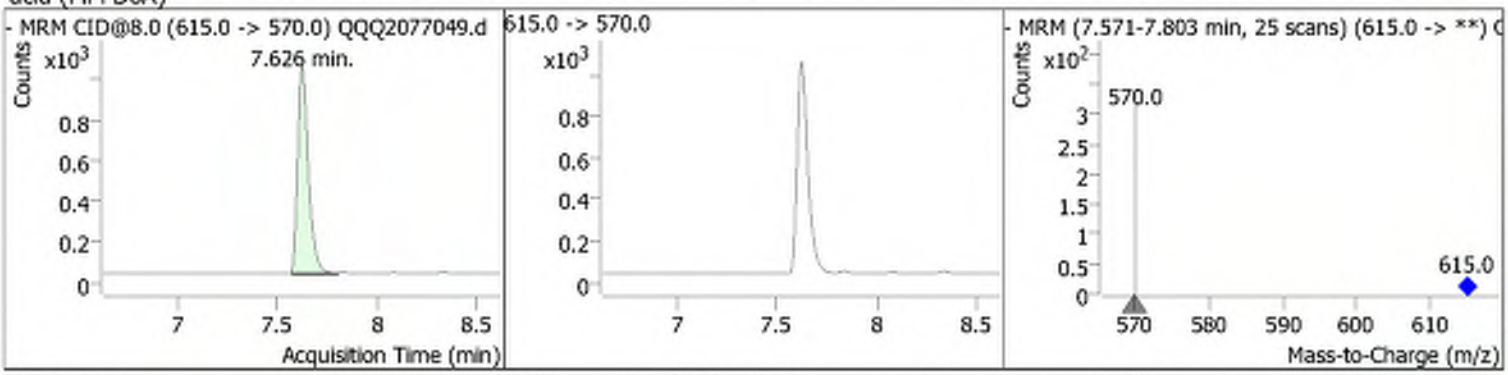
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0003	7.05	-0.47	1				



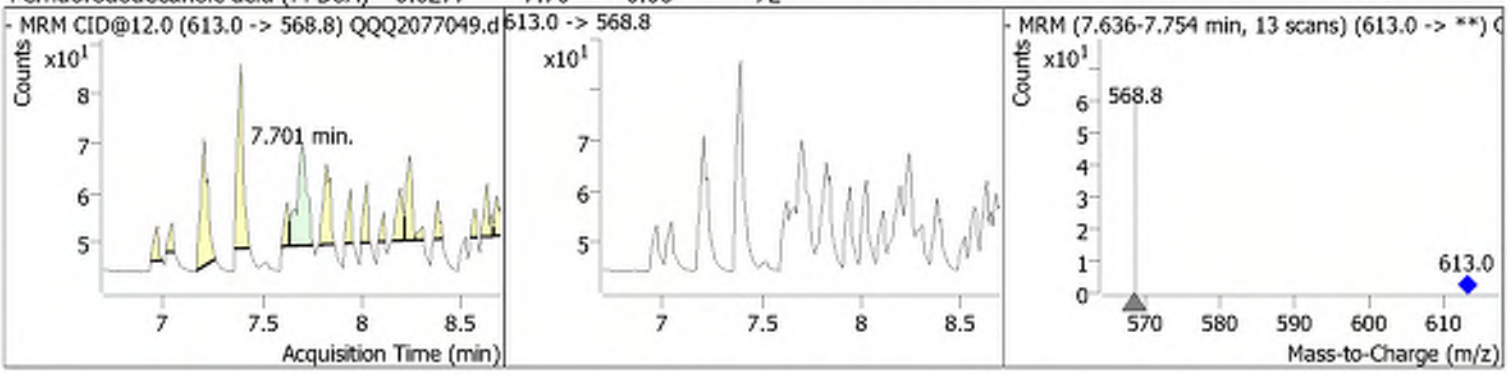
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.0002	7.58	0.03	0				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.7894	7.63	-0.07	3771				



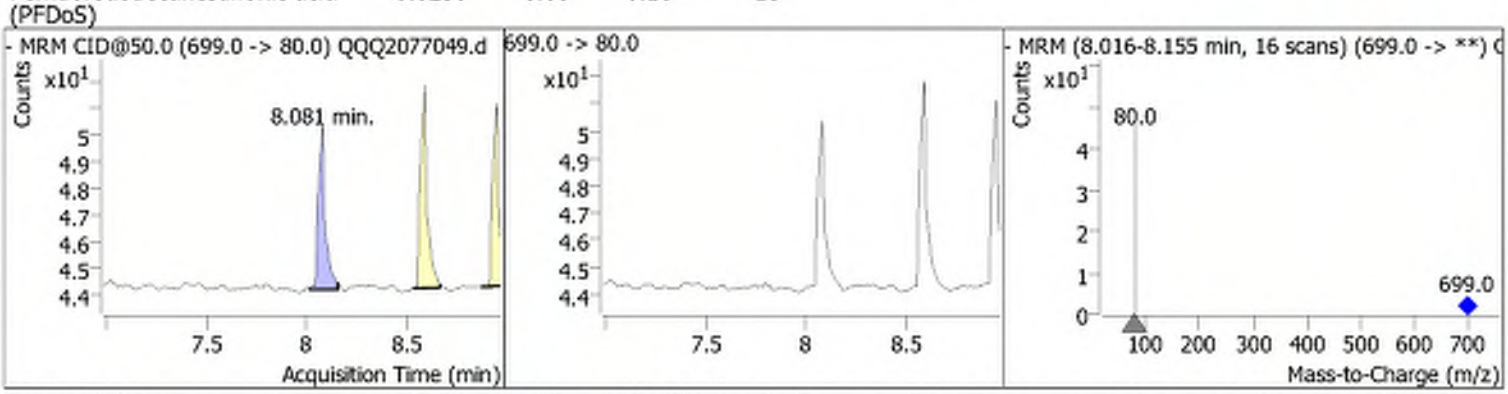
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0277	7.70	0.00	72				



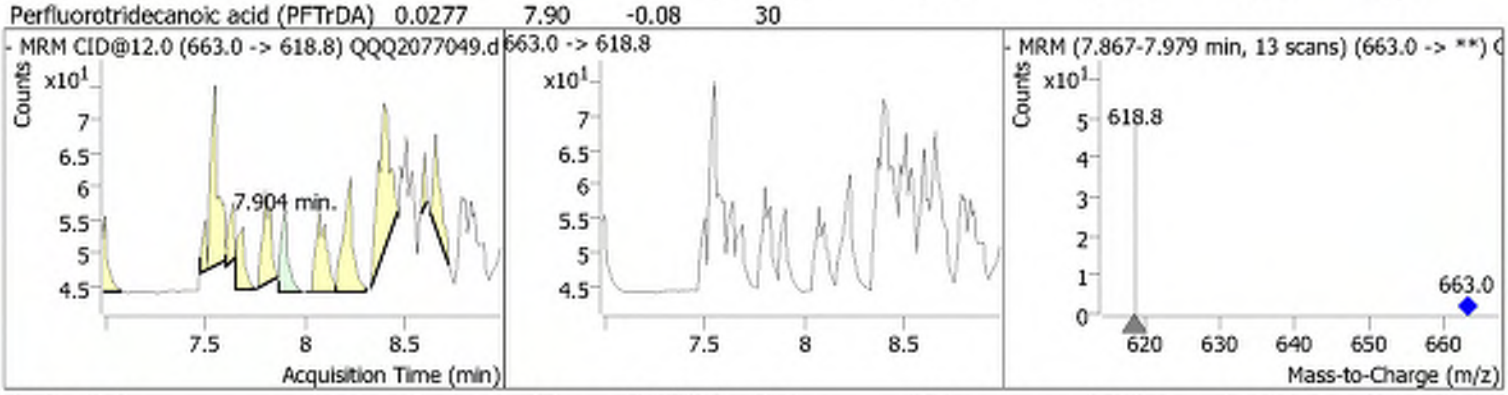
Quantitation Results Report (Not Reviewed)

Agilent

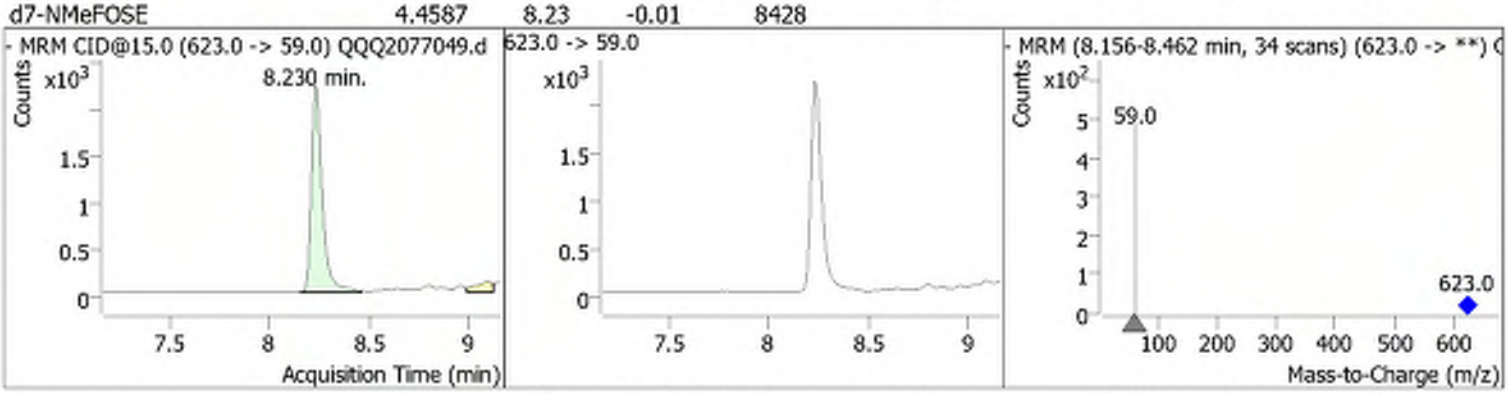
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.0230	8.08	0.10	15				



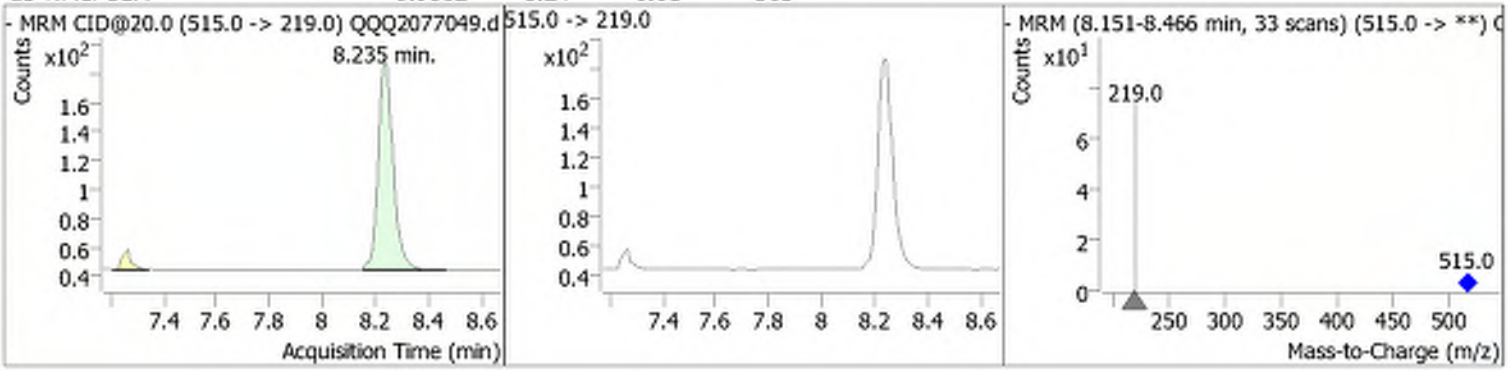
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0277	7.90	-0.08	30				



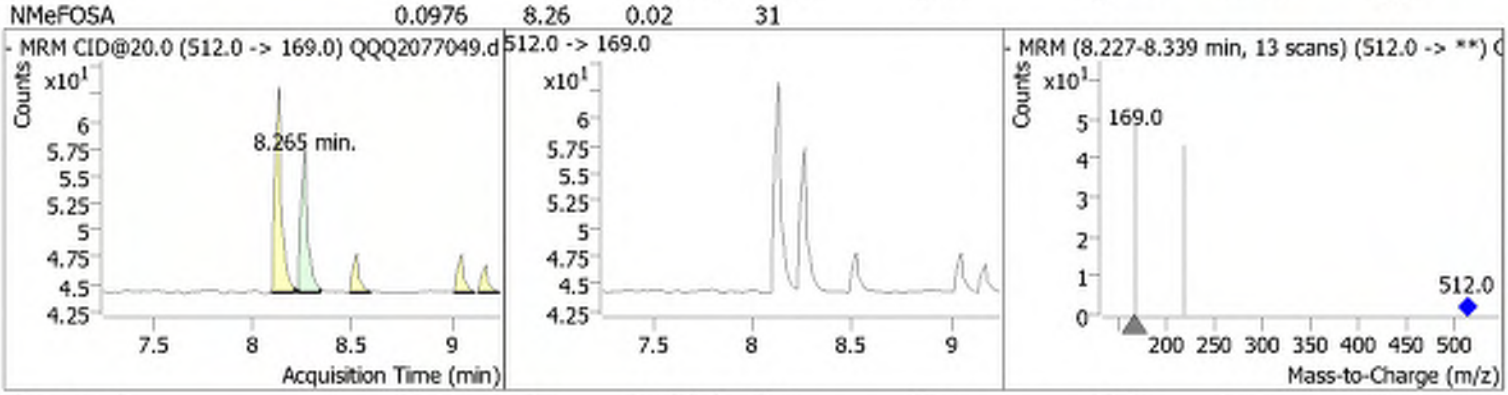
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	4.4587	8.23	-0.01	8428				



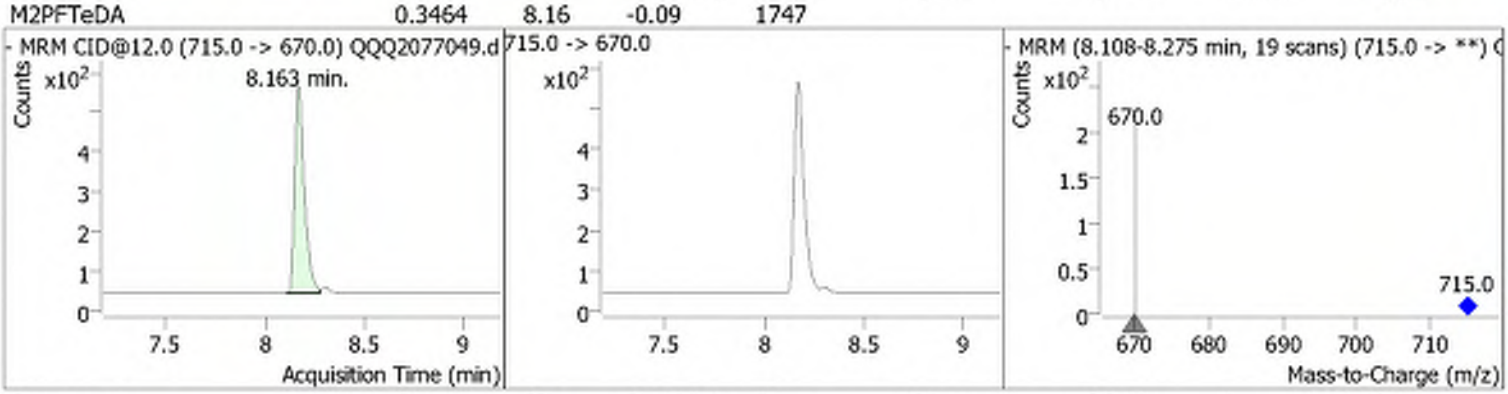
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	0.9662	8.24	-0.01	563				



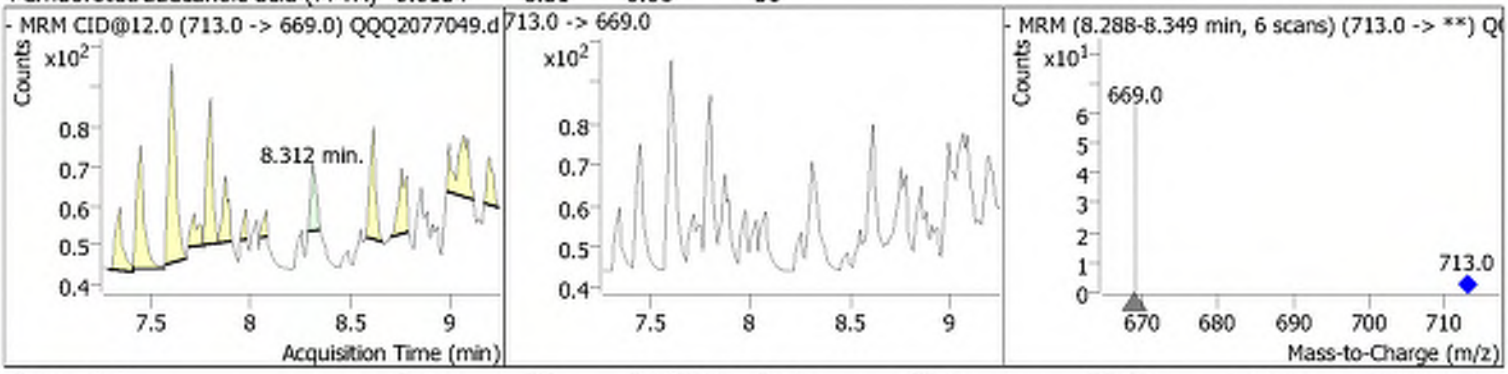
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.0976	8.26	0.02	31				



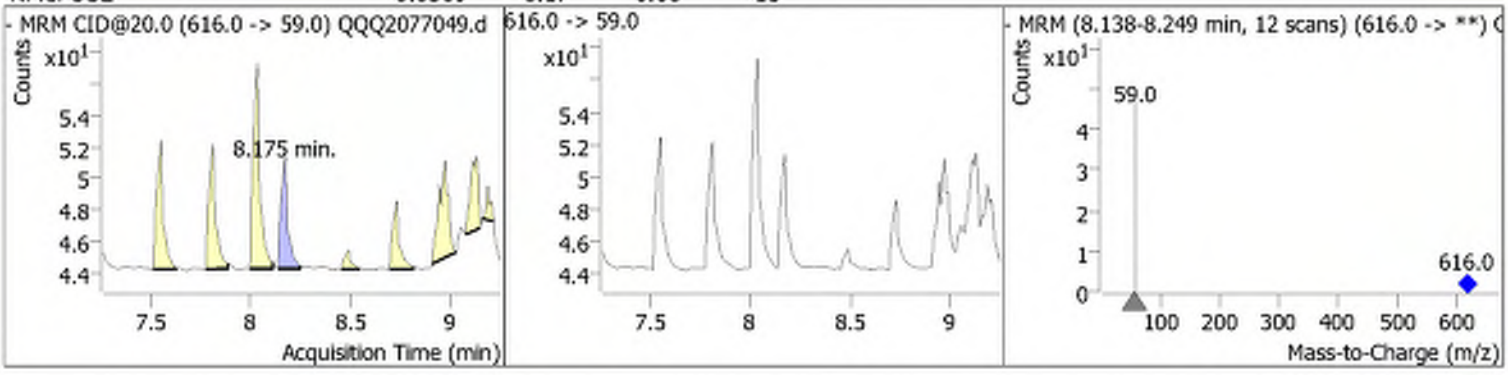
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.3464	8.16	-0.09	1747				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0154	8.31	0.06	30				



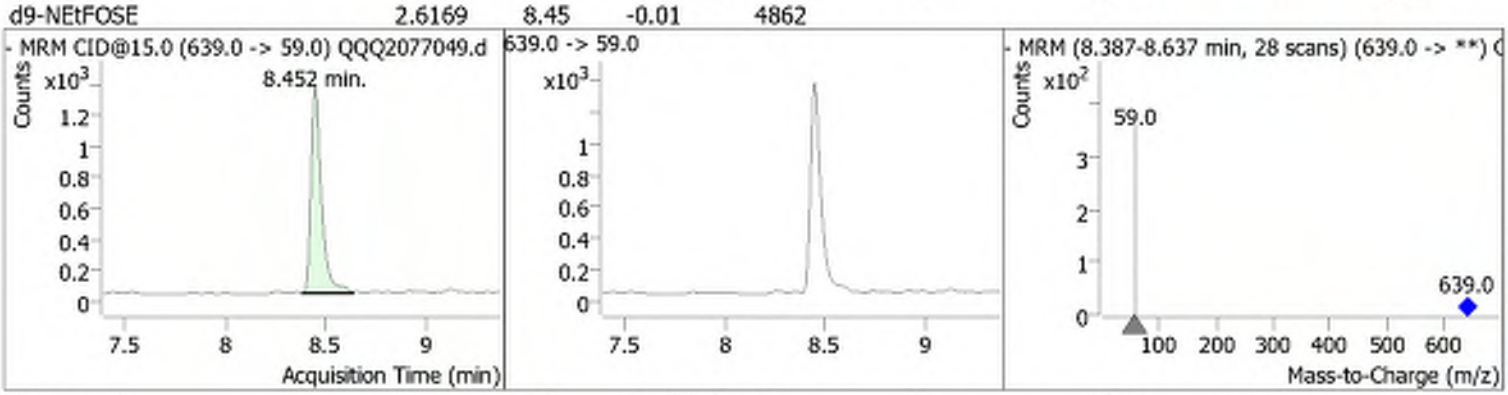
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	0.0509	8.17	-0.08	15				



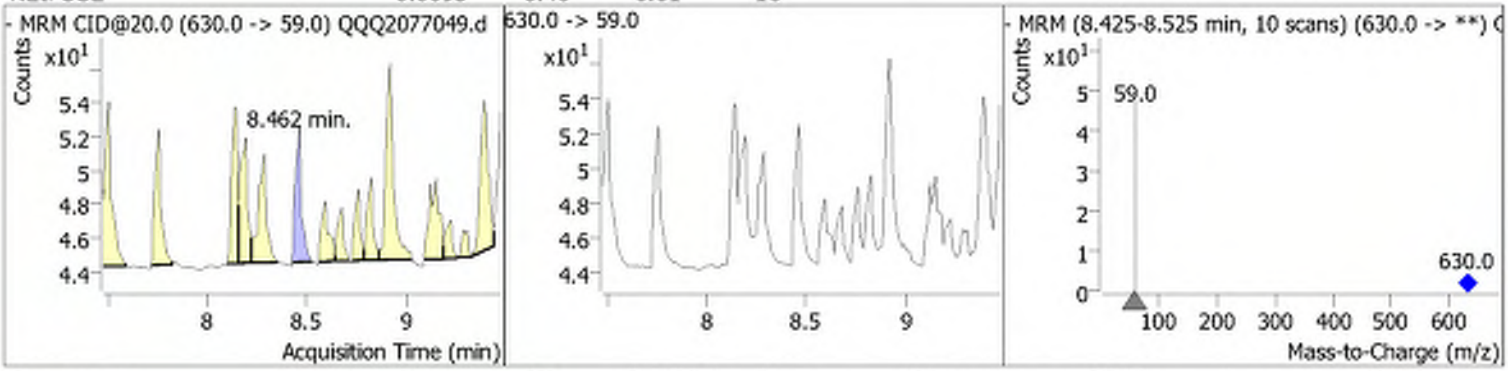
Quantitation Results Report (Not Reviewed)

Agilent

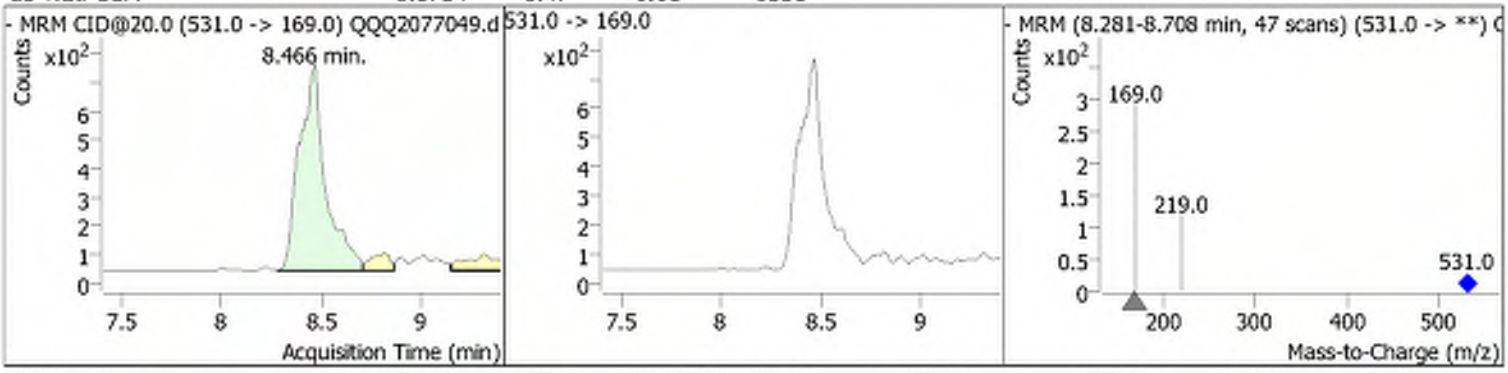
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	2.6169	8.45	-0.01	4862				



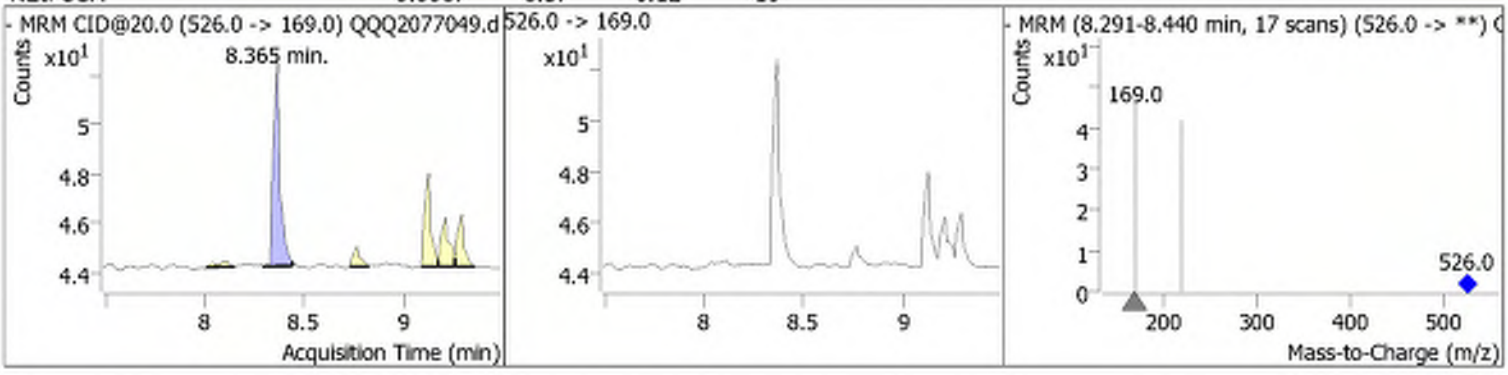
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	0.0693	8.46	-0.01	16				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	8.1734	8.47	-0.01	6551				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.0087	8.37	-0.12	19				



LCS RAW DATA

SDG: 23E0419
CLASS: PFAS
METHOD: EPA 1633 Draft 2

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076924.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 12:41:33 PM
Sample Name	BE30533-BS1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.152	216.0 -> 172.0	31018	5.0000	ng/ml	-0.055
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.159	217.0 -> 172.0	35606	10.0000	ng/ml	-0.046
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.322	268.0 -> 223.0	20900	5.0000	ng/ml	-0.065
MPFHxA	4.651	315.0 -> 269.8	27217	2.5000	ng/ml	-0.047
MPFHxS	5.476	403.0 -> 103.0	2395	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	7999	2.3300	ng/ml	-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	17120	2.5000	ng/ml	-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	6854	4.6900	ng/ml	-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	5854	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	46704	10.0000	ng/ml	-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	19570	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	2938	4.7550	ng/ml	-0.065
MPFOA	5.970	417.0 -> 372.0	25241	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	10757	2.5000	ng/ml	-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	1570	2.3950	ng/ml	-0.065
MPFNA	6.483	468.0 -> 423.0	8541	1.2500	ng/ml	-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1140	1.2500	ng/ml	-0.065
MPFOS	6.510	503.0 -> 80.0	6017	2.3950	ng/ml	-0.065
M2-8-2FTS-EIS	6.911	529.0 -> 509.0	2186	4.8000	ng/ml	-0.056
MPFDA	6.921	515.0 -> 469.8	8815	1.2500	ng/ml	-0.065
M6PFDA-EIS	6.930	519.0 -> 473.9	2454	1.2500	ng/ml	-0.056
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	7396	5.0000	ng/ml	-0.065
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	6503	5.0000	ng/ml	-0.065
M7PFUdA-EIS	7.293	570.0 -> 525.0	5094	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	8006	2.5000	ng/ml	-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	4305	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.173	715.0 -> 670.0	5722	1.2500	ng/ml	-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	903	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	36829	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	32389	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	3755	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.159	217.0 -> 172.0	35606	8.3805	ng/ml	-0.046
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.322	268.0 -> 223.0	20900	4.7427	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.837	302.0 -> 79.9	7999	2.5108	ng/ml	-0.055
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.584	329.0 -> 309.0	6854	5.2551	ng/ml	-0.047

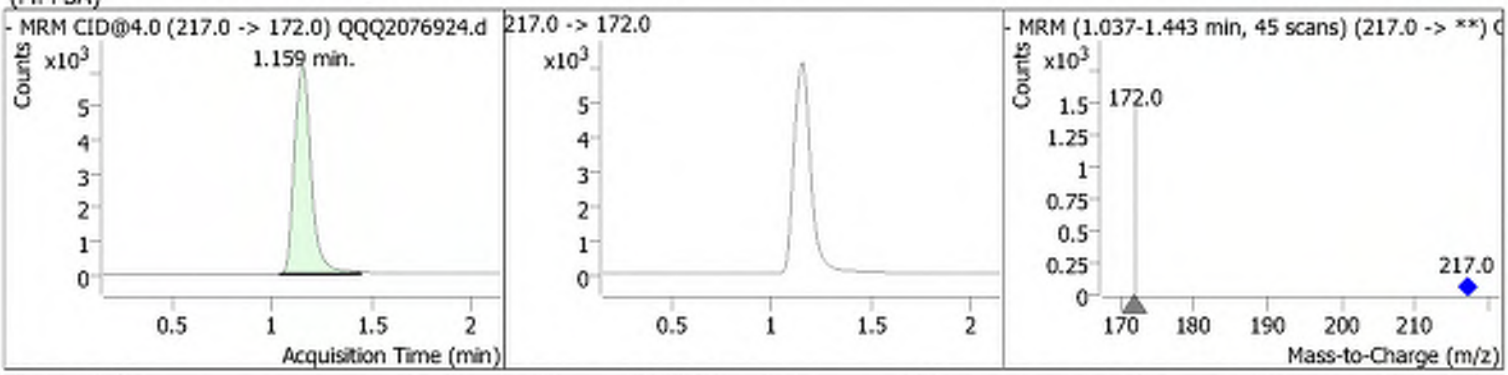
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.650	318.0 -> 273.0	17120	2.3287	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.913	287.0 -> 169.0	46704	10.8942	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	19570	2.3570	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	5854	2.1873	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	2938	4.1535	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	10757	1.9331	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1140	1.2974	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	1570	1.8018	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.911	529.0 -> 509.0	2186	3.5954	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.930	519.0 -> 473.9	2454	0.7172	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.087	573.0 -> 418.8	7396	3.6335	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.283	589.0 -> 418.8	6503	3.1793	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	5094	0.7513	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	8006	1.6209	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	4305	0.7627	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.240	623.0 -> 59.0	36829	18.0062	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	903	1.4319	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.173	715.0 -> 670.0	5722	0.9604	ng/ml	-0.084
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	32389	16.1123	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	3755	4.3293	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.154	213.0 -> 168.9	75135	16.7115	ng/ml	100
PFMPA	1.987	229.0 -> 85.0	25138	7.8226	ng/ml	100
3:3FTCA	3.231	241.0 -> 177.0	4166	16.2151	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.323	263.0 -> 219.0	36143	7.8990	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	14786	3.5973	ng/ml	100
PFMBA	3.858	279.0 -> 85.0	34434	7.2679	ng/ml	100
PFEESA	4.336	315.0 -> 135.0	86105	7.8785	ng/ml	100
NFDHA	4.504	295.0 -> 201.1	46382	9.5633	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	19218	14.4912	ng/ml	100

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	36597	4.5128	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	12685	3.7727	ng/ml		100
HFPO-DA	4.914	285.0 -> 169.1	2906	7.2953	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	38327	3.6392	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	12230	3.6244	ng/ml	m	100
5-3FTCA	5.487	341.0 -> 217.0	80294	85.5904	ng/ml		100
ADONA	5.495	377.0 -> 85.0	38115	6.3013	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.941	427.0 -> 407.0	9805	17.3534	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.980	413.0 -> 368.8	29990	4.8009	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.025	448.9 -> 80.0	7064	4.3575	ng/ml		100
Perfluorononanoic acid (PFNA)	6.483	463.0 -> 418.8	17167	2.6626	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.511	498.9 -> 79.9	4494	5.3214	ng/ml	m	100
7-3FTCA	6.633	441.0 -> 337.0	86048	58.7476	ng/ml		100
9-Cl-PF3ONS	6.761	531.0 -> 351.0	33742	5.0818	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.911	527.0 -> 80.9	6825	13.4599	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.921	513.0 -> 468.8	14725	3.6045	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.929	548.9 -> 79.9	6936	4.6701	ng/ml		100
N-MeFOSAA	7.097	570.0 -> 418.9	4649	4.5818	ng/ml	m	100
N-EtFOSAA	7.283	584.0 -> 418.8	4414	4.4557	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.301	598.9 -> 98.9	2724	4.2892	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.303	563.0 -> 519.0	16597	4.8762	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.511	497.9 -> 78.0	20841	3.7071	ng/ml		100
11-Cl-PF3OUdS	7.486	631.0 -> 451.0	11562	4.5136	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.636	613.0 -> 568.8	10182	3.4579	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.913	699.0 -> 80.0	2560	4.1937	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.923	663.0 -> 618.8	11248	3.1693	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	2107	4.1524	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.182	713.0 -> 669.0	21795	3.3842	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	42274	32.6164	ng/ml		100
NEtFOSE	8.462	630.0 -> 59.0	49886	32.5099	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	1810	1.4280	ng/ml		100

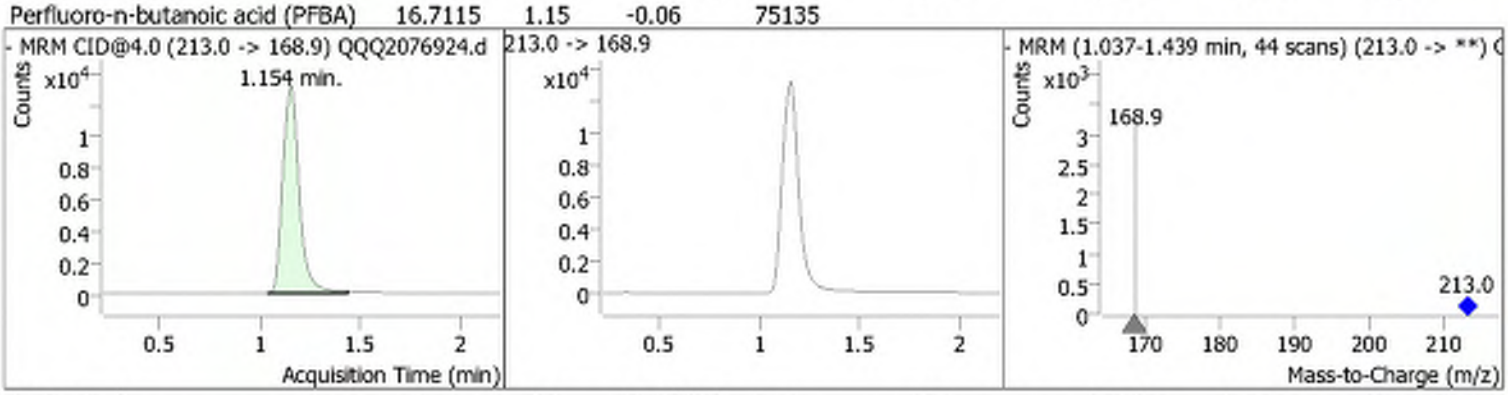
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitation Results Report (Not Reviewed)

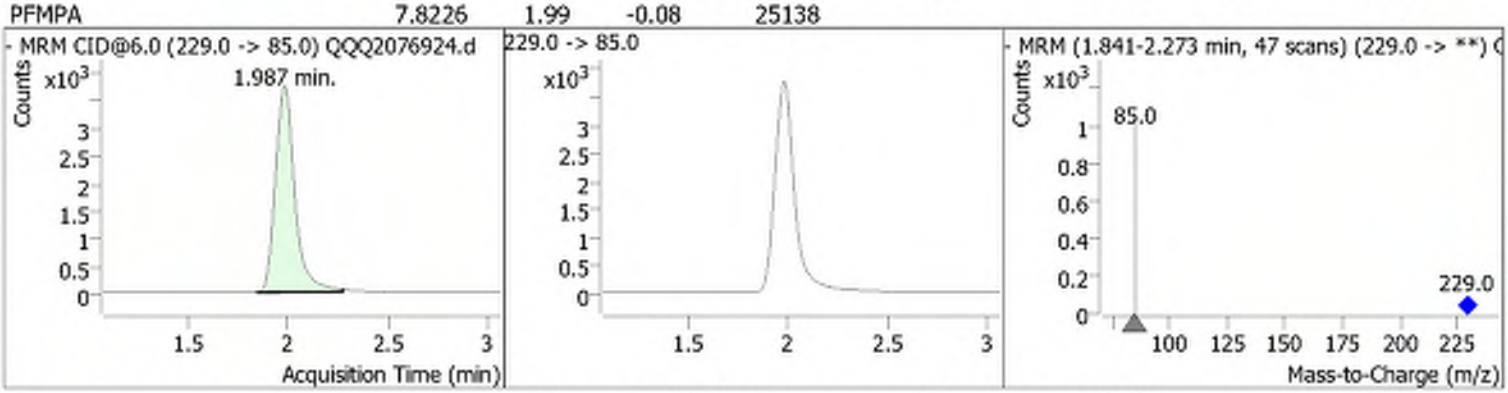
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	8.3805	1.16	-0.05	35606				



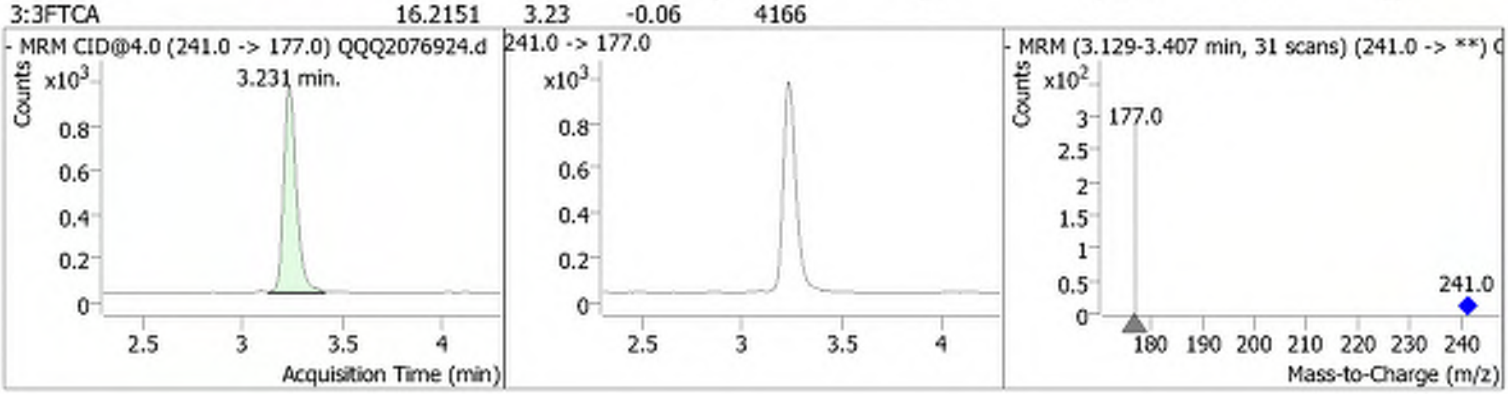
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	16.7115	1.15	-0.06	75135				



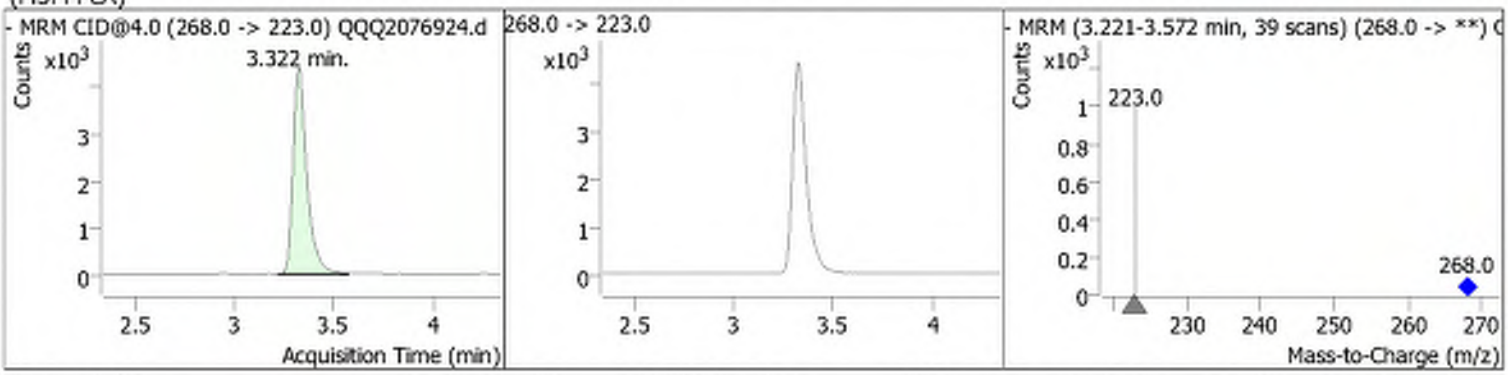
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	7.8226	1.99	-0.08	25138				



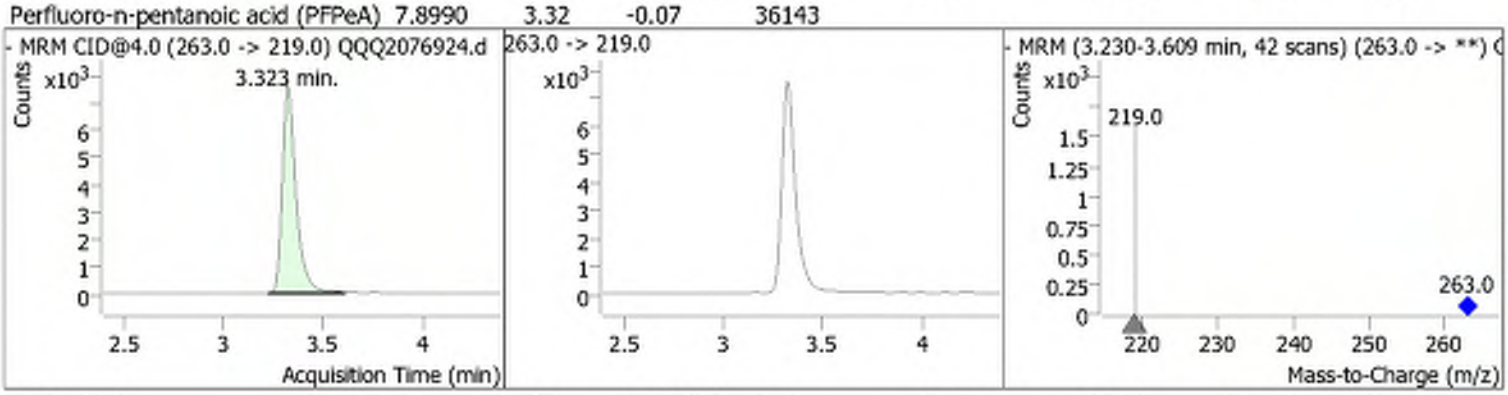
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	16.2151	3.23	-0.06	4166				



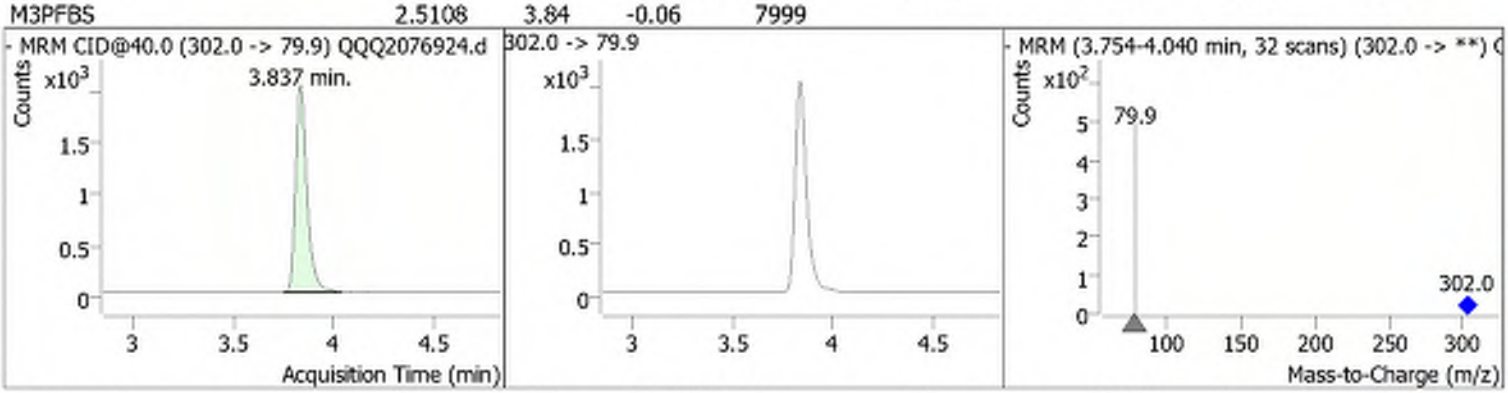
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.7427	3.32	-0.06	20900				



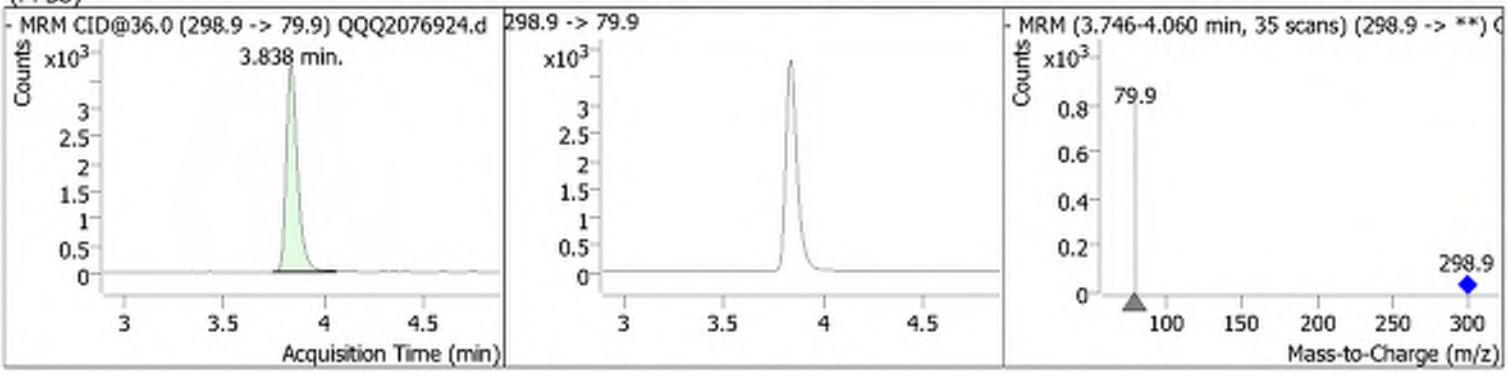
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	7.8990	3.32	-0.07	36143				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.5108	3.84	-0.06	7999				

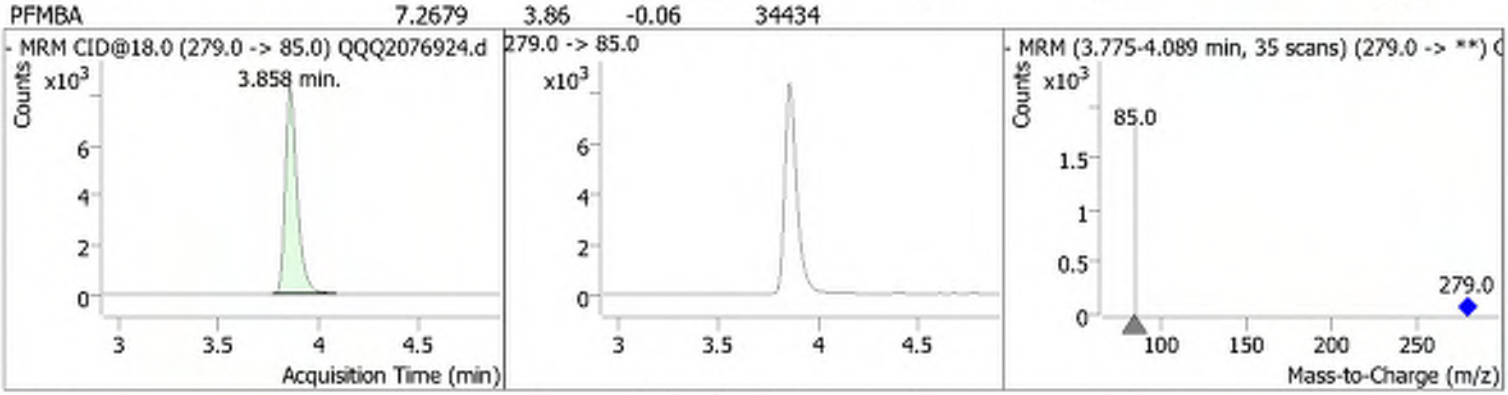


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	3.5973	3.84	-0.06	14786				

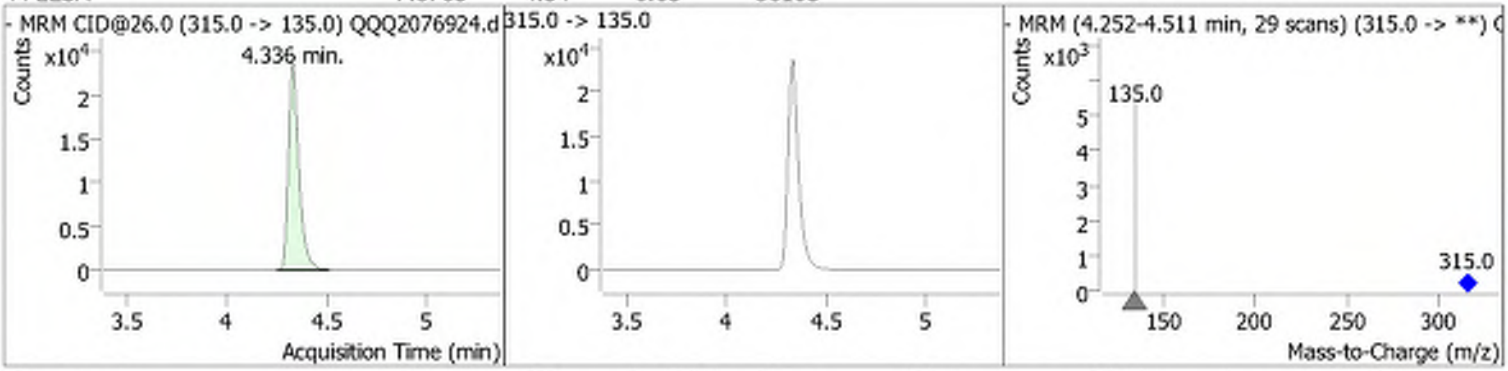


Quantitation Results Report (Not Reviewed)

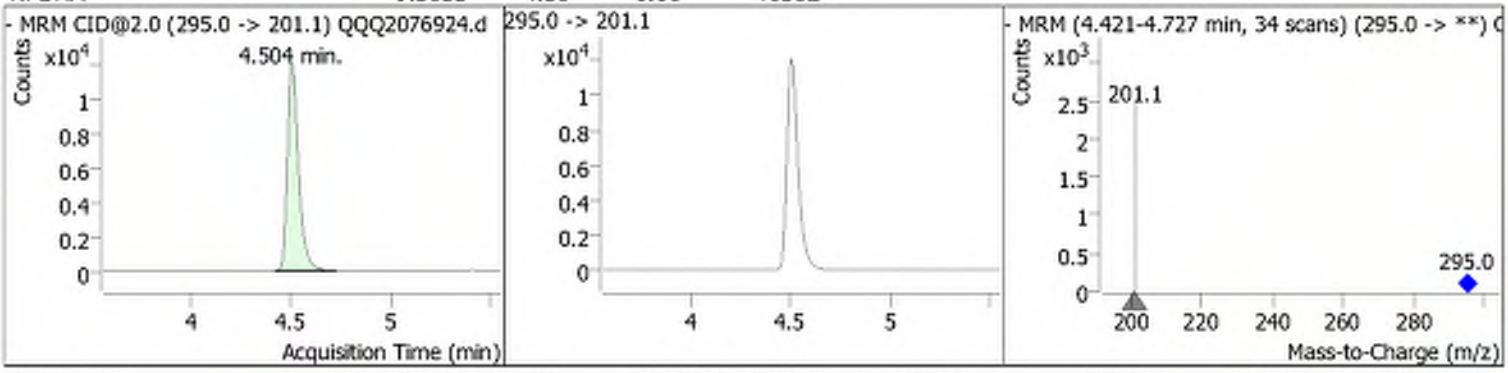
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	7.2679	3.86	-0.06	34434				



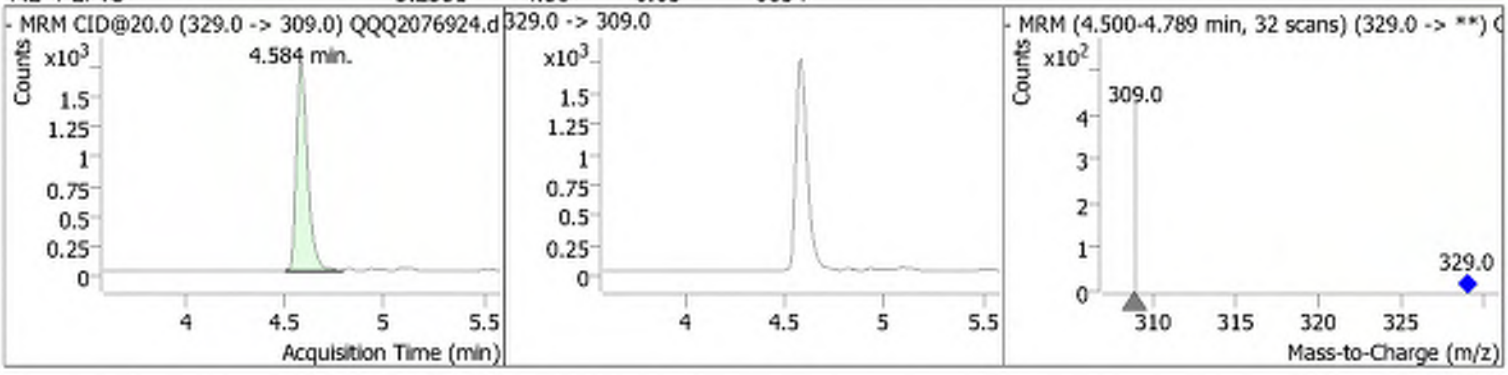
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	7.8785	4.34	-0.05	86105				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	9.5633	4.50	-0.06	46382				

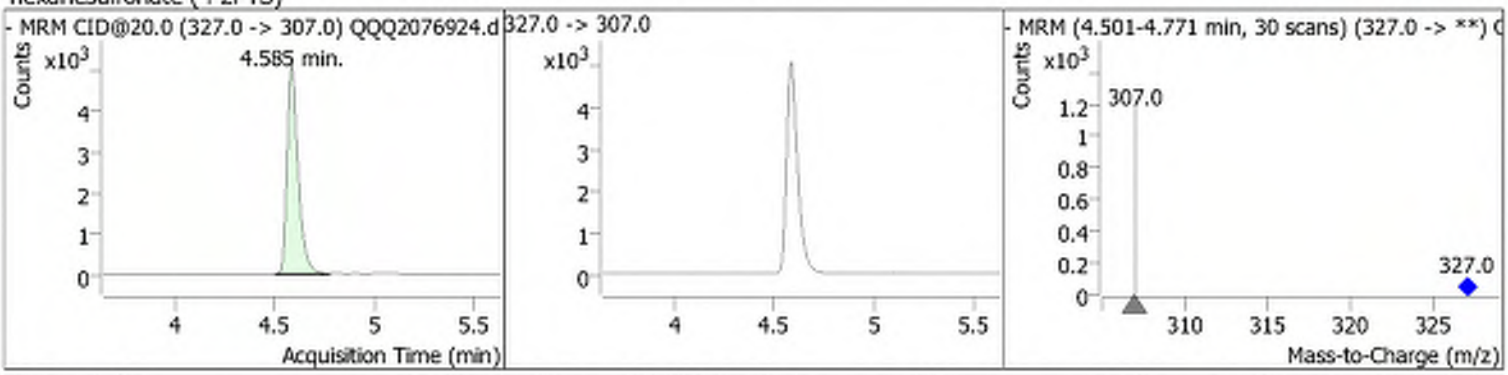


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.2551	4.58	-0.05	6854				

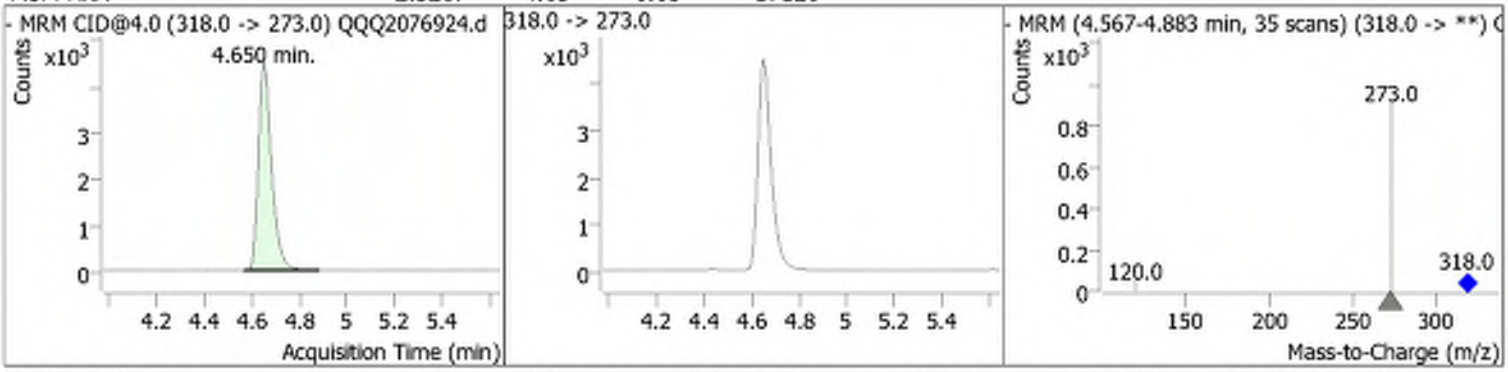


Quantitation Results Report (Not Reviewed)

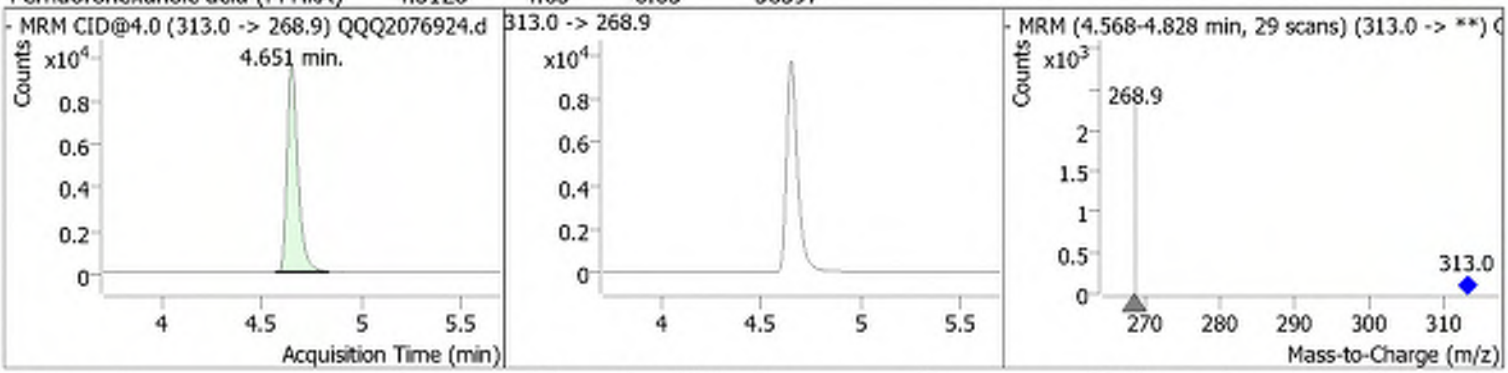
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	14.4912	4.58	-0.05	19218				



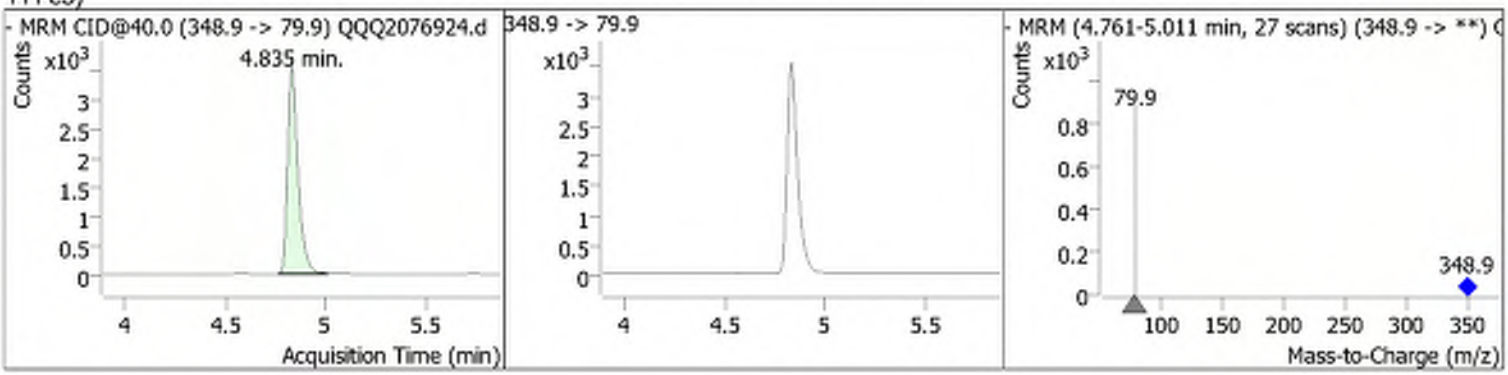
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.3287	4.65	-0.05	17120				



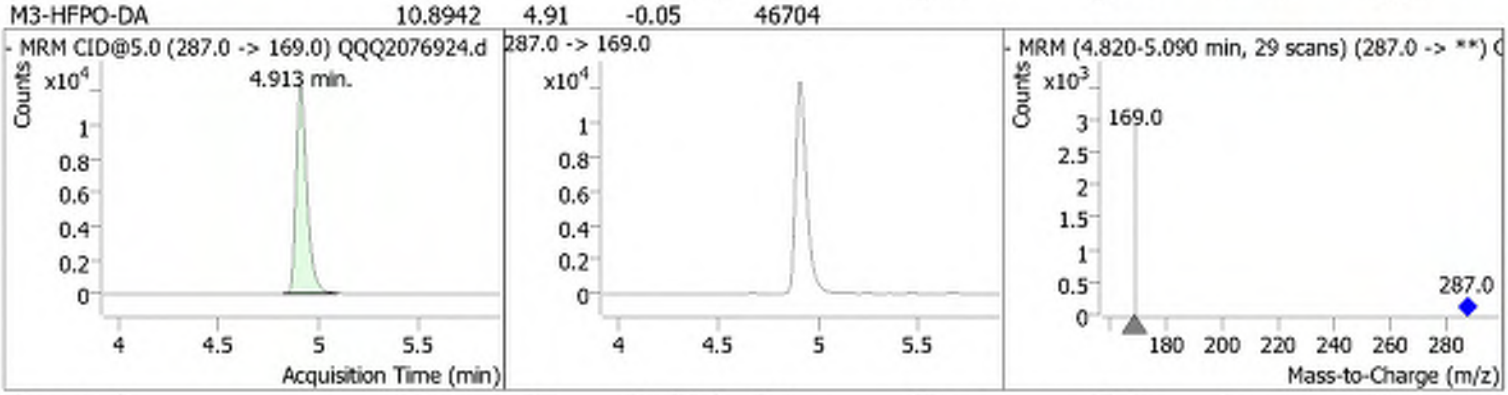
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	4.5128	4.65	-0.05	36597				



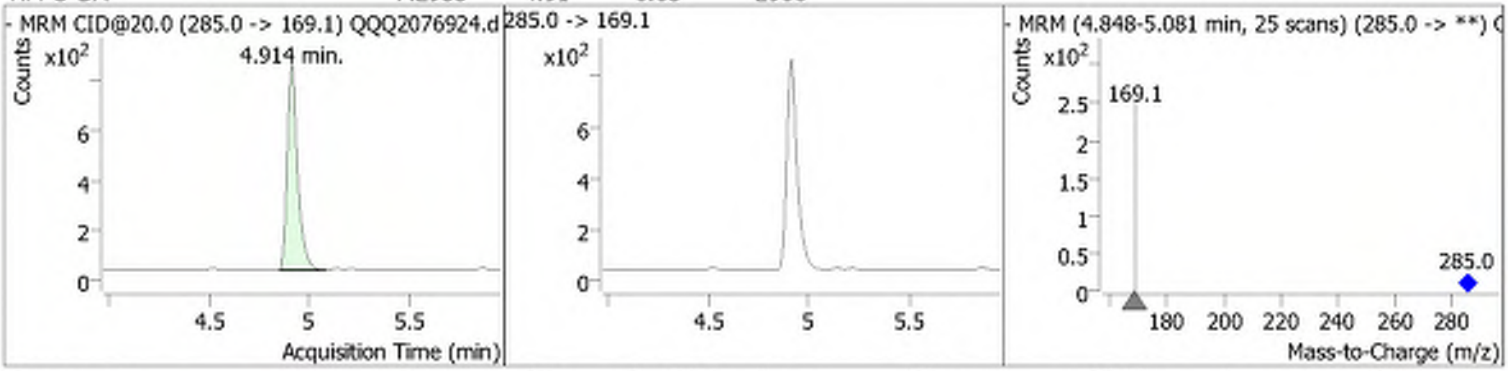
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	3.7727	4.83	-0.05	12685				



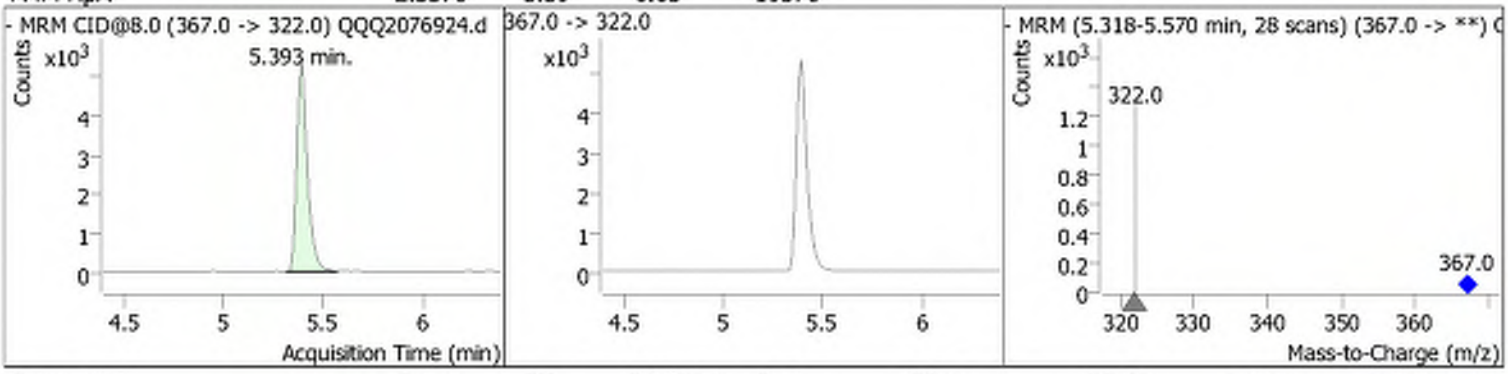
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	10.8942	4.91	-0.05	46704				



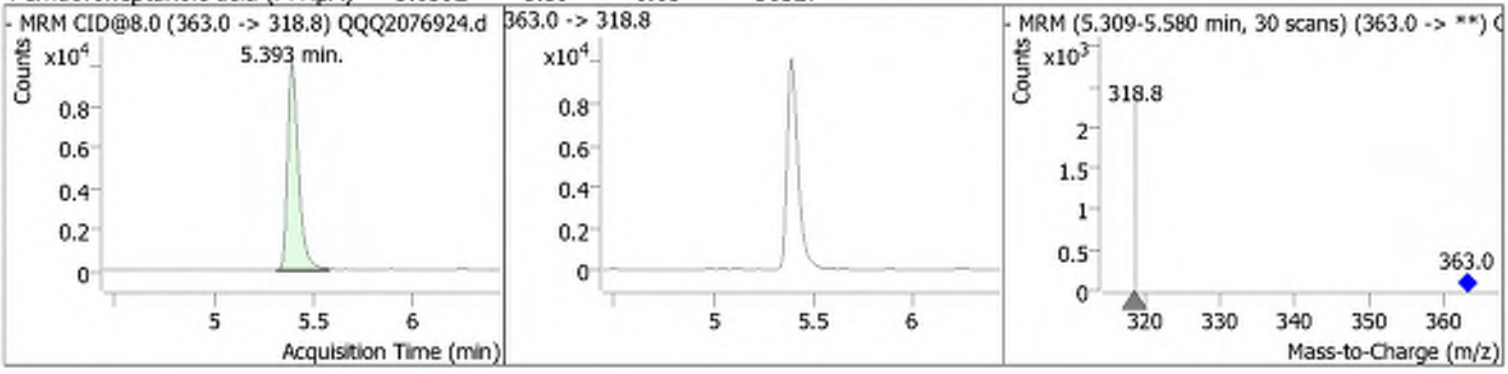
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	7.2953	4.91	-0.05	2906				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.3570	5.39	-0.05	19570				



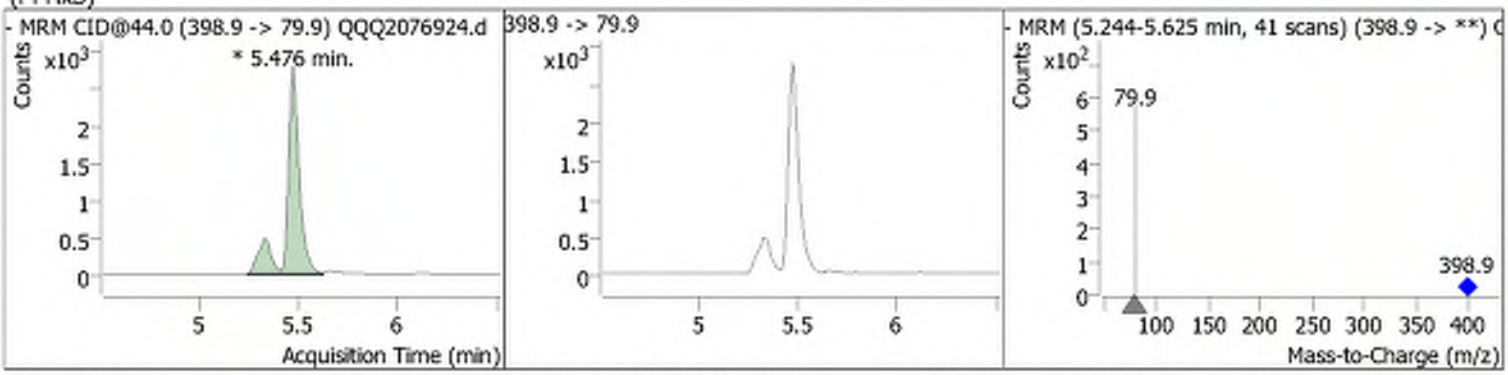
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	3.6392	5.39	-0.05	38327				



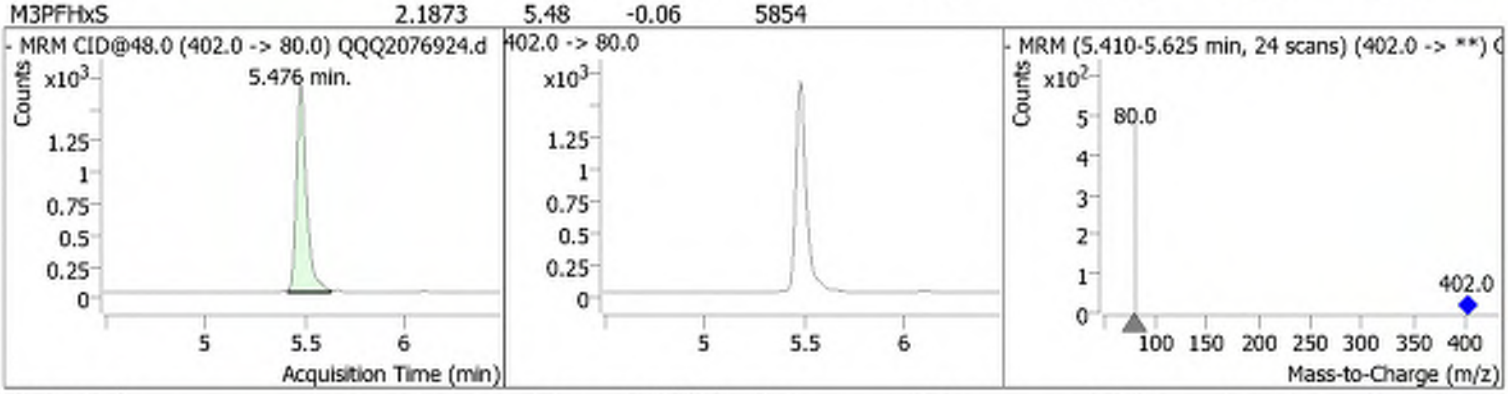
Quantitation Results Report (Not Reviewed)

Agilent

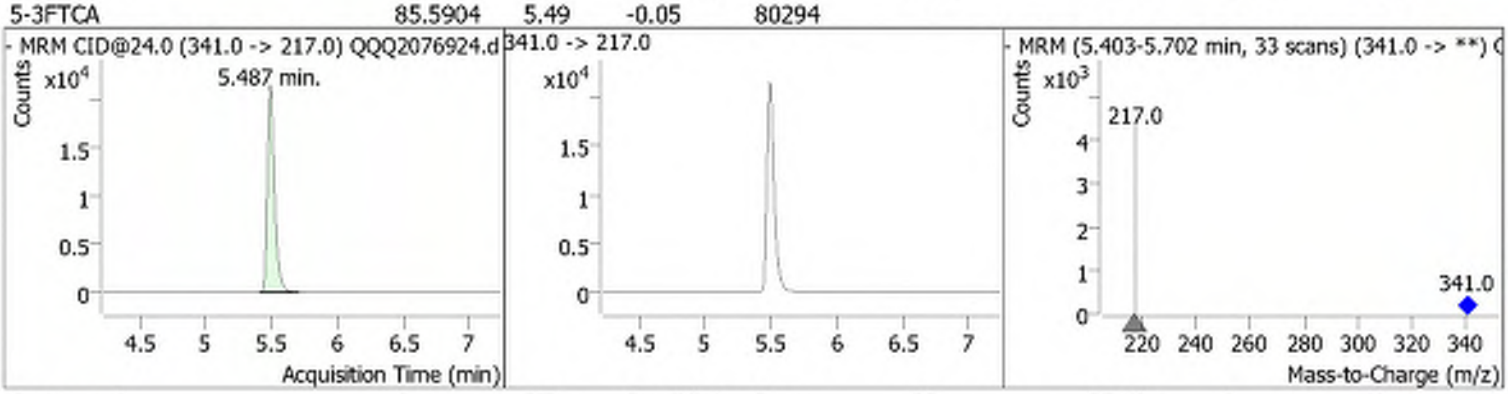
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.6244	5.48	-0.05	12230 (m)				



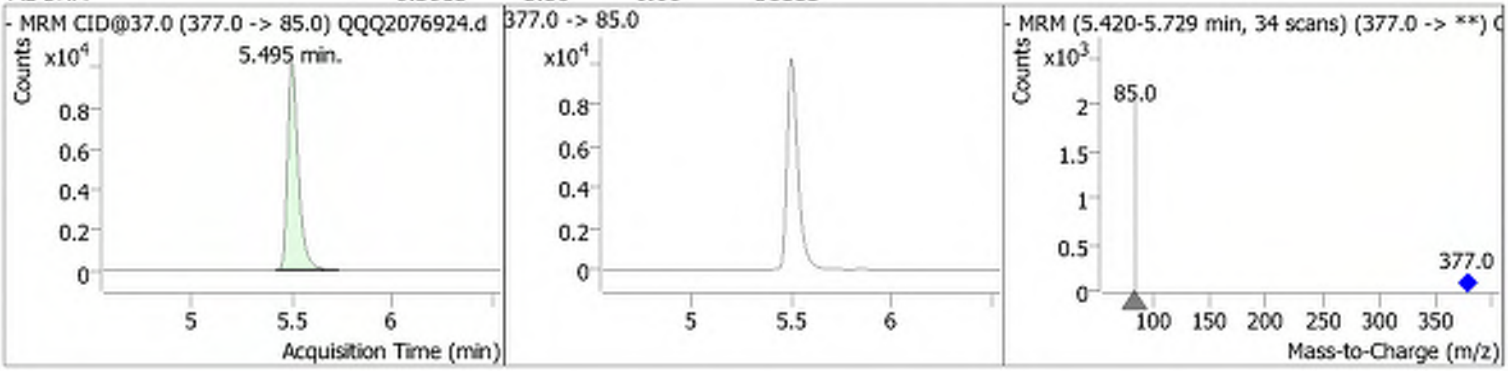
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.1873	5.48	-0.06	5854				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	85.5904	5.49	-0.05	80294				

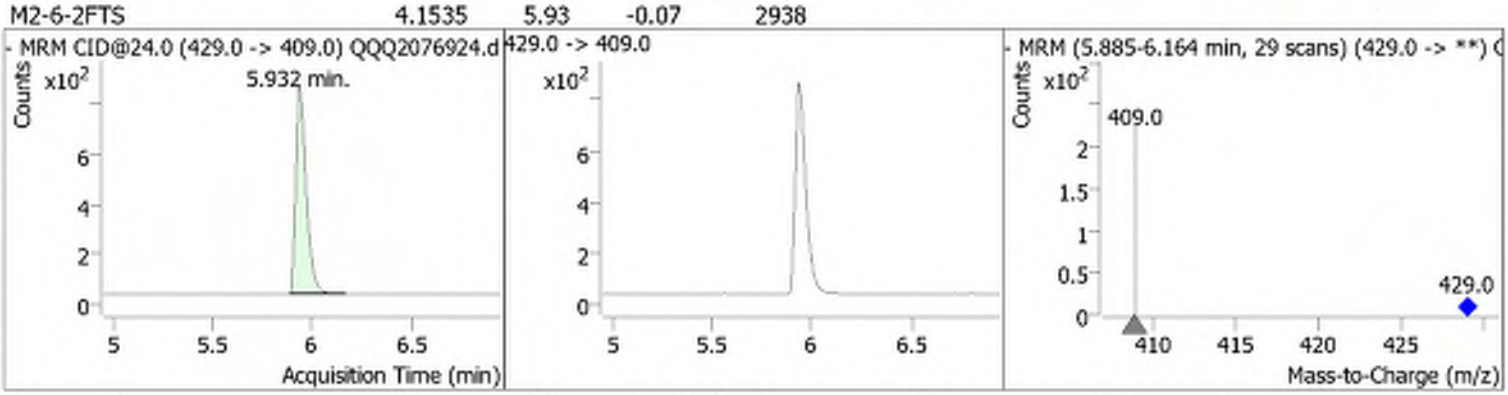


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	6.3013	5.50	-0.06	38115				

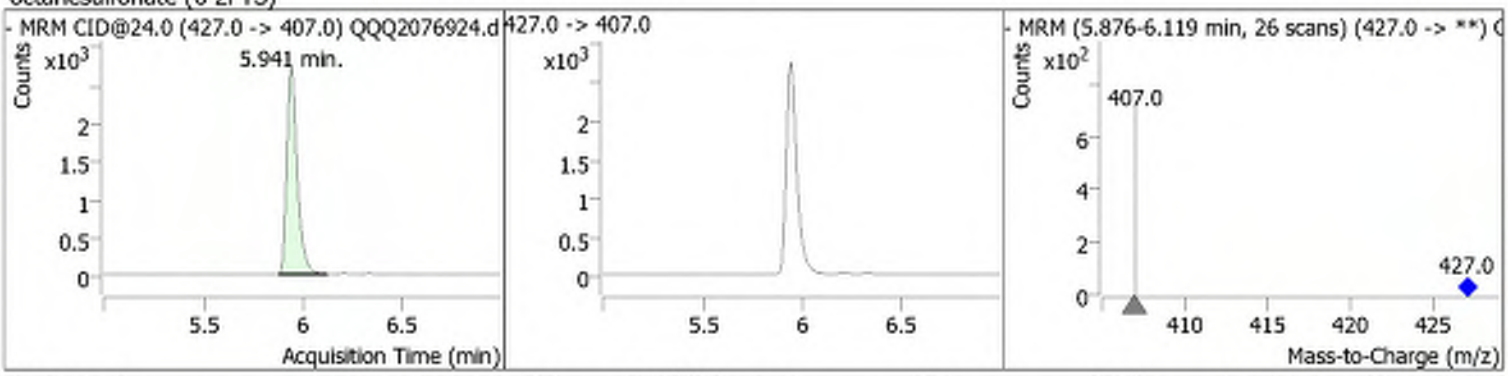


Quantitation Results Report (Not Reviewed)

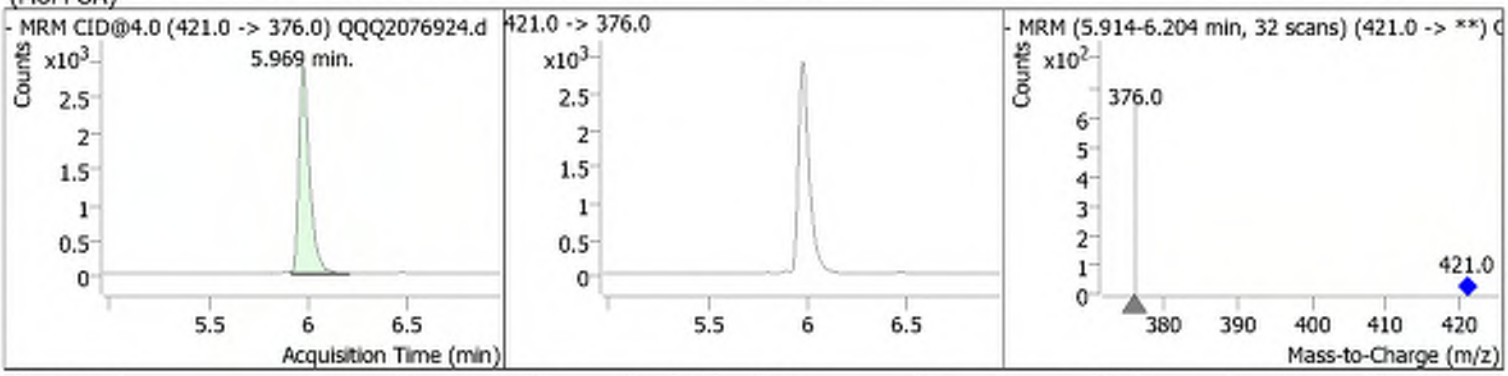
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.1535	5.93	-0.07	2938				



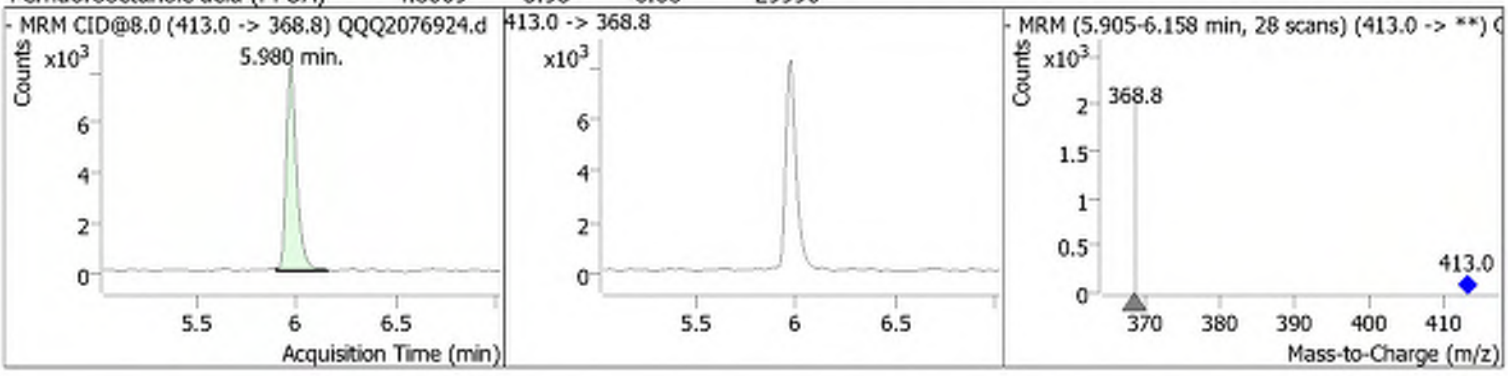
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	17.3534	5.94	-0.06	9805				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	1.9331	5.97	-0.07	10757				

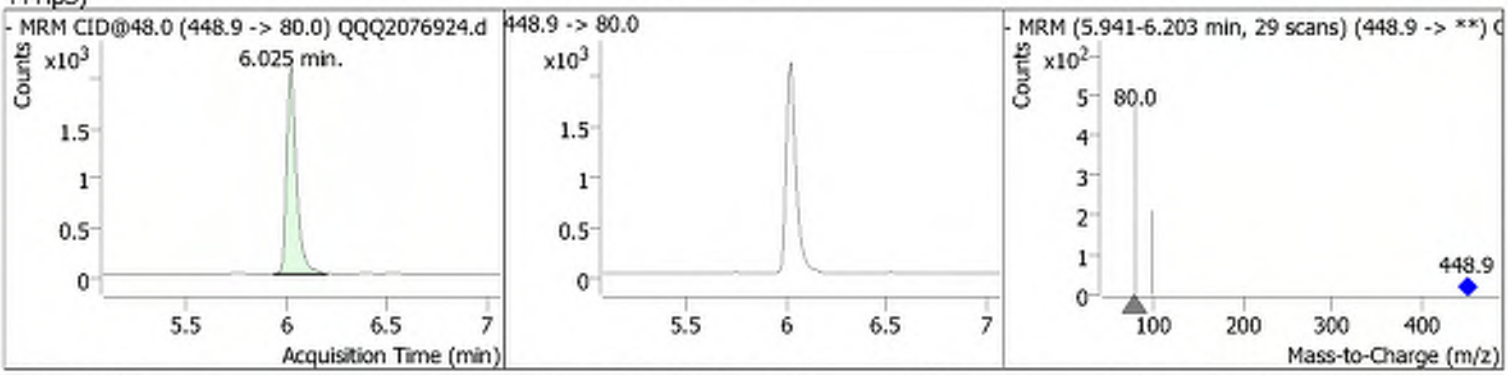


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	4.8009	5.98	-0.06	29990				

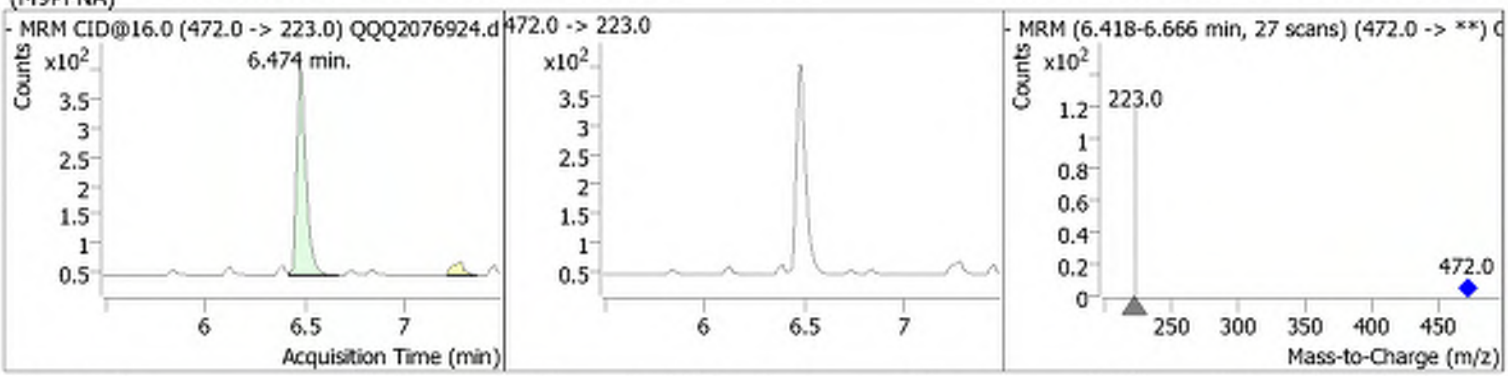


Quantitation Results Report (Not Reviewed)

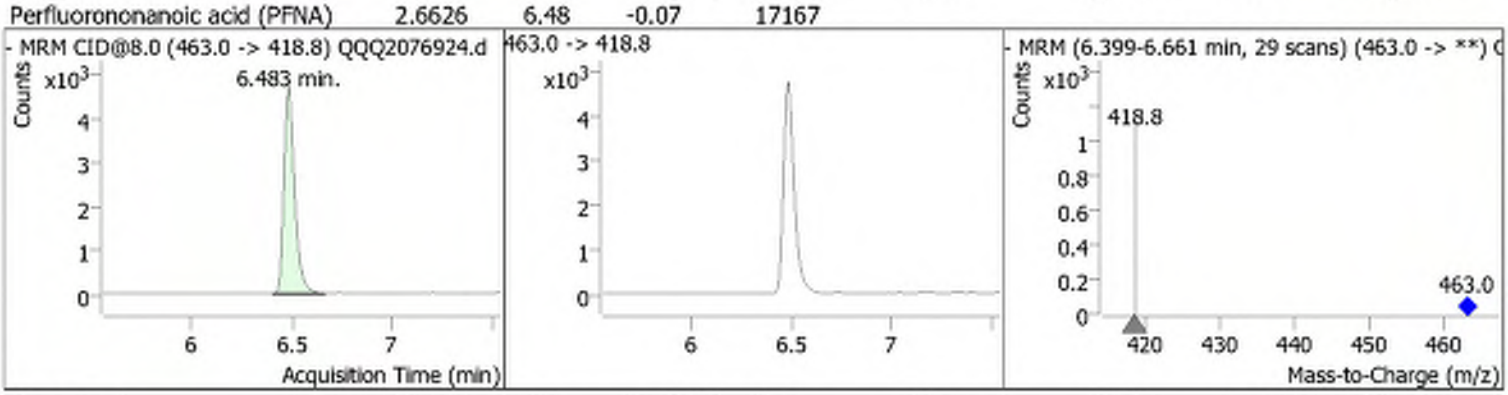
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	4.3575	6.03	-0.06	7064				



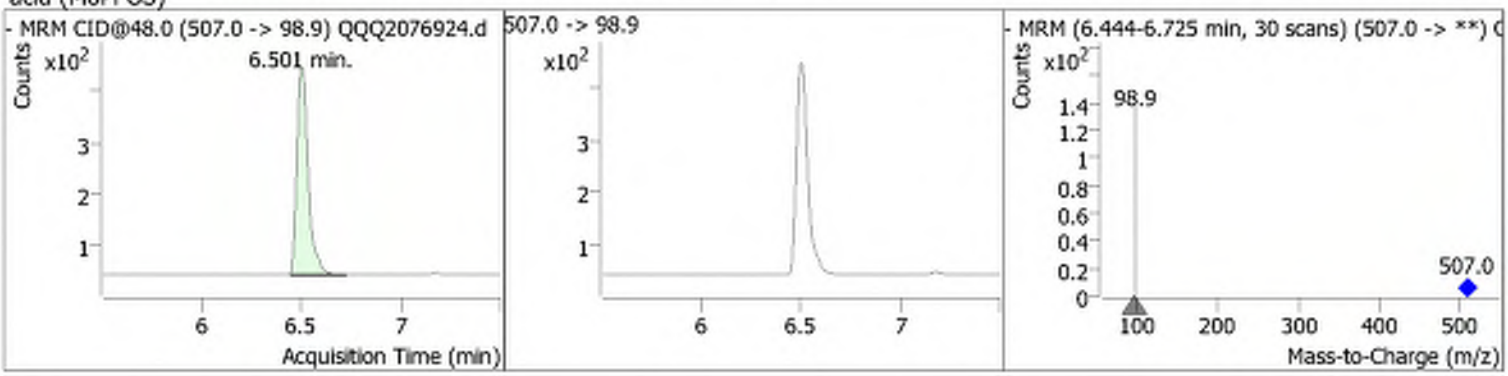
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.2974	6.47	-0.07	1140				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.6626	6.48	-0.07	17167				

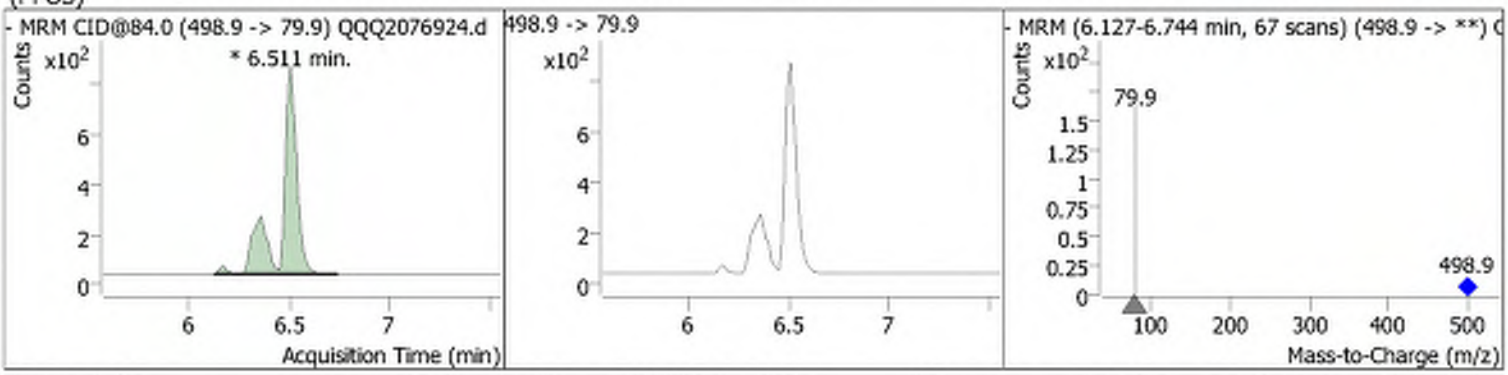


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	1.8018	6.50	-0.07	1570				

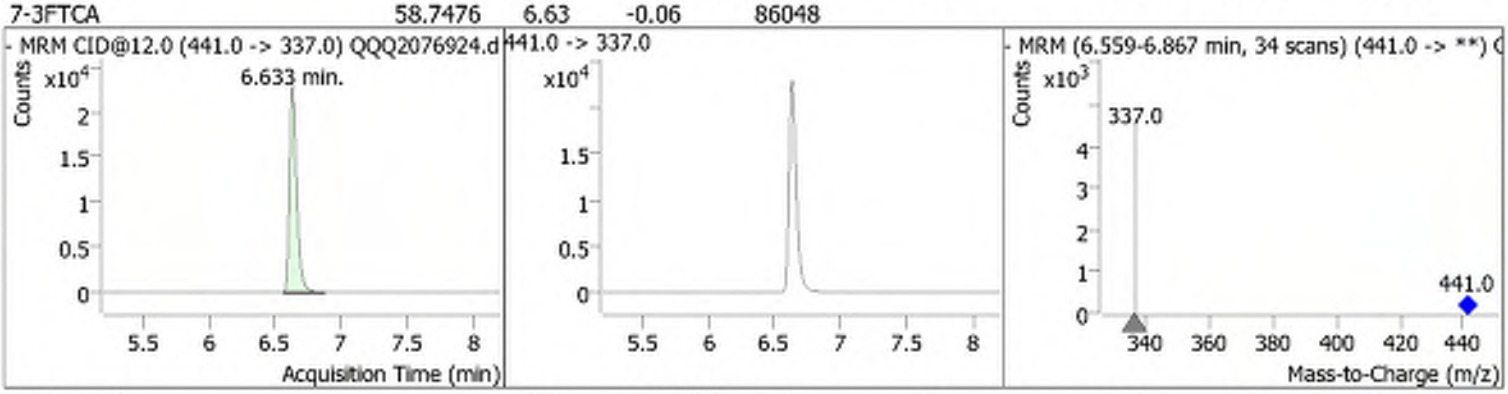


Quantitation Results Report (Not Reviewed)

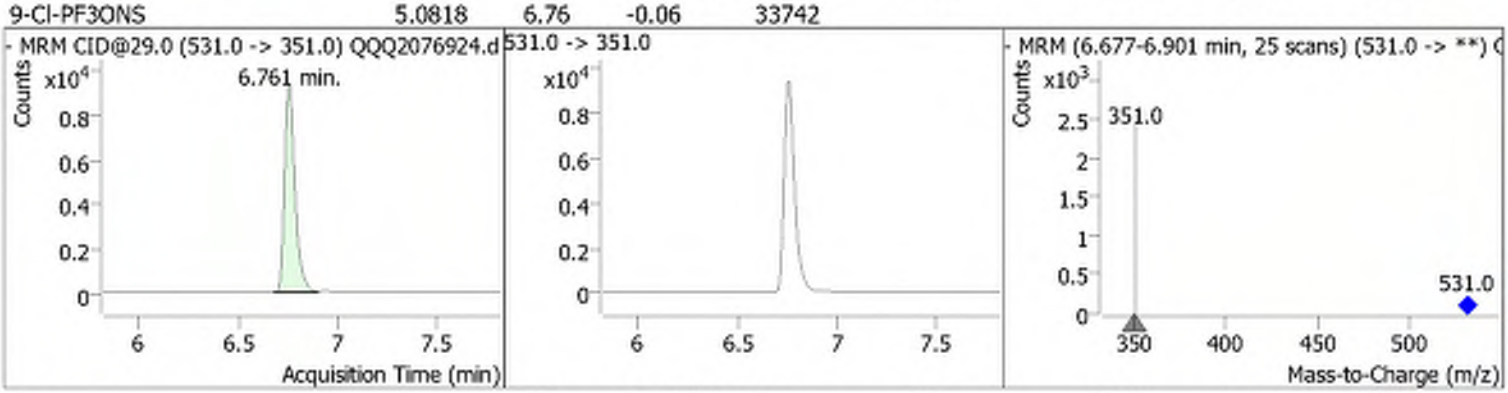
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	5.3214	6.51	-0.06	4494 (m)				



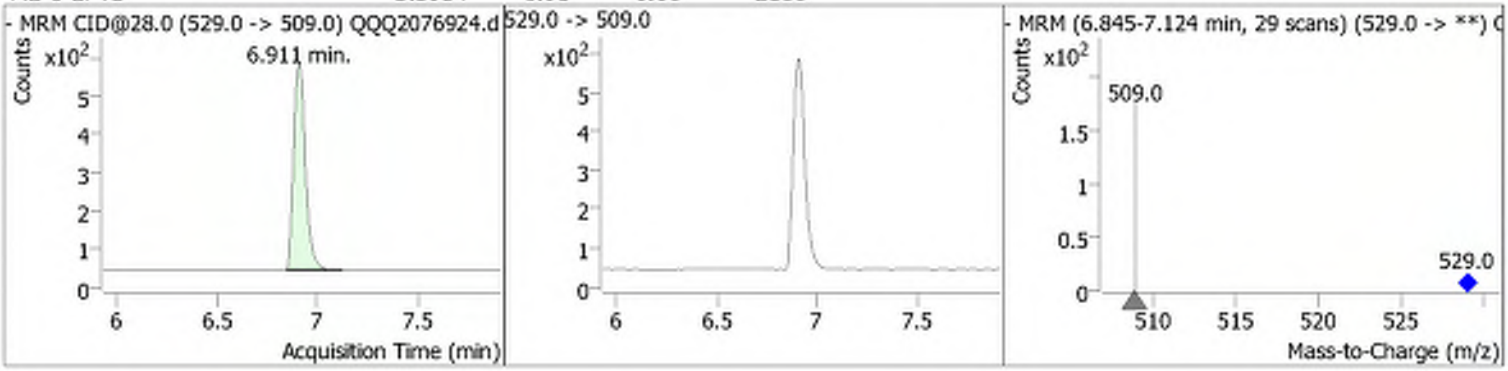
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	58.7476	6.63	-0.06	86048				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	5.0818	6.76	-0.06	33742				

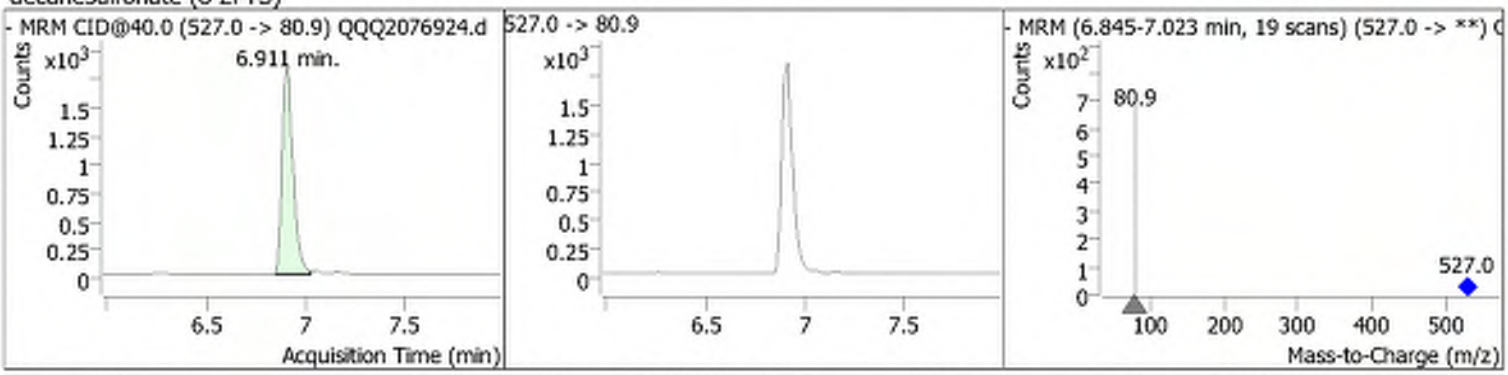


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	3.5954	6.91	-0.06	2186				

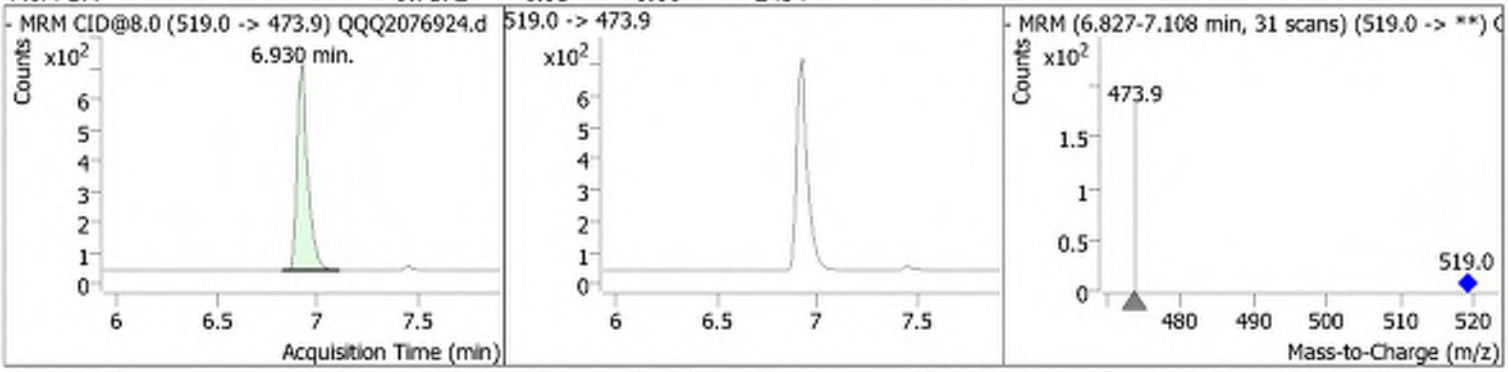


Quantitation Results Report (Not Reviewed)

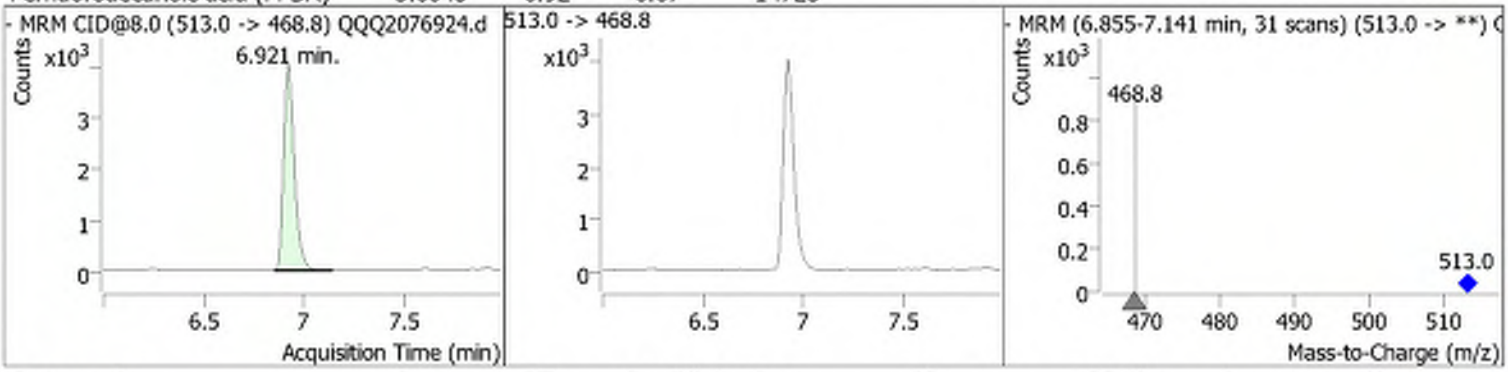
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	13.4599	6.91	-0.07	6825				



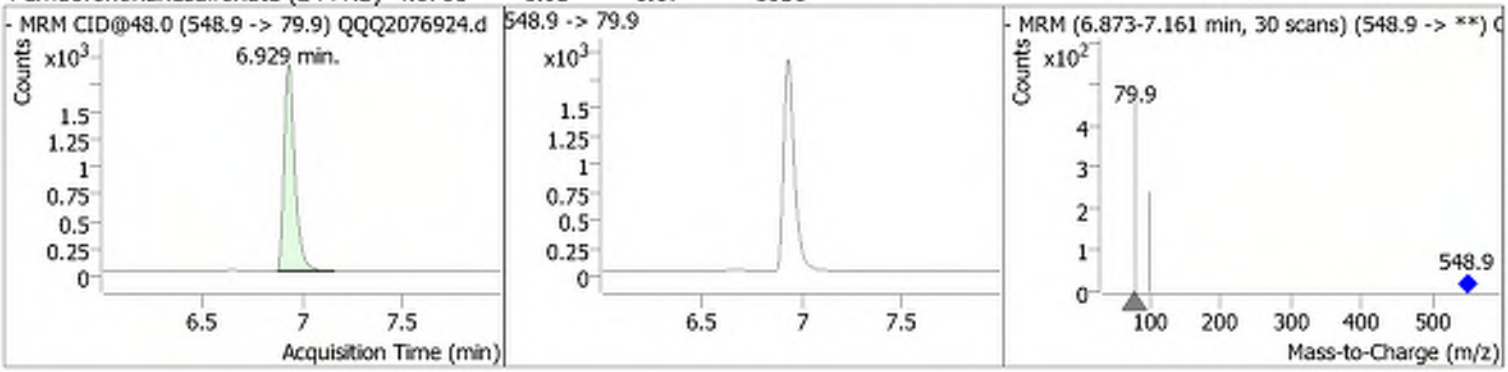
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.7172	6.93	-0.06	2454				



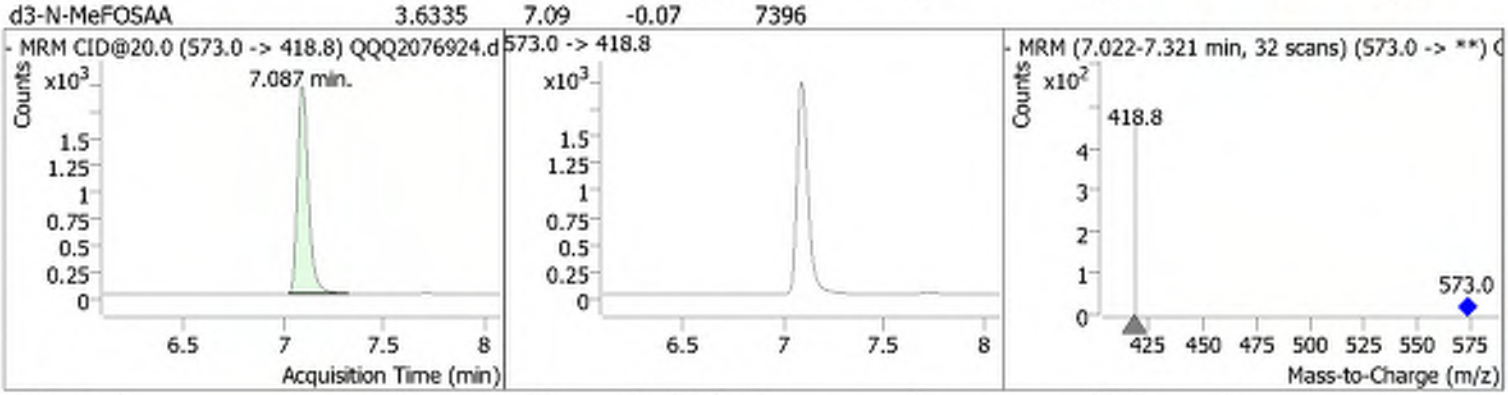
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	3.6045	6.92	-0.07	14725				



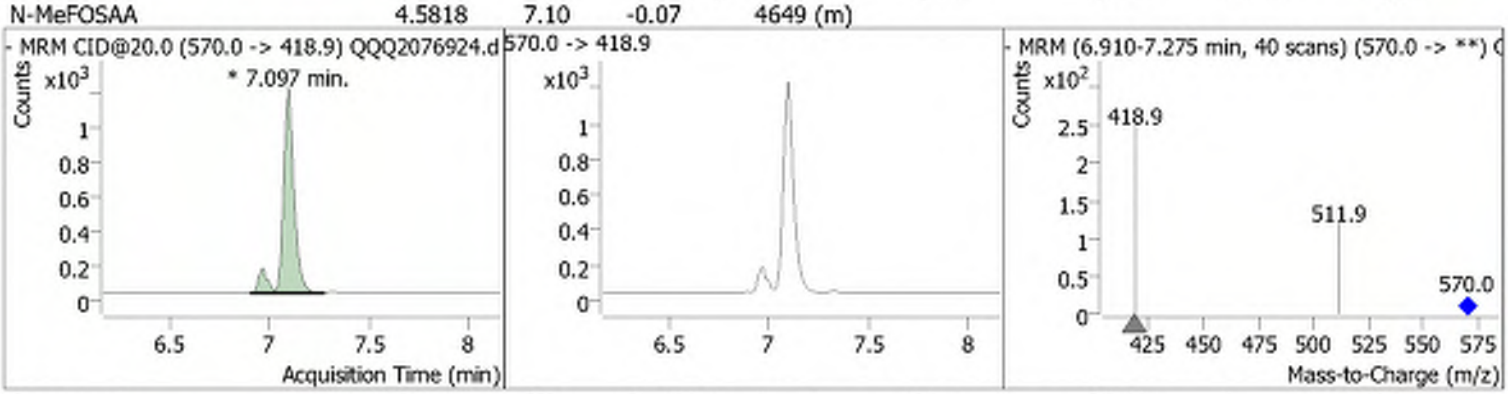
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	4.6701	6.93	-0.07	6936				



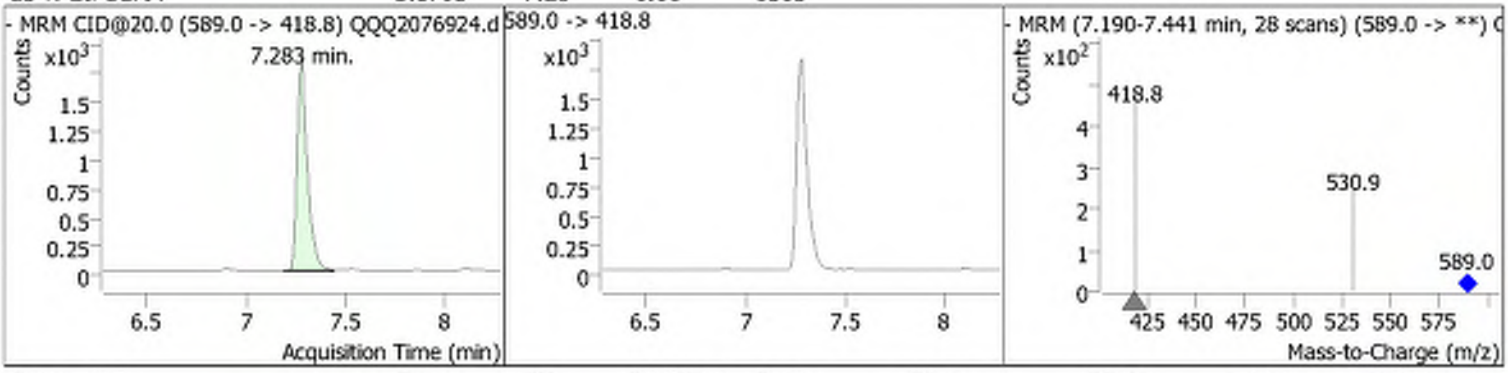
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.6335	7.09	-0.07	7396				



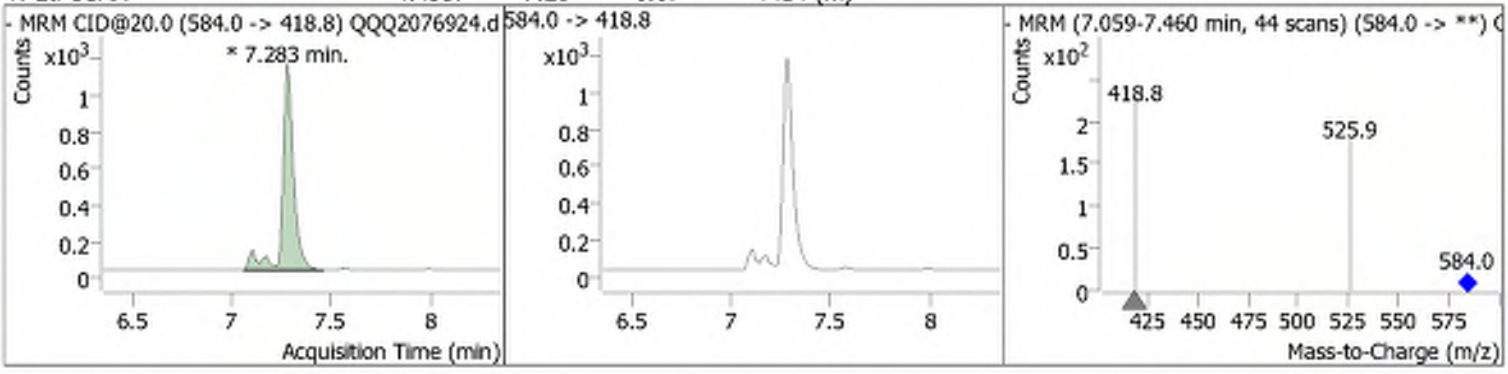
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	4.5818	7.10	-0.07	4649 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.1793	7.28	-0.06	6503				

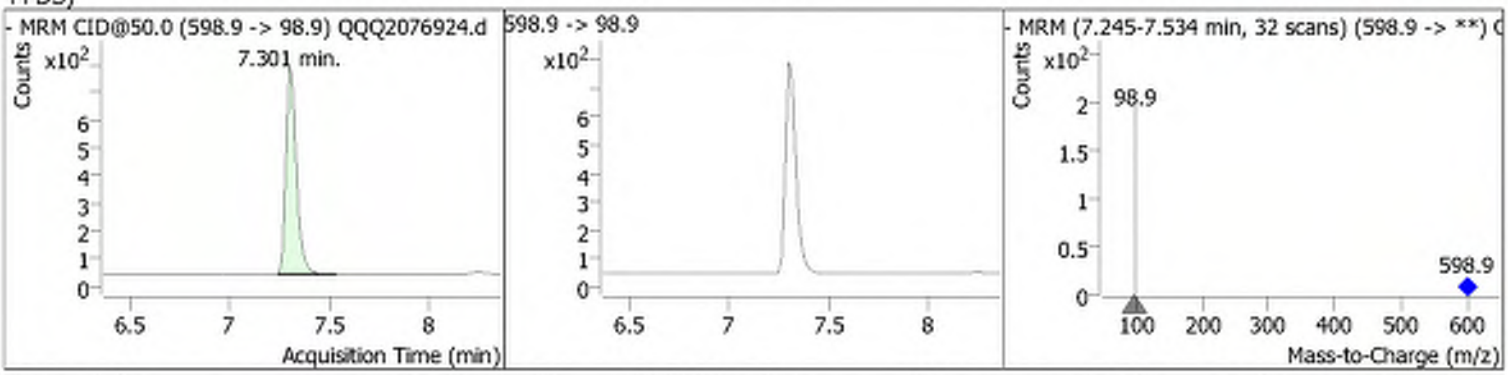


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	4.4557	7.28	-0.07	4414 (m)				

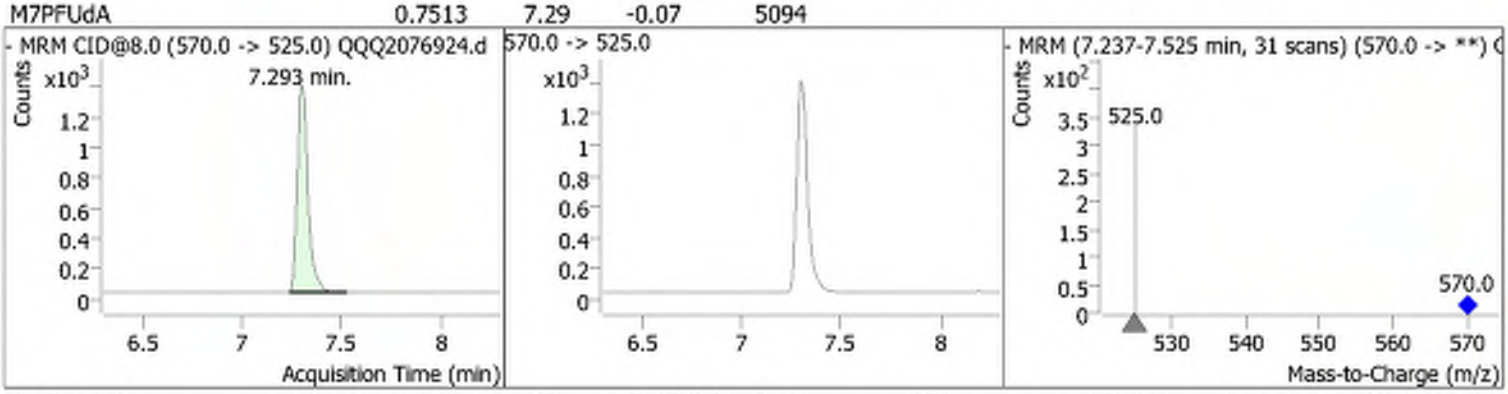


Quantitation Results Report (Not Reviewed)

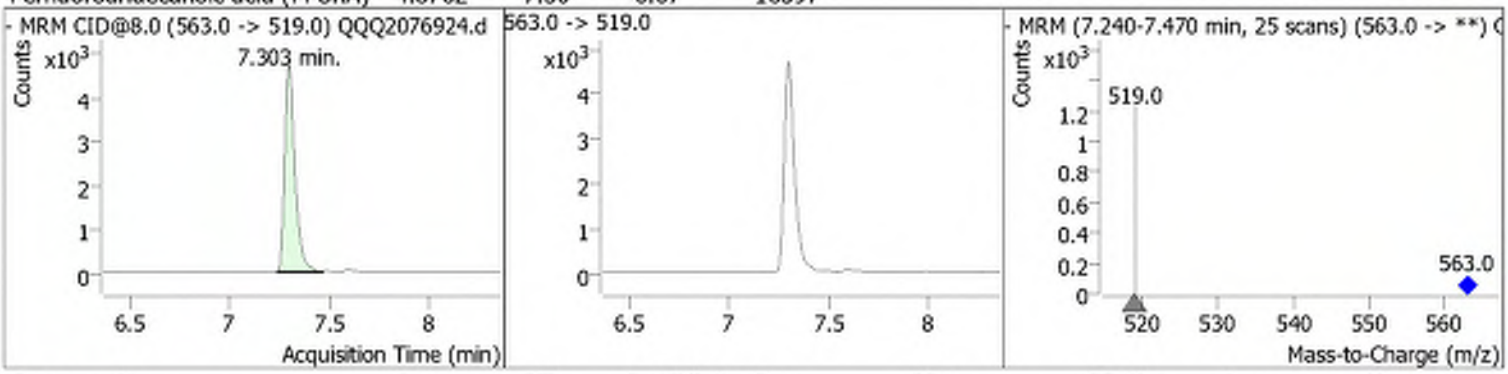
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	4.2892	7.30	-0.07	2724				



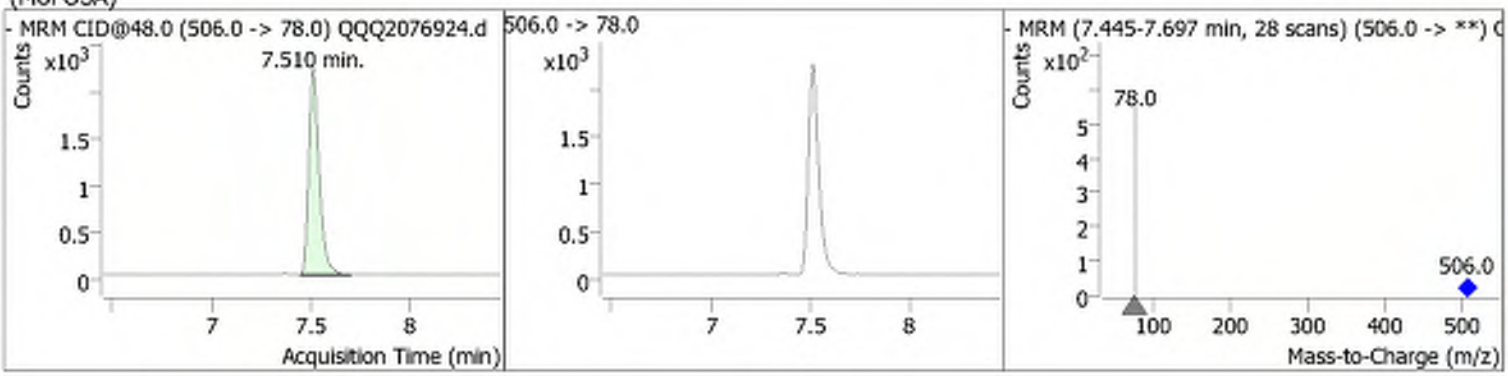
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.7513	7.29	-0.07	5094				



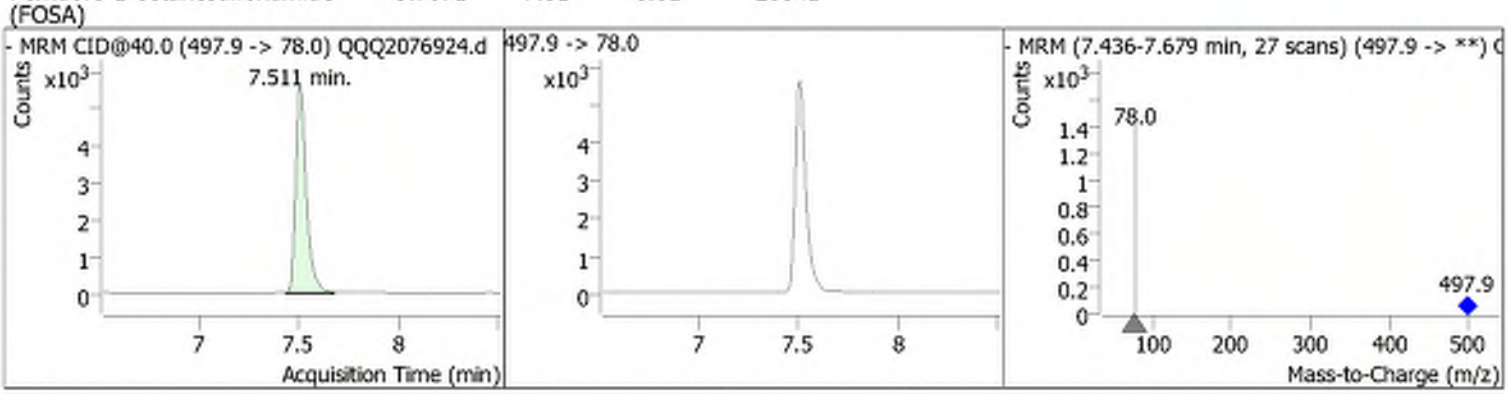
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	4.8762	7.30	-0.07	16597				



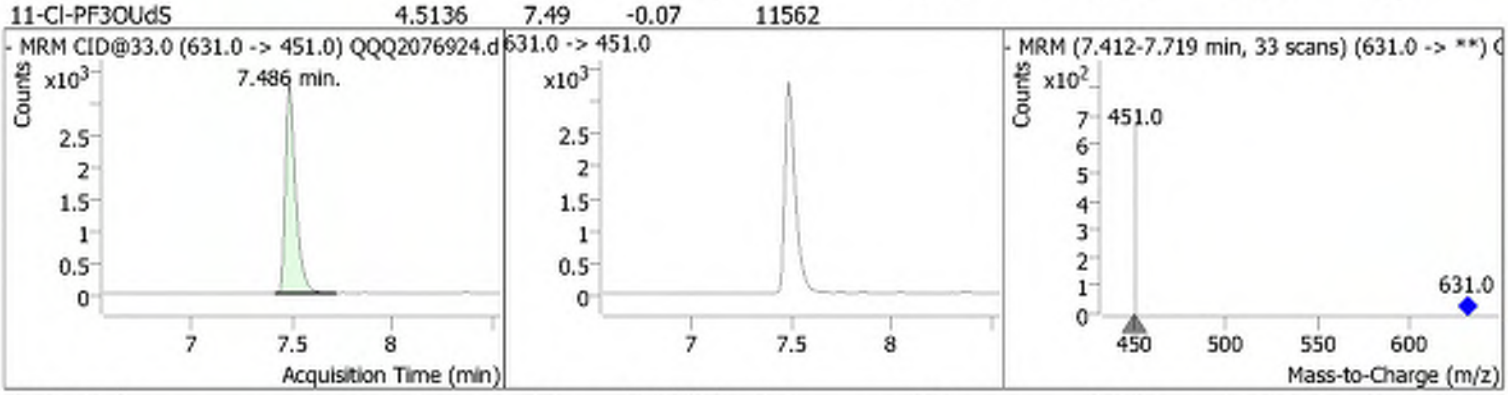
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	1.6209	7.51	-0.01	8006				



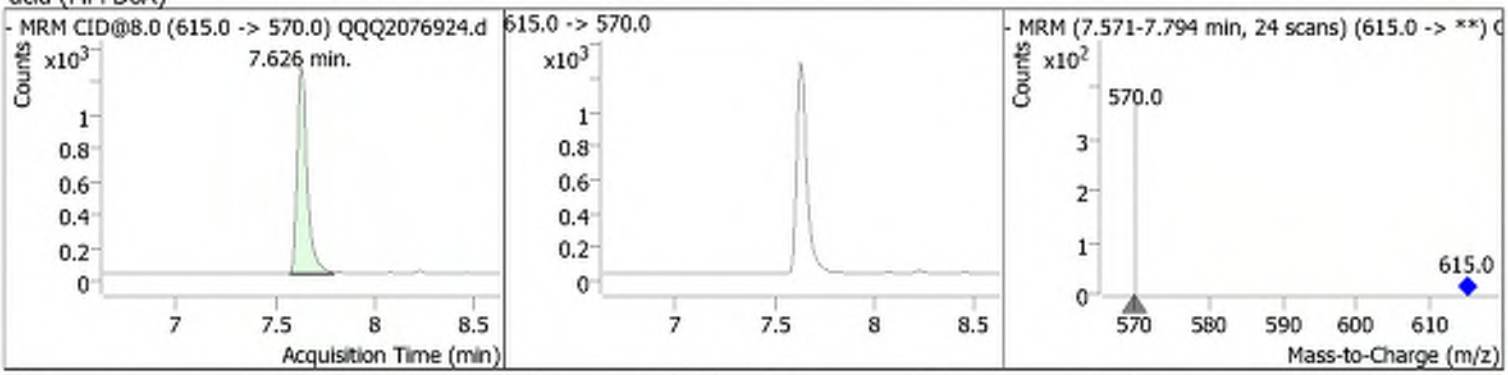
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	3.7071	7.51	-0.01	20841				



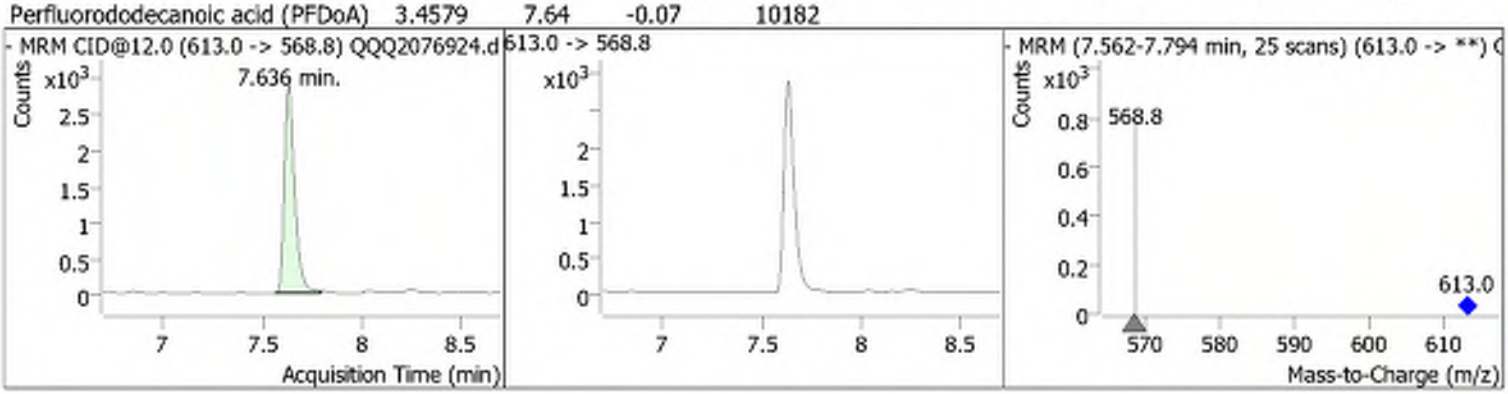
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	4.5136	7.49	-0.07	11562				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.7627	7.63	-0.07	4305				

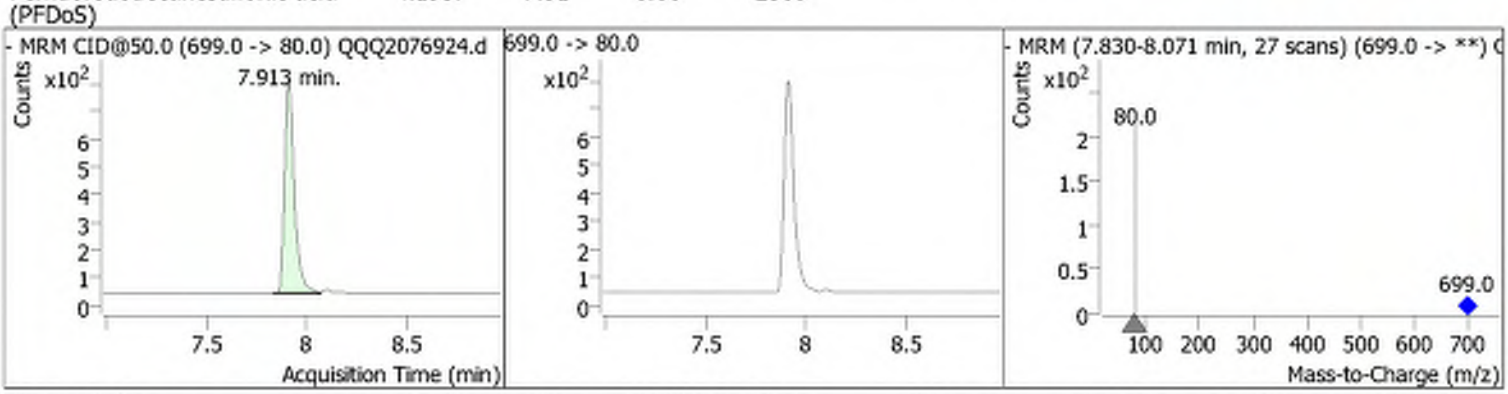


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	3.4579	7.64	-0.07	10182				

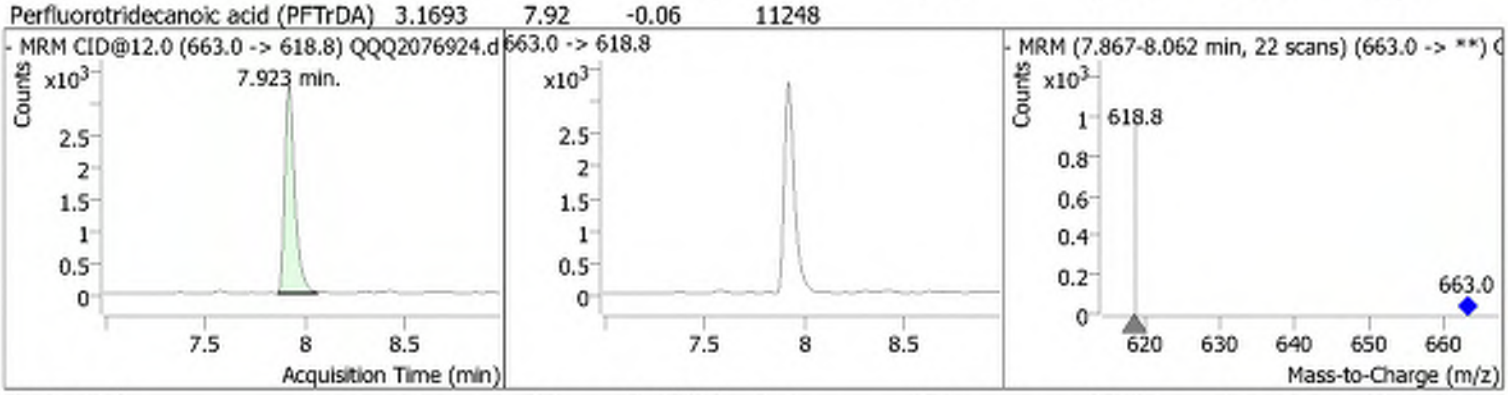


Quantitation Results Report (Not Reviewed)

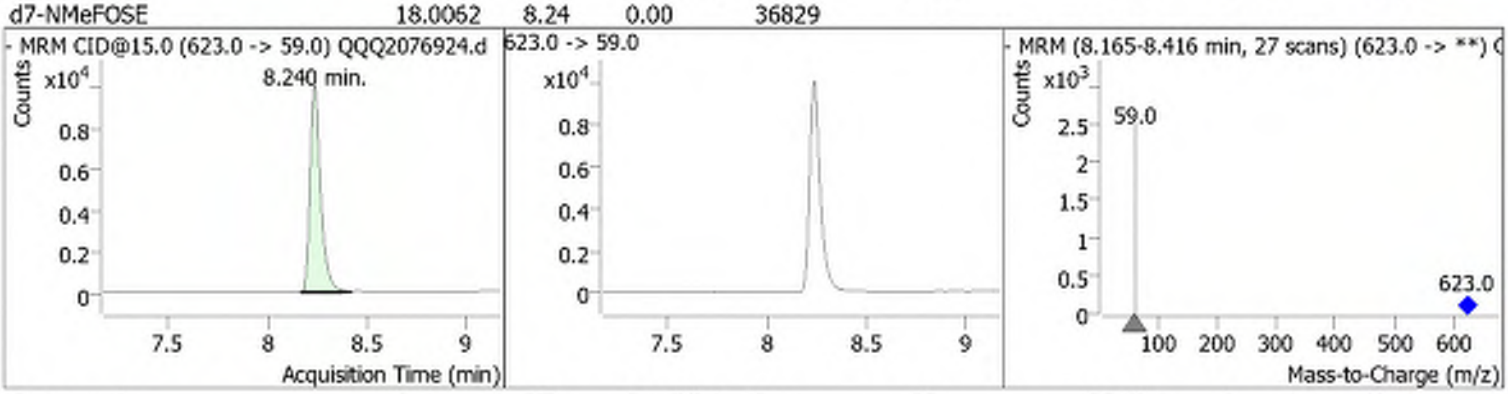
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	4.1937	7.91	-0.06	2560				



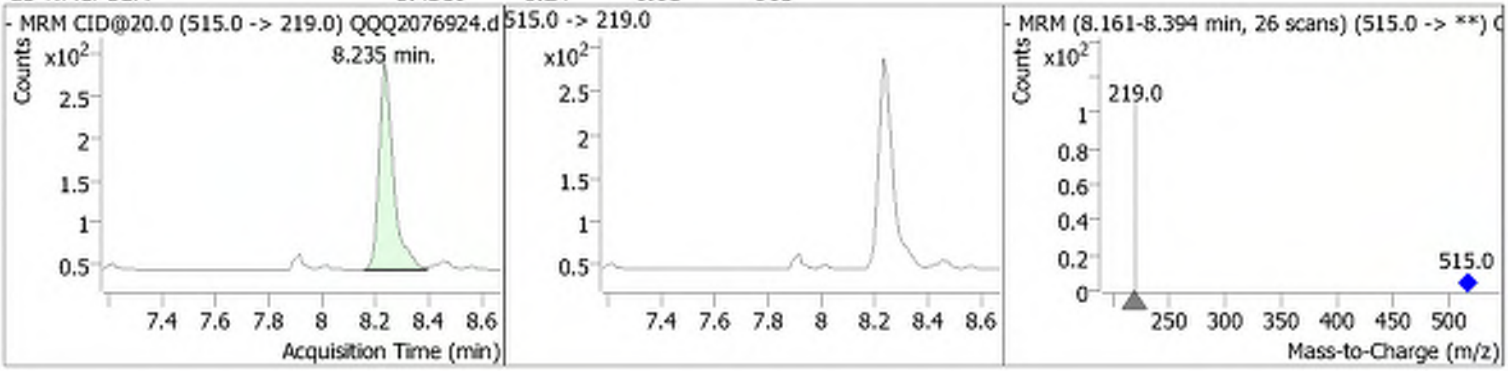
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	3.1693	7.92	-0.06	11248				



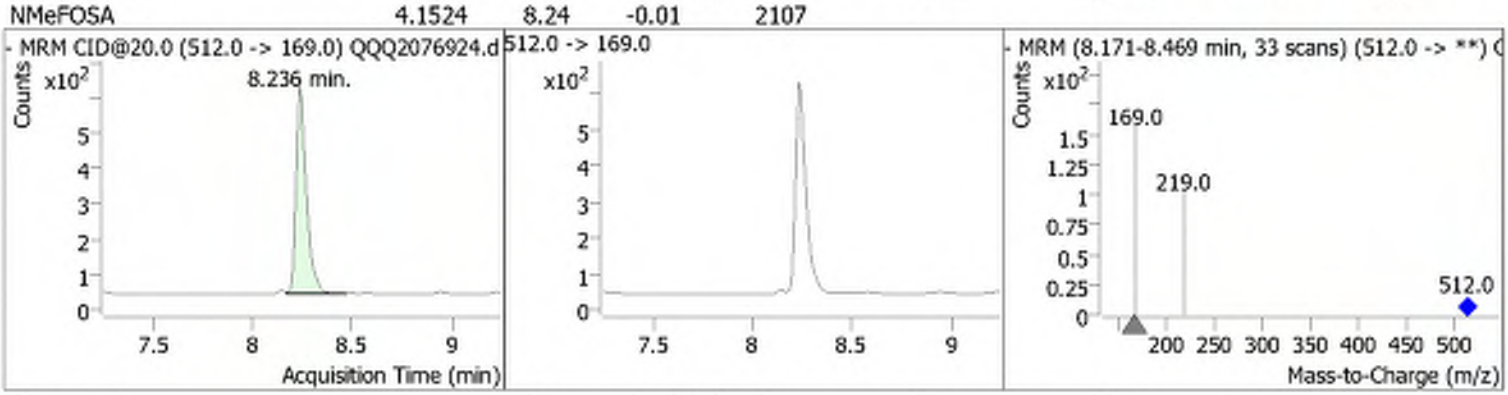
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	18.0062	8.24	0.00	36829				



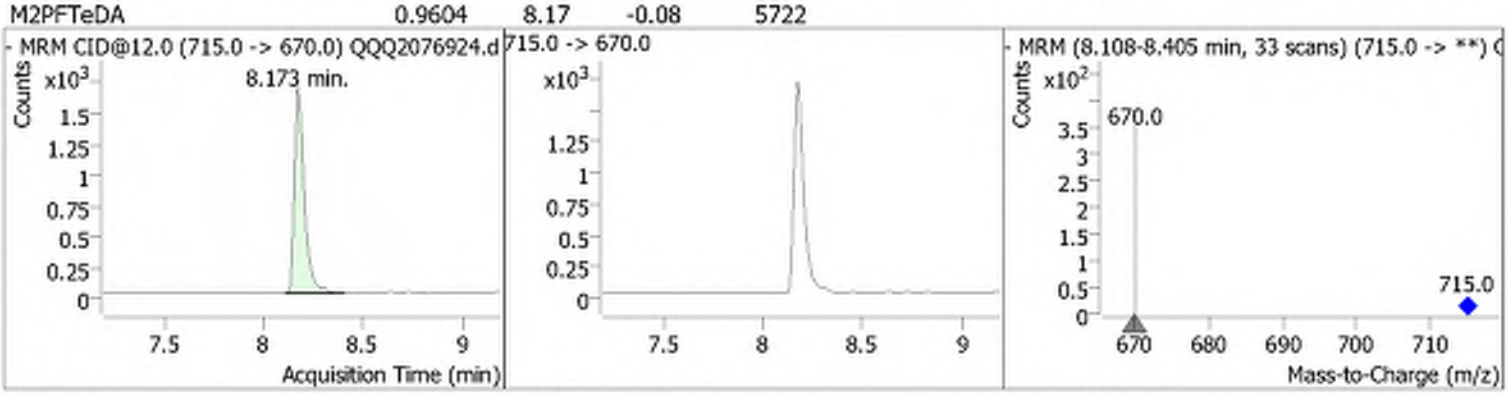
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.4319	8.24	-0.01	903				



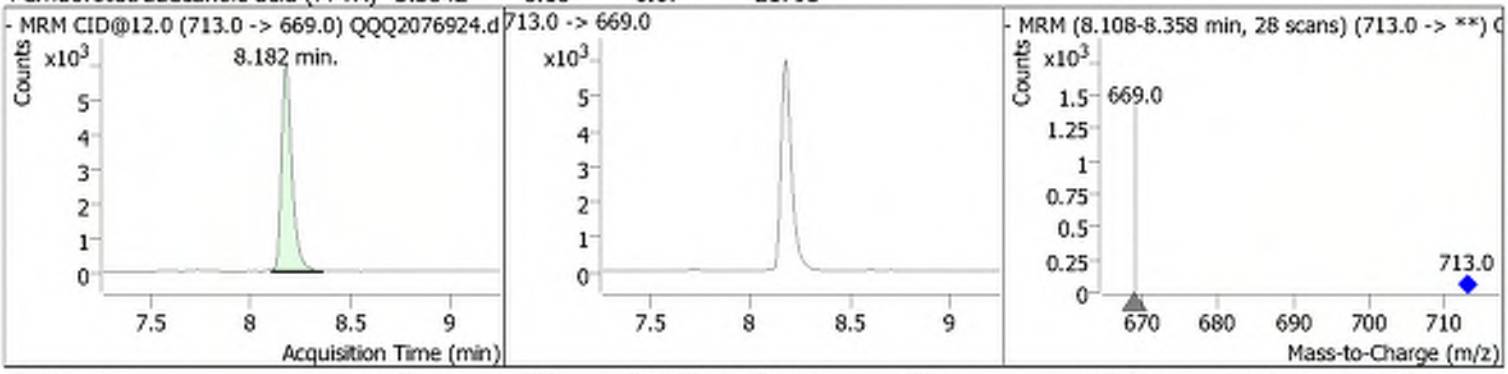
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	4.1524	8.24	-0.01	2107				



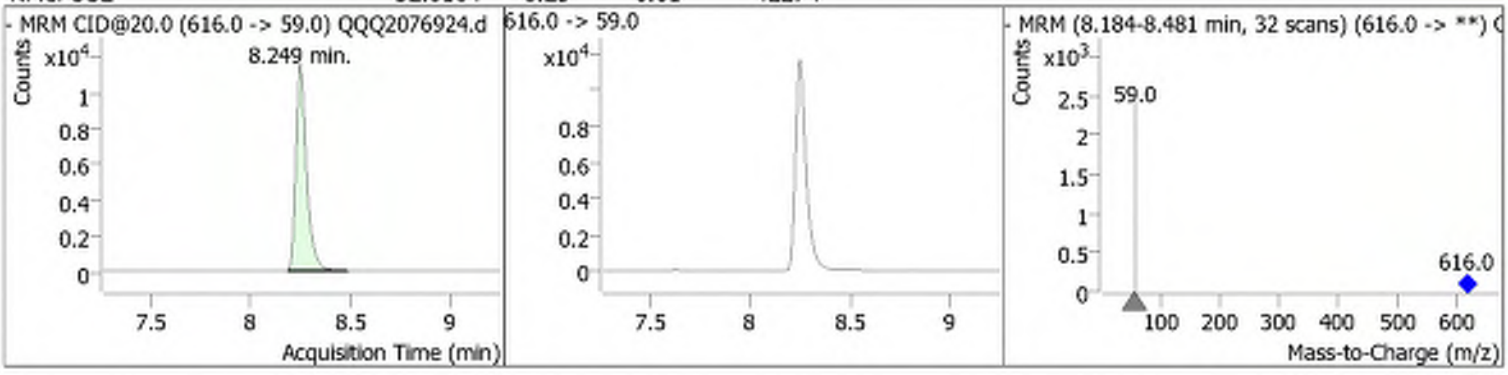
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.9604	8.17	-0.08	5722				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	3.3842	8.18	-0.07	21795				



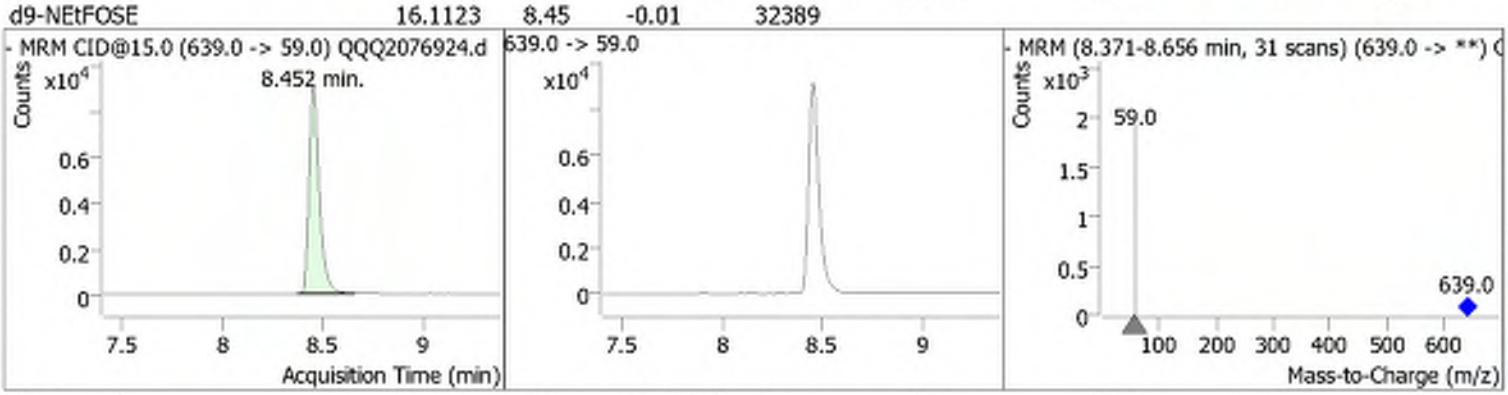
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	32.6164	8.25	-0.01	42274				



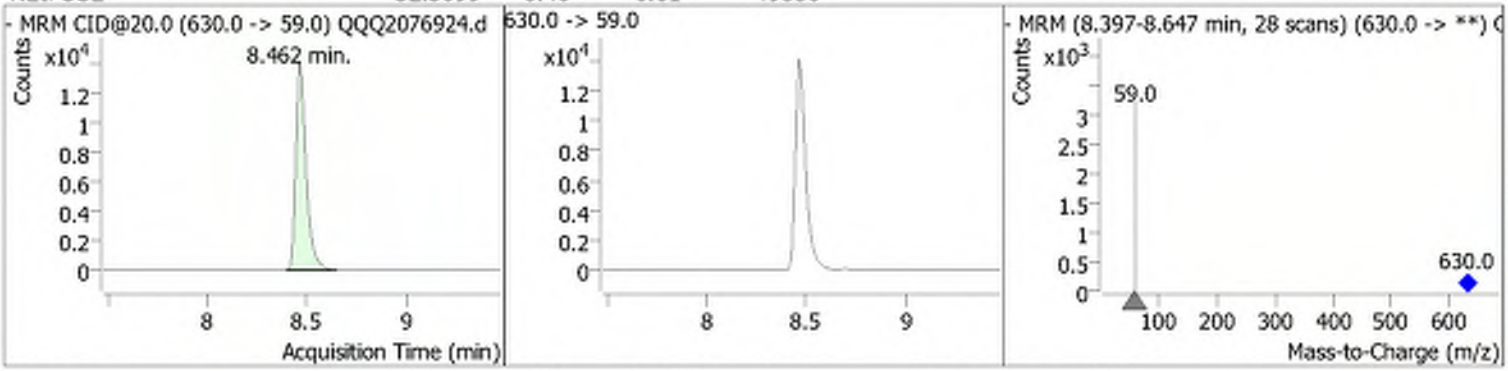
Quantitation Results Report (Not Reviewed)

Agilent

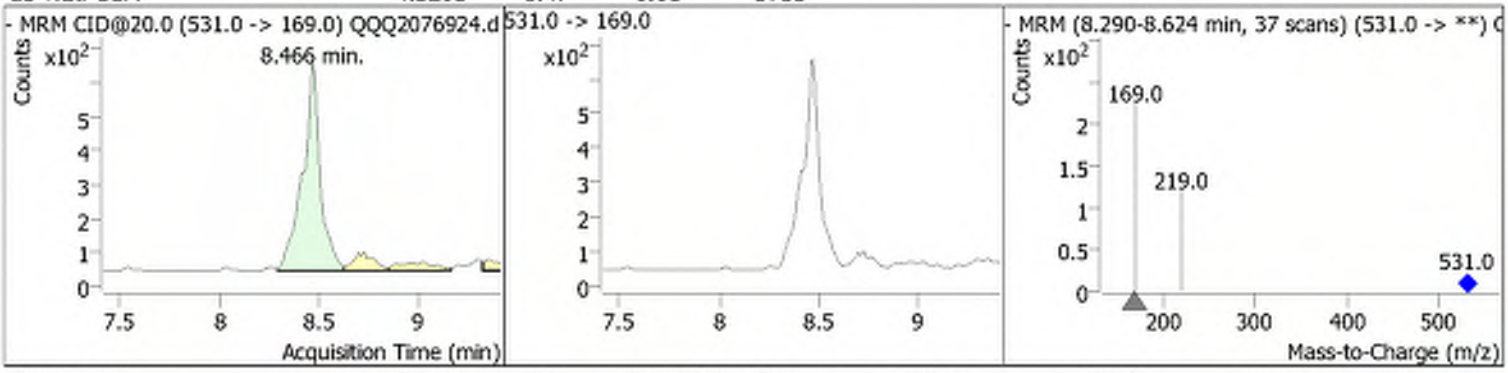
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	16.1123	8.45	-0.01	32389				



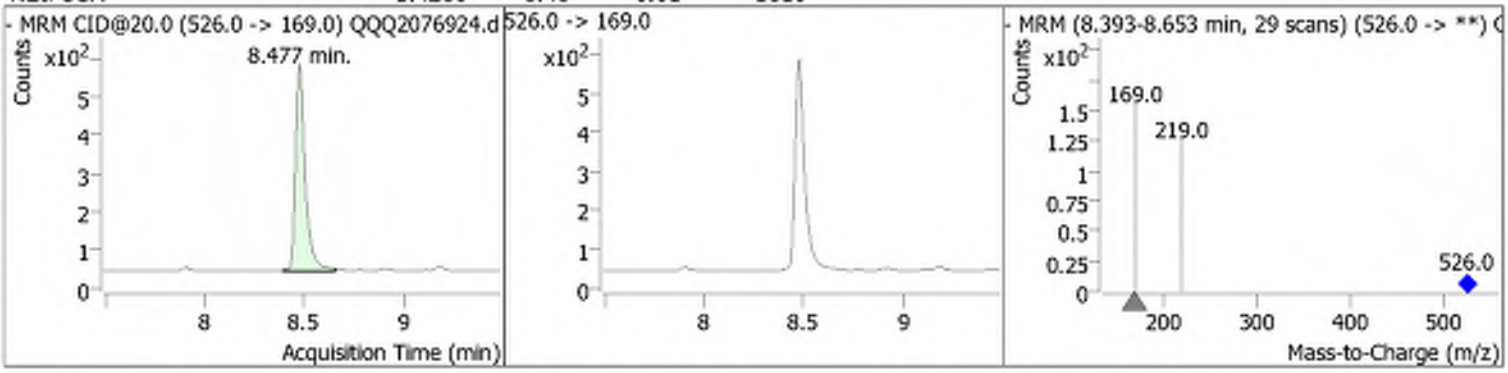
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	32.5099	8.46	-0.01	49886				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	4.3293	8.47	-0.01	3755				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	1.4280	8.48	-0.01	1810				



Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2076925.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/10/2023 12:53:50 PM
Sample Name	BE30533-BS2	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-10A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
M3PFBA	1.152	216.0 -> 172.0	31096	5.0000	ng/ml		-0.055
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.150	217.0 -> 172.0	33784	10.0000	ng/ml		-0.055
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.322	268.0 -> 223.0	20711	5.0000	ng/ml		-0.065
MPFHxA	4.651	315.0 -> 269.8	25793	2.5000	ng/ml		-0.047
MPFHxS	5.476	403.0 -> 103.0	2222	2.3700	ng/ml		-0.047
M3PFBS-EIS	3.837	302.0 -> 79.9	8260	2.3300	ng/ml		-0.055
M5PFHxA-EIS	4.650	318.0 -> 273.0	19804	2.5000	ng/ml		-0.047
M2-4-2FTS-EIS	4.584	329.0 -> 309.0	6361	4.6900	ng/ml		-0.047
M3PFHxS-EIS	5.476	402.0 -> 80.0	6445	2.3700	ng/ml		-0.056
M3-HFPO-DA-EIS	4.913	287.0 -> 169.0	45905	10.0000	ng/ml		-0.047
M4PFHpA-EIS	5.393	367.0 -> 322.0	20614	2.5000	ng/ml		-0.047
M2-6-2FTS-EIS	5.941	429.0 -> 409.0	3327	4.7550	ng/ml		-0.056
MPFOA	5.979	417.0 -> 372.0	24429	2.5000	ng/ml		-0.056
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	11905	2.5000	ng/ml		-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.510	507.0 -> 98.9	1898	2.3950	ng/ml		-0.056
MPFNA	6.483	468.0 -> 423.0	8563	1.2500	ng/ml		-0.056
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.483	472.0 -> 223.0	1162	1.2500	ng/ml		-0.056
MPFOS	6.510	503.0 -> 80.0	6111	2.3950	ng/ml		-0.065
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	2383	4.8000	ng/ml		-0.066
MPFDA	6.921	515.0 -> 469.8	8923	1.2500	ng/ml		-0.065
M6PFDA-EIS	6.930	519.0 -> 473.9	2846	1.2500	ng/ml		-0.056
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	6979	5.0000	ng/ml		-0.065
d5-N-EtFOSAA-EIS	7.283	589.0 -> 418.8	6417	5.0000	ng/ml		-0.065
M7PFUdA-EIS	7.302	570.0 -> 525.0	5536	1.2500	ng/ml		-0.065
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.510	506.0 -> 78.0	10112	2.5000	ng/ml		-0.009
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.636	615.0 -> 570.0	4326	1.2500	ng/ml		-0.065
M2PFTeDA-EIS	8.173	715.0 -> 670.0	3945	1.2500	ng/ml		-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	1263	2.5000	ng/ml		-0.009
d7-NMeFOSE-EIS	8.240	623.0 -> 59.0	26950	25.0000	ng/ml		0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	26150	25.0000	ng/ml		-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	2816	2.5000	ng/ml	m	-0.009
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.150	217.0 -> 172.0	33784	7.9317	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.322	268.0 -> 223.0	20711	4.9593	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFBS	3.837	302.0 -> 79.9	8260	2.7943	ng/ml		-0.055
Spiked Amount:	Range: - %			Recovery = NA%			
M2-4-2FTS	4.584	329.0 -> 309.0	6361	5.2558	ng/ml		-0.047

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%			
M5PFHxA	4.650	318.0 -> 273.0	19804	2.8426	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3-HFPO-DA	4.913	287.0 -> 169.0	45905	11.2991	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M4PFHpA	5.393	367.0 -> 322.0	20614	2.6198	ng/ml		-0.047
Spiked Amount:	Range: - %			Recovery = NA%			
M3PFHxS	5.476	402.0 -> 80.0	6445	2.5952	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M2-6-2FTS	5.941	429.0 -> 409.0	3327	5.0682	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	11905	2.2106	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.483	472.0 -> 223.0	1162	1.3183	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.510	507.0 -> 98.9	1898	2.1448	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
M2-8-2FTS	6.901	529.0 -> 509.0	2383	4.2237	ng/ml		-0.066
Spiked Amount:	Range: - %			Recovery = NA%			
M6PFDA	6.930	519.0 -> 473.9	2846	0.8218	ng/ml		-0.056
Spiked Amount:	Range: - %			Recovery = NA%			
d3-N-MeFOSAA	7.087	573.0 -> 418.8	6979	3.3757	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d5-N-EtFOSAA	7.283	589.0 -> 418.8	6417	3.0891	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
M7PFUdA	7.302	570.0 -> 525.0	5536	0.8066	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.510	506.0 -> 78.0	10112	2.0155	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.636	615.0 -> 570.0	4326	0.7571	ng/ml		-0.065
Spiked Amount:	Range: - %			Recovery = NA%			
d7-NMeFOSE	8.240	623.0 -> 59.0	26950	12.9728	ng/ml		0.000
Spiked Amount:	Range: - %			Recovery = NA%			
d3-NMeFOSA	8.235	515.0 -> 219.0	1263	1.9707	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
M2PFTeDA	8.173	715.0 -> 670.0	3945	0.6541	ng/ml		-0.084
Spiked Amount:	Range: - %			Recovery = NA%			
d9-NEtFOSE	8.452	639.0 -> 59.0	26150	12.8078	ng/ml		-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
d5-NEtFOSA	8.466	531.0 -> 169.0	2825	3.2072	ng/ml	m	-0.009
Spiked Amount:	Range: - %			Recovery = NA%			
Target Compounds							QValue
Perfluoro-n-butanoic acid (PFBA)	1.154	213.0 -> 168.9	13035	3.0577	ng/ml		100
PFMPA	1.978	229.0 -> 85.0	4777	1.5030	ng/ml		100
3:3FTCA	3.222	241.0 -> 177.0	673	2.6591	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	3.323	263.0 -> 219.0	6566	1.4489	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	3.838	298.9 -> 79.9	2758	0.6530	ng/ml		100
PFMBA	3.858	279.0 -> 85.0	6641	1.4068	ng/ml		100
PFEESA	4.336	315.0 -> 135.0	16512	1.2975	ng/ml		100
NFDHA	4.514	295.0 -> 201.1	8537	1.5130	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.585	327.0 -> 307.0	3849	3.0128	ng/ml		100

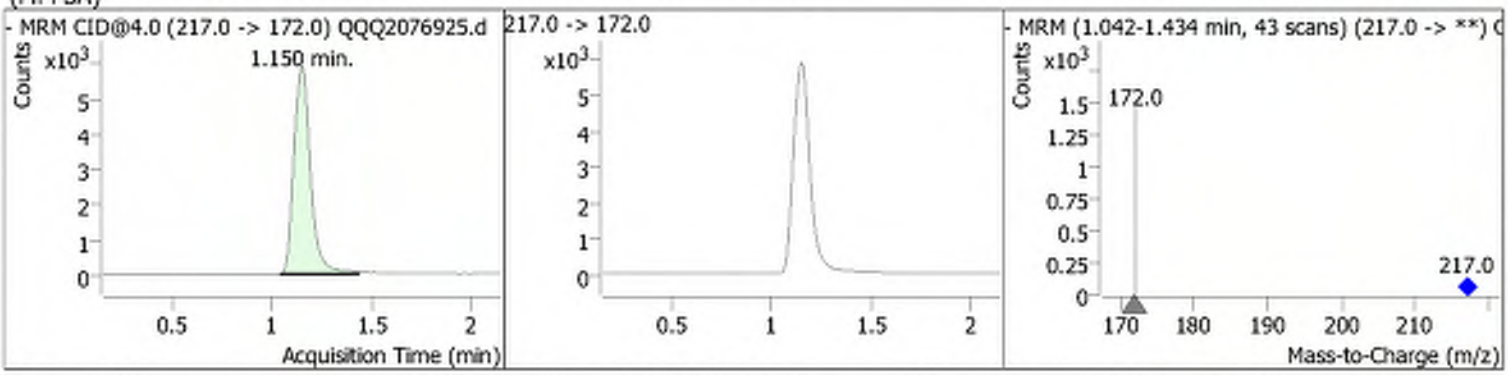
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.651	313.0 -> 268.9	6492	0.6960	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.835	348.9 -> 79.9	2727	0.7500	ng/ml		100
HFPO-DA	4.904	285.0 -> 169.1	688	1.7624	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	7717	0.6953	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	2396	0.6471	ng/ml	m	100
5-3FTCA	5.496	341.0 -> 217.0	14851	13.4660	ng/ml		100
ADONA	5.504	377.0 -> 85.0	7302	1.2306	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.941	427.0 -> 407.0	2295	3.2581	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.980	413.0 -> 368.8	6988	1.0165	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.025	448.9 -> 80.0	1694	0.8849	ng/ml		100
Perfluorononanoic acid (PFNA)	6.474	463.0 -> 418.8	4146	0.6256	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.511	498.9 -> 79.9	1038	1.0670	ng/ml	m	100
7-3FTCA	6.633	441.0 -> 337.0	18111	10.5696	ng/ml		100
9-Cl-PF3ONS	6.761	531.0 -> 351.0	6842	1.0498	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.901	527.0 -> 80.9	1989	3.2941	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.930	513.0 -> 468.8	3849	0.8104	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.929	548.9 -> 79.9	1211	0.6813	ng/ml		100
N-MeFOSAA	7.097	570.0 -> 418.9	1227	1.2940	ng/ml	m	100
N-EtFOSAA	7.283	584.0 -> 418.8	815	0.8396	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.320	598.9 -> 98.9	448	0.5866	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.312	563.0 -> 519.0	3451	0.9580	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.511	497.9 -> 78.0	5031	0.7062	ng/ml		100
11-Cl-PF3OUdS	7.486	631.0 -> 451.0	1892	0.7518	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.636	613.0 -> 568.8	1960	0.6577	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.904	699.0 -> 80.0	345	0.4797	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.923	663.0 -> 618.8	1653	0.6714	ng/ml		100
NMeFOSA	8.245	512.0 -> 169.0	525	0.7343	ng/ml	m	100
Perfluorotetradecanoic acid (PFTA)	8.182	713.0 -> 669.0	4070	0.9154	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	7217	7.5534	ng/ml		100
NEtFOSE	8.462	630.0 -> 59.0	8214	6.5976	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	379	0.4000	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

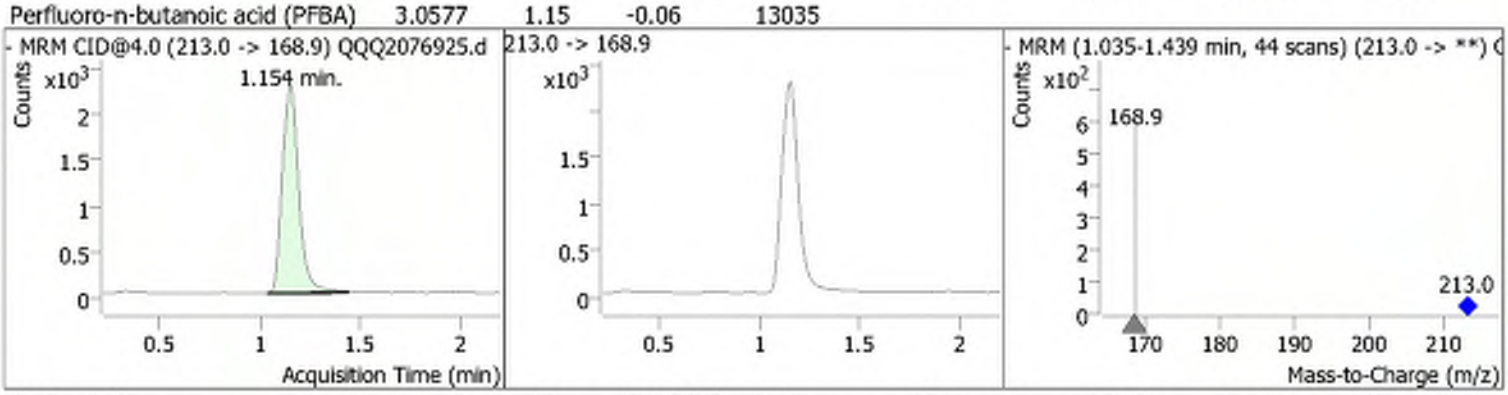
Quantitation Results Report (Not Reviewed)

Agilent

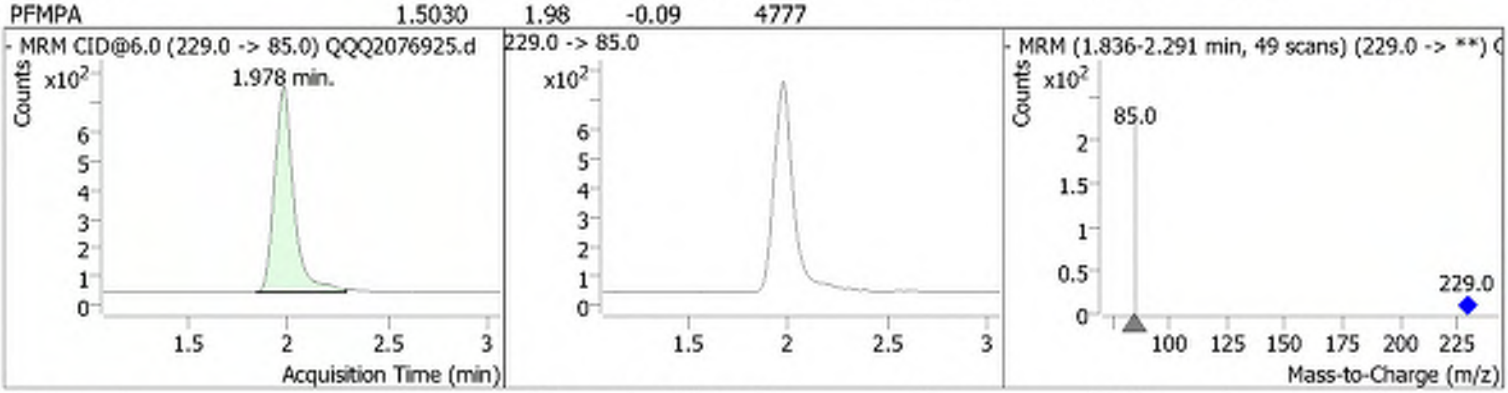
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	7.9317	1.15	-0.06	33784				



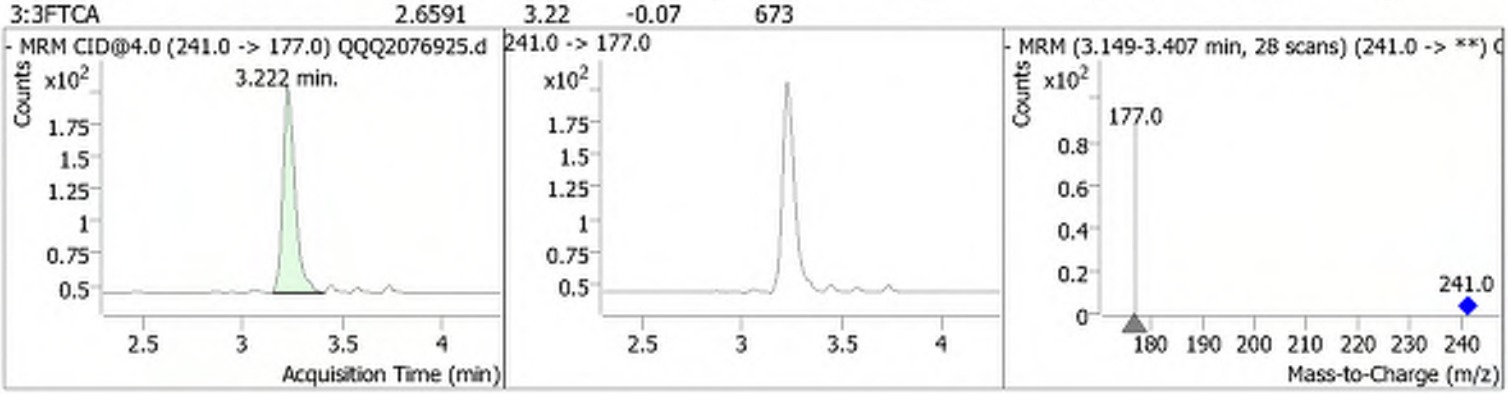
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	3.0577	1.15	-0.06	13035				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	1.5030	1.98	-0.09	4777				

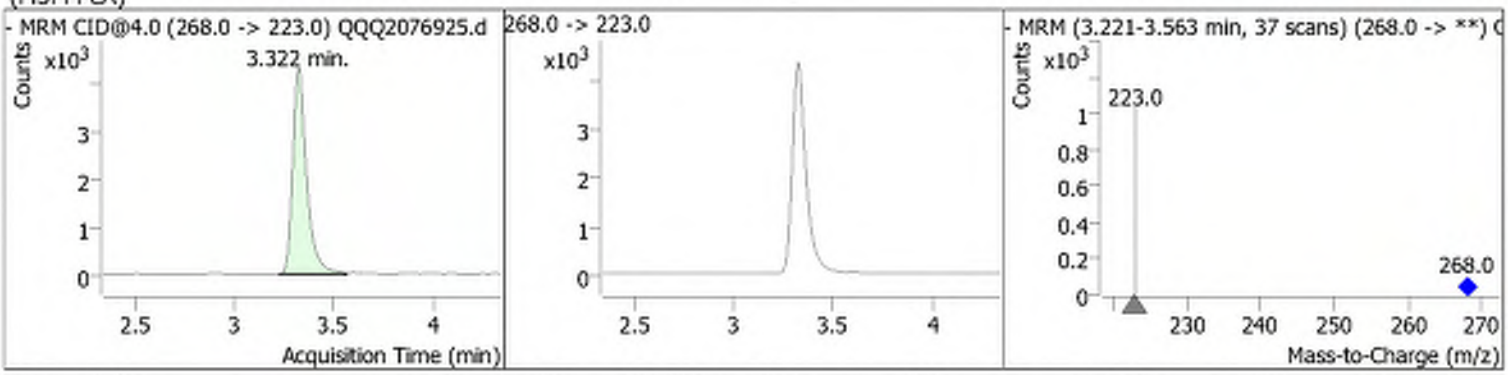


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	2.6591	3.22	-0.07	673				

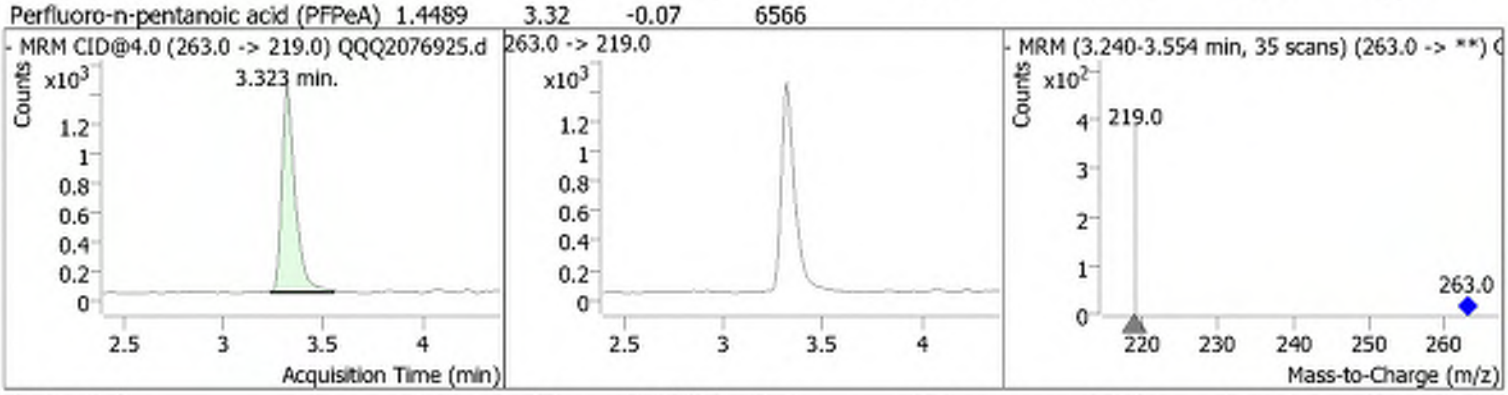


Quantitation Results Report (Not Reviewed)

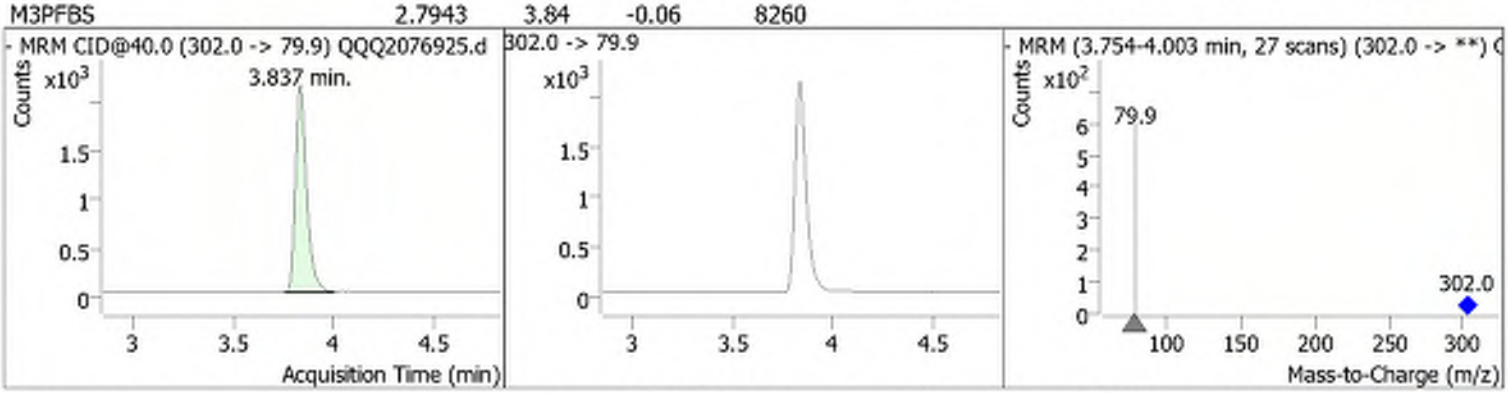
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.9593	3.32	-0.06	20711				



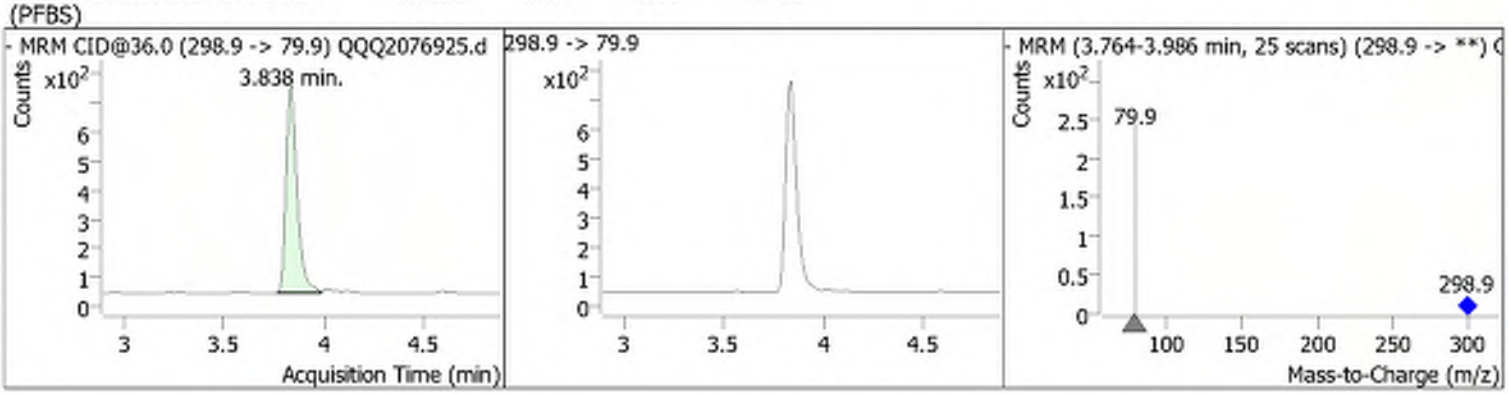
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	1.4489	3.32	-0.07	6566				



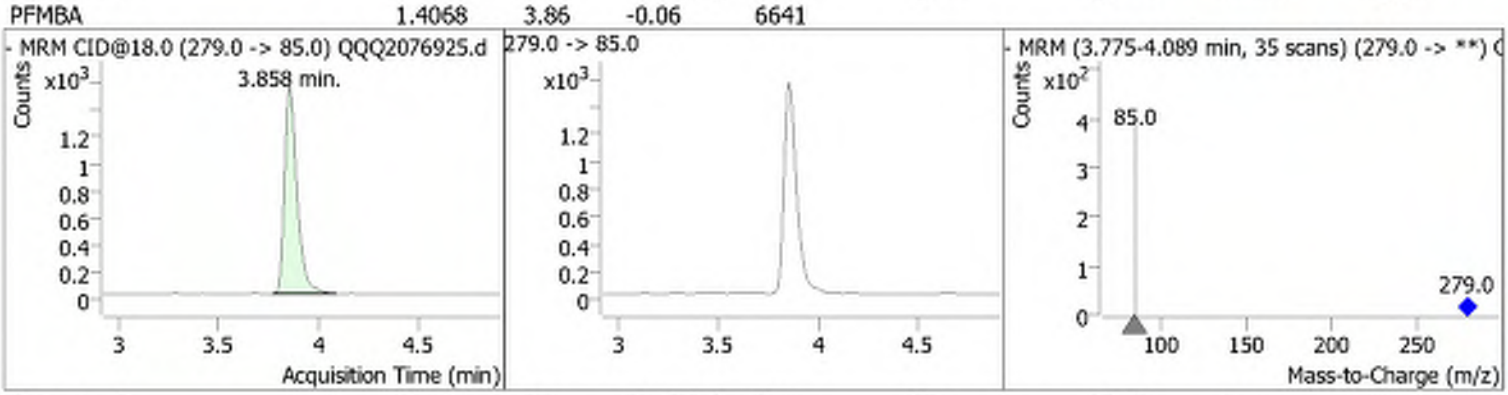
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.7943	3.84	-0.06	8260				



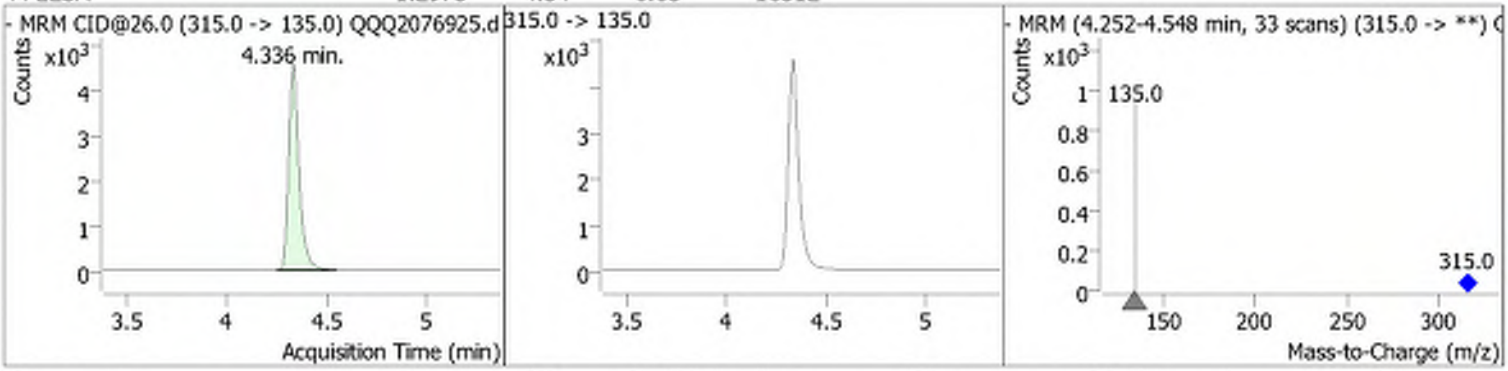
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.6530	3.84	-0.06	2758				



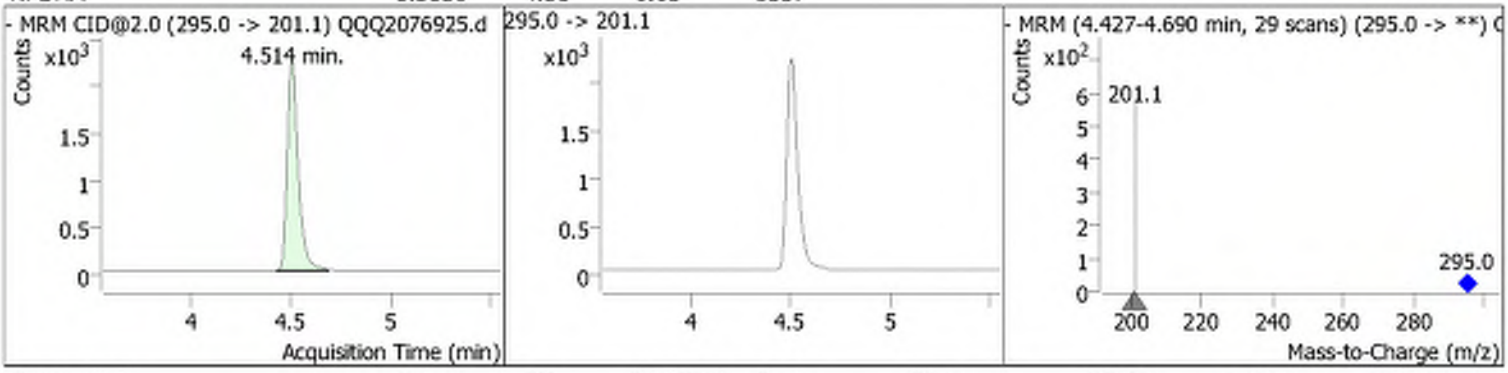
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	1.4068	3.86	-0.06	6641				



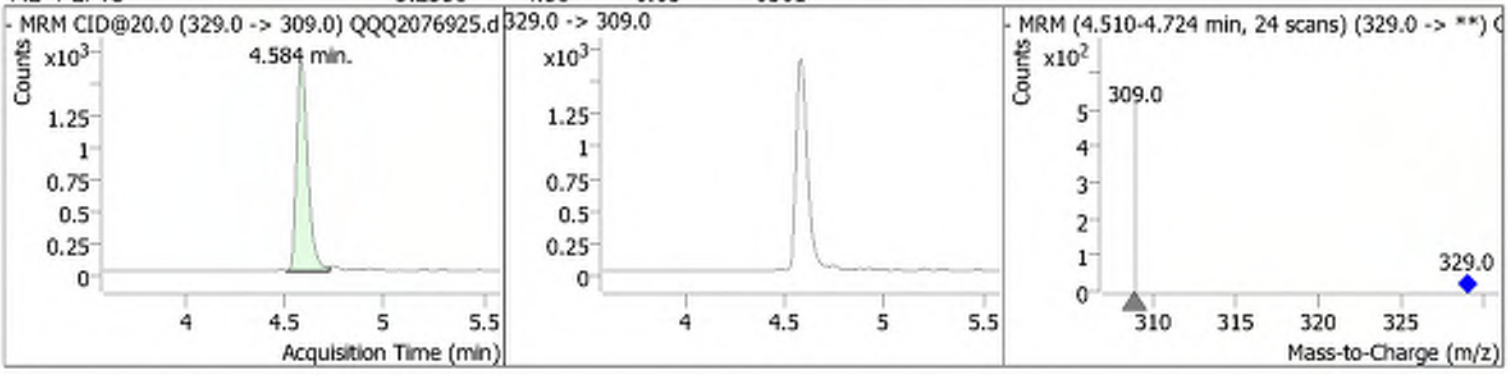
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	1.2975	4.34	-0.05	16512				



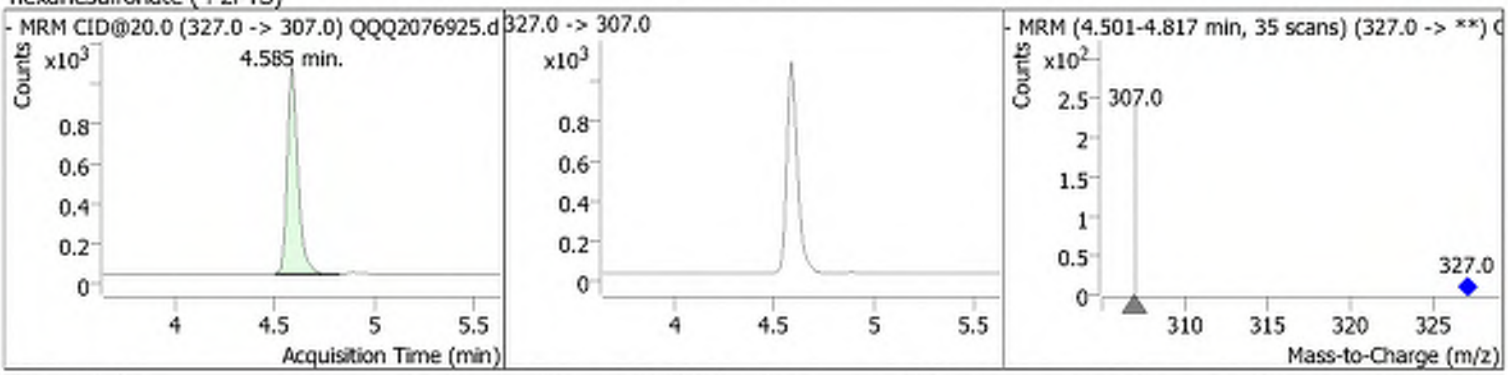
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	1.5130	4.51	-0.05	8537				



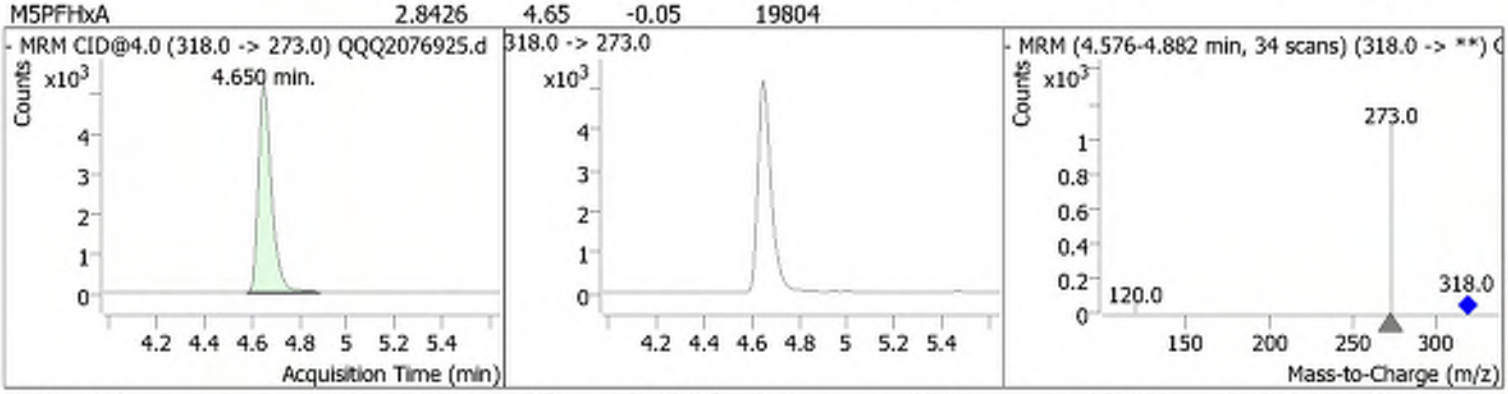
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.2558	4.58	-0.05	6361				



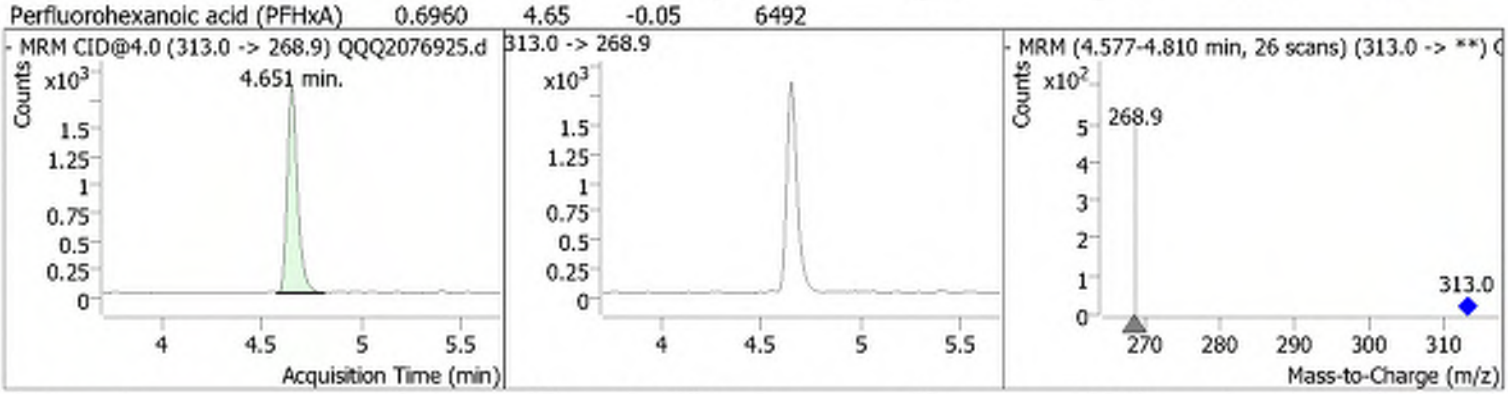
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	3.0128	4.58	-0.05	3849				



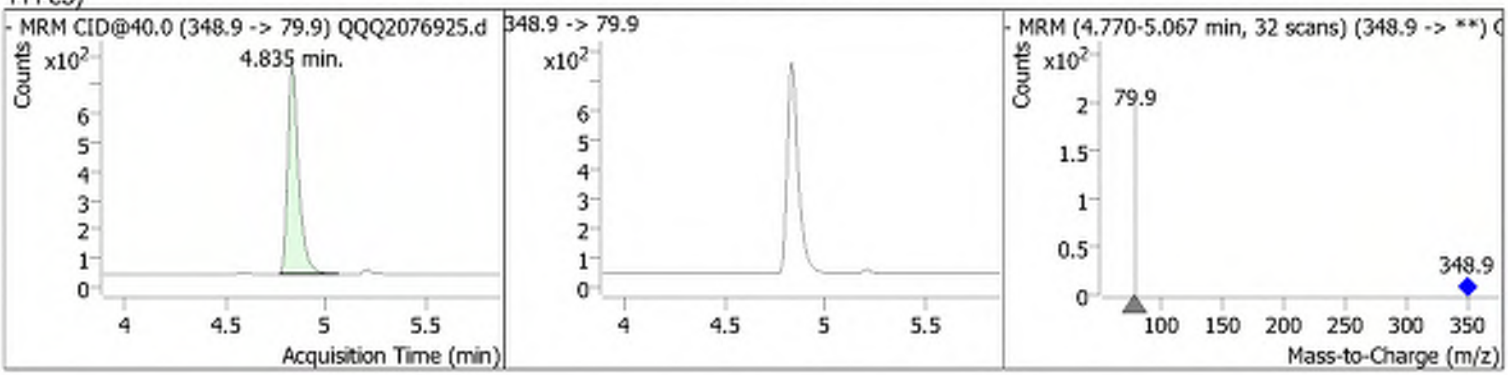
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.8426	4.65	-0.05	19804				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.6960	4.65	-0.05	6492				

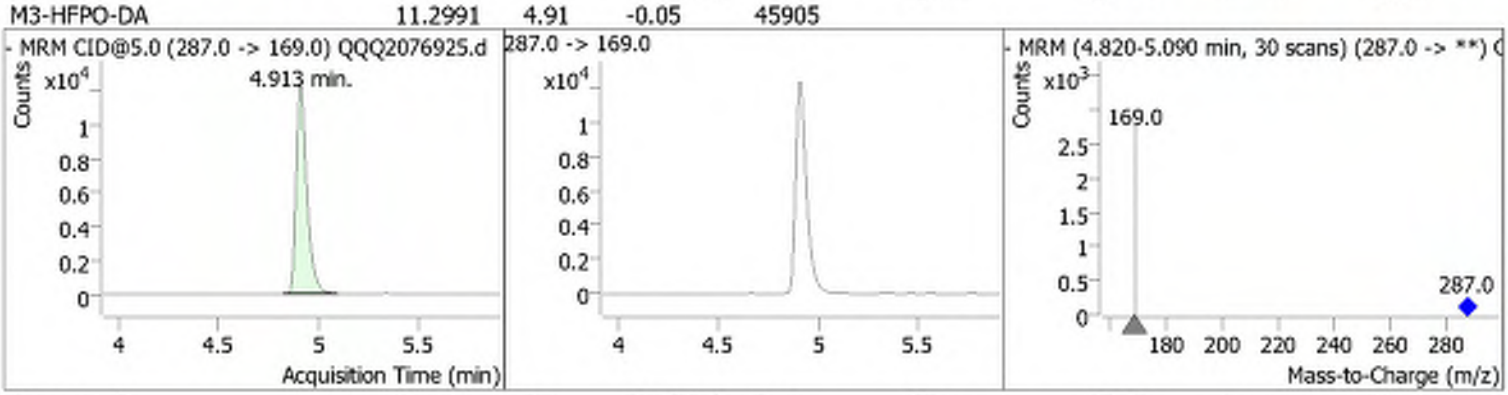


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.7500	4.83	-0.05	2727				

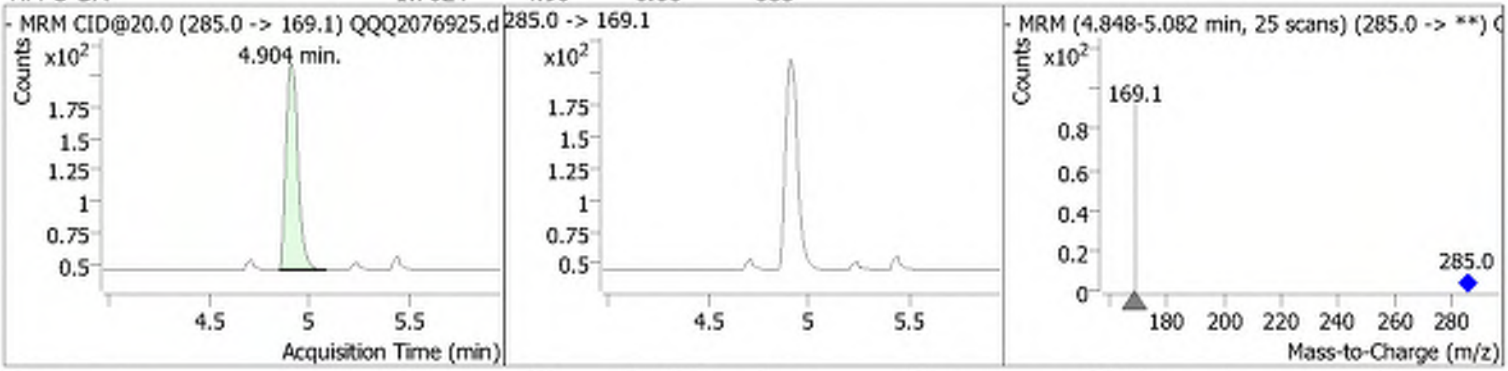


Quantitation Results Report (Not Reviewed)

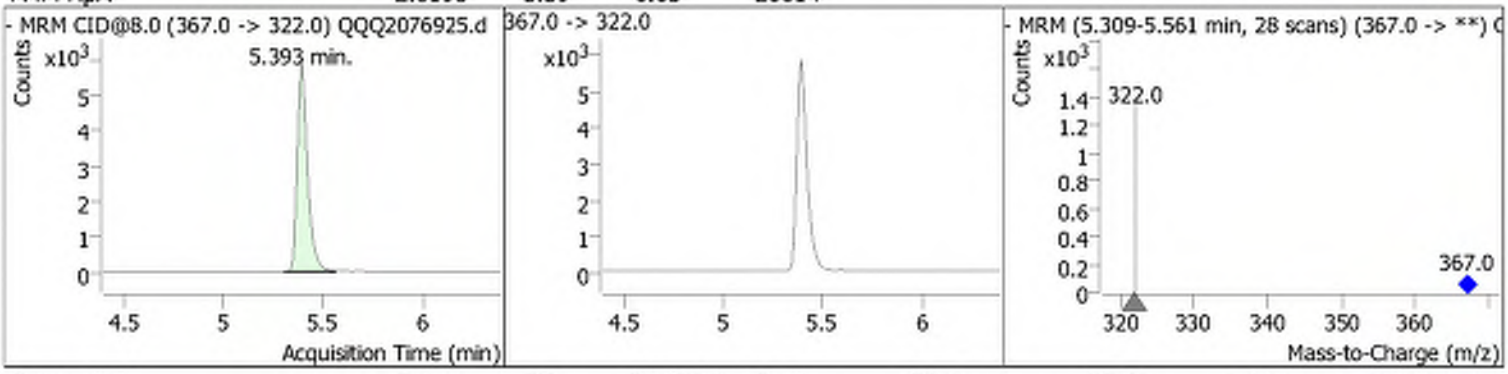
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	11.2991	4.91	-0.05	45905				



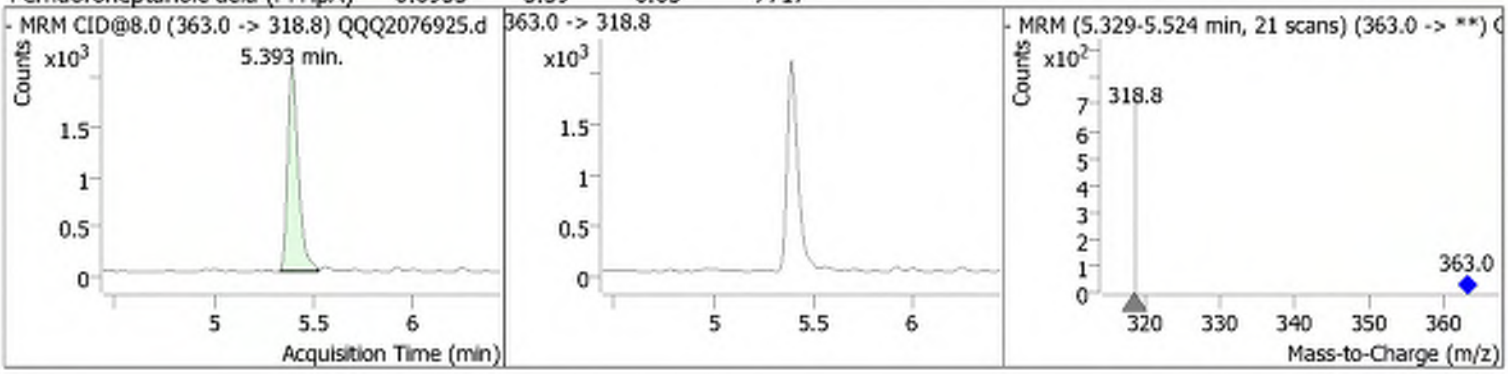
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	1.7624	4.90	-0.06	688				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.6198	5.39	-0.05	20614				

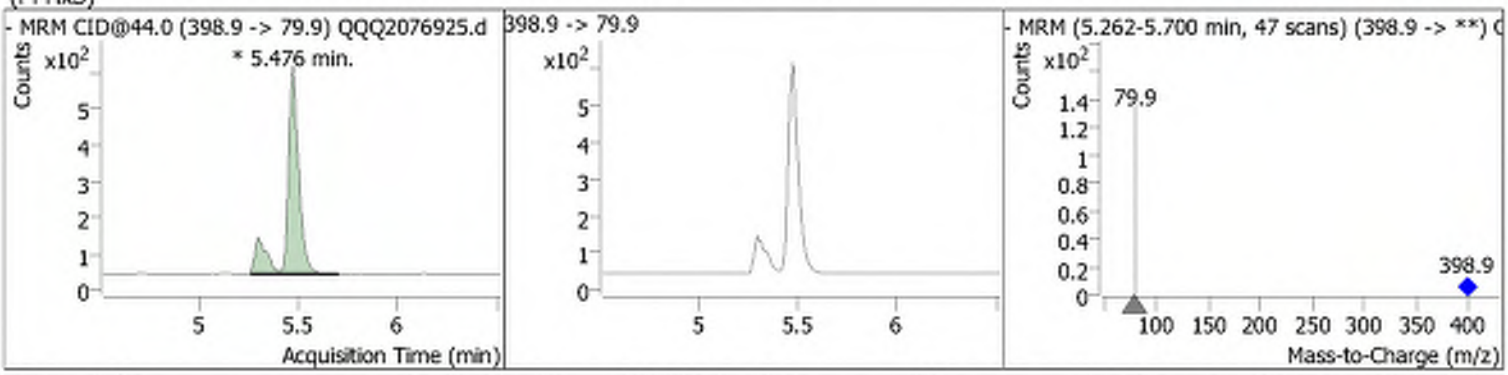


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.6953	5.39	-0.05	7717				

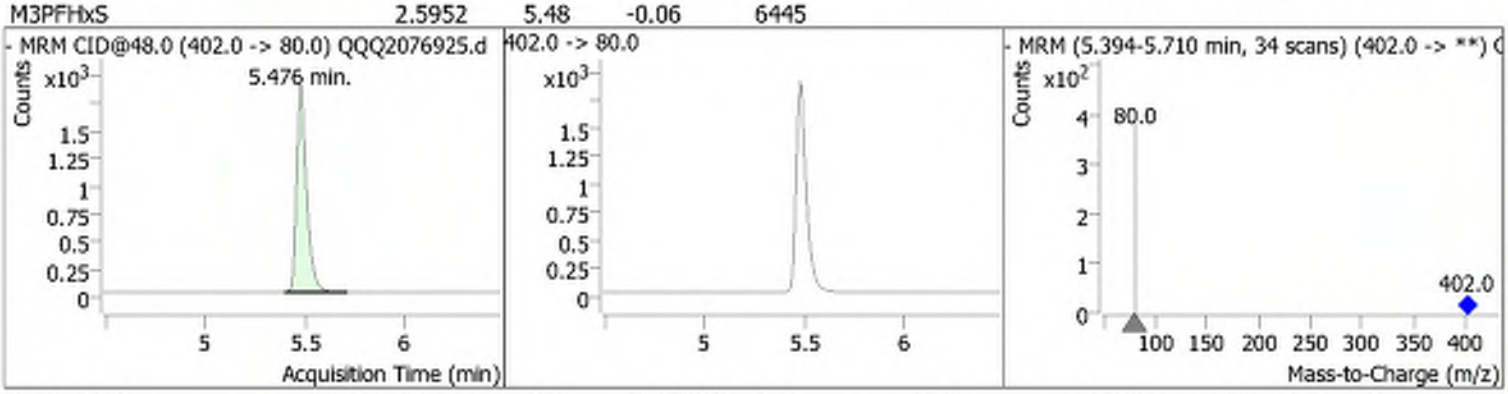


Quantitation Results Report (Not Reviewed)

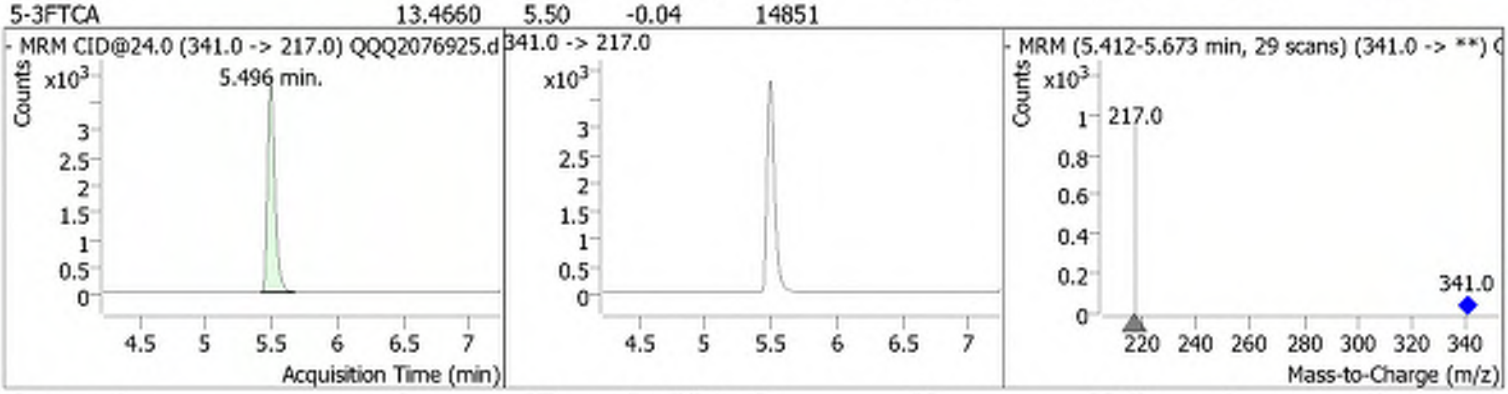
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.6471	5.48	-0.05	2396 (m)				



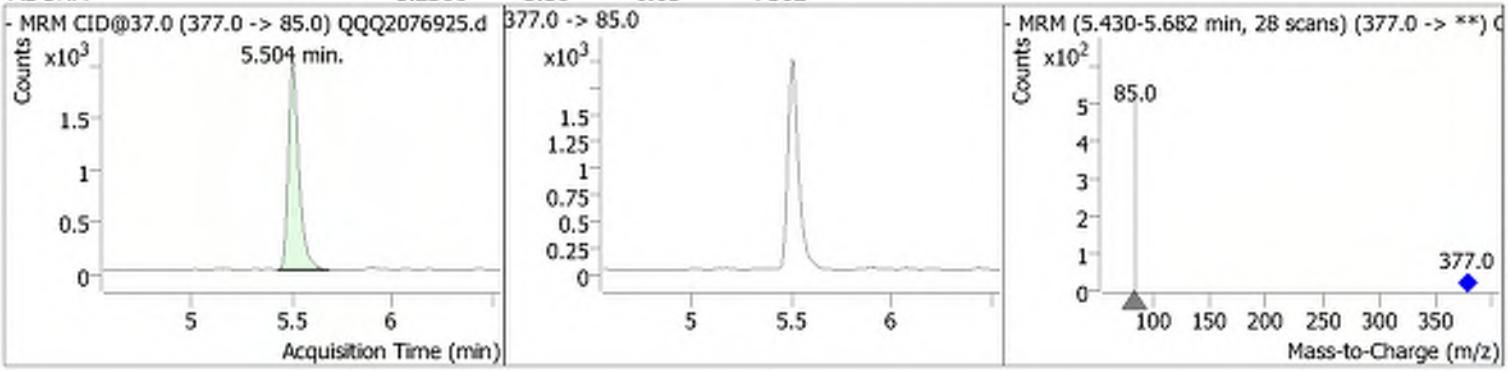
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.5952	5.48	-0.06	6445				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	13.4660	5.50	-0.04	14851				

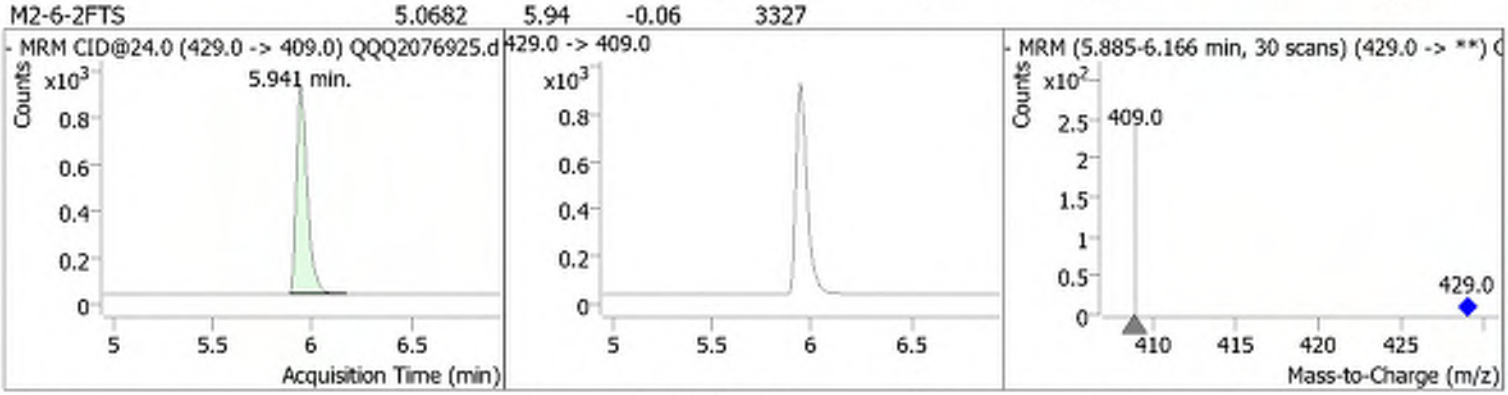


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	1.2306	5.50	-0.05	7302				

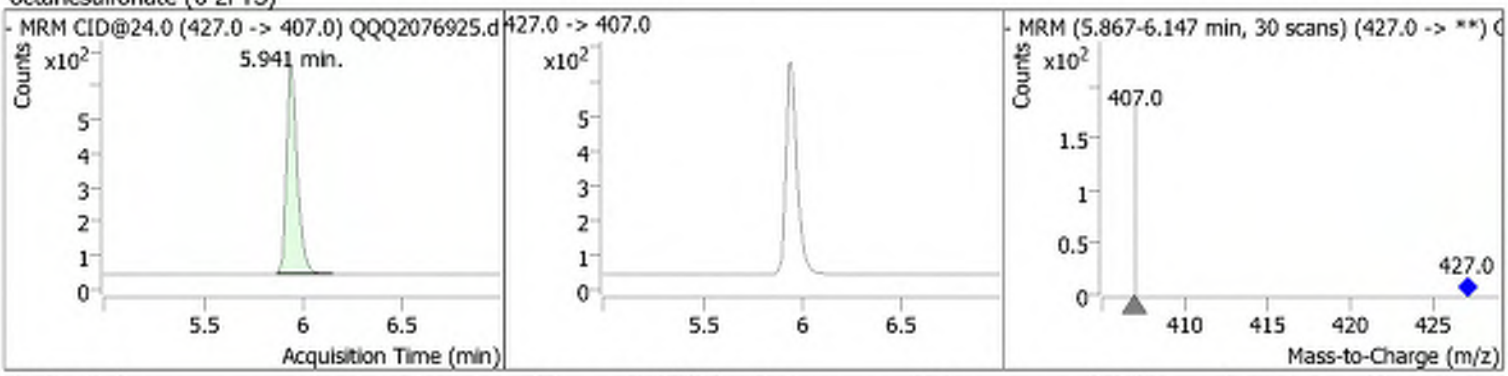


Quantitation Results Report (Not Reviewed)

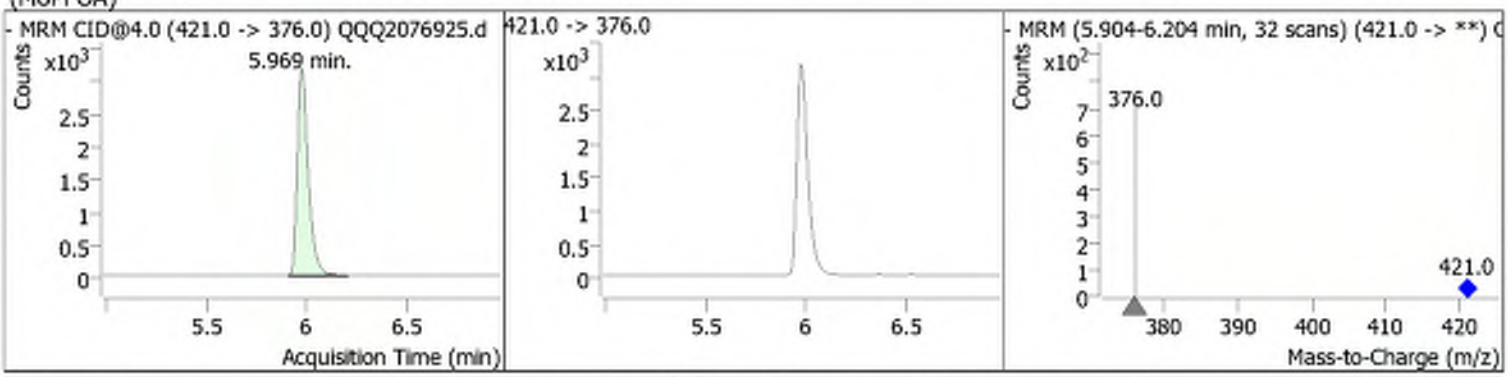
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.0682	5.94	-0.06	3327				



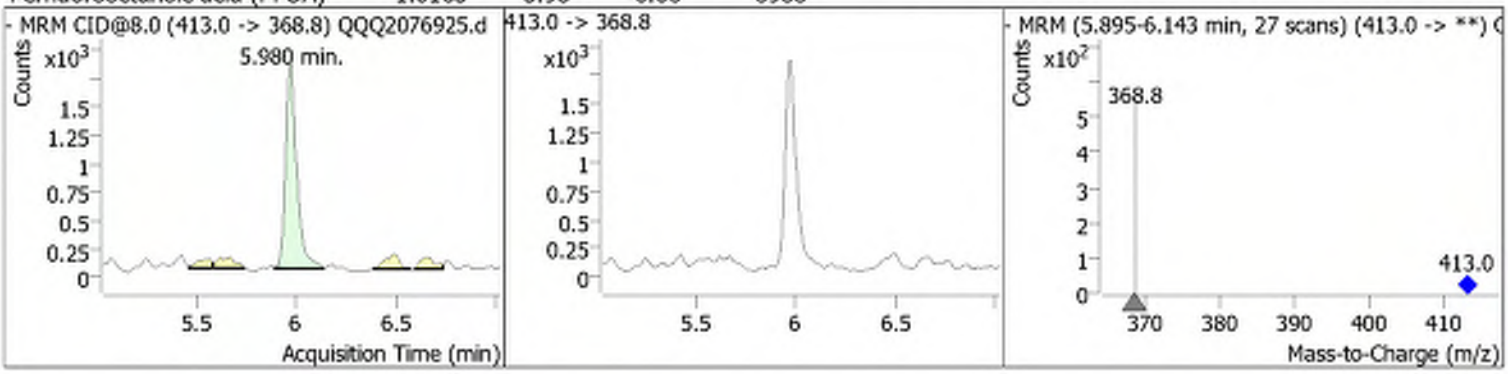
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	3.2581	5.94	-0.06	2295				



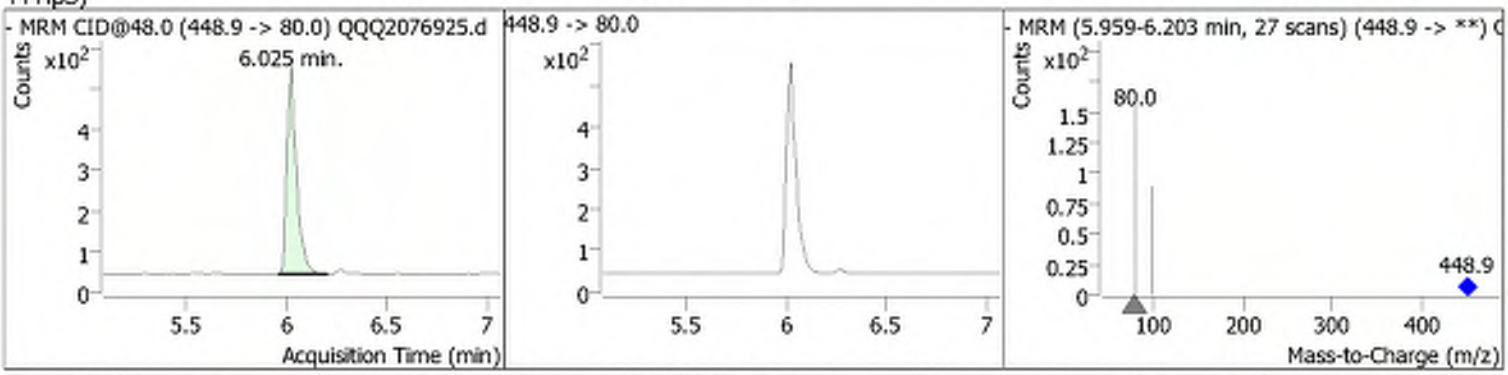
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.2106	5.97	-0.07	11905				



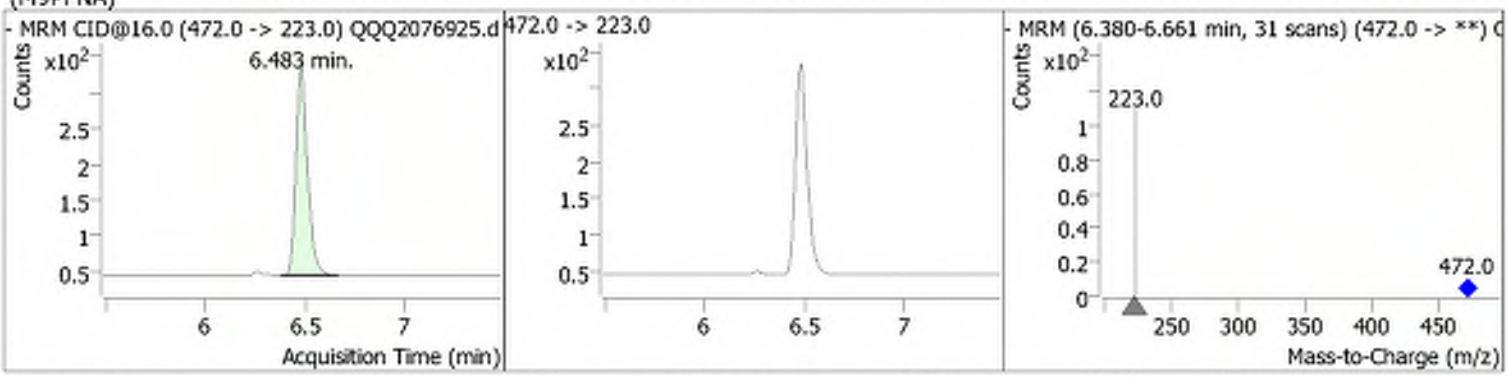
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	1.0165	5.98	-0.06	6988				



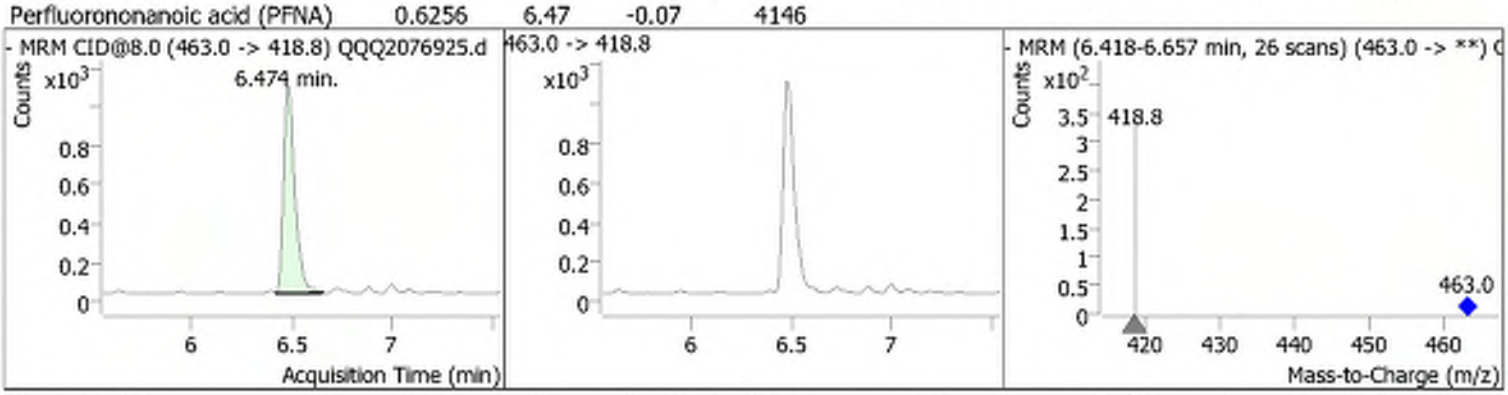
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.8849	6.03	-0.06	1694				



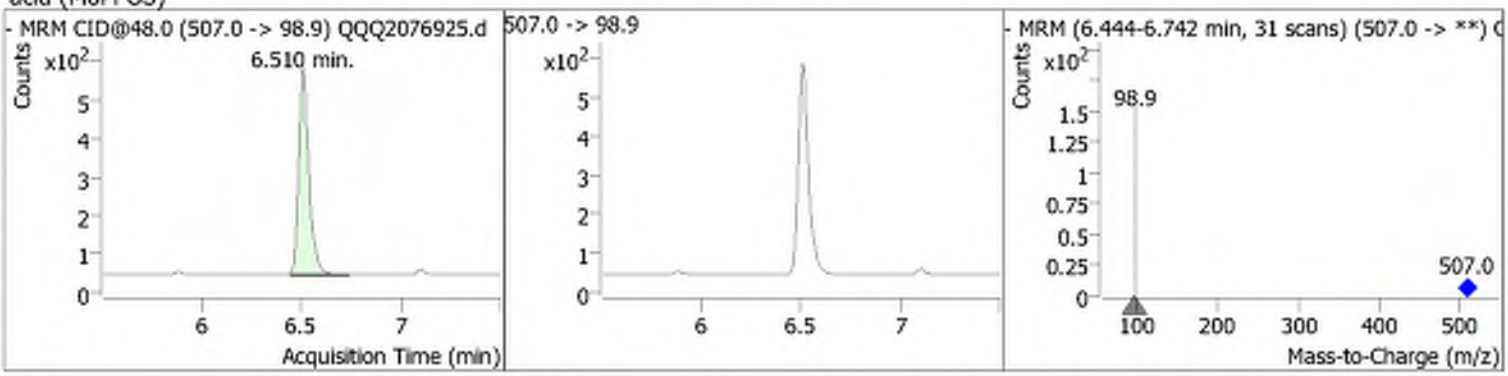
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3183	6.48	-0.06	1162				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.6256	6.47	-0.07	4146				

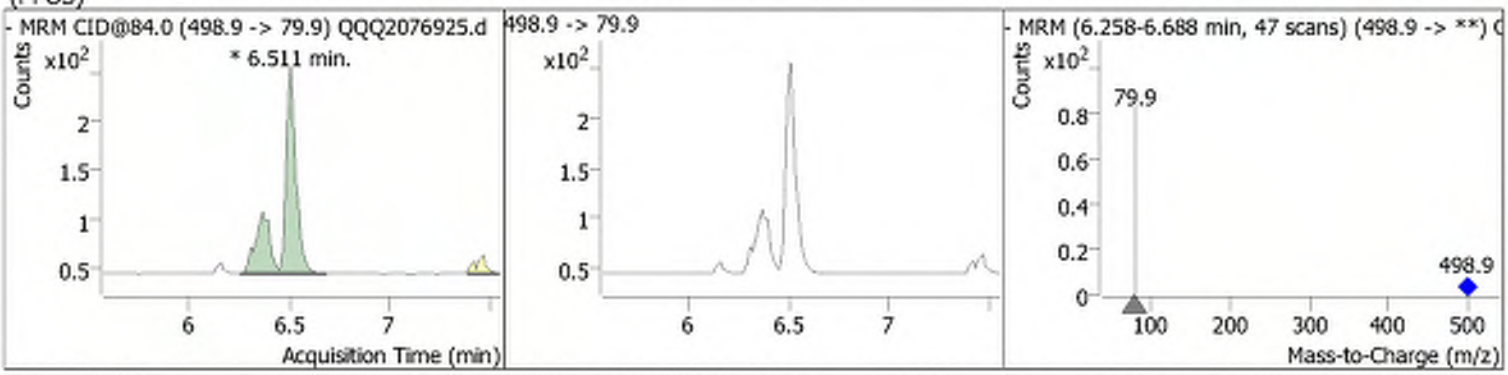


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.1448	6.51	-0.06	1898				

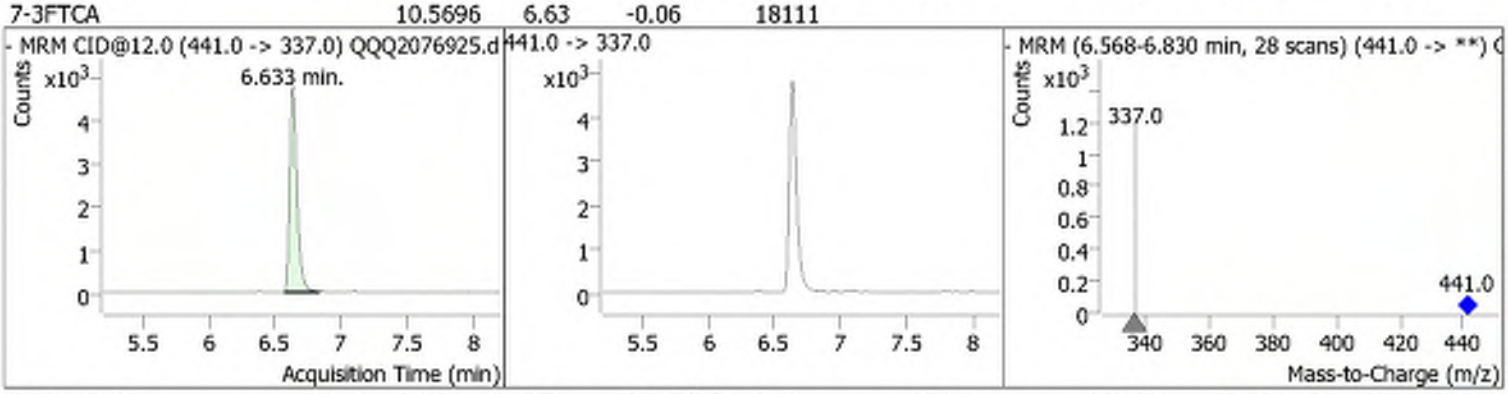


Quantitation Results Report (Not Reviewed)

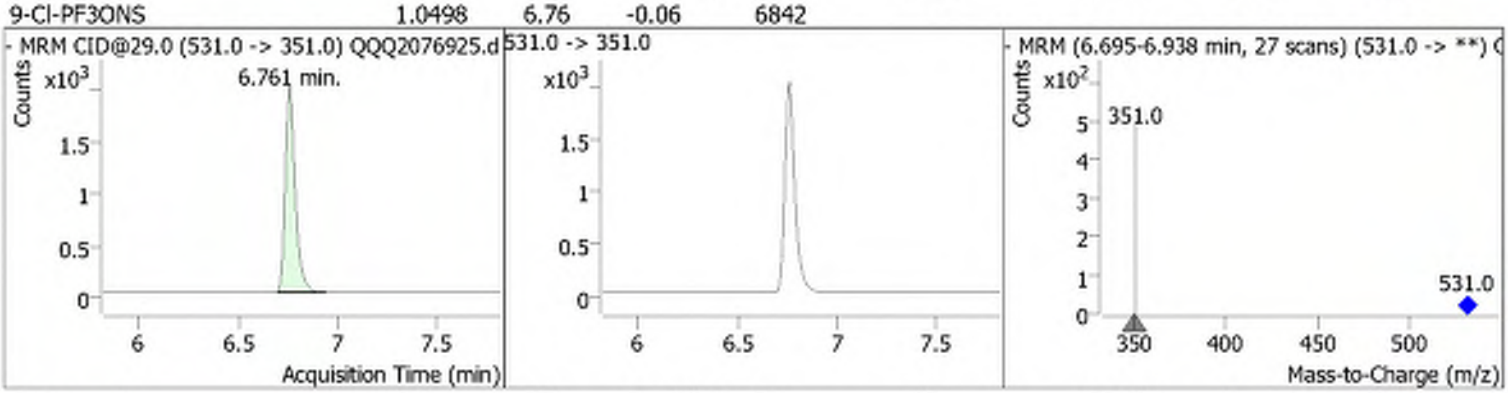
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	1.0670	6.51	-0.06	1038 (m)				



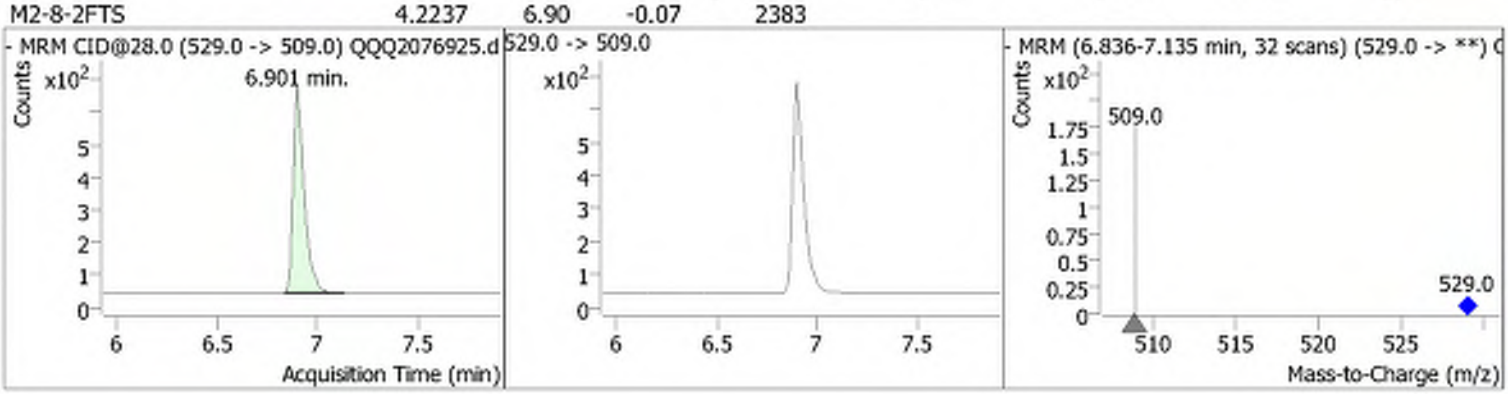
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	10.5696	6.63	-0.06	18111				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	1.0498	6.76	-0.06	6842				

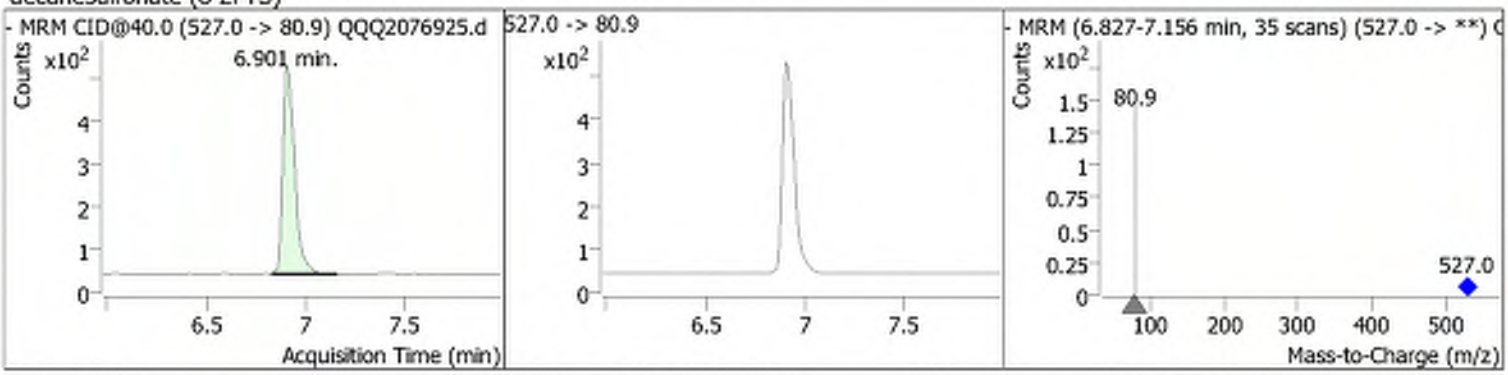


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.2237	6.90	-0.07	2383				

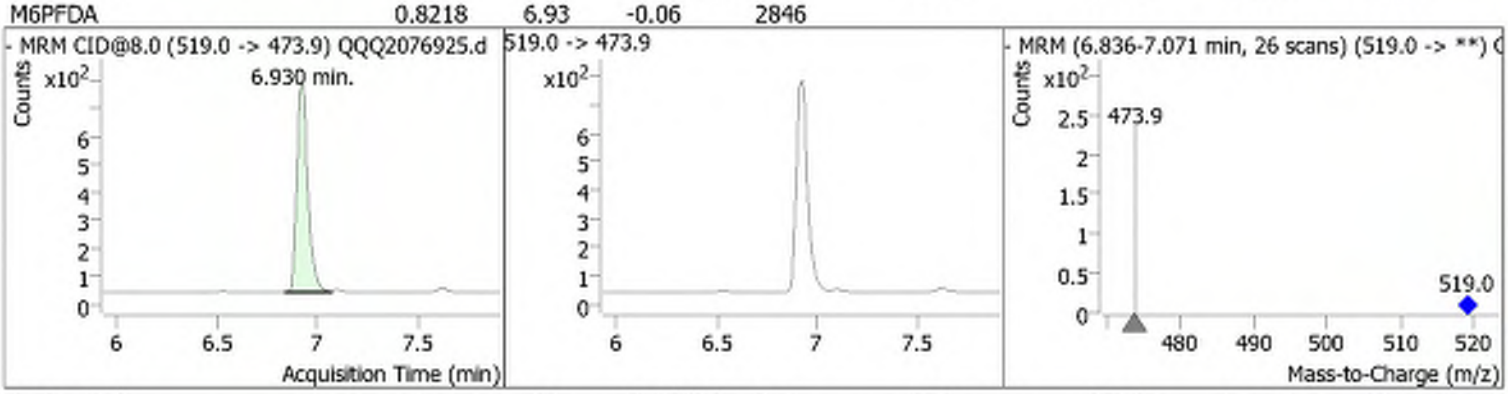


Quantitation Results Report (Not Reviewed)

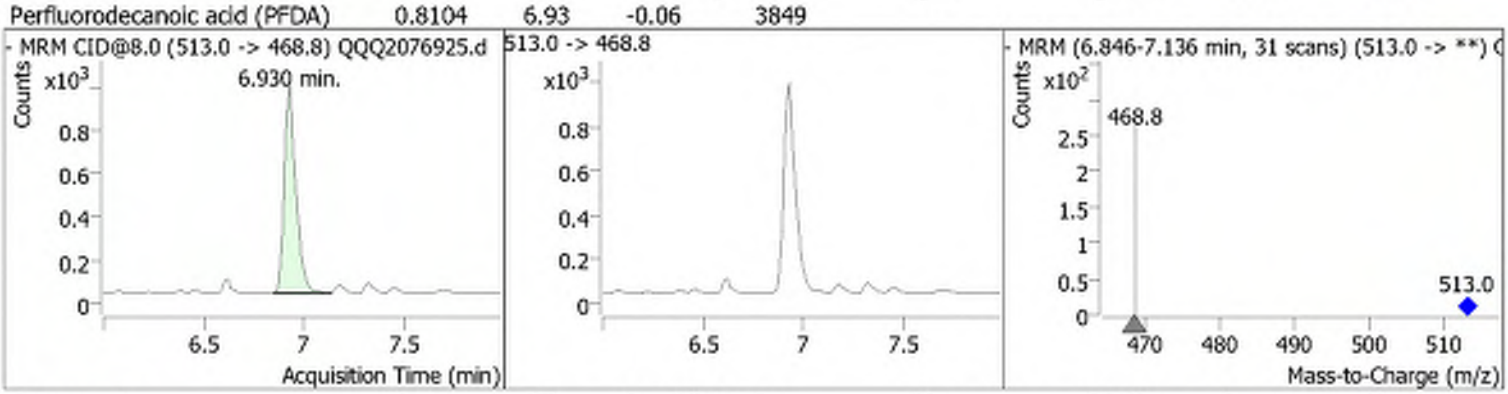
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	3.2941	6.90	-0.08	1989				



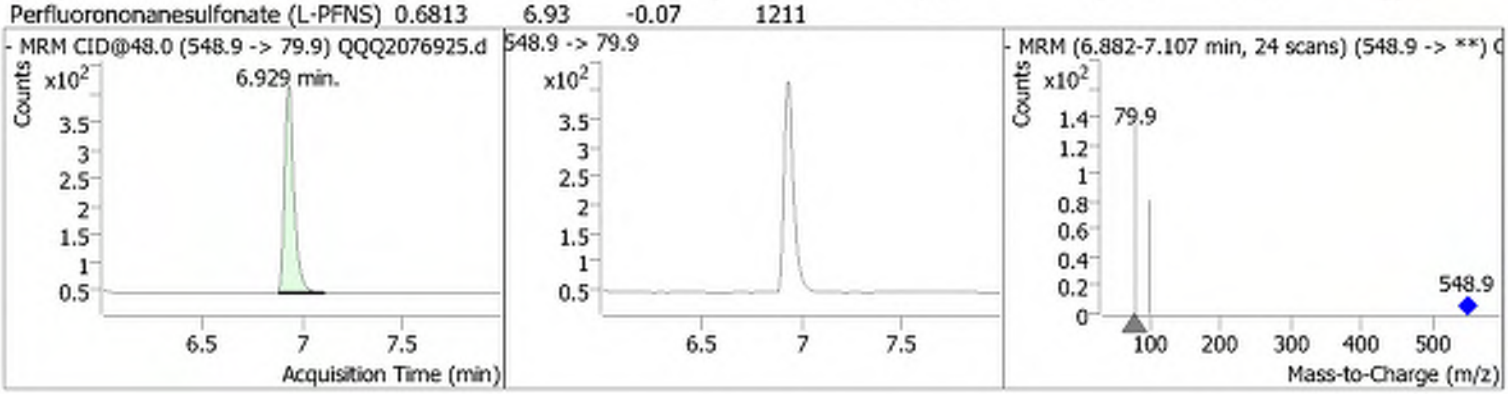
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.8218	6.93	-0.06	2846				



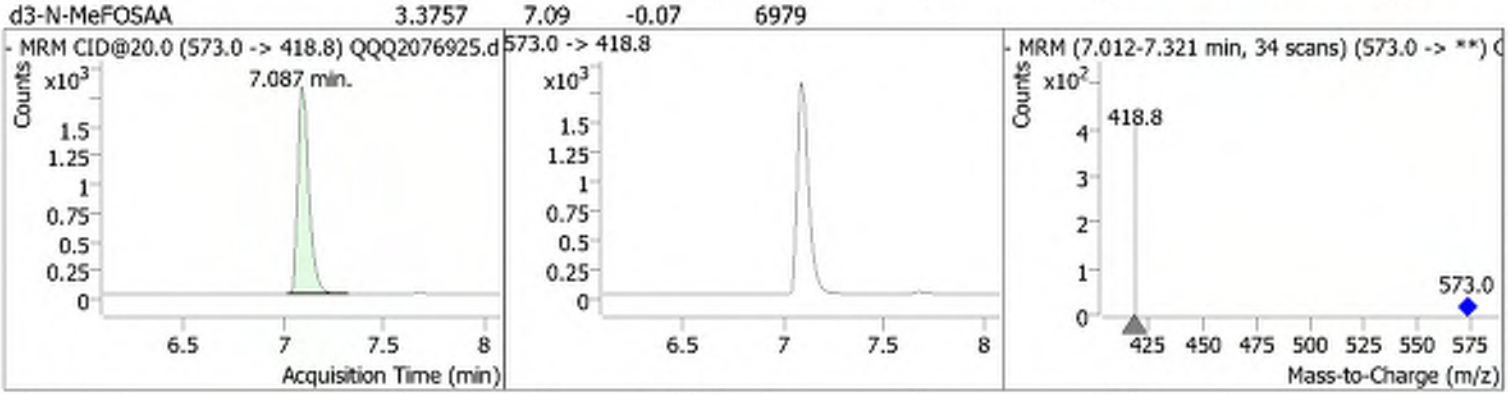
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.8104	6.93	-0.06	3849				



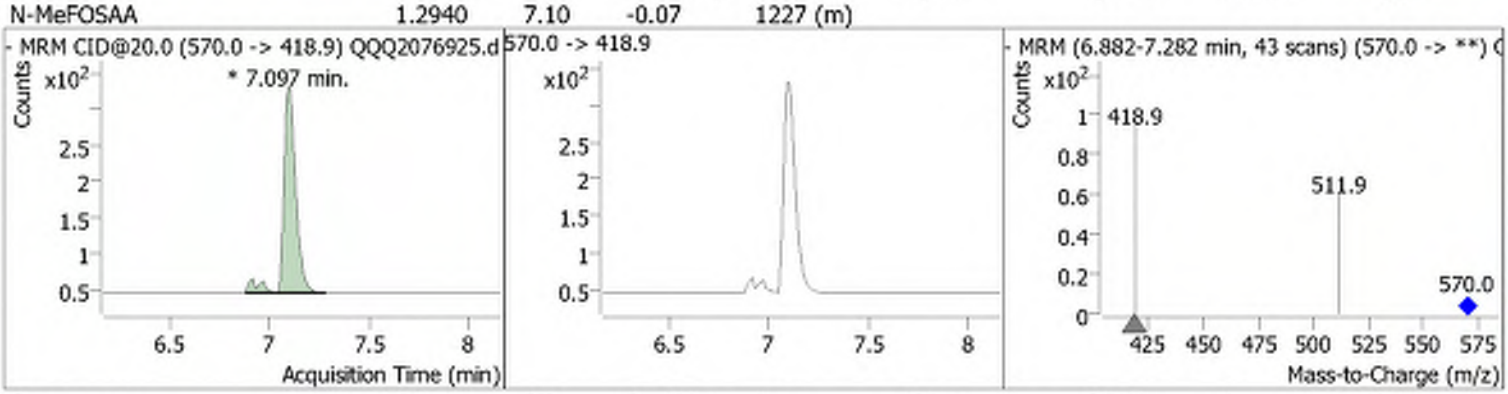
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.6813	6.93	-0.07	1211				



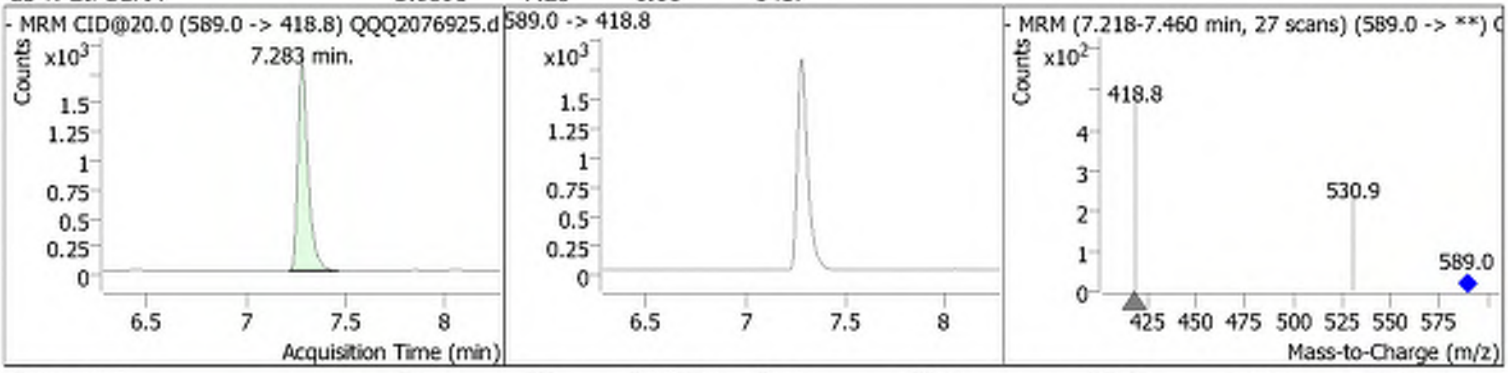
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.3757	7.09	-0.07	6979				



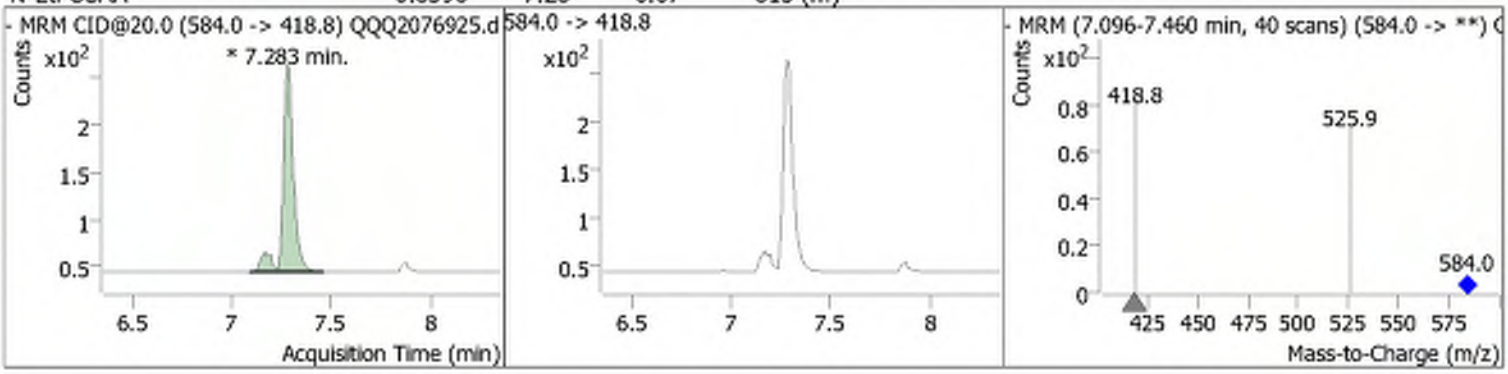
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	1.2940	7.10	-0.07	1227 (m)				



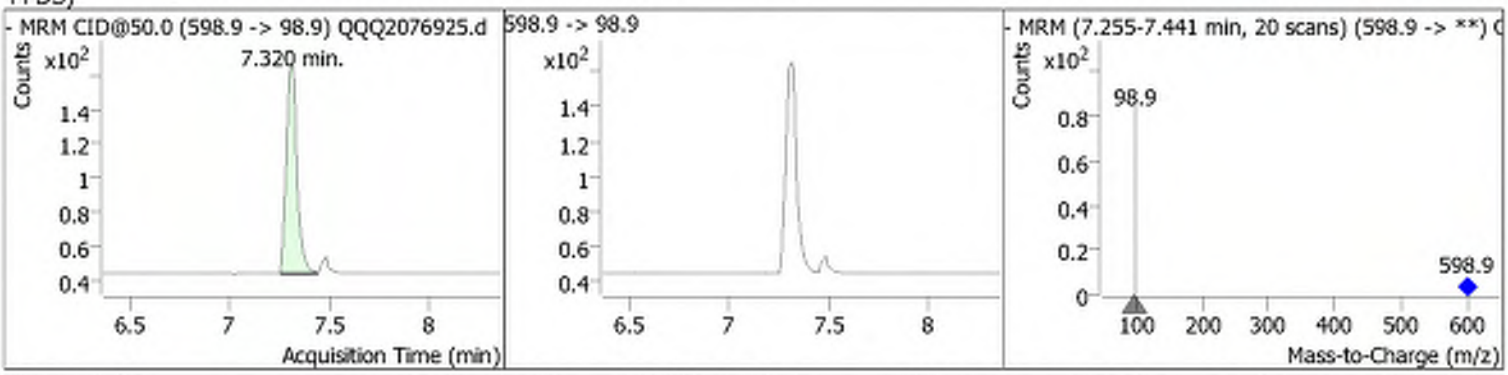
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.0891	7.28	-0.06	6417				



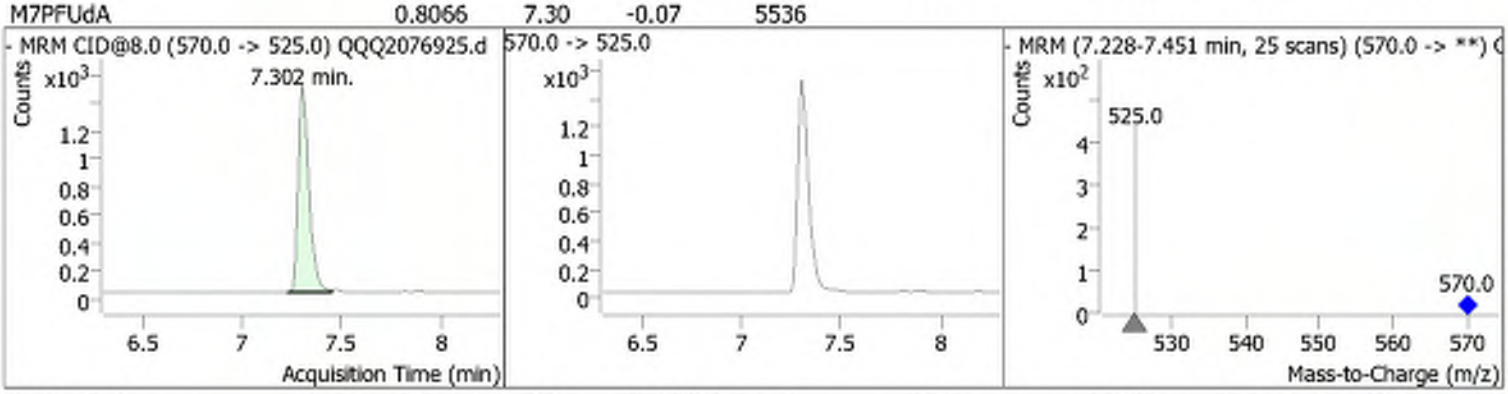
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.8396	7.28	-0.07	815 (m)				



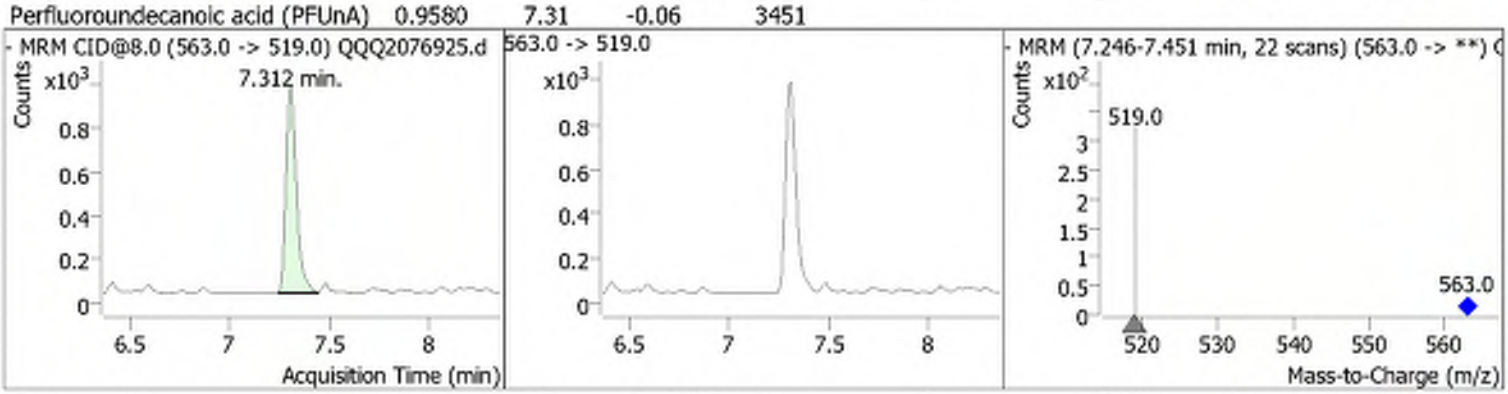
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.5866	7.32	-0.05	448				



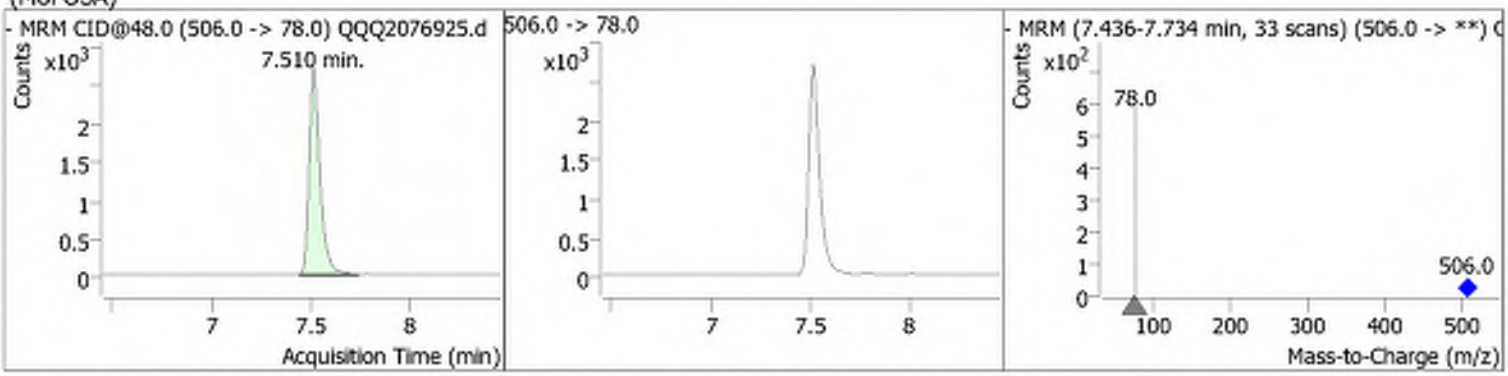
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.8066	7.30	-0.07	5536				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.9580	7.31	-0.06	3451				

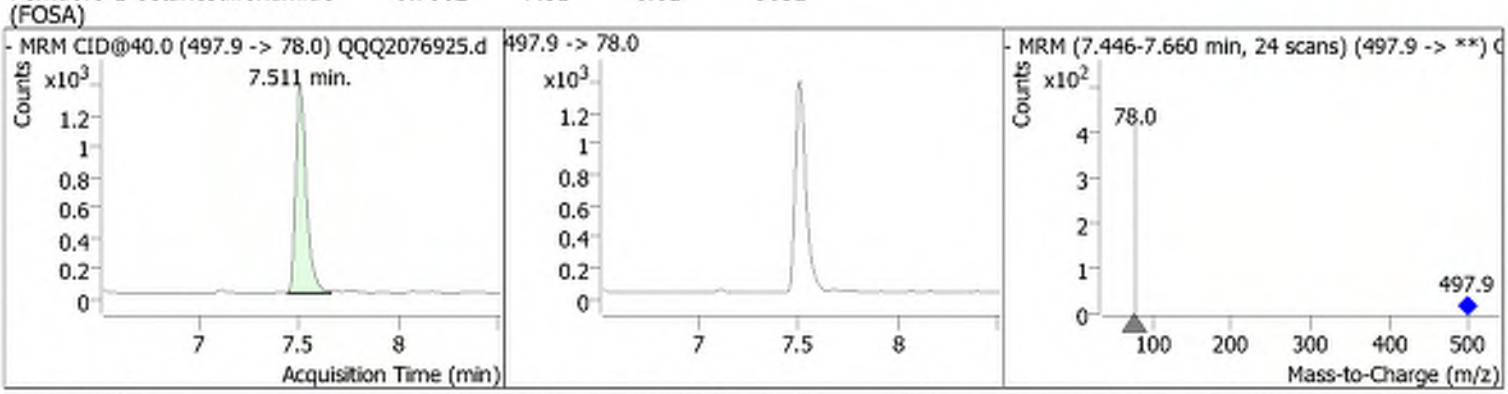


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.0155	7.51	-0.01	10112				

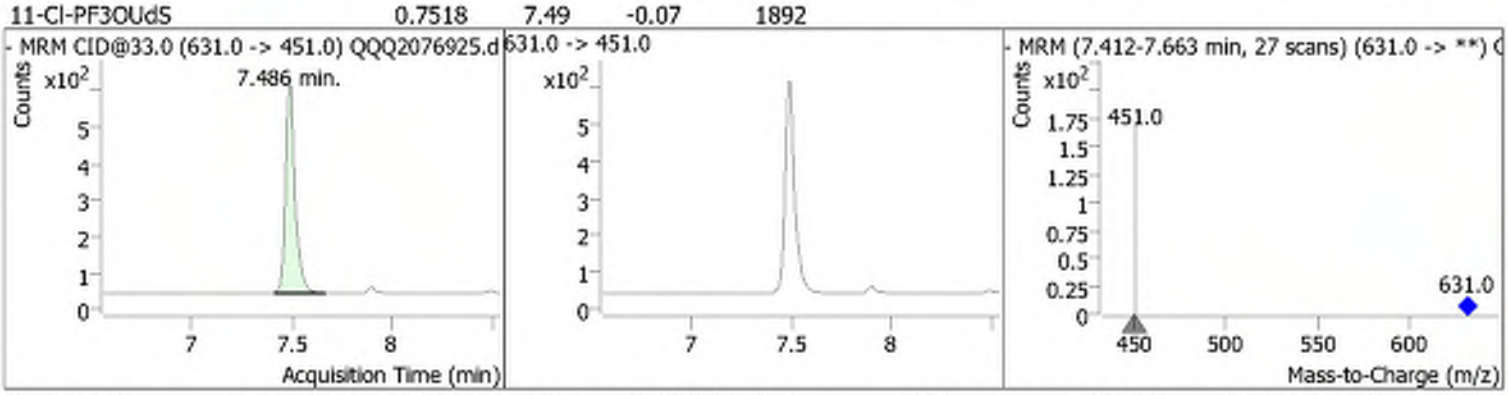


Quantitation Results Report (Not Reviewed)

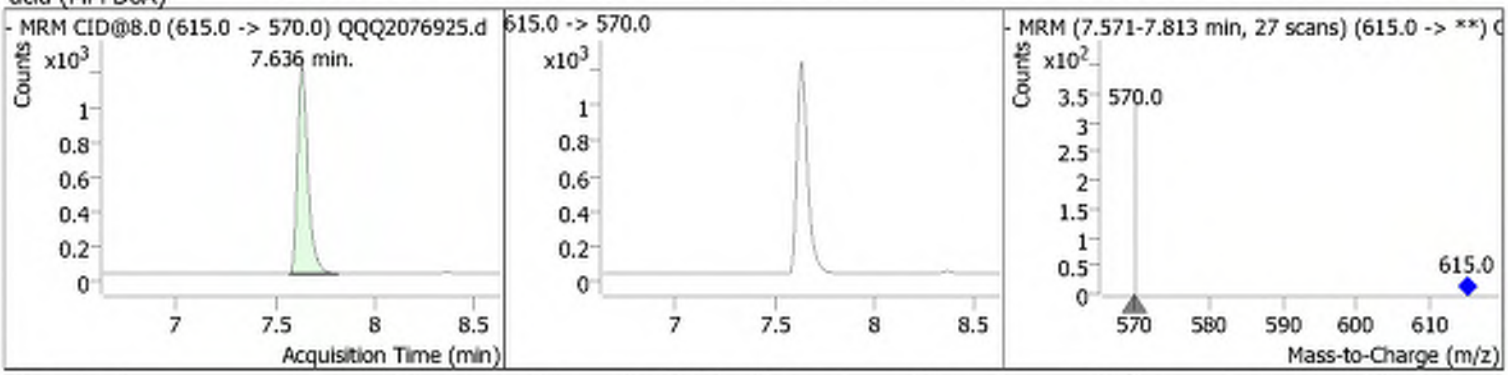
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.7062	7.51	-0.01	5031				



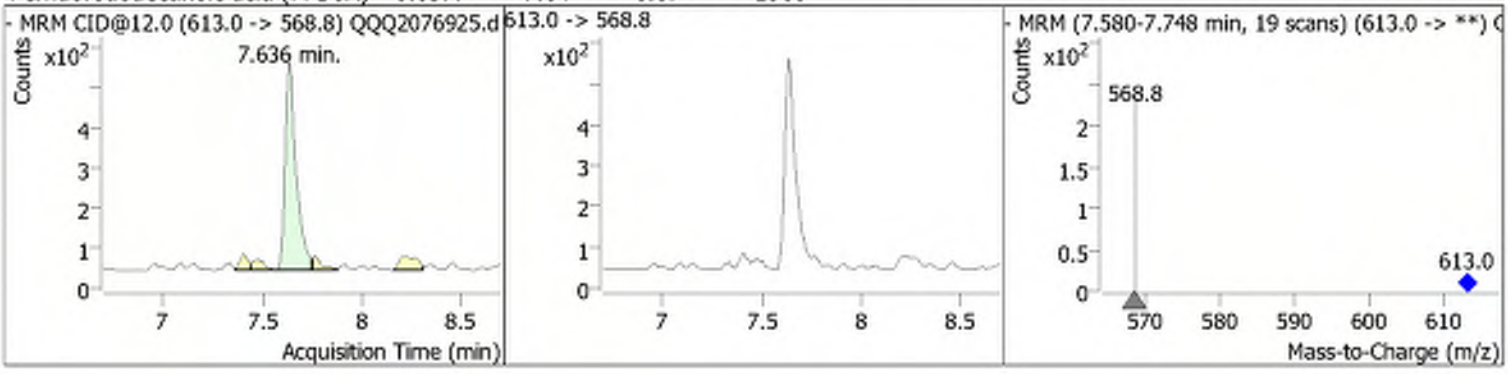
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	0.7518	7.49	-0.07	1892				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.7571	7.64	-0.07	4326				

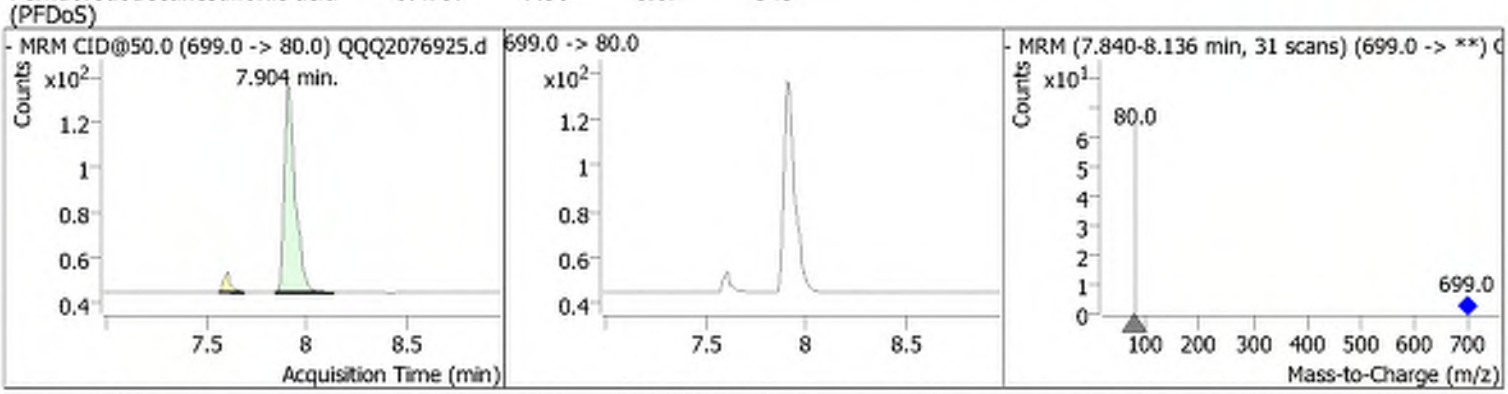


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.6577	7.64	-0.07	1960				

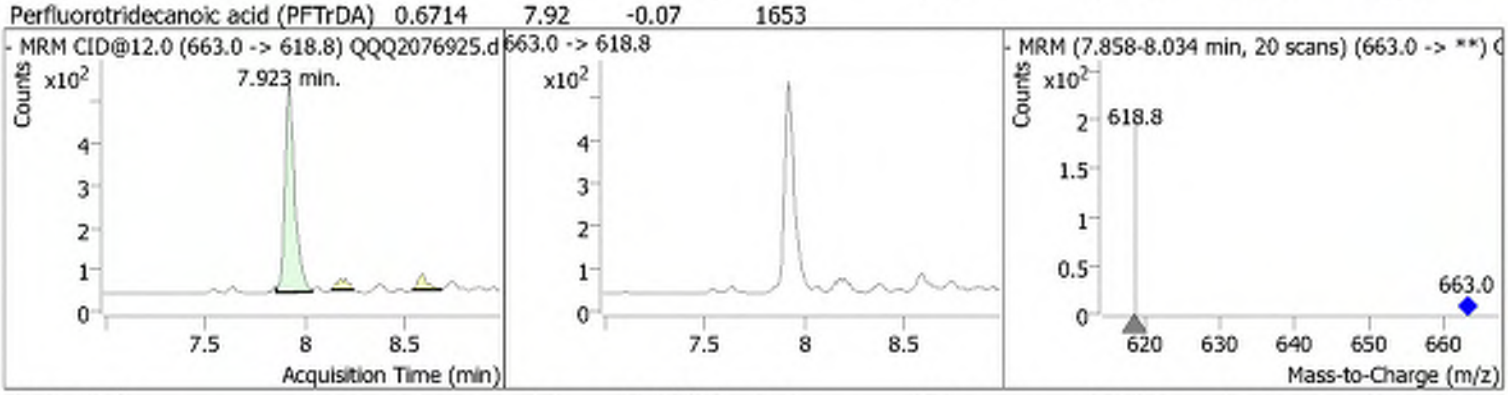


Quantitation Results Report (Not Reviewed)

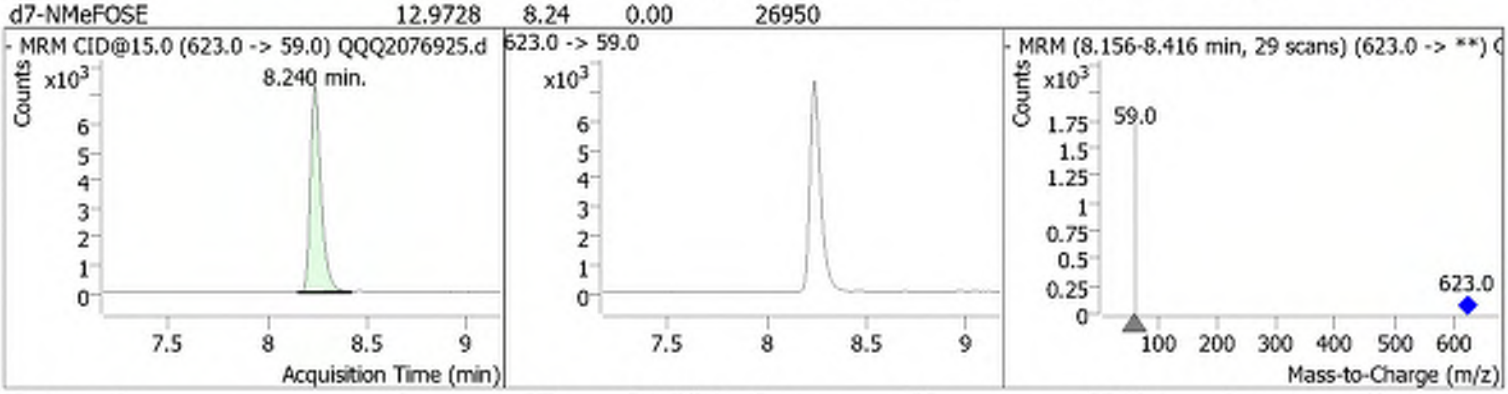
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.4797	7.90	-0.07	345				



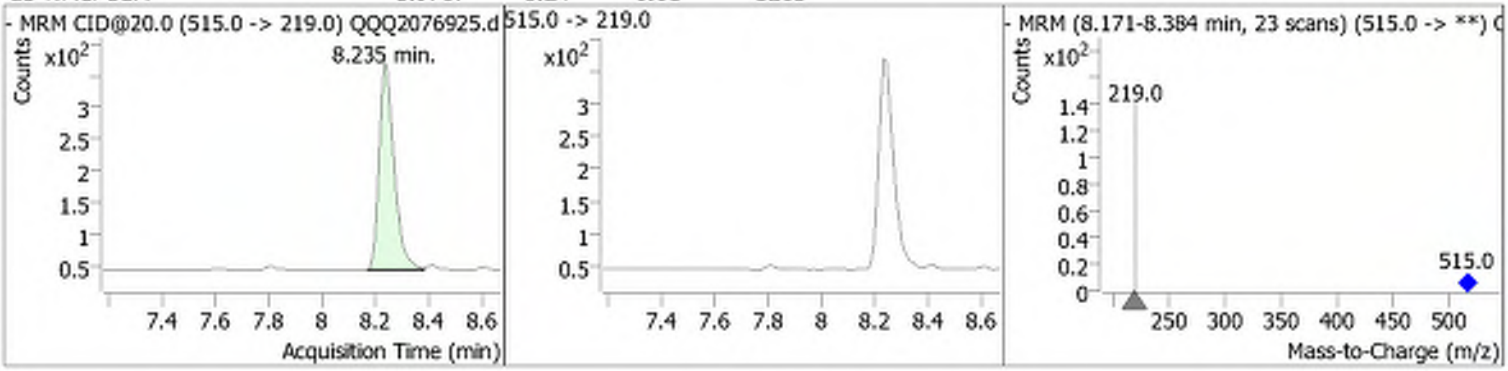
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.6714	7.92	-0.07	1653				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	12.9728	8.24	0.00	26950				



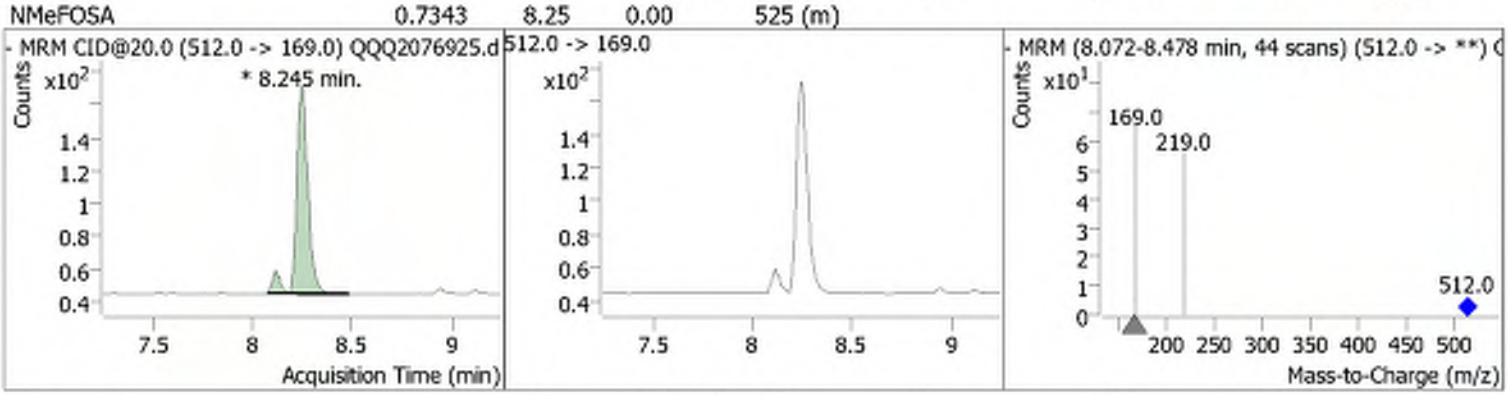
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.9707	8.24	-0.01	1263				



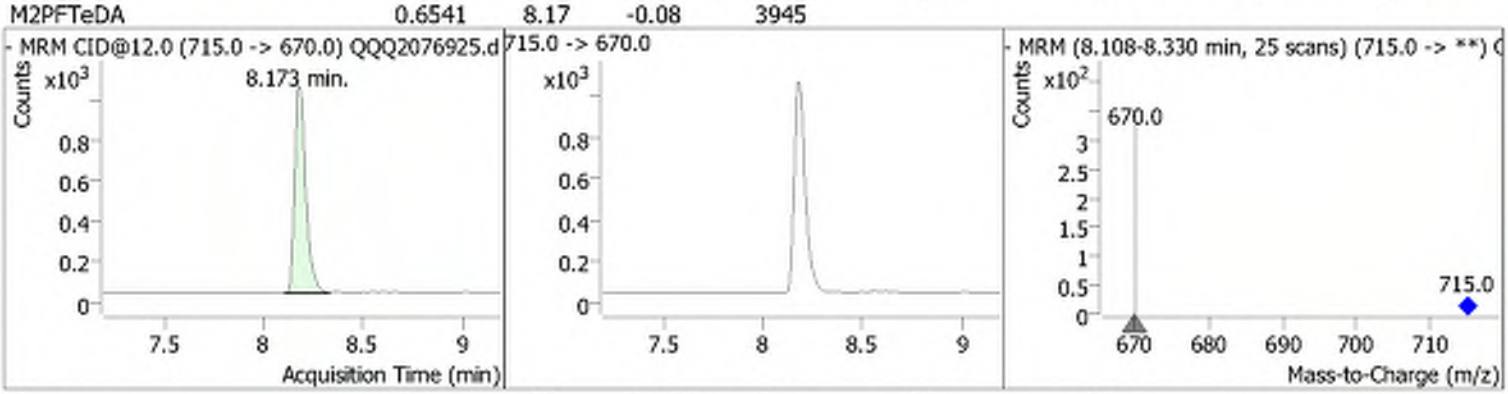
Quantitation Results Report (Not Reviewed)

Agilent

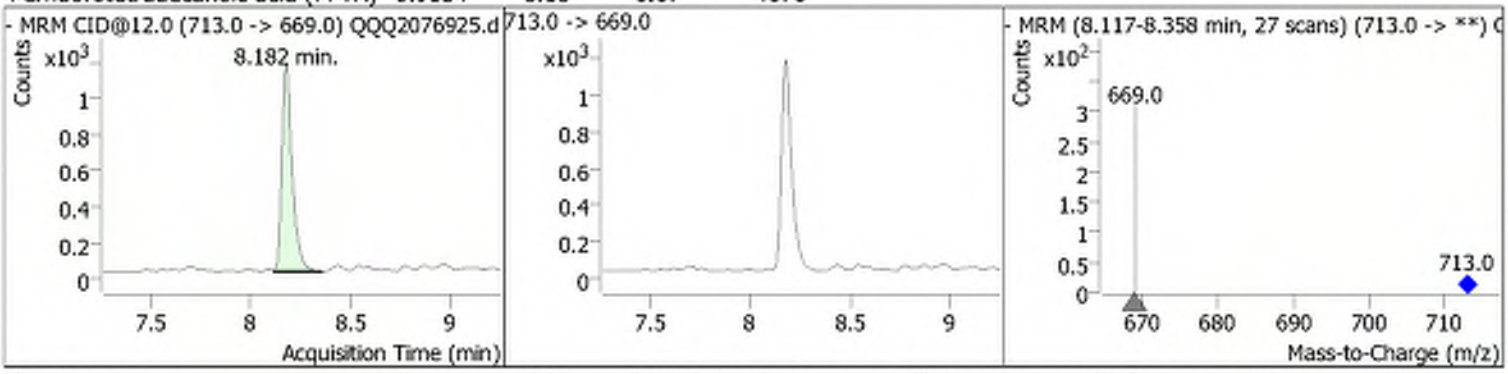
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.7343	8.25	0.00	525 (m)				



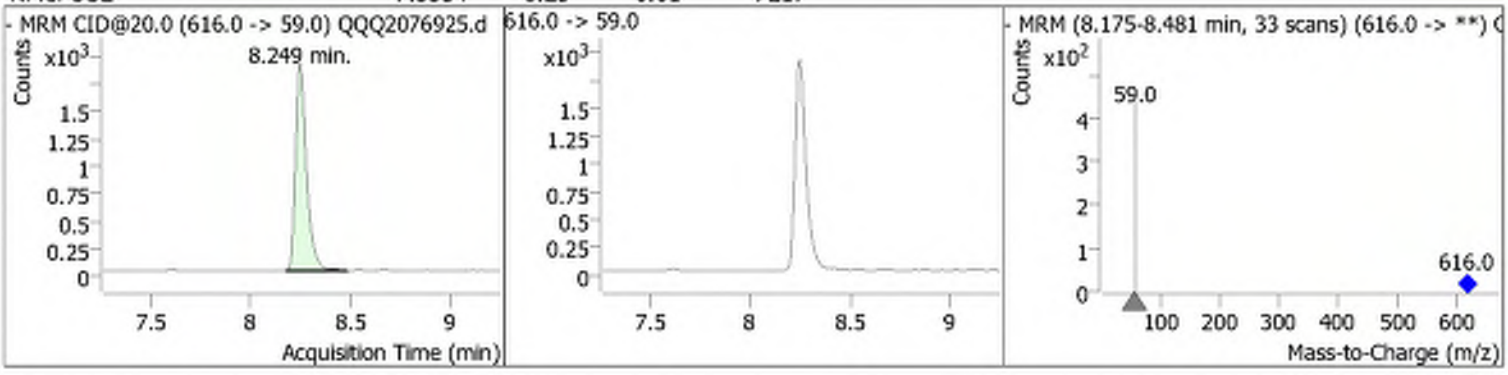
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.6541	8.17	-0.08	3945				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.9154	8.18	-0.07	4070				

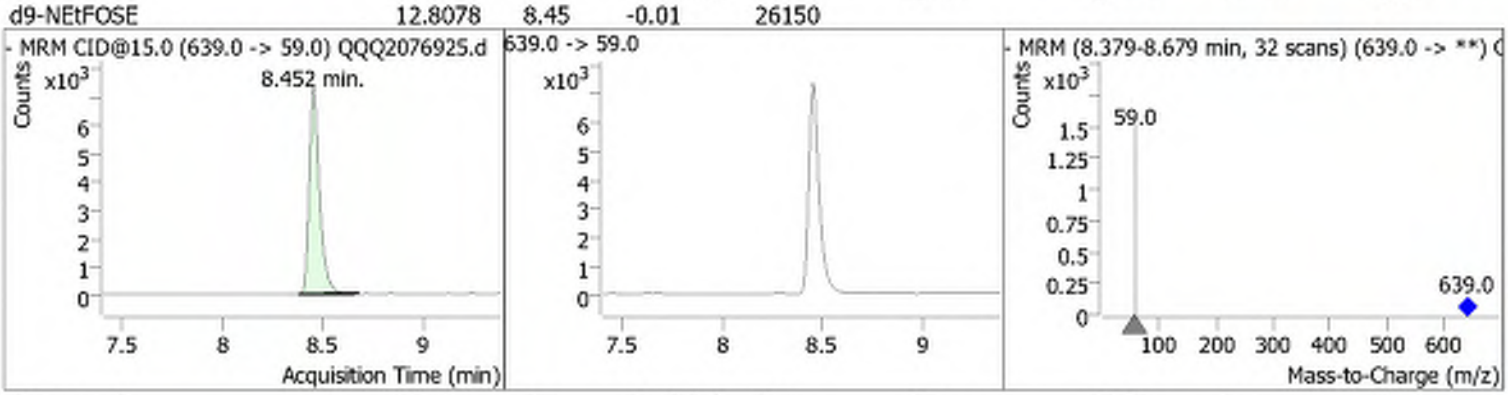


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	7.5534	8.25	-0.01	7217				

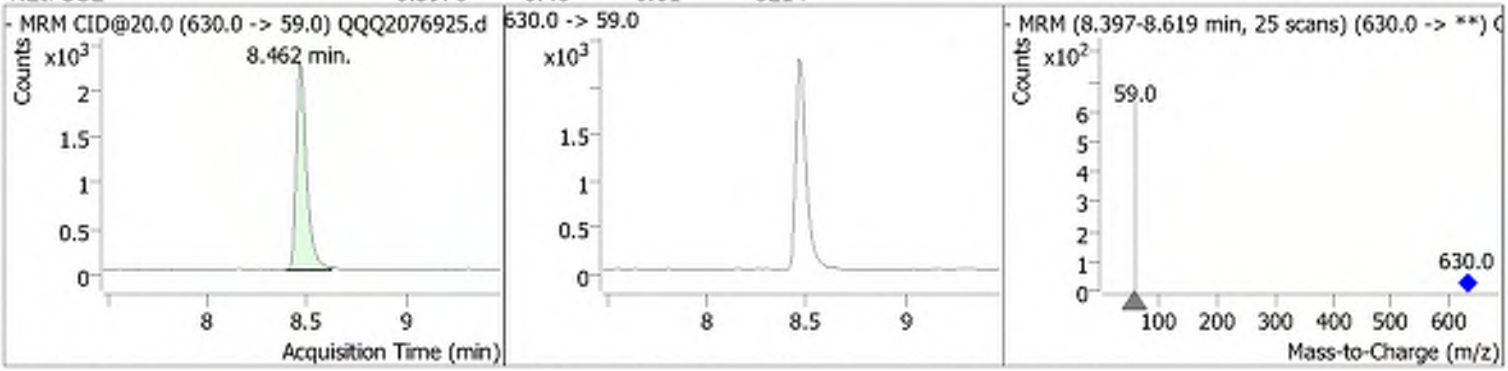


Quantitation Results Report (Not Reviewed)

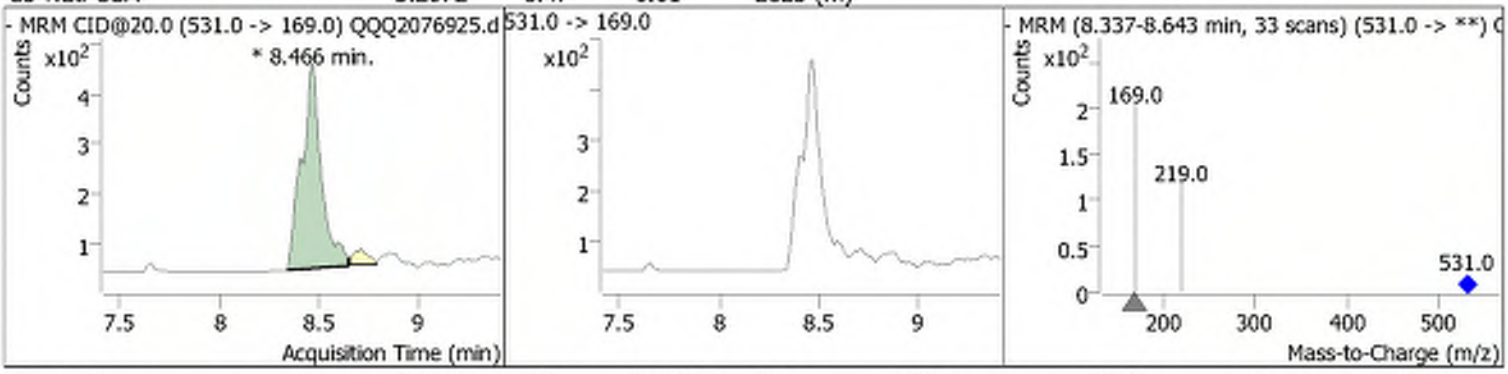
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	12.8078	8.45	-0.01	26150				



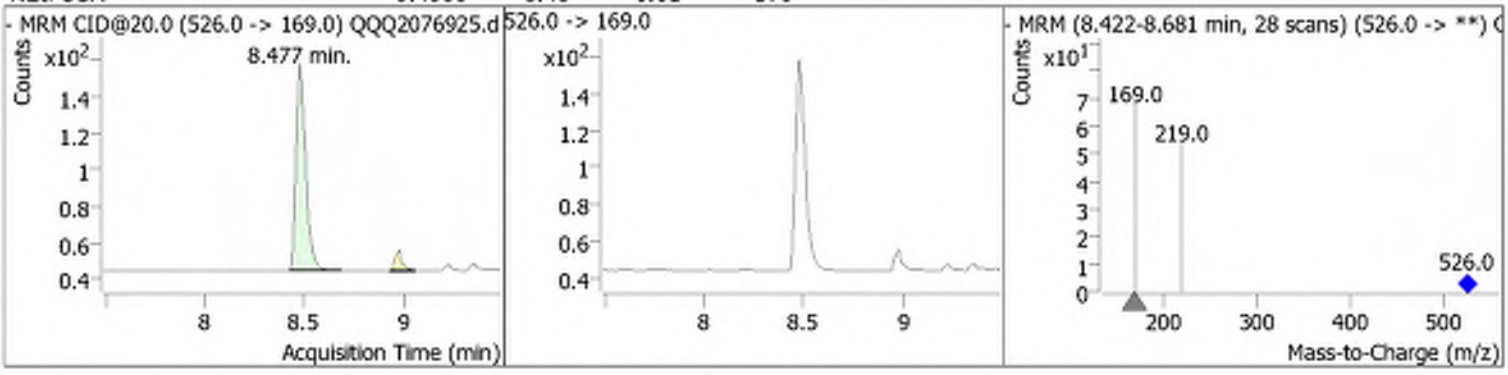
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	6.5976	8.46	-0.01	8214				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	3.2072	8.47	-0.01	2825 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.4000	8.48	-0.01	379				



LCS RAW DATA

SDG: 23E0419
CLASS: PFAS
METHOD: EPA 1633 Draft 2

Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077042.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 11:28:54 AM
Sample Name	BE30673-BS1	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.134	216.0 -> 172.0	28042	5.0000	ng/ml	-0.073
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.140	217.0 -> 172.0	42642	10.0000	ng/ml	-0.064
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.304	268.0 -> 223.0	20290	5.0000	ng/ml	-0.083
MPFHxA	4.642	315.0 -> 269.8	23729	2.5000	ng/ml	-0.056
MPFHxS	5.476	403.0 -> 103.0	1794	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.828	302.0 -> 79.9	7467	2.3300	ng/ml	-0.065
M5PFHxA-EIS	4.641	318.0 -> 273.0	17789	2.5000	ng/ml	-0.056
M2-4-2FTS-EIS	4.575	329.0 -> 309.0	9809	4.6900	ng/ml	-0.056
M3PFHxS-EIS	5.466	402.0 -> 80.0	6268	2.3700	ng/ml	-0.066
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	46685	10.0000	ng/ml	-0.056
M4PFHpA-EIS	5.383	367.0 -> 322.0	21535	2.5000	ng/ml	-0.056
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	5456	4.7550	ng/ml	-0.065
MPFOA	5.970	417.0 -> 372.0	22513	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.960	421.0 -> 376.0	13478	2.5000	ng/ml	-0.075
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	2278	2.3950	ng/ml	-0.065
MPFNA	6.474	468.0 -> 423.0	9275	1.2500	ng/ml	-0.065
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1258	1.2500	ng/ml	-0.065
MPFOS	6.492	503.0 -> 80.0	5750	2.3950	ng/ml	-0.084
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	3884	4.8000	ng/ml	-0.066
MPFDA	6.911	515.0 -> 469.8	7183	1.2500	ng/ml	-0.075
M6PFDA-EIS	6.911	519.0 -> 473.9	2696	1.2500	ng/ml	-0.075
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	11678	5.0000	ng/ml	-0.065
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	10873	5.0000	ng/ml	-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	7504	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	11199	2.5000	ng/ml	-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	7009	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.173	715.0 -> 670.0	5688	1.2500	ng/ml	-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	770	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	34367	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	30137	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	7286	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.140	217.0 -> 172.0	42642	11.1018	ng/ml	-0.064
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.304	268.0 -> 223.0	20290	5.2813	ng/ml	-0.083
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.828	302.0 -> 79.9	7467	3.1293	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.575	329.0 -> 309.0	9809	10.0415	ng/ml	-0.056

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.641	318.0 -> 273.0	17789	2.7755	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	46685	12.4908	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.383	367.0 -> 322.0	21535	2.9750	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.466	402.0 -> 80.0	6268	3.1271	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	5456	10.2971	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.960	421.0 -> 376.0	13478	2.7156	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1258	1.3182	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	2278	2.7368	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.901	529.0 -> 509.0	3884	8.5267	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.911	519.0 -> 473.9	2696	0.9669	ng/ml	-0.075
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.087	573.0 -> 418.8	11678	6.0038	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	10873	5.5631	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	7504	1.3581	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	11199	2.3725	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	7009	1.5239	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	34367	17.5830	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	770	1.2768	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.173	715.0 -> 670.0	5688	1.1717	ng/ml	-0.084
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	30137	15.6885	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	7286	8.7914	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.136	213.0 -> 168.9	79283	14.7258	ng/ml	100
PFMPA	1.959	229.0 -> 85.0	23902	7.6616	ng/ml	100
3:3FTCA	3.194	241.0 -> 177.0	3327	13.3547	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.305	263.0 -> 219.0	31413	7.0722	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.828	298.9 -> 79.9	12093	3.1540	ng/ml	100
PFMBA	3.849	279.0 -> 85.0	33624	7.3105	ng/ml	100
PFEESA	4.326	315.0 -> 135.0	76295	6.7104	ng/ml	100
NFDHA	4.504	295.0 -> 201.1	43790	8.6837	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.575	327.0 -> 307.0	23774	12.4419	ng/ml	100

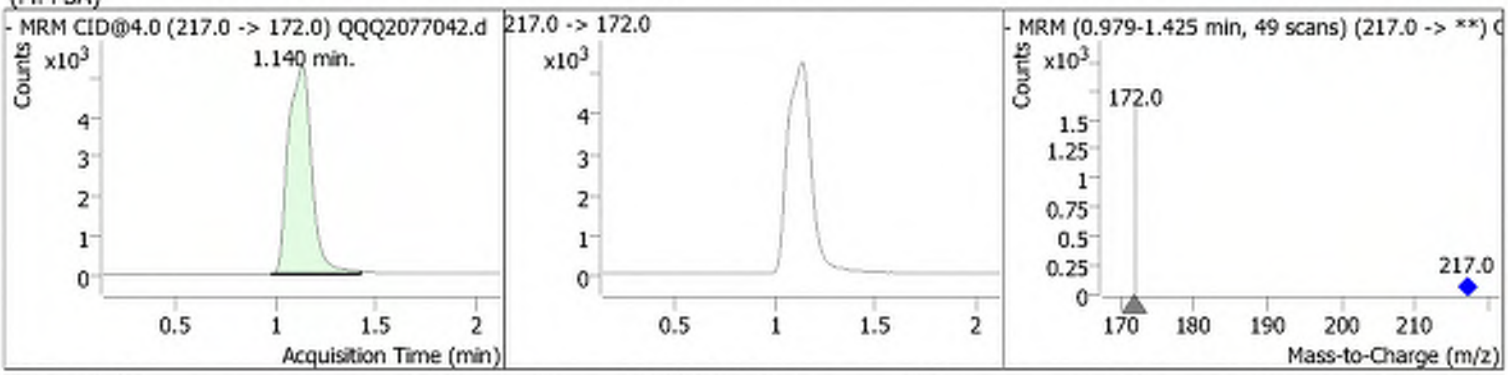
Quantitation Results Report (Not Reviewed)

Agilent

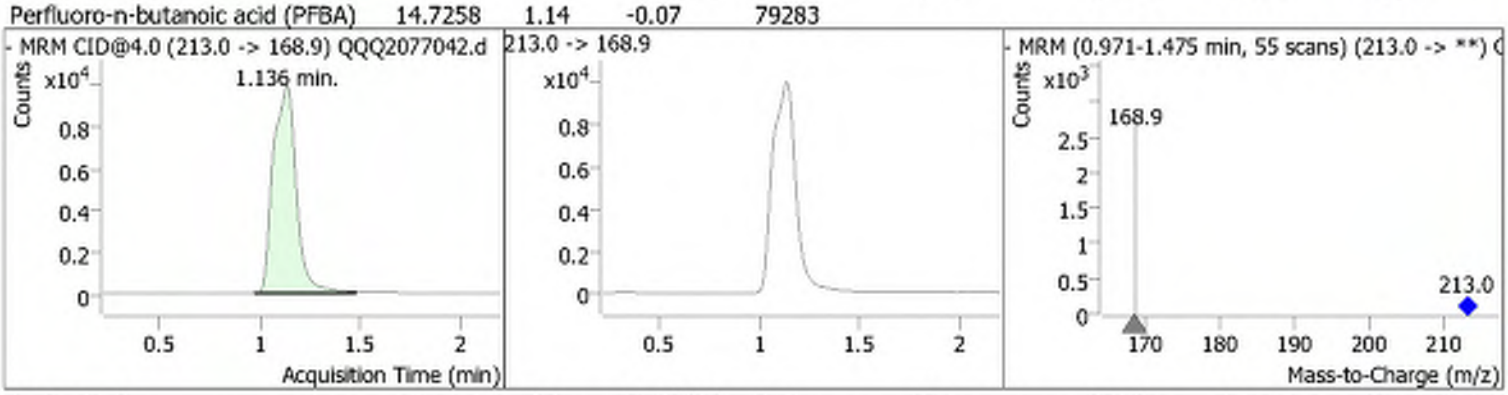
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.642	313.0 -> 268.9	30277	3.5981	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.826	348.9 -> 79.9	11401	3.1779	ng/ml		100
HFPO-DA	4.904	285.0 -> 169.1	2796	7.0236	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.383	363.0 -> 318.8	36601	3.1579	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.467	398.9 -> 79.9	11669	3.2309	ng/ml	m	100
5-3FTCA	5.478	341.0 -> 217.0	76495	78.3449	ng/ml		100
ADONA	5.495	377.0 -> 85.0	43803	7.2419	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.932	427.0 -> 407.0	17190	16.2567	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	31839	4.0724	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.015	448.9 -> 80.0	9711	4.1332	ng/ml		100
Perfluorononanoic acid (PFNA)	6.465	463.0 -> 418.8	22910	3.2284	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.501	498.9 -> 79.9	4649	3.8559	ng/ml	m	100
7-3FTCA	6.615	441.0 -> 337.0	108057	71.2057	ng/ml		100
9-Cl-PF3ONS	6.751	531.0 -> 351.0	53127	7.9968	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.901	527.0 -> 80.9	10962	12.0124	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.911	513.0 -> 468.8	25101	5.6029	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.920	548.9 -> 79.9	8798	4.0875	ng/ml		100
N-MeFOSAA	7.088	570.0 -> 418.9	6998	4.3707	ng/ml	m	100
N-EtFOSAA	7.274	584.0 -> 418.8	8202	4.9474	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.301	598.9 -> 98.9	3564	3.8686	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.293	563.0 -> 519.0	26785	5.3261	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	25032	3.1814	ng/ml		100
11-Cl-PF3OUdS	7.477	631.0 -> 451.0	15856	6.1912	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.627	613.0 -> 568.8	14809	3.0862	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.904	699.0 -> 80.0	3088	3.5020	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.914	663.0 -> 618.8	12978	3.6833	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	2340	5.4290	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.173	713.0 -> 669.0	23226	3.6283	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	44935	37.2038	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	52639	36.8976	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	2047	0.8344	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

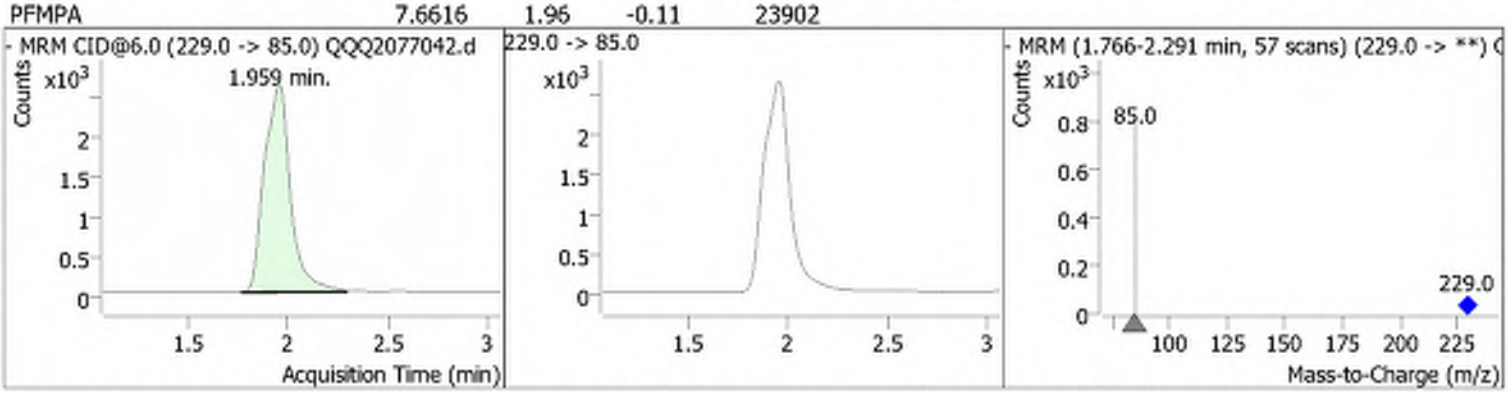
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	11.1018	1.14	-0.06	42642				



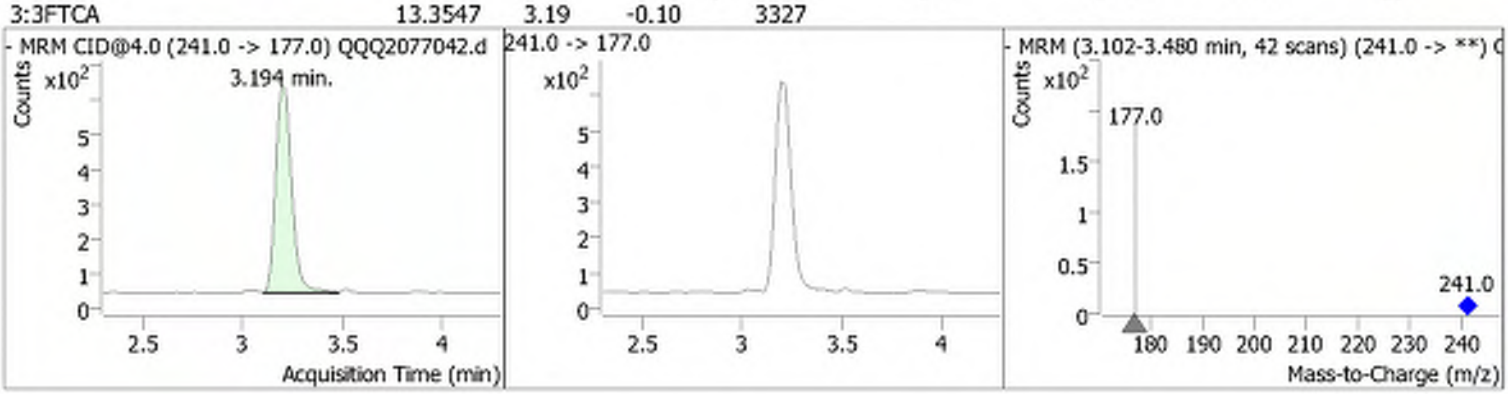
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	14.7258	1.14	-0.07	79283				



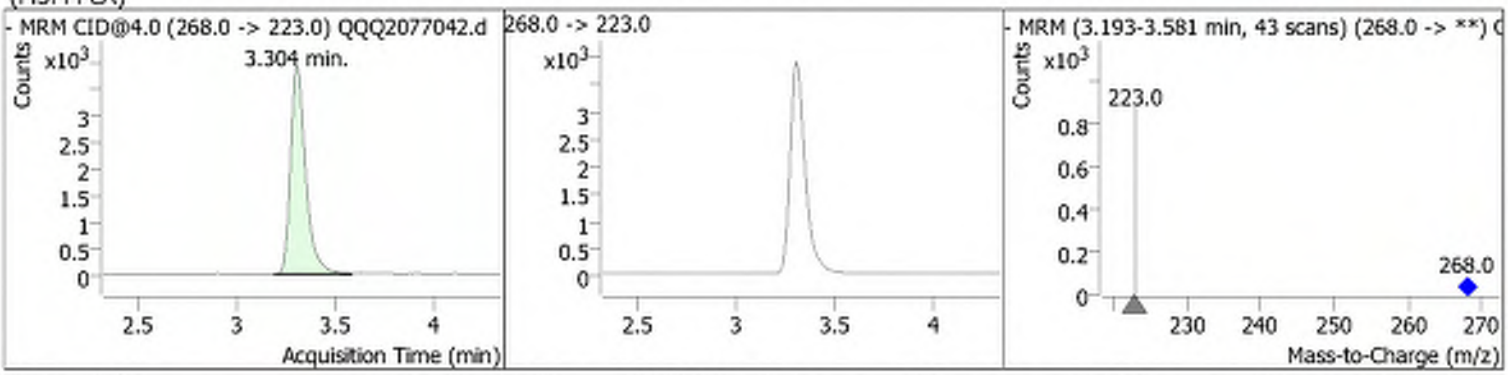
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	7.6616	1.96	-0.11	23902				



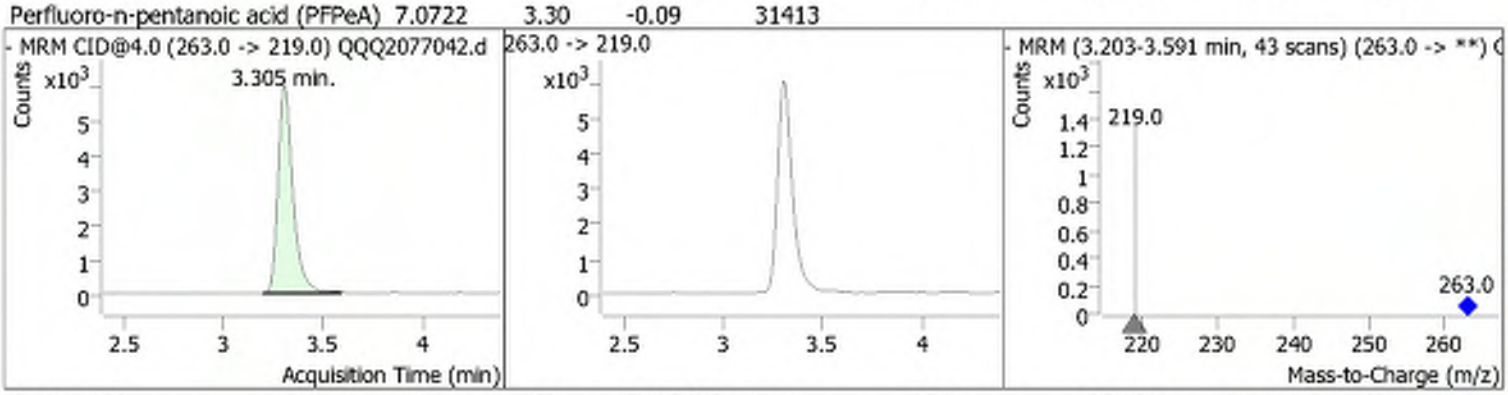
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	13.3547	3.19	-0.10	3327				



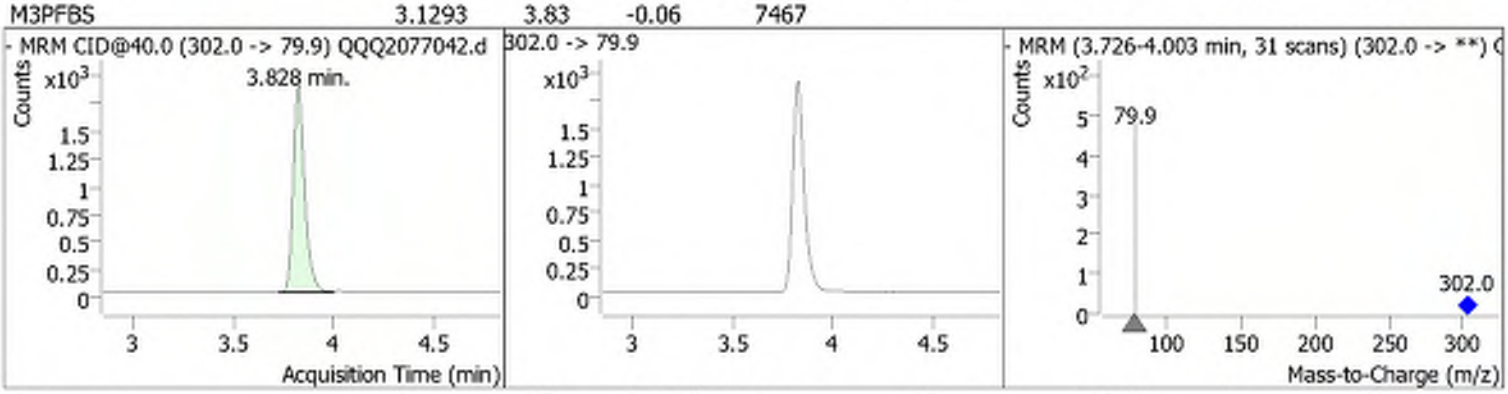
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.2813	3.30	-0.08	20290				



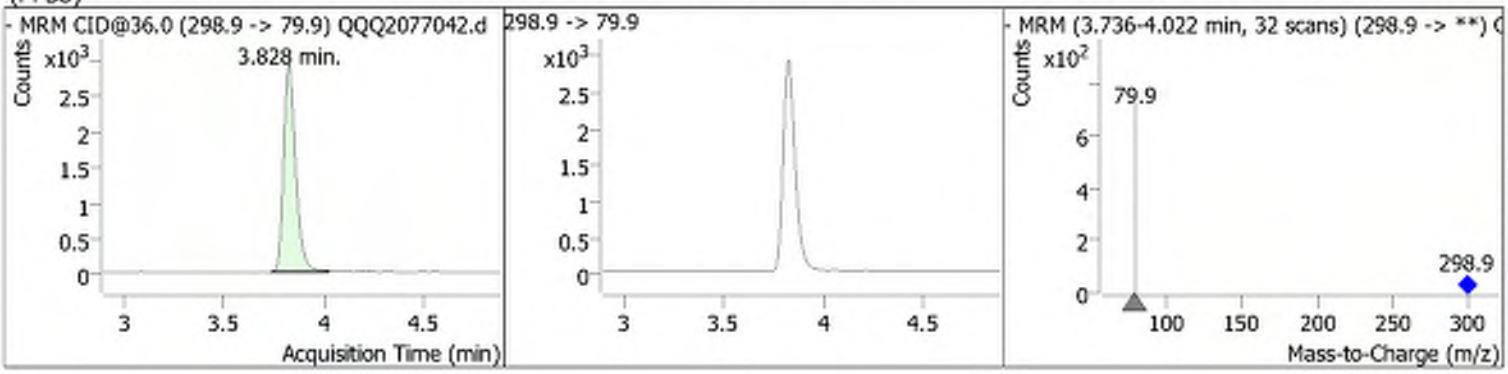
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	7.0722	3.30	-0.09	31413				



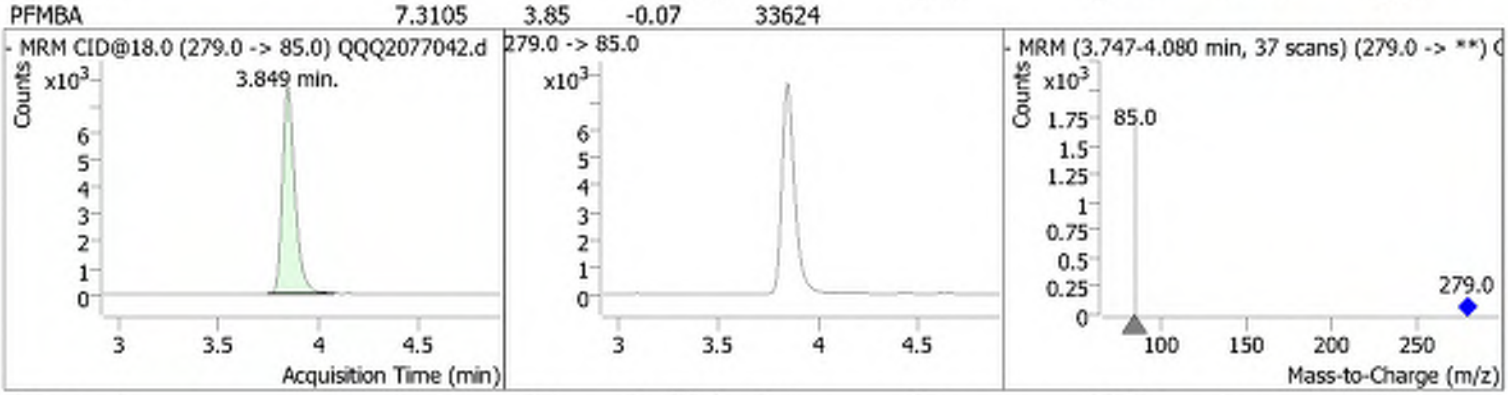
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.1293	3.83	-0.06	7467				



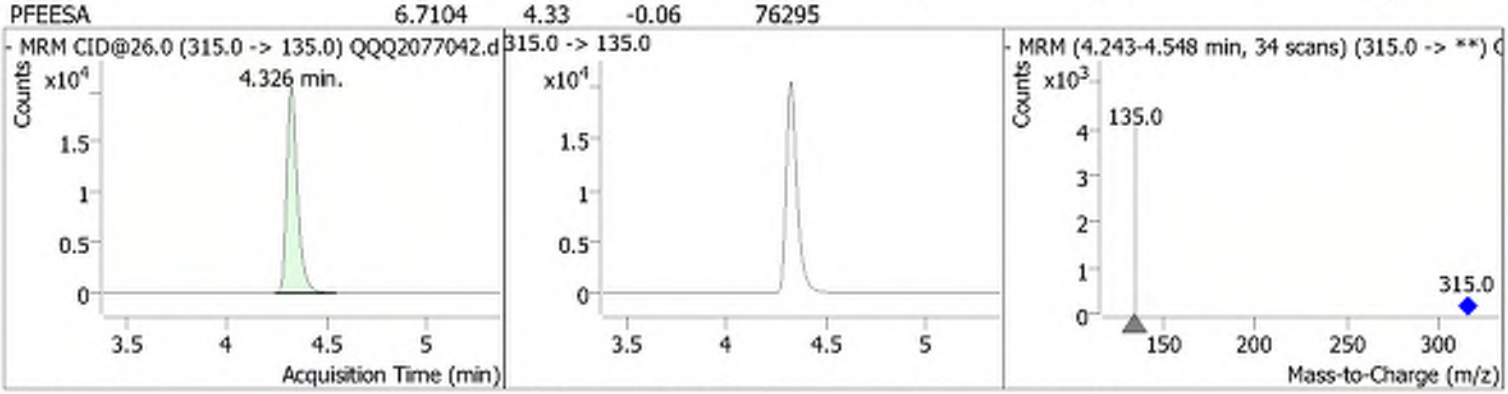
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	3.1540	3.83	-0.06	12093				



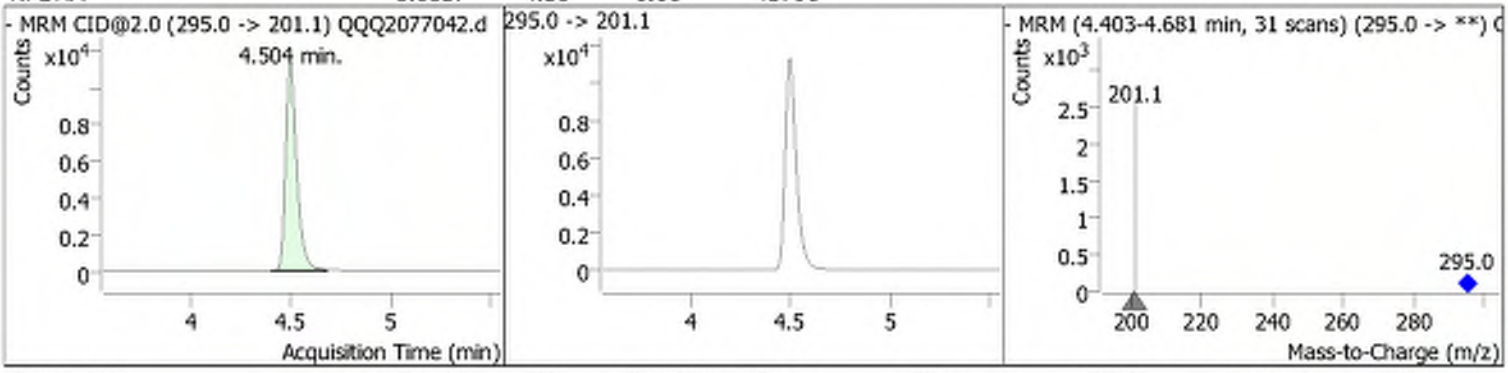
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	7.3105	3.85	-0.07	33624				



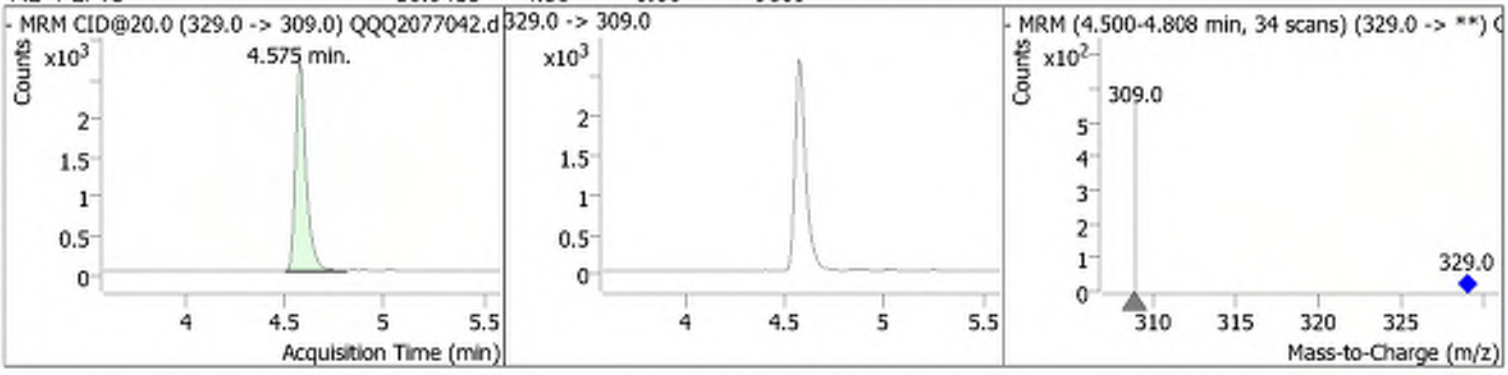
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	6.7104	4.33	-0.06	76295				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	8.6837	4.50	-0.06	43790				

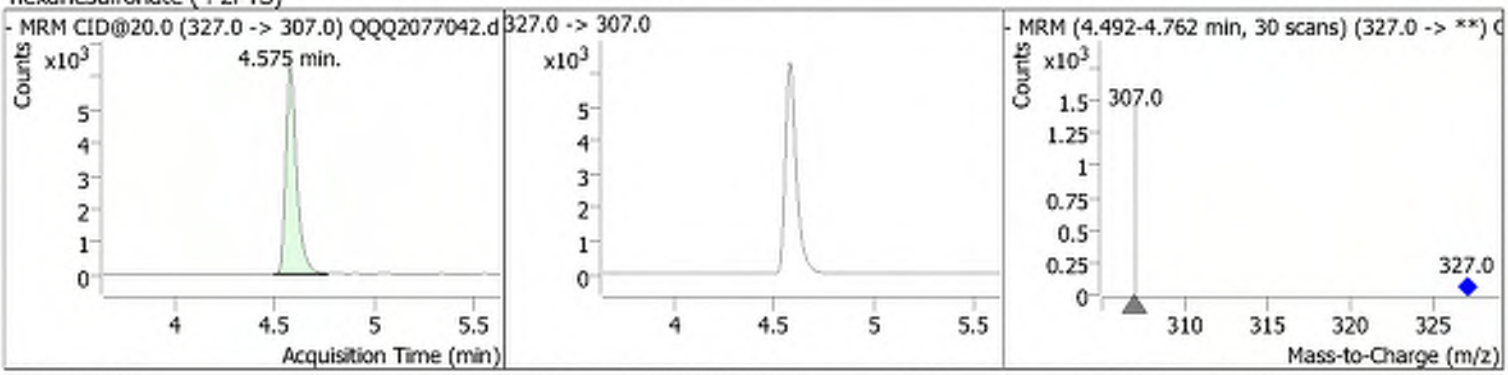


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	10.0415	4.58	-0.06	9809				

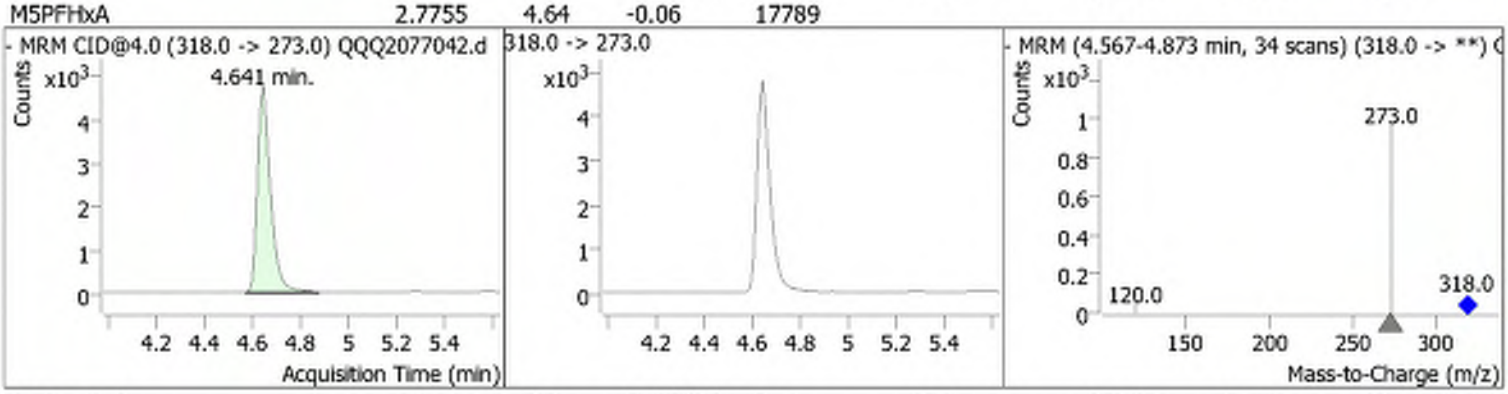


Quantitation Results Report (Not Reviewed)

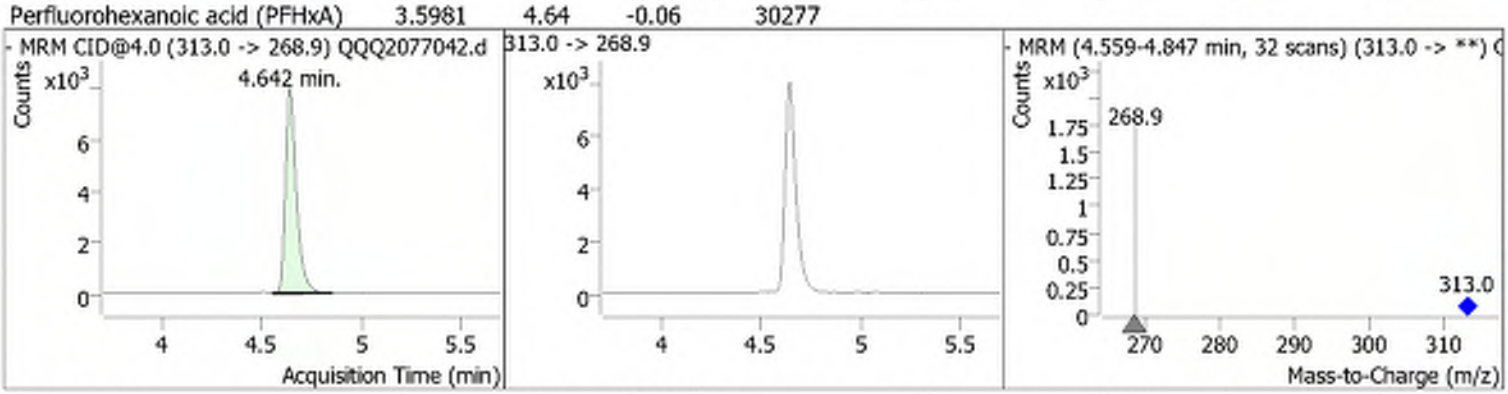
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	12.4419	4.58	-0.06	23774				



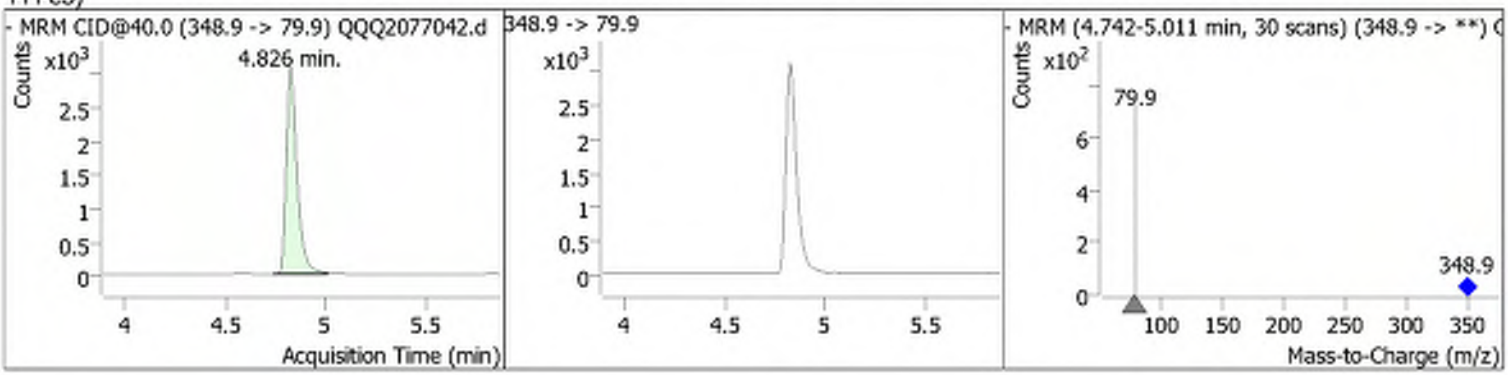
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.7755	4.64	-0.06	17789				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	3.5981	4.64	-0.06	30277				



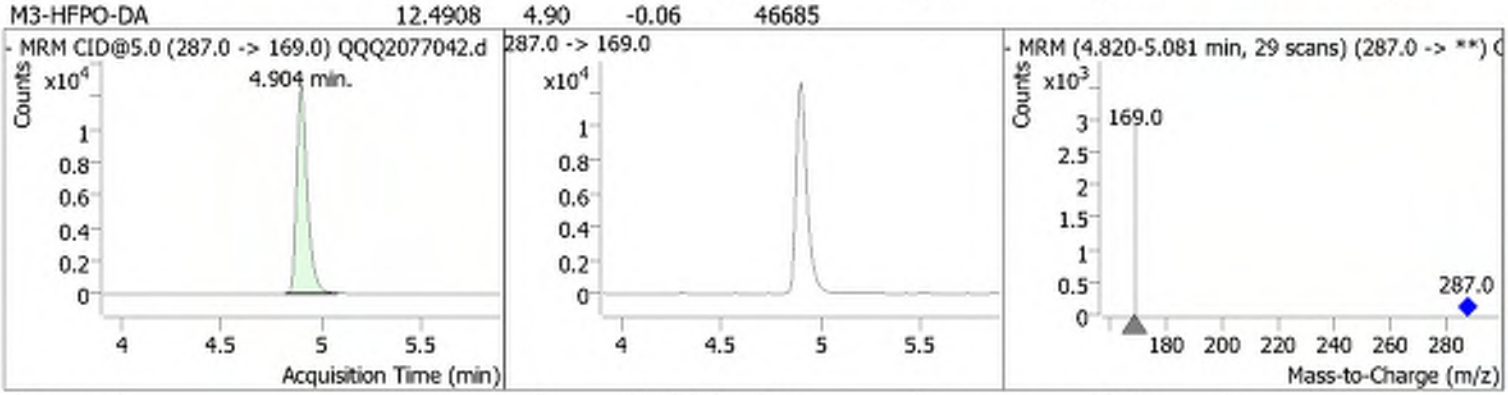
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	3.1779	4.83	-0.06	11401				



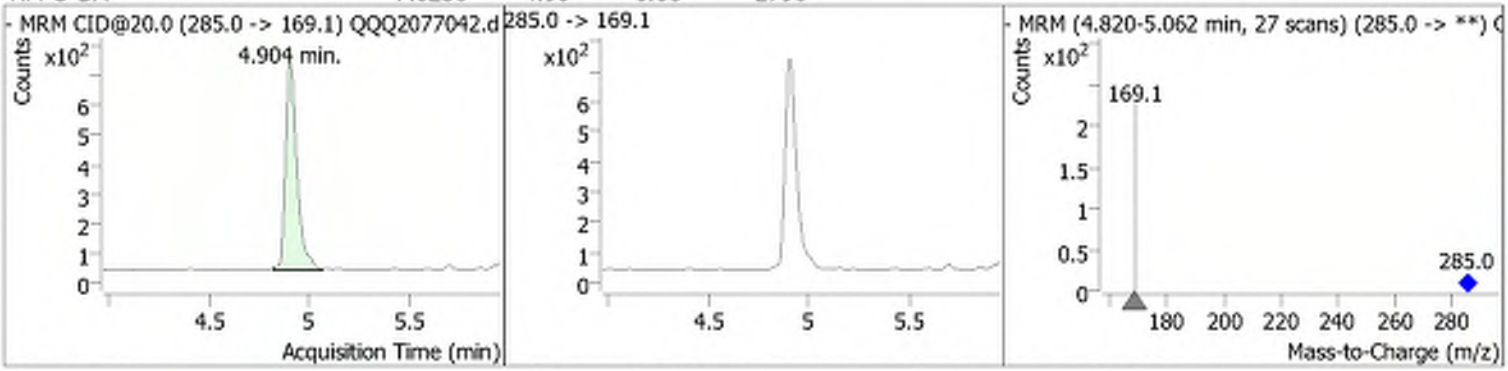
Quantitation Results Report (Not Reviewed)

Agilent

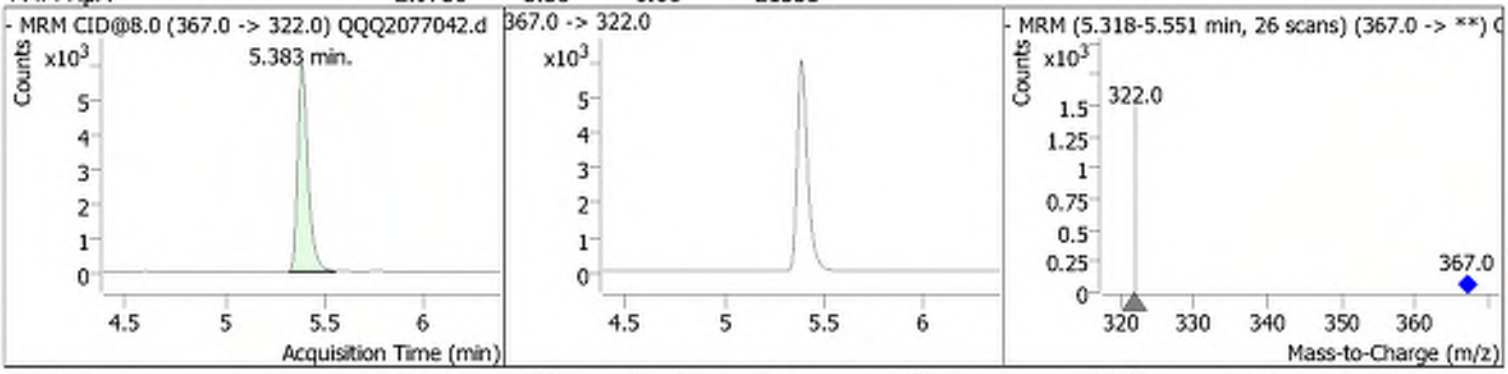
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	12.4908	4.90	-0.06	46685				



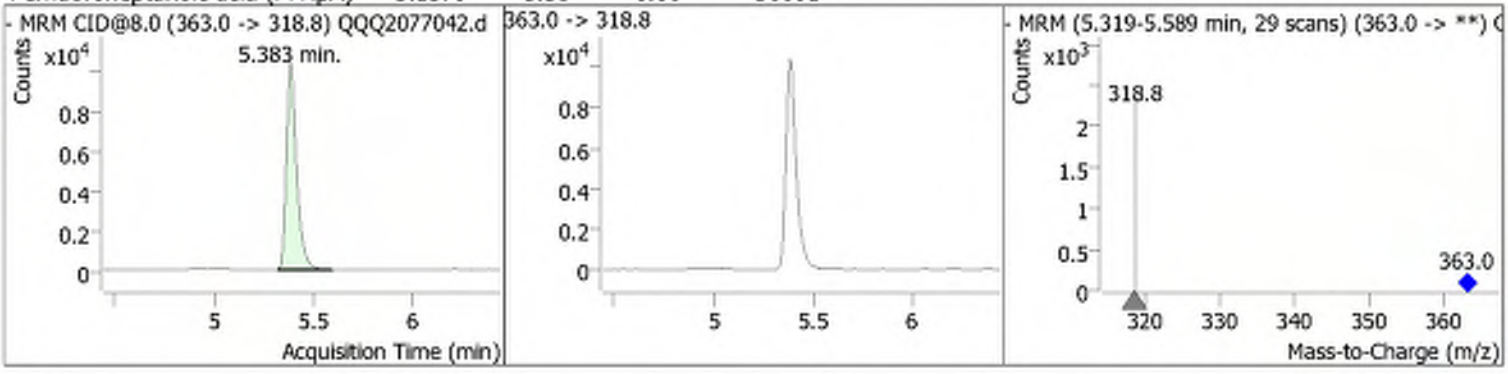
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	7.0236	4.90	-0.06	2796				



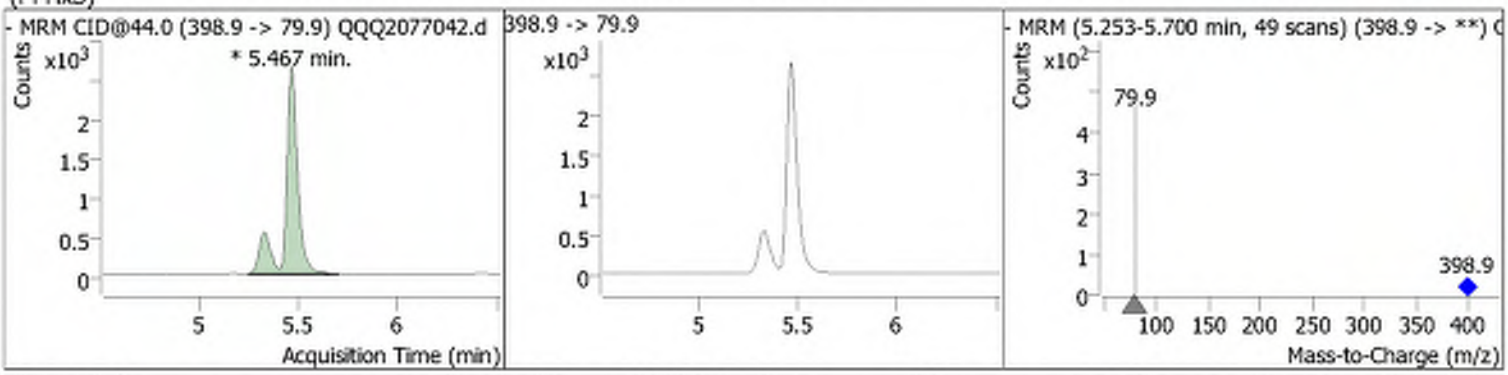
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.9750	5.38	-0.06	21535				



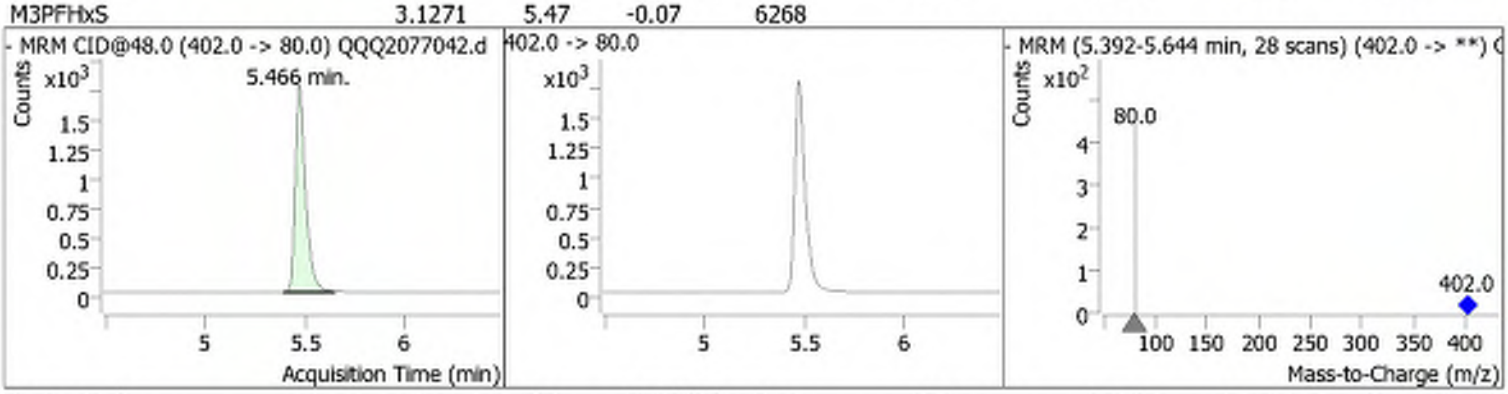
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	3.1579	5.38	-0.06	36601				



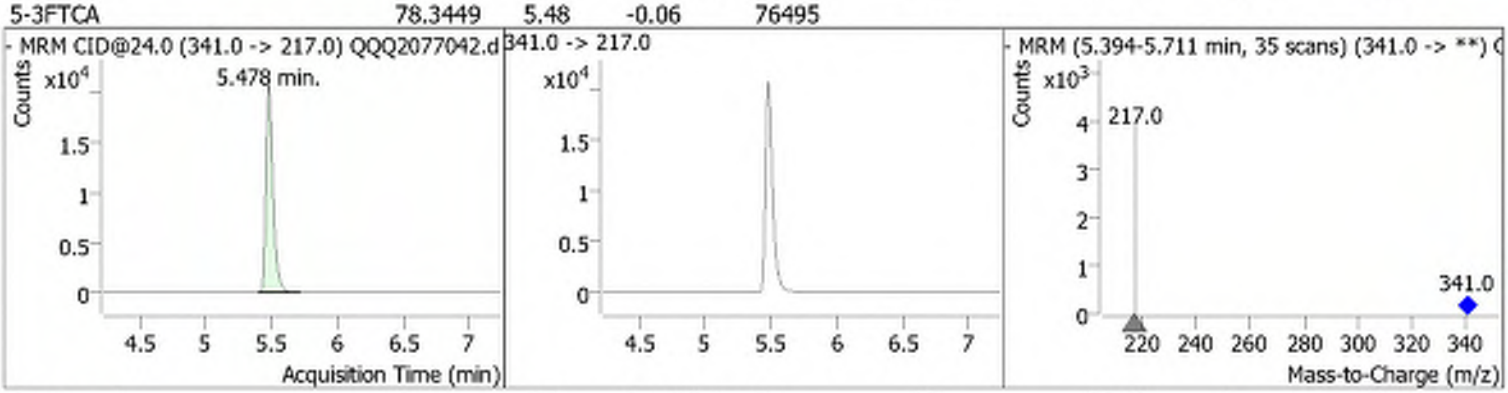
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.2309	5.47	-0.06	11669 (m)				



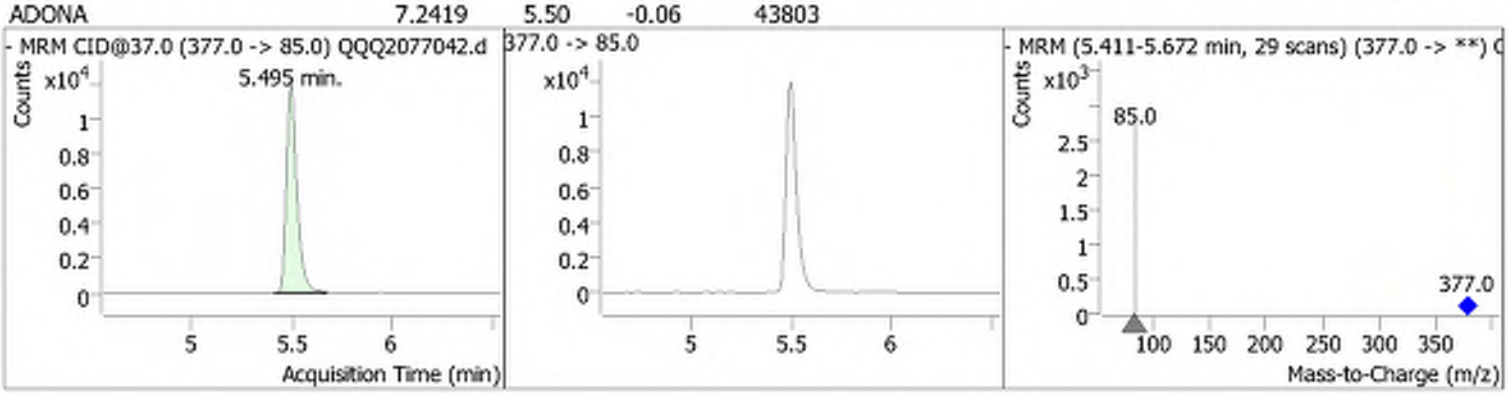
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.1271	5.47	-0.07	6268				



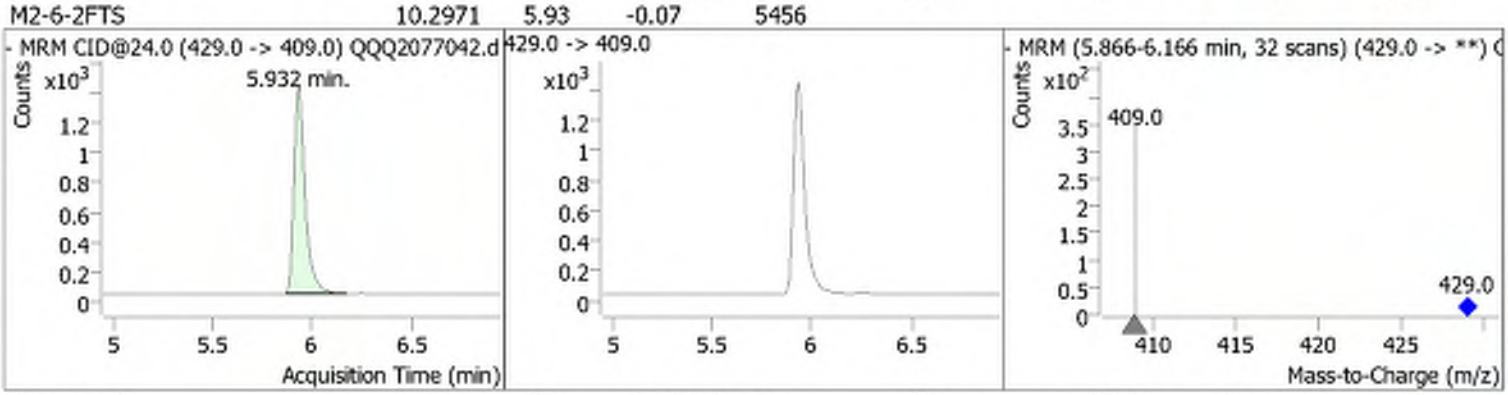
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	78.3449	5.48	-0.06	76495				



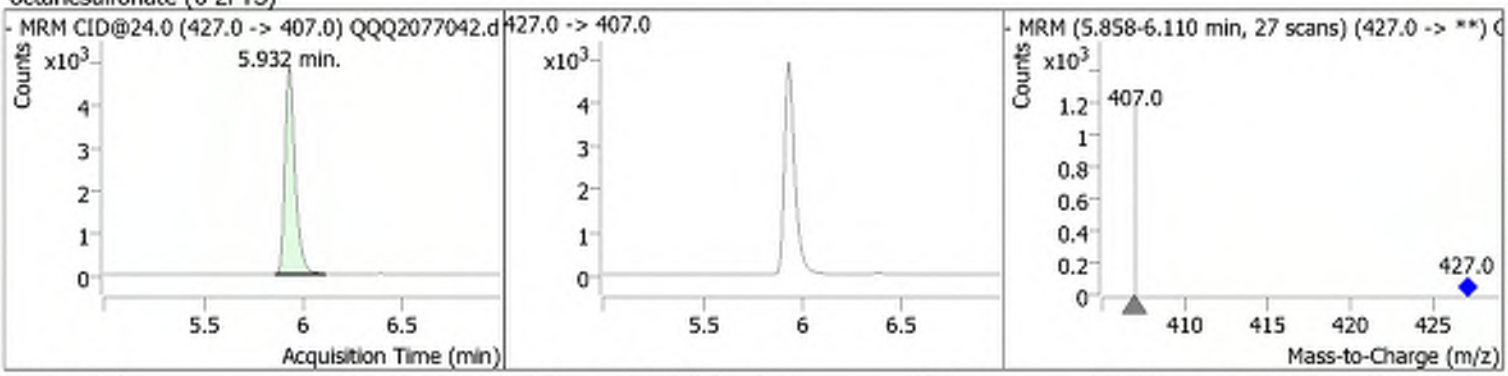
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	7.2419	5.50	-0.06	43803				



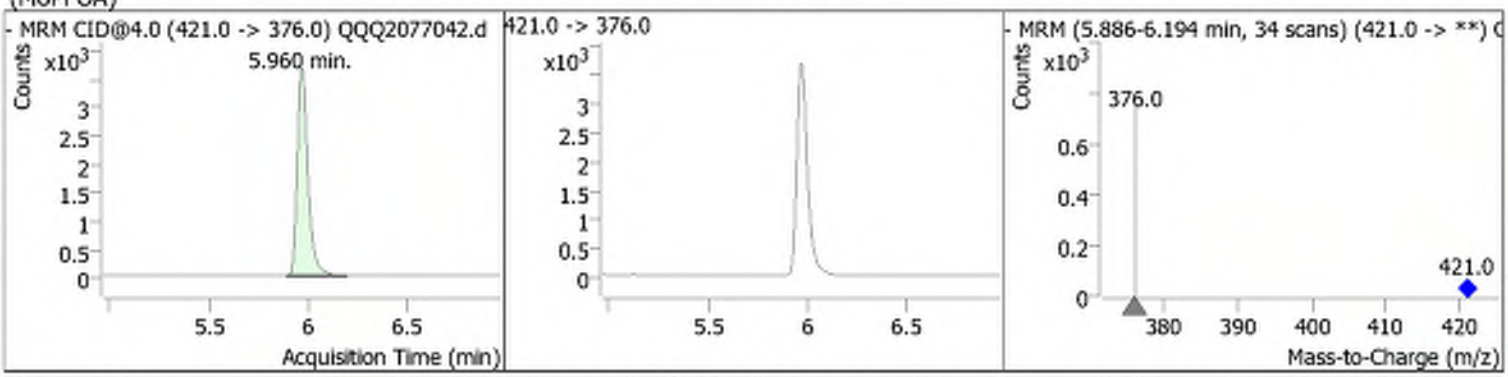
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	10.2971	5.93	-0.07	5456				



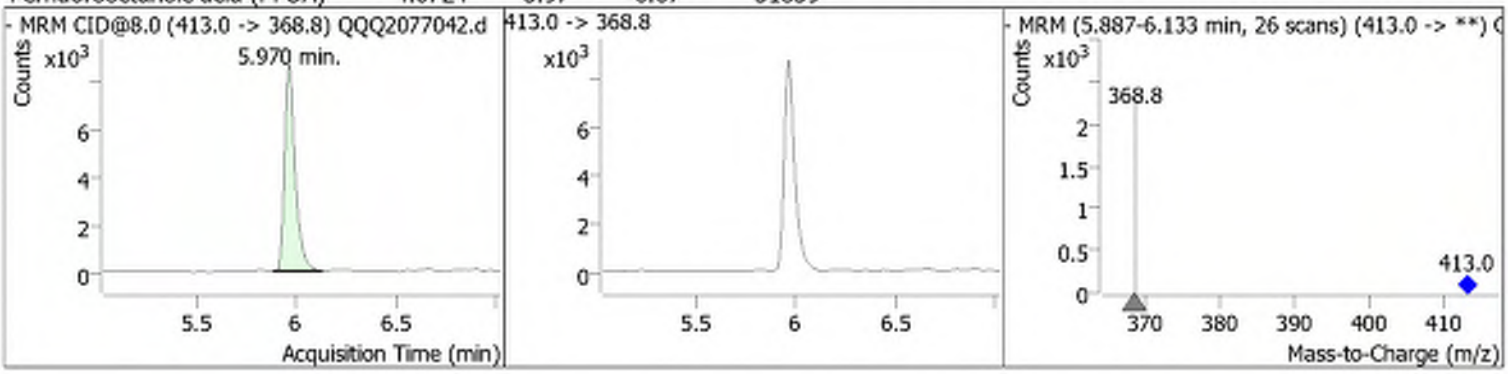
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	16.2567	5.93	-0.07	17190				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.7156	5.96	-0.08	13478				

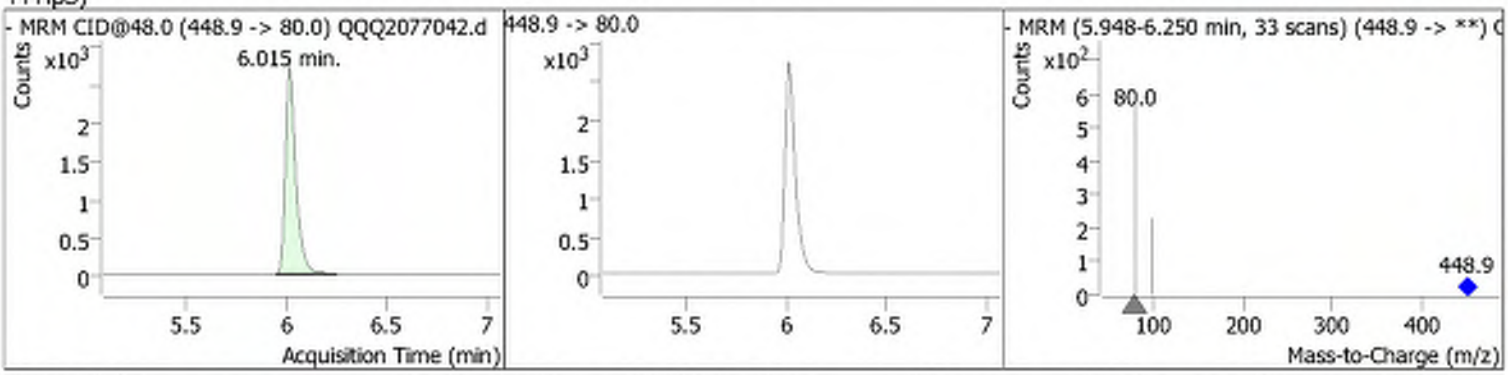


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	4.0724	5.97	-0.07	31839				

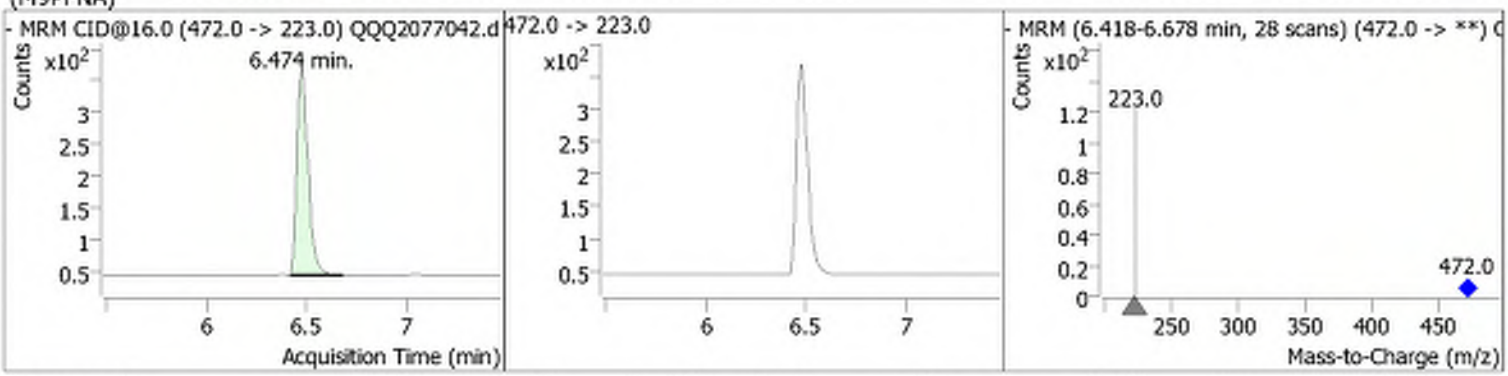


Quantitation Results Report (Not Reviewed)

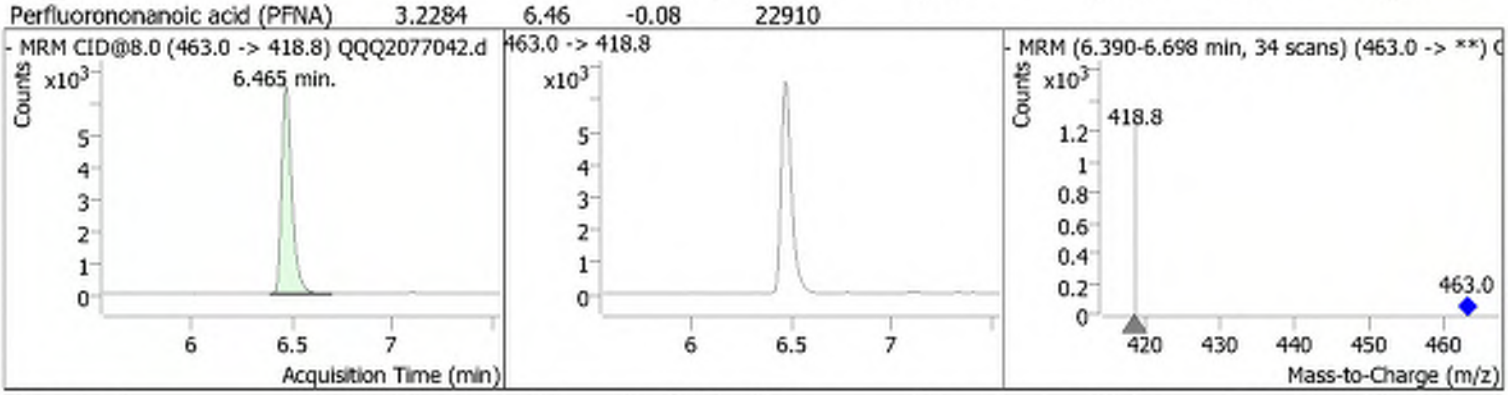
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	4.1332	6.02	-0.07	9711				



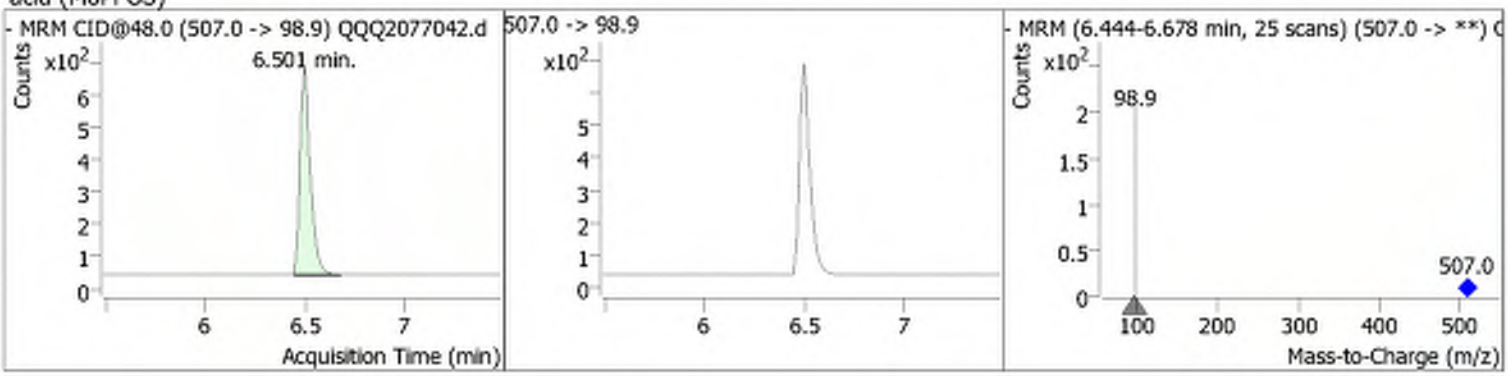
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.3182	6.47	-0.07	1258				



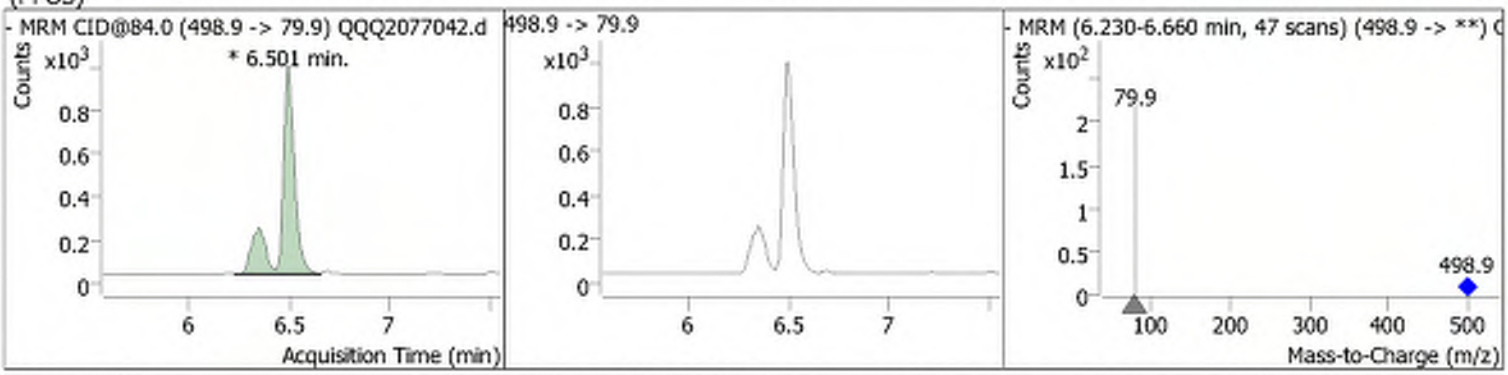
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	3.2284	6.46	-0.08	22910				



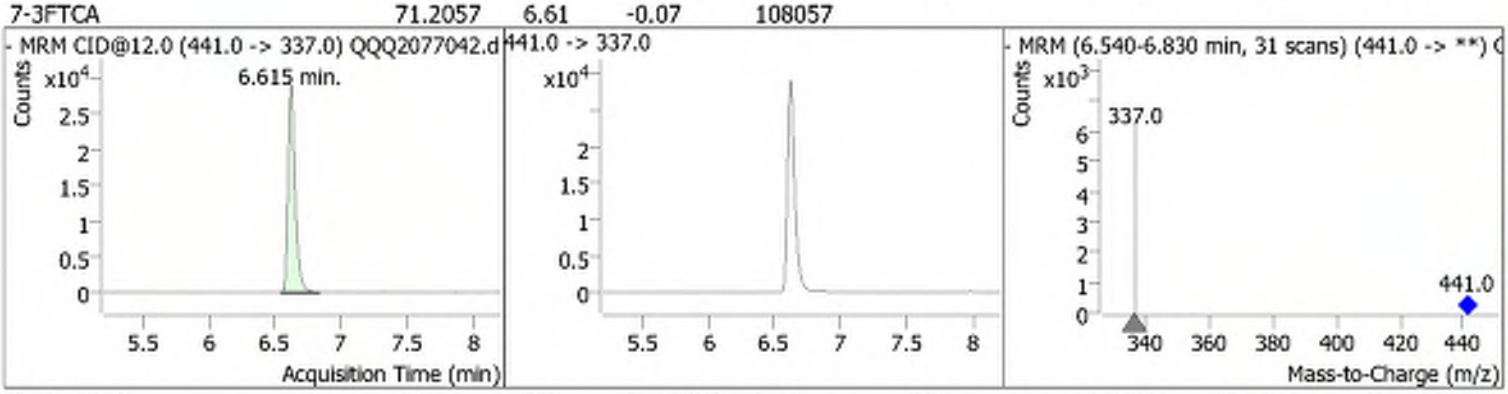
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.7368	6.50	-0.07	2278				



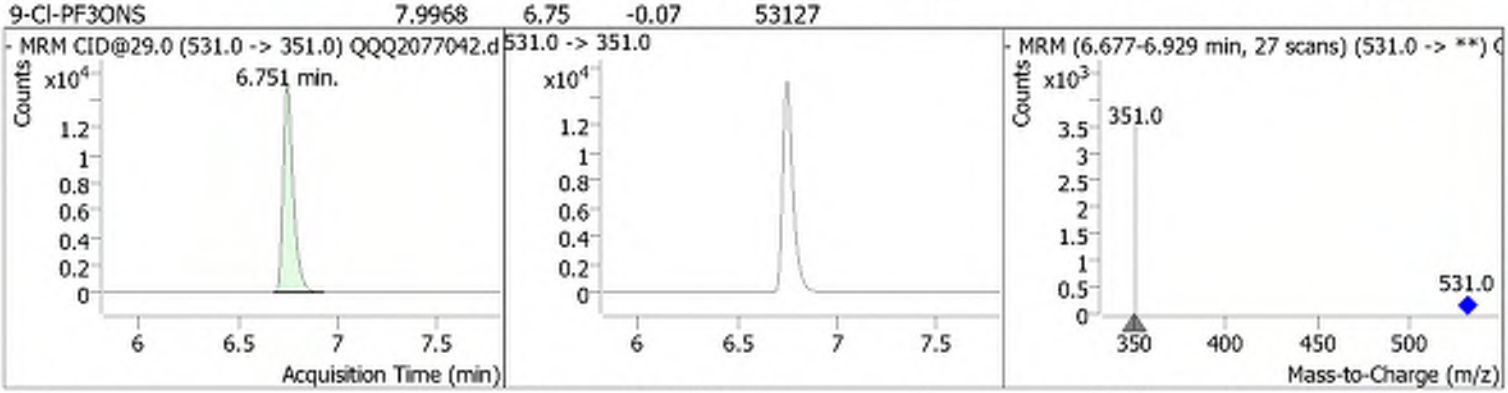
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.8559	6.50	-0.07	4649 (m)				



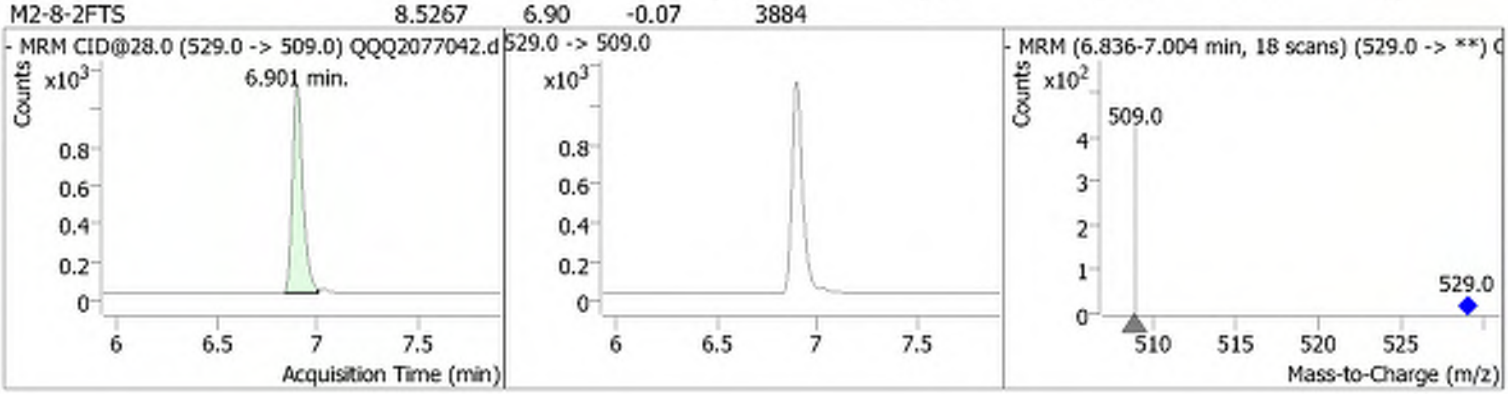
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	71.2057	6.61	-0.07	108057				



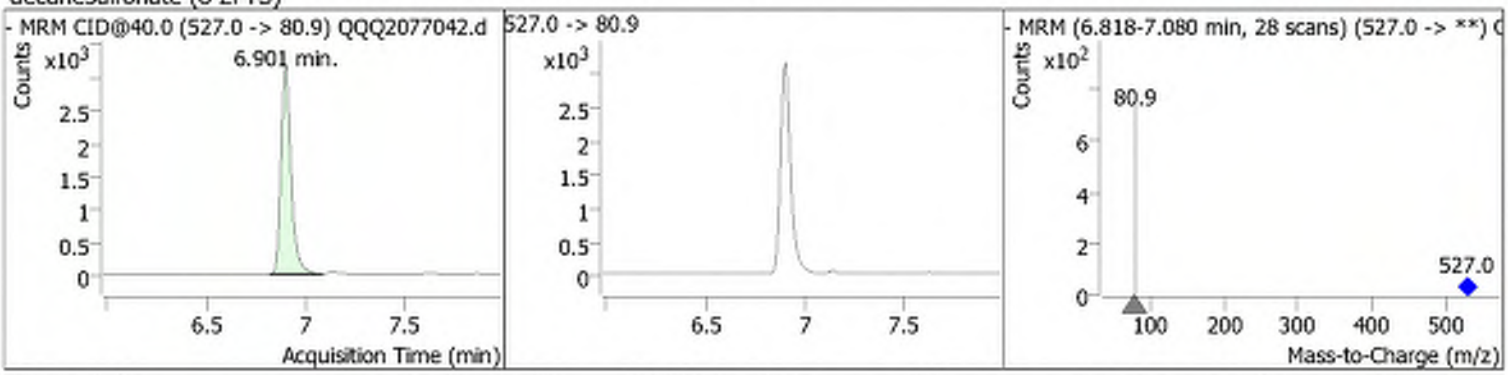
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	7.9968	6.75	-0.07	53127				



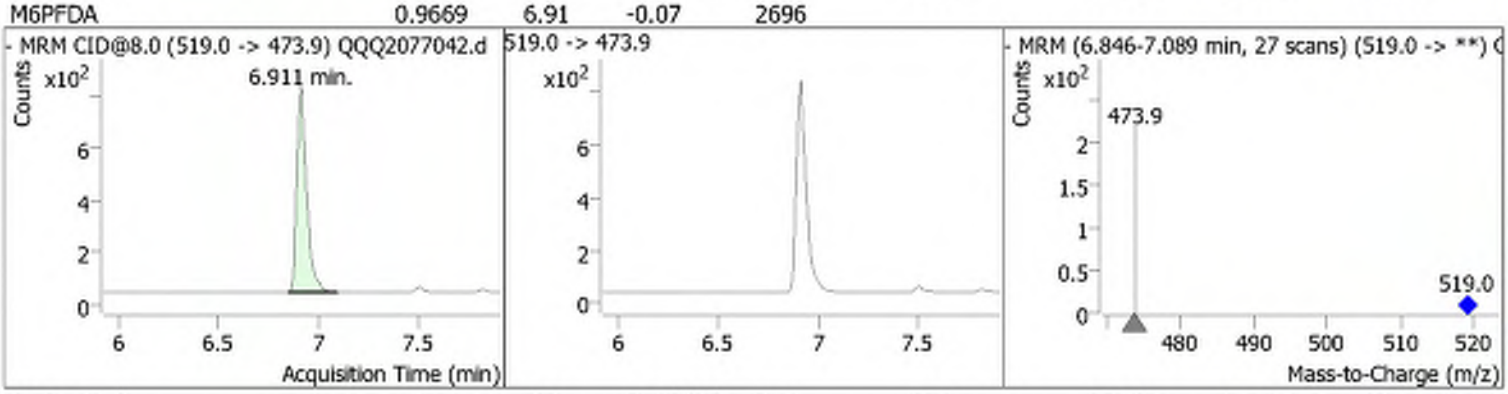
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	8.5267	6.90	-0.07	3884				



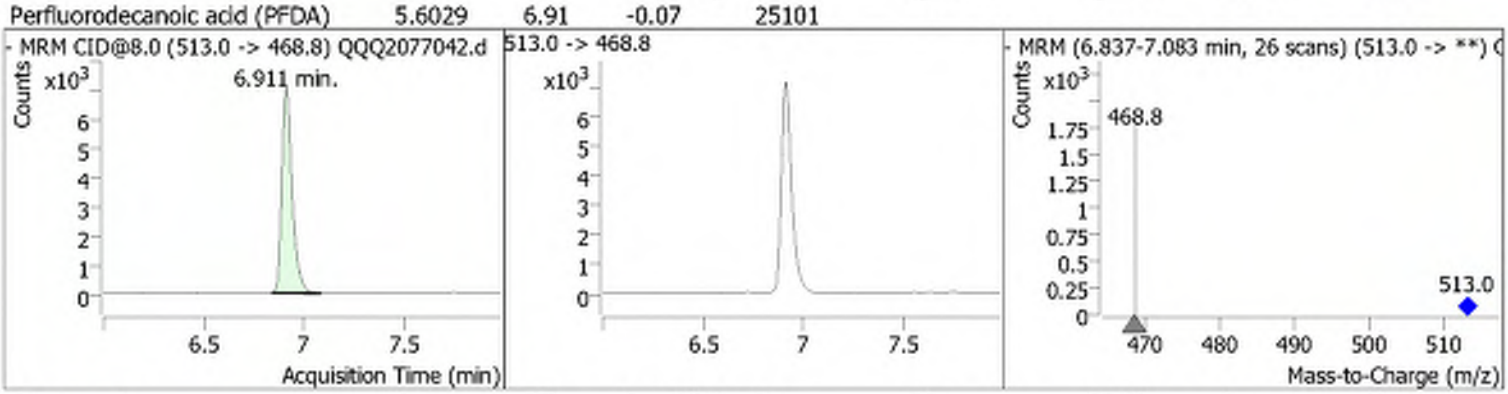
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	12.0124	6.90	-0.08	10962				



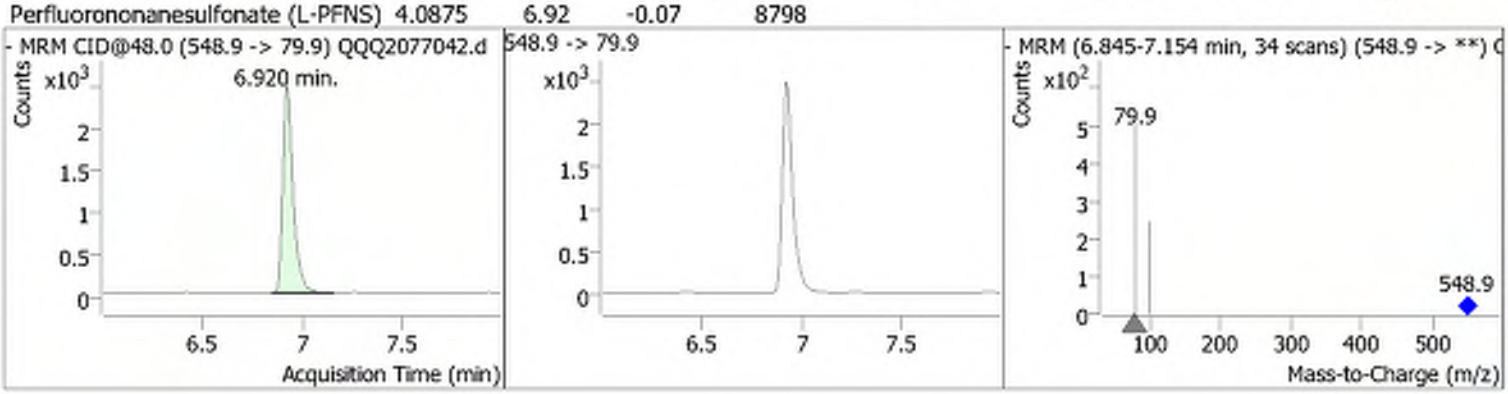
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.9669	6.91	-0.07	2696				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	5.6029	6.91	-0.07	25101				



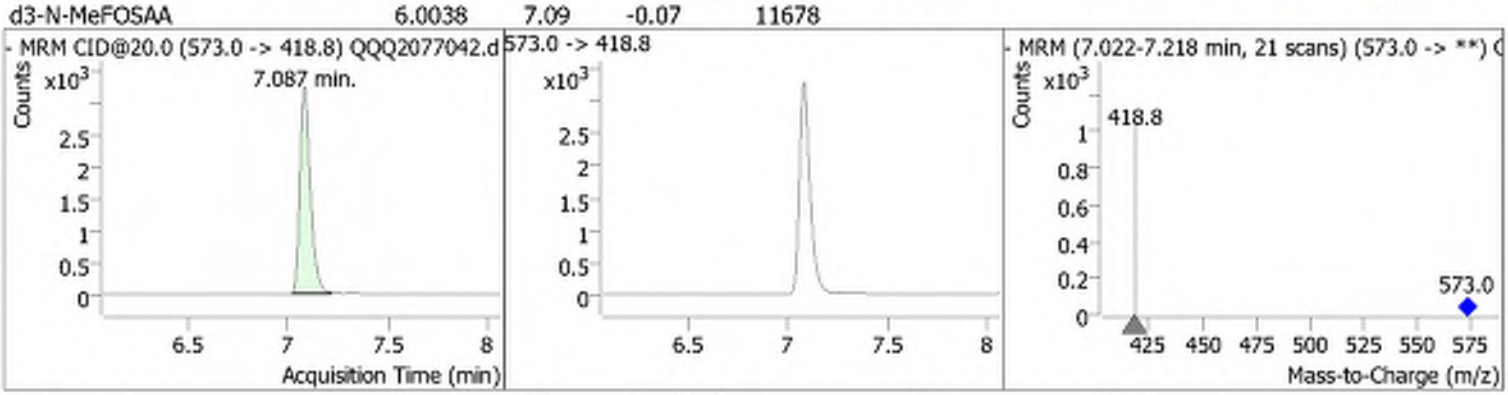
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	4.0875	6.92	-0.07	8798				



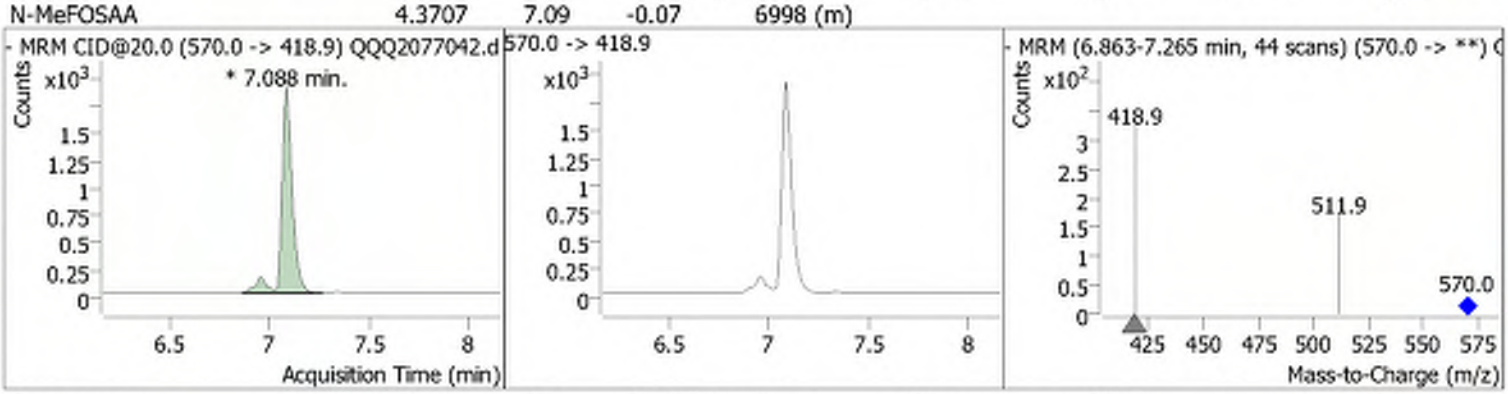
Quantitation Results Report (Not Reviewed)

Agilent

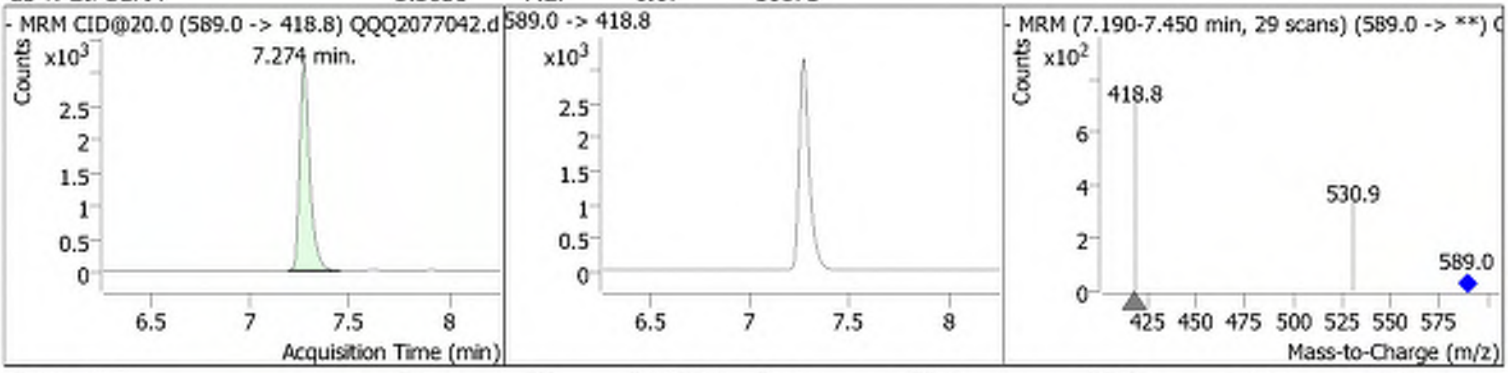
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	6.0038	7.09	-0.07	11678				



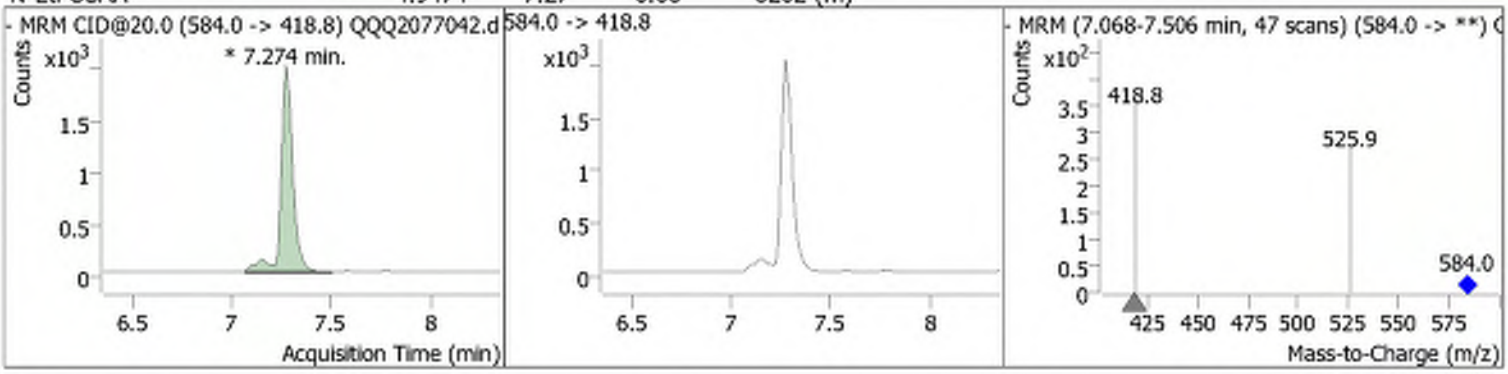
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	4.3707	7.09	-0.07	6998 (m)				



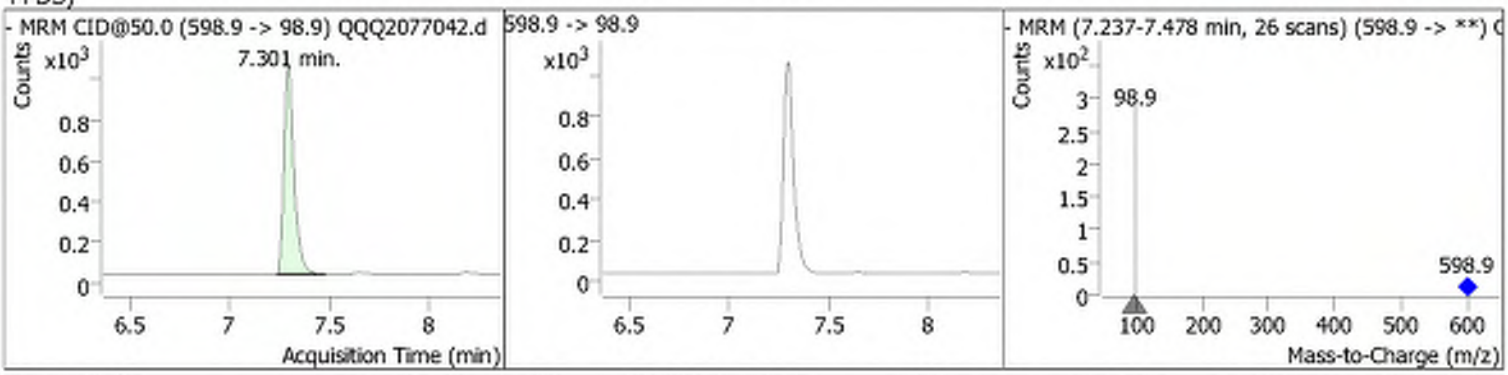
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.5631	7.27	-0.07	10873				



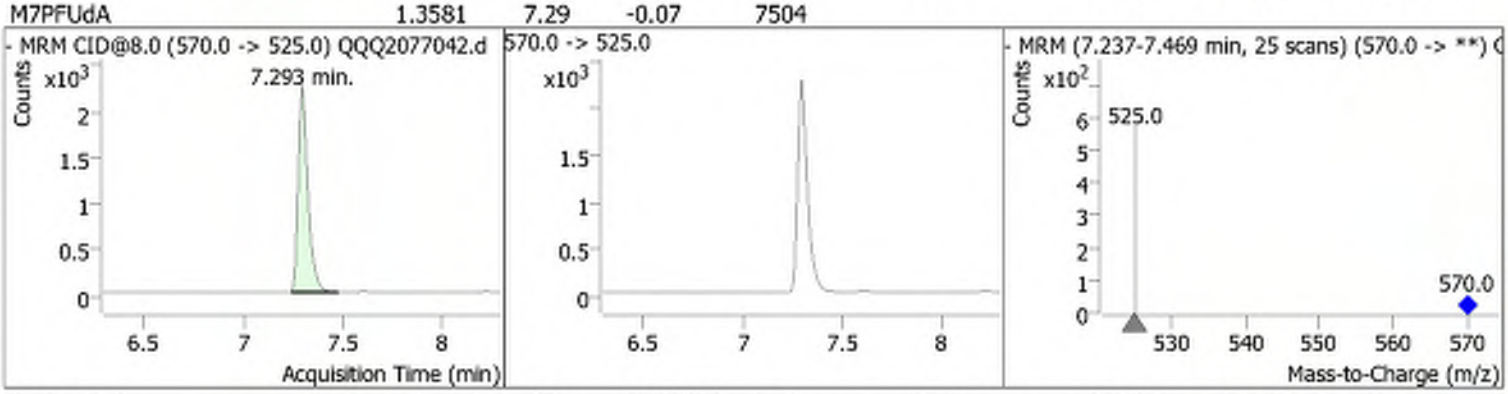
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	4.9474	7.27	-0.08	8202 (m)				



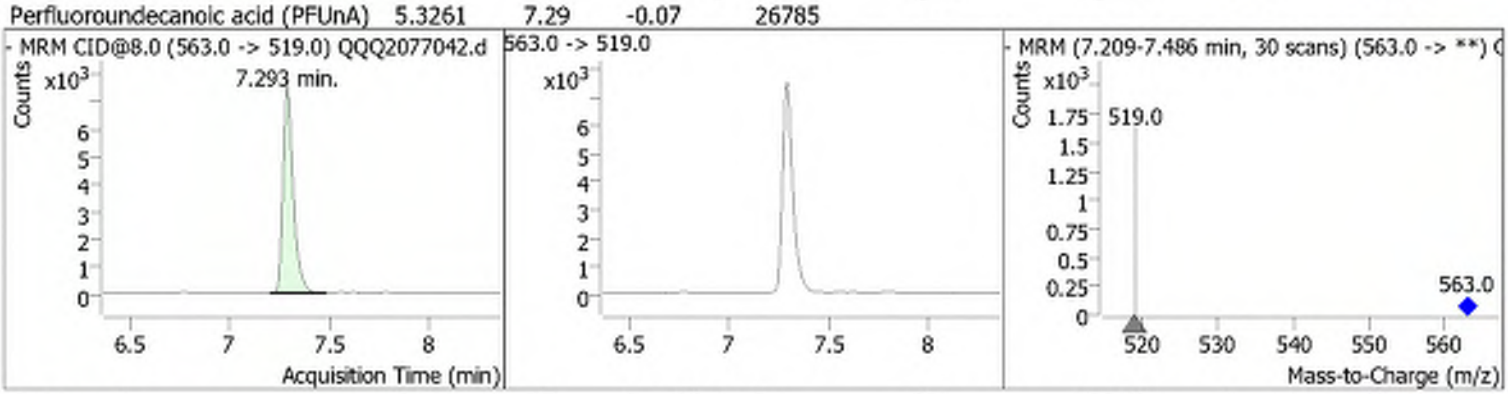
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	3.8686	7.30	-0.07	3564				



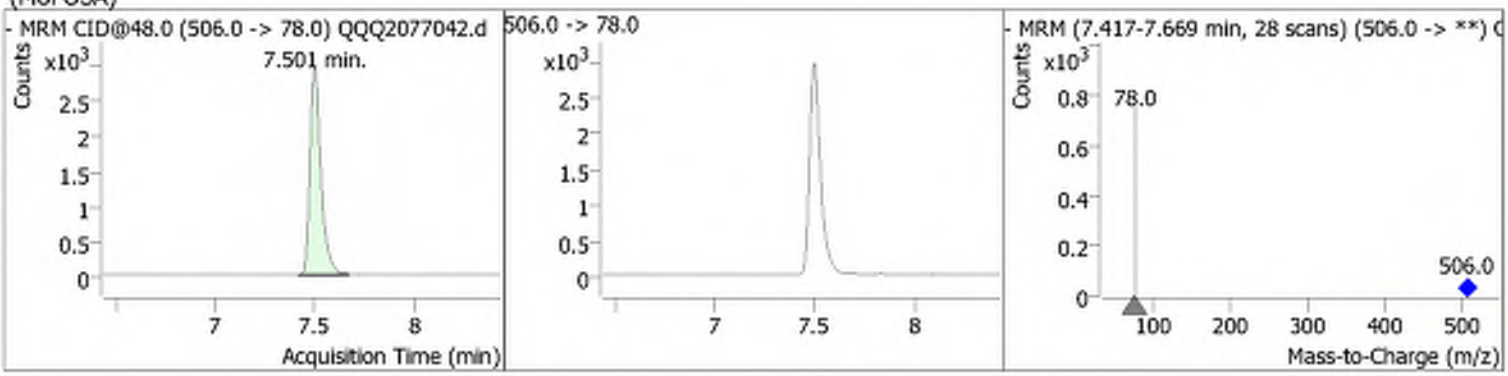
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.3581	7.29	-0.07	7504				



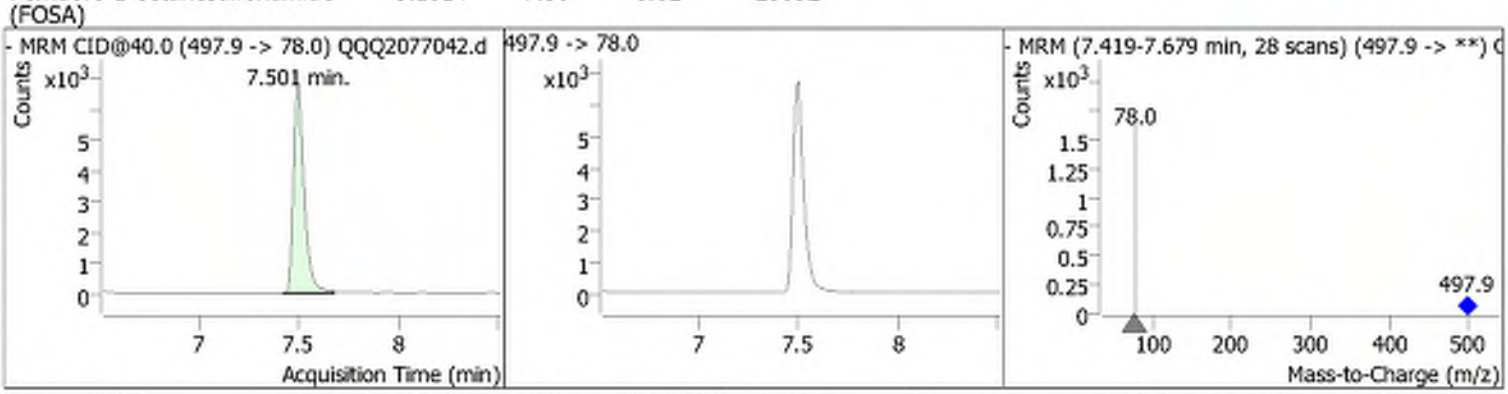
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	5.3261	7.29	-0.07	26785				



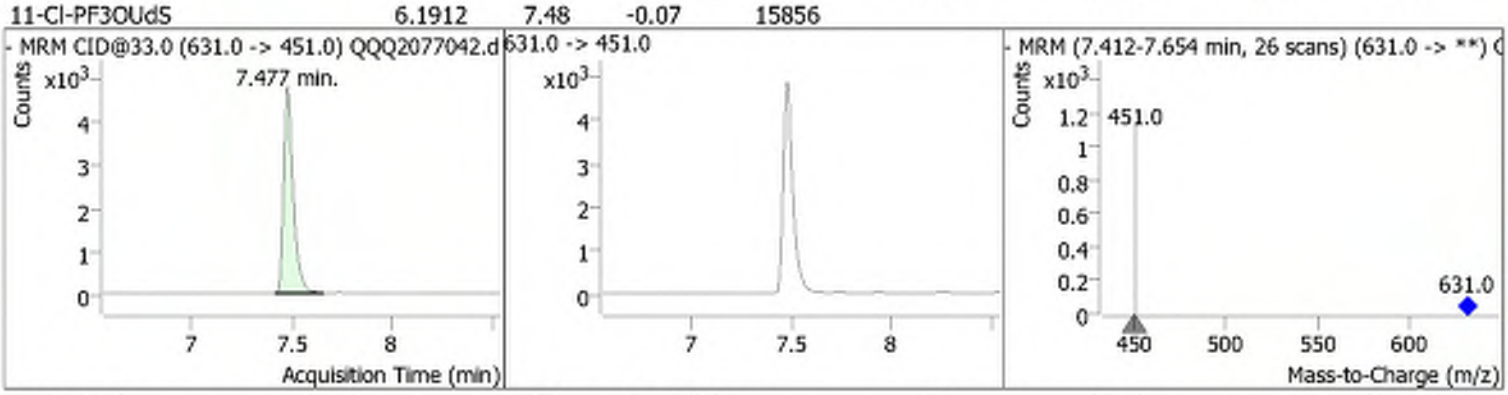
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.3725	7.50	-0.02	11199				



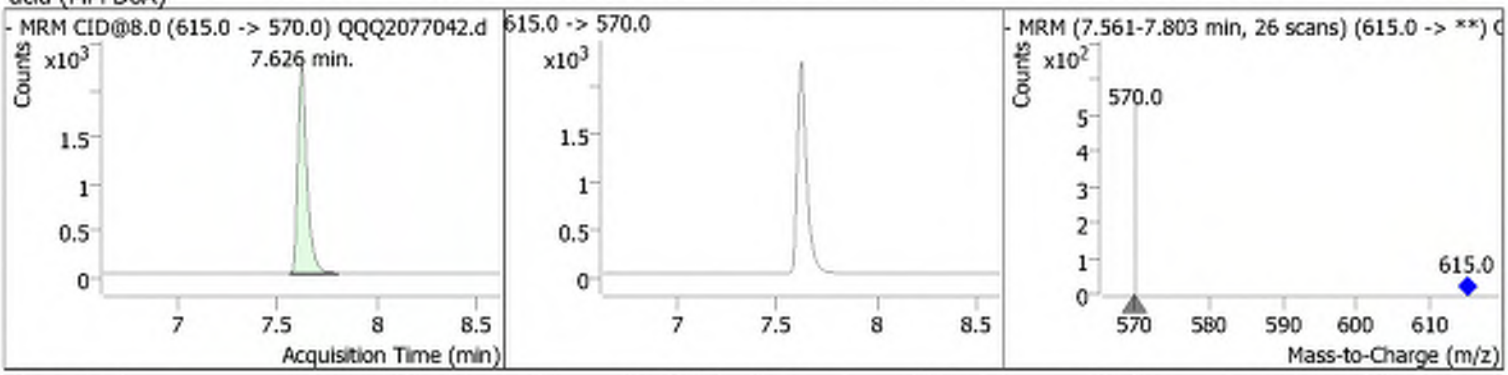
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	3.1814	7.50	-0.02	25032				



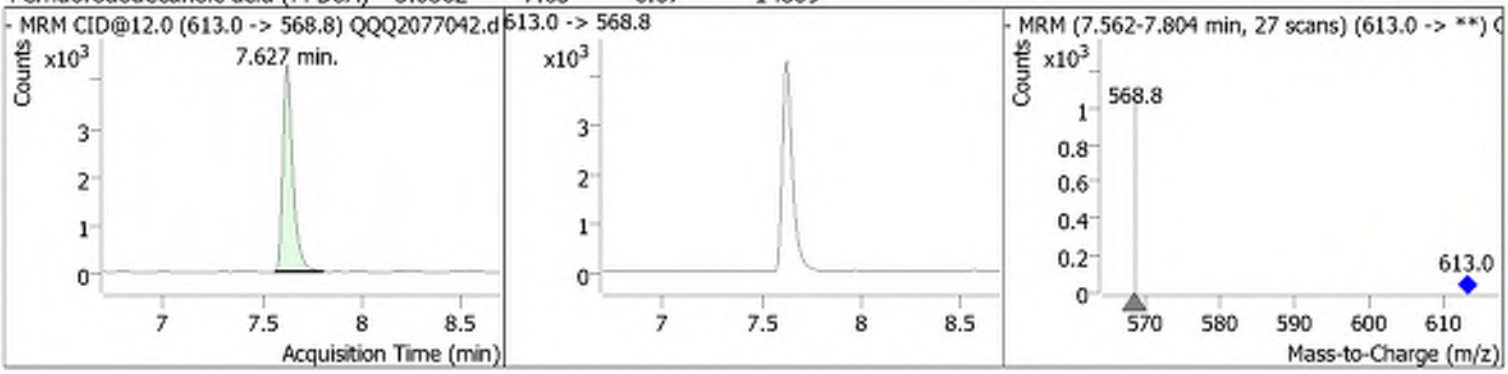
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	6.1912	7.48	-0.07	15856				



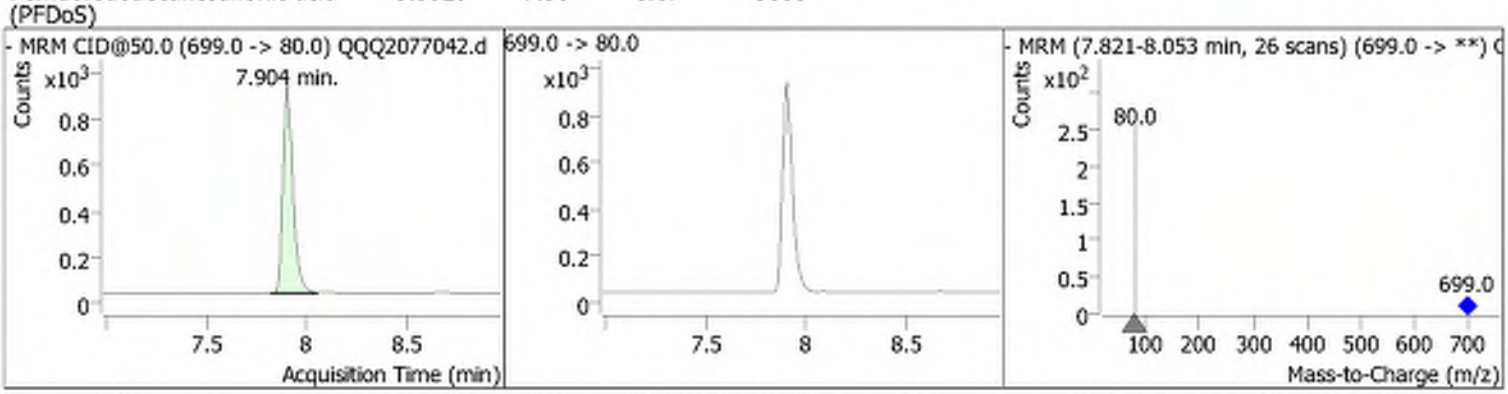
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.5239	7.63	-0.07	7009				



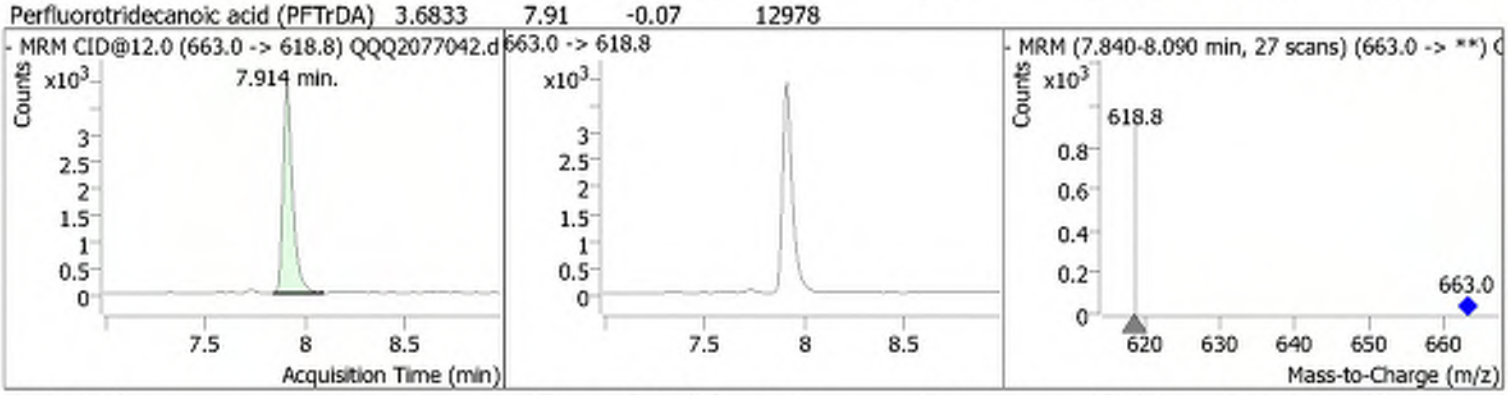
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	3.0862	7.63	-0.07	14809				



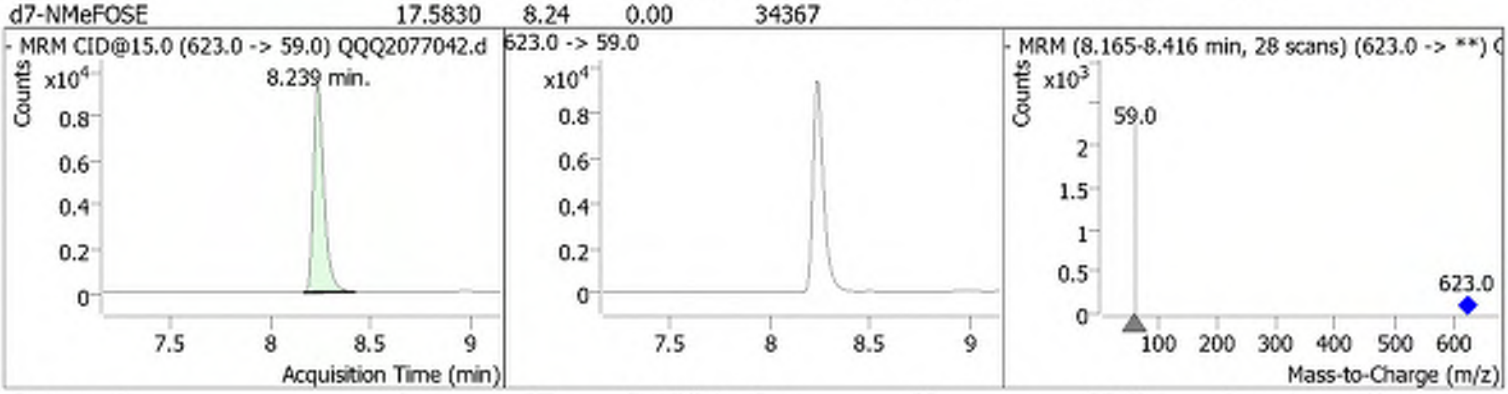
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	3.5020	7.90	-0.07	3088				



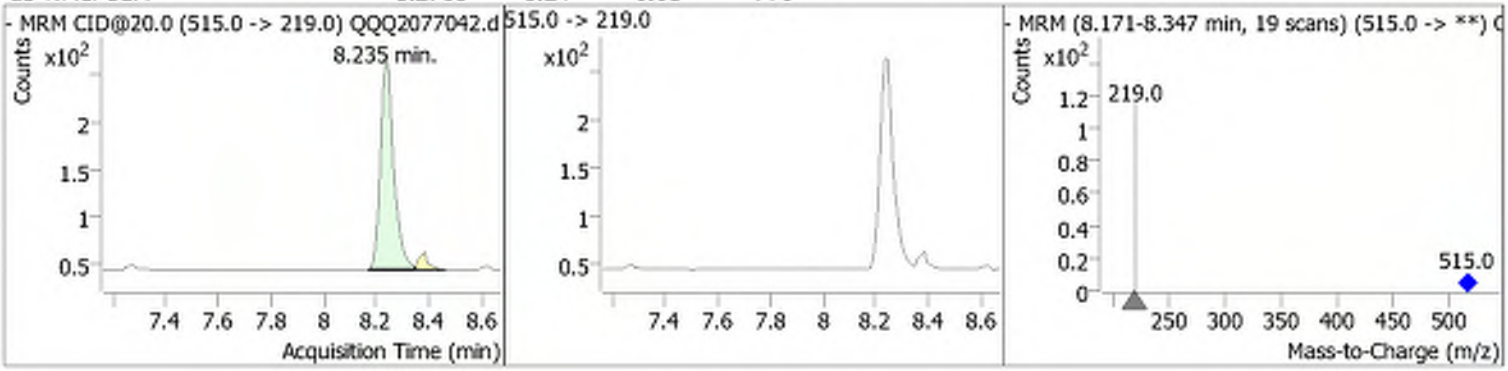
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	3.6833	7.91	-0.07	12978				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	17.5830	8.24	0.00	34367				

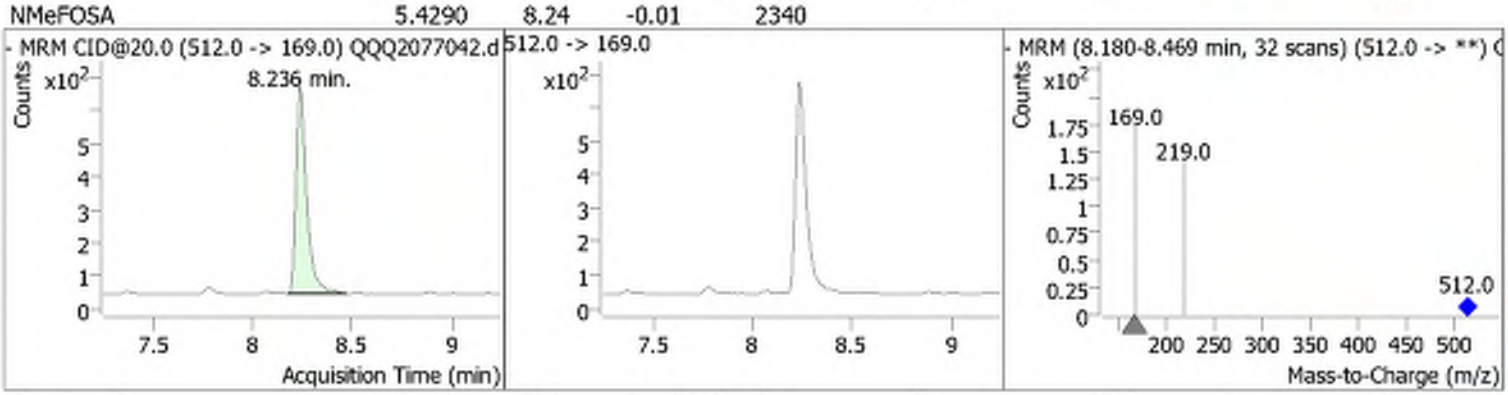


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.2768	8.24	-0.01	770				

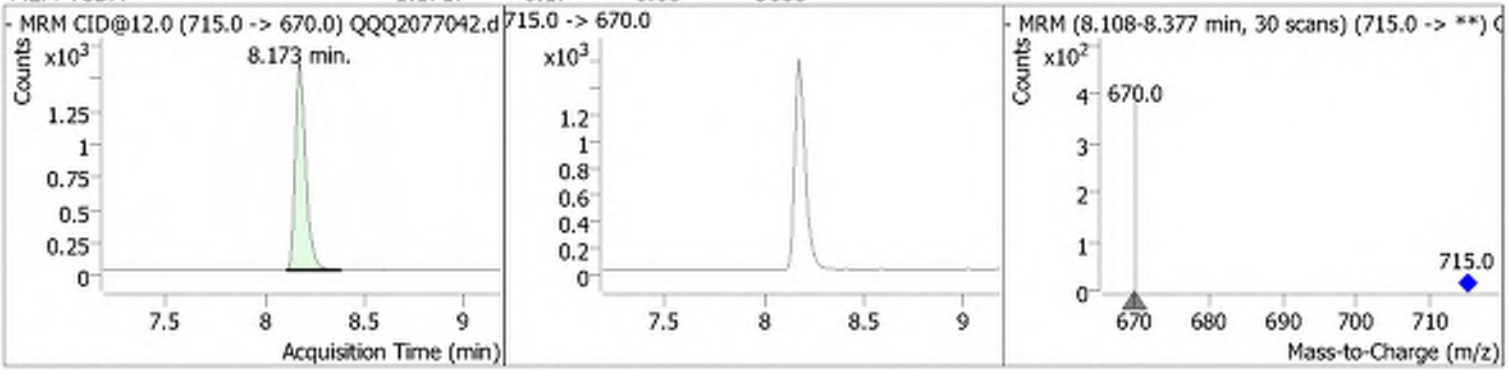


Quantitation Results Report (Not Reviewed)

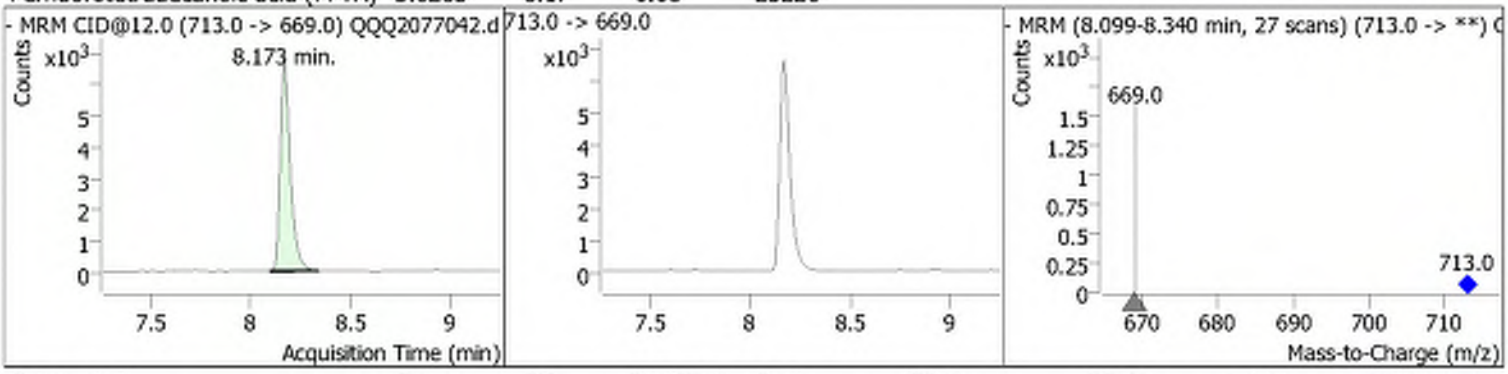
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	5.4290	8.24	-0.01	2340				



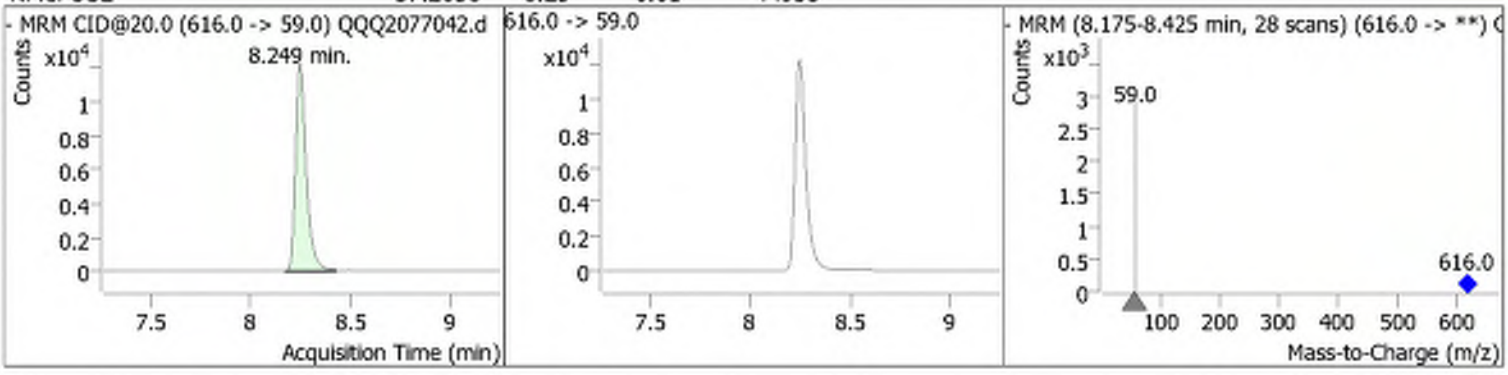
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.1717	8.17	-0.08	5688				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	3.6283	8.17	-0.08	23226				



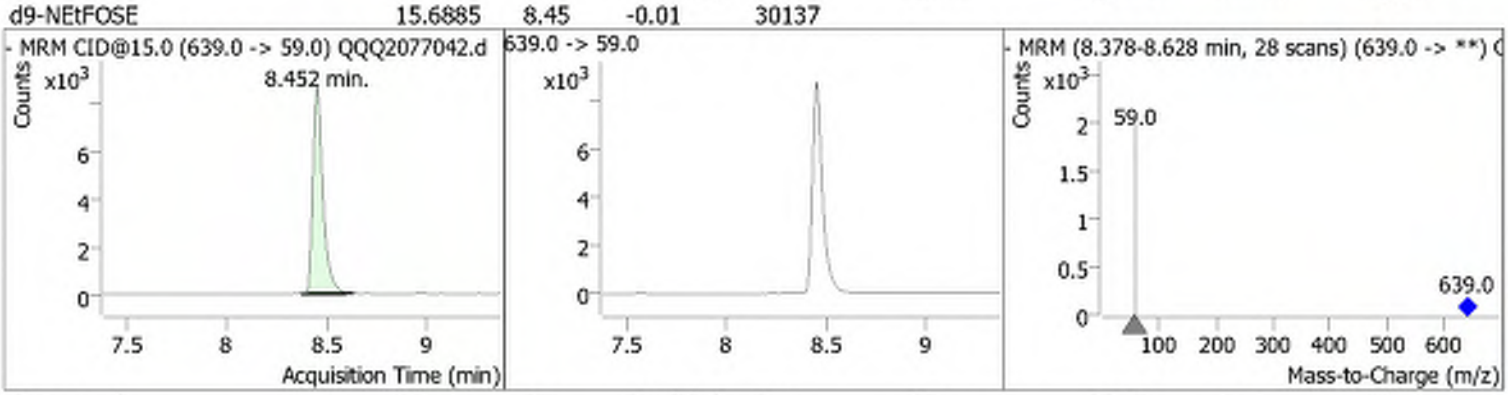
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	37.2038	8.25	-0.01	44935				



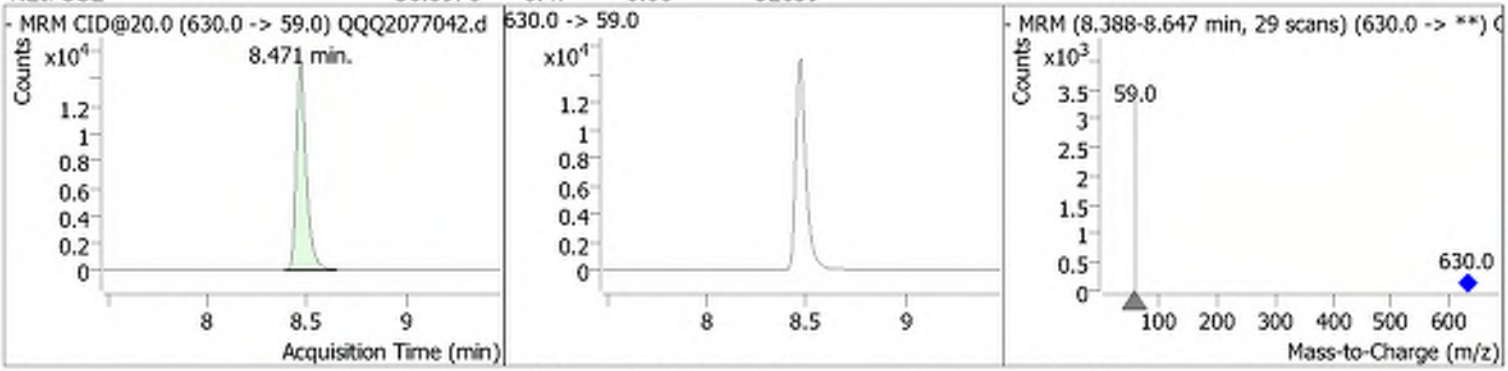
Quantitation Results Report (Not Reviewed)

Agilent

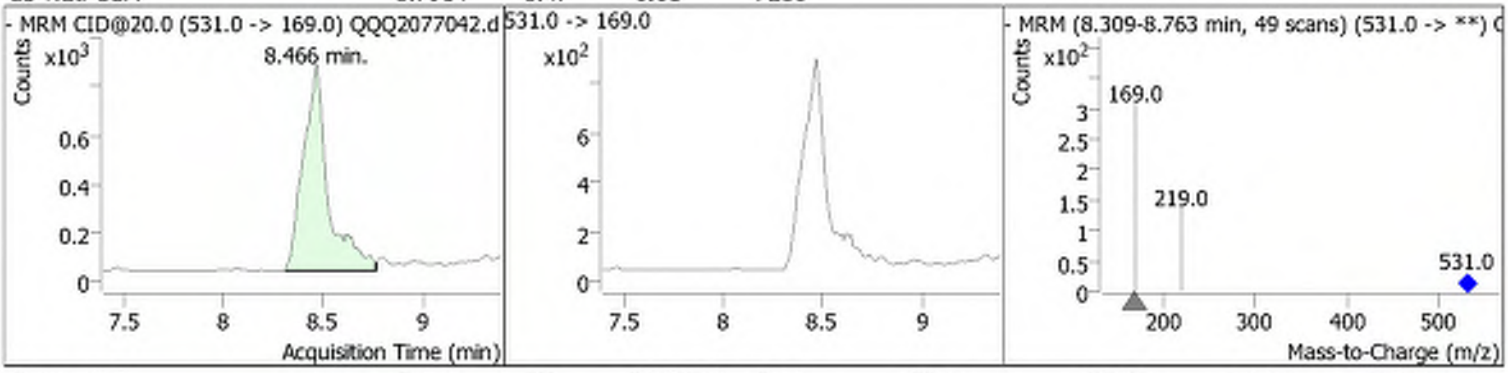
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	15.6885	8.45	-0.01	30137				



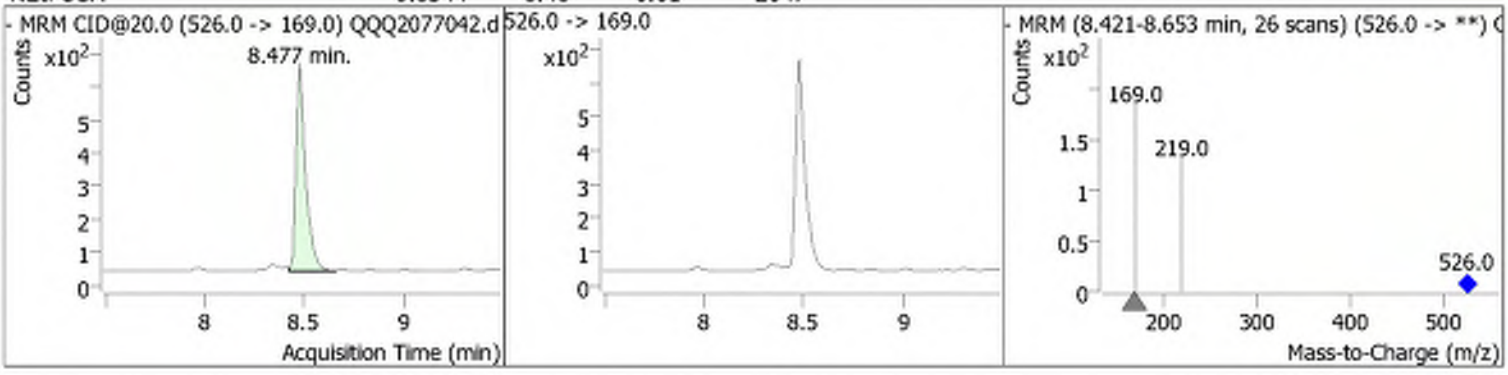
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	36.8976	8.47	0.00	52639				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	8.7914	8.47	-0.01	7286				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.8344	8.48	-0.01	2047				



Quantitation Results Report (Not Reviewed)

Agilent

Data File	QQQ2077043.d	Operator	
Acq. Method	PFAS-EPA1633D2_ACQ_102622.m	Acq. Date-Time	5/17/2023 11:41:11 AM
Sample Name	BE30673-BS2	Instrument	QQQ-2
Vial		Multiplier	1.00
DA Method File	2023-04-05A-1633-ICAL.batch.bin	Comment	
Tune File		Tune Date	
Batch Name	2023-05-17A-1633.batch.bin	Last Calib Update	4/6/2023 1:18:56 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
M3PFBA	1.124	216.0 -> 172.0	26973	5.0000	ng/ml	-0.083
Perfluoro-n-[13C4]butanoic acid (MPFBA)-EIS	1.122	217.0 -> 172.0	41193	10.0000	ng/ml	-0.083
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)-EIS	3.304	268.0 -> 223.0	19215	5.0000	ng/ml	-0.083
MPFHxA	4.642	315.0 -> 269.8	22761	2.5000	ng/ml	-0.056
MPFHxS	5.476	403.0 -> 103.0	1809	2.3700	ng/ml	-0.047
M3PFBS-EIS	3.819	302.0 -> 79.9	7596	2.3300	ng/ml	-0.074
M5PFHxA-EIS	4.641	318.0 -> 273.0	17760	2.5000	ng/ml	-0.056
M2-4-2FTS-EIS	4.575	329.0 -> 309.0	7226	4.6900	ng/ml	-0.056
M3PFHxS-EIS	5.476	402.0 -> 80.0	6797	2.3700	ng/ml	-0.056
M3-HFPO-DA-EIS	4.904	287.0 -> 169.0	47349	10.0000	ng/ml	-0.056
M4PFHpA-EIS	5.393	367.0 -> 322.0	20552	2.5000	ng/ml	-0.047
M2-6-2FTS-EIS	5.932	429.0 -> 409.0	4317	4.7550	ng/ml	-0.065
MPFOA	5.970	417.0 -> 372.0	20718	2.5000	ng/ml	-0.066
Perfluoro-n-[13C8]octanoic acid (M8PFOA)-EIS	5.969	421.0 -> 376.0	11051	2.5000	ng/ml	-0.066
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)-EIS	6.501	507.0 -> 98.9	2772	2.3950	ng/ml	-0.065
MPFNA	6.474	468.0 -> 423.0	8403	1.2500	ng/ml	-0.066
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)-EIS	6.474	472.0 -> 223.0	1237	1.2500	ng/ml	-0.066
MPFOS	6.501	503.0 -> 80.0	6364	2.3950	ng/ml	-0.075
M2-8-2FTS-EIS	6.901	529.0 -> 509.0	2126	4.8000	ng/ml	-0.066
MPFDA	6.911	515.0 -> 469.8	8014	1.2500	ng/ml	-0.075
M6PFDA-EIS	6.920	519.0 -> 473.9	3130	1.2500	ng/ml	-0.066
d3-N-MeFOSAA-EIS	7.087	573.0 -> 418.8	10691	5.0000	ng/ml	-0.065
d5-N-EtFOSAA-EIS	7.274	589.0 -> 418.8	10042	5.0000	ng/ml	-0.074
M7PFUdA-EIS	7.293	570.0 -> 525.0	8036	1.2500	ng/ml	-0.074
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)-EIS	7.501	506.0 -> 78.0	11494	2.5000	ng/ml	-0.019
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)-EIS	7.626	615.0 -> 570.0	5622	1.2500	ng/ml	-0.074
M2PFTeDA-EIS	8.173	715.0 -> 670.0	5808	1.2500	ng/ml	-0.084
d3-NMeFOSA-EIS	8.235	515.0 -> 219.0	1165	2.5000	ng/ml	-0.009
d7-NMeFOSE-EIS	8.239	623.0 -> 59.0	40365	25.0000	ng/ml	0.000
d9-NEtFOSE-EIS	8.452	639.0 -> 59.0	35439	25.0000	ng/ml	-0.009
d5-NEtFOSA-EIS	8.466	531.0 -> 169.0	6419	2.5000	ng/ml	-0.009
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	1.122	217.0 -> 172.0	41193	11.1498	ng/ml	-0.083
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.304	268.0 -> 223.0	19215	5.2141	ng/ml	-0.083
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFBS	3.819	302.0 -> 79.9	7596	3.1574	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M2-4-2FTS	4.575	329.0 -> 309.0	7226	7.3369	ng/ml	-0.056

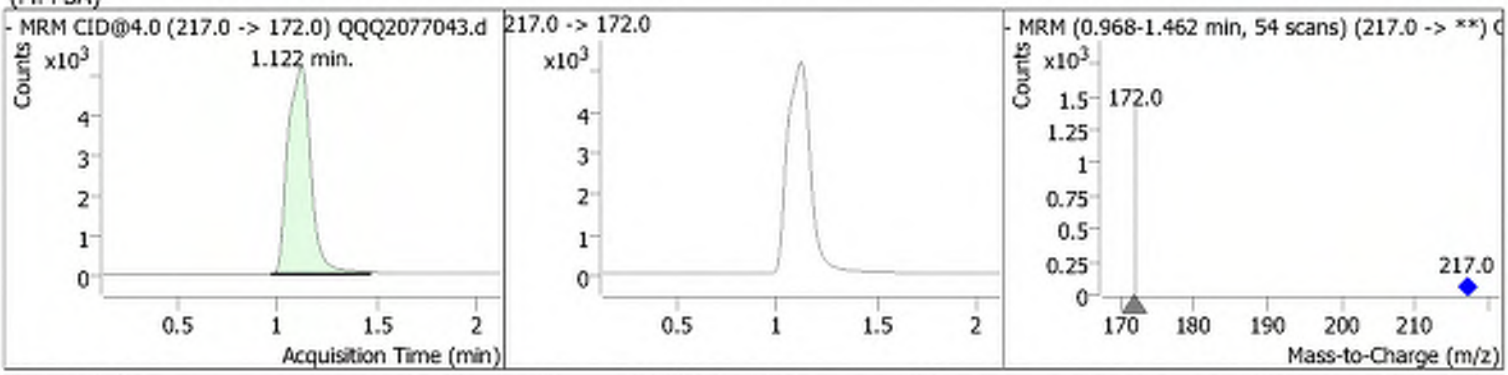
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Spiked Amount:	Range: - %			Recovery = NA%		
M5PFHxA	4.641	318.0 -> 273.0	17760	2.8887	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M3-HFPO-DA	4.904	287.0 -> 169.0	47349	13.2069	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M4PFHpA	5.393	367.0 -> 322.0	20552	2.9599	ng/ml	-0.047
Spiked Amount:	Range: - %			Recovery = NA%		
M3PFHxS	5.476	402.0 -> 80.0	6797	3.3633	ng/ml	-0.056
Spiked Amount:	Range: - %			Recovery = NA%		
M2-6-2FTS	5.932	429.0 -> 409.0	4317	8.0803	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.969	421.0 -> 376.0	11051	2.4194	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	6.474	472.0 -> 223.0	1237	1.4307	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	6.501	507.0 -> 98.9	2772	3.0090	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
M2-8-2FTS	6.901	529.0 -> 509.0	2126	4.6300	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
M6PFDA	6.920	519.0 -> 473.9	3130	1.0063	ng/ml	-0.066
Spiked Amount:	Range: - %			Recovery = NA%		
d3-N-MeFOSAA	7.087	573.0 -> 418.8	10691	4.9660	ng/ml	-0.065
Spiked Amount:	Range: - %			Recovery = NA%		
d5-N-EtFOSAA	7.274	589.0 -> 418.8	10042	4.6420	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
M7PFUdA	7.293	570.0 -> 525.0	8036	1.3035	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	7.501	506.0 -> 78.0	11494	2.2000	ng/ml	-0.019
Spiked Amount:	Range: - %			Recovery = NA%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	7.626	615.0 -> 570.0	5622	1.0955	ng/ml	-0.074
Spiked Amount:	Range: - %			Recovery = NA%		
d7-NMeFOSE	8.239	623.0 -> 59.0	40365	18.6592	ng/ml	0.000
Spiked Amount:	Range: - %			Recovery = NA%		
d3-NMeFOSA	8.235	515.0 -> 219.0	1165	1.7462	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
M2PFTeDA	8.173	715.0 -> 670.0	5808	1.0724	ng/ml	-0.084
Spiked Amount:	Range: - %			Recovery = NA%		
d9-NEtFOSE	8.452	639.0 -> 59.0	35439	16.6682	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
d5-NEtFOSA	8.466	531.0 -> 169.0	6419	6.9980	ng/ml	-0.009
Spiked Amount:	Range: - %			Recovery = NA%		
Target Compounds						QValue
Perfluoro-n-butanoic acid (PFBA)	1.118	213.0 -> 168.9	14962	2.8784	ng/ml	100
PFMPA	1.950	229.0 -> 85.0	4873	1.6523	ng/ml	100
3:3FTCA	3.194	241.0 -> 177.0	691	2.9430	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	3.305	263.0 -> 219.0	5632	1.3398	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	3.819	298.9 -> 79.9	2409	0.6204	ng/ml	100
PFMBA	3.849	279.0 -> 85.0	6357	1.4517	ng/ml	100
PFEESA	4.326	315.0 -> 135.0	14292	1.2522	ng/ml	100
NFDHA	4.504	295.0 -> 201.1	7442	1.4708	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.575	327.0 -> 307.0	4333	2.9856	ng/ml	100

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluorohexanoic acid (PFHxA)	4.642	313.0 -> 268.9	6747	0.8065	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.826	348.9 -> 79.9	1798	0.4696	ng/ml		100
HFPO-DA	4.895	285.0 -> 169.1	771	1.9144	ng/ml		100
Perfluoroheptanoic acid (PFHpA)	5.393	363.0 -> 318.8	7593	0.6862	ng/ml		100
Perfluorohexanesulfonic acid (PFHxS)	5.476	398.9 -> 79.9	2136	0.5469	ng/ml	m	100
5-3FTCA	5.487	341.0 -> 217.0	14383	14.5470	ng/ml		100
ADONA	5.495	377.0 -> 85.0	7909	1.2921	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.932	427.0 -> 407.0	2985	3.2665	ng/ml		100
Perfluorooctanoic acid (PFOA)	5.970	413.0 -> 368.8	5485	0.8598	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	6.025	448.9 -> 80.0	1772	0.6345	ng/ml		100
Perfluorononanoic acid (PFNA)	6.474	463.0 -> 418.8	4606	0.6526	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	6.501	498.9 -> 79.9	947	0.6693	ng/ml	m	100
7-3FTCA	6.624	441.0 -> 337.0	21629	14.0876	ng/ml		100
9-Cl-PF3ONS	6.751	531.0 -> 351.0	10153	1.5101	ng/ml		100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.901	527.0 -> 80.9	1651	3.0589	ng/ml		100
Perfluorodecanoic acid (PFDA)	6.911	513.0 -> 468.8	5034	0.9639	ng/ml		100
Perfluorononanesulfonate (L-PFNS)	6.929	548.9 -> 79.9	1655	0.6371	ng/ml		100
N-MeFOSAA	7.088	570.0 -> 418.9	1175	0.8100	ng/ml	m	100
N-EtFOSAA	7.274	584.0 -> 418.8	1017	0.6698	ng/ml	m	100
Perfluoro-1-decanesulfonate (L-PFDS)	7.292	598.9 -> 98.9	866	0.7766	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	7.293	563.0 -> 519.0	4509	0.8630	ng/ml		100
Perfluoro-1-octanesulfonamide (FOSA)	7.501	497.9 -> 78.0	4283	0.5288	ng/ml		100
11-Cl-PF3OUdS	7.477	631.0 -> 451.0	3068	1.1816	ng/ml		100
Perfluorododecanoic acid (PFDoA)	7.627	613.0 -> 568.8	3418	0.8831	ng/ml		100
Perfluorododecanesulfonic acid (PFDoS)	7.904	699.0 -> 80.0	798	0.7576	ng/ml		100
Perfluorotridecanoic acid (PFTrDA)	7.914	663.0 -> 618.8	3161	0.8722	ng/ml		100
NMeFOSA	8.236	512.0 -> 169.0	629	0.9533	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	8.173	713.0 -> 669.0	3858	0.5892	ng/ml		100
NMeFOSE	8.249	616.0 -> 59.0	9604	6.7092	ng/ml		100
NEtFOSE	8.471	630.0 -> 59.0	12037	7.1350	ng/ml		100
NEtFOSA	8.477	526.0 -> 169.0	311	0.1441	ng/ml	m	100

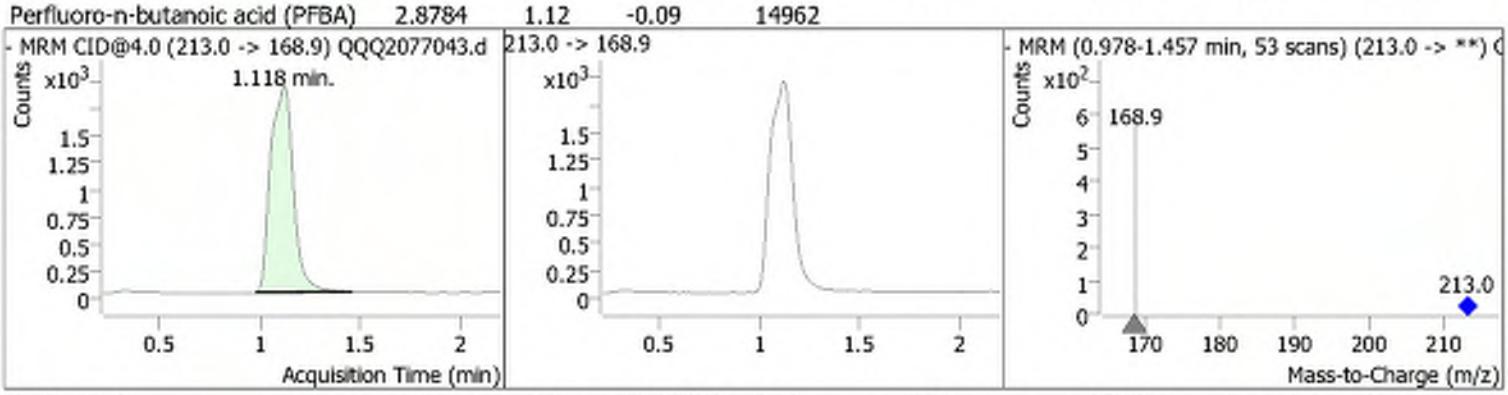
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitation Results Report (Not Reviewed)

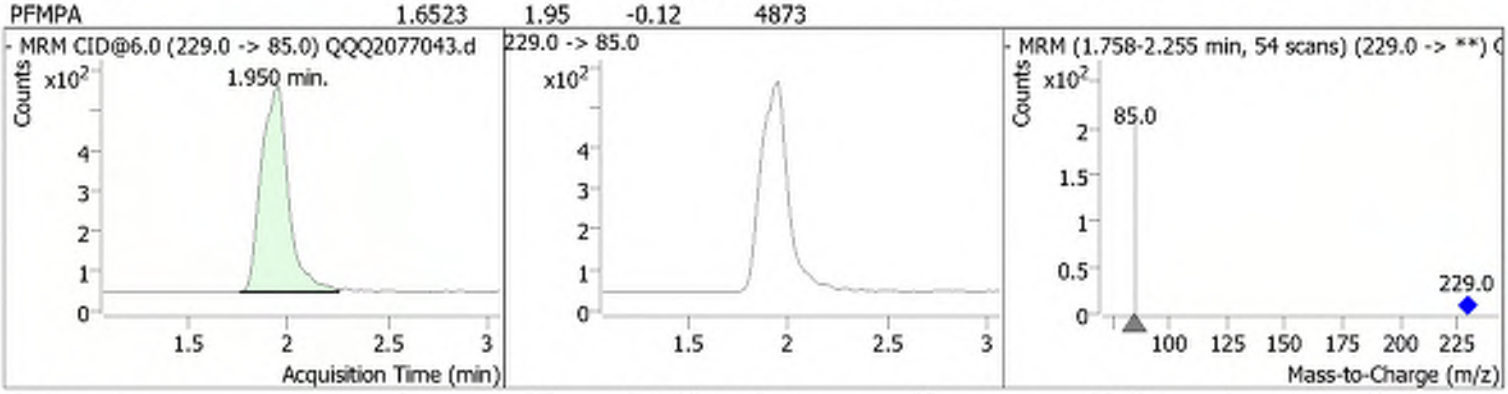
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	11.1498	1.12	-0.08	41193				



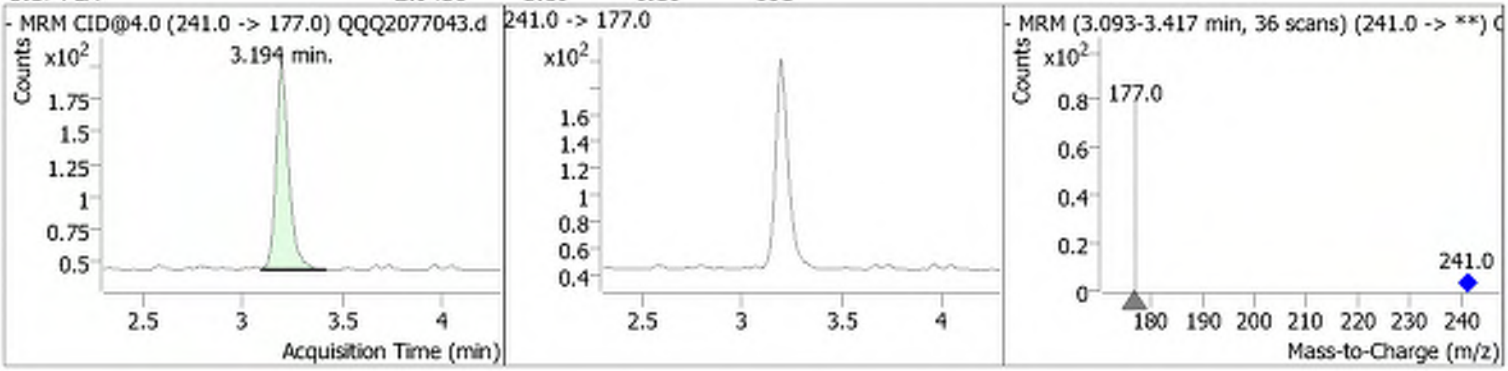
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	2.8784	1.12	-0.09	14962				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMPA	1.6523	1.95	-0.12	4873				

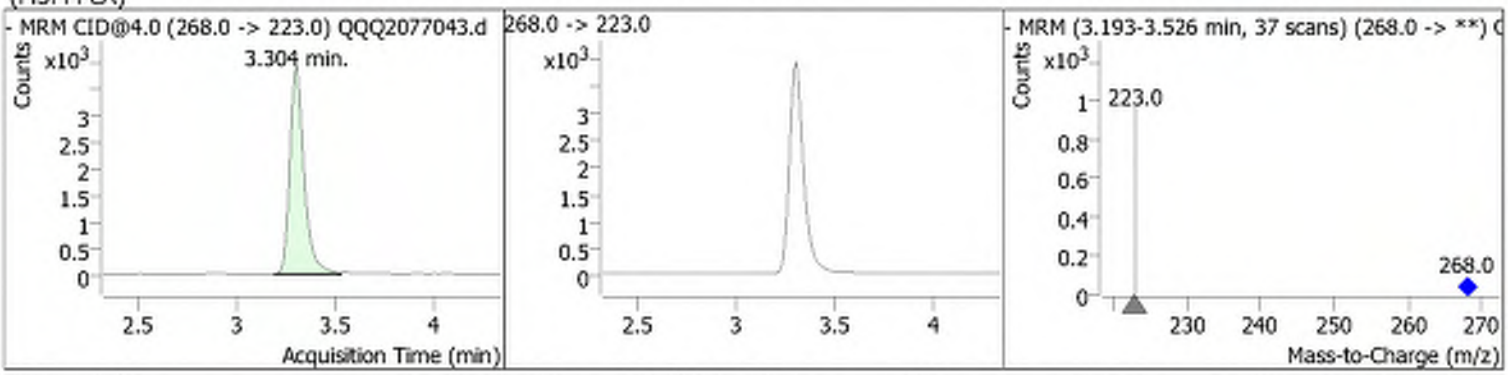


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
3:3FTCA	2.9430	3.19	-0.10	691				

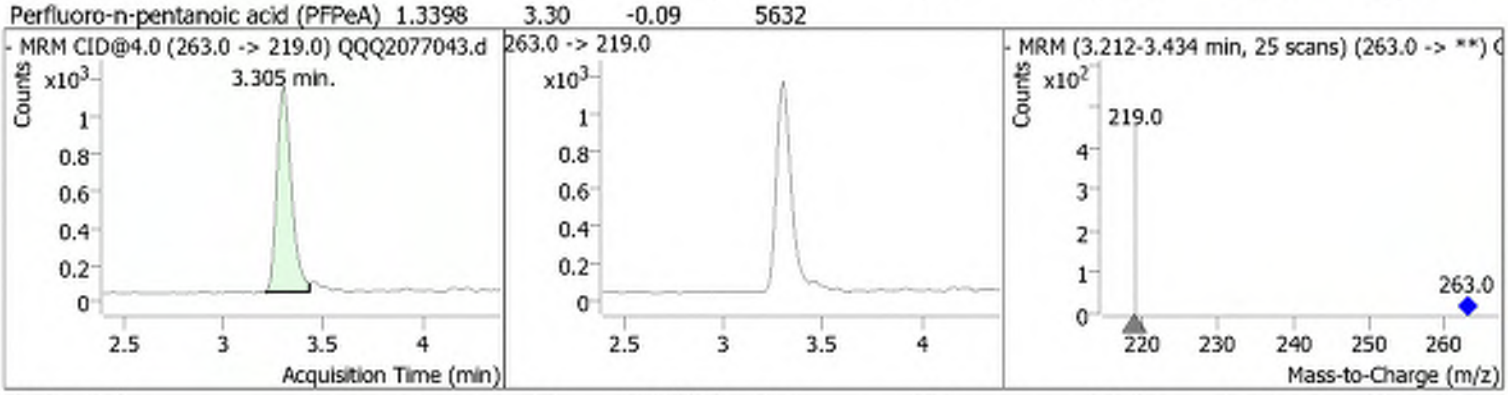


Quantitation Results Report (Not Reviewed)

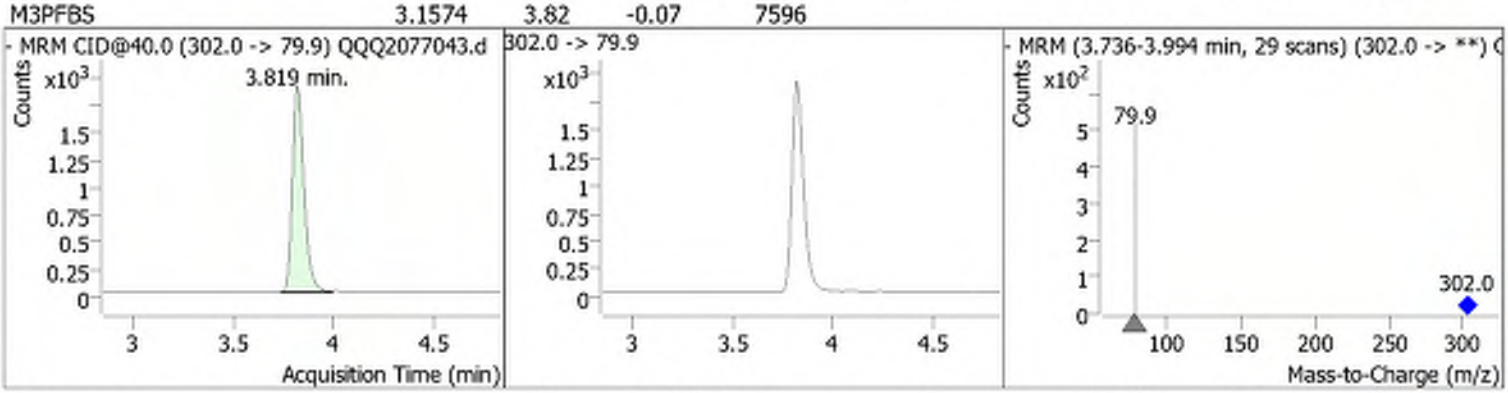
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.2141	3.30	-0.08	19215				



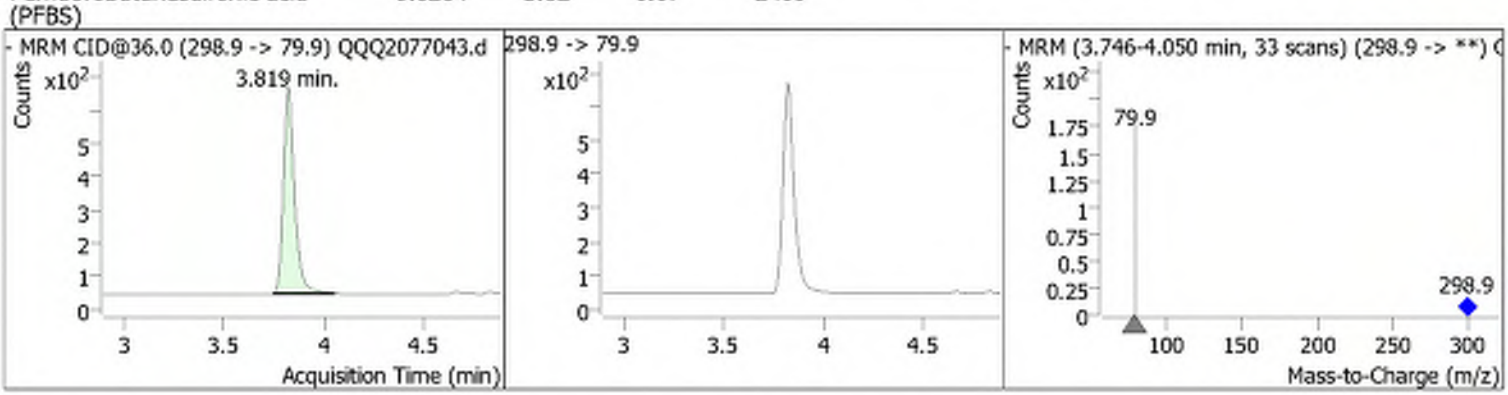
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	1.3398	3.30	-0.09	5632				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.1574	3.82	-0.07	7596				

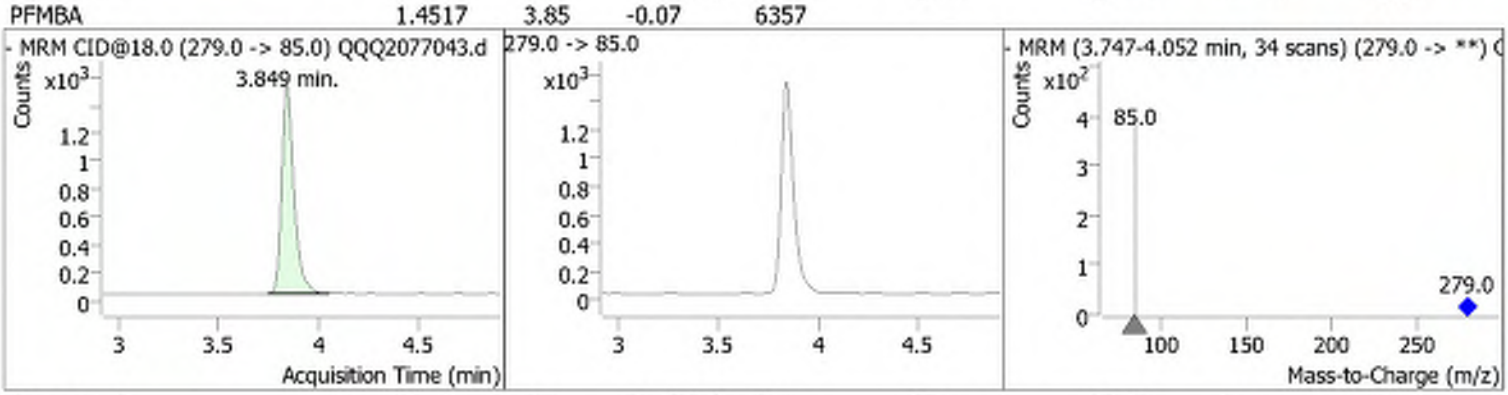


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.6204	3.82	-0.07	2409				

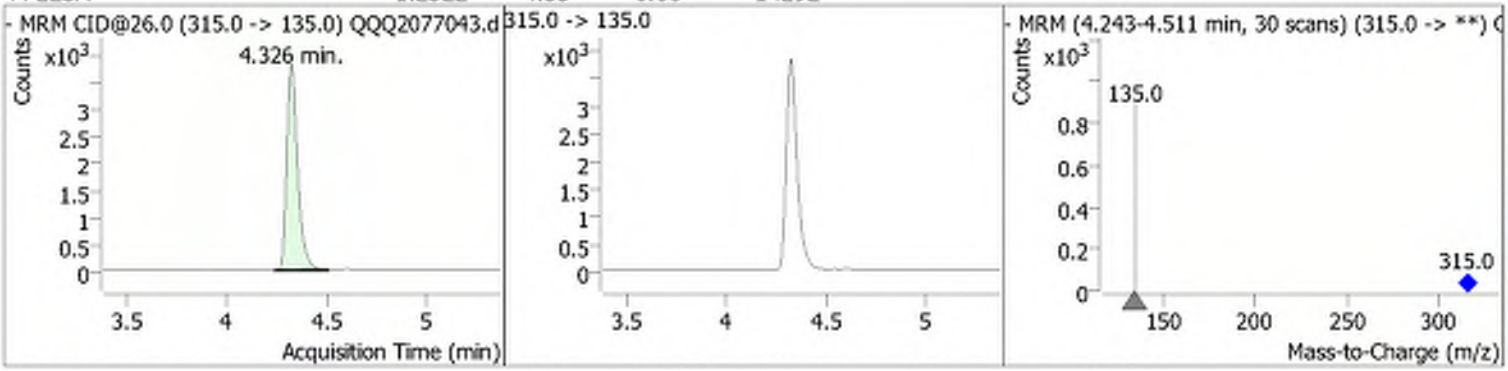


Quantitation Results Report (Not Reviewed)

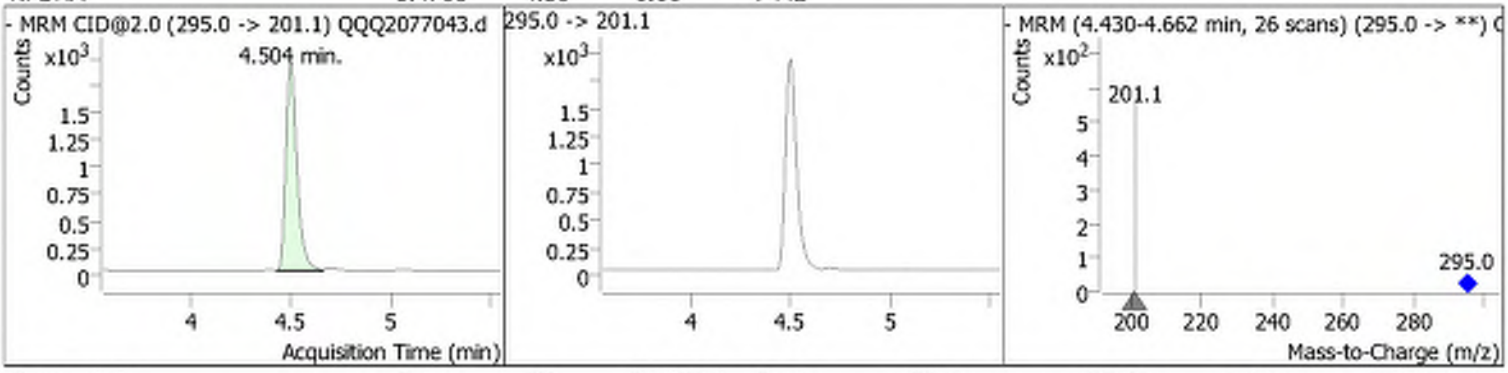
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFMBA	1.4517	3.85	-0.07	6357				



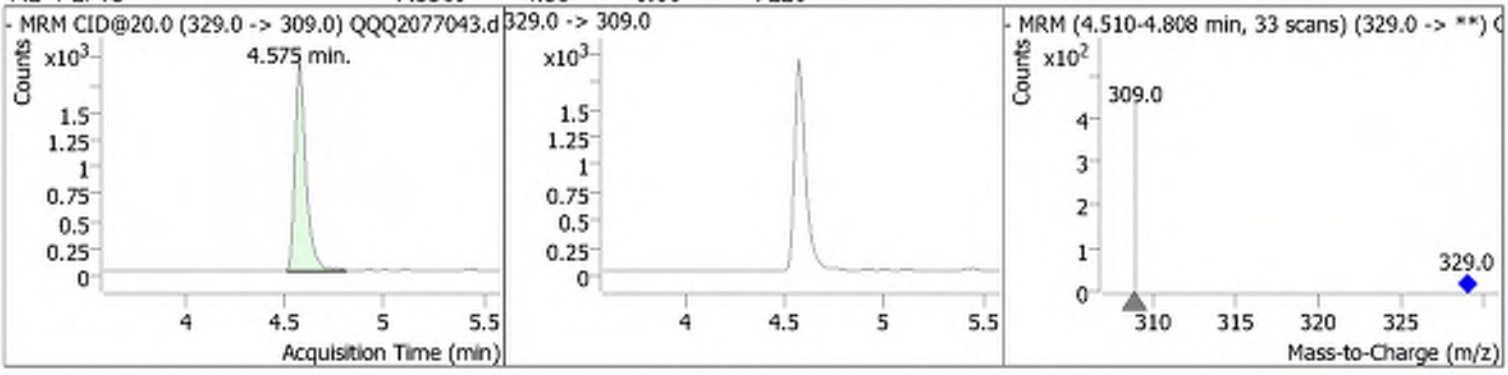
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
PFEESA	1.2522	4.33	-0.06	14292				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NFDHA	1.4708	4.50	-0.06	7442				

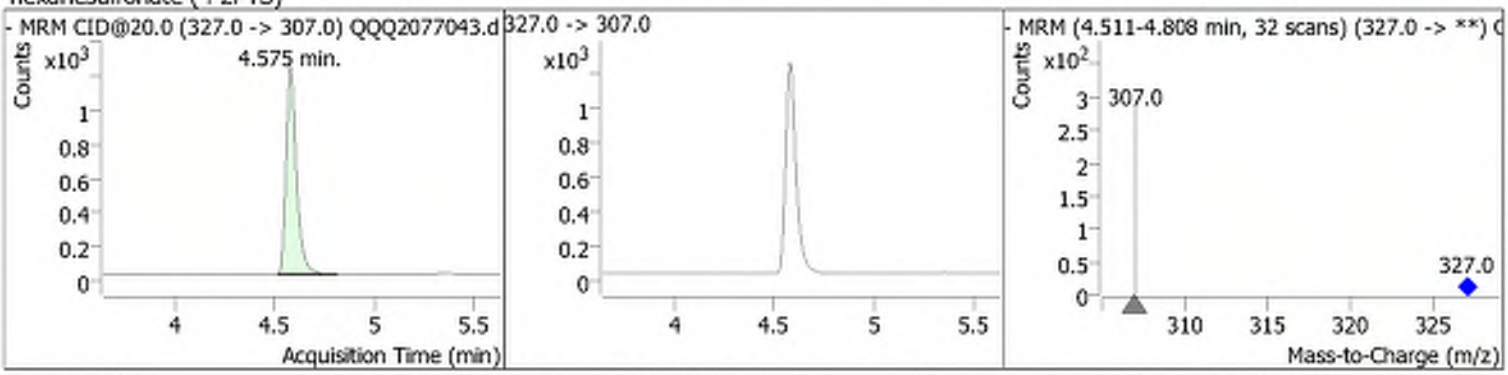


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	7.3369	4.58	-0.06	7226				

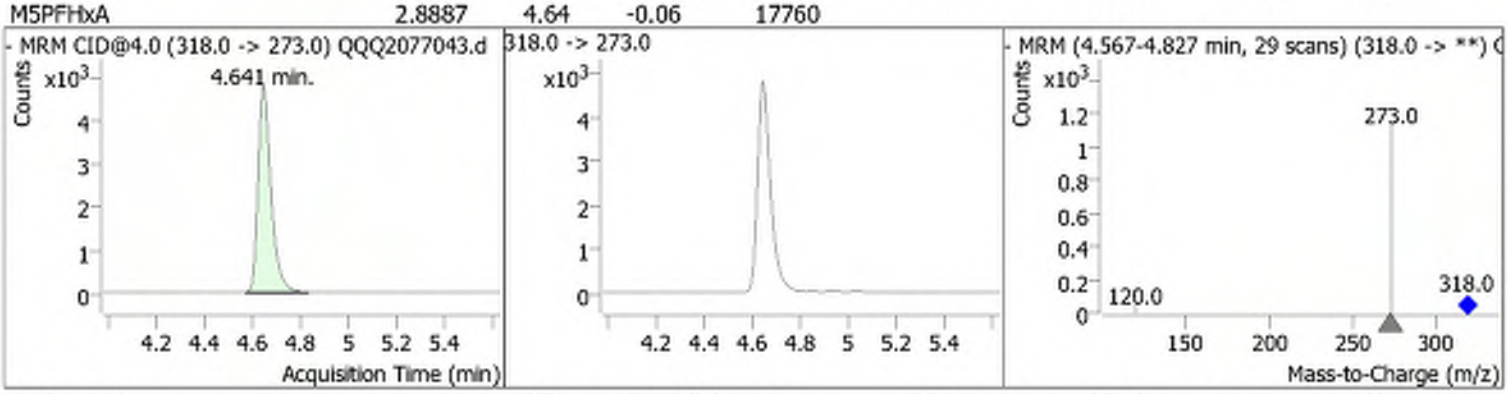


Quantitation Results Report (Not Reviewed)

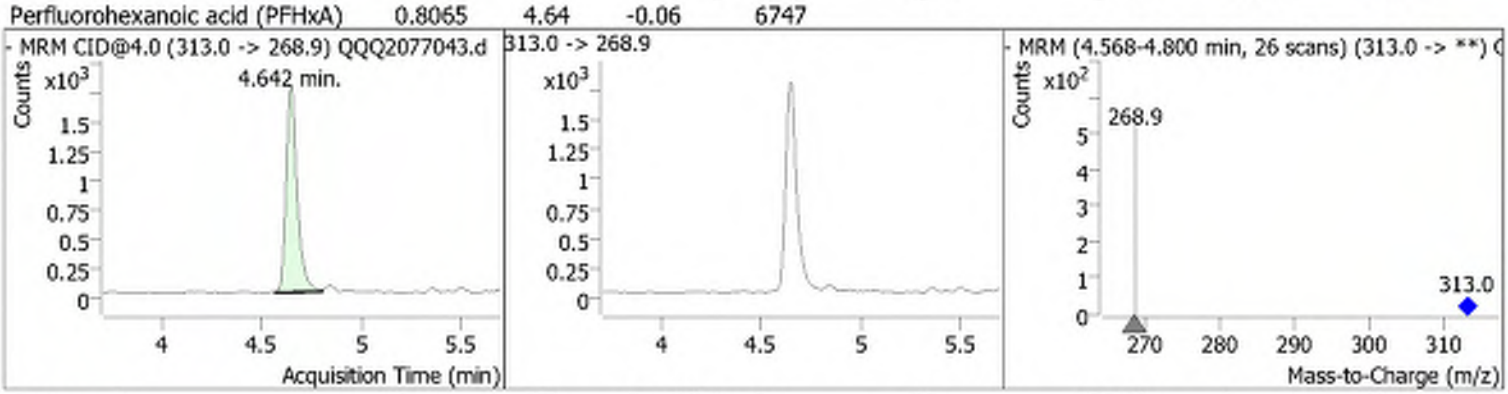
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	2.9856	4.58	-0.06	4333				



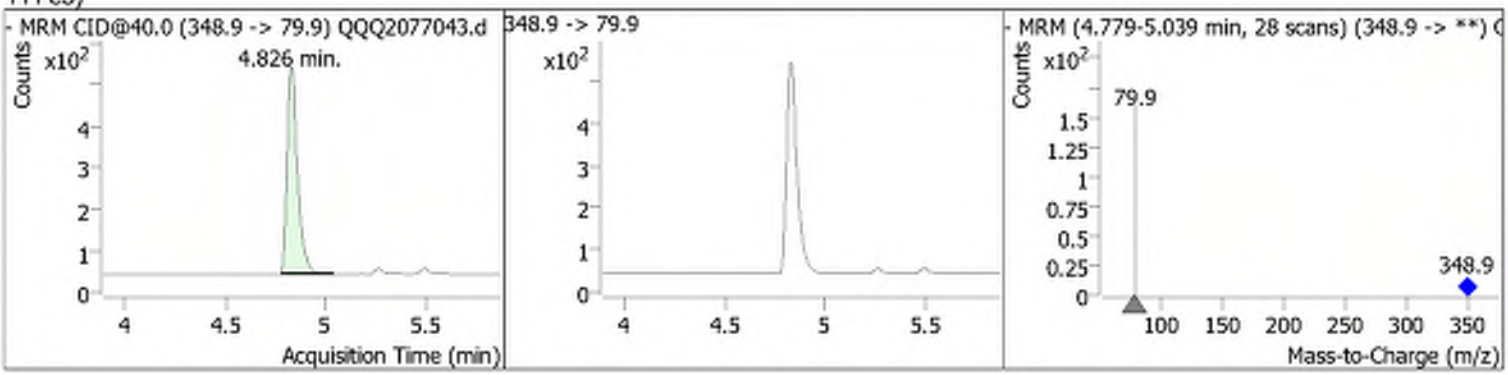
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.8887	4.64	-0.06	17760				



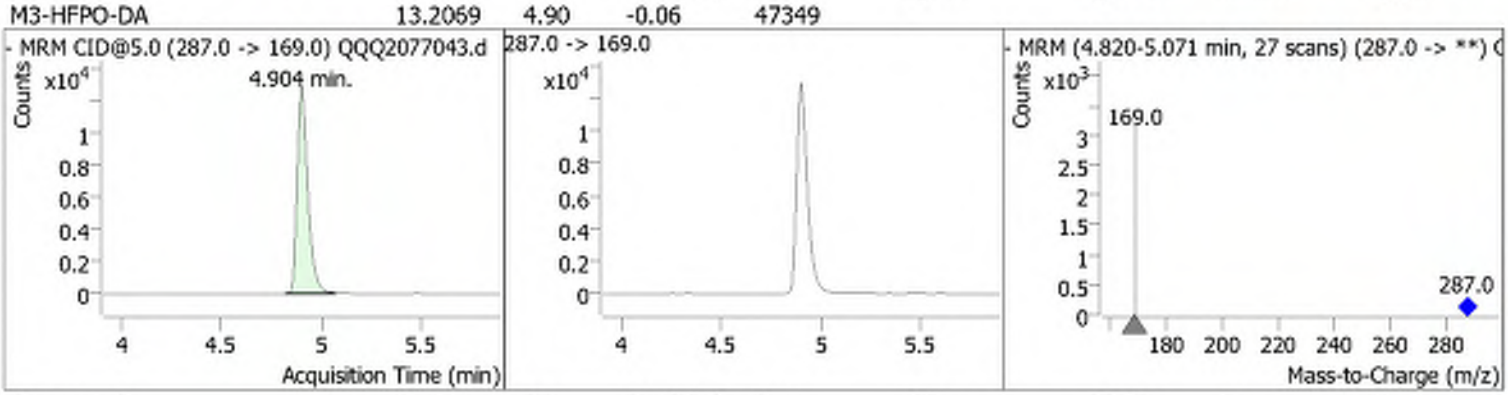
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.8065	4.64	-0.06	6747				



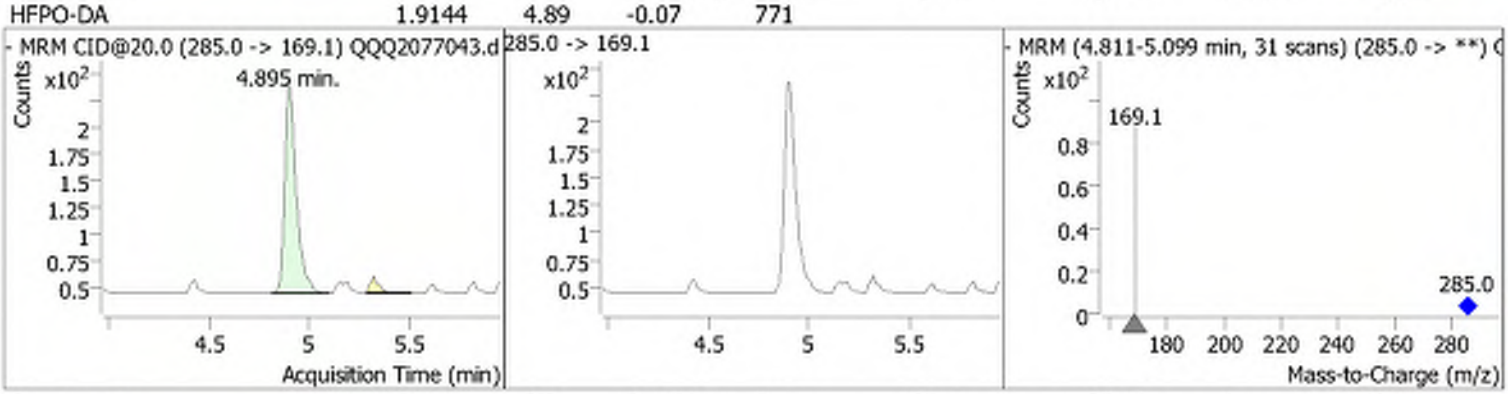
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.4696	4.83	-0.06	1798				



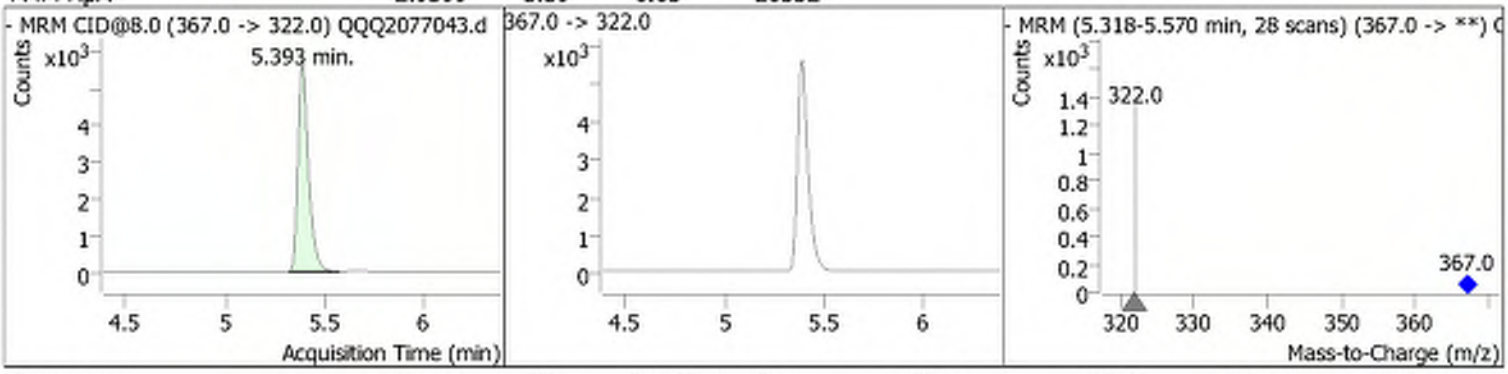
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3-HFPO-DA	13.2069	4.90	-0.06	47349				



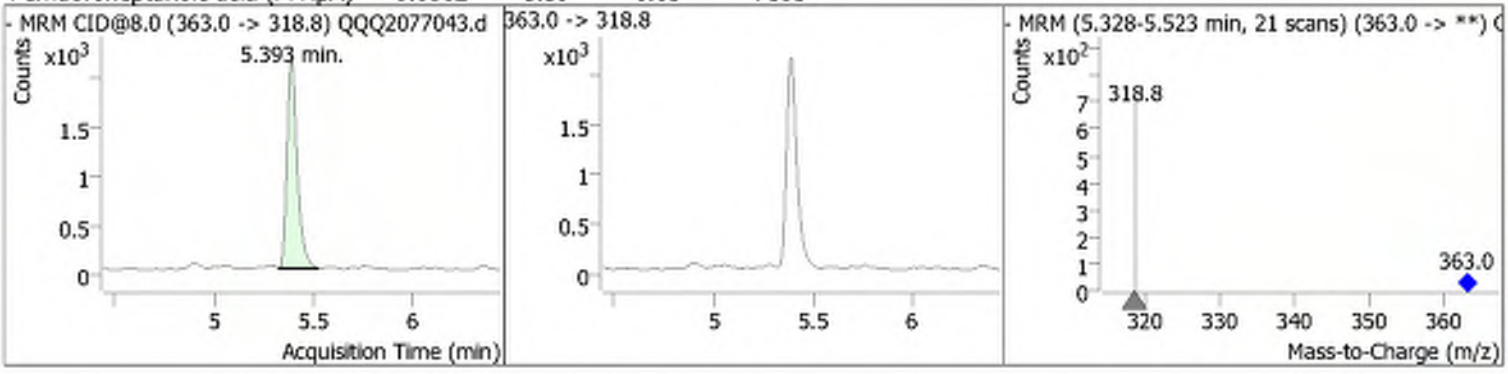
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
HFPO-DA	1.9144	4.89	-0.07	771				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.9599	5.39	-0.05	20552				

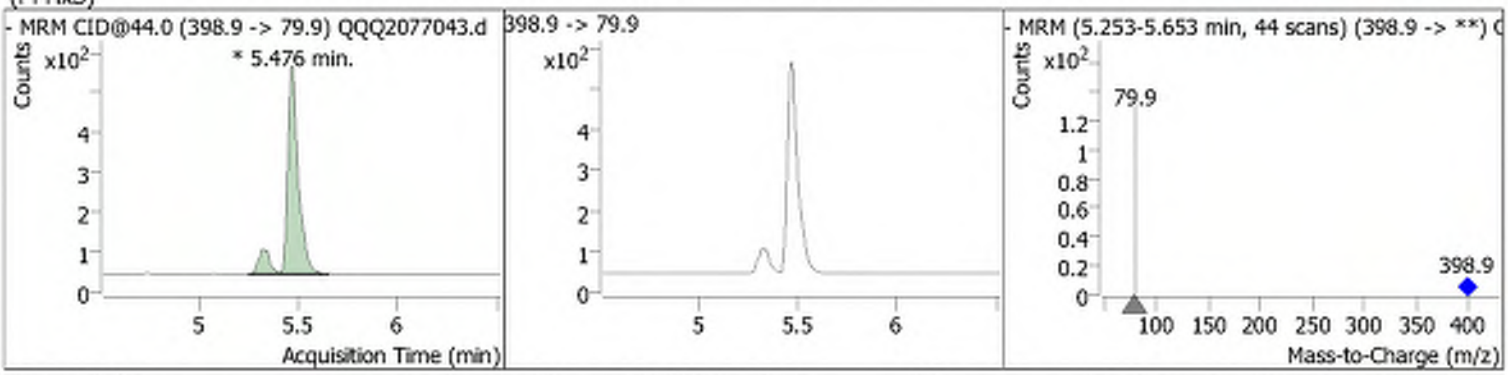


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.6862	5.39	-0.05	7593				

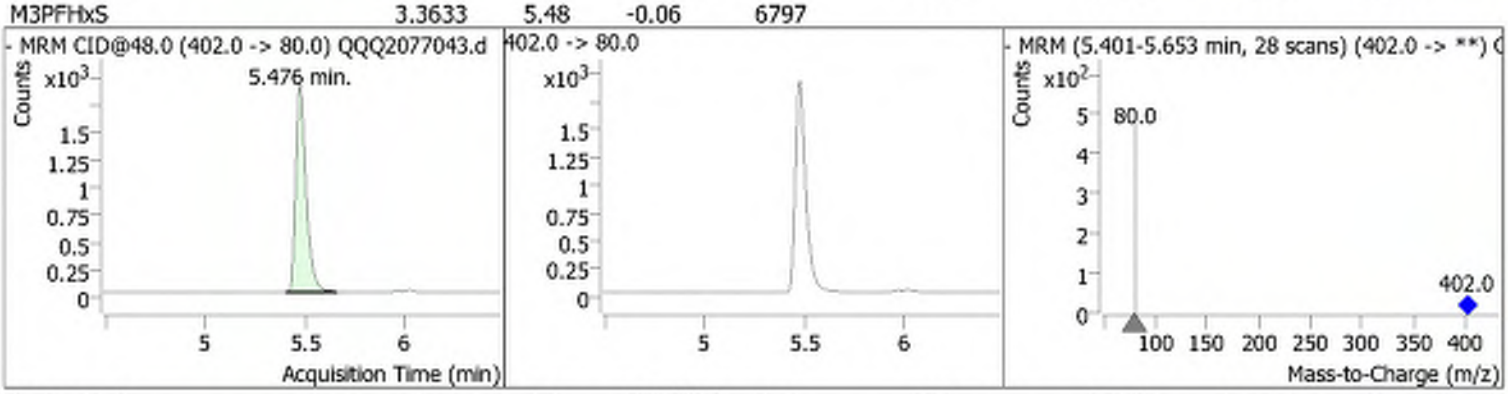


Quantitation Results Report (Not Reviewed)

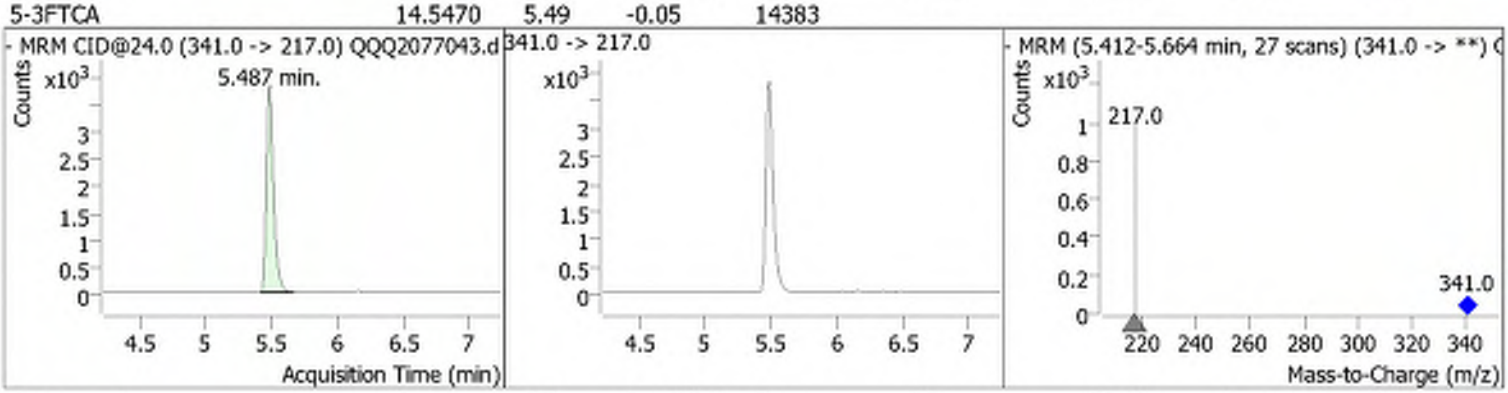
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.5469	5.48	-0.05	2136 (m)				



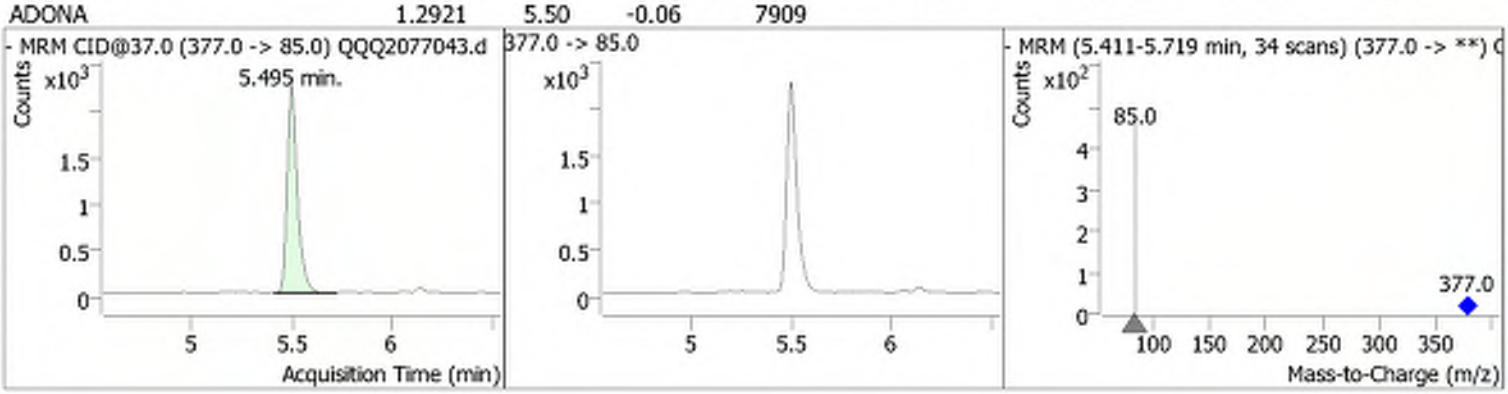
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.3633	5.48	-0.06	6797				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
5-3FTCA	14.5470	5.49	-0.05	14383				

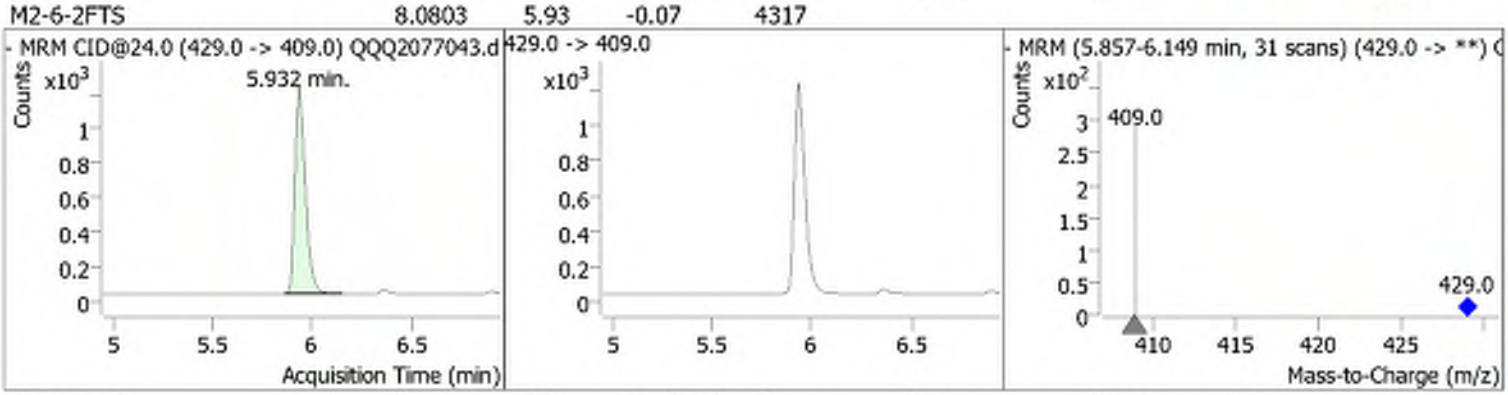


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
ADONA	1.2921	5.50	-0.06	7909				

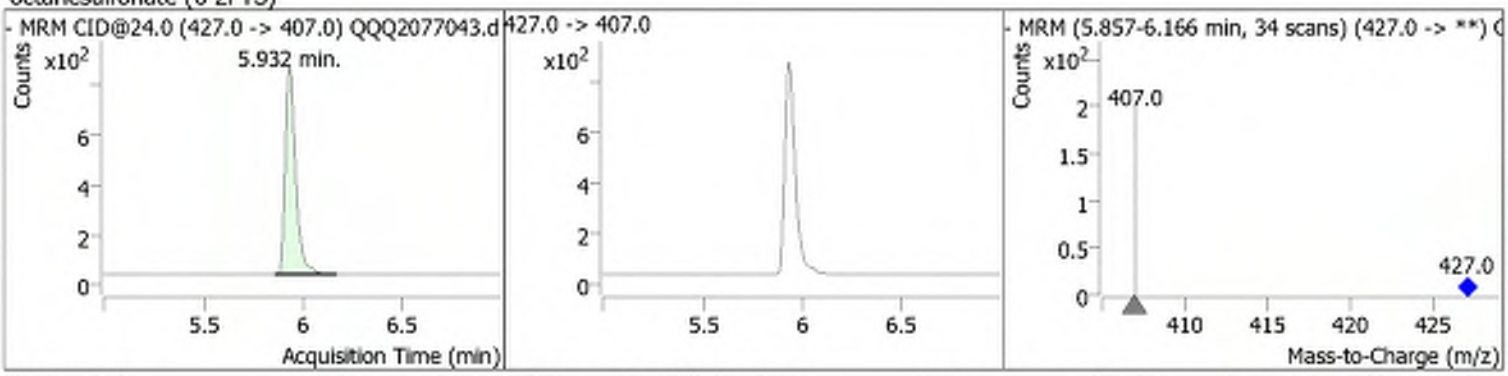


Quantitation Results Report (Not Reviewed)

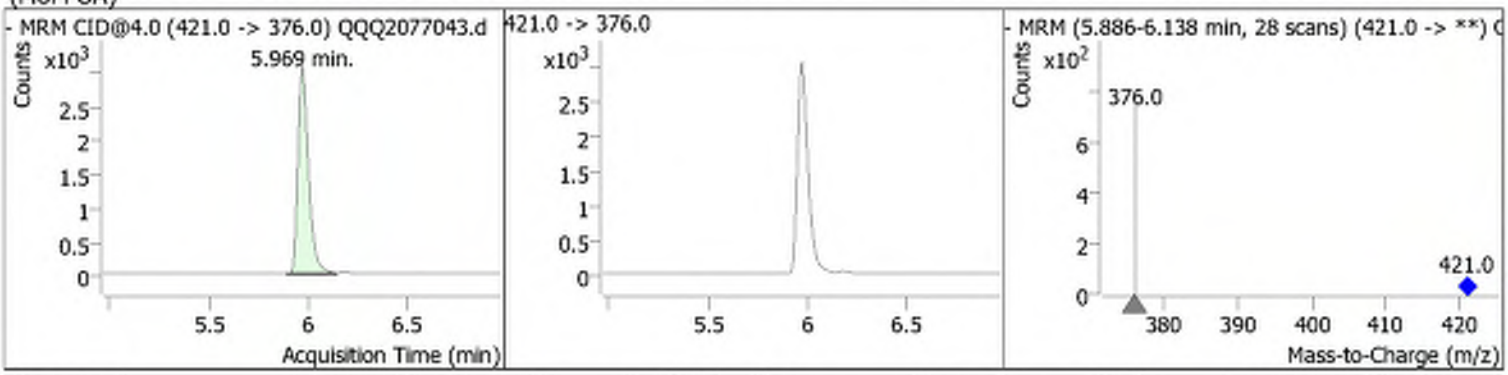
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	8.0803	5.93	-0.07	4317				



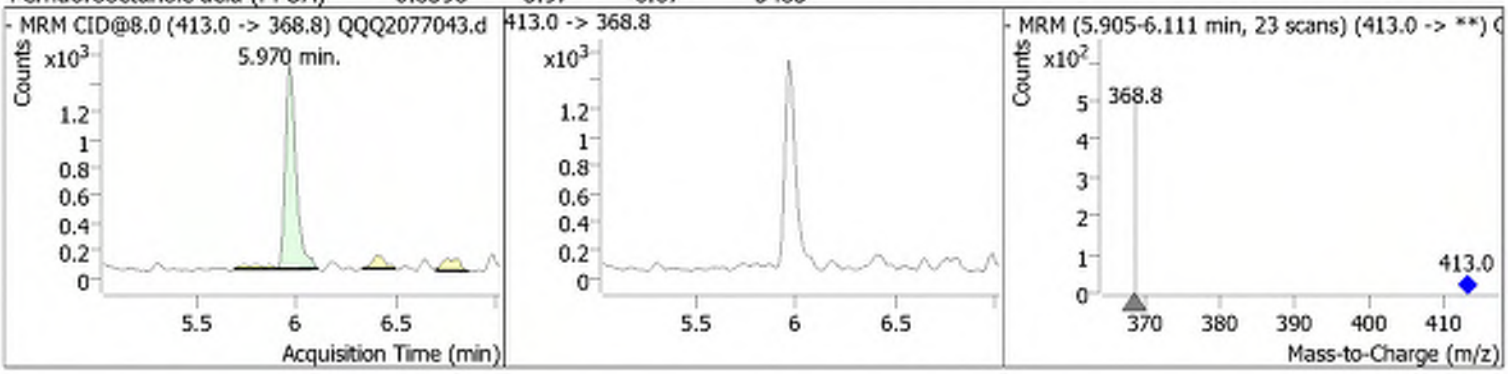
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	3.2665	5.93	-0.07	2985				



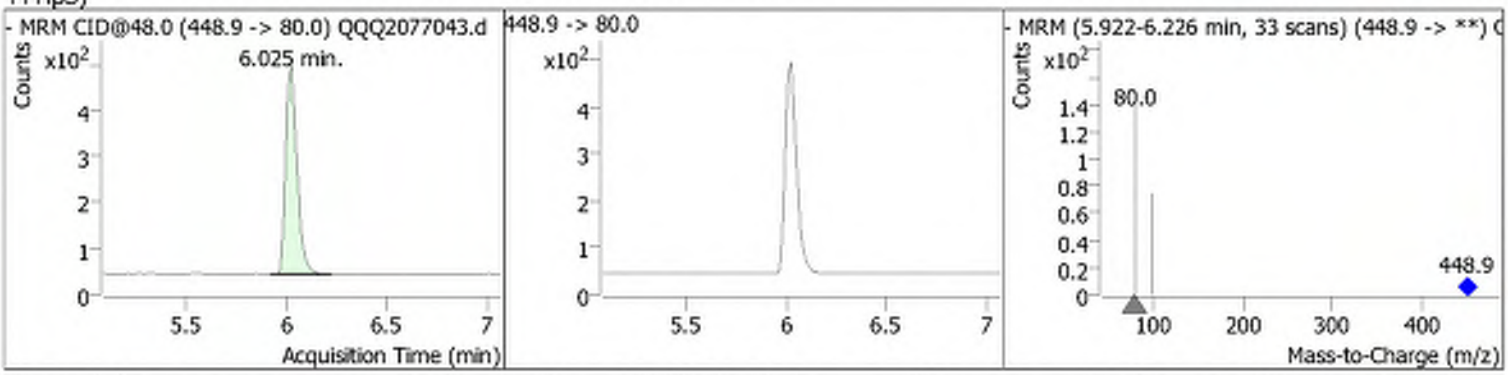
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.4194	5.97	-0.07	11051				



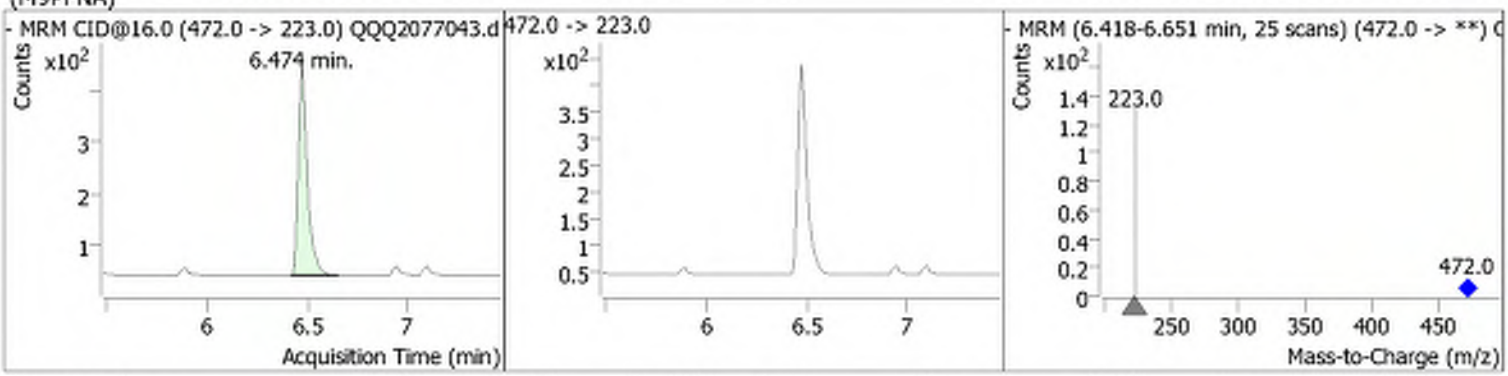
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.8598	5.97	-0.07	5485				



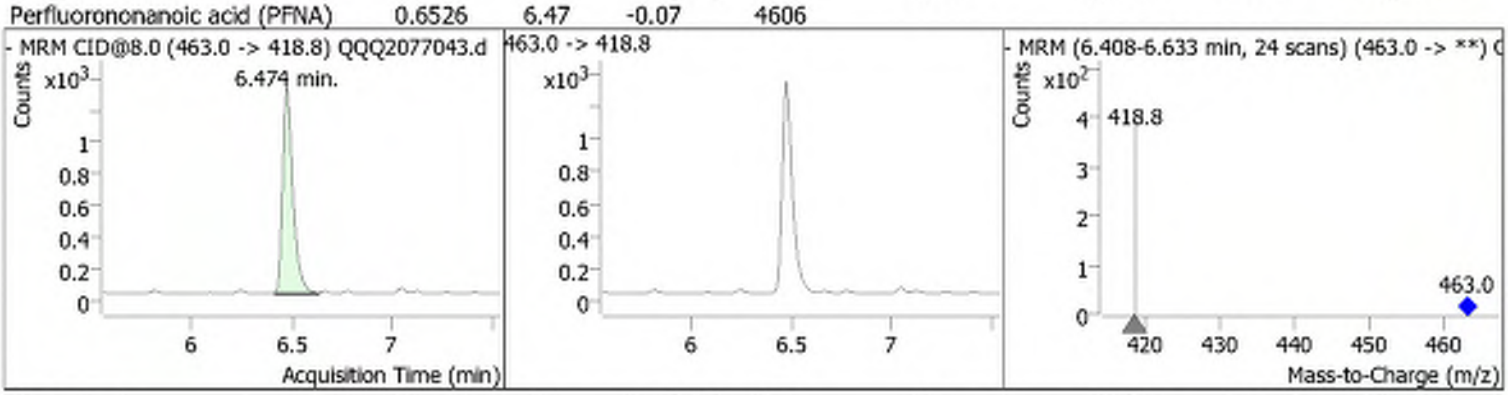
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.6345	6.03	-0.06	1772				



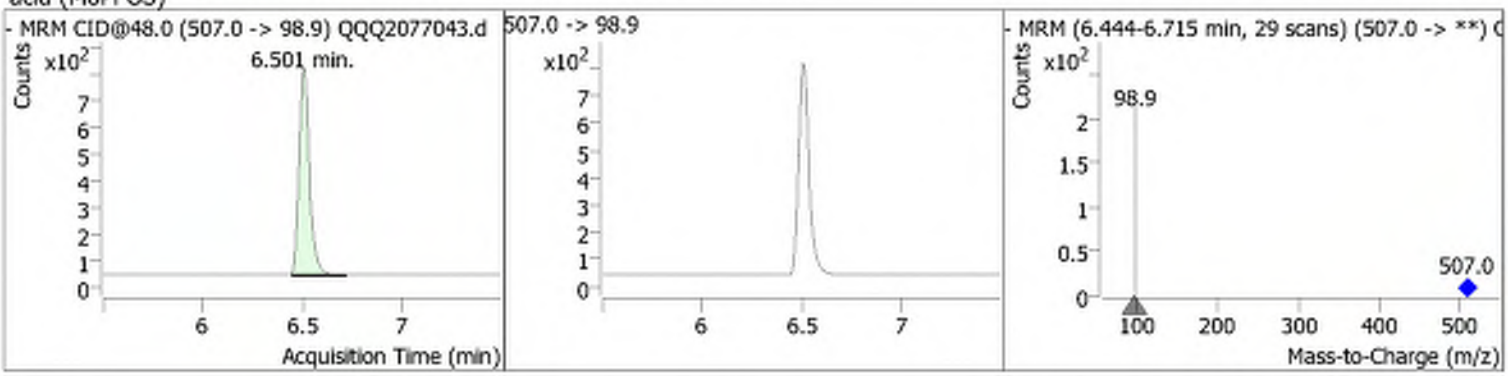
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	1.4307	6.47	-0.07	1237				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.6526	6.47	-0.07	4606				

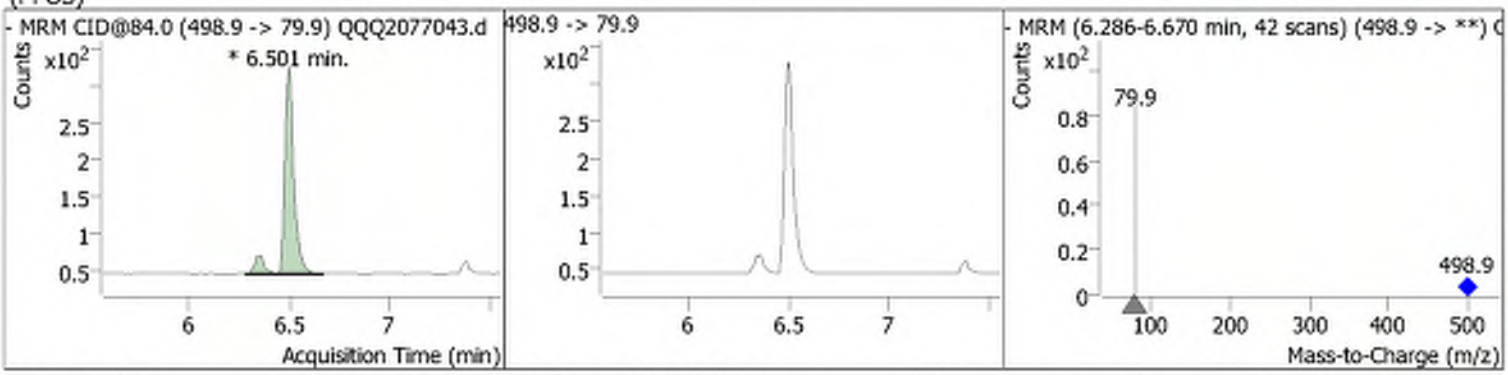


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.0090	6.50	-0.07	2772				

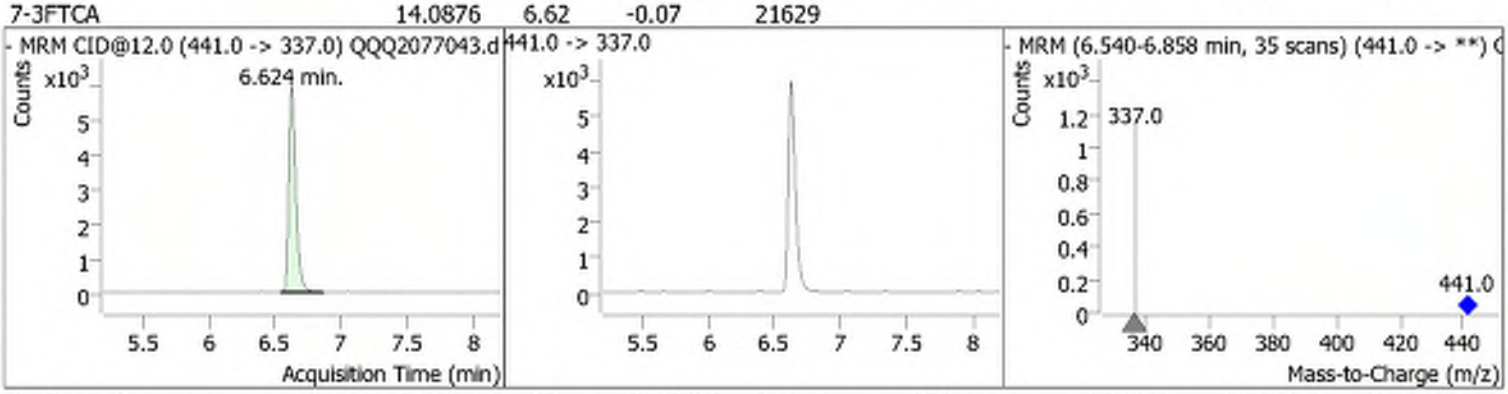


Quantitation Results Report (Not Reviewed)

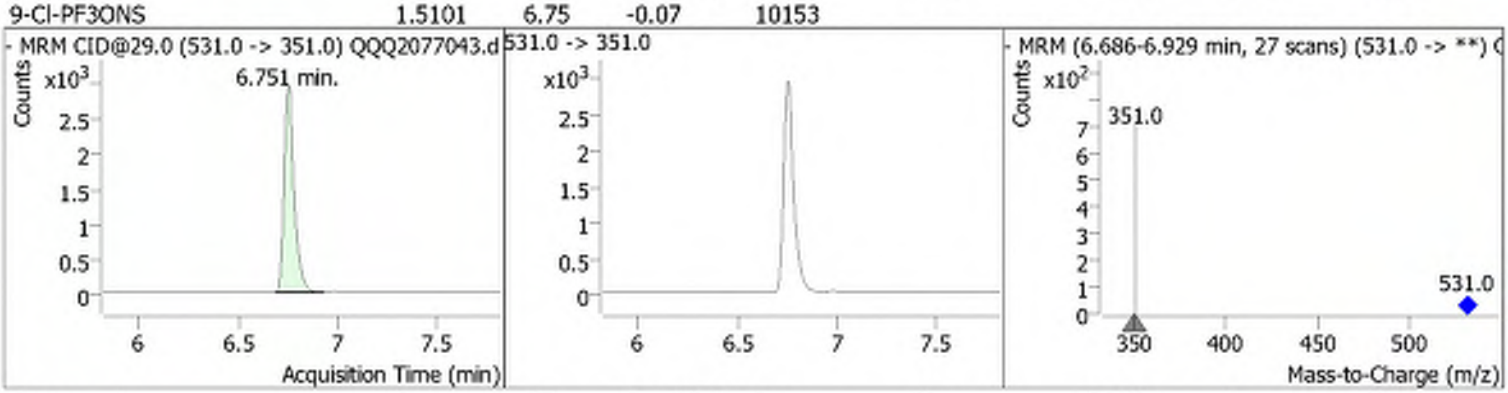
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.6693	6.50	-0.07	947 (m)				



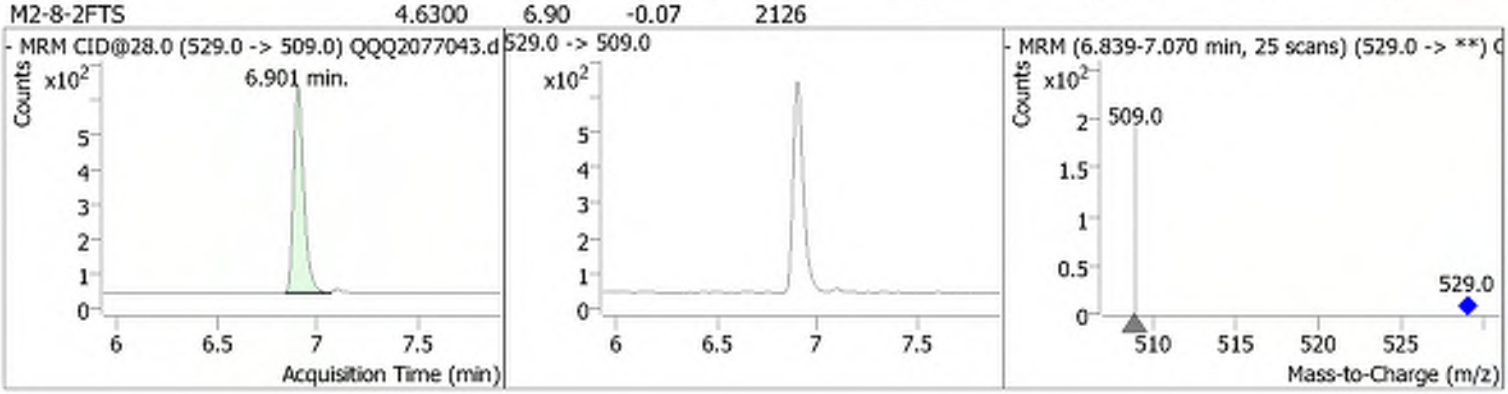
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
7-3FTCA	14.0876	6.62	-0.07	21629				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
9-Cl-PF3ONS	1.5101	6.75	-0.07	10153				



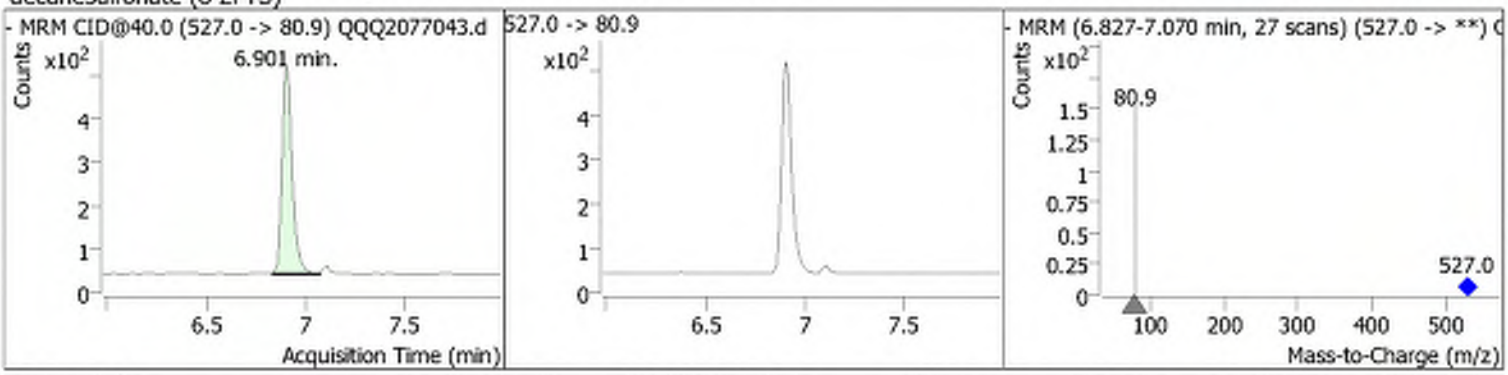
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.6300	6.90	-0.07	2126				



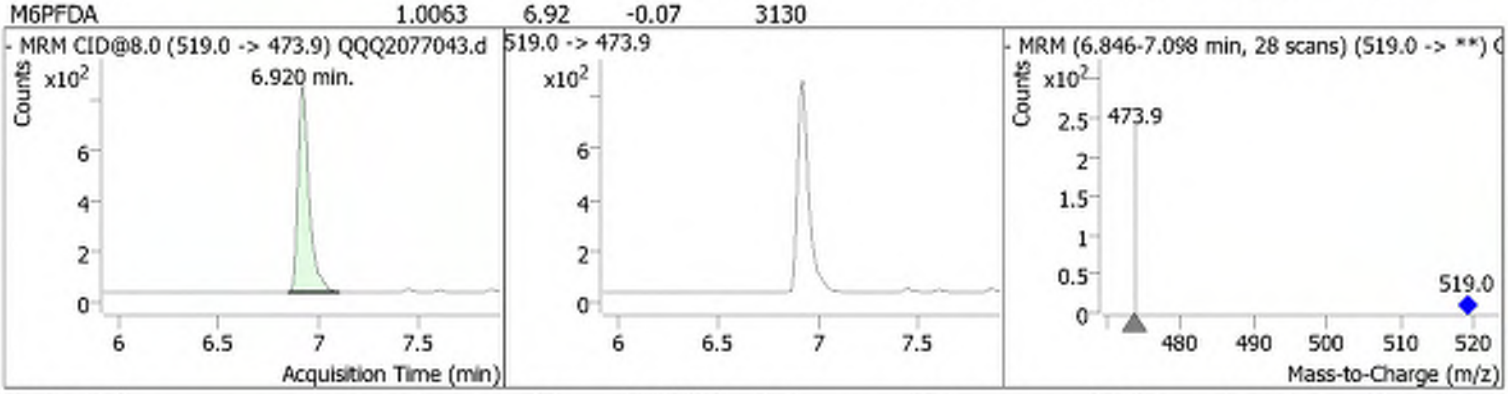
Quantitation Results Report (Not Reviewed)

Agilent

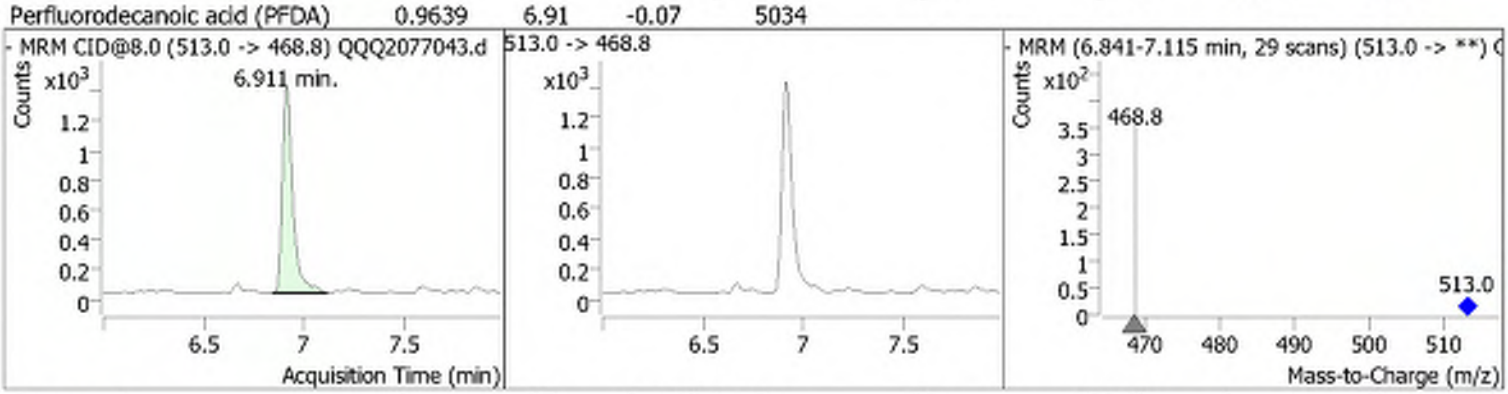
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	3.0589	6.90	-0.08	1651				



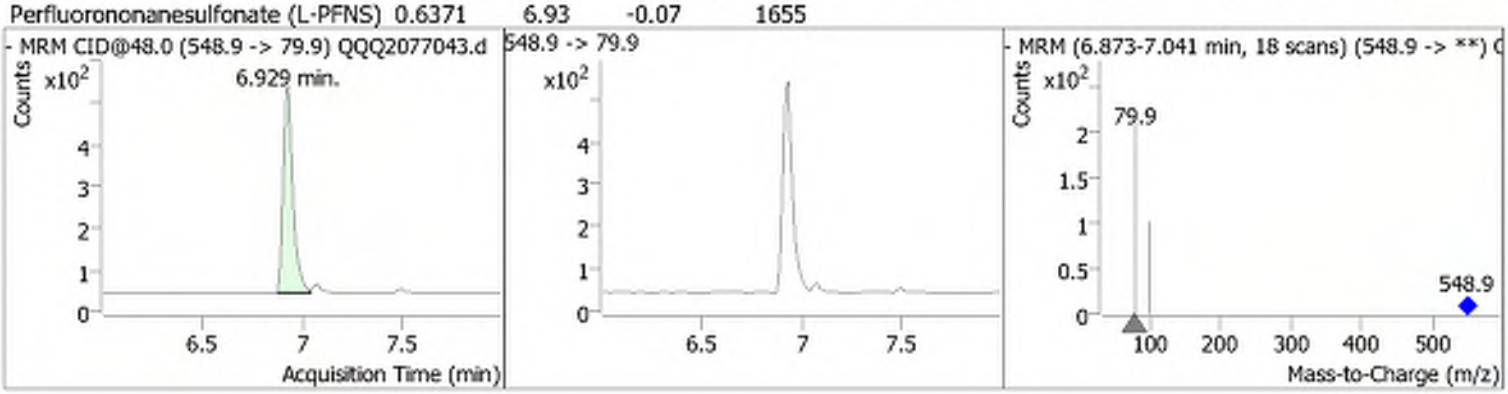
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.0063	6.92	-0.07	3130				



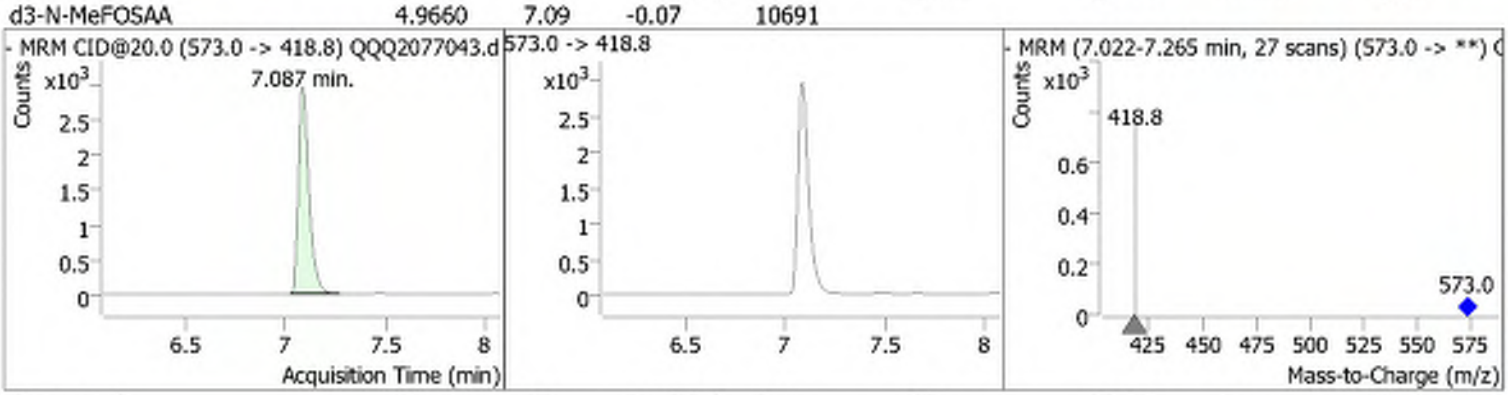
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.9639	6.91	-0.07	5034				



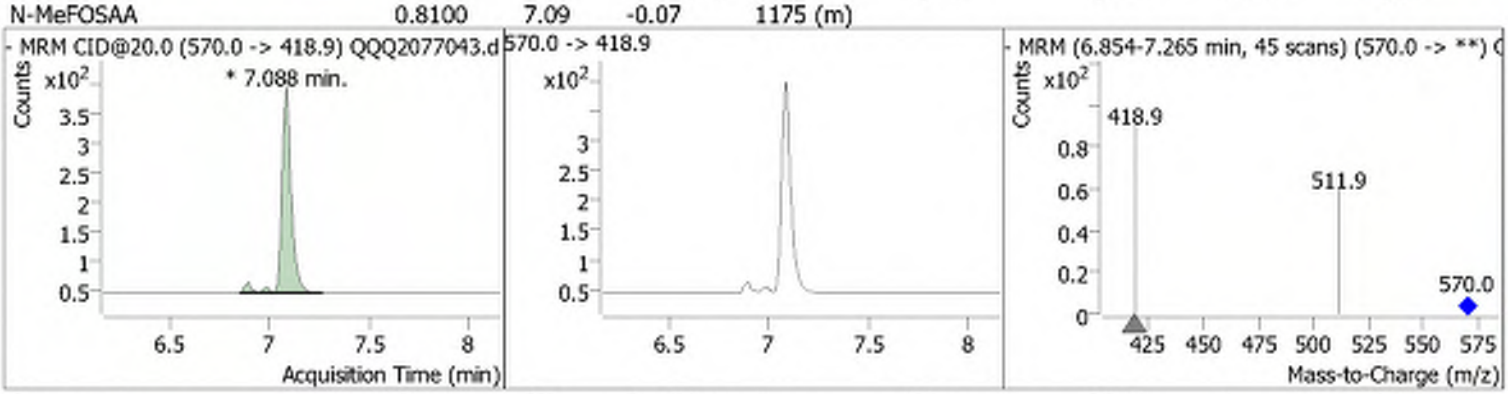
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.6371	6.93	-0.07	1655				



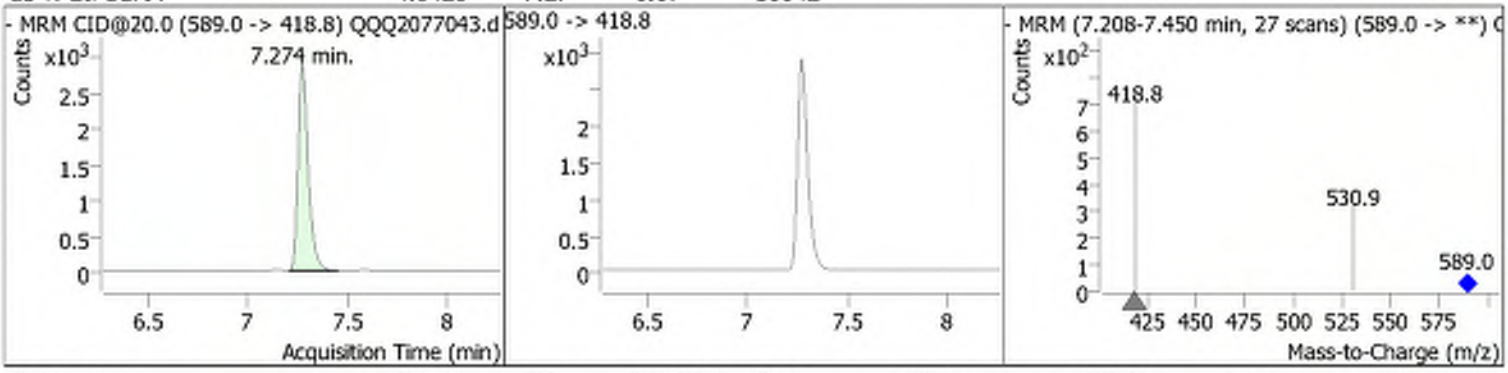
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.9660	7.09	-0.07	10691				



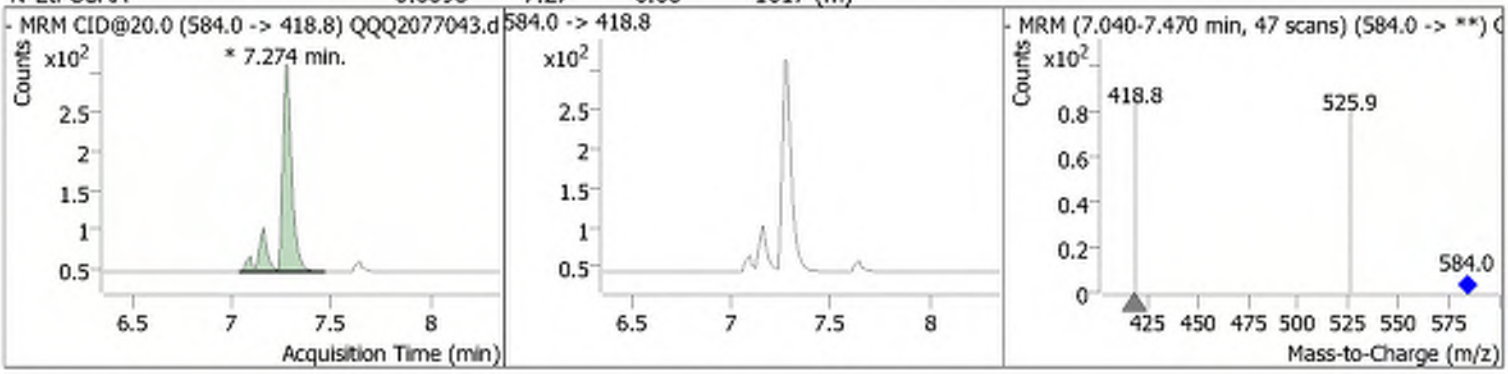
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.8100	7.09	-0.07	1175 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.6420	7.27	-0.07	10042				

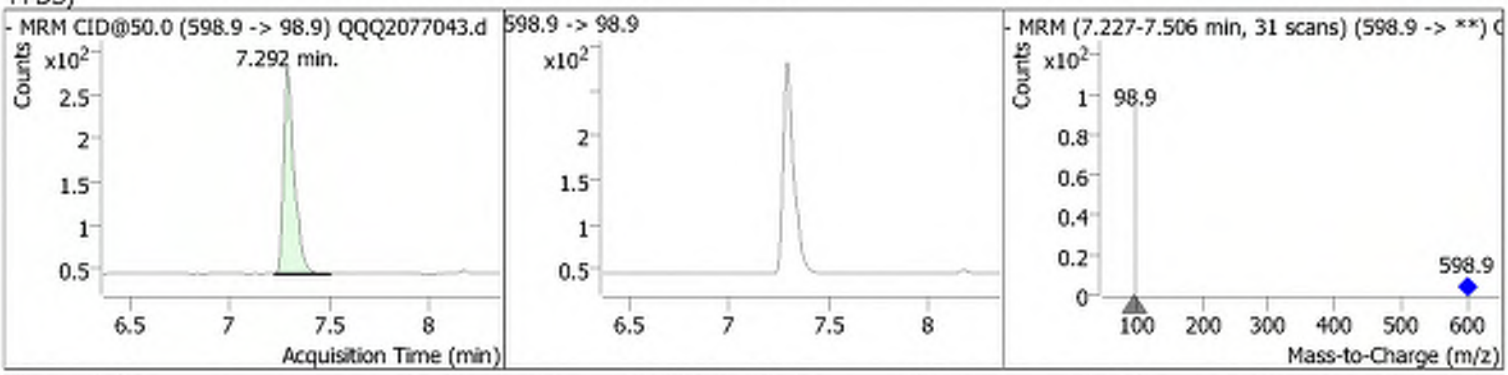


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.6698	7.27	-0.08	1017 (m)				

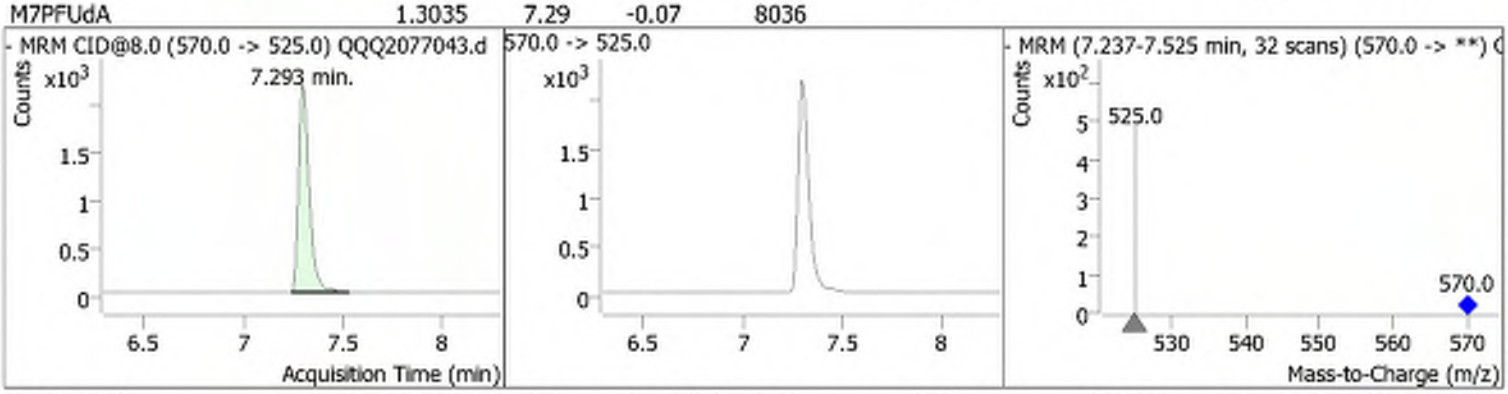


Quantitation Results Report (Not Reviewed)

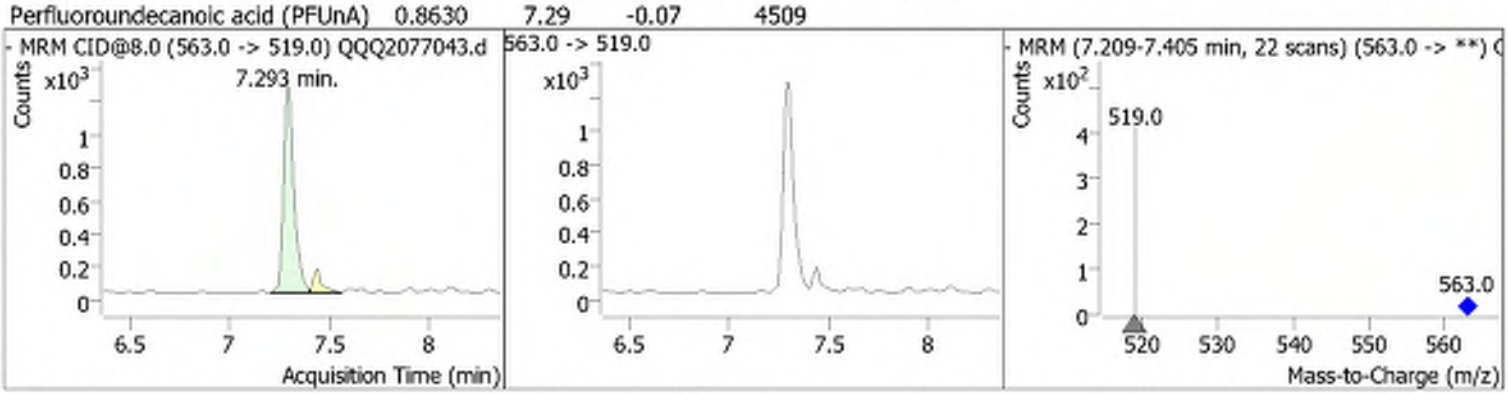
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.7766	7.29	-0.07	866				



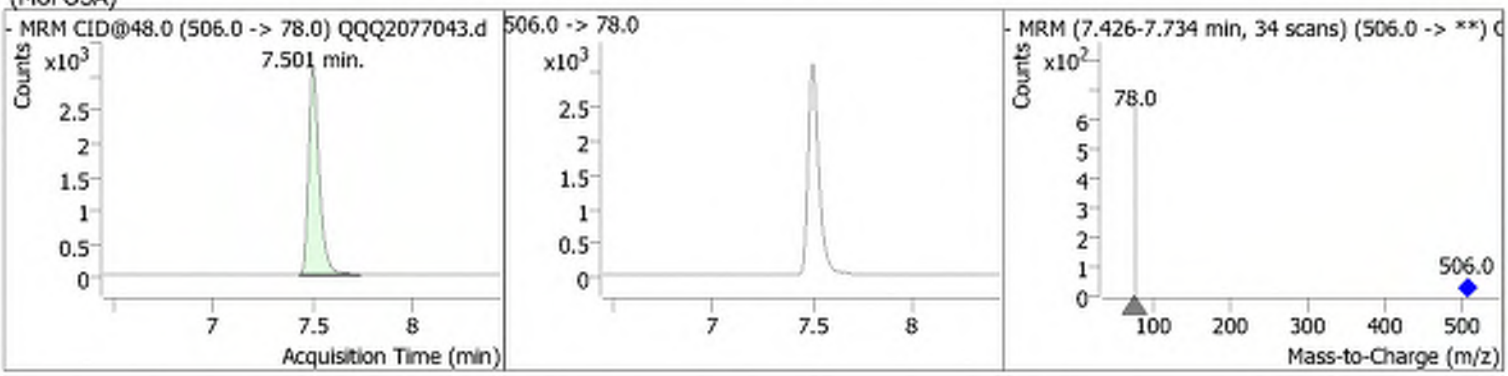
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	1.3035	7.29	-0.07	8036				



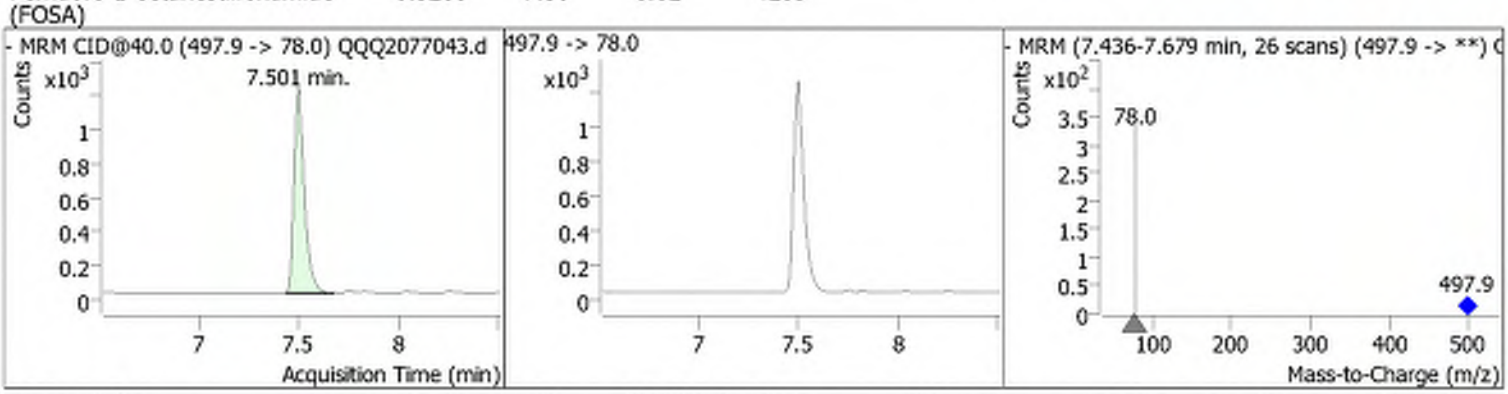
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.8630	7.29	-0.07	4509				



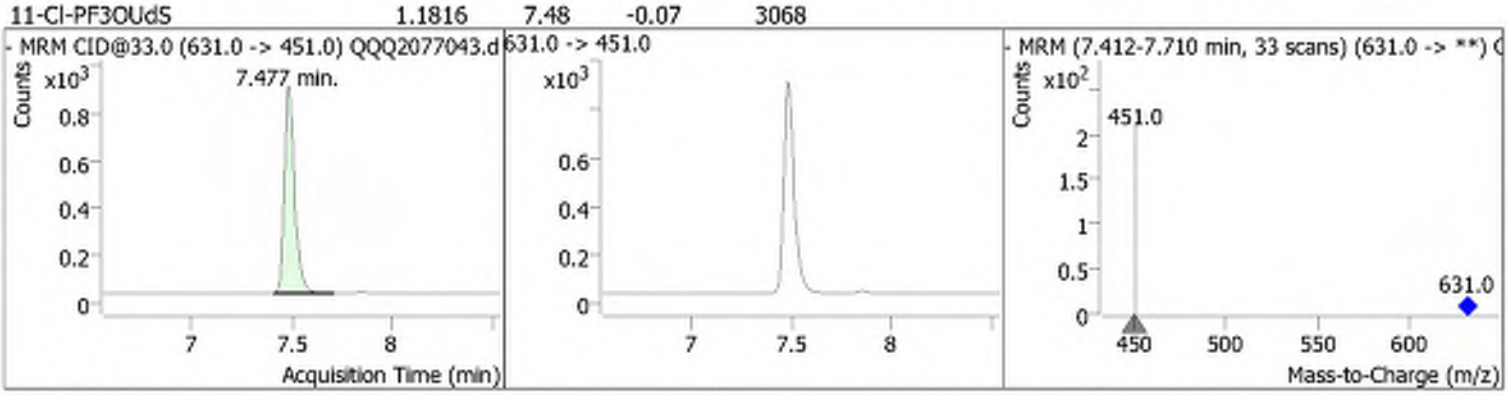
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.2000	7.50	-0.02	11494				



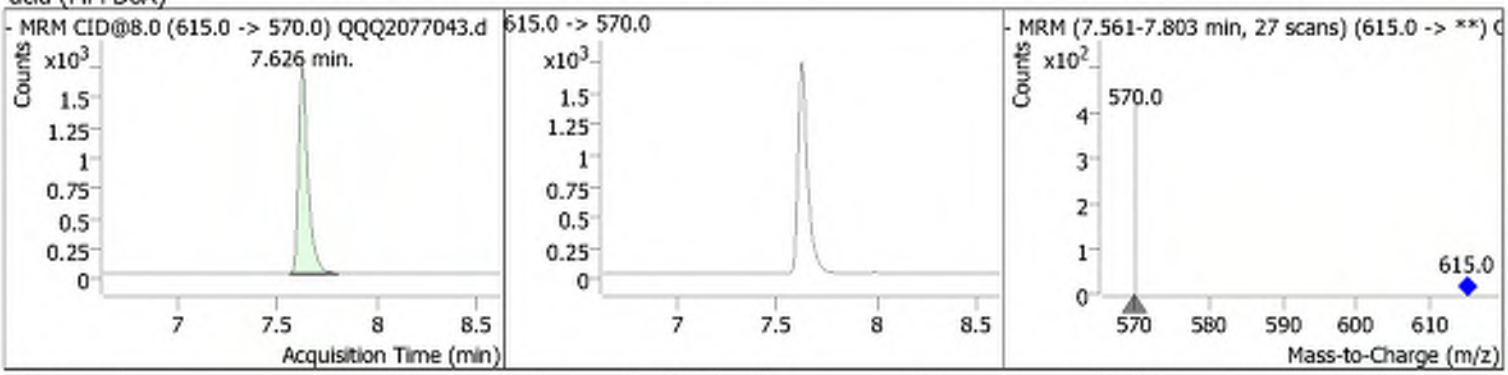
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.5288	7.50	-0.02	4283				



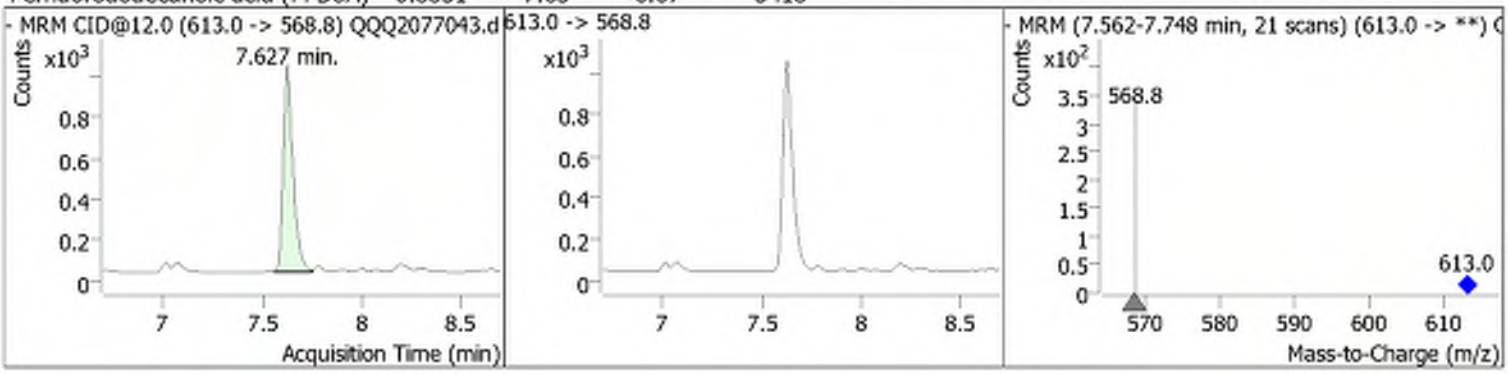
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
11-Cl-PF3OUdS	1.1816	7.48	-0.07	3068				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	1.0955	7.63	-0.07	5622				

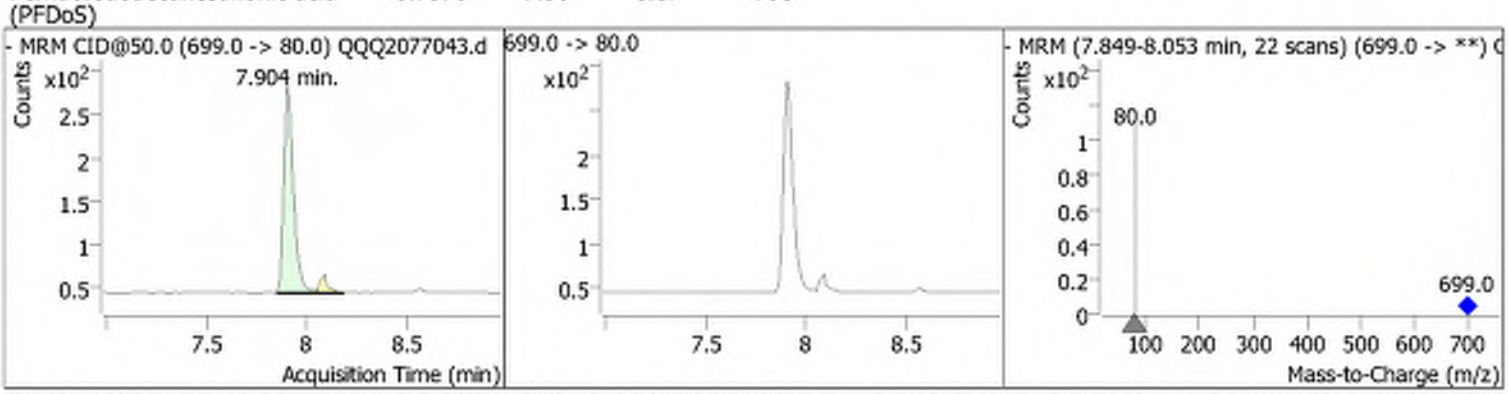


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.8831	7.63	-0.07	3418				

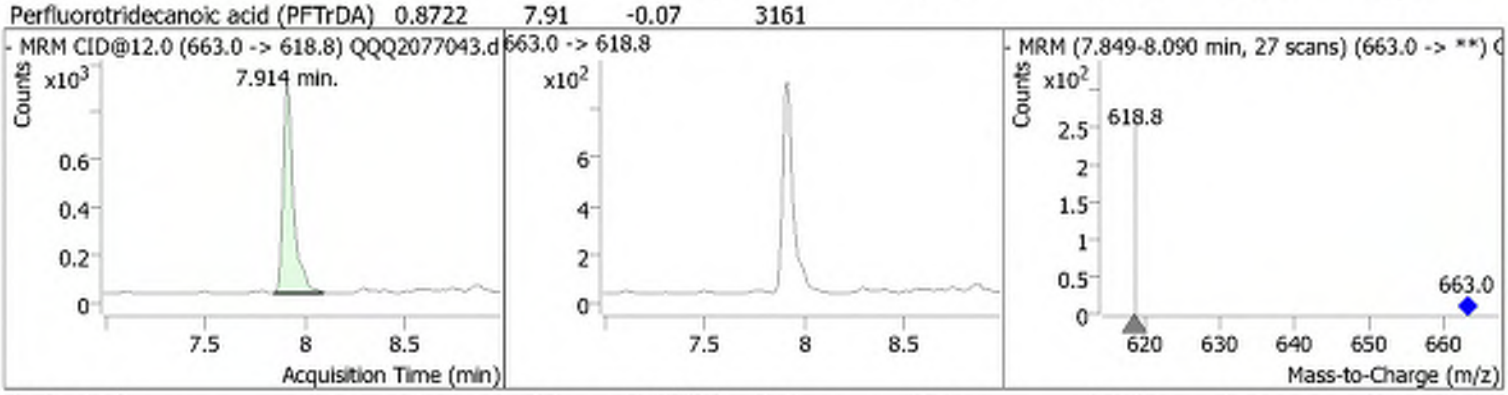


Quantitation Results Report (Not Reviewed)

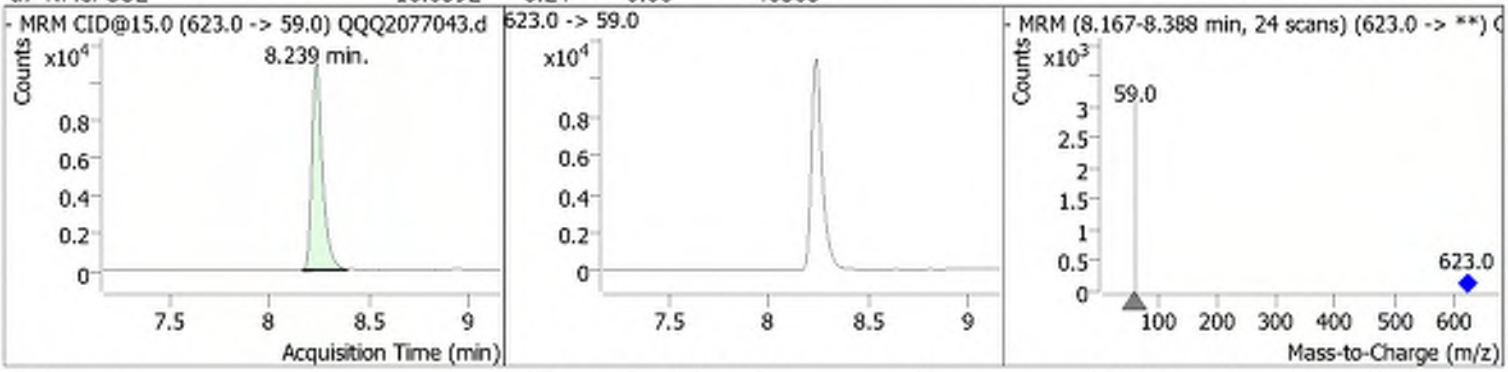
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanesulfonic acid (PFDoS)	0.7576	7.90	-0.07	798				



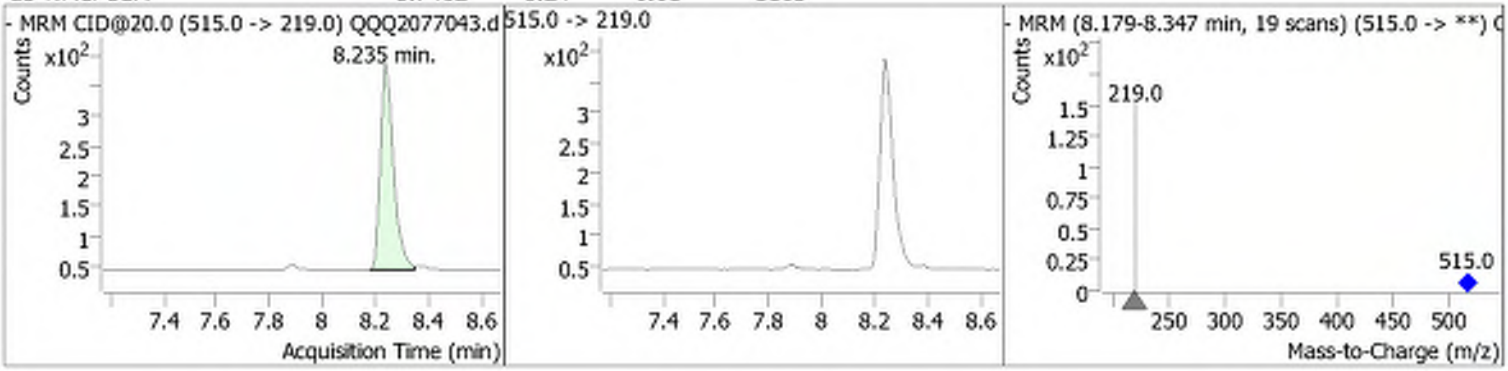
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.8722	7.91	-0.07	3161				



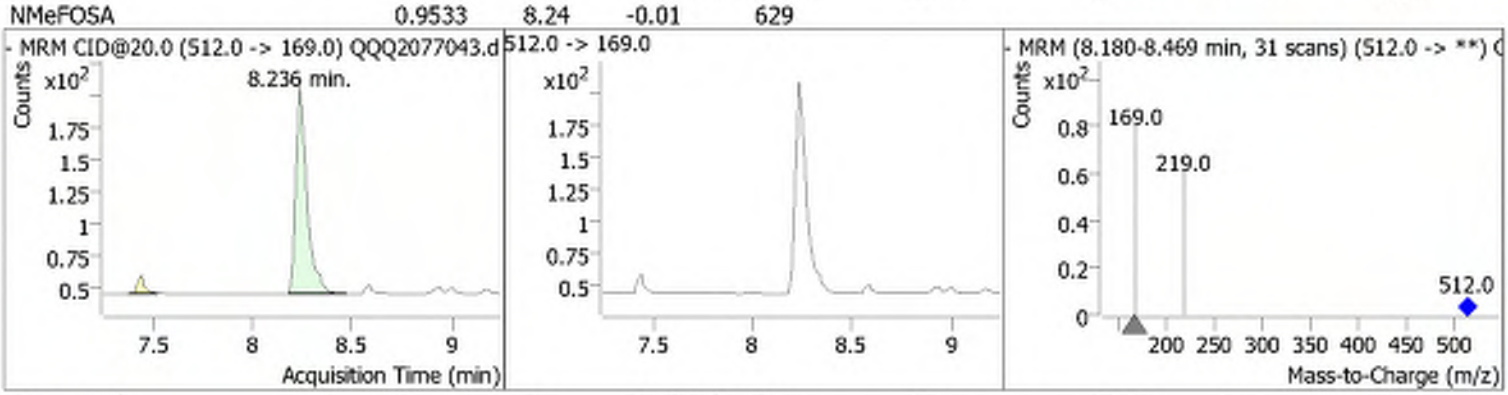
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d7-NMeFOSE	18.6592	8.24	0.00	40365				



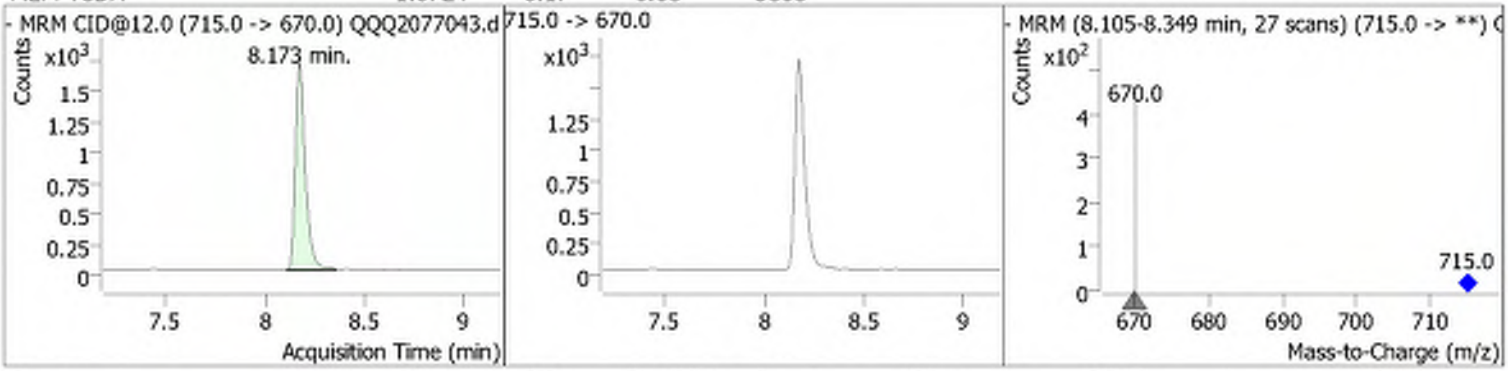
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-NMeFOSA	1.7462	8.24	-0.01	1165				



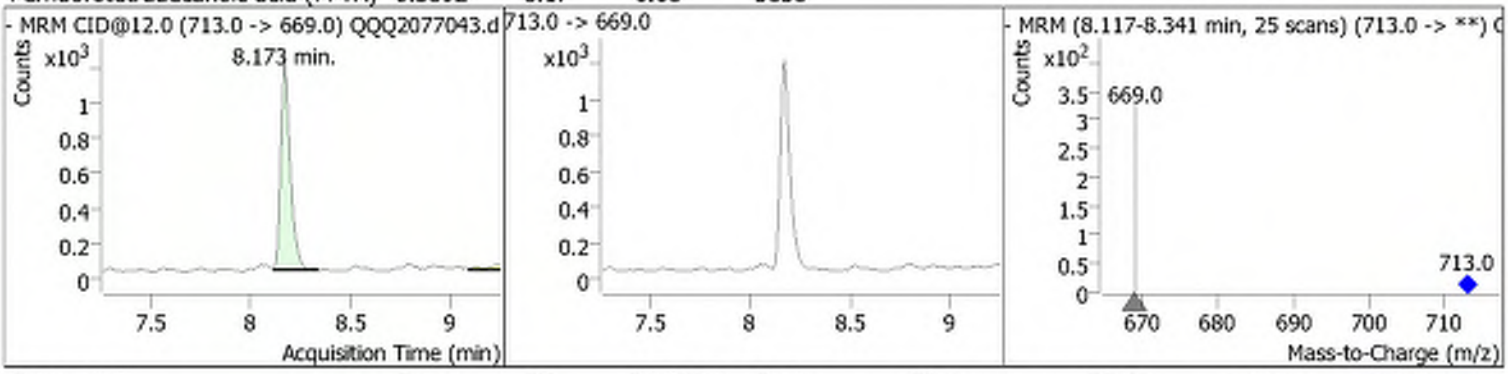
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSA	0.9533	8.24	-0.01	629				



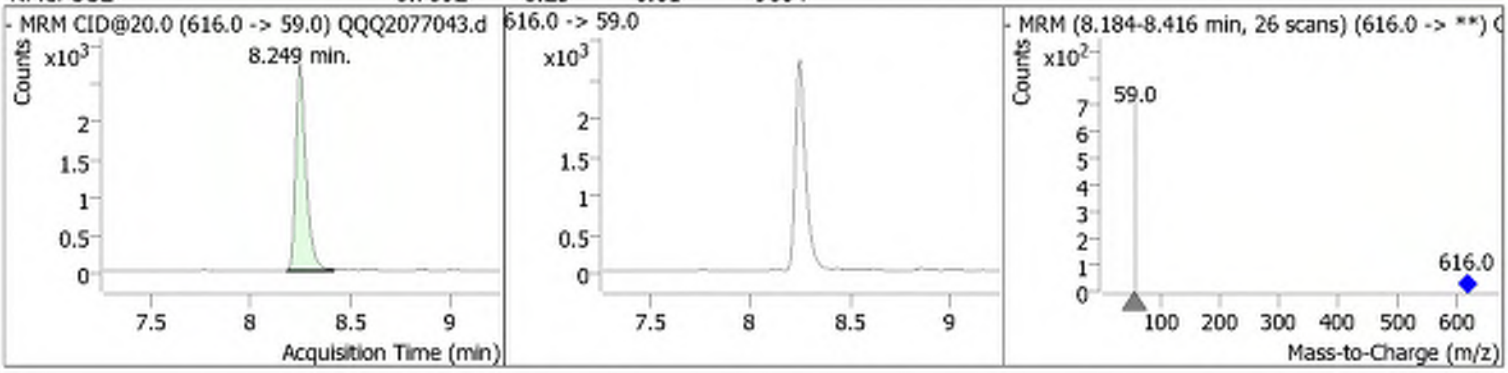
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	1.0724	8.17	-0.08	5808				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.5892	8.17	-0.08	3858				

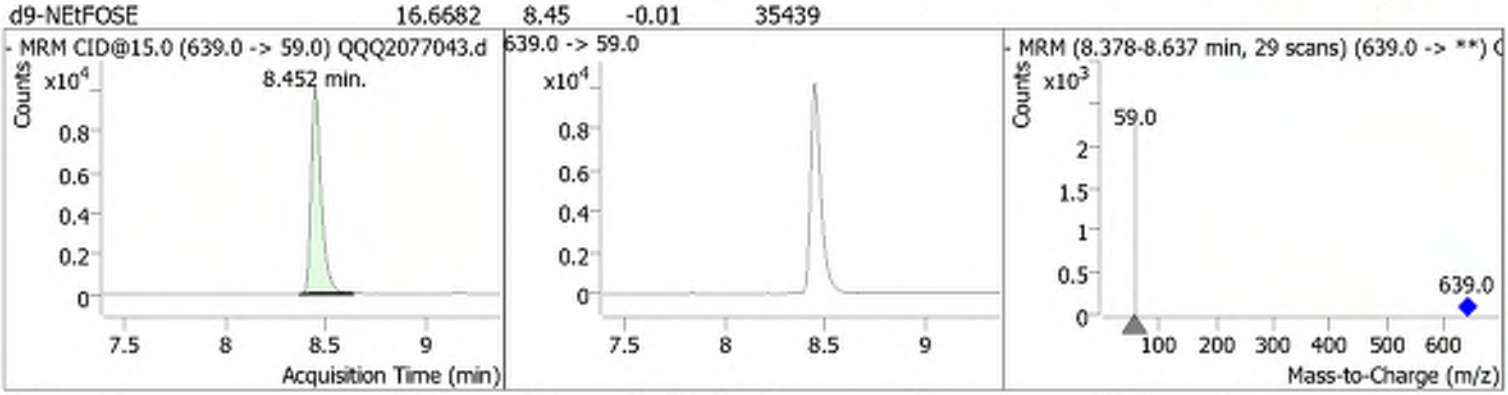


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NMeFOSE	6.7092	8.25	-0.01	9604				

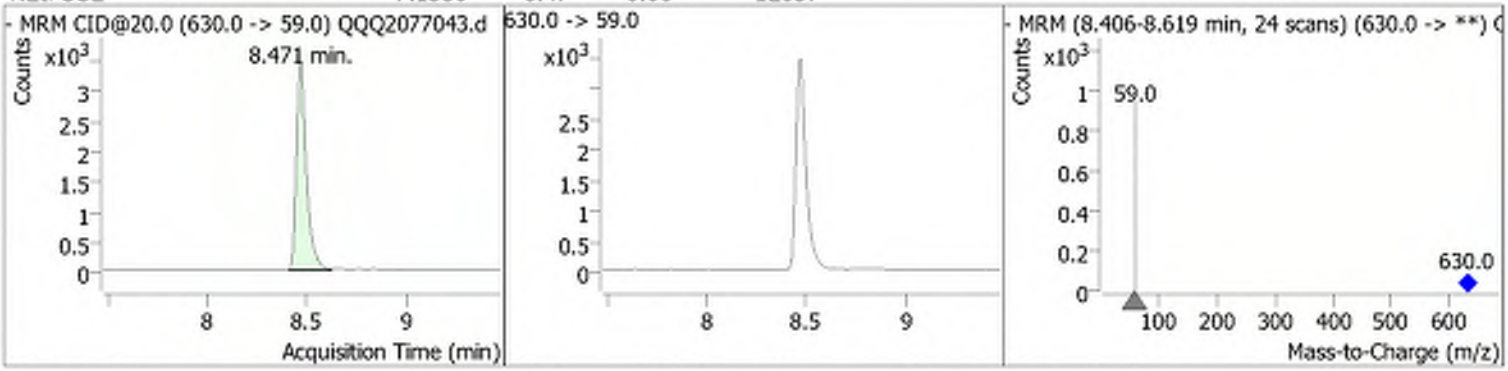


Quantitation Results Report (Not Reviewed)

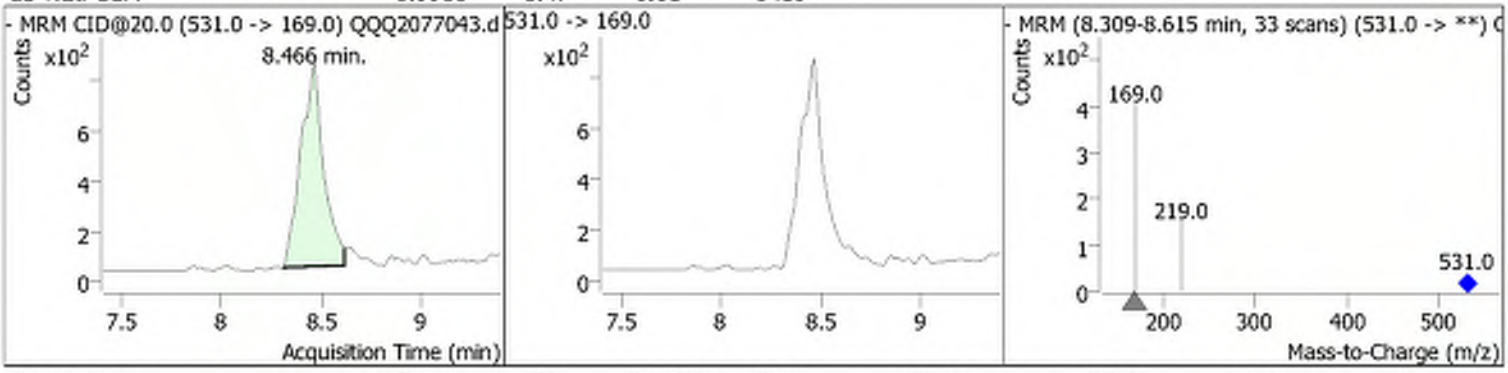
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d9-NEtFOSE	16.6682	8.45	-0.01	35439				



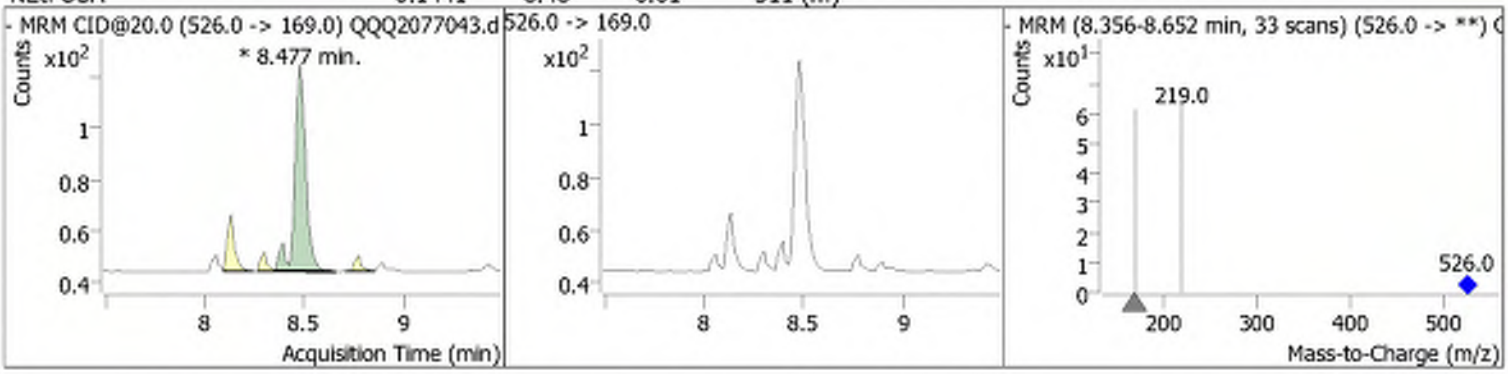
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSE	7.1350	8.47	0.00	12037				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-NEtFOSA	6.9980	8.47	-0.01	6419				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
NEtFOSA	0.1441	8.48	-0.01	311 (m)				



BENCHSHEETS

SDG: 23E0419

CLASS: PFAS

METHOD: EPA 1633 Draft 2

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30533

Preparation Date: 05/08/2023 17:38

York Analytical Laboratories, Inc. - Stratford **Printed: 5/11/2023 5:43:46AM**

Matrix: Soil **Preparation: EPA 1633 Prep** **Surrogate used: S23E096 25 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23D1588-01 A	PFAS, EPA 1633 Target List	0.52	5				From BE30075 by BAMW c
23D1619-12 A	PFAS, EPA 1633 Target List	0.51	5				From BD32003 by BAMW c
23D1735-01 A	PFAS, EPA 1633 Target List	0.56	5				From BE30075 by BAMW c
23E0027-02 A	PFAS, EPA 1633 Target List	5.04	5				From BE30309 by BAMW c
23E0204-01 A	PFAS, EPA 1633 Target List	5.06	5				From BE30309 by BAMW c
23E0359-01 G	PFAS, EPA 1633 Target List	5.05	5				
23E0359-02 G	PFAS, EPA 1633 Target List	5.07	5				
23E0359-03 G	PFAS, EPA 1633 Target List	5.04	5				
23E0359-04 G	PFAS, EPA 1633 Target List	5.05	5				
23E0359-05 G	PFAS, EPA 1633 Target List	5.07	5				
23E0359-06 G	PFAS, EPA 1633 Target List	5.09	5				
23E0359-07 G	PFAS, EPA 1633 Target List	5.07	5				
23E0359-08 G	PFAS, EPA 1633 Target List	5.04	5				
23E0359-09 G	PFAS, EPA 1633 Target List	5.05	5				
23E0383-03 G	PFAS, EPA 1633 Target List	5.02	5				
23E0383-04 G	PFAS, EPA 1633 Target List	5.02	5				
23E0419-01 A	PFAS, EPA 1633 Target List	5.02	5				
23E0419-02 A	PFAS, EPA 1633 Target List	5.04	5				
BE30533-BLK1	QC	5.06	5				
BE30533-BS1	QC	5.04	5	S23E099		100	
BE30533-BS2	QC	5.06	5	S23E099		20	
BE30533-DUP1	QC	0.56	5		23D1735-01		
BE30533-DUP2	QC	5	5		23E0204-01		

Reagents:

ID Number	Description	Lot Number
S22K123	Methanol w/ 4% H2O,1% NH4(	YorkPFAS
S22K128	Formic Acid, 0.3M - Aqueous	YorkPFAS
S23B383	Strata X-AW 33um, 200mg/6mL	S308-0150 S22-000913
S23D374	Water, PFAS Free Lot 042123A	042123A0
Y19G194	Acetic Acid, Glacial	0000219561

ID Number	Description	Lot Number
S22K125	Methanolic Ammonium Hydrox	YorkPFAS
S22K129	Formic Acid, Methanolic 1:1, 0.	YorkPFAS
S23C293	Methanol, HPLC Plus Grade	SHBQ3436
S23E139	Evolute PFAS 1633 200mg/6mL	-

Preparations Performed by **BAMW** **Date:** **05/08/2023 17:34**

BENCHSHEETS

SDG: 23E0419

CLASS: PFAS

METHOD: EPA 1633 Draft 2

PREPARATION BENCH SHEET-AQUEOUS: BE30673

Prepared: **05/15/2023 12:21**

York Analytical Laboratories, Inc. - Stratford

Printed: 5/18/2023 6:18:00AM

Matrix: Water **Preparation EPA 1633 Prep** **Surrogate used: S23D383** **25** **ul**

Lab Number	Analysis	Initial (mL)	Final (mL)	Spike 1 ID	ul Spike 1	Spike 2 ID	ul Spike 2	Source ID	pH Data Initial	pH Data Acid	pH Data Basic	Decanted Y/N	Comments
23E0330-07 A	PFAS, EPA 1633 Ti	263.31	5							6.2			
23E0330-08 A	PFAS, EPA 1633 Ti	269.09	5							6.0			
23E0359-10 A	PFAS, EPA 1633 Ti	492.34	5							6.2			
23E0383-06 D	PFAS, EPA 1633 Ti	132.73	5							6.2			
23E0419-03 A	PFAS, EPA 1633 Ti	521.44	5							6.2			
23E0422-01 A	PFAS, EPA 1633 Ti	539.86	5							7.6			Formic Acid added for pH 6.6
23E0503-04 A	PFAS, EPA 1633 Ti	547.11	5							5.5			Aq Ammonium Hydroxide 3% added
23E0503-05 A	PFAS, EPA 1633 Ti	529.59	5							6.0			
23E0503-06 A	PFAS, EPA 1633 Ti	534.17	5							6.0			
23E0557-13 A	PFAS, EPA 1633 Ti	518	5							5.8			Aq Ammonium Hydroxide 3% added
23E0610-07 A	PFAS, EPA 1633 Ti	259.95	5							6.2			
23E0638-01 C	PFAS, EPA 1633 Ti	275.59	5							6.2			
23E0638-02 B	PFAS, EPA 1633 Ti	283.39	5							6.2			
23E0638-03 B	PFAS, EPA 1633 Ti	273.58	5							6.2			
23E0641-01 B	PFAS, EPA 1633 Ti	507.18	5							6.2			
23E0641-02 B	PFAS, EPA 1633 Ti	543.9	5							6.2			
23E0645-05 B	PFAS, EPA 1633 Ti	520.58	5							6.2			
23E0660-09 A	PFAS, EPA 1633 Ti	535.79	5							6.0			
23E0748-20 A	PFAS, EPA 1633 Ti	525.39	5							6.0			
23E0751-09 A	PFAS, EPA 1633 Ti	285.31	5							6.2			
BE30673-BLK1	QC	250.02	5							6.96			
BE30673-BS1	QC	250.02	5	S23E265	100					6.96			
BE30673-BS2	QC	250.05	5	S23E265	20					6.96			
BE30673-DUP1	QC	532.78	5					23E0419-03		6.2			

From BA31644 on 2/7/2023 by WJH

Reagents:

ID Number	Description	Lot Number
S22K125	Methanolic Ammonium Hydroxide	YorkPFAS
S22K129	Formic Acid, Methanolic 1:1, 0.1M	YorkPFAS
S23E103	Water, PFAS Free Lot 032723A	050323A
S22K128	Formic Acid, 0.3M - Aqueous	YorkPFAS
S23D455	Methanol, HPLC Plus Grade	SHBQ4651
S23E139	Evolute PFAS 1633 200mg/6mL	-

Preparation Performed by **WJH** **Date:** **05/15/2023 12:21**

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: PEST

METHOD: EPA 8081B

DATA PACKAGE COVER PAGE

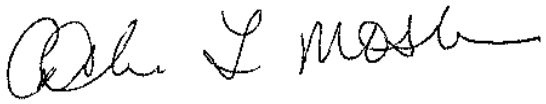
EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/19/2023 Title: Laboratory Manager

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1644 Instrument: GCECD6

Calibration: SE30027

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1644-CCV1)			Lab File ID: P60040941.D		Analyzed: 05/16/23 10:17			
Decachlorobiphenyl	160	85.4		11.704	11.70483	-0.0008	+/-0.10	
Decachlorobiphenyl [2C]	160	107		12.932	12.93567	-0.0037	+/-0.10	
Tetrachloro-m-xylene	160	84.1		3.33	3.329167	0.0008	+/-0.10	
Tetrachloro-m-xylene [2C]	160	96.3		3.69	3.686	0.0040	+/-0.10	
Blank (BE30881-BLK1)			Lab File ID: P60040944.D		Analyzed: 05/16/23 11:15			
Decachlorobiphenyl	0.0667	99.0	30 - 150	11.708	11.70483	0.0032	+/-0.10	
Decachlorobiphenyl [2C]	0.0667	122	30 - 150	12.939	12.93567	0.0033	+/-0.10	
Tetrachloro-m-xylene	0.0667	78.8	30 - 150	3.327	3.329167	-0.0022	+/-0.10	
Tetrachloro-m-xylene [2C]	0.0667	92.4	30 - 150	3.685	3.686	-0.0010	+/-0.10	
LCS (BE30881-BS1)			Lab File ID: P60040945.D		Analyzed: 05/16/23 11:34			
Decachlorobiphenyl	0.0667	76.8	30 - 150	11.704	11.70483	-0.0008	+/-0.10	
Decachlorobiphenyl [2C]	0.0667	91.2	30 - 150	12.936	12.93567	0.0003	+/-0.10	
Tetrachloro-m-xylene	0.0667	61.0	30 - 150	3.324	3.329167	-0.0052	+/-0.10	
Tetrachloro-m-xylene [2C]	0.0667	71.9	30 - 150	3.686	3.686	0.0000	+/-0.10	
EHQ_ITEM304_COMP01_230505 (23E0419-11)			Lab File ID: P60040950.D		Analyzed: 05/16/23 13:15			
Decachlorobiphenyl	0.0733	84.4	30 - 150	11.706	11.70483	0.0012	+/-0.10	
Decachlorobiphenyl [2C]	0.0733	106	30 - 150	12.936	12.93567	0.0003	+/-0.10	
Tetrachloro-m-xylene	0.0733	63.3	30 - 150	3.326	3.329167	-0.0032	+/-0.10	
Tetrachloro-m-xylene [2C]	0.0733	77.3	30 - 150	3.687	3.686	0.0010	+/-0.10	
EHQ_ITEM304_COMP02_230505 (23E0419-12)			Lab File ID: P60040951.D		Analyzed: 05/16/23 13:34			
Decachlorobiphenyl	0.0725	74.1	30 - 150	11.705	11.70483	0.0002	+/-0.10	
Decachlorobiphenyl [2C]	0.0725	86.0	30 - 150	12.937	12.93567	0.0013	+/-0.10	
Tetrachloro-m-xylene	0.0725	54.6	30 - 150	3.325	3.329167	-0.0042	+/-0.10	
Tetrachloro-m-xylene [2C]	0.0725	67.0	30 - 150	3.686	3.686	0.0000	+/-0.10	
Calibration Check (S3E1644-CCV4)			Lab File ID: P60040959.D		Analyzed: 05/16/23 16:07			
Decachlorobiphenyl	160	95.0		11.705	11.70483	0.0002	+/-0.10	
Decachlorobiphenyl [2C]	160	121		12.935	12.93567	-0.0007	+/-0.10	
Tetrachloro-m-xylene	160	88.3		3.328	3.329167	-0.0012	+/-0.10	
Tetrachloro-m-xylene [2C]	160	99.6		3.689	3.686	0.0030	+/-0.10	
Calibration Check (S3E1644-CCV5)			Lab File ID: P60040961.D		Analyzed: 05/16/23 16:58			
Decachlorobiphenyl	160	90.9		11.712	11.70483	0.0072	+/-0.10	
Decachlorobiphenyl [2C]	160	112		12.943	12.93567	0.0073	+/-0.10	
Tetrachloro-m-xylene	160	89.2		3.331	3.329167	0.0018	+/-0.10	
Tetrachloro-m-xylene [2C]	160	100		3.691	3.686	0.0050	+/-0.10	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1644	Instrument:	GCECD6
		Calibration:	SE30027

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1644-CCV6)				Lab File ID: P60040973.D		Analyzed: 05/16/23 20:56		
Decachlorobiphenyl	160	88.6		11.709	11.70483	0.0042	+/-0.10	
Decachlorobiphenyl [2C]	160	81.9		12.935	12.93567	-0.0007	+/-0.10	
Tetrachloro-m-xylene	160	90.1		3.331	3.329167	0.0018	+/-0.10	
Tetrachloro-m-xylene [2C]	160	88.9		3.691	3.686	0.0050	+/-0.10	
Calibration Check (S3E1644-CCV7)				Lab File ID: P60040985.D		Analyzed: 05/17/23 00:46		
Decachlorobiphenyl	160	86.5		11.71	11.70483	0.0052	+/-0.10	
Decachlorobiphenyl [2C]	160	111		12.935	12.93567	-0.0007	+/-0.10	
Tetrachloro-m-xylene	160	85.9		3.329	3.329167	-0.0002	+/-0.10	
Tetrachloro-m-xylene [2C]	160	105		3.69	3.686	0.0040	+/-0.10	
Calibration Check (S3E1644-CCV8)				Lab File ID: P60040998.D		Analyzed: 05/17/23 04:55		
Decachlorobiphenyl	160	90.6		11.704	11.70483	-0.0008	+/-0.10	
Decachlorobiphenyl [2C]	160	106		12.934	12.93567	-0.0017	+/-0.10	
Tetrachloro-m-xylene	160	85.7		3.327	3.329167	-0.0022	+/-0.10	
Tetrachloro-m-xylene [2C]	160	94.4		3.688	3.686	0.0020	+/-0.10	
Calibration Check (S3E1644-CCV9)				Lab File ID: P60041010.D		Analyzed: 05/17/23 08:44		
Decachlorobiphenyl	160	94.1		11.707	11.70483	0.0022	+/-0.10	
Decachlorobiphenyl [2C]	160	123		12.934	12.93567	-0.0017	+/-0.10	
Tetrachloro-m-xylene	160	88.3		3.329	3.329167	-0.0002	+/-0.10	
Tetrachloro-m-xylene [2C]	160	107		3.691	3.686	0.0050	+/-0.10	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30881	Laboratory ID:	BE30881-BS1
Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
4,4'-DDD	0.0333	0.0216	64.9	40 - 140
4,4'-DDD [2C]	0.0333	0.0267	80.1	40 - 140
4,4'-DDE	0.0333	0.0203	60.8	40 - 140
4,4'-DDE [2C]	0.0333	0.0262	78.7	40 - 140
4,4'-DDT	0.0333	0.0212	63.7	40 - 140
4,4'-DDT [2C]	0.0333	0.0155	46.4	40 - 140
Aldrin	0.0333	0.0215	64.6	40 - 140
Aldrin [2C]	0.0333	0.0246	73.8	40 - 140
alpha-BHC	0.0333	0.0221	66.2	40 - 140
alpha-BHC [2C]	0.0333	0.0278	83.3	40 - 140
alpha-Chlordane	0.0333	0.0200	60.1	40 - 140
alpha-Chlordane [2C]	0.0333	0.0264	79.3	40 - 140
beta-BHC	0.0333	0.0205	61.5	40 - 140
beta-BHC [2C]	0.0333	0.0297	89.1	40 - 140
delta-BHC	0.0333	0.0223	66.9	40 - 140
delta-BHC [2C]	0.0333	0.0263	78.8	40 - 140
Dieldrin	0.0333	0.0214	64.3	40 - 140
Dieldrin [2C]	0.0333	0.0264	79.1	40 - 140
Endosulfan I	0.0333	0.0220	66.0	40 - 140
Endosulfan I [2C]	0.0333	0.0273	82.0	40 - 140
Endosulfan II	0.0333	0.0226	67.7	40 - 140
Endosulfan II [2C]	0.0333	0.0264	79.3	40 - 140
Endosulfan sulfate	0.0333	0.0224	67.1	40 - 140
Endosulfan sulfate [2C]	0.0333	0.0258	77.4	40 - 140
Endrin	0.0333	0.0221	66.4	40 - 140
Endrin [2C]	0.0333	0.0282	84.7	40 - 140
Endrin aldehyde	0.0333	0.0200	59.9	40 - 140
Endrin aldehyde [2C]	0.0333	0.0250	75.1	40 - 140
Endrin ketone	0.0333	0.0233	70.0	40 - 140
Endrin ketone [2C]	0.0333	0.0247	74.0	40 - 140

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30881	Laboratory ID:	BE30881-BS1
Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
gamma-BHC (Lindane)	0.0333	0.0218	65.4	40 - 140
gamma-BHC (Lindane) [2C]	0.0333	0.0278	83.5	40 - 140
gamma-Chlordane	0.0333	0.0210	62.9	40 - 140
gamma-Chlordane [2C]	0.0333	0.0259	77.6	40 - 140
Heptachlor	0.0333	0.0219	65.7	40 - 140
Heptachlor [2C]	0.0333	0.0258	77.5	40 - 140
Heptachlor epoxide	0.0333	0.0218	65.5	40 - 140
Heptachlor epoxide [2C]	0.0333	0.0268	80.5	40 - 140
Methoxychlor	0.0333	0.0220	66.1	40 - 140
Methoxychlor [2C]	0.0333	0.0151	45.3	40 - 140

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30881 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11	P60040950.D	05/14/23 08:42	rocky
EHQ_ITEM304_COMP02_230505	23E0419-12	P60040951.D	05/14/23 08:42	
Blank	BE30881-BLK1	P60040944.D	05/14/23 08:42	
LCS	BE30881-BS1	P60040945.D	05/14/23 08:42	

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30881-BLK1	File ID:	P60040944.D
Prepared:	05/14/23 08:42	Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL
Analyzed:	05/16/23 11:15	Instrument:	GCECD6		
Batch:	BE30881	Sequence:	S3E1644	Calibration:	SE30027

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
72-54-8	4,4'-DDD	0.00165	U
72-54-8	4,4'-DDD [2C]	0.00165	U
72-55-9	4,4'-DDE	0.00165	U
72-55-9	4,4'-DDE [2C]	0.00165	U
50-29-3	4,4'-DDT	0.00165	U
50-29-3	4,4'-DDT [2C]	0.00165	U
309-00-2	Aldrin	0.00165	U
309-00-2	Aldrin [2C]	0.00165	U
319-84-6	alpha-BHC	0.00165	U
319-84-6	alpha-BHC [2C]	0.00165	U
5103-71-9	alpha-Chlordane	0.00165	U
5103-71-9	alpha-Chlordane [2C]	0.00165	U
319-85-7	beta-BHC	0.00165	U
319-85-7	beta-BHC [2C]	0.00165	U
57-74-9	Chlordane, total	0.0330	U
57-74-9	Chlordane, total [2C]	0.0330	U
319-86-8	delta-BHC	0.00165	U
319-86-8	delta-BHC [2C]	0.00165	U
60-57-1	Dieldrin	0.00165	U
60-57-1	Dieldrin [2C]	0.00165	U
959-98-8	Endosulfan I	0.00165	U
959-98-8	Endosulfan I [2C]	0.00165	U
33213-65-9	Endosulfan II	0.00165	U
33213-65-9	Endosulfan II [2C]	0.00165	U
1031-07-8	Endosulfan sulfate	0.00165	U
1031-07-8	Endosulfan sulfate [2C]	0.00165	U
72-20-8	Endrin	0.00165	U
72-20-8	Endrin [2C]	0.00165	U
7421-93-4	Endrin aldehyde	0.00165	U
7421-93-4	Endrin aldehyde [2C]	0.00165	U

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30881-BLK1	File ID:	P60040944.D
Prepared:	05/14/23 08:42	Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL
Analyzed:	05/16/23 11:15	Instrument:	GCECD6		
Batch:	BE30881	Sequence:	S3E1644	Calibration:	SE30027

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
53494-70-5	Endrin ketone	0.00165	U
53494-70-5	Endrin ketone [2C]	0.00165	U
58-89-9	gamma-BHC (Lindane)	0.00165	U
58-89-9	gamma-BHC (Lindane) [2C]	0.00165	U
5566-34-7	gamma-Chlordane	0.00165	U
5566-34-7	gamma-Chlordane [2C]	0.00165	U
76-44-8	Heptachlor	0.00165	U
76-44-8	Heptachlor [2C]	0.00165	U
1024-57-3	Heptachlor epoxide	0.00165	U
1024-57-3	Heptachlor epoxide [2C]	0.00165	U
72-43-5	Methoxychlor	0.00165	U
72-43-5	Methoxychlor [2C]	0.00165	U
8001-35-2	Toxaphene	0.165	U
8001-35-2	Toxaphene [2C]	0.165	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0667	0.0660	99.0	30 - 150	
Decachlorobiphenyl [2C]	0.0667	0.0816	122	30 - 150	
Tetrachloro-m-xylene	0.0667	0.0526	78.8	30 - 150	
Tetrachloro-m-xylene [2C]	0.0667	0.0616	92.4	30 - 150	

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1644	Instrument:	GCECD6
		Calibration:	SE30027

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	S3E1644-PEM1	P60040939.D	05/16/23 09:38
Calibration Check	S3E1644-CCV1	P60040941.D	05/16/23 10:17
Calibration Check	S3E1644-CCV2	P60040942.D	05/16/23 10:36
Calibration Check	S3E1644-CCV3	P60040943.D	05/16/23 10:55
Blank	BE30881-BLK1	P60040944.D	05/16/23 11:15
LCS	BE30881-BS1	P60040945.D	05/16/23 11:34
EHQ_ITEM304_COMP01_230505	23E0419-11	P60040950.D	05/16/23 13:15
EHQ_ITEM304_COMP02_230505	23E0419-12	P60040951.D	05/16/23 13:34
Calibration Check	S3E1644-CCV4	P60040959.D	05/16/23 16:07
Performance Mix	S3E1644-PEM2	P60040960.D	05/16/23 16:39
Calibration Check	S3E1644-CCV5	P60040961.D	05/16/23 16:58
Calibration Check	S3E1644-CCV6	P60040973.D	05/16/23 20:56
Calibration Check	S3E1644-CCV7	P60040985.D	05/17/23 00:46
Calibration Check	S3E1644-CCV8	P60040998.D	05/17/23 04:55
Calibration Check	S3E1644-CCV9	P60041010.D	05/17/23 08:44

HOLDING TIME SUMMARY

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/14/23 08:42	8.82	14.00	05/16/23 13:15	2.19	40.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/14/23 08:42	8.81	14.00	05/16/23 13:34	2.20	40.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:** GCECD6

Analyte	LOD	LOQ	Units
4,4'-DDD	0.000330	0.000330	mg/kg
4,4'-DDD [2C]	0.000330	0.000330	mg/kg
4,4'-DDE	0.000330	0.000330	mg/kg
4,4'-DDE [2C]	0.000330	0.000330	mg/kg
4,4'-DDT	0.000330	0.000330	mg/kg
4,4'-DDT [2C]	0.000330	0.000330	mg/kg
Aldrin	0.000330	0.000330	mg/kg
Aldrin [2C]	0.000330	0.000330	mg/kg
alpha-BHC	0.000330	0.000330	mg/kg
alpha-BHC [2C]	0.000330	0.000330	mg/kg
alpha-Chlordane	0.000330	0.000330	mg/kg
alpha-Chlordane [2C]	0.000330	0.000330	mg/kg
beta-BHC	0.000330	0.000330	mg/kg
beta-BHC [2C]	0.000330	0.000330	mg/kg
Chlordane, total	0.00660	0.00660	mg/kg
Chlordane, total [2C]	0.00660	0.00660	mg/kg
delta-BHC	0.000330	0.000330	mg/kg
delta-BHC [2C]	0.000330	0.000330	mg/kg
Dieldrin	0.000330	0.000330	mg/kg
Dieldrin [2C]	0.000330	0.000330	mg/kg
Endosulfan I	0.000330	0.000330	mg/kg
Endosulfan I [2C]	0.000330	0.000330	mg/kg
Endosulfan II	0.000330	0.000330	mg/kg
Endosulfan II [2C]	0.000330	0.000330	mg/kg
Endosulfan sulfate	0.000330	0.000330	mg/kg
Endosulfan sulfate [2C]	0.000330	0.000330	mg/kg
Endrin	0.000330	0.000330	mg/kg
Endrin [2C]	0.000330	0.000330	mg/kg
Endrin aldehyde	0.000330	0.000330	mg/kg
Endrin aldehyde [2C]	0.000330	0.000330	mg/kg
Endrin ketone	0.000330	0.000330	mg/kg
Endrin ketone [2C]	0.000330	0.000330	mg/kg
gamma-BHC (Lindane)	0.000330	0.000330	mg/kg
gamma-BHC (Lindane) [2C]	0.000330	0.000330	mg/kg
gamma-Chlordane	0.000330	0.000330	mg/kg
gamma-Chlordane [2C]	0.000330	0.000330	mg/kg
Heptachlor	0.000330	0.000330	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:** GCECD6

Analyte	LOD	LOQ	Units
Heptachlor [2C]	0.000330	0.000330	mg/kg
Heptachlor epoxide	0.000330	0.000330	mg/kg
Heptachlor epoxide [2C]	0.000330	0.000330	mg/kg
Methoxychlor	0.000330	0.000330	mg/kg
Methoxychlor [2C]	0.000330	0.000330	mg/kg
Toxaphene	0.0330	0.0330	mg/kg
Toxaphene [2C]	0.0330	0.0330	mg/kg

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-11 File ID: P60040950.D

Sampled: 05/05/23 13:00 Prepared: 05/14/23 08:42 Analyzed: 05/16/23 13:15

Solids: 90.64 Preparation: EPA 3550C Initial/Final: 30.1 g / 10 mL

Batch: BE30881 Sequence: S3E1644 Calibration: SE30027 Instrument: GCECD6

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00181	U
72-55-9	4,4'-DDE	5	0.00181	U
50-29-3	4,4'-DDT	5	0.00181	U
309-00-2	Aldrin	5	0.00181	U
319-84-6	alpha-BHC	5	0.00181	U
5103-71-9	alpha-Chlordane	5	0.00181	U
319-85-7	beta-BHC	5	0.00181	U
319-86-8	delta-BHC	5	0.00181	U
60-57-1	Dieldrin	5	0.00181	U
959-98-8	Endosulfan I	5	0.00181	U
33213-65-9	Endosulfan II	5	0.00181	U
1031-07-8	Endosulfan sulfate	5	0.00181	U
72-20-8	Endrin	5	0.00181	U
7421-93-4	Endrin aldehyde	5	0.00181	U
53494-70-5	Endrin ketone	5	0.00181	U
58-89-9	gamma-BHC (Lindane)	5	0.00181	U
5566-34-7	gamma-Chlordane	5	0.00181	U
76-44-8	Heptachlor	5	0.00181	U
1024-57-3	Heptachlor epoxide	5	0.00181	U
72-43-5	Methoxychlor	5	0.00181	U
8001-35-2	Toxaphene	5	0.181	U
57-74-9	Chlordane, total	5	0.0363	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0733	0.0618	84.4	30 - 150	
Tetrachloro-m-xylene	0.0733	0.0464	63.3	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040950.D
Acq On : 16 May 2023 1:15 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : 23E0419-11
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 12 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 13:40:06 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

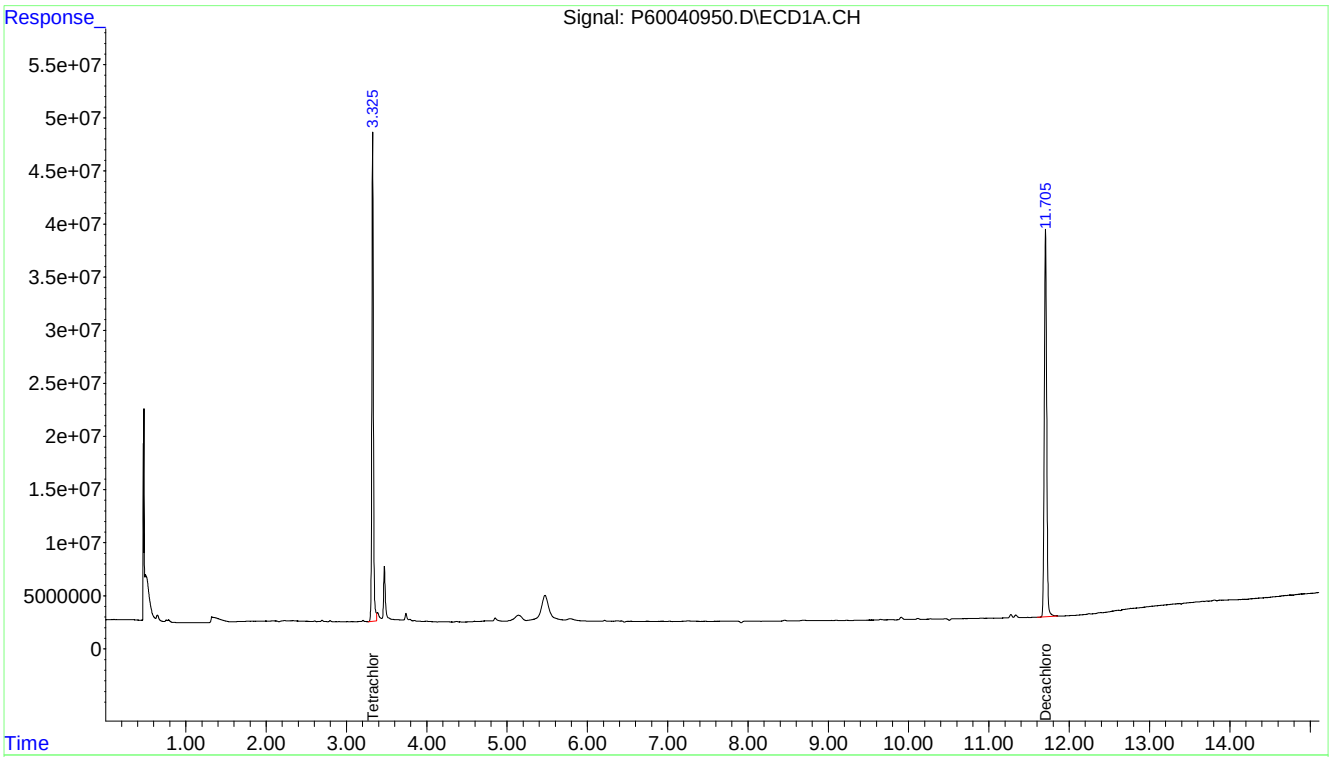
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.326	3.687	608.4E6	2991.6E6	25.328	30.936
24) S	Decachlor...	11.706	12.936	738.9E6	4703.6E6	33.740	42.533 #
	Target Compounds						

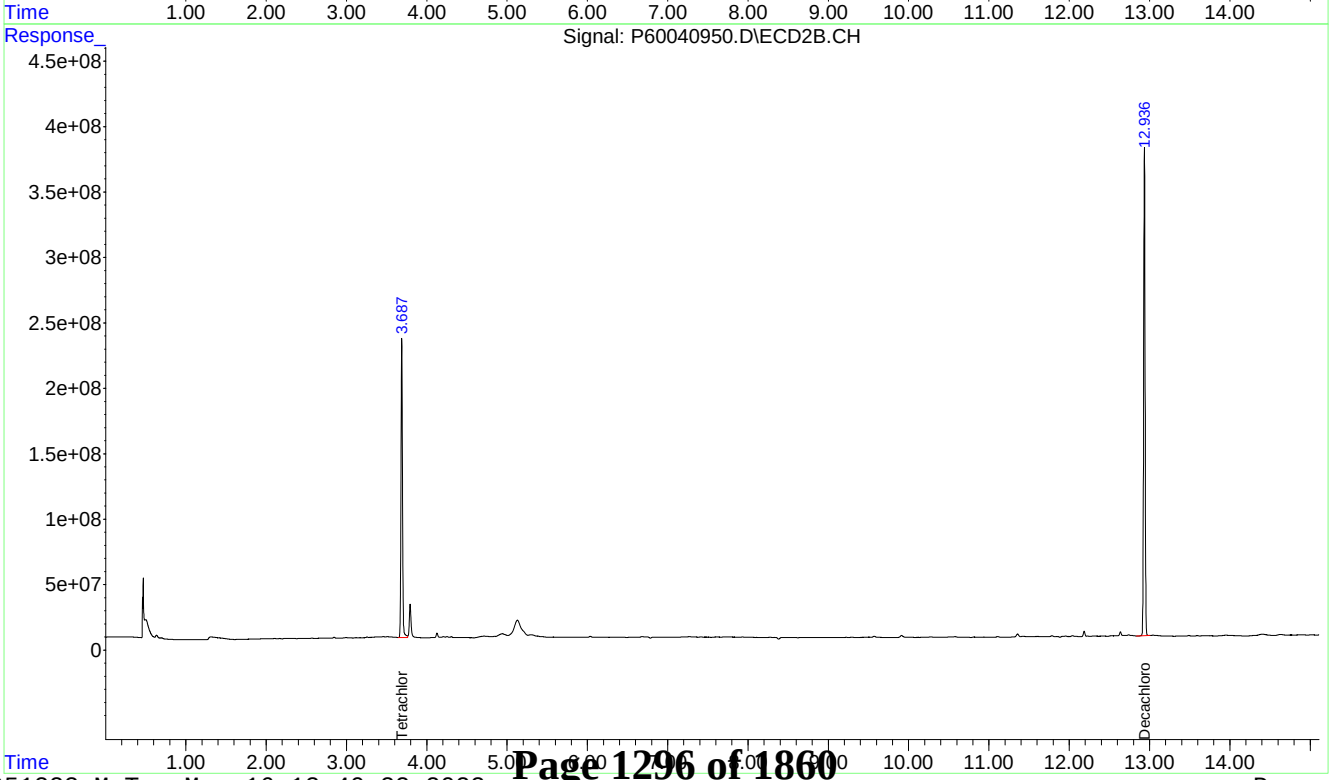
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040950.D
Acq On : 16 May 2023 1:15 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : 23E0419-11
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 12 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 13:40:06 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	P60040951.D
Sampled:	05/05/23 13:15	Prepared:	05/14/23 08:42	Analyzed:	05/16/23 13:34
Solids:	91.31	Preparation:	EPA 3550C	Initial/Final:	30.2 g / 10 mL
Batch:	BE30881	Sequence:	S3E1644	Calibration:	SE30027
Instrument:	GCECD6				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00180	U
72-55-9	4,4'-DDE	5	0.00180	U
50-29-3	4,4'-DDT	5	0.00180	U
309-00-2	Aldrin	5	0.00180	U
319-84-6	alpha-BHC	5	0.00180	U
5103-71-9	alpha-Chlordane	5	0.00180	U
319-85-7	beta-BHC	5	0.00180	U
319-86-8	delta-BHC	5	0.00180	U
60-57-1	Dieldrin	5	0.00180	U
959-98-8	Endosulfan I	5	0.00180	U
33213-65-9	Endosulfan II	5	0.00180	U
1031-07-8	Endosulfan sulfate	5	0.00180	U
72-20-8	Endrin	5	0.00180	U
7421-93-4	Endrin aldehyde	5	0.00180	U
53494-70-5	Endrin ketone	5	0.00180	U
58-89-9	gamma-BHC (Lindane)	5	0.00180	U
5566-34-7	gamma-Chlordane	5	0.00180	U
76-44-8	Heptachlor	5	0.00180	U
1024-57-3	Heptachlor epoxide	5	0.00180	U
72-43-5	Methoxychlor	5	0.00180	U
8001-35-2	Toxaphene	5	0.180	U
57-74-9	Chlordane, total	5	0.0359	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0725	0.0538	74.1	30 - 150	
Tetrachloro-m-xylene	0.0725	0.0396	54.6	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040951.D
Acq On : 16 May 2023 1:34 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : 23E0419-12
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 13 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 13:51:44 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

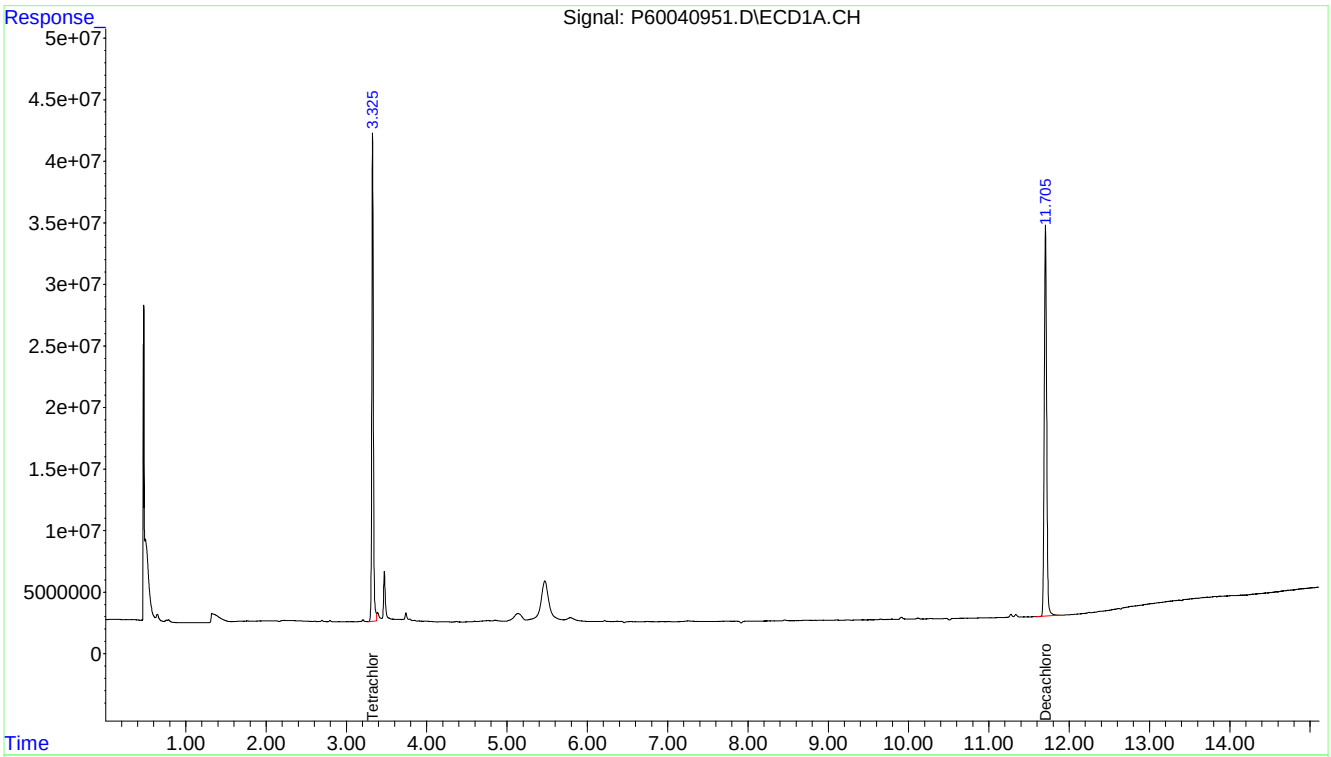
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.325	3.686	525.0E6	2589.8E6	21.858	26.781
24) S	Decachlor...	11.705	12.937	649.4E6	3802.1E6	29.652	34.381
	Target Compounds						

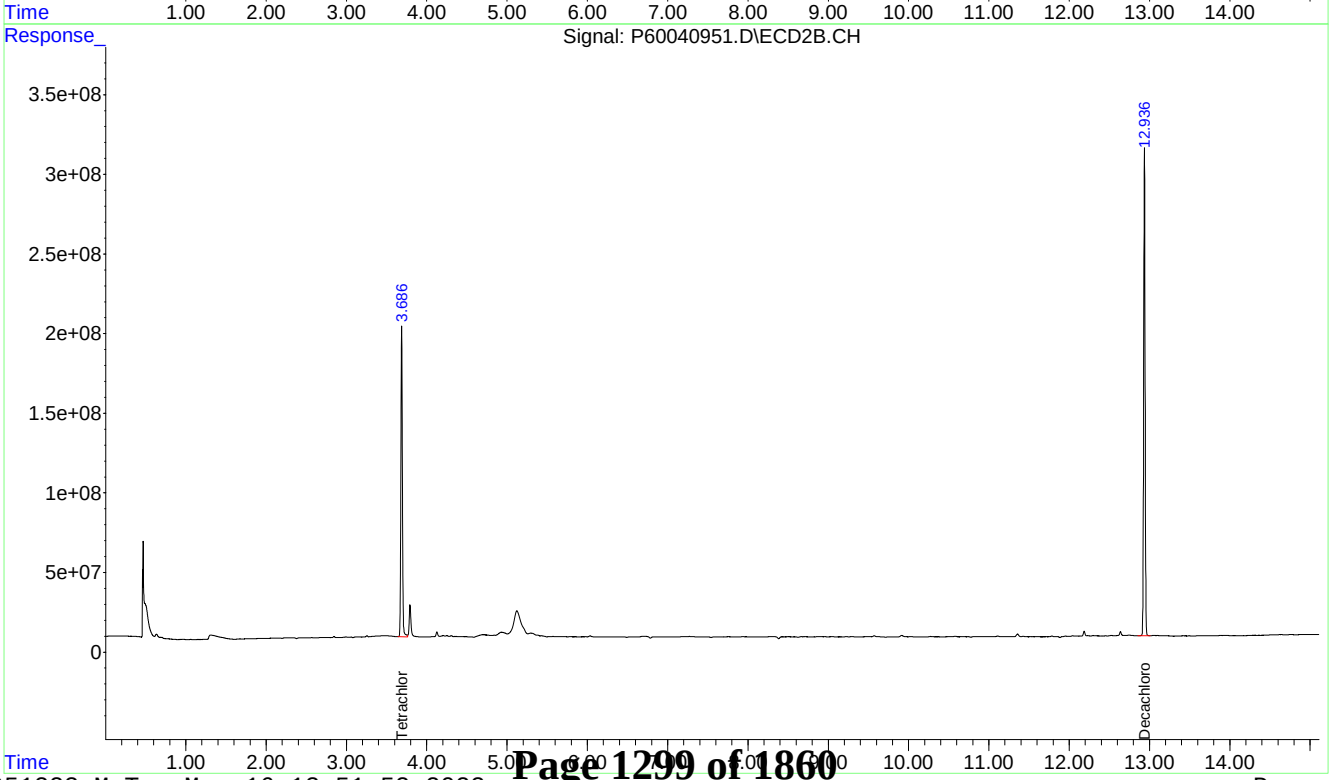
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040951.D
Acq On : 16 May 2023 1:34 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : 23E0419-12
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 13 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 13:51:44 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - St			SDG:	23E0419
Client:	Langan Engineering & Environmental			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	P60040950.D
Sampled:	05/05/23 13:00	Prepared:	05/14/23 08:42	Analyzed:	05/16/23 13:15
Solids:	90.64	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Batch:	BE30881	Sequence:	S3E1644	Calibration:	SE30027
Instrument:	GCECD6				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00181	0.00181		U
72-55-9	4,4'-DDE	5	0.00181	0.00181		U
50-29-3	4,4'-DDT	5	0.00181	0.00181		U
309-00-2	Aldrin	5	0.00181	0.00181		U
319-84-6	alpha-BHC	5	0.00181	0.00181		U
5103-71-9	alpha-Chlordane	5	0.00181	0.00181		U
319-85-7	beta-BHC	5	0.00181	0.00181		U
319-86-8	delta-BHC	5	0.00181	0.00181		U
60-57-1	Dieldrin	5	0.00181	0.00181		U
959-98-8	Endosulfan I	5	0.00181	0.00181		U
33213-65-9	Endosulfan II	5	0.00181	0.00181		U
1031-07-8	Endosulfan sulfate	5	0.00181	0.00181		U
72-20-8	Endrin	5	0.00181	0.00181		U
7421-93-4	Endrin aldehyde	5	0.00181	0.00181		U
53494-70-5	Endrin ketone	5	0.00181	0.00181		U
58-89-9	gamma-BHC (Lindane)	5	0.00181	0.00181		U
5566-34-7	gamma-Chlordane	5	0.00181	0.00181		U
76-44-8	Heptachlor	5	0.00181	0.00181		U
1024-57-3	Heptachlor epoxide	5	0.00181	0.00181		U
72-43-5	Methoxychlor	5	0.00181	0.00181		U
8001-35-2	Toxaphene	5	0.181	0.181		U
57-74-9	Chlordane, total	5	0.0363	0.0363		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0733	0.0618	84.4	30 - 150	
Tetrachloro-m-xylene	0.0733	0.0464	63.3	30 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - St | SDG: 23E0419

Client: Langan Engineering & Environmental | Project: 170446801

Matrix: Soil | Laboratory ID: 23E0419-12 | File ID: P60040951.D

Sampled: 05/05/23 13:15 | Prepared: 05/14/23 08:42 | Analyzed: 05/16/23 13:34

Solids: 91.31 | Preparation: EPA 3550C | Initial/Final: 30.2 g / 10 mL

Batch: BE30881 | Sequence: S3E1644 | Calibration: SE30027 | Instrument: GCECD6

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00180	0.00180		U
72-55-9	4,4'-DDE	5	0.00180	0.00180		U
50-29-3	4,4'-DDT	5	0.00180	0.00180		U
309-00-2	Aldrin	5	0.00180	0.00180		U
319-84-6	alpha-BHC	5	0.00180	0.00180		U
5103-71-9	alpha-Chlordane	5	0.00180	0.00180		U
319-85-7	beta-BHC	5	0.00180	0.00180		U
319-86-8	delta-BHC	5	0.00180	0.00180		U
60-57-1	Dieldrin	5	0.00180	0.00180		U
959-98-8	Endosulfan I	5	0.00180	0.00180		U
33213-65-9	Endosulfan II	5	0.00180	0.00180		U
1031-07-8	Endosulfan sulfate	5	0.00180	0.00180		U
72-20-8	Endrin	5	0.00180	0.00180		U
7421-93-4	Endrin aldehyde	5	0.00180	0.00180		U
53494-70-5	Endrin ketone	5	0.00180	0.00180		U
58-89-9	gamma-BHC (Lindane)	5	0.00180	0.00180		U
5566-34-7	gamma-Chlordane	5	0.00180	0.00180		U
76-44-8	Heptachlor	5	0.00180	0.00180		U
1024-57-3	Heptachlor epoxide	5	0.00180	0.00180		U
72-43-5	Methoxychlor	5	0.00180	0.00180		U
8001-35-2	Toxaphene	5	0.180	0.180		U
57-74-9	Chlordane, total	5	0.0359	0.0359		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0725	0.0538	74.1	30 - 150	
Tetrachloro-m-xylene	0.0725	0.0396	54.6	30 - 150	

* Values outside of QC limits

FORM VI

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30027
Instrument: GCECD6
Calibration Date: 05/16/23 10:15

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
4,4'-DDD	2	2.432166E+07	5	2.444E+07	20	2.6415E+07	50	2.6204E+07	100	2.2936E+07	200	2.22225E+07
4,4'-DDD [2C]	2	1.147E+08	5	1.243E+08	20	1.1613E+08	50	1.15626E+08	100	1.14891E+08	200	1.10831E+08
4,4'-DDE	2	3.15055E+07	5	2.998E+07	20	3.127E+07	50	3.1002E+07	100	2.7072E+07	200	2.57565E+07
4,4'-DDE [2C]	2	1.588E+08	5	1.451E+08	20	1.4002E+08	50	1.34356E+08	100	1.32278E+08	200	1.275435E+08
4,4'-DDT	2	2.359848E+07	5	2.148E+07	20	2.333E+07	50	2.4182E+07	100	2.0758E+07	200	2.08895E+07
4,4'-DDT [2C]	2	3.546925E+07	5	3.172E+07	20	4.0425E+07	50	4.8248E+07	100	5.5177E+07	200	6.4959E+07
Aldrin	2	3.791561E+07	5	3.482E+07	20	3.6275E+07	50	3.5378E+07	100	3.0104E+07	200	2.8279E+07
Aldrin [2C]	2	1.5875E+08	5	1.5702E+08	20	1.63045E+08	50	1.53996E+08	100	1.45332E+08	200	1.394795E+08
alpha-BHC	2	6.015E+07	5	3.618E+07	20	3.909E+07	50	3.9022E+07	100	3.4627E+07	200	3.39945E+07
alpha-BHC [2C]	2	1.495E+08	5	1.4706E+08	20	1.606E+08	50	1.50496E+08	100	1.46206E+08	200	1.573495E+08
alpha-Chlordane	2	3.336549E+07	5	3.246E+07	20	3.3375E+07	50	3.1988E+07	100	2.7897E+07	200	2.60815E+07
alpha-Chlordane [2C]	2	1.683E+08	5	1.4986E+08	20	1.4318E+08	50	1.33656E+08	100	1.32432E+08	200	1.268515E+08
beta-BHC	2	1.997373E+07	5	1.482623E+07	20	1.403E+07	50	1.3612E+07	100	1.2216E+07	200	1.19505E+07
beta-BHC [2C]	2	6.215E+07	5	6.574E+07	20	6.136E+07	50	5.4878E+07	100	4.8515E+07	200	5.1757E+07
Chlordane, total												
Chlordane, total [2C]												
Decachlorobiphenyl	40	2.39575E+07	80	2.38625E+07	120	2.33875E+07	160	2.258688E+07	200	1.9314E+07	240	1.828833E+07
Decachlorobiphenyl [2C]	40	1.11685E+08	80	1.095275E+08	120	1.136417E+08	160	1.066988E+08	200	1.069405E+08	240	1.150313E+08
delta-BHC	2	3.869312E+07	5	2.9E+07	20	3.1245E+07	50	3.1744E+07	100	2.8014E+07	200	2.79955E+07
delta-BHC [2C]	2	1.5355E+08	5	1.4014E+08	20	1.33275E+08	50	1.2934E+08	100	1.24327E+08	200	1.30023E+08
Dieldrin	2	3.539901E+07	5	3.506E+07	20	3.6385E+07	50	3.5152E+07	100	3.0187E+07	200	2.7856E+07
Dieldrin [2C]	2	1.619E+08	5	1.5312E+08	20	1.4867E+08	50	1.40046E+08	100	1.34937E+08	200	1.22744E+08
Endosulfan I	2	3.276673E+07	5	3.374E+07	20	3.415E+07	50	3.2536E+07	100	2.7617E+07	200	2.5254E+07
Endosulfan I [2C]	2	1.478E+08	5	1.341E+08	20	1.25325E+08	50	1.14118E+08	100	1.08747E+08	200	9.80935E+07
Endosulfan II	2	3.083714E+07	5	2.946E+07	20	2.959E+07	50	2.8232E+07	100	2.4209E+07	200	2.2644E+07
Endosulfan II [2C]	2	1.4835E+08	5	1.3634E+08	20	1.26965E+08	50	1.15518E+08	100	1.12212E+08	200	1.01842E+08
Endosulfan sulfate	2	2.940884E+07	5	2.642E+07	20	2.5495E+07	50	2.4432E+07	100	2.0596E+07	200	1.95245E+07
Endosulfan sulfate [2C]	2	1.4705E+08	5	1.2438E+08	20	1.2097E+08	50	1.14232E+08	100	1.09608E+08	200	1.046325E+08
Endrin	2	2.97426E+07	5	2.928E+07	20	3.0315E+07	50	2.9584E+07	100	2.4895E+07	200	2.3312E+07
Endrin [2C]	2	1.3995E+08	5	1.3734E+08	20	1.25135E+08	50	1.2177E+08	100	1.15666E+08	200	1.06841E+08
Endrin aldehyde	2	2.427172E+07	5	2.03E+07	20	1.968E+07	50	1.8946E+07	100	1.5821E+07	200	1.51775E+07

FORM VI

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30027
Instrument: GCECD6
Calibration Date: 05/16/23 10:15

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Endrin aldehyde [2C]	2	1.1965E+08	5	9.664E+07	20	8.5895E+07	50	8.0366E+07	100	7.702E+07	200	7.22655E+07
Endrin ketone	2	3.372503E+07	5	3.116E+07	20	3.076E+07	50	2.9758E+07	100	2.5161E+07	200	2.3592E+07
Endrin ketone [2C]	2	1.151E+08	5	1.0752E+08	20	1.1086E+08	50	1.03634E+08	100	1.01096E+08	200	9.5738E+07
gamma-BHC (Lindane)	2	4.181246E+07	5	3.292E+07	20	3.4905E+07	50	3.4812E+07	100	3.091E+07	200	3.0294E+07
gamma-BHC (Lindane) [2C]	2	1.389E+08	5	1.3682E+08	20	1.44315E+08	50	1.42834E+08	100	1.28037E+08	200	1.42693E+08
gamma-Chlordane	2	3.476874E+07	5	3.502E+07	20	3.562E+07	50	3.4592E+07	100	2.9585E+07	200	2.78325E+07
gamma-Chlordane [2C]	2	1.6495E+08	5	1.5578E+08	20	1.4914E+08	50	1.41194E+08	100	1.38696E+08	200	1.341095E+08
Heptachlor	2	3.59975E+07	5	3.366E+07	20	3.4855E+07	50	3.4016E+07	100	2.8745E+07	200	2.68355E+07
Heptachlor [2C]	2	1.34E+08	5	1.205E+08	20	1.17965E+08	50	1.10908E+08	100	1.05332E+08	200	1.02051E+08
Heptachlor epoxide	2	3.422272E+07	5	3.364E+07	20	3.399E+07	50	3.243E+07	100	2.7588E+07	200	2.5123E+07
Heptachlor epoxide [2C]	2	1.5835E+08	5	1.51E+08	20	1.41595E+08	50	1.29708E+08	100	1.22695E+08	200	1.11747E+08
Methoxychlor	2	1.465778E+07	5	1.227751E+07	20	1.2525E+07	50	1.2214E+07	100	9982000	200	9557000
Methoxychlor [2C]	2	1.701748E+07	5	1.412298E+07	20	1.838E+07	50	2.1544E+07	100	2.3956E+07	200	2.7595E+07
Mirex	2	2.625813E+07	5	2.42E+07	20	2.325E+07	50	2.185E+07	100	1.8445E+07	200	1.74995E+07
Mirex [2C]	2	1.202E+08	5	1.0702E+08	20	9.911E+07	50	8.9306E+07	100	8.8004E+07	200	8.63735E+07
Tetrachloro-m-xylene	40	2.68275E+07	80	2.5585E+07	120	2.520333E+07	160	2.345937E+07	200	2.19175E+07	240	2.112958E+07
Tetrachloro-m-xylene [2C]	40	9.7905E+07	80	9.863374E+07	120	1.019758E+08	160	9.229562E+07	200	9.35545E+07	240	9.585583E+07
Toxaphene												
Toxaphene [2C]												

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Calibration: SE30027 Instrument: GCECD6

Calibration Date: 05/16/23 10:15

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
4,4'-DDD												
4,4'-DDD [2C]												
4,4'-DDE												
4,4'-DDE [2C]												
4,4'-DDT												
4,4'-DDT [2C]												
Aldrin												
Aldrin [2C]												
alpha-BHC												
alpha-BHC [2C]												
alpha-Chlordane												
alpha-Chlordane [2C]												
beta-BHC												
beta-BHC [2C]												
Chlordane, total												
Chlordane, total [2C]												
Decachlorobiphenyl												
Decachlorobiphenyl [2C]												
delta-BHC												
delta-BHC [2C]												
Dieldrin												
Dieldrin [2C]												
Endosulfan I												
Endosulfan I [2C]												
Endosulfan II												
Endosulfan II [2C]												
Endosulfan sulfate												
Endosulfan sulfate [2C]												
Endrin												
Endrin [2C]												
Endrin aldehyde												

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Calibration:	SE30027	Instrument:	GCECD6
		Calibration Date:	05/16/23 10:15

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Endrin aldehyde [2C]												
Endrin ketone												
Endrin ketone [2C]												
gamma-BHC (Lindane)												
gamma-BHC (Lindane) [2C]												
gamma-Chlordane												
gamma-Chlordane [2C]												
Heptachlor												
Heptachlor [2C]												
Heptachlor epoxide												
Heptachlor epoxide [2C]												
Methoxychlor												
Methoxychlor [2C]												
Mirex												
Mirex [2C]												
Tetrachloro-m-xylene												
Tetrachloro-m-xylene [2C]												
Toxaphene	200	2.9686E+07	500	2.4425E+07	1000	2.02429E+07	2000	1.971945E+07	5000	1.663778E+07	10000	2.10718E+07
Toxaphene [2C]	200	1.279455E+08	500	9.10446E+07	1000	8.10854E+07	2000	7.13049E+07	5000	7.745958E+07	10000	7.919038E+07

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Calibration: SE30027 Instrument: GCECD6

Calibration Date: 05/16/23 10:15

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
4,4'-DDD	2.442319E+07	6.901084	7.521	0.1538506		0.9989909	0.99	
4,4'-DDD [2C]	1.160797E+08	3.826495	8.711167	2.315212E-02		0.9999876	0.99	
4,4'-DDE	2.9431E+07	8.256212	6.576833	0.1697144		0.9990604	0.99	
4,4'-DDE [2C]	1.396829E+08	8.00726	7.689167	0.0229123		0.9999794	0.99	
4,4'-DDT	2.2373E+07	6.718377	7.987667	0.146198		0.9984251	0.99	
4,4'-DDT [2C]	4.599971E+07	27.40545	9.286833	4.845374E-03		0.9998069	0.99	
Aldrin	3.379527E+07	11.1296	5.243167	0.1794662		0.9985663	0.99	
Aldrin [2C]	1.529371E+08	5.794688	5.974167	1.331118E-02		0.9998357	0.99	
alpha-BHC	4.051058E+07	24.33112	3.925833	0.1816521		0.9990923	0.99	
alpha-BHC [2C]	1.518686E+08	3.827705	4.414333	6.36178E-03		0.9995979	0.99	
alpha-Chlordane	3.086117E+07	10.04483	6.448167	0.1671002		0.9990526	0.99	
alpha-Chlordane [2C]	1.423799E+08	10.62677	7.407	2.065604E-02		0.9999375	0.99	
beta-BHC	1.443474E+07	20.26137	4.3815	0.1896665		0.9992232	0.99	
beta-BHC [2C]	5.74E+07	11.68539	4.973333	1.267781E-02		0.9978906	0.99	
Chlordane, total	3606512	15.11583	6.4255	0.1050258		0.9984958	0.99	
Chlordane, total [2C]	1.142077E+07	38.35042	7.406167	2.709515E-02		0.9996972	0.99	
Decachlorobiphenyl	2.189945E+07	11.27812	11.70483	8.984817E-02			20	
Decachlorobiphenyl [2C]	1.105874E+08	3.12791	12.93567	3.394785E-02			20	
delta-BHC	3.111527E+07	12.98821	4.595	0.1860252		0.9989738	0.99	
delta-BHC [2C]	1.351092E+08	7.721248	5.385667	4.811931E-03		0.9997017	0.99	
Dieldrin	3.333983E+07	10.37025	7.02	0.1633506		0.9988655	0.99	
Dieldrin [2C]	1.435695E+08	9.720833	7.971667	2.004187E-02		0.9999756	0.99	
Endosulfan I	3.101062E+07	11.83701	6.65	0.1648025		0.998615	0.99	
Endosulfan I [2C]	1.213639E+08	14.87698	7.5045	0.0264097		0.9998854	0.99	
Endosulfan II	2.749536E+07	11.98474	7.7495	0.1513692		0.9986818	0.99	
Endosulfan II [2C]	1.235378E+08	13.80654	8.8825	2.797352E-02		0.9998904	0.99	
Endosulfan sulfate	2.431272E+07	15.23105	9.226833	0.1266021		0.9981587	0.99	
Endosulfan sulfate [2C]	1.201454E+08	12.50774	10.023	1.731785E-02		0.9999117	0.99	
Endrin	2.785477E+07	10.65406	7.383667	0.1574882		0.9983231	0.99	
Endrin [2C]	1.244503E+08	10.17217	8.503333	7.094885E-03		0.9999695	0.99	
Endrin aldehyde	1.90327E+07	17.37159	8.459667	0.1378644		0.9978113	0.99	
Endrin aldehyde [2C]	8.863942E+07	19.57141	9.501167	2.272159E-02		0.9998682	0.99	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Calibration:	SE30027	Instrument:	GCECD6
		Calibration Date:	05/16/23 10:15

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Endrin ketone	2.902601E+07	13.31144	9.718167	0.1180512		0.9983817	0.99	
Endrin ketone [2C]	1.05658E+08	6.597972	11.03683	2.251162E-02		0.9999565	0.99	
gamma-BHC (Lindane)	3.427558E+07	12.13539	4.282	0.1750552		0.9991653	0.99	
gamma-BHC (Lindane) [2C]	1.389332E+08	4.336699	4.874833	1.472171E-02		0.998452	0.99	
gamma-Chlordane	3.290304E+07	10.07235	6.252833	0.1691125		0.9986568	0.99	
gamma-Chlordane [2C]	1.473116E+08	7.870478	7.163833	7.859111E-03		0.9999582	0.99	
Heptachlor	3.23515E+07	11.35527	4.857833	0.1764485		0.9984491	0.99	
Heptachlor [2C]	1.15126E+08	10.11357	5.494667	2.518112E-02		0.999821	0.99	
Heptachlor epoxide	3.116562E+07	12.3737	6.071	0.1718616		0.9987009	0.99	
Heptachlor epoxide [2C]	1.358492E+08	13.00443	6.856333	7.824418E-03		0.9998747	0.99	
Methoxychlor	1.186888E+07	15.7172	8.867833	0.1363593		0.9972569	0.99	
Methoxychlor [2C]	2.043591E+07	24.03595	10.609	2.710872E-02		0.9998417	0.99	
Mirex	2.19171E+07	15.4603	9.026167	0.1325297		0.9980808	0.99	
Mirex [2C]	9.833558E+07	13.53267	10.9565	1.831357E-02		0.999794	0.99	
Tetrachloro-m-xylene	2.402038E+07	9.275637	3.329167	0.1960917			20	
Tetrachloro-m-xylene [2C]	9.670342E+07	3.671559	3.686	1.109441E-02			20	
Toxaphene	2.196382E+07	20.64955	8.8145	6.049759		0.9951821	0.99	
Toxaphene [2C]	8.800506E+07	23.3987	9.037333	2.220349E-02		0.9993433	0.99	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040896.D
Acq On : 12 May 2023 11:30 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-PEM1
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 1 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:25:02 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

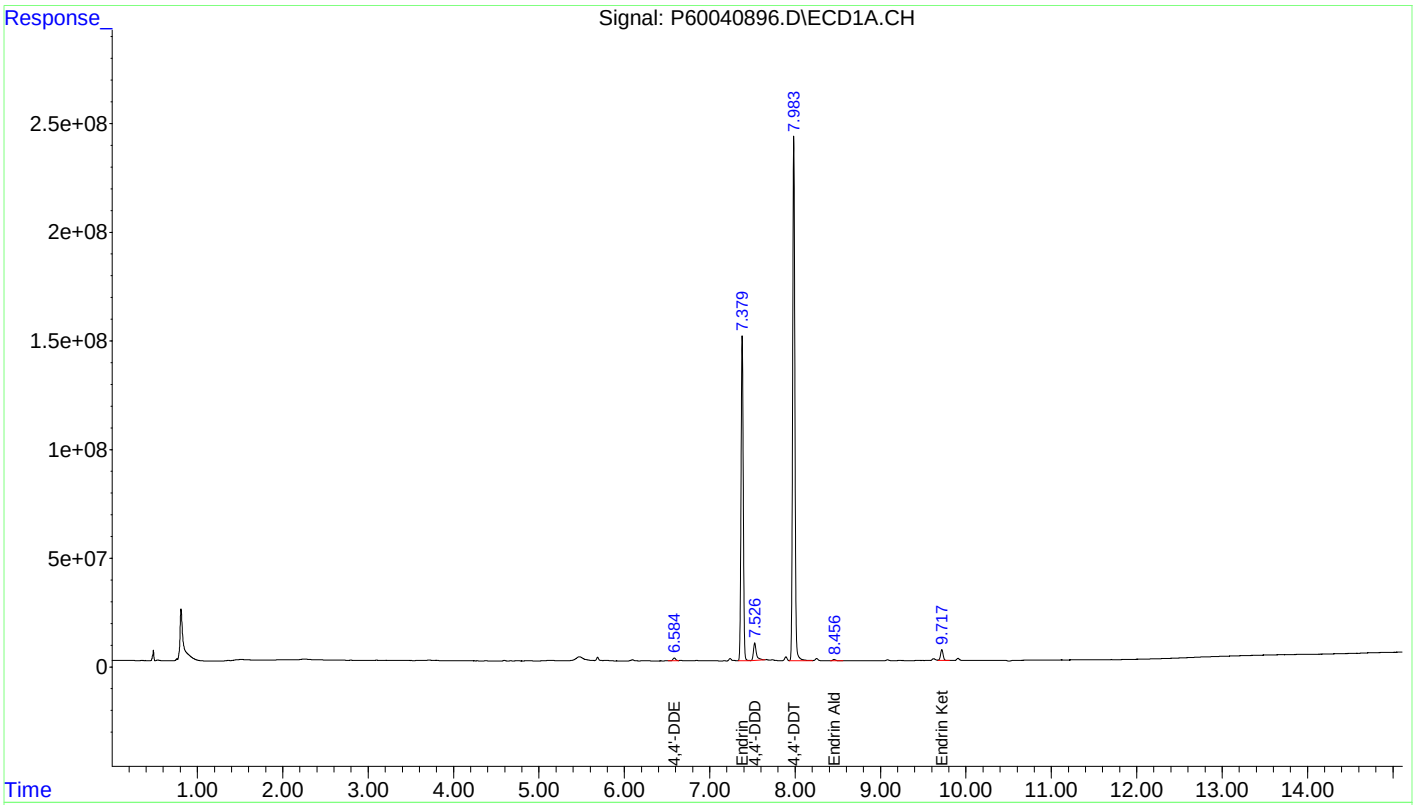
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
13)	4,4'-DDE	6.584	7.695	32548122	171.0E6	1.080m	1.246
15)	Endrin	7.380	8.504	2691.9E6	11161.5E6	104.304	95.742
16)	4,4'-DDD	7.526	8.716	192.0E6	1079.6E6	7.645	9.159m
18)	4,4'-DDT	7.983	9.287	4402.9E6	11918.0E6	212.582	187.174
19)	Endrin Al...	8.457	9.503	13443531	59616239	0.745	0.720
23)	Endrin Ke...	9.718	11.039	104.4E6	400.4E6	3.628	3.753

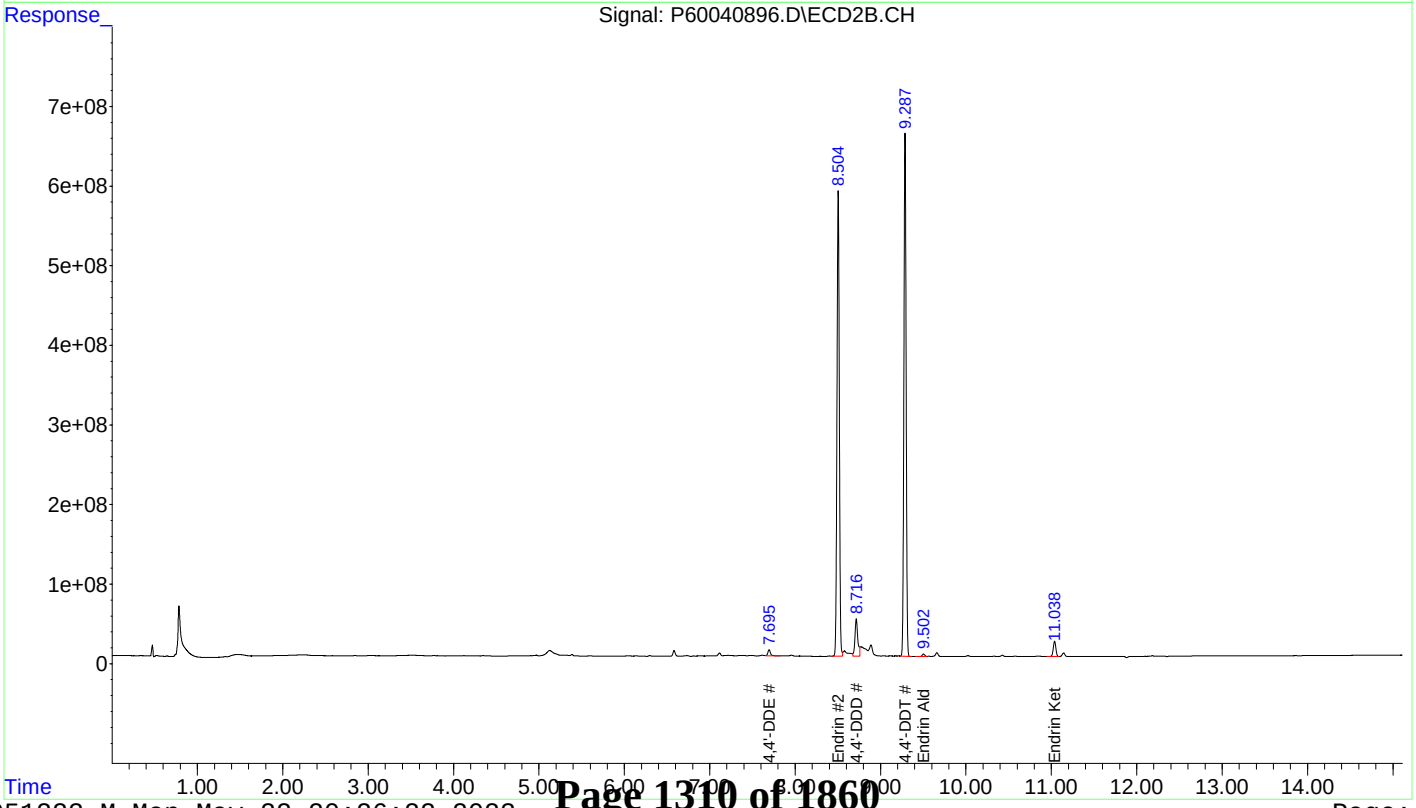
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040896.D
Acq On : 12 May 2023 11:30 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-PEM1
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 1 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:25:02 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040897.D
Acq On : 12 May 2023 1:16 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL1
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 6 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:45:50 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:45:40 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

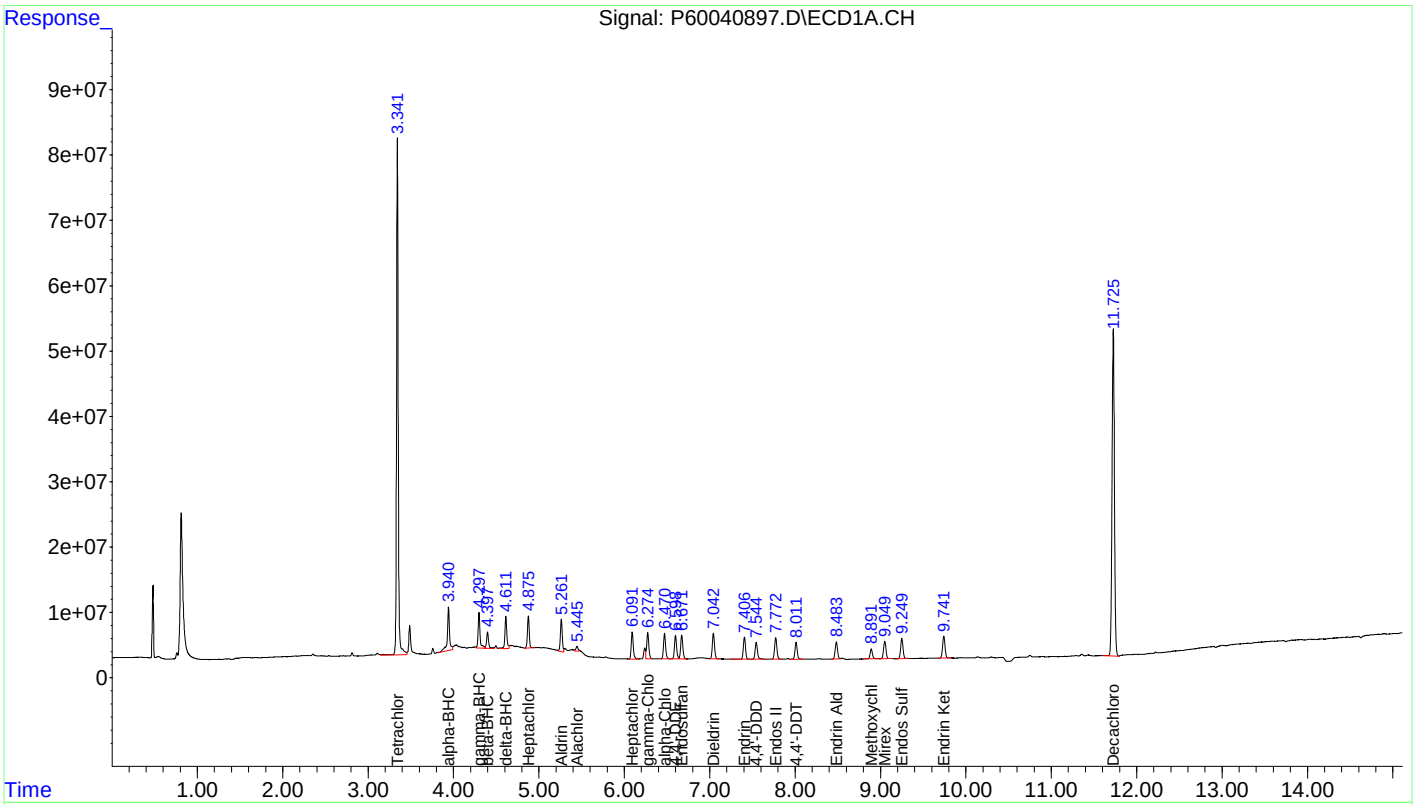
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
1) S	Tetrachlo...	3.342	3.685	1073.1E6	3916.2E6	49.334	41.890	
24) S	Decachlor...	11.726	12.943	958.3E6	4467.4E6	54.163	45.952	
	Target Compounds							
2)	alpha-BHC	3.940	4.414	120.3E6	299.0E6	3.274	1.962	#
3)	gamma-BHC...	4.297	4.874	83624930	277.8E6	2.558	2.036	
4)	beta-BHC	4.398	4.974	39947465	124.3E6	3.076	2.256	#
5)	delta-BHC	4.612	5.386	77386249	307.1E6	2.520	2.454	
6)	Heptachlor	4.875	5.495	71995012	268.0E6	2.345	2.797	
7)	Aldrin	5.262	5.975	75831213	317.5E6	2.294	2.235	
8)	Alachlor	5.445	5.785	12639941	58338760	3.182m	3.581	
9)	Heptachlo...	6.092	6.857	68445444	316.7E6	2.298	2.426	
10)	gamma-Chl...	6.274	7.165	69537477	329.9E6	2.237m	2.380	
11)	alpha-Chl...	6.470	7.409	66730974	336.6E6	2.295	2.561	
12)	Endosulfan I	6.672	7.506	65533461	295.6E6	2.228	2.603	
13)	4,4'-DDE	6.599	7.691	63010989	317.6E6	2.195	2.405	
14)	Dieldrin	7.043	7.973	70798016	323.8E6	2.203	2.354	
15)	Endrin	7.407	8.505	59485200	279.9E6	2.156	2.330	
16)	4,4'-DDD	7.544	8.714	48643320	229.4E6	1.999	2.100	
17)	Endos II	7.773	8.885	61674272	296.7E6	2.345	2.603	
18)	4,4'-DDT	8.011	9.289	47196972	70938492	2.360	1.862	
19)	Endrin Al...	8.483	9.503	48543451	239.3E6	2.713	2.940	
20)	Methoxychlor	8.892	10.613	29315548	34034971	2.908	2.104m	#
21)	Mirex	9.050	10.960	52516264	240.4E6	2.663	2.790	
22)	Endos Sulf	9.250	10.026	58817679	294.1E6	2.565	2.653	
23)	Endrin Ke...	9.741	11.040	67450060	230.2E6	2.497	2.329	

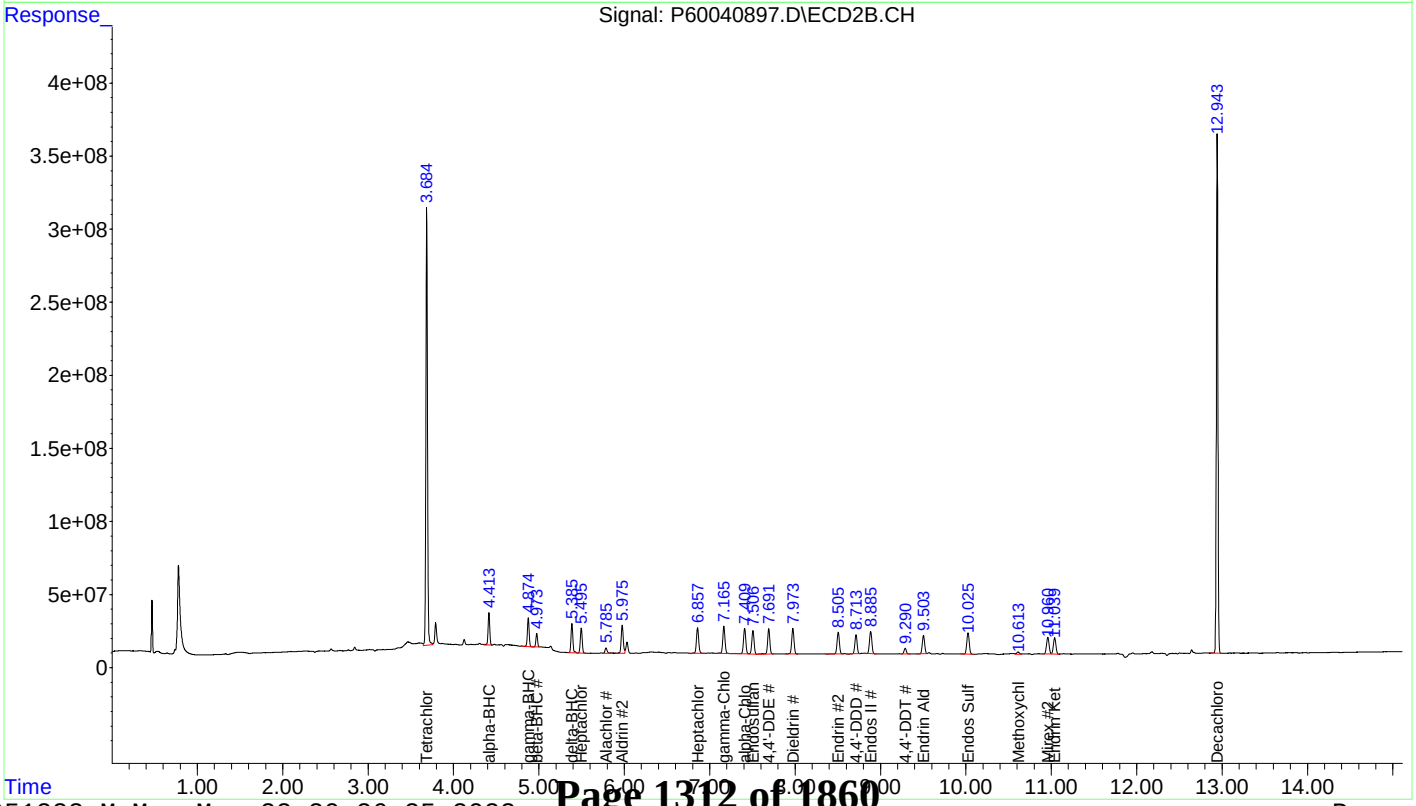
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040897.D
Acq On : 12 May 2023 1:16 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL1
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 6 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:45:50 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:45:40 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040898.D
Acq On : 12 May 2023 1:35 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL2
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 7 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:46:55 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:46:51 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

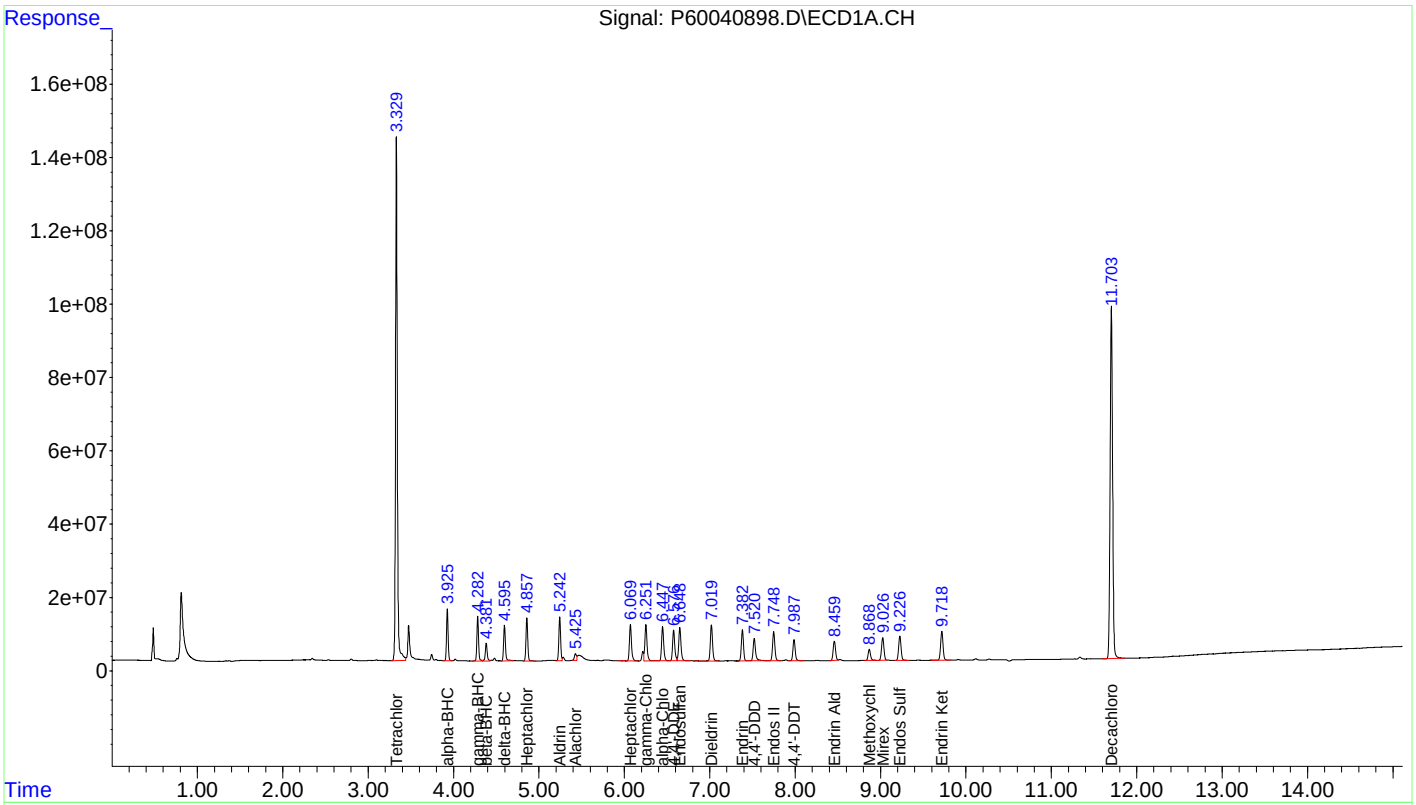
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
1) S	Tetrachlo...	3.330	3.687	2046.8E6	7890.7E6	91.009	84.454	
24) S	Decachlor...	11.704	12.937	1909.0E6	8762.2E6	102.524	87.747	
	Target Compounds							
2)	alpha-BHC	3.926	4.415	180.9E6	735.3E6	4.925	4.829	
3)	gamma-BHC...	4.282	4.875	164.6E6	684.1E6	5.038	5.019	
4)	beta-BHC	4.382	4.974	74131160	328.7E6	5.718	5.985	
5)	delta-BHC	4.595	5.386	145.0E6	700.7E6	4.727	5.608	
6)	Heptachlor	4.857	5.495	168.3E6	602.5E6	5.498	6.301	
7)	Aldrin	5.243	5.974	174.1E6	785.1E6	5.282	5.539	
8)	Alachlor	5.425	5.785	30812300	129.2E6	7.829m	7.988	
9)	Heptachlo...	6.070	6.856	168.2E6	755.0E6	5.669	5.808	
10)	gamma-Chl...	6.252	7.164	175.1E6	778.9E6	5.648	5.635	
11)	alpha-Chl...	6.447	7.407	162.3E6	749.3E6	5.595	5.714	
12)	Endosulfan I	6.649	7.505	168.7E6	670.5E6	5.757	5.929	
13)	4,4'-DDE	6.577	7.689	149.9E6	725.5E6	5.234	5.506	
14)	Dieldrin	7.019	7.972	175.3E6	765.6E6	5.473	5.584	
15)	Endrin	7.383	8.504	146.4E6	686.7E6	5.324	5.733	
16)	4,4'-DDD	7.521	8.712	122.2E6	621.5E6	5.036	5.699	
17)	Endos II	7.749	8.884	147.3E6	681.7E6	5.624	5.999	
18)	4,4'-DDT	7.987	9.287	107.4E6	158.6E6	5.380	4.145	
19)	Endrin Al...	8.459	9.501	101.5E6	483.2E6	5.697	5.959	
20)	Methoxychlor	8.868	10.608	61387552	70614885	6.112	4.348	#
21)	Mirex	9.026	10.956	121.0E6	535.1E6	6.157	6.219	
22)	Endos Sulf	9.227	10.023	132.1E6	621.9E6	5.781	5.624	
23)	Endrin Ke...	9.718	11.036	155.8E6	537.6E6	5.790	5.452	

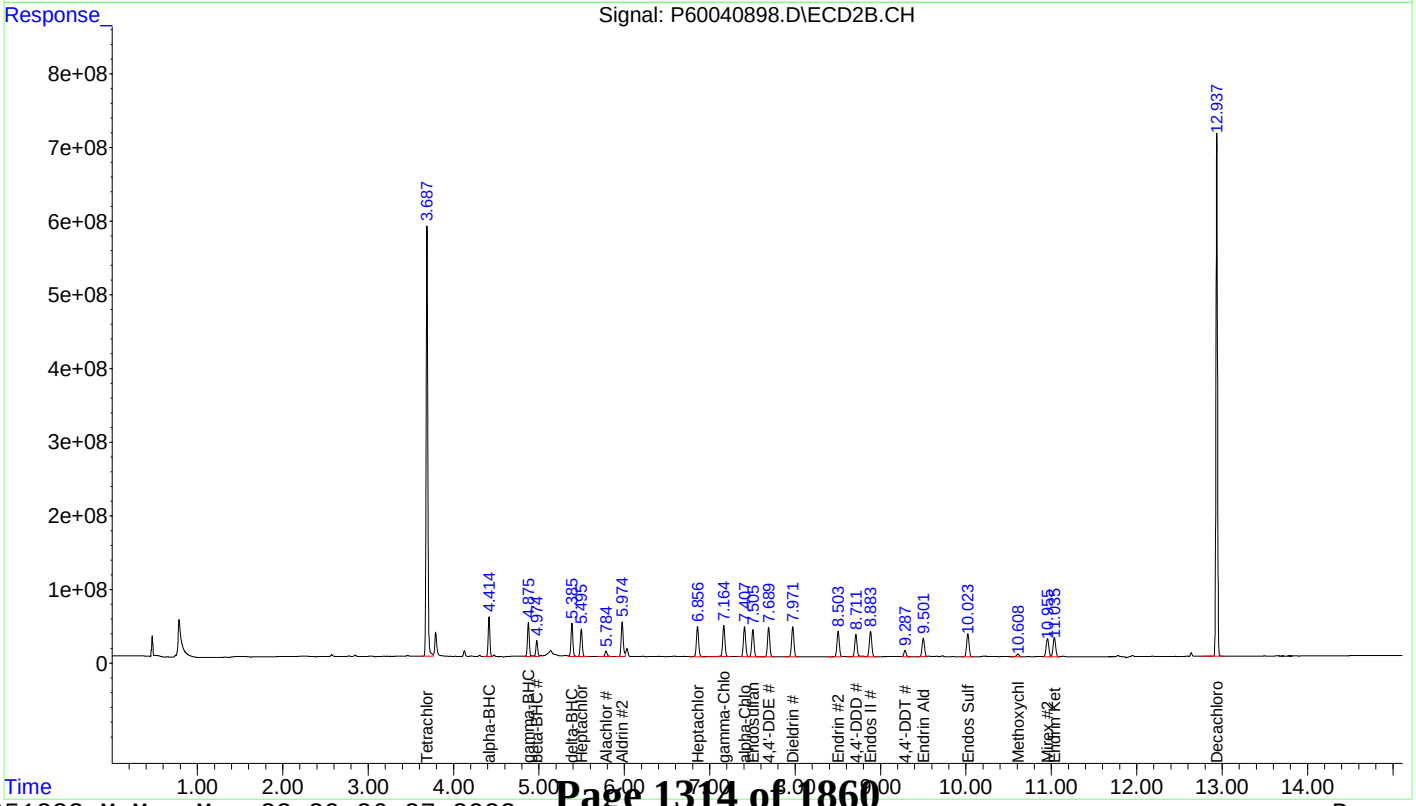
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040898.D
Acq On : 12 May 2023 1:35 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL2
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 7 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:46:55 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:46:51 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040899.D
Acq On : 12 May 2023 1:54 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL3
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 8 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:47:31 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:47:27 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

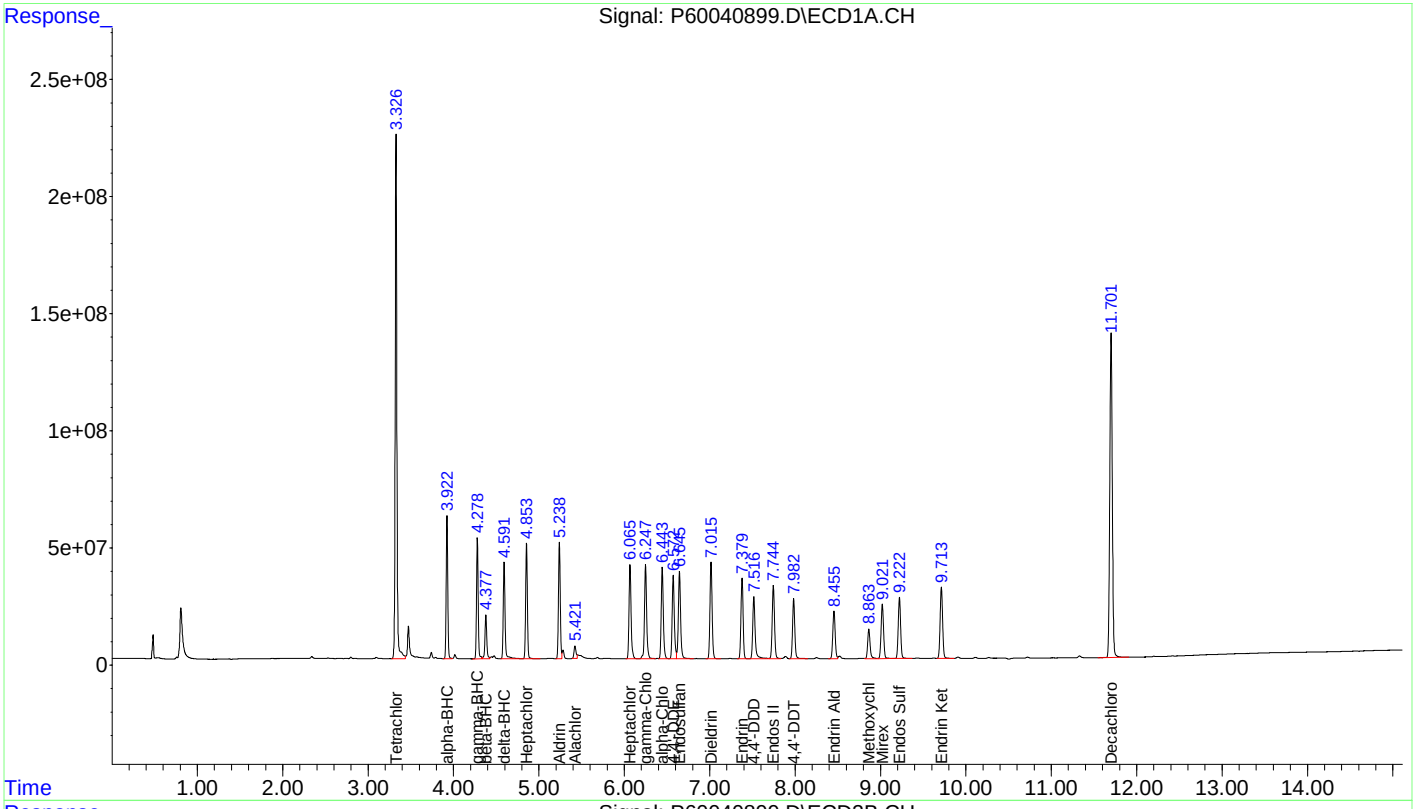
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.326	3.686	3024.4E6	12237.1E6	130.736	130.181
24) S	Decachlor...	11.701	12.936	2806.5E6	13637.0E6	141.852	133.520
	Target Compounds						
2)	alpha-BHC	3.922	4.414	781.8E6	3212.0E6	21.436	21.143
3)	gamma-BHC...	4.278	4.875	698.1E6	2886.3E6	21.535	21.244
4)	beta-BHC	4.378	4.973	280.6E6	1227.2E6	21.841	22.595
5)	delta-BHC	4.591	5.385	624.9E6	2665.5E6	20.541	21.413
6)	Heptachlor	4.854	5.494	697.1E6	2359.3E6	23.175	24.936
7)	Aldrin	5.239	5.973	725.5E6	3260.9E6	22.325	23.301
8)	Alachlor	5.421	5.785	89853584	409.5E6	23.462m	26.008
9)	Heptachlo...	6.066	6.856	679.8E6	2831.9E6	23.362	22.237
10)	gamma-Chl...	6.248	7.163	712.4E6	2982.8E6	23.330	21.859
11)	alpha-Chl...	6.443	7.406	667.5E6	2863.6E6	23.319	22.099
12)	Endosulfan I	6.645	7.504	683.0E6	2506.5E6	23.803	22.599
13)	4,4'-DDE	6.572	7.689	625.4E6	2800.4E6	22.110	21.499
14)	Dieldrin	7.015	7.971	727.7E6	2973.4E6	23.141	22.034
15)	Endrin	7.379	8.503	606.3E6	2502.7E6	22.464	21.154
16)	4,4'-DDD	7.516	8.710	528.3E6	2322.6E6	22.062	21.452
17)	Endos II	7.745	8.881	591.8E6	2539.3E6	23.010	22.685
18)	4,4'-DDT	7.983	9.286	466.6E6	808.5E6	23.681	20.452
19)	Endrin Al...	8.456	9.500	393.6E6	1717.9E6	22.493	21.487
20)	Methoxychlor	8.863	10.608	250.5E6	367.6E6	25.544	22.003
21)	Mirex	9.021	10.955	465.0E6	1982.2E6	24.083	23.199
22)	Endos Sulf	9.222	10.022	509.9E6	2419.4E6	22.734	22.105
23)	Endrin Ke...	9.713	11.036	615.2E6	2217.2E6	23.305	22.737

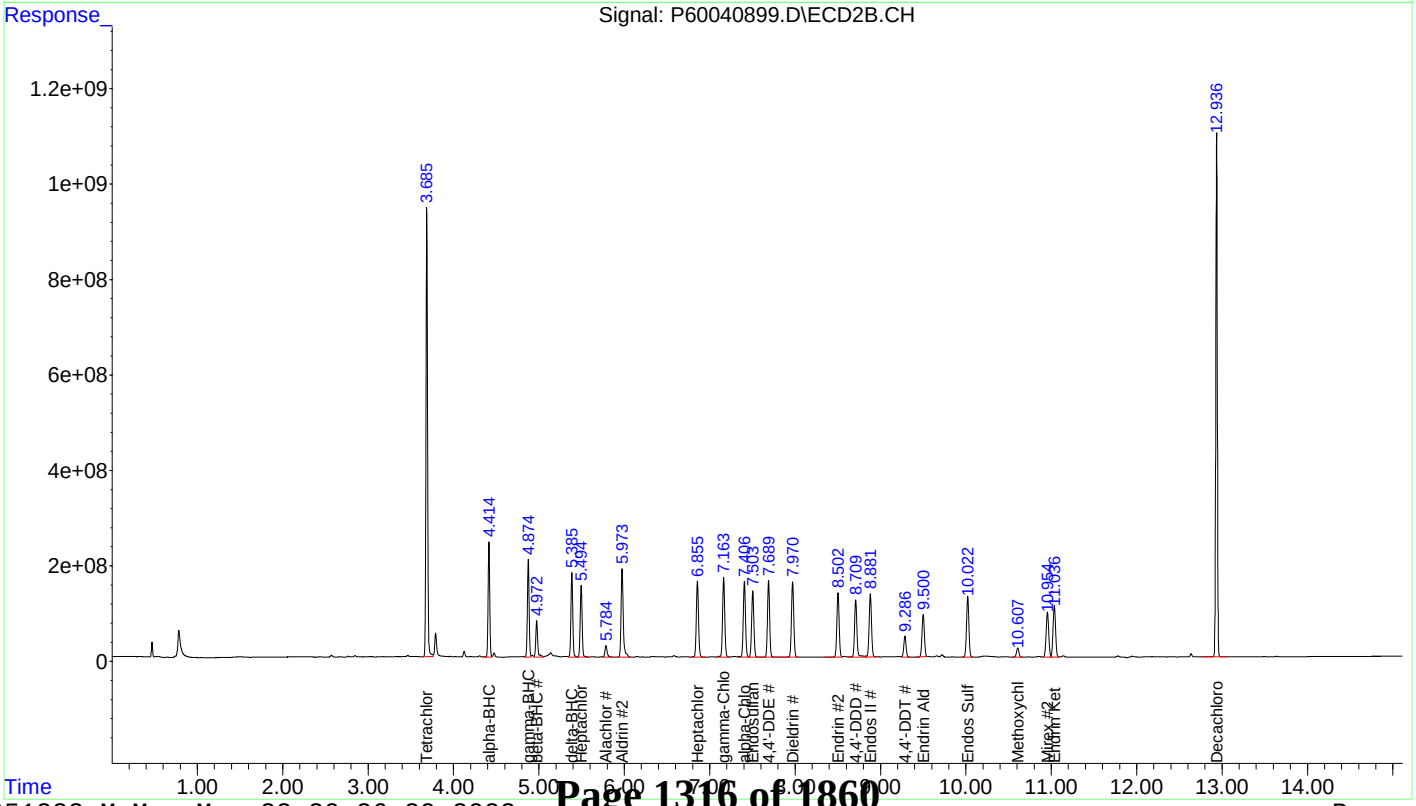
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040899.D
Acq On : 12 May 2023 1:54 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL3
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 8 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:47:31 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:47:27 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040900.D
Acq On : 12 May 2023 2:13 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL4
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 9 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:45:00 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 08 11:57:39 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

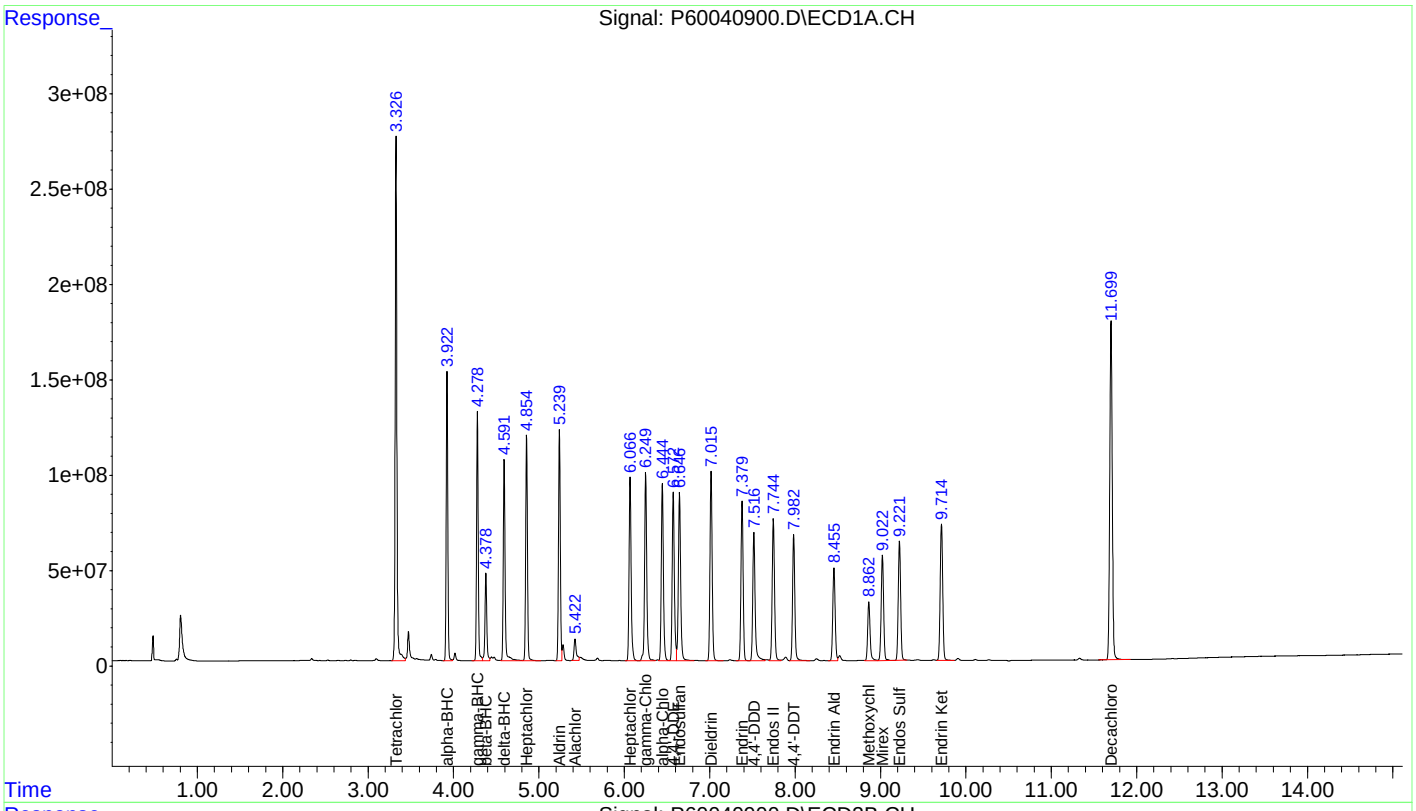
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.326	3.686	3753.5E6	14767.3E6	177.396	159.540
24) S	Decachlor...	11.700	12.935	3613.9E6	17071.8E6	217.682	179.497
	Target Compounds						
2)	alpha-BHC	3.923	4.415	1951.1E6	7524.8E6	57.847	50.464
3)	gamma-BHC...	4.279	4.876	1740.6E6	7141.7E6	58.109	54.808
4)	beta-BHC	4.378	4.974	680.6E6	2743.9E6	56.875	51.998
5)	delta-BHC	4.592	5.386	1587.2E6	6467.0E6	55.182	52.810
6)	Heptachlor	4.855	5.496	1700.8E6	5545.4E6	65.341	65.415
7)	Aldrin	5.239	5.975	1768.9E6	7699.8E6	60.888	59.770
8)	Alachlor	5.422	5.785	214.7E6	841.3E6	65.369m	58.469
9)	Heptachlo...	6.067	6.858	1621.5E6	6485.4E6	64.131	55.412
10)	gamma-Chl...	6.249	7.165	1729.6E6	7059.7E6	64.691	55.594
11)	alpha-Chl...	6.444	7.408	1599.4E6	6682.8E6	63.418	54.745
12)	Endosulfan I	6.646	7.506	1626.8E6	5705.9E6	66.366	55.533
13)	4,4'-DDE	6.572	7.690	1550.1E6	6717.8E6	61.446	54.898
14)	Dieldrin	7.016	7.973	1757.6E6	7002.3E6	64.286	56.072
15)	Endrin	7.379	8.504	1479.2E6	6088.5E6	62.430	54.386
16)	4,4'-DDD	7.517	8.712	1310.2E6	5781.3E6	61.487	57.021
17)	Endos II	7.745	8.884	1411.6E6	5775.9E6	62.604	54.980
18)	4,4'-DDT	7.983	9.288	1209.1E6	2412.4E6	74.195	63.464
19)	Endrin Al...	8.455	9.503	947.3E6	4018.3E6	60.599	52.186
20)	Methoxychlor	8.863	10.611	610.7E6	1077.2E6	78.602	69.200
21)	Mirex	9.022	10.958	1092.5E6	4465.3E6	65.396	54.868
22)	Endos Sulf	9.222	10.024	1221.6E6	5711.6E6	61.798	54.952
23)	Endrin Ke...	9.714	11.038	1487.9E6	5181.7E6	65.549	57.421

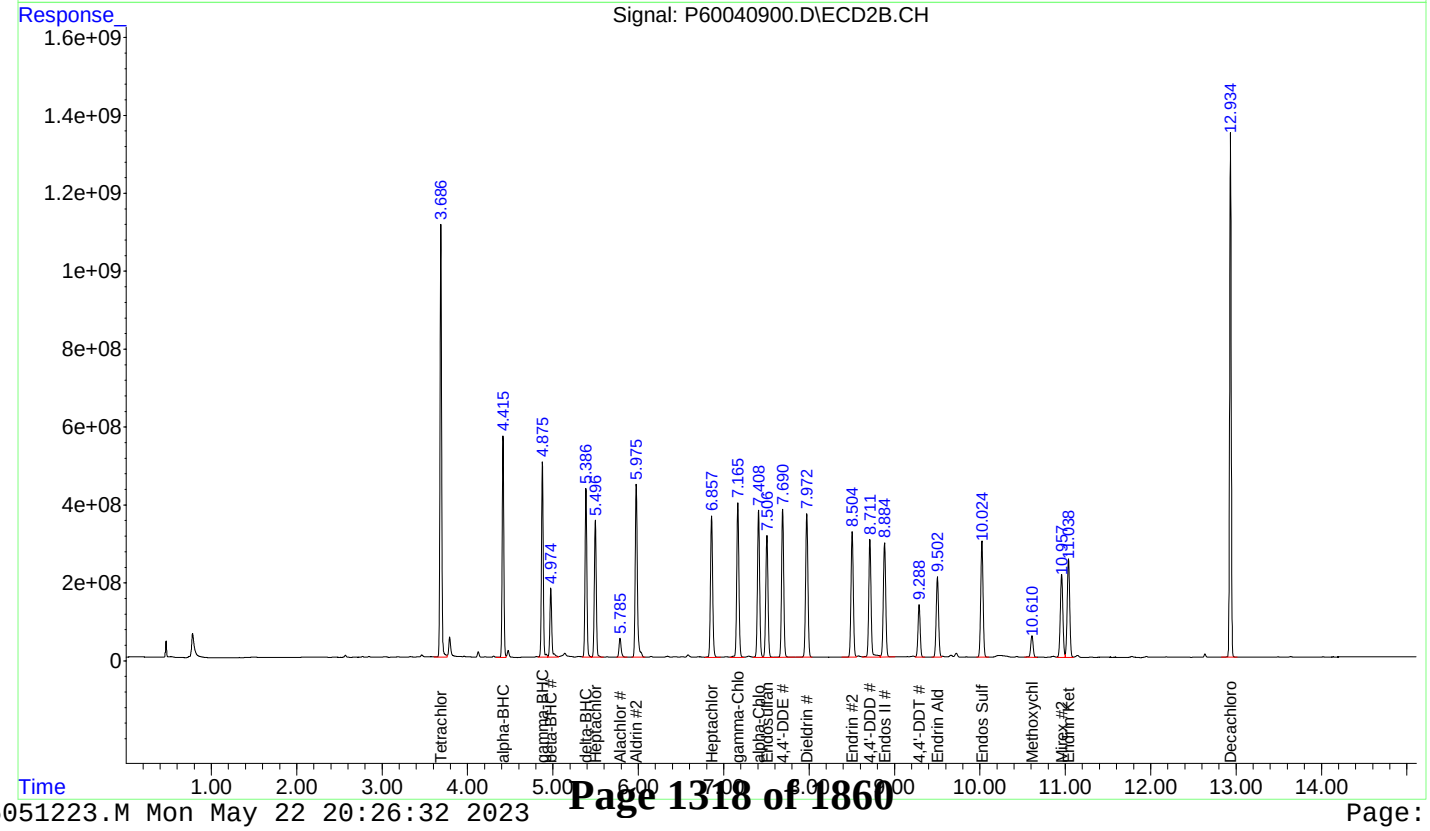
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040900.D
Acq On : 12 May 2023 2:13 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL4
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 9 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:45:00 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 08 11:57:39 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040901.D
Acq On : 12 May 2023 2:32 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL5
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 10 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:48:13 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:48:04 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

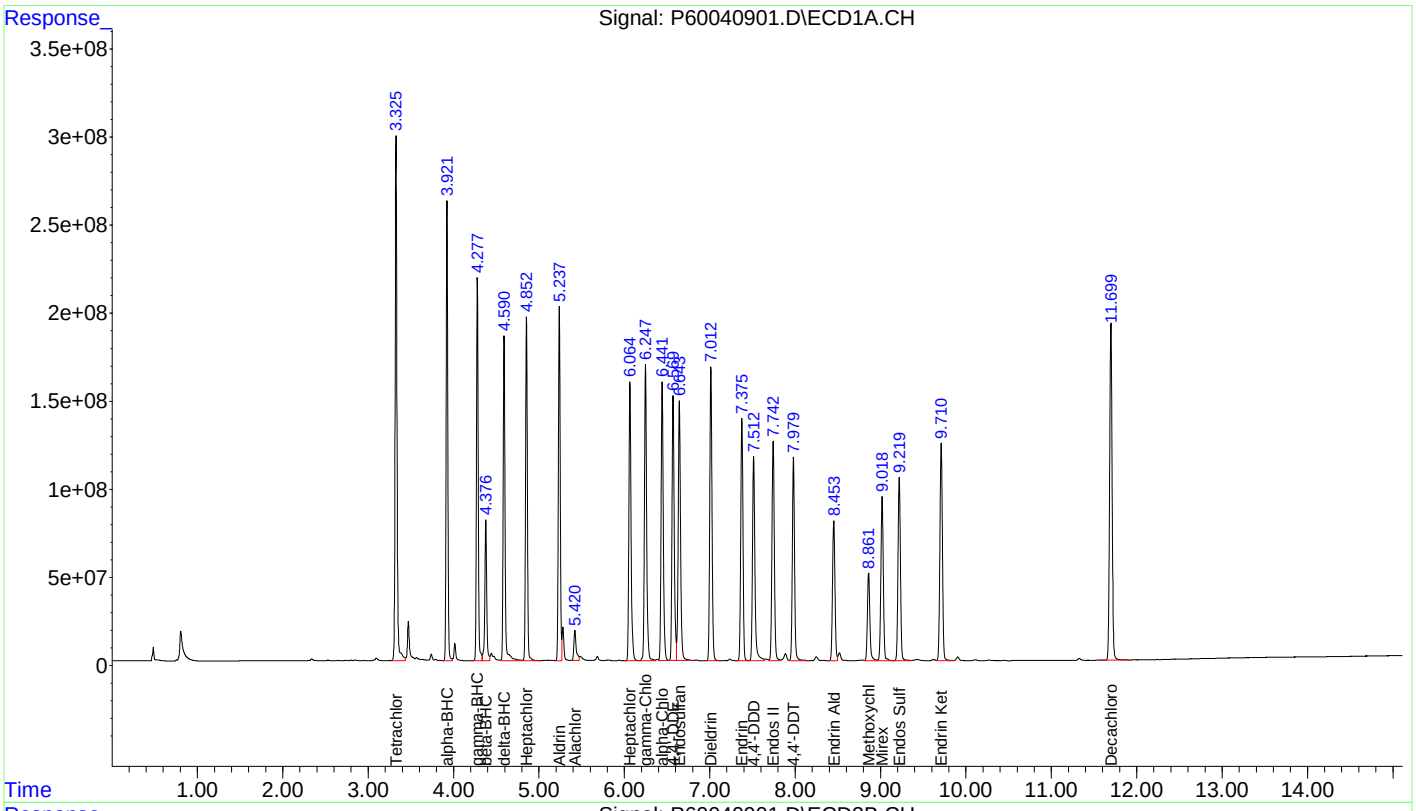
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.326	3.686	4383.5E6	18710.9E6	183.024	195.318
24) S	Decachlor...	11.699	12.931	3862.8E6	21388.1E6	182.647	201.831
	Target Compounds						
2)	alpha-BHC	3.922	4.413	3462.7E6	14620.6E6	97.808	96.830
3)	gamma-BHC...	4.278	4.874	3091.0E6	12803.7E6	98.360	95.120
4)	beta-BHC	4.377	4.972	1221.6E6	4851.5E6	98.530	93.005
5)	delta-BHC	4.590	5.385	2801.4E6	12432.7E6	94.702	100.981
6)	Heptachlor	4.853	5.493	2874.5E6	10533.2E6	102.969	117.030
7)	Aldrin	5.238	5.973	3010.4E6	14533.2E6	98.415	110.245
8)	Alachlor	5.420	5.783	326.9E6	1458.7E6	97.898m	104.494
9)	Heptachlo...	6.065	6.855	2758.8E6	12269.5E6	103.343	107.709
10)	gamma-Chl...	6.247	7.162	2958.5E6	13869.6E6	103.069	108.935
11)	alpha-Chl...	6.442	7.405	2789.7E6	13243.2E6	102.823	108.766
12)	Endosulfan I	6.643	7.502	2761.7E6	10874.7E6	105.657	108.728
13)	4,4'-DDE	6.570	7.686	2707.2E6	13227.8E6	100.989	108.005
14)	Dieldrin	7.013	7.969	3018.7E6	13493.7E6	104.088	108.884
15)	Endrin	7.376	8.501	2489.5E6	11566.6E6	100.097	104.609
16)	4,4'-DDD	7.513	8.708	2293.6E6	11489.1E6	101.416	110.489
17)	Endos II	7.742	8.879	2420.9E6	11221.2E6	102.043	107.944
18)	4,4'-DDT	7.980	9.285	2075.8E6	5517.7E6	111.734	117.350
19)	Endrin Al...	8.452	9.498	1582.1E6	7702.0E6	97.439	102.960
20)	Methoxychlor	8.860	10.606	998.2E6	2395.6E6	113.567	123.438
21)	Mirex	9.018	10.954	1844.5E6	8800.4E6	102.806	106.050
22)	Endos Sulf	9.219	10.020	2059.6E6	10960.8E6	99.244	104.710
23)	Endrin Ke...	9.711	11.034	2516.1E6	10109.6E6	103.905	109.115

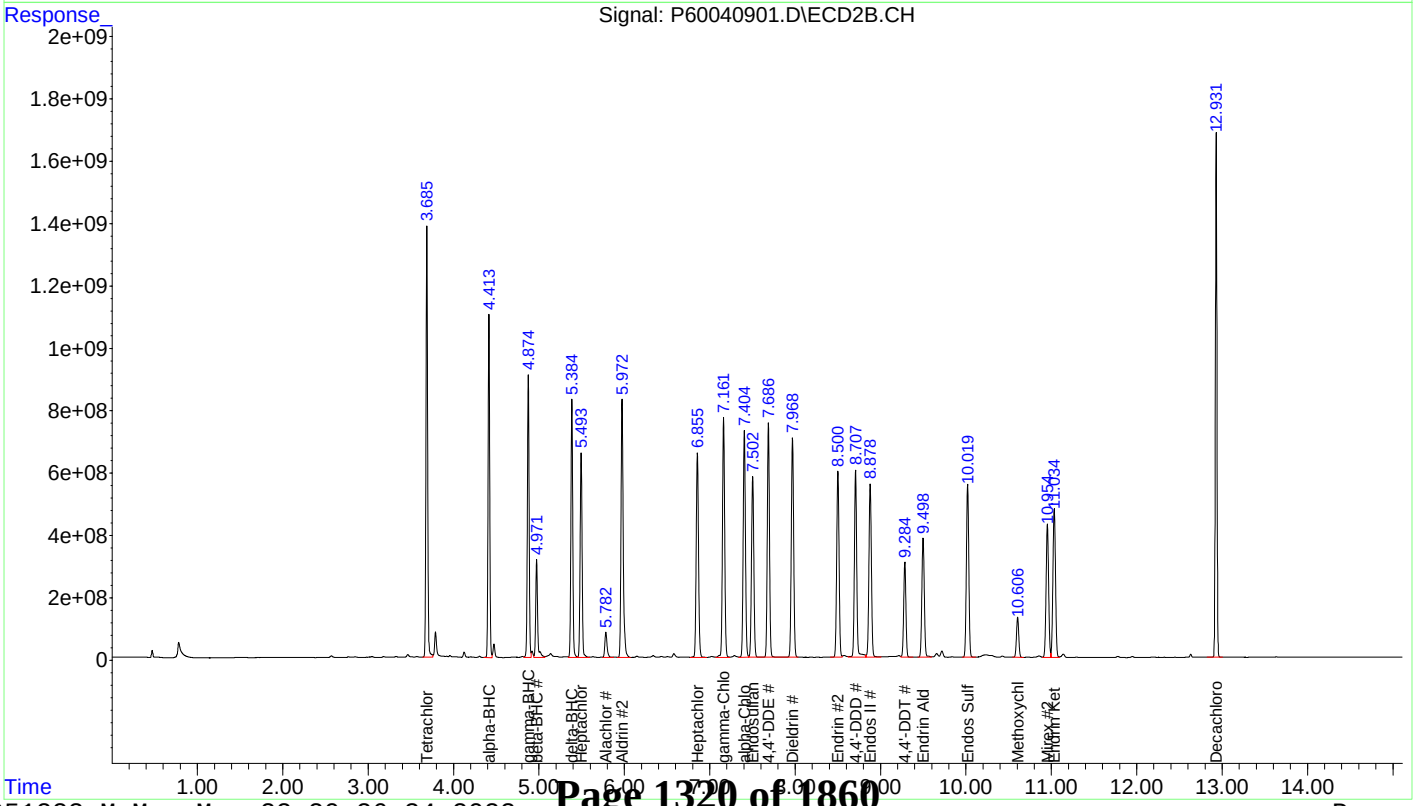
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040901.D
Acq On : 12 May 2023 2:32 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL5
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 10 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:48:13 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:48:04 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040902.D
Acq On : 12 May 2023 2:52 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL6
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 11 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:49:11 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:49:06 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

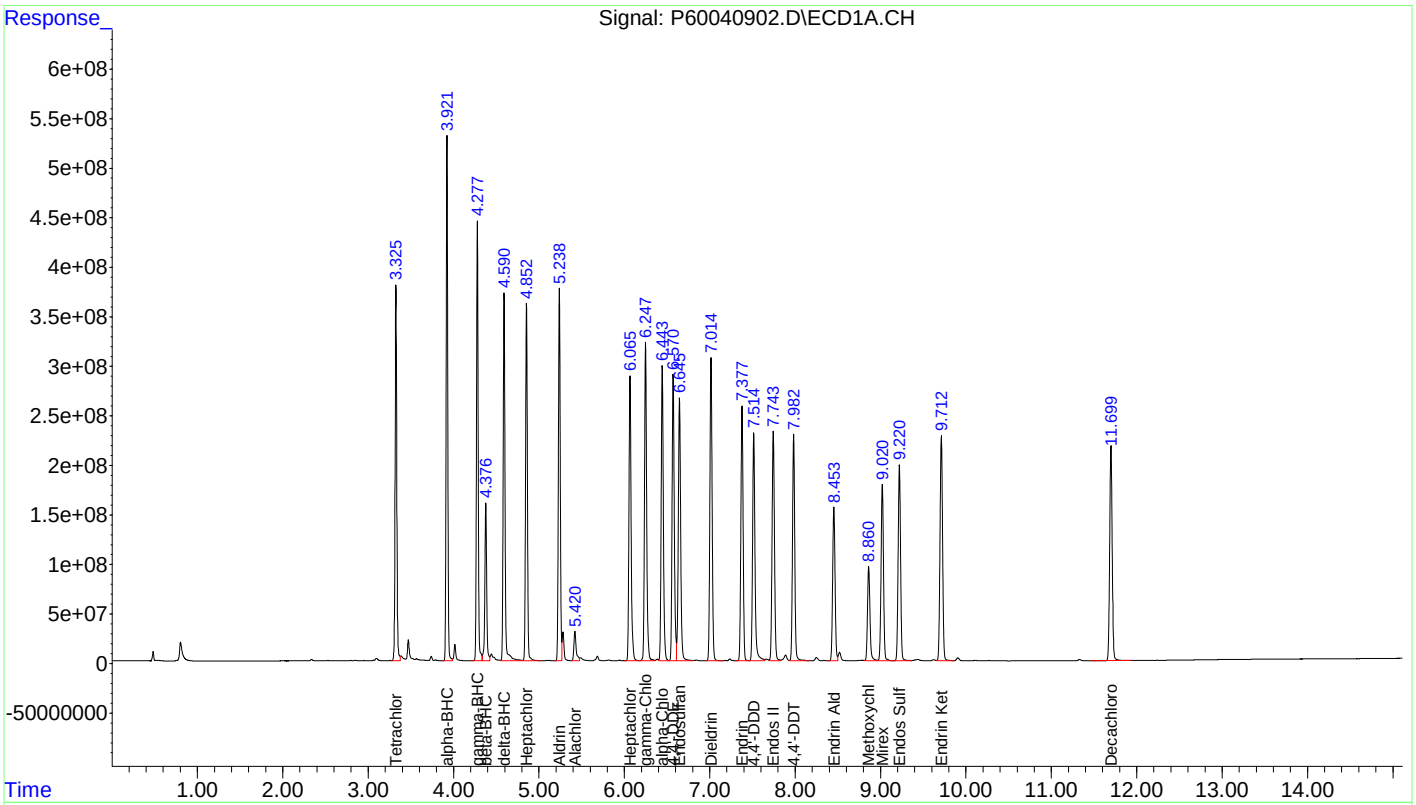
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.325	3.686	5071.1E6	23005.4E6	211.114	237.897
24) S	Decachlor...	11.699	12.932	4389.2E6	27607.5E6	200.423	249.645
	Target Compounds						
2)	alpha-BHC	3.922	4.415	6798.9E6	31469.9E6	200.615	200.346
3)	gamma-BHC...	4.278	4.875	6058.8E6	28538.6E6	200.607	200.682
4)	beta-BHC	4.376	4.973	2390.1E6	10351.4E6	200.596	200.868
5)	delta-BHC	4.590	5.386	5599.1E6	26004.6E6	200.637	200.320
6)	Heptachlor	4.853	5.495	5367.1E6	20410.2E6	200.982	200.275
7)	Aldrin	5.238	5.975	5655.8E6	27895.9E6	200.925	200.276
8)	Alachlor	5.420	5.784	549.5E6	2564.6E6	194.387m	201.282
9)	Heptachlo...	6.066	6.856	5024.6E6	22349.4E6	200.975	200.203
10)	gamma-Chl...	6.247	7.164	5566.5E6	26821.9E6	200.893	200.074
11)	alpha-Chl...	6.443	7.407	5216.3E6	25370.3E6	200.758	200.023
12)	Endosulfan I	6.645	7.504	5050.8E6	19618.7E6	200.997	200.136
13)	4,4'-DDE	6.571	7.690	5151.3E6	25508.7E6	200.697	200.035
14)	Dieldrin	7.014	7.972	5571.2E6	24548.8E6	200.859	200.016
15)	Endrin	7.378	8.503	4662.4E6	21368.2E6	201.017	200.110
16)	4,4'-DDD	7.515	8.711	4444.5E6	22166.2E6	200.691	199.940
17)	Endos II	7.743	8.882	4528.8E6	20368.4E6	200.910	200.023
18)	4,4'-DDT	7.982	9.286	4177.9E6	12991.8E6	200.780	199.819
19)	Endrin Al...	8.453	9.502	3035.5E6	14453.1E6	201.121	200.169
20)	Methoxychlor	8.861	10.608	1911.4E6	5519.0E6	201.270	199.847
21)	Mirex	9.020	10.956	3499.9E6	17274.7E6	201.084	200.170
22)	Endos Sulf	9.221	10.023	3904.9E6	20926.5E6	201.054	200.177
23)	Endrin Ke...	9.712	11.037	4718.4E6	19147.6E6	201.005	200.065

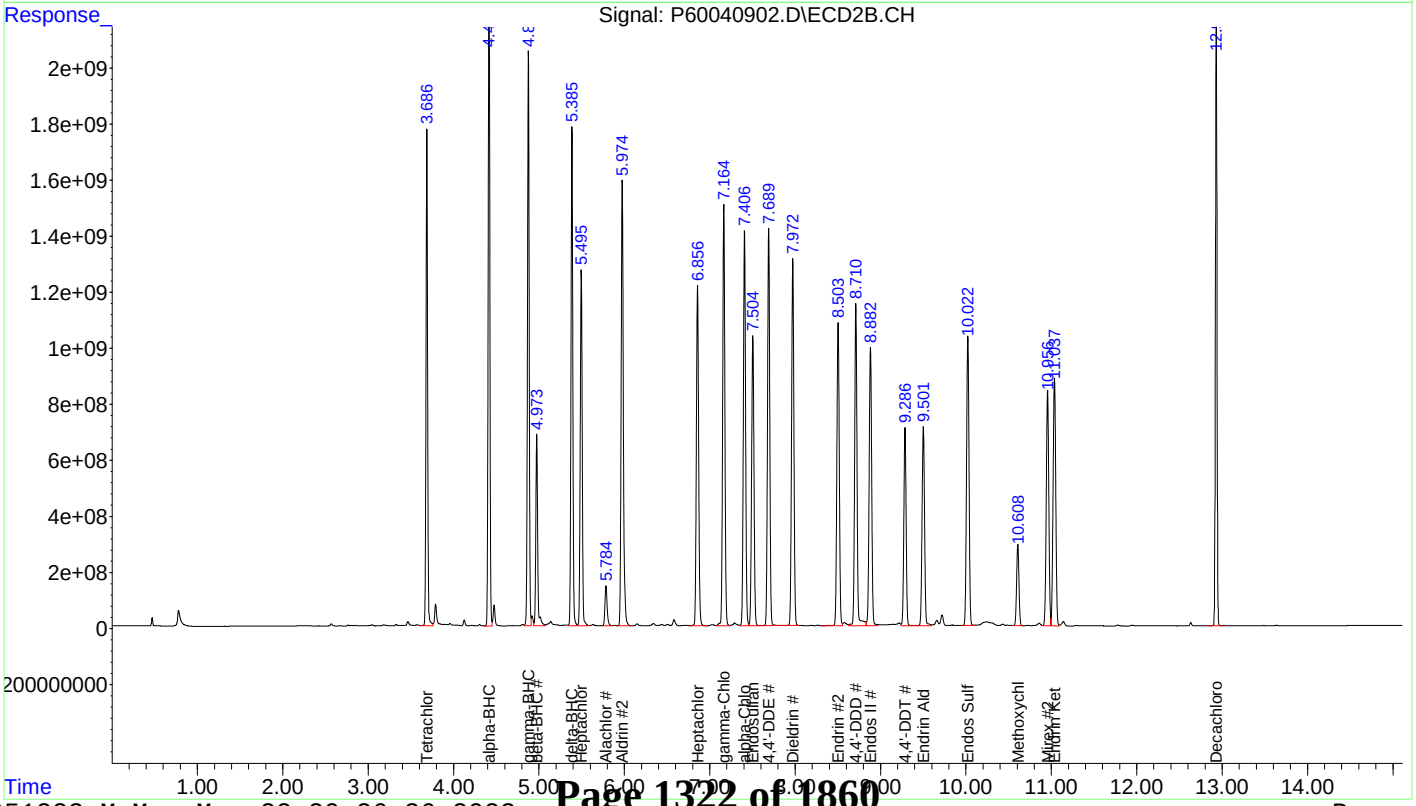
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040902.D
Acq On : 12 May 2023 2:52 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL6
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 11 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:49:11 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:49:06 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040903.D
Acq On : 12 May 2023 3:11 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-SCV1
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 12 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:55:05 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:49:31 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

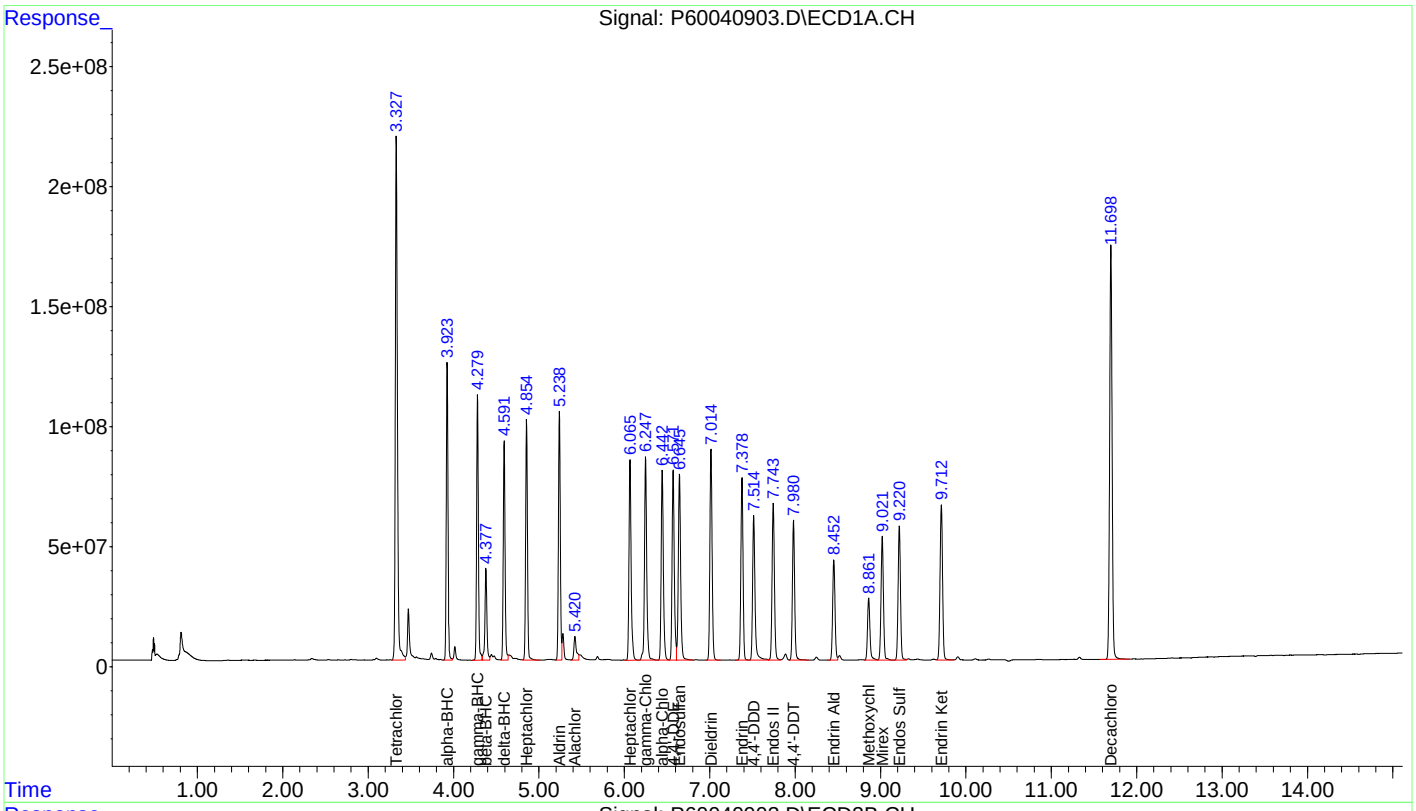
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.328	3.688	3716.9E6	15712.0E6	154.738	162.477
24) S	Decachlor...	11.698	12.934	3444.1E6	18932.5E6	157.267	171.200
	Target Compounds						
2)	alpha-BHC	3.924	4.415	1751.4E6	7259.7E6	47.815	49.894
3)	gamma-BHC...	4.279	4.876	1583.4E6	6922.9E6	48.438	53.126
4)	beta-BHC	4.378	4.974	611.6E6	2655.6E6	47.378	52.393
5)	delta-BHC	4.592	5.386	1343.5E6	6295.3E6	45.485	50.315
6)	Heptachlor	4.854	5.495	1490.2E6	5524.1E6	47.237	50.690
7)	Aldrin	5.239	5.974	1568.6E6	7844.3E6	47.717	51.982
8)	Alachlor	5.420	5.785	202.8E6	832.8E6	52.979m	51.293
9)	Heptachlo...	6.066	6.856	1457.8E6	6569.5E6	47.940	50.790
10)	gamma-Chl...	6.248	7.164	1534.4E6	7124.4E6	47.600	50.330
11)	alpha-Chl...	6.443	7.407	1411.6E6	6772.0E6	46.680	50.098
12)	Endosulfan I	6.645	7.505	1463.1E6	5961.7E6	48.068	52.082
13)	4,4'-DDE	6.571	7.689	1421.3E6	7059.1E6	48.903	52.390
14)	Dieldrin	7.014	7.971	1588.3E6	7261.0E6	48.155	51.566
15)	Endrin	7.378	8.503	1340.4E6	6288.9E6	49.098	52.115
16)	4,4'-DDD	7.514	8.710	1190.8E6	6043.0E6	48.641	51.957
17)	Endos II	7.743	8.882	1255.2E6	5996.4E6	47.492	51.187
18)	4,4'-DDT	7.981	9.286	1056.2E6	2480.4E6	47.880	50.481
19)	Endrin Al...	8.453	9.500	809.8E6	3968.0E6	46.617	49.494
20)	Methoxychlor	8.861	10.608	516.9E6	1088.7E6	46.744	50.086
21)	Mirex	9.021	10.955	1008.2E6	4849.5E6	49.933	54.110
22)	Endos Sulf	9.220	10.022	1078.1E6	5767.1E6	47.764	50.899
23)	Endrin Ke...	9.713	11.036	1329.9E6	5386.2E6	48.225	51.793

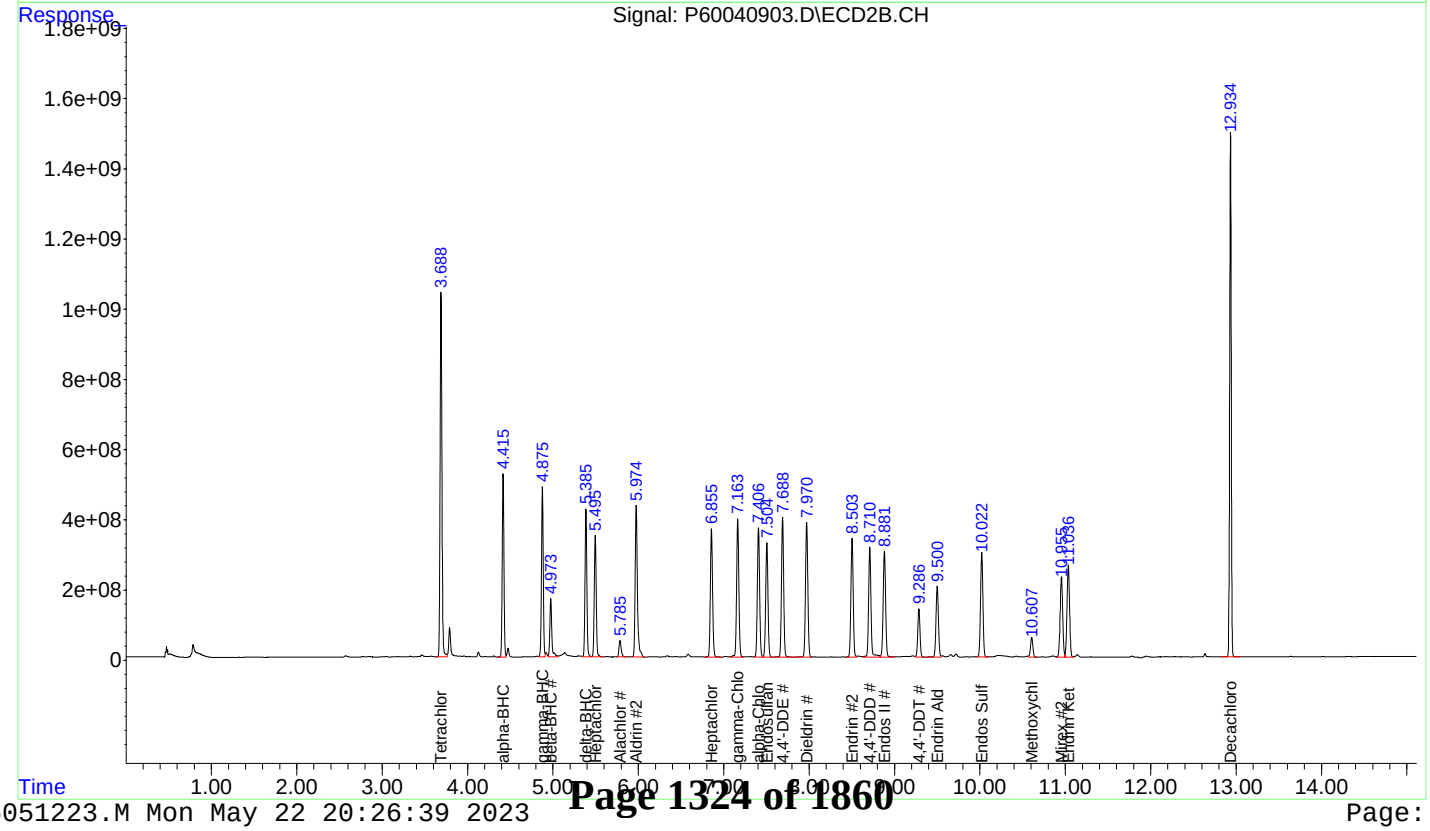
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040903.D
Acq On : 12 May 2023 3:11 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-SCV1
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 12 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 09:55:05 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 09:49:31 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040905.D
Acq On : 12 May 2023 3:49 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL7
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 13 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:04:29 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

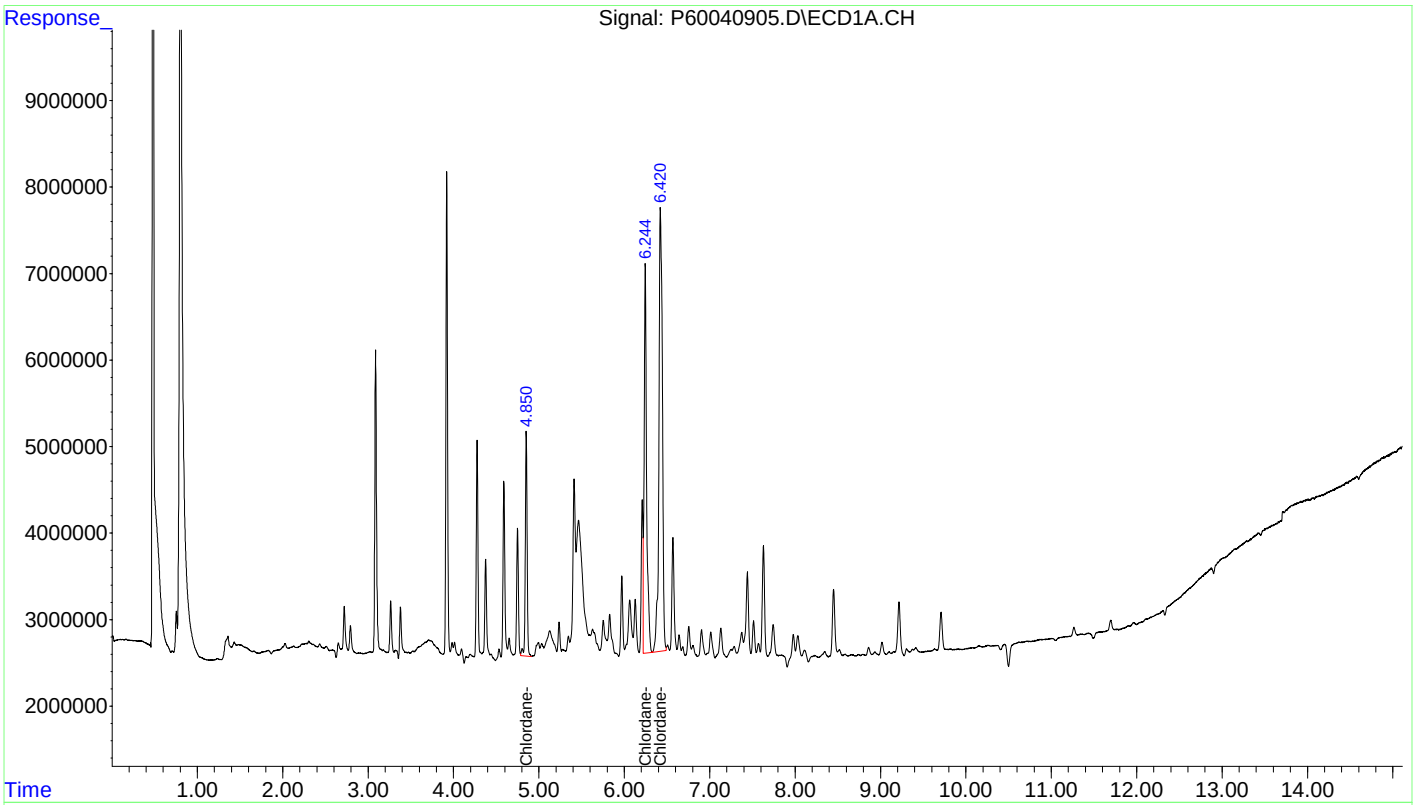
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
	Target Compounds							
25)	Chlordane-1	4.851	5.492	38722259	195.5E6	15.414	22.197	#
26)	Chlordane-2	6.245	7.161	90923952	566.4E6	12.317	21.177	#
27)	Chlordane-3	6.421	7.404	145.3E6	431.8E6	11.664	19.109	#

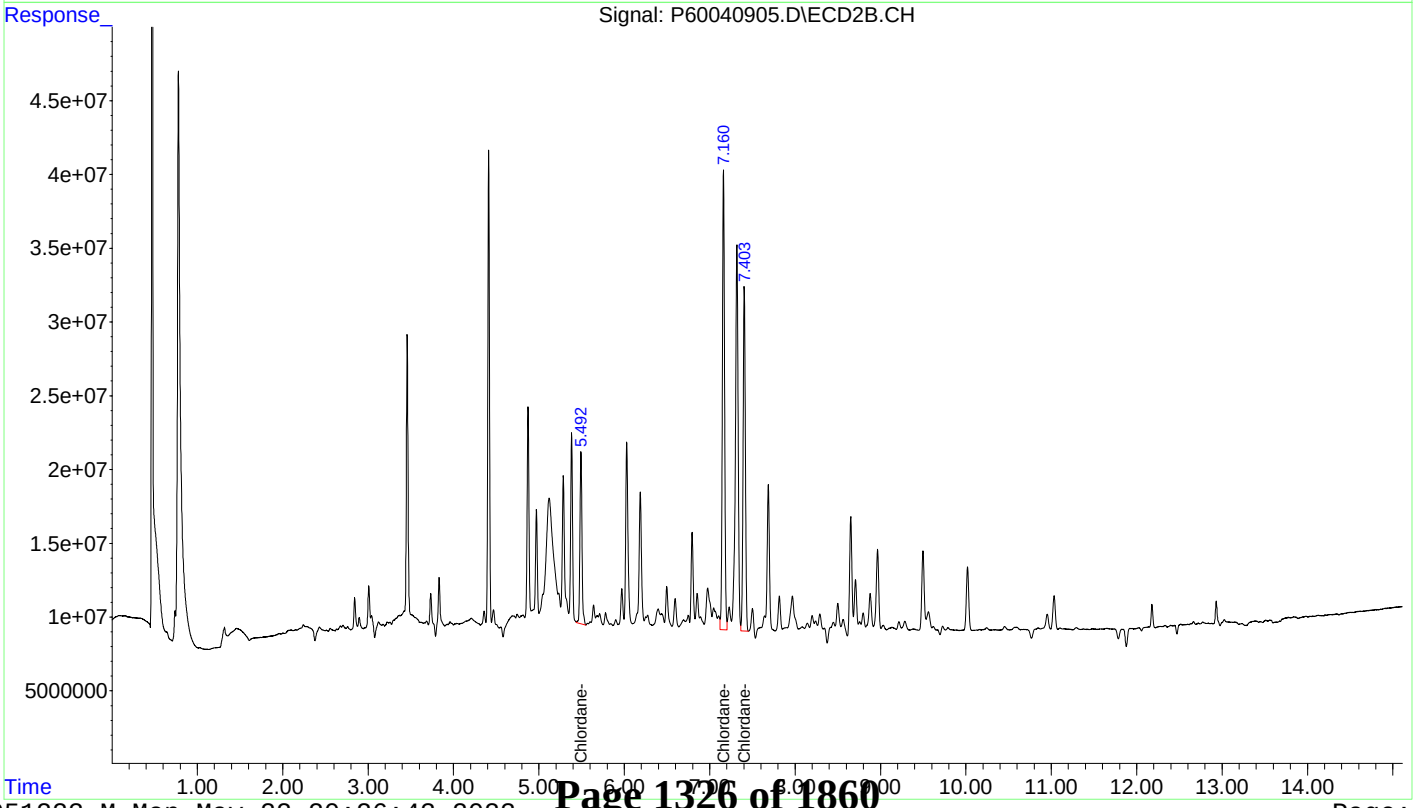
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040905.D
Acq On : 12 May 2023 3:49 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL7
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 13 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:04:29 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040906.D
Acq On : 12 May 2023 4:08 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL8
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 14 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:04:55 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

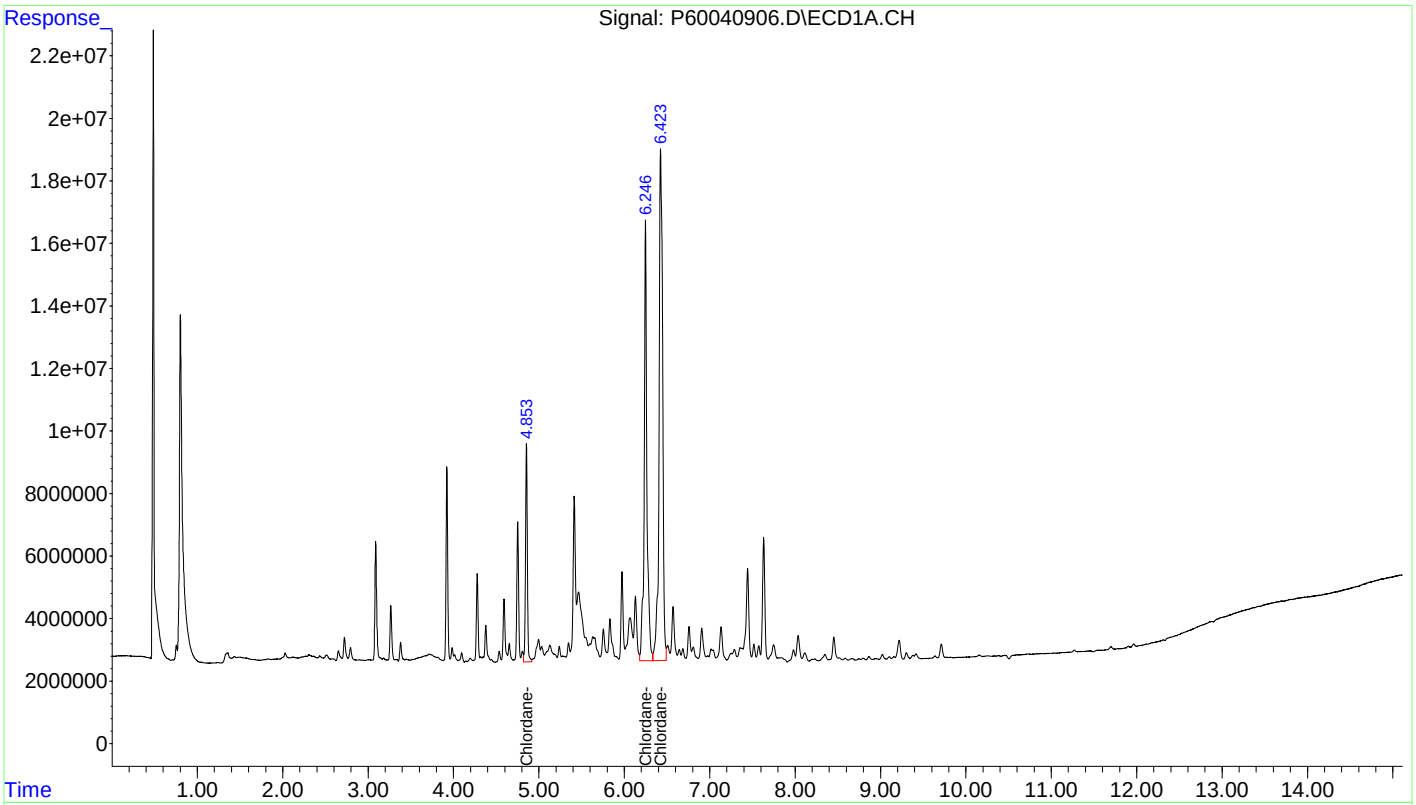
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
25)	Chlordane-1	4.853	5.494	104.2E6	439.1E6	41.512	49.917
26)	Chlordane-2	6.247	7.163	311.9E6	1386.5E6	42.298	52.008
27)	Chlordane-3	6.423	7.407	480.5E6	1053.5E6	38.613	46.740

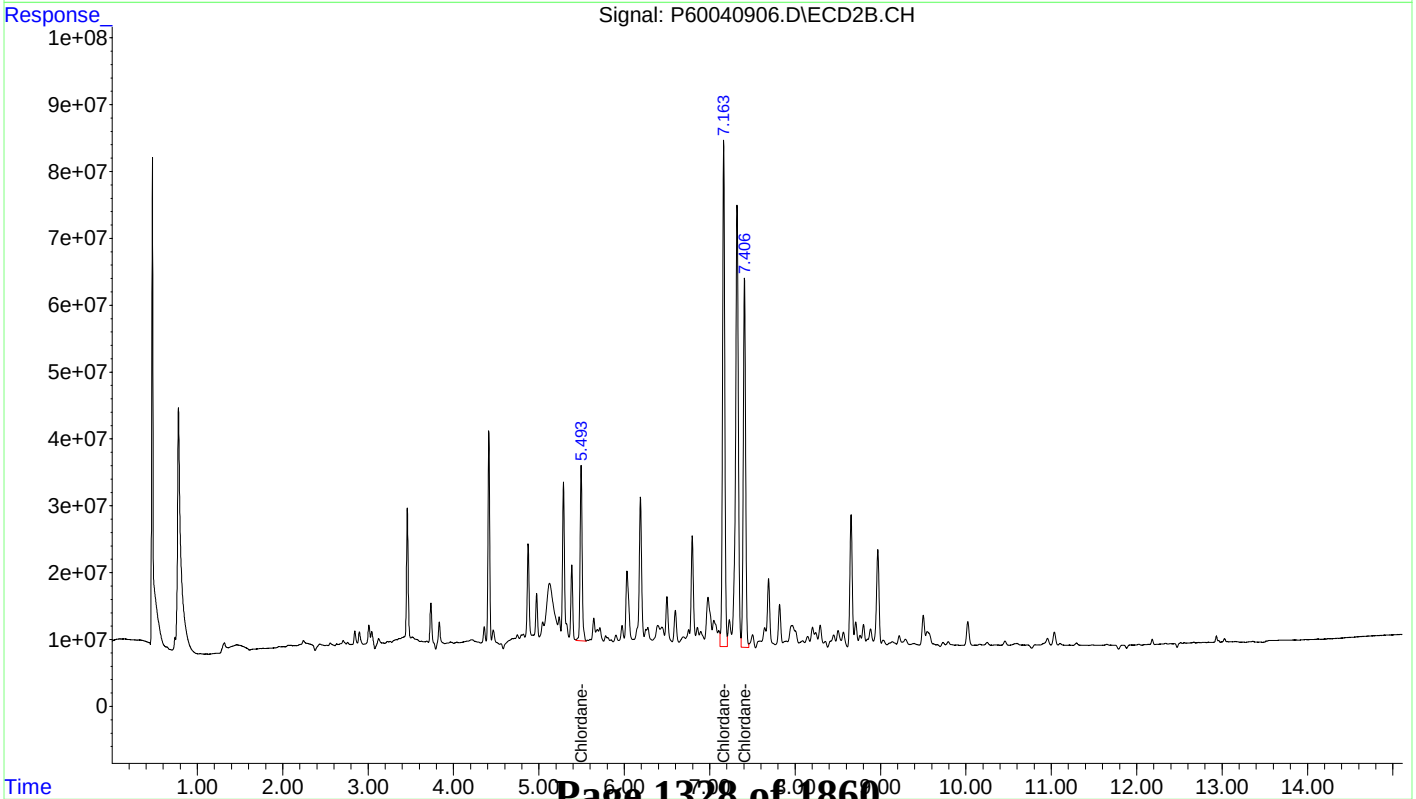
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040906.D
Acq On : 12 May 2023 4:08 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL8
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 14 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:04:55 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040907.D
Acq On : 12 May 2023 4:27 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL9
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 15 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:05:19 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

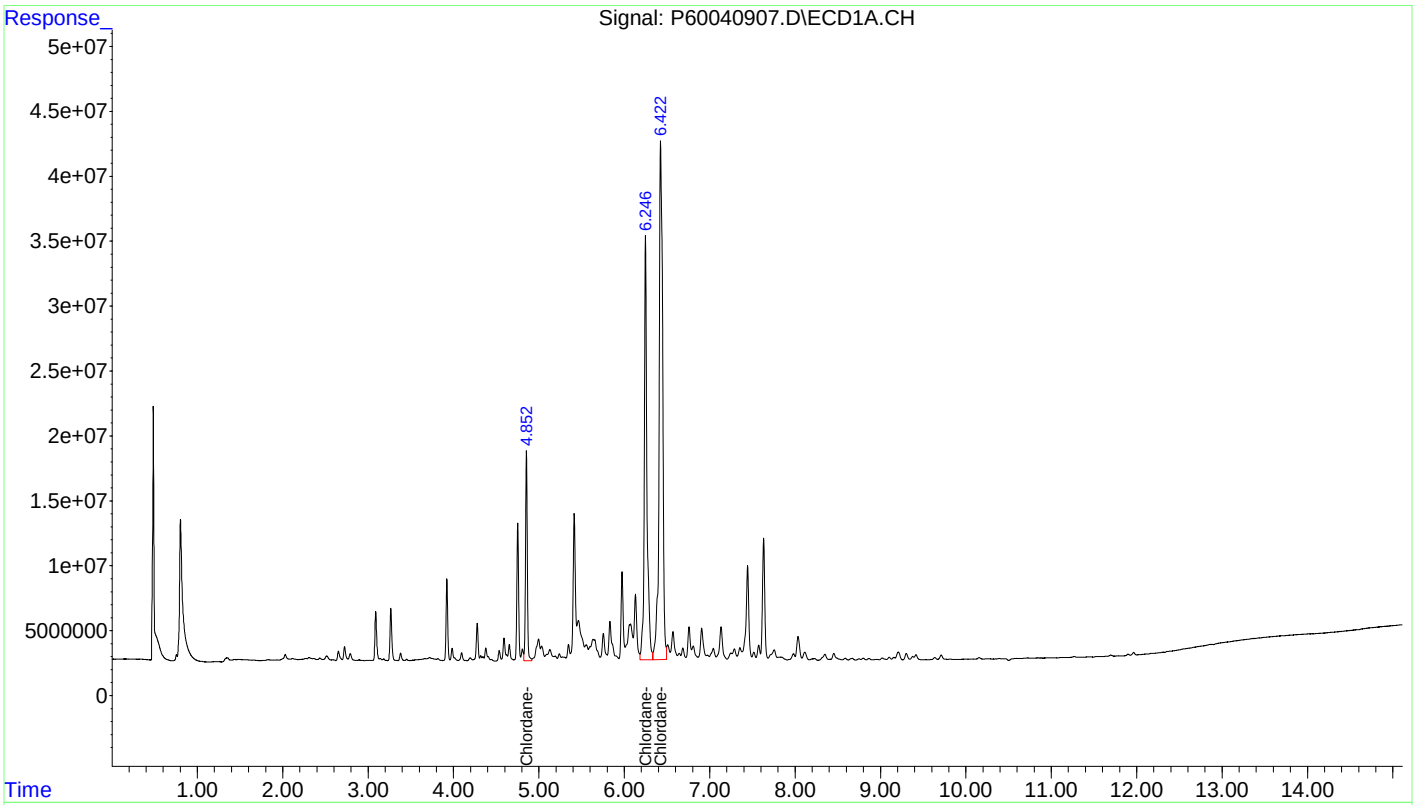
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
	Target Compounds							
25)	Chlordane-1	4.853	5.495	234.8E6	1066.1E6	93.729	121.486	#
26)	Chlordane-2	6.247	7.164	710.2E6	2951.7E6	96.488	111.400	
27)	Chlordane-3	6.423	7.408	1168.9E6	2189.1E6	94.128	97.578	

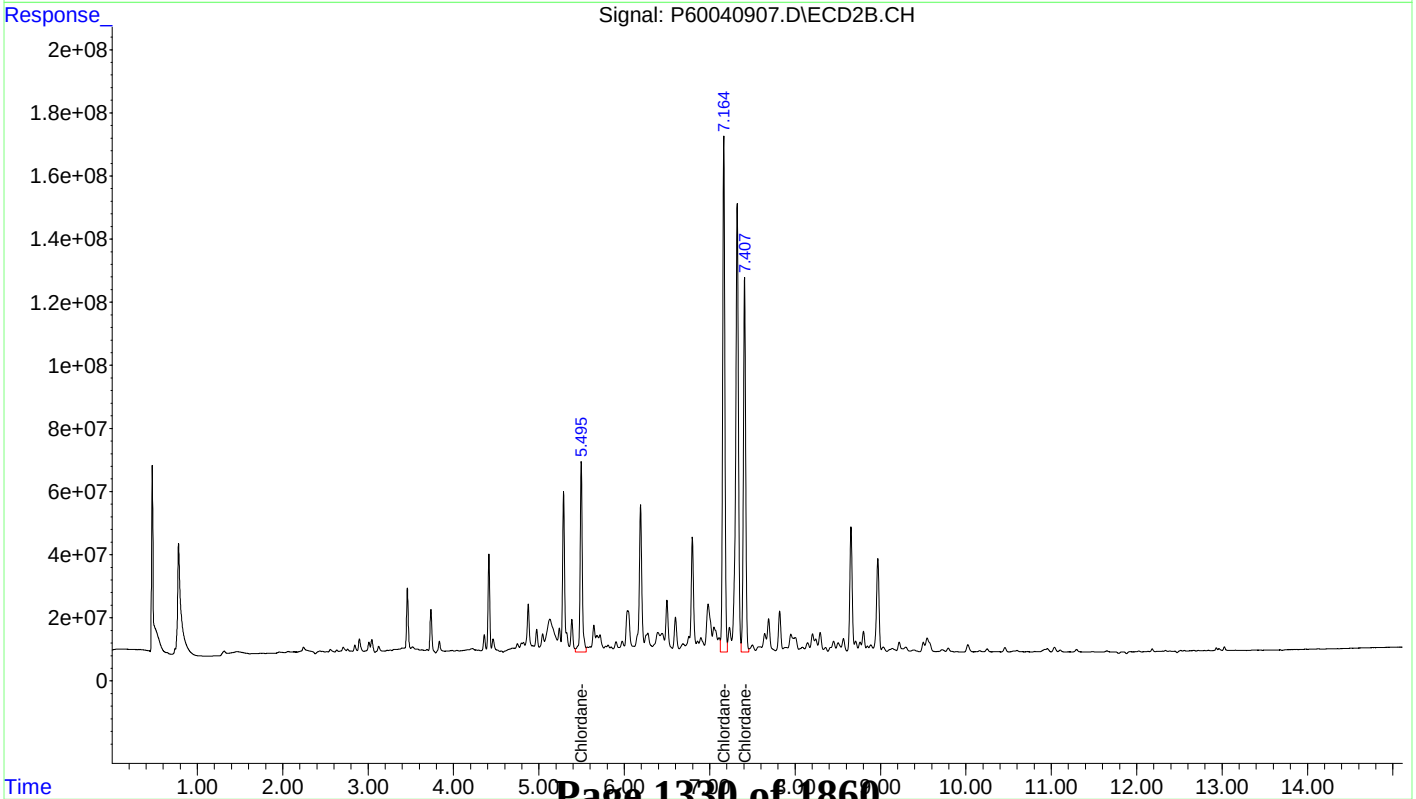
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040907.D
Acq On : 12 May 2023 4:27 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CAL9
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 15 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:05:19 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040908.D
Acq On : 12 May 2023 5:01 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALA
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 16 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:03:52 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

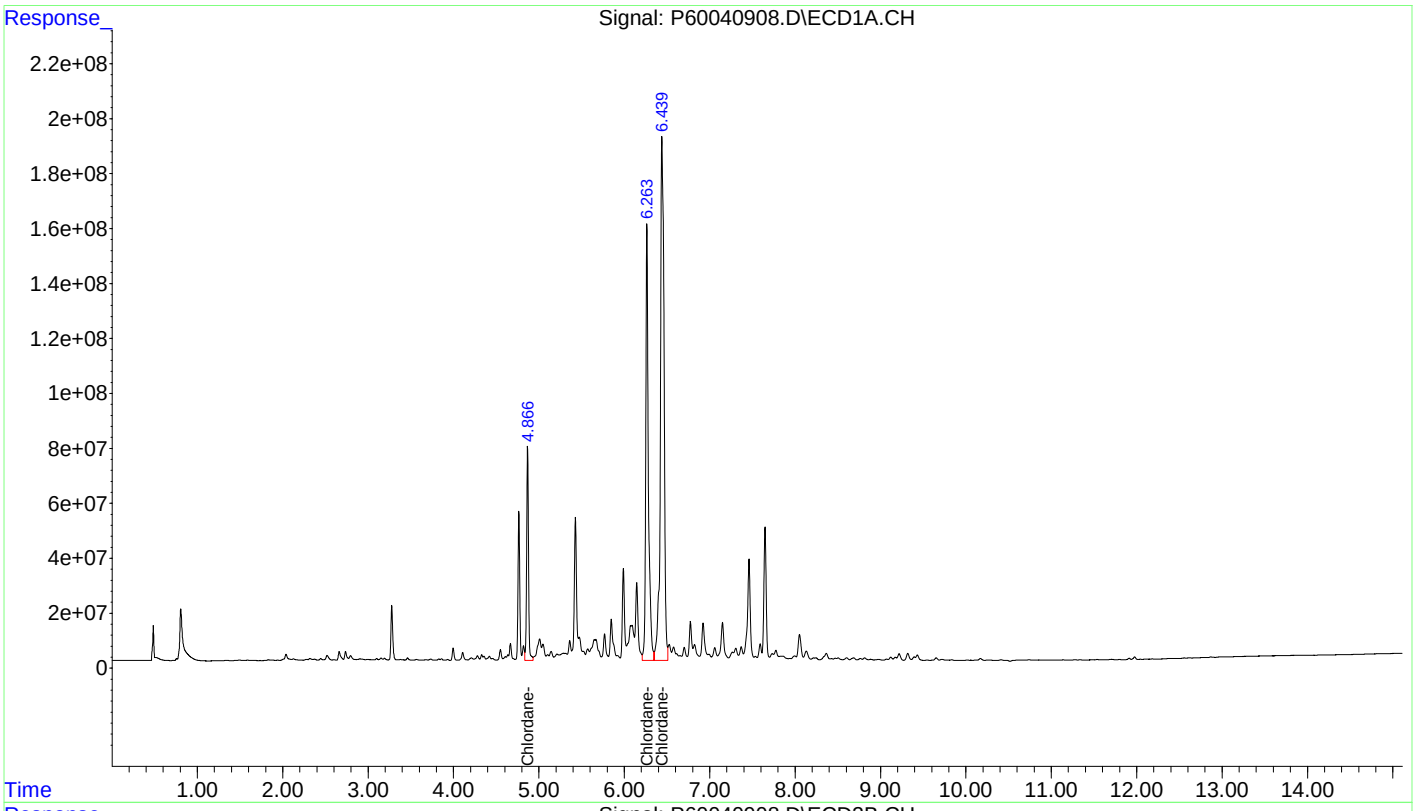
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
25)	Chlordane-1	4.866	5.490	1169.9E6	4626.7E6	474.949	562.777
26)	Chlordane-2	6.263	7.160	3408.5E6	13851.9E6	475.509	562.045
27)	Chlordane-3	6.439	7.404	5725.2E6	10358.1E6	473.252	488.925

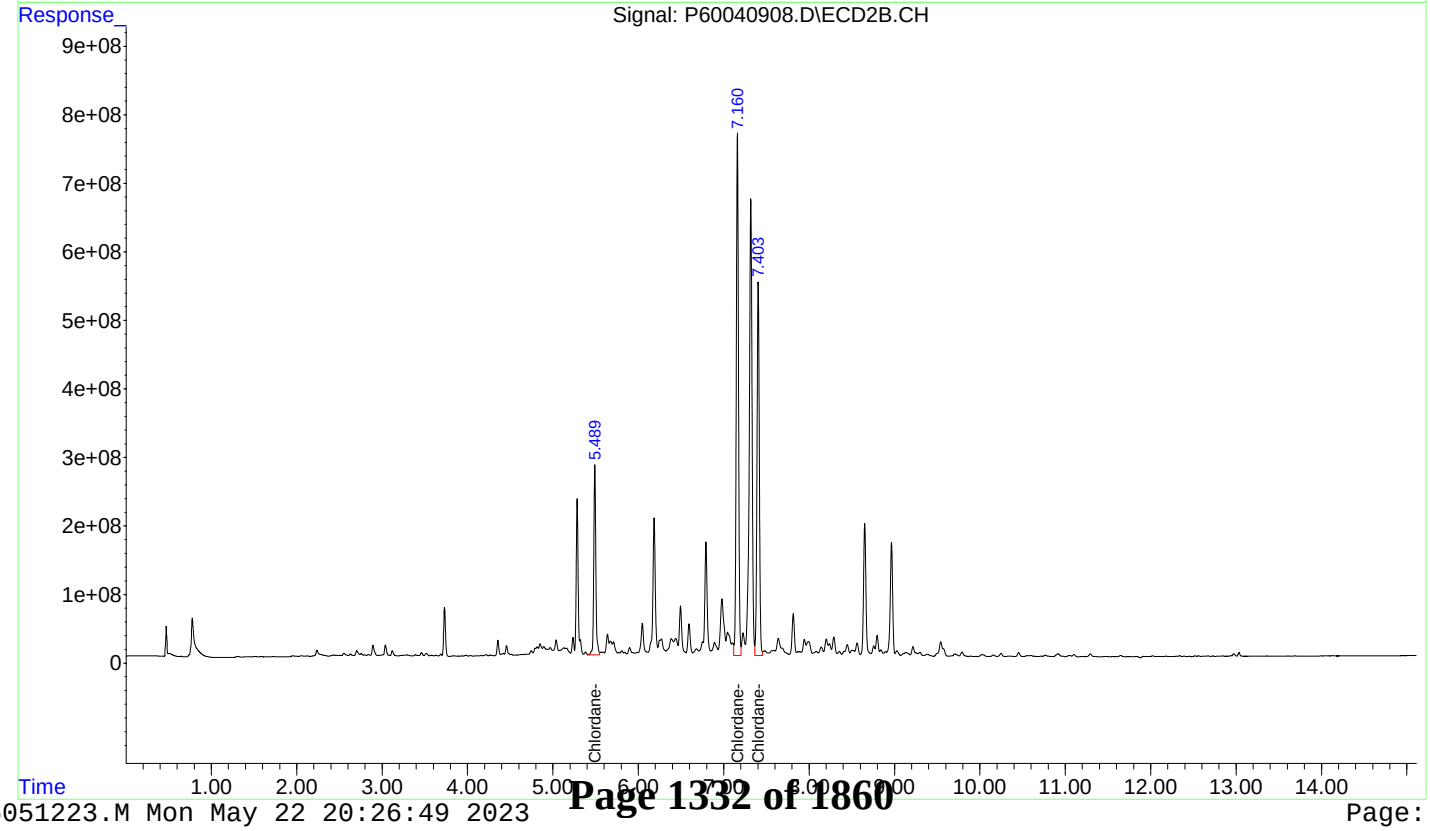
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040908.D
Acq On : 12 May 2023 5:01 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALA
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 16 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:03:52 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040909.D
Acq On : 12 May 2023 5:20 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALB
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 17 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:06:39 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

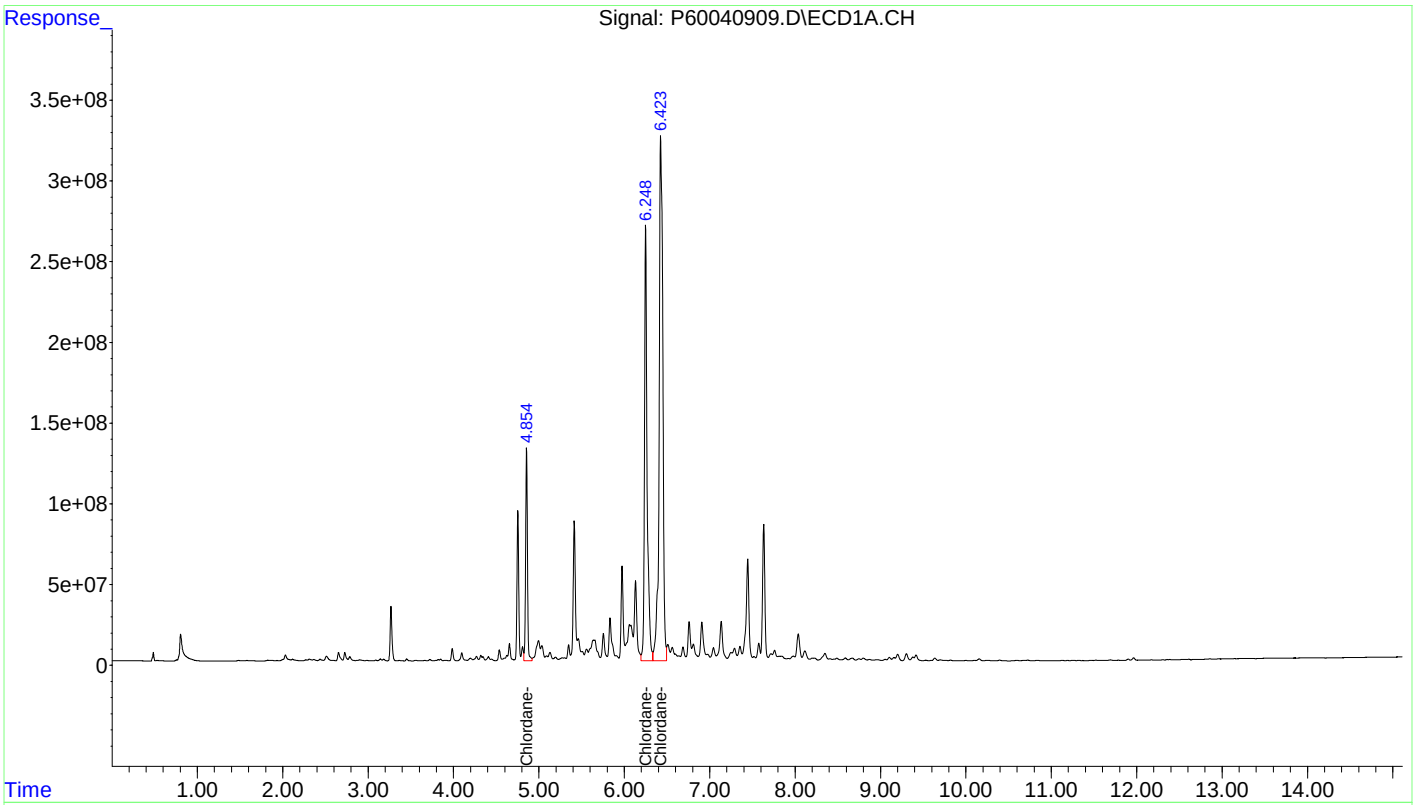
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
	Target Compounds							
25)	Chlordane-1	4.854	5.494	1965.8E6	8748.3E6	807.808	1032.962	#
26)	Chlordane-2	6.249	7.163	5813.0E6	24961.5E6	811.431	1047.462	#
27)	Chlordane-3	6.424	7.407	9846.3E6	18796.0E6	816.315	906.555	

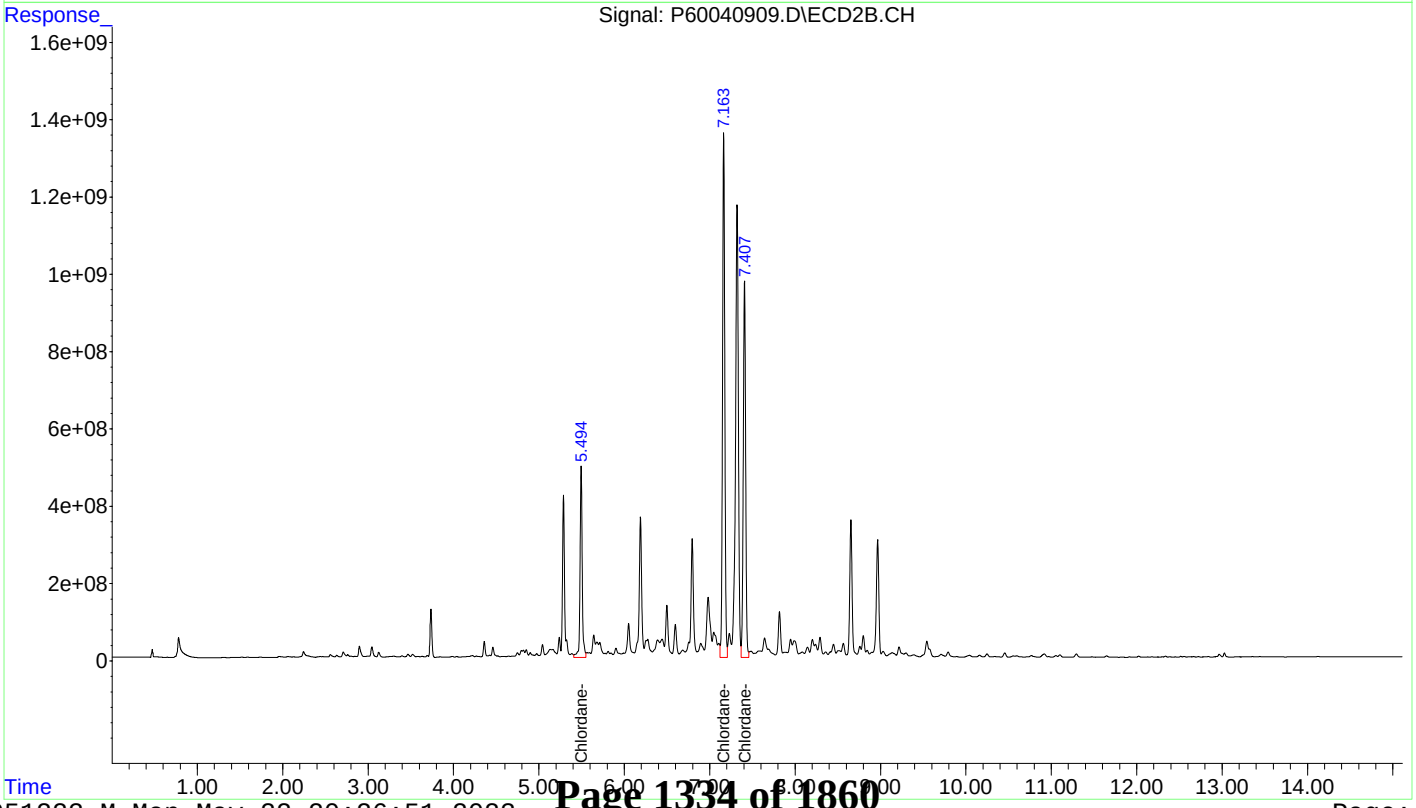
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040909.D
Acq On : 12 May 2023 5:20 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALB
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 17 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:06:39 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040910.D
Acq On : 12 May 2023 5:39 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALC
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 18 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:07:08 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

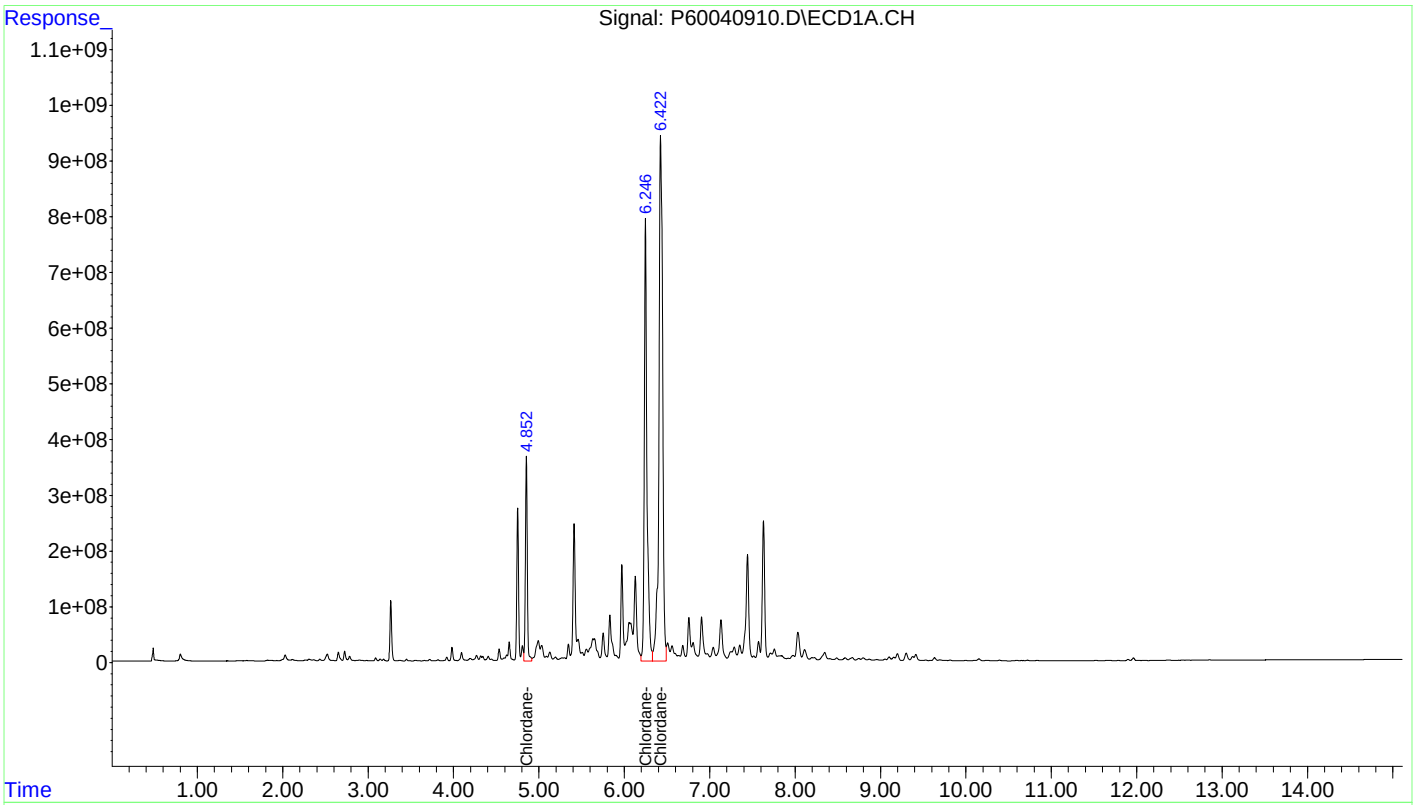
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
25)	Chlordane-1	4.852	5.494	5641.0E6	20855.5E6	3592.142	3572.070
26)	Chlordane-2	6.247	7.167	17138.6E6	51615.0E6	3639.674	4148.720
27)	Chlordane-3	6.423	7.407	28604.2E6	46409.4E6	3637.217	4118.642

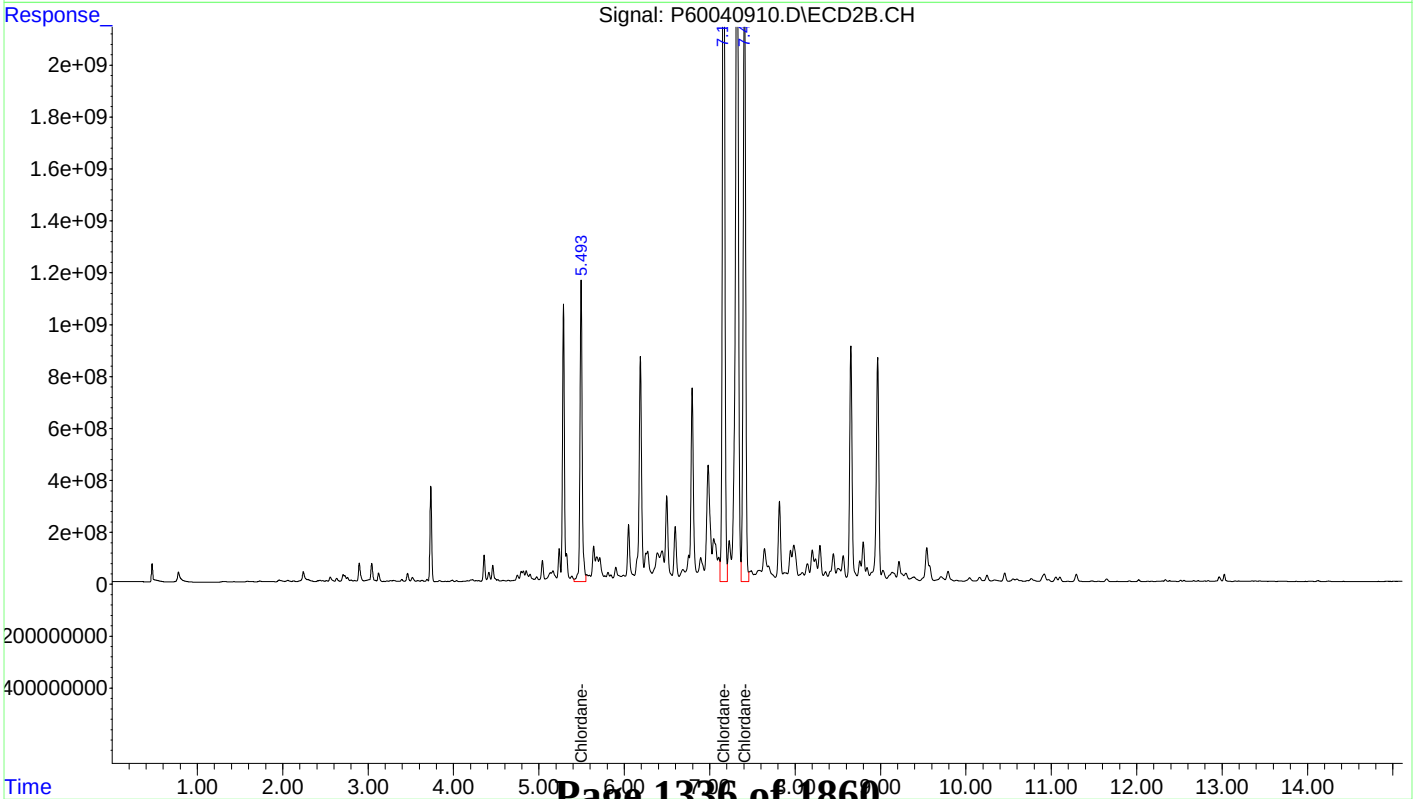
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040910.D
Acq On : 12 May 2023 5:39 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALC
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 18 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:07:08 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040911.D
Acq On : 12 May 2023 5:58 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALD
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 19 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:16:06 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

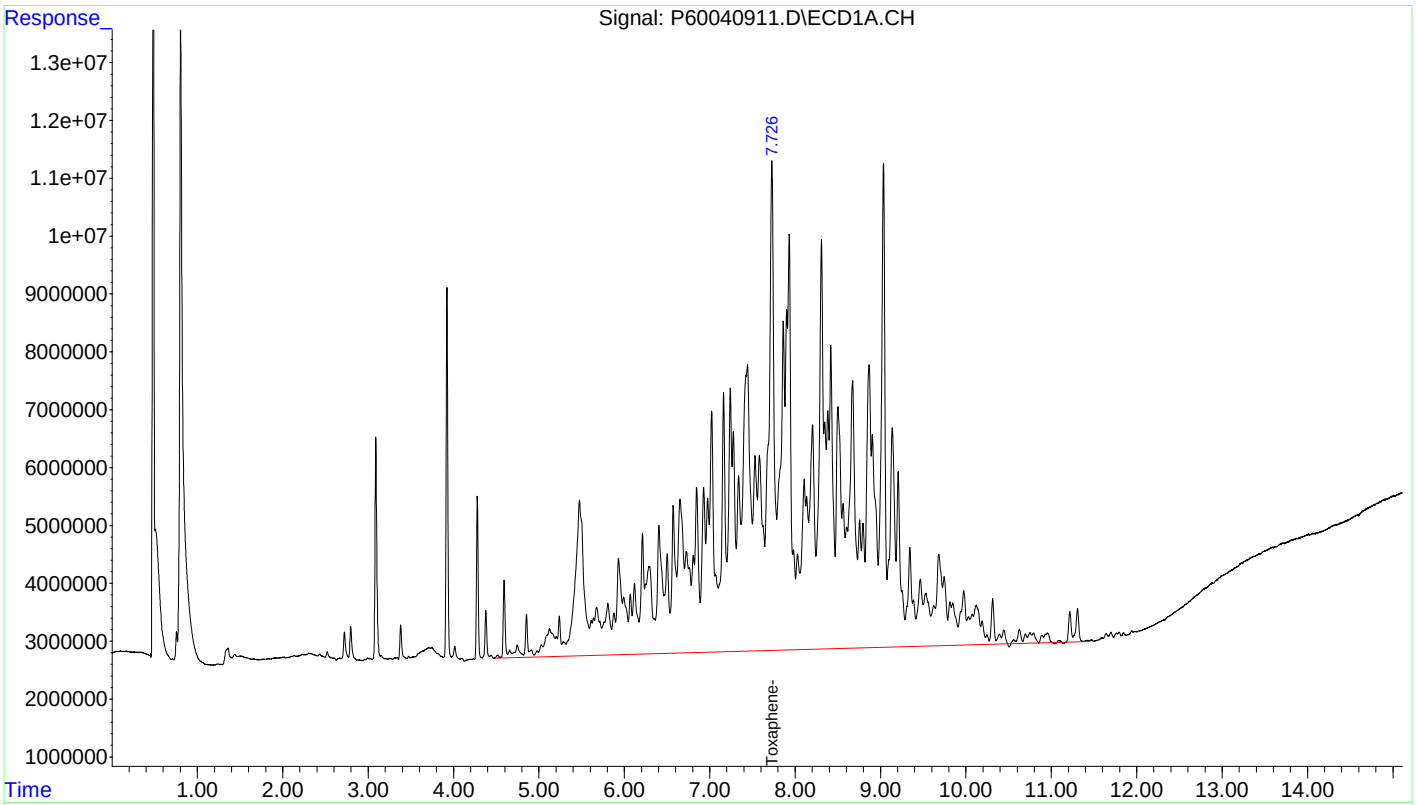
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
28)	Toxaphene-1	7.726	9.039	5937.2E6	25589.1E6	331.147m	402.295m

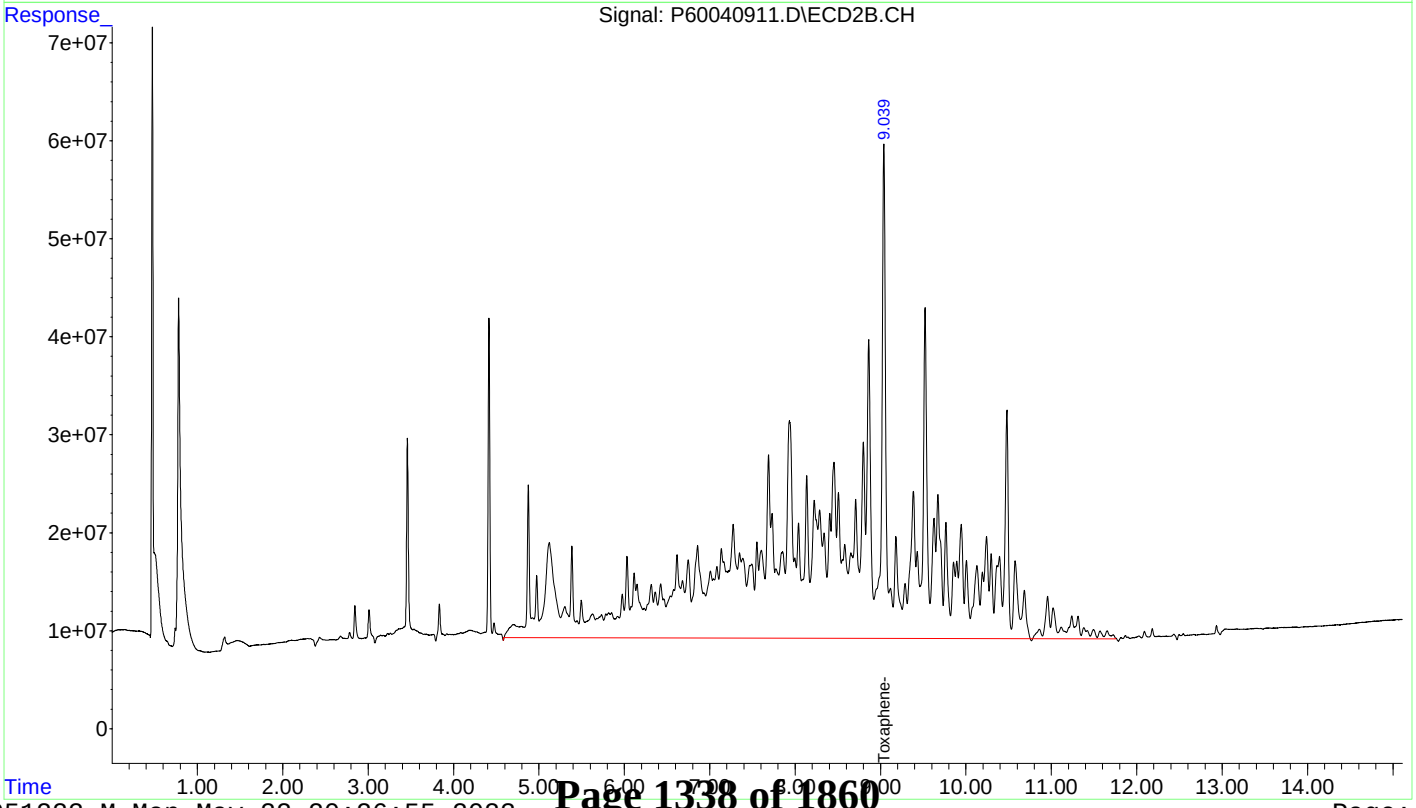
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040911.D
Acq On : 12 May 2023 5:58 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALD
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 19 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:16:06 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040912.D
Acq On : 12 May 2023 6:17 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALE
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 20 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:18:19 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

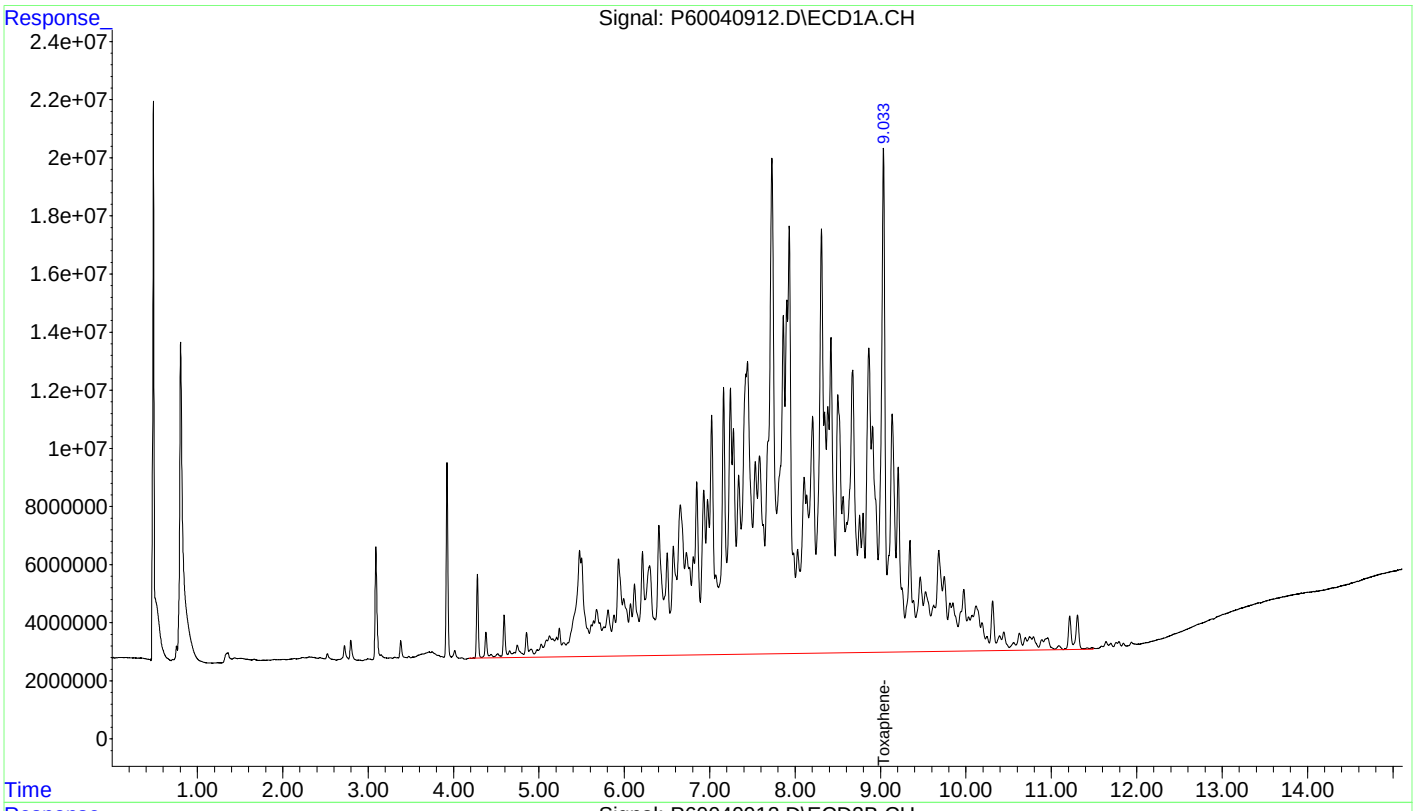
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
28)	Toxaphene-1	9.033f	9.038	12212.5E6	45522.3E6	678.598m	714.266m

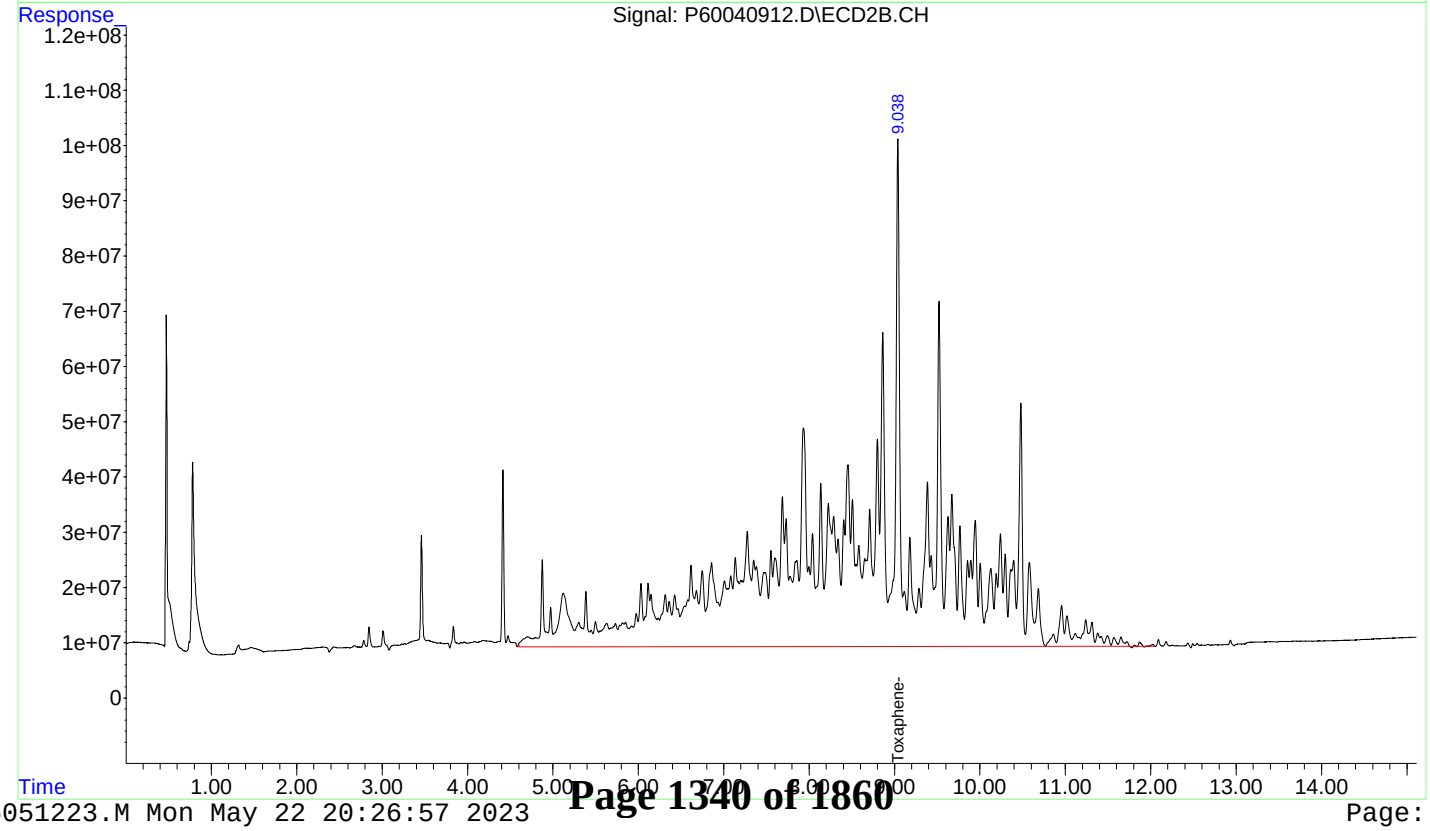
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040912.D
Acq On : 12 May 2023 6:17 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALE
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 20 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:18:19 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040913.D
Acq On : 12 May 2023 6:36 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALF
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 21 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:22:23 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

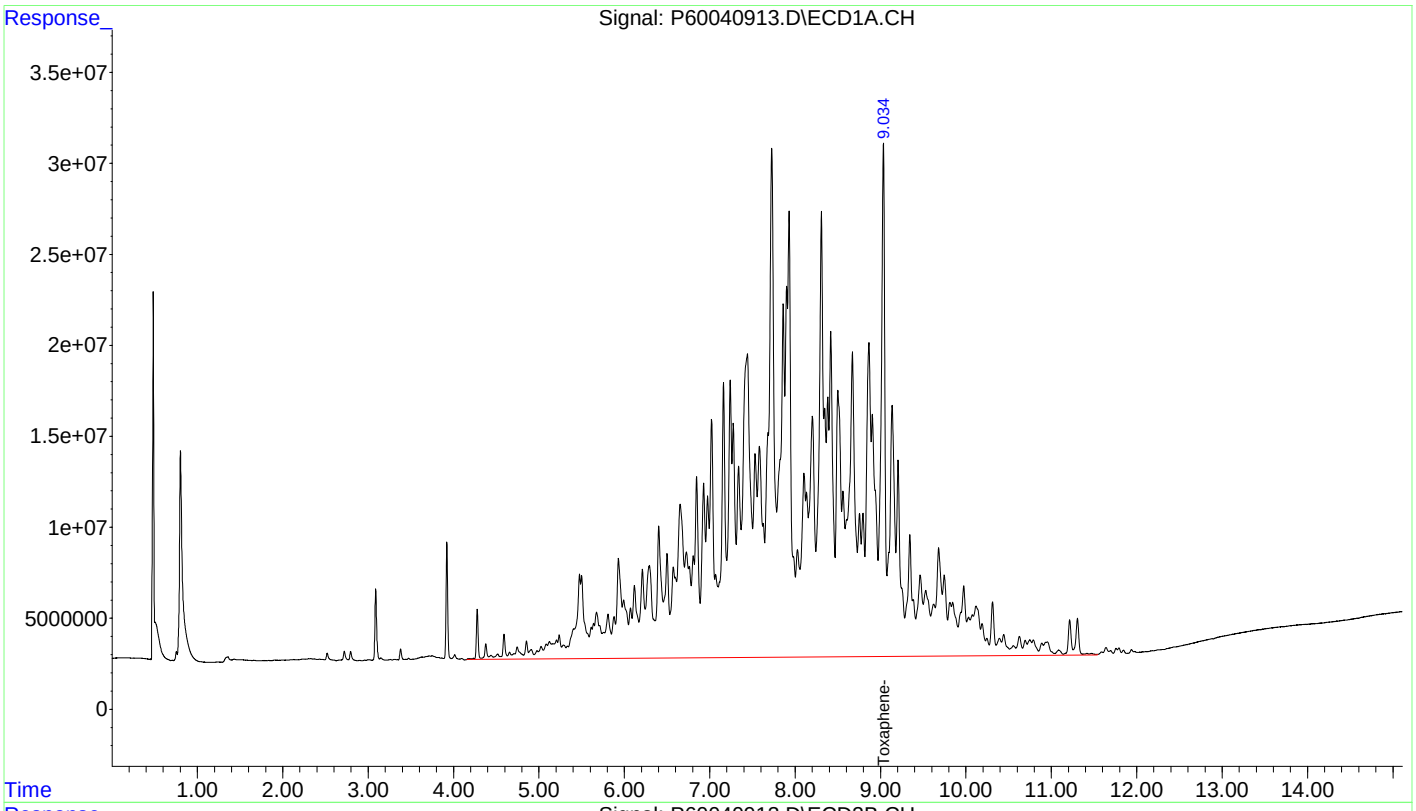
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
28)	Toxaphene-1	9.034f	9.038	20242.9E6	81085.4E6	1114.511m	1264.644m

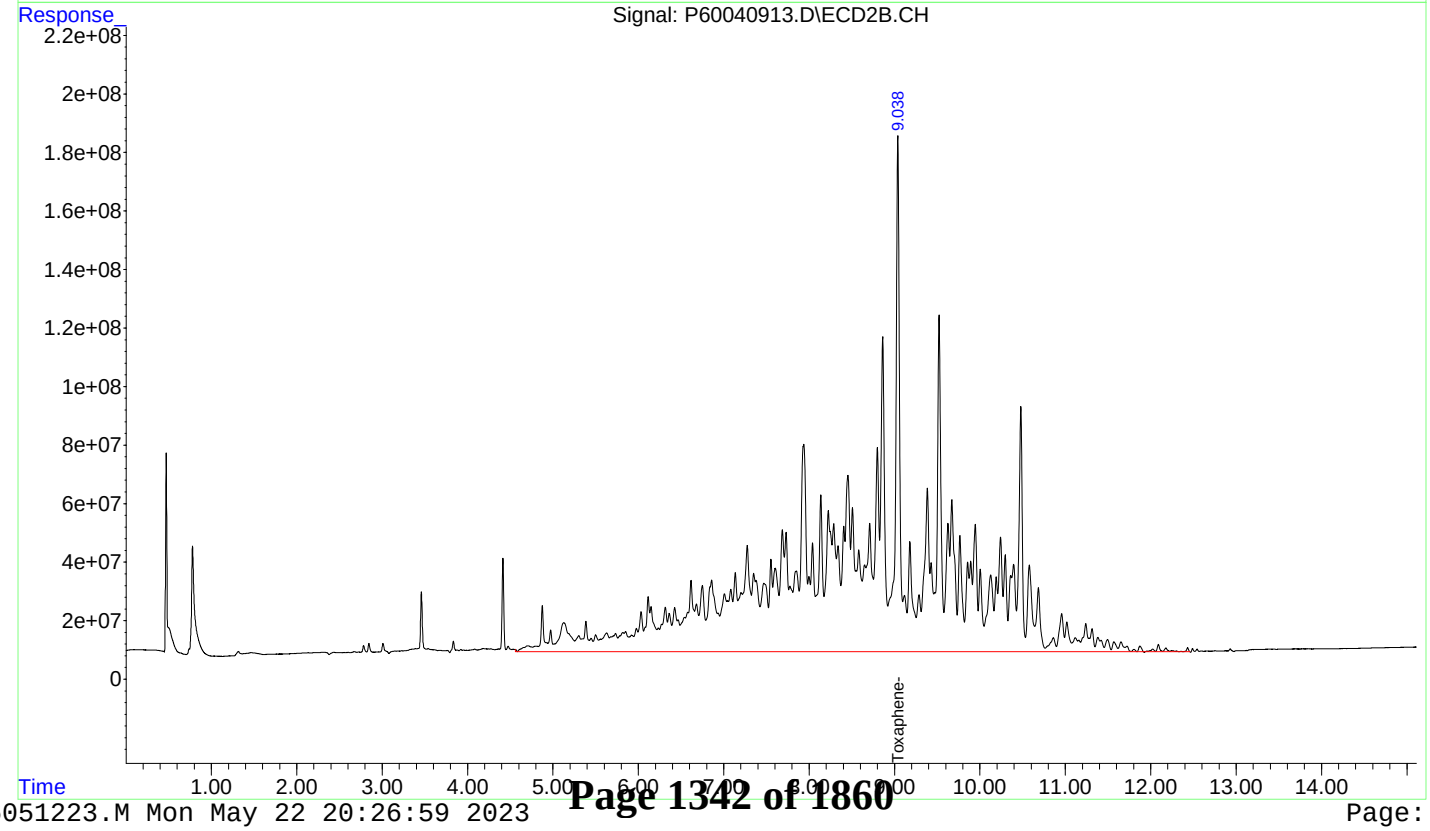
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040913.D
Acq On : 12 May 2023 6:36 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALF
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 21 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:22:23 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040914.D
Acq On : 12 May 2023 6:55 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALG
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 22 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:15:17 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

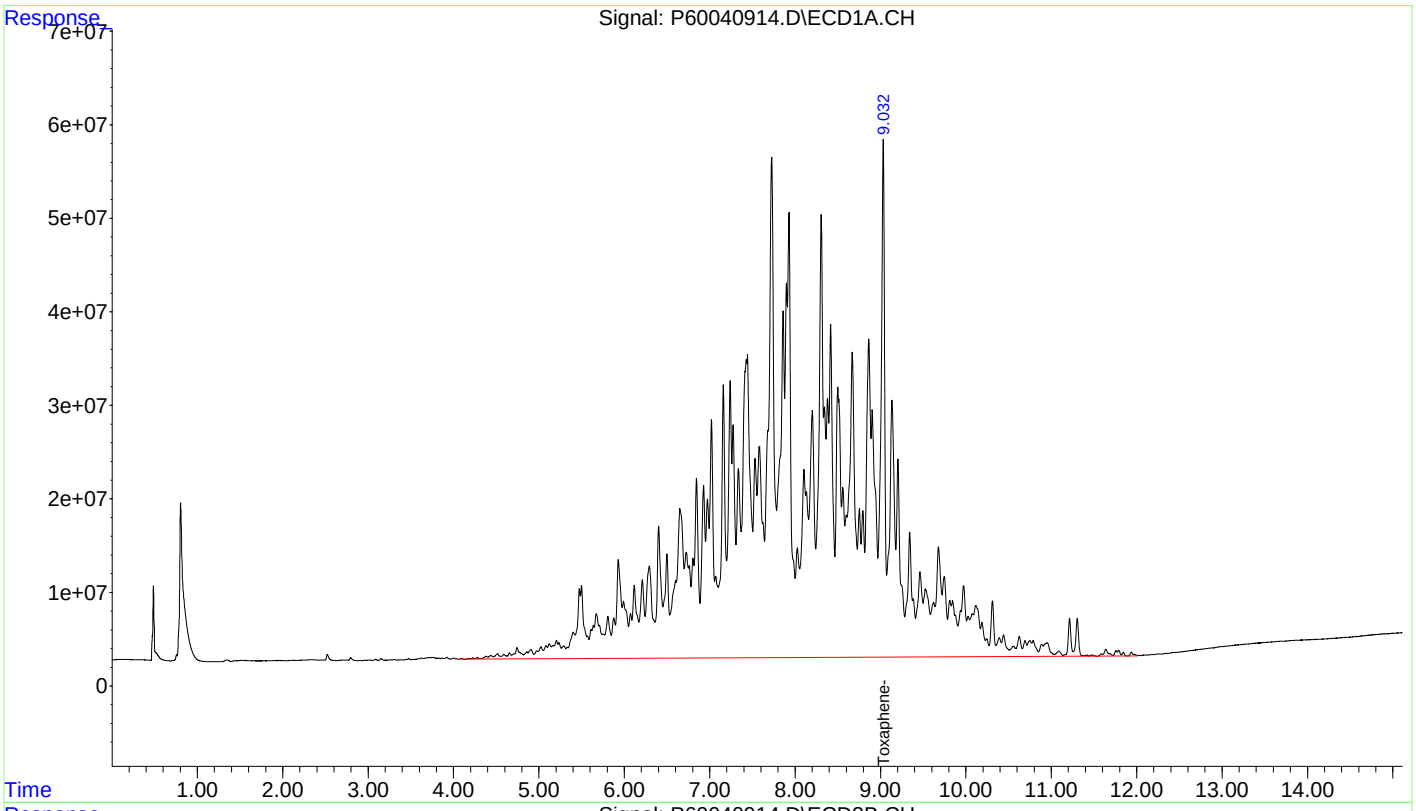
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
28)	Toxaphene-1	9.032f	9.036	39438.9E6	142609.8E6	2249.154m	2350.082m

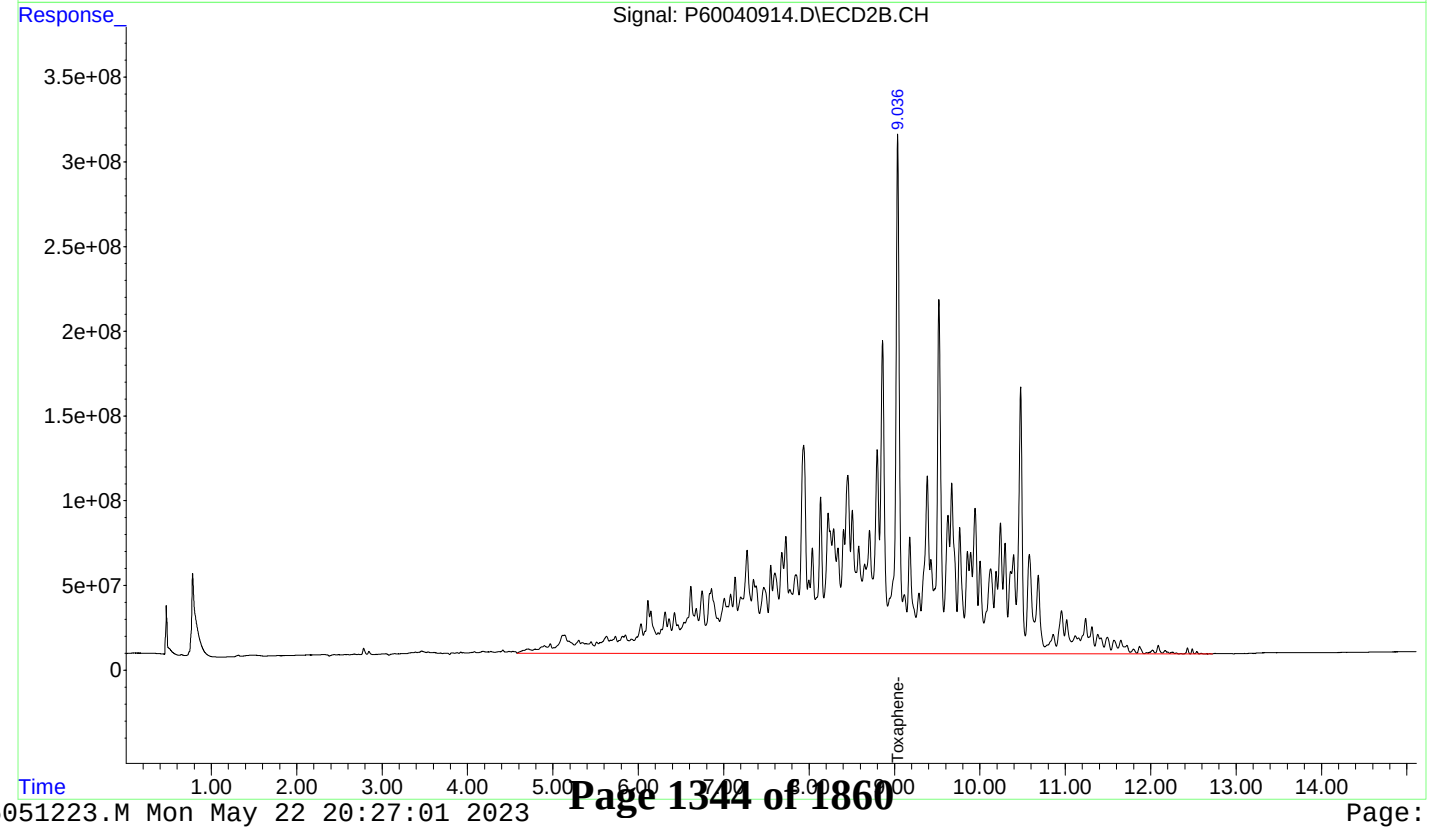
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040914.D
Acq On : 12 May 2023 6:55 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALG
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 22 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:15:17 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040915.D
Acq On : 12 May 2023 7:14 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALH
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 23 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:23:04 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

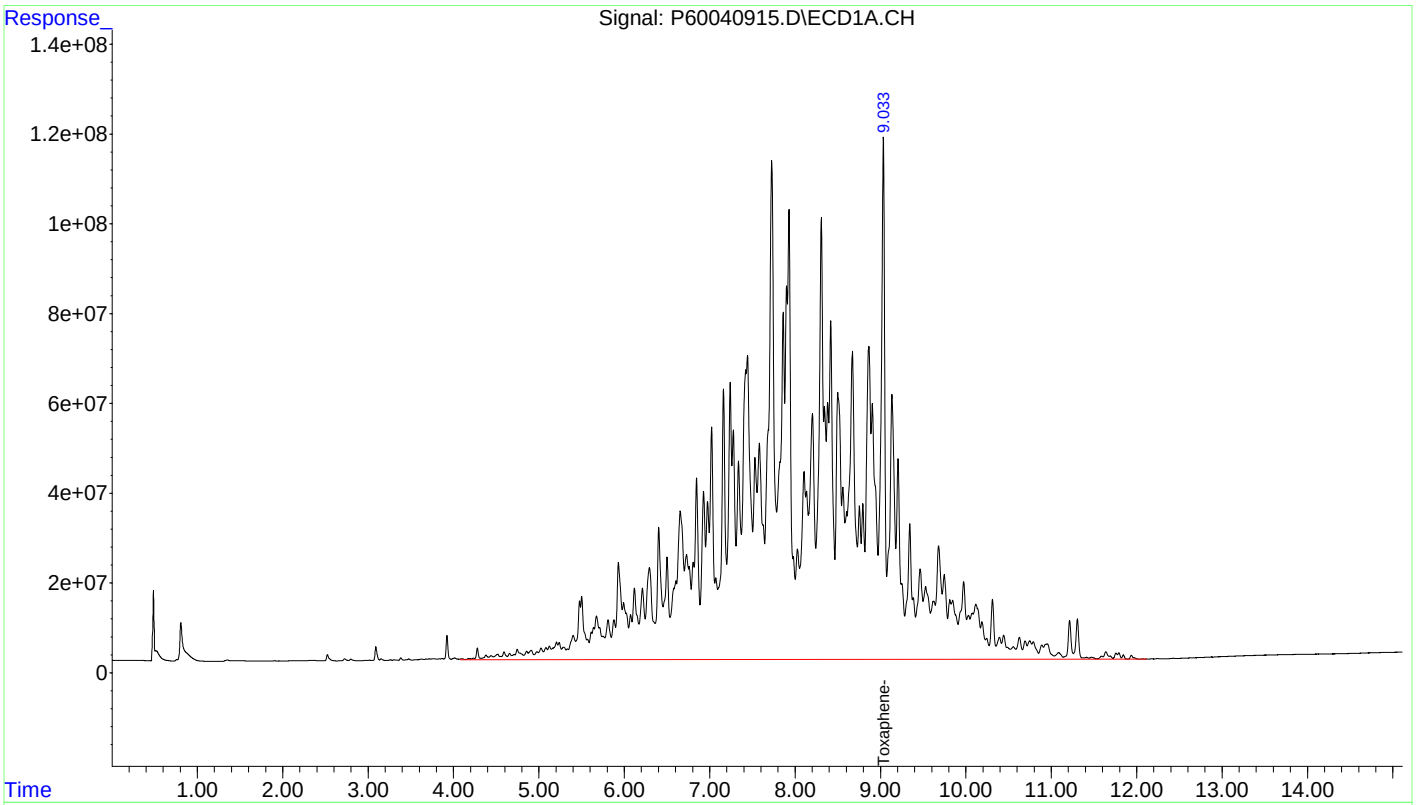
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
28)	Toxaphene-1	9.033f	9.038	83188.9E6	387297.9E6	4440.642m	5987.099m#

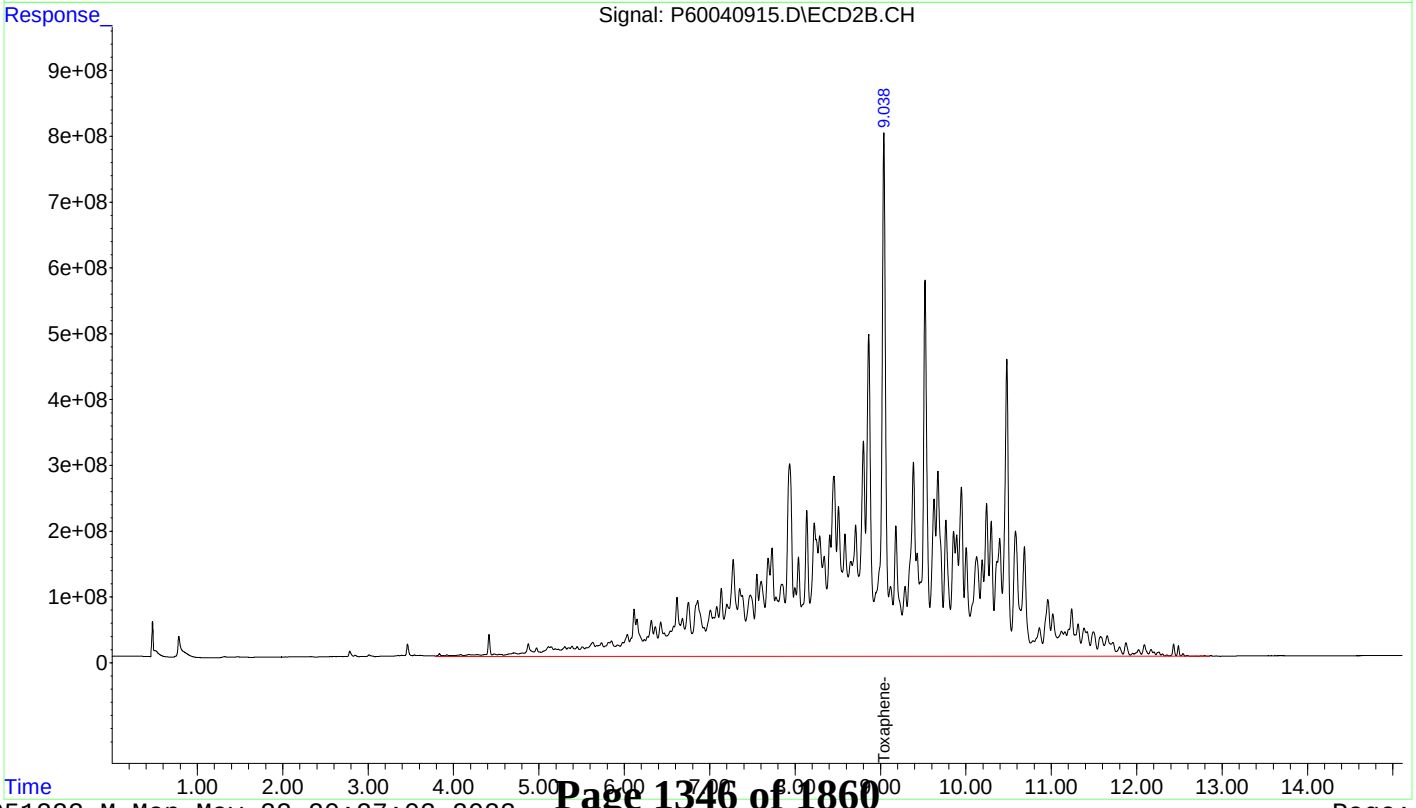
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040915.D
Acq On : 12 May 2023 7:14 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALH
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 23 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:23:04 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040916.D
Acq On : 12 May 2023 7:34 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALI
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 24 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:23:48 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

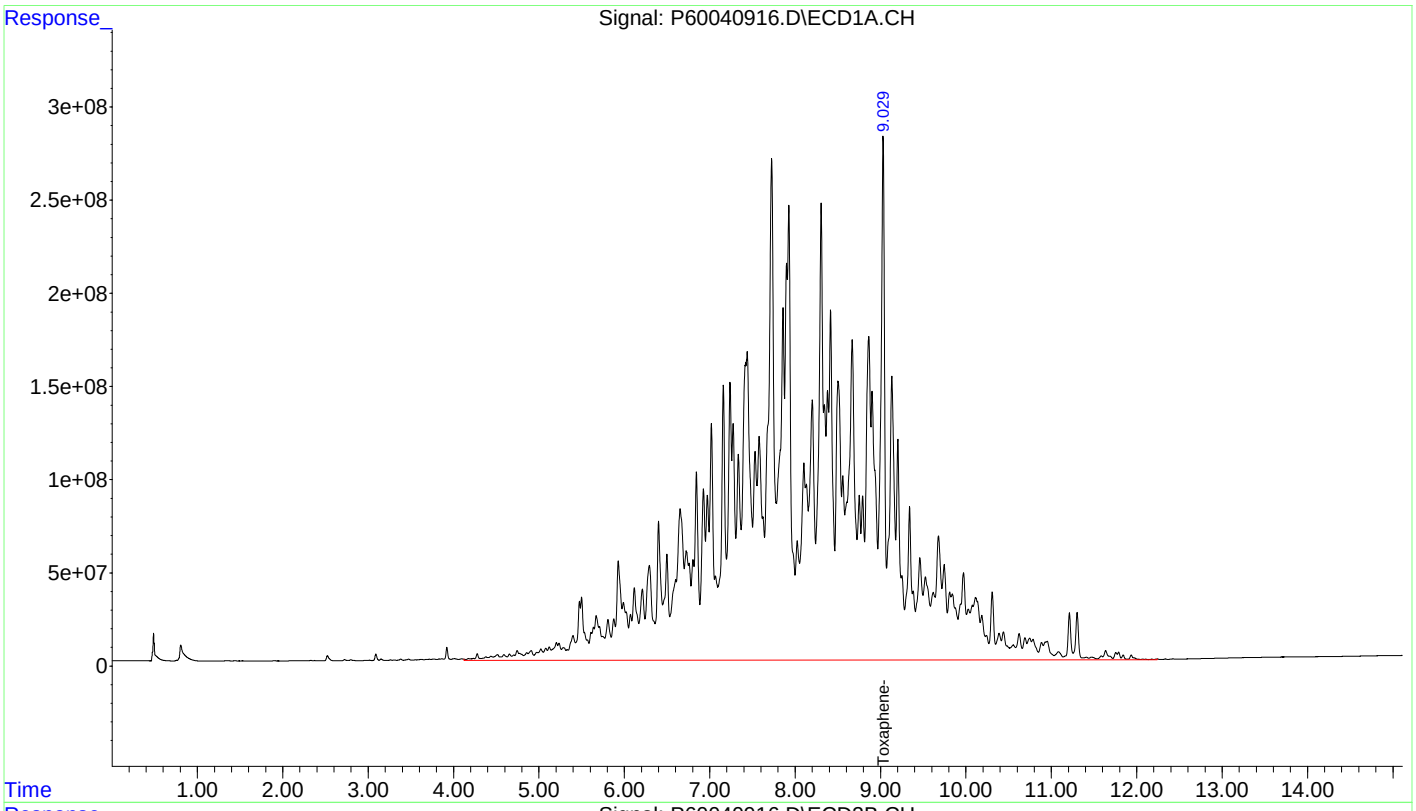
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
28)	Toxaphene-1	9.029f	9.035	210718.0E6	791903.7E6	10705.688m	14003.117m#

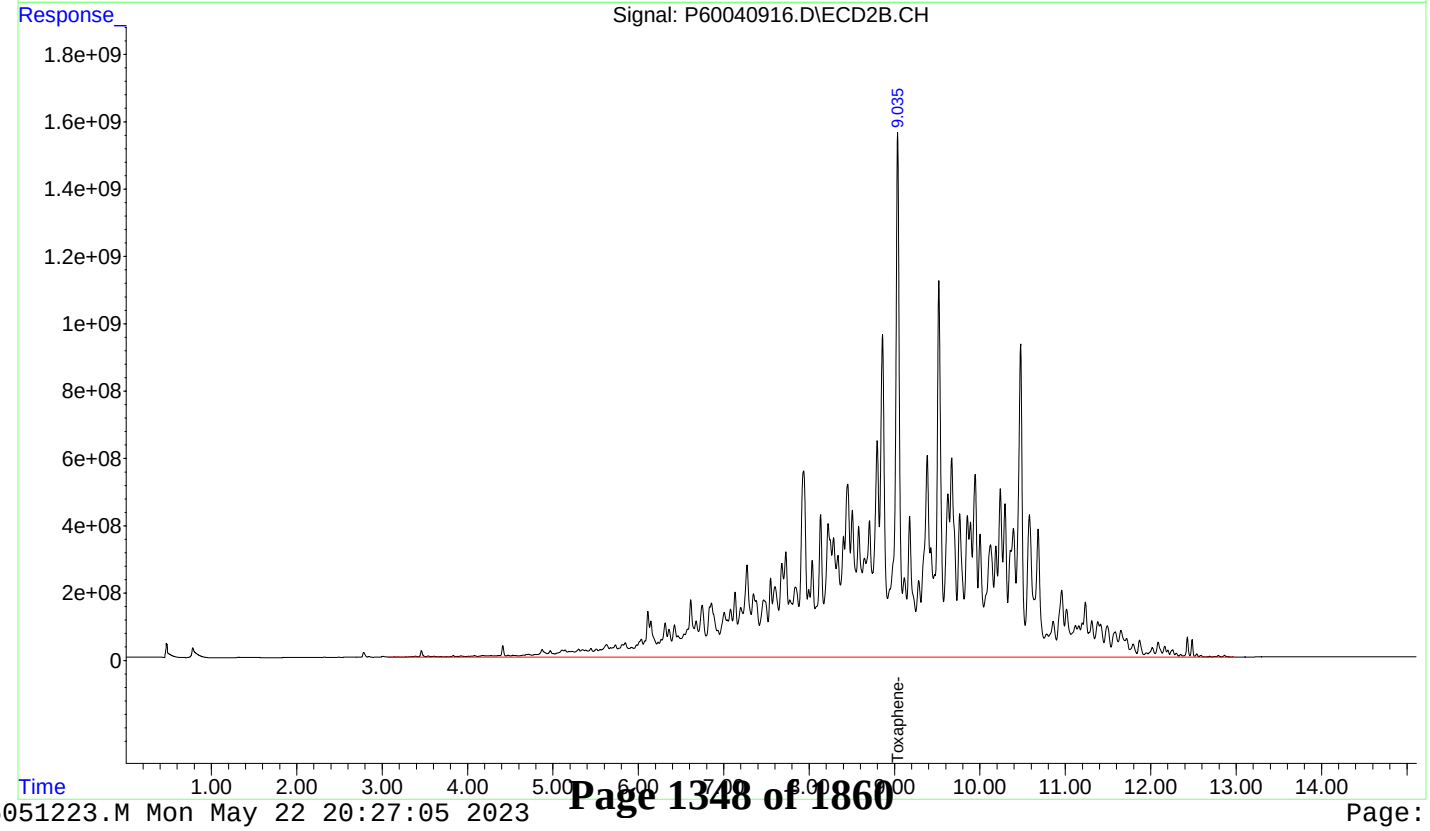
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051223A\
Data File : P60040916.D
Acq On : 12 May 2023 7:34 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CALI
Misc : QBPST6050823A
InstName : GCECD6
ALS Vial : 24 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 15 10:23:48 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:03:49 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Str	SDG:	23E0419
Sequence:	S3E1644	Laboratory ID:	S3E1644-PEM1
Analyzed:	05/16/2023 09:38	Instrument ID:	GCECD6
		File ID:	P60040939.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	4.33	15
Endrin	4.50	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	11.75	15
Endrin	4.06	15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040939.D
Acq On : 16 May 2023 9:38 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-PEM1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 1 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 09:54:22 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

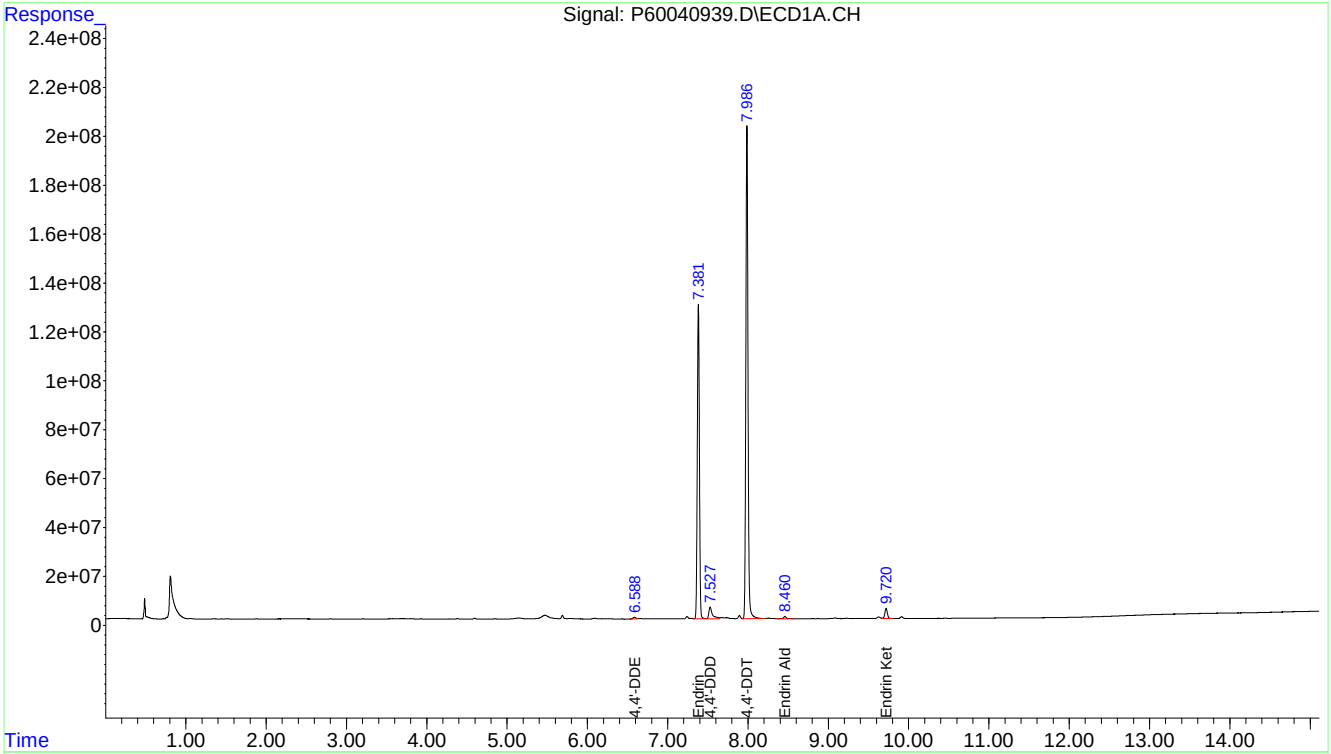
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
13)	4,4'-DDE	6.588	7.697	17798365	152.6E6	0.590m	1.112m#
15)	Endrin	7.382	8.506	2334.1E6	11820.5E6	89.013	101.901
16)	4,4'-DDD	7.528	8.719	151.4E6	1228.3E6	6.023	10.424 #
18)	4,4'-DDT	7.986	9.290	3741.2E6	10373.6E6	178.216	168.240
19)	Endrin Al...	8.460	9.505	21643248	115.9E6	1.200	1.402
23)	Endrin Ke...	9.720	11.041	88403358	384.9E6	3.071	3.608

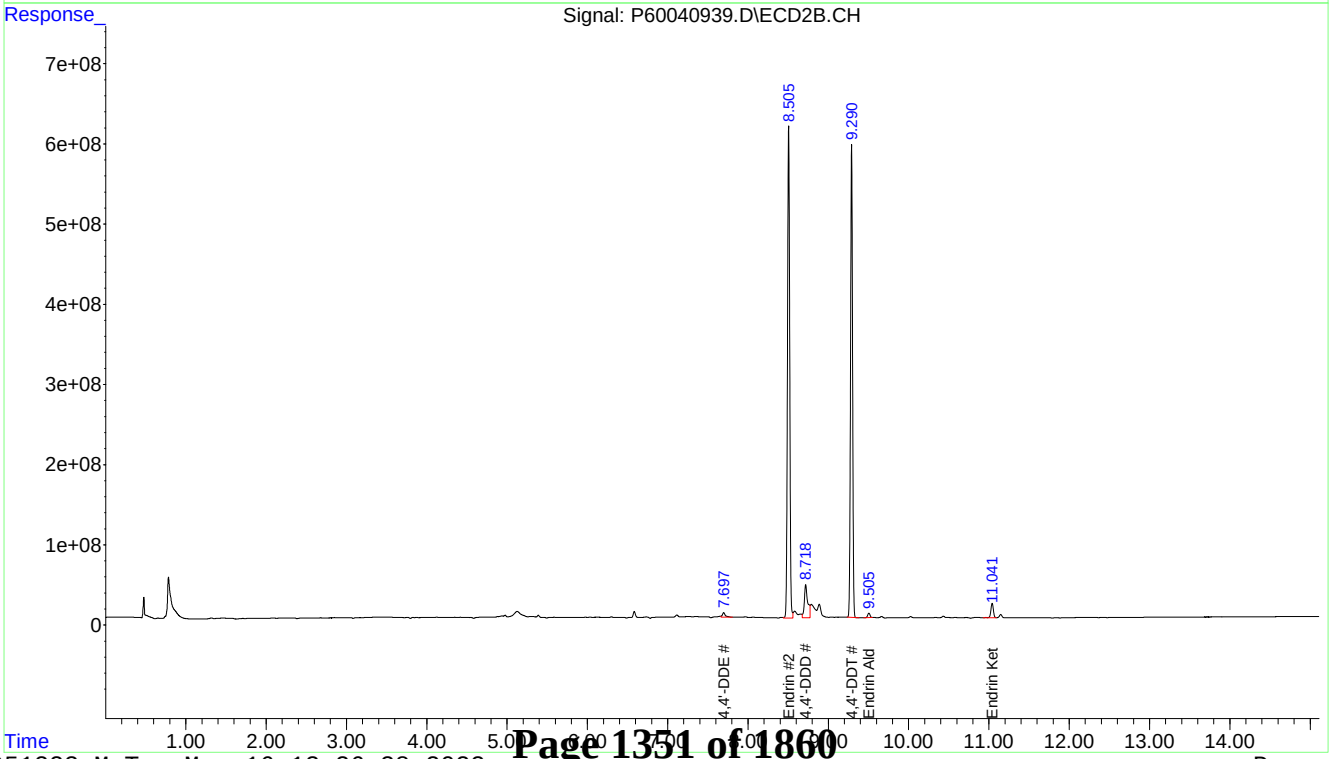
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040939.D
Acq On : 16 May 2023 9:38 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-PEM1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 1 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 09:54:22 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Str	SDG:	23E0419
Sequence:	S3E1644	Laboratory ID:	S3E1644-PEM2
Analyzed:	05/16/2023 16:39	Instrument ID:	GCECD6
		File ID:	P60040960.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	3.82	15
Endrin	4.14	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	8.08	15
Endrin	3.69	15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040960.D
Acq On : 16 May 2023 4:39 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-PEM2
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 1 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 13:13:35 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

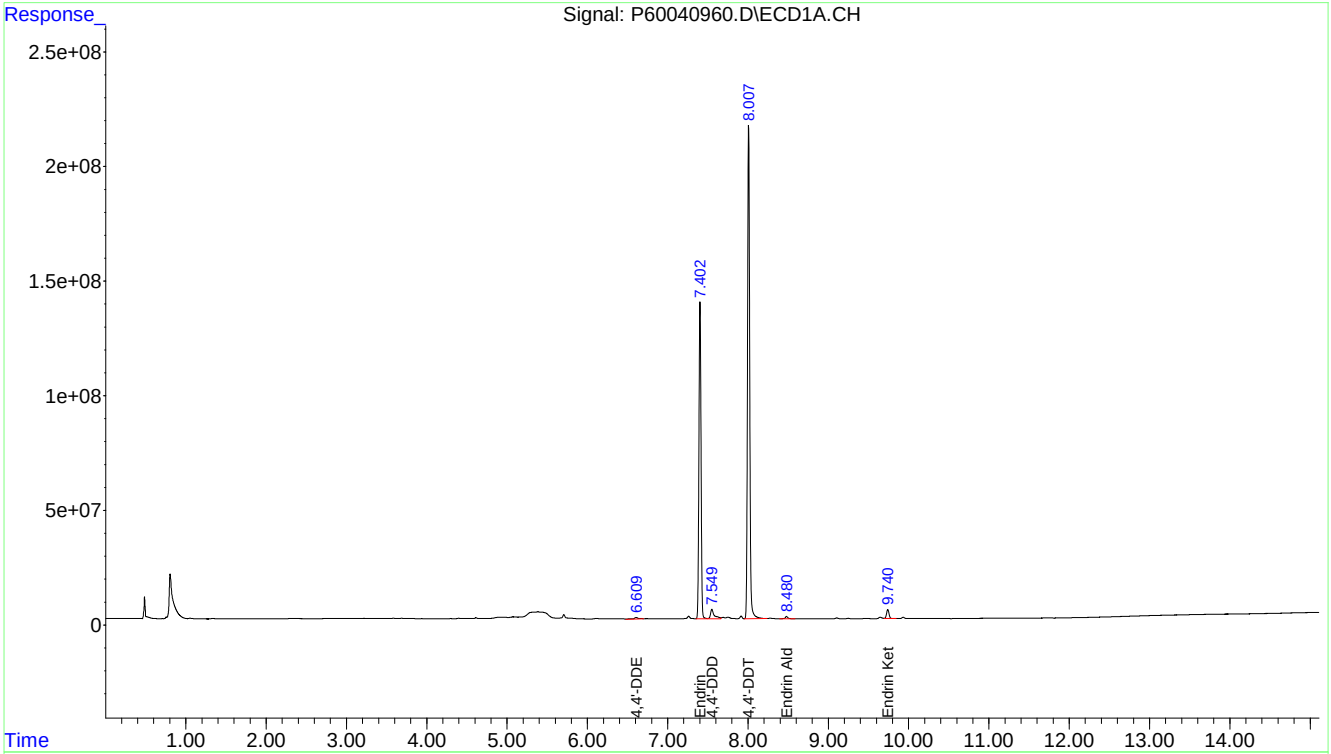
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
13)	4,4'-DDE	6.606	7.698	23299528	150.1E6	0.773	1.094m#
15)	Endrin	7.402	8.508	2509.8E6	13638.6E6	96.454	119.248
16)	4,4'-DDD	7.549	8.721	138.4E6	1064.1E6	5.506	9.026 #
18)	4,4'-DDT	8.007	9.292	4073.8E6	13813.2E6	195.362	209.231
19)	Endrin Al...	8.480	9.508	22522128	135.0E6	1.248	1.633 #
23)	Endrin Ke...	9.741	11.044	85876289	388.0E6	2.983	3.636

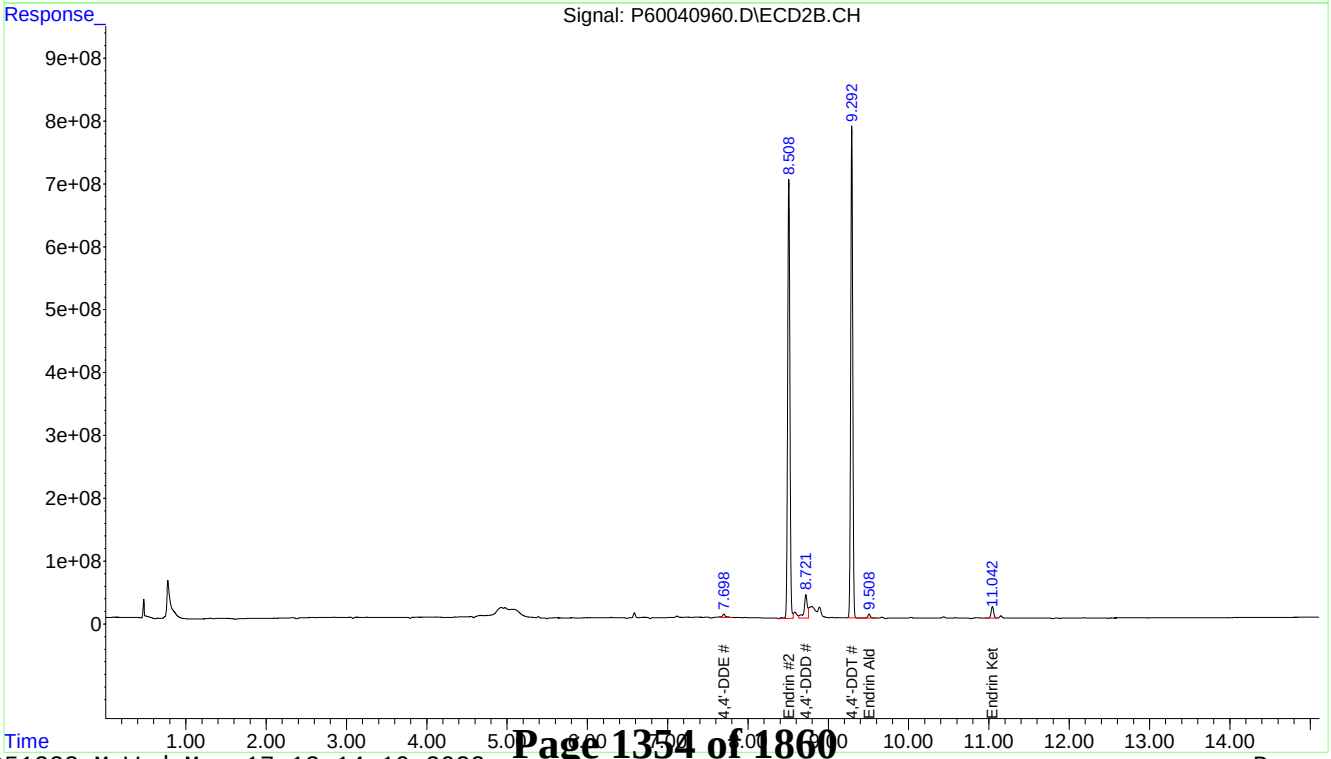
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040960.D
Acq On : 16 May 2023 4:39 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-PEM2
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 1 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 13:13:35 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040941.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV1	Injection Time:	10:17

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	44.2	2.442319E+07	2.1712E+07		-11.6	20
4,4'-DDD [2C]	A	50.0	50.2	1.160797E+08	1.16738E+08		0.3	
4,4'-DDE	A	50.0	43.4	2.9431E+07	2.5352E+07		-13.1	20
4,4'-DDE [2C]	A	50.0	52.9	1.396829E+08	1.42472E+08		5.8	
4,4'-DDT	A	50.0	43.9	2.2373E+07	1.9386E+07		-12.2	20
4,4'-DDT [2C]	A	50.0	41.5	4.599971E+07	4.0028E+07		-16.9	
Aldrin	A	50.0	44.6	3.379527E+07	2.9394E+07		-10.8	20
Aldrin [2C]	A	50.0	47.5	1.529371E+08	1.43642E+08		-5.0	
alpha-BHC	A	50.0	45.8	4.051058E+07	3.3598E+07		-8.4	20
alpha-BHC [2C]	A	50.0	52.5	1.518686E+08	1.52926E+08		5.0	
alpha-Chlordane	A	50.0	42.7	3.086117E+07	2.5946E+07		-14.5	20
alpha-Chlordane [2C]	A	50.0	52.5	1.423799E+08	1.41738E+08		5.0	
beta-BHC	A	50.0	45.2	1.443474E+07	1.168E+07		-9.6	20
beta-BHC [2C]	A	50.0	54.9	5.74E+07	5.5652E+07		9.8	
delta-BHC	A	50.0	41.7	3.111527E+07	2.4676E+07		-16.6	20
delta-BHC [2C]	A	50.0	47.8	1.351092E+08	1.1965E+08		-4.3	
Dieldrin	A	50.0	43.7	3.333983E+07	2.8962E+07		-12.6	20
Dieldrin [2C]	A	50.0	51.8	1.435695E+08	1.45874E+08		3.6	
Endosulfan I	A	50.0	44.3	3.101062E+07	2.7108E+07		-11.3	20
Endosulfan I [2C]	A	50.0	51.2	1.213639E+08	1.174E+08		2.5	
Endosulfan II	A	50.0	44.8	2.749536E+07	2.3756E+07		-10.3	20
Endosulfan II [2C]	A	50.0	51.4	1.235378E+08	1.20458E+08		2.8	
Endosulfan sulfate	A	50.0	45.3	2.431272E+07	2.0492E+07		-9.4	20
Endosulfan sulfate [2C]	A	50.0	53.1	1.201454E+08	1.2019E+08		6.2	
Endrin	A	50.0	44.6	2.785477E+07	2.444E+07		-10.9	20
Endrin [2C]	A	50.0	51.4	1.244503E+08	1.2405E+08		2.7	
Endrin aldehyde	A	50.0	45.0	1.90327E+07	1.5666E+07		-9.9	20
Endrin aldehyde [2C]	A	50.0	53.9	8.863942E+07	8.6138E+07		7.8	
Endrin ketone	A	50.0	46.5	2.902601E+07	2.5684E+07		-7.0	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040941.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV1	Injection Time:	10:17

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	50.0	53.3	1.05658E+08	1.108E+08		6.6	
gamma-BHC (Lindane)	A	50.0	45.9	3.427558E+07	3.0018E+07		-8.3	20
gamma-BHC (Lindane) [2C]	A	50.0	53.1	1.389332E+08	1.38362E+08		6.2	
gamma-Chlordane	A	50.0	44.2	3.290304E+07	2.8556E+07		-11.7	20
gamma-Chlordane [2C]	A	50.0	52.3	1.473116E+08	1.48064E+08		4.7	
Heptachlor	A	50.0	44.8	3.23515E+07	2.8332E+07		-10.4	20
Heptachlor [2C]	A	50.0	42.2	1.15126E+08	9.2362E+07		-15.6	
Heptachlor epoxide	A	50.0	44.2	3.116562E+07	2.7004E+07		-11.6	20
Heptachlor epoxide [2C]	A	50.0	51.3	1.358492E+08	1.32622E+08		2.6	
Methoxychlor	A	50.0	44.3	1.186888E+07	9812000		-11.5	20
Methoxychlor [2C]	A	50.0	41.9	2.043591E+07	1.7928E+07		-16.3	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040941.D
Acq On : 16 May 2023 10:17 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 10:34:14 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

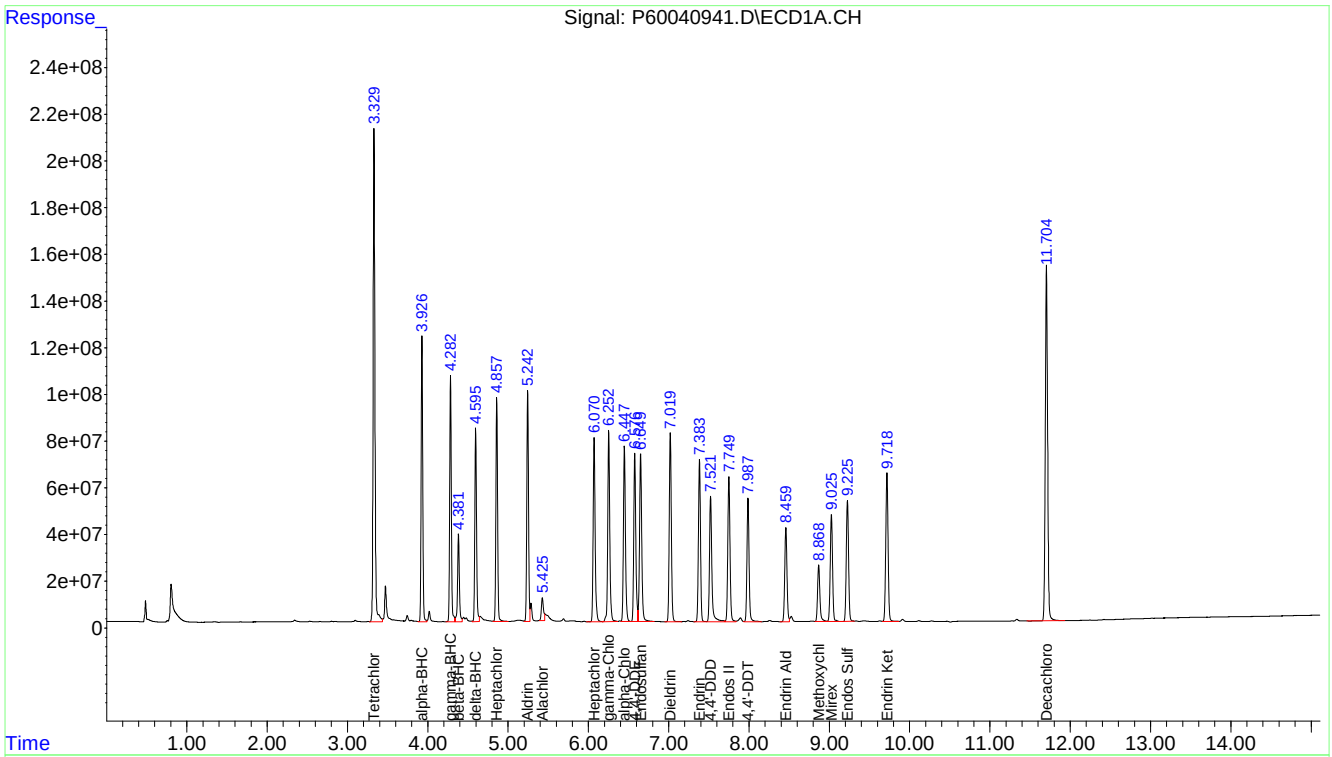
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.330	3.690	3233.9E6	14897.9E6	134.632	154.058
24) S	Decachlor...	11.704	12.932	2992.3E6	18879.0E6	136.638	170.716
	Target Compounds						
2)	alpha-BHC	3.926	4.418	1679.9E6	7646.3E6	45.819	52.479
3)	gamma-BHC...	4.282	4.879	1500.9E6	6918.1E6	45.856	53.090
4)	beta-BHC	4.381	4.978	584.0E6	2782.6E6	45.194	54.882
5)	delta-BHC	4.595	5.390	1233.8E6	5982.5E6	41.713	47.844
6)	Heptachlor	4.858	5.500	1416.6E6	4618.1E6	44.795	42.221
7)	Aldrin	5.243	5.979	1469.7E6	7182.1E6	44.579	47.483
8)	Alachlor	5.425	5.790	180.2E6	826.9E6	46.479m	50.905
9)	Heptachlo...	6.071	6.861	1350.2E6	6631.1E6	44.210	51.290
10)	gamma-Chl...	6.252	7.169	1427.8E6	7403.2E6	44.152	52.337
11)	alpha-Chl...	6.448	7.411	1297.3E6	7086.9E6	42.746	52.479
12)	Endosulfan I	6.650	7.509	1355.4E6	5870.0E6	44.343	51.239
13)	4,4'-DDE	6.577	7.694	1267.6E6	7123.6E6	43.432	52.879
14)	Dieldrin	7.020	7.977	1448.1E6	7293.7E6	43.701	51.810
15)	Endrin	7.383	8.508	1222.0E6	6202.5E6	44.562	51.370
16)	4,4'-DDD	7.521	8.716	1085.6E6	5836.9E6	44.220	50.157
17)	Endos II	7.749	8.887	1187.8E6	6022.9E6	44.828	51.424
18)	4,4'-DDT	7.987	9.292	969.3E6	2001.4E6	43.878	41.537
19)	Endrin Al...	8.459	9.505	783.3E6	4306.9E6	45.033	53.878
20)	Methoxychlor	8.868	10.613	490.6E6	896.4E6	44.266	41.858
21)	Mirex	9.026	10.961	919.0E6	4933.4E6	45.327	55.059
22)	Endos Sulf	9.226	10.028	1024.6E6	6009.5E6	45.289	53.099
23)	Endrin Ke...	9.718	11.042	1284.2E6	5540.0E6	46.487	53.315

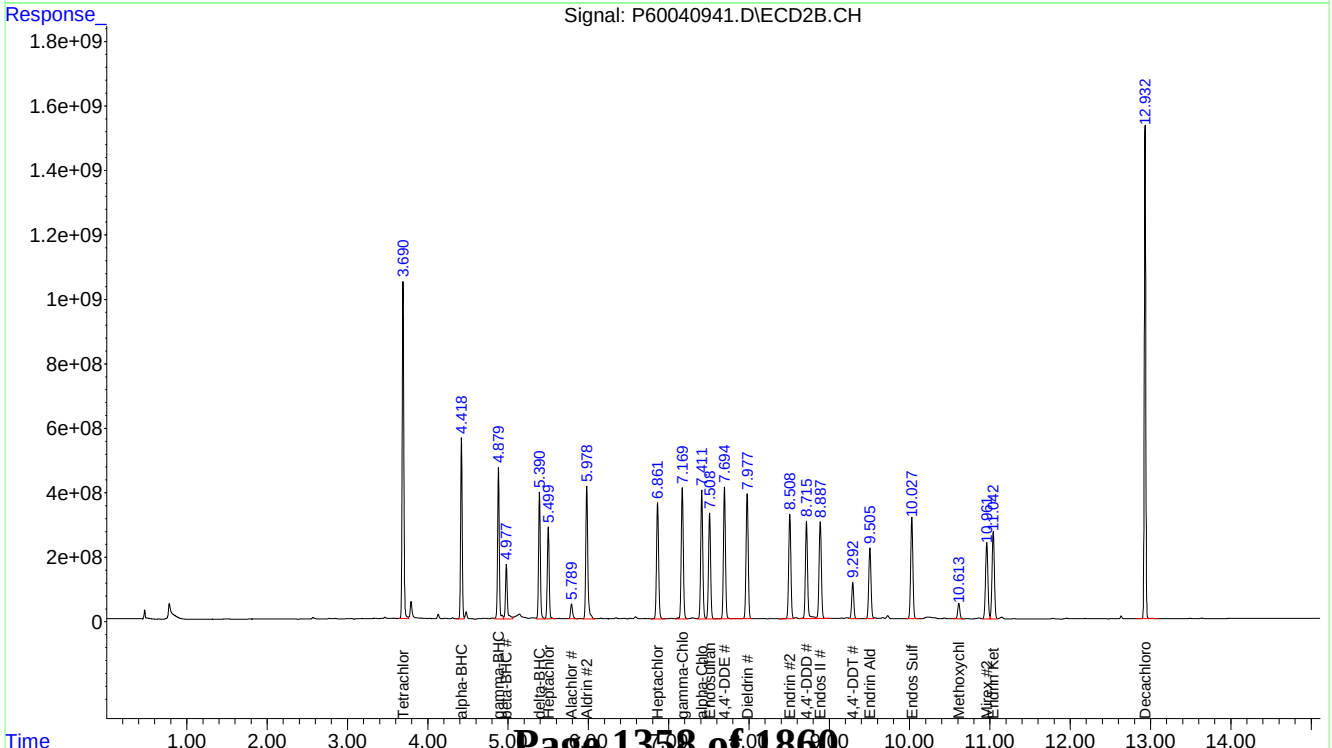
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040941.D
Acq On : 16 May 2023 10:17 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 10:34:14 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040942.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV2	Injection Time:	10:36

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlordane, total	A	1000	990	3606512	3468467		-1.0	20
Chlordane, total [2C]	A	1000	1100	1.142077E+07	9749700		9.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040942.D
Acq On : 16 May 2023 10:36 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV2
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 3 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 10:51:31 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

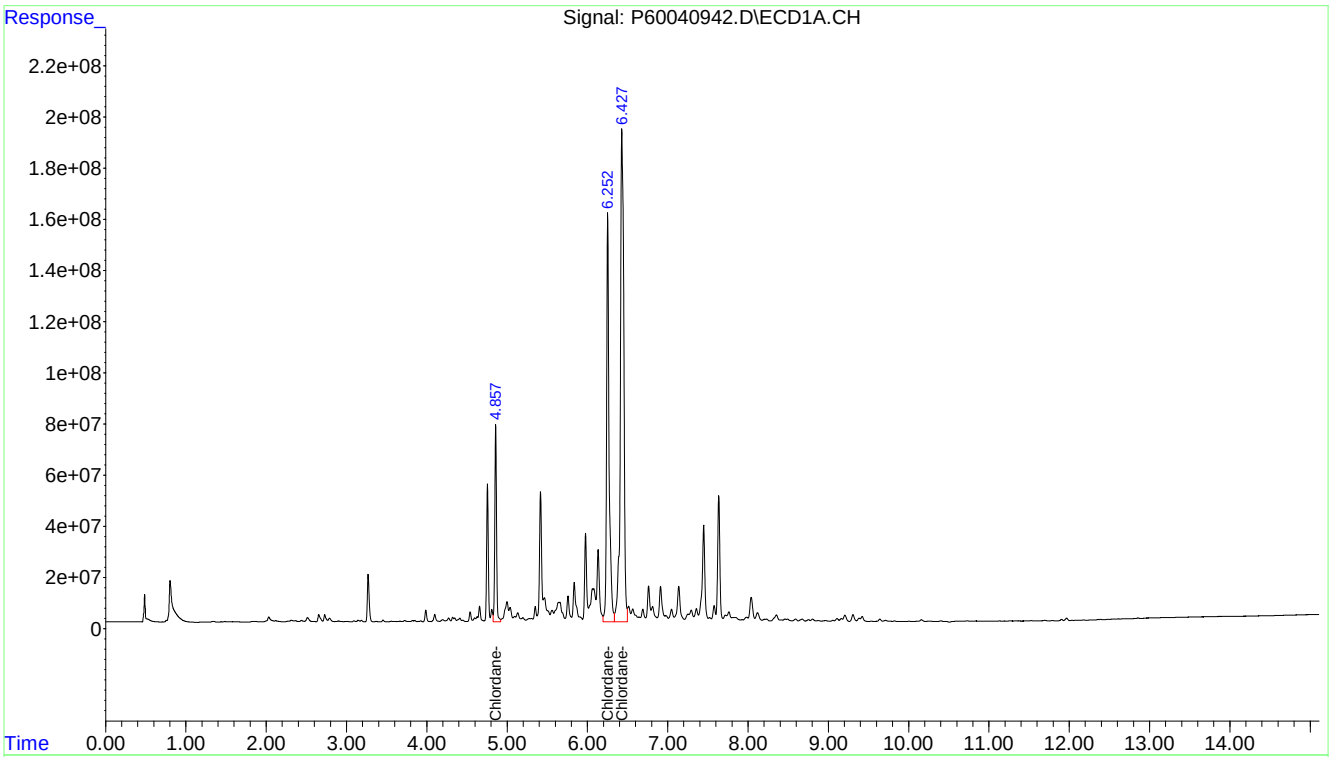
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
25)	Chlordane-1	4.857	5.498	1157.0E6	4829.1E6	977.593	1221.053
26)	Chlordane-2	6.252	7.169	3430.9E6	13708.0E6	995.272	1078.678
27)	Chlordane-3	6.428	7.413	5817.5E6	10712.0E6	997.496	986.315

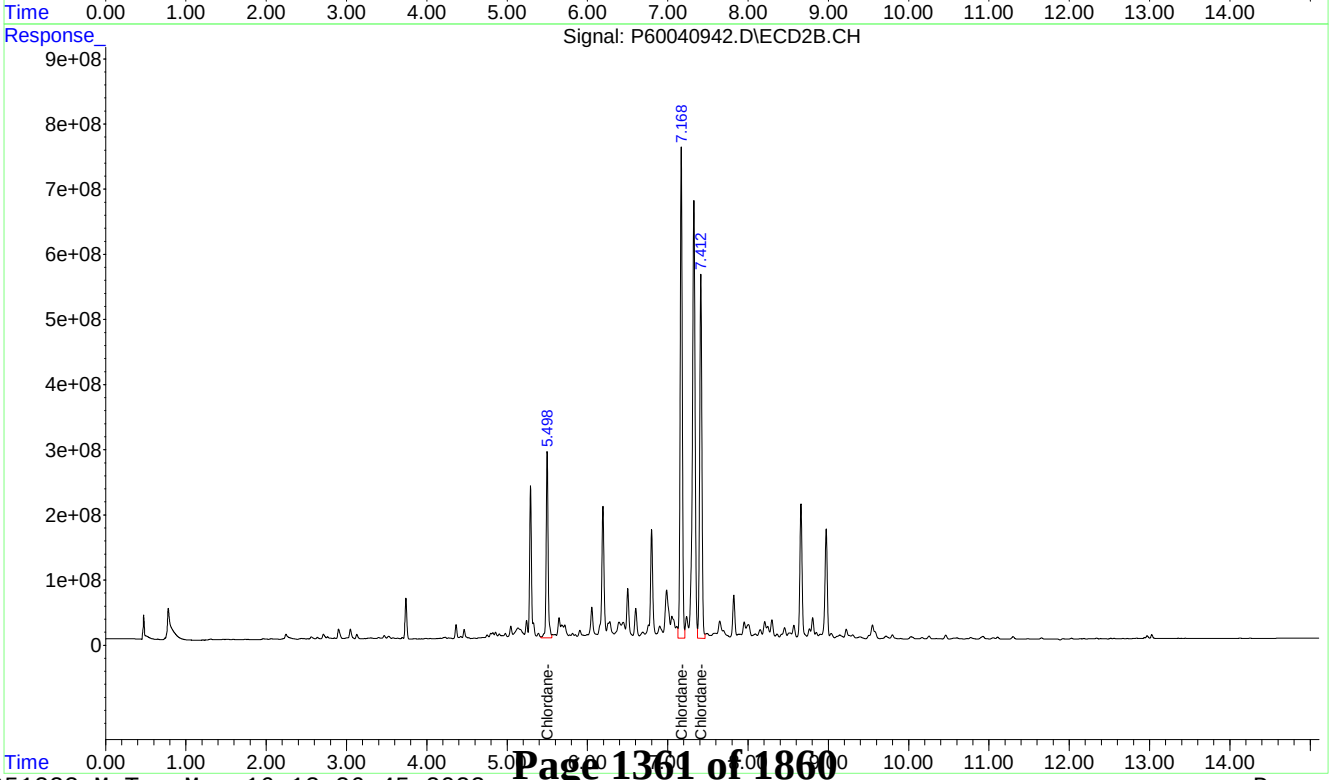
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040942.D
Acq On : 16 May 2023 10:36 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV2
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 3 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 10:51:31 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040943.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV3	Injection Time:	10:55

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toxaphene	A	2000	2130	2.196382E+07	1.867335E+07		6.7	
Toxaphene [2C]	A	2000	2280	8.800506E+07	6.92097E+07		14.1	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040943.D
Acq On : 16 May 2023 10:55 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV3
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 4 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 11:10:33 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

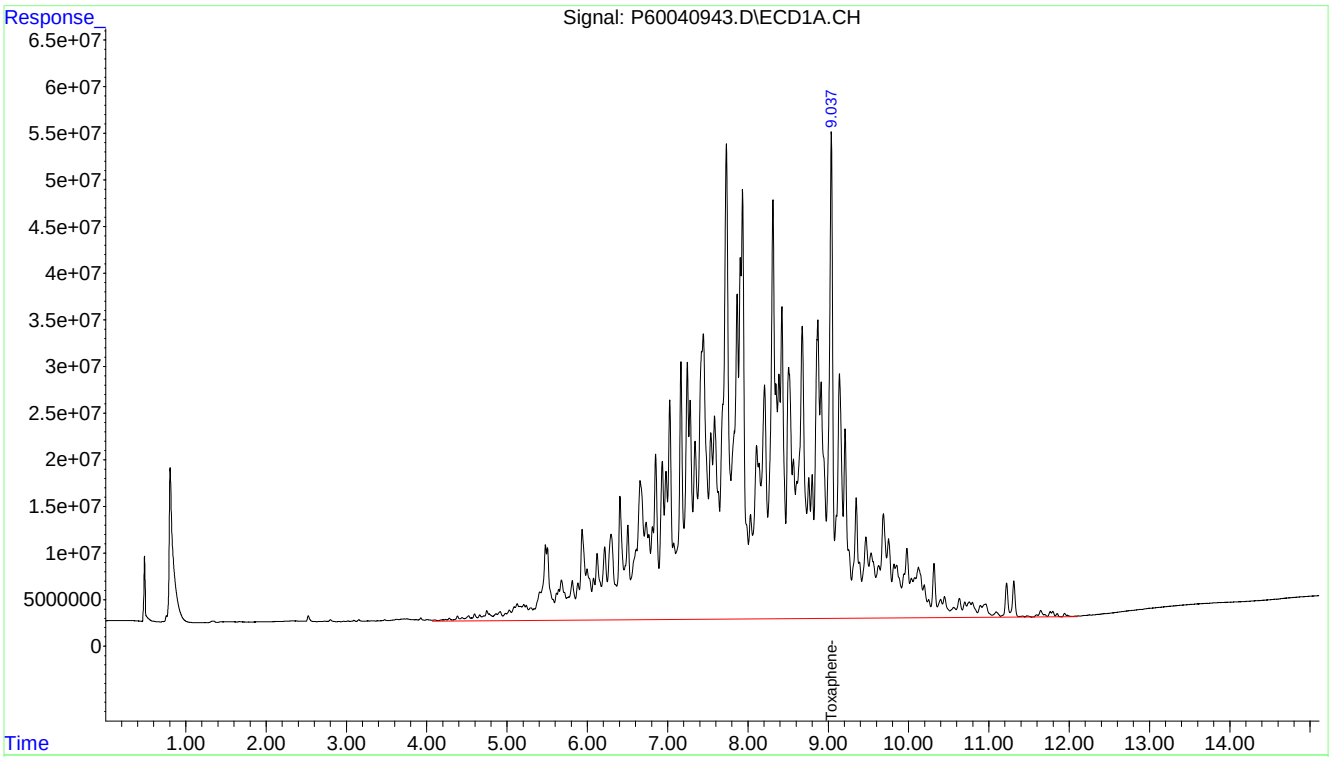
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
	Target Compounds						
28)	Toxaphene-1	9.037f	9.044	37346.7E6	138419.4E6	2133.521m	2282.291m

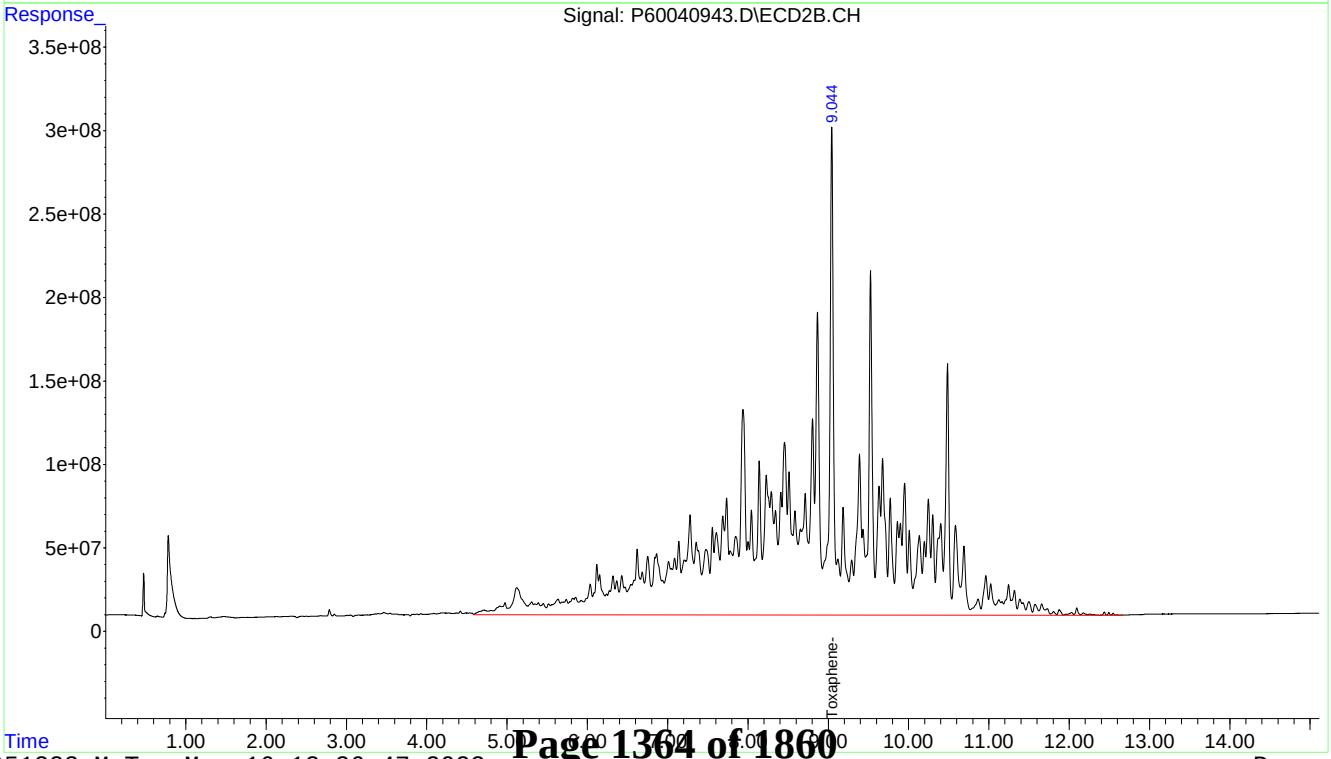
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040943.D
Acq On : 16 May 2023 10:55 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV3
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 4 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 11:10:33 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040959.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV4	Injection Time:	16:07

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	49.2	2.442319E+07	2.41E+07		-1.5	20
4,4'-DDD [2C]	A	50.0	57.1	1.160797E+08	1.32608E+08		14.2	
4,4'-DDE	A	50.0	48.3	2.9431E+07	2.808E+07		-3.4	20
4,4'-DDE [2C]	A	50.0	57.5	1.396829E+08	1.54548E+08		14.9	
4,4'-DDT	A	50.0	48.2	2.2373E+07	2.1252E+07		-3.6	20
4,4'-DDT [2C]	A	50.0	52.8	4.599971E+07	5.2104E+07		5.5	
Aldrin	A	50.0	48.9	3.379527E+07	3.2106E+07		-2.2	20
Aldrin [2C]	A	50.0	55.4	1.529371E+08	1.67026E+08		10.9	
alpha-BHC	A	50.0	49.6	4.051058E+07	3.633E+07		-0.7	20
alpha-BHC [2C]	A	50.0	58.1	1.518686E+08	1.69846E+08		16.2	
alpha-Chlordane	A	50.0	46.5	3.086117E+07	2.8152E+07		-6.9	20
alpha-Chlordane [2C]	A	50.0	56.6	1.423799E+08	1.52604E+08		13.2	
beta-BHC	A	50.0	48.8	1.443474E+07	1.2586E+07		-2.4	20
beta-BHC [2C]	A	50.0	59.7	5.74E+07	6.0576E+07		19.4	
delta-BHC	A	50.0	45.4	3.111527E+07	2.6822E+07		-9.2	20
delta-BHC [2C]	A	50.0	53.6	1.351092E+08	1.34298E+08		7.2	
Dieldrin	A	50.0	48.8	3.333983E+07	3.215E+07		-2.5	20
Dieldrin [2C]	A	50.0	56.7	1.435695E+08	1.59072E+08		13.5	
Endosulfan I	A	50.0	49.6	3.101062E+07	3.0118E+07		-0.9	20
Endosulfan I [2C]	A	50.0	55.4	1.213639E+08	1.26468E+08		10.8	
Endosulfan II	A	50.0	49.8	2.749536E+07	2.6274E+07		-0.4	20
Endosulfan II [2C]	A	50.0	58.1	1.235378E+08	1.35342E+08		16.2	
Endosulfan sulfate	A	50.0	49.8	2.431272E+07	2.2418E+07		-0.5	20
Endosulfan sulfate [2C]	A	50.0	60.2	1.201454E+08	1.358E+08		20.4	
Endrin	A	50.0	48.8	2.785477E+07	2.6638E+07		-2.5	20
Endrin [2C]	A	50.0	56.6	1.244503E+08	1.36066E+08		13.1	
Endrin aldehyde	A	50.0	49.2	1.90327E+07	1.7058E+07		-1.6	20
Endrin aldehyde [2C]	A	50.0	57.7	8.863942E+07	9.203E+07		15.4	
Endrin ketone	A	50.0	50.9	2.902601E+07	2.7978E+07		1.7	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040959.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV4	Injection Time:	16:07

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	50.0	60.4	1.05658E+08	1.25134E+08		20.9	
gamma-BHC (Lindane)	A	50.0	49.7	3.427558E+07	3.245E+07		-0.7	20
gamma-BHC (Lindane) [2C]	A	50.0	58.5	1.389332E+08	1.52926E+08		17.0	
gamma-Chlordane	A	50.0	48.9	3.290304E+07	3.1474E+07		-2.2	20
gamma-Chlordane [2C]	A	50.0	55.5	1.473116E+08	1.56804E+08		11.0	
Heptachlor	A	50.0	48.8	3.23515E+07	3.0758E+07		-2.4	20
Heptachlor [2C]	A	50.0	48.2	1.15126E+08	1.05238E+08		-3.5	
Heptachlor epoxide	A	50.0	49.0	3.116562E+07	2.9754E+07		-2.0	20
Heptachlor epoxide [2C]	A	50.0	55.3	1.358492E+08	1.42406E+08		10.6	
Methoxychlor	A	50.0	48.7	1.186888E+07	1.0758E+07		-2.5	20
Methoxychlor [2C]	A	50.0	57.3	2.043591E+07	2.5238E+07		14.6	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040959.D
Acq On : 16 May 2023 4:07 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV4
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 16:25:12 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

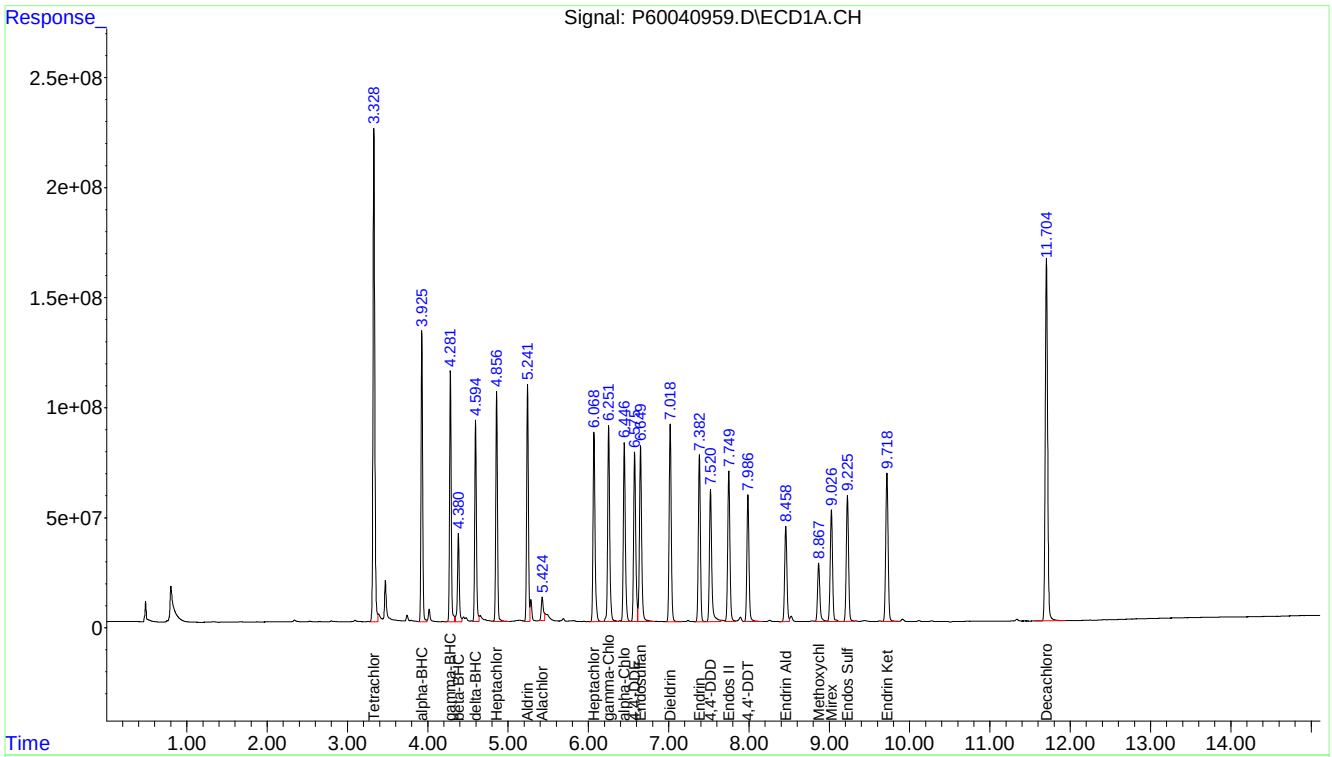
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.328	3.689	3394.6E6	15415.2E6	141.323	159.407
24) S	Decachlor...	11.705	12.935	3327.7E6	21429.6E6	151.954	193.780 #
	Target Compounds						
2)	alpha-BHC	3.925	4.417	1816.5E6	8492.3E6	49.637	58.112
3)	gamma-BHC...	4.281	4.878	1622.5E6	7646.3E6	49.665	58.484
4)	beta-BHC	4.381	4.976	629.3E6	3028.8E6	48.784	59.706
5)	delta-BHC	4.594	5.389	1341.1E6	6714.9E6	45.402	53.624
6)	Heptachlor	4.857	5.499	1537.9E6	5261.9E6	48.825	48.232
7)	Aldrin	5.242	5.978	1605.3E6	8351.3E6	48.890	55.442
8)	Alachlor	5.424	5.788	199.3E6	918.0E6	51.952m	57.011
9)	Heptachlo...	6.069	6.859	1487.7E6	7120.3E6	48.982	55.276
10)	gamma-Chl...	6.252	7.167	1573.7E6	7840.2E6	48.875	55.488
11)	alpha-Chl...	6.447	7.411	1407.6E6	7630.2E6	46.542	56.598
12)	Endosulfan I	6.649	7.508	1505.9E6	6323.4E6	49.559	55.421
13)	4,4'-DDE	6.575	7.693	1404.0E6	7727.4E6	48.283	57.456
14)	Dieldrin	7.019	7.975	1607.5E6	7953.6E6	48.768	56.739
15)	Endrin	7.382	8.507	1331.9E6	6803.3E6	48.769	56.574
16)	4,4'-DDD	7.520	8.715	1205.0E6	6630.4E6	49.237	57.101
17)	Endos II	7.748	8.887	1313.7E6	6767.1E6	49.817	58.120
18)	4,4'-DDT	7.986	9.292	1062.6E6	2605.2E6	48.180	52.760
19)	Endrin Al...	8.458	9.506	852.9E6	4601.5E6	49.208	57.709
20)	Methoxychlor	8.868	10.613	537.9E6	1261.9E6	48.729	57.303
21)	Mirex	9.026	10.962	1022.0E6	5292.0E6	50.653	59.122
22)	Endos Sulf	9.226	10.027	1120.9E6	6790.0E6	49.750	60.218
23)	Endrin Ke...	9.718	11.041	1398.9E6	6256.7E6	50.858	60.445

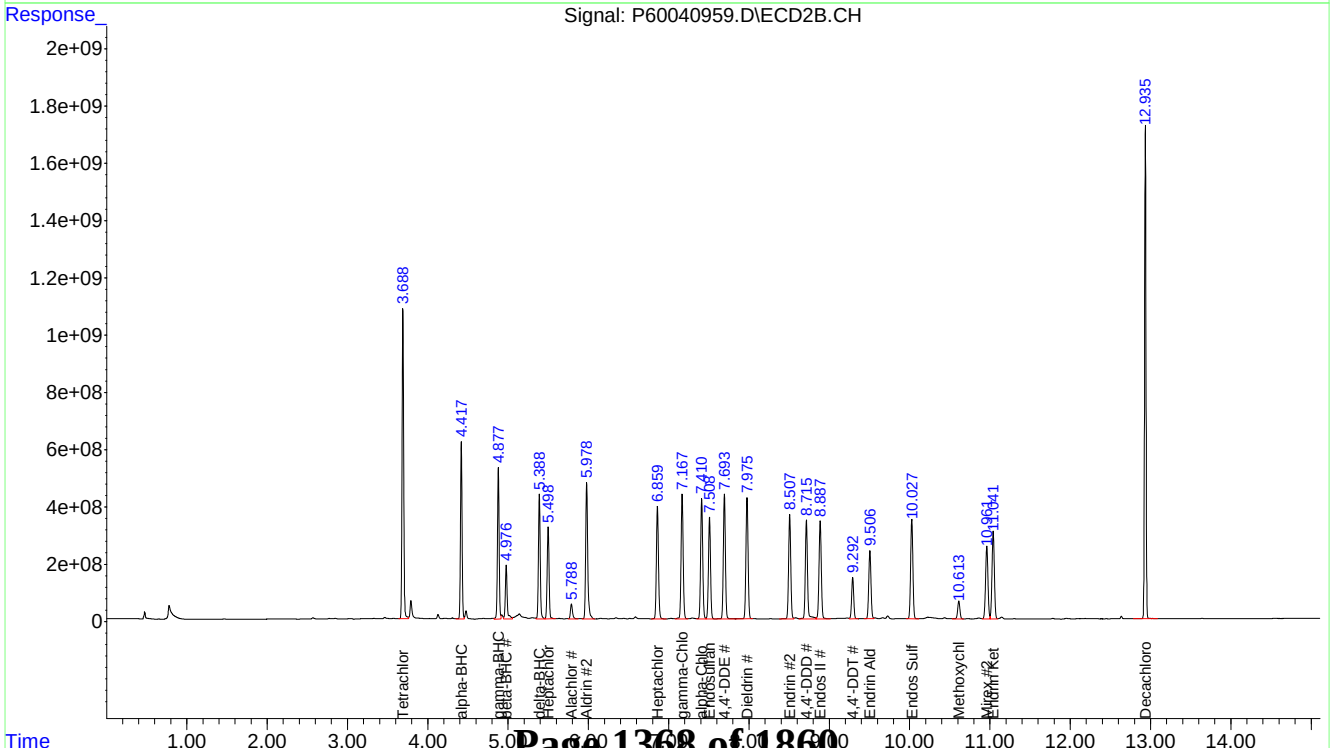
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040959.D
Acq On : 16 May 2023 4:07 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV4
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 16:25:12 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040961.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV5	Injection Time:	16:58

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	47.1	2.442319E+07	2.3108E+07		-5.7	20
4,4'-DDD [2C]	A	50.0	56.4	1.160797E+08	1.30922E+08		12.7	
4,4'-DDE	A	50.0	45.7	2.9431E+07	2.6646E+07		-8.5	20
4,4'-DDE [2C]	A	50.0	57.3	1.396829E+08	1.54156E+08		14.6	
4,4'-DDT	A	50.0	45.4	2.2373E+07	2.0042E+07		-9.2	20
4,4'-DDT [2C]	A	50.0	45.9	4.599971E+07	4.4608E+07		-8.3	
Aldrin	A	50.0	52.1	3.379527E+07	3.4086E+07		4.1	20
Aldrin [2C]	A	50.0	56.4	1.529371E+08	1.69714E+08		12.7	
alpha-BHC	A	50.0	48.0	4.051058E+07	3.5168E+07		-4.0	20
alpha-BHC [2C]	A	50.0	58.2	1.518686E+08	1.70234E+08		16.5	
alpha-Chlordane	A	50.0	48.1	3.086117E+07	2.9068E+07		-3.7	20
alpha-Chlordane [2C]	A	50.0	56.7	1.423799E+08	1.5293E+08		13.4	
beta-BHC	A	50.0	47.9	1.443474E+07	1.2354E+07		-4.3	20
beta-BHC [2C]	A	50.0	56.4	5.74E+07	5.721E+07		12.8	
delta-BHC	A	50.0	45.5	3.111527E+07	2.6852E+07		-9.1	20
delta-BHC [2C]	A	50.0	56.4	1.351092E+08	1.4134E+08		12.8	
Dieldrin	A	50.0	47.1	3.333983E+07	3.1094E+07		-5.8	20
Dieldrin [2C]	A	50.0	56.7	1.435695E+08	1.59036E+08		13.4	
Endosulfan I	A	50.0	48.3	3.101062E+07	2.9388E+07		-3.4	20
Endosulfan I [2C]	A	50.0	58.2	1.213639E+08	1.325E+08		16.4	
Endosulfan II	A	50.0	47.8	2.749536E+07	2.524E+07		-4.5	20
Endosulfan II [2C]	A	50.0	57.1	1.235378E+08	1.33012E+08		14.1	
Endosulfan sulfate	A	50.0	48.3	2.431272E+07	2.1806E+07		-3.3	20
Endosulfan sulfate [2C]	A	50.0	58.4	1.201454E+08	1.31758E+08		16.7	
Endrin	A	50.0	46.6	2.785477E+07	2.5502E+07		-6.8	20
Endrin [2C]	A	50.0	55.9	1.244503E+08	1.34506E+08		11.8	
Endrin aldehyde	A	50.0	48.2	1.90327E+07	1.6714E+07		-3.7	20
Endrin aldehyde [2C]	A	50.0	58.3	8.863942E+07	9.29E+07		16.6	
Endrin ketone	A	50.0	48.9	2.902601E+07	2.6976E+07		-2.1	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040961.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV5	Injection Time:	16:58

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	50.0	57.4	1.05658E+08	1.19034E+08		14.8	
gamma-BHC (Lindane)	A	50.0	48.0	3.427558E+07	3.141E+07		-3.9	20
gamma-BHC (Lindane) [2C]	A	50.0	58.6	1.389332E+08	1.53368E+08		17.3	
gamma-Chlordane	A	50.0	47.0	3.290304E+07	3.0314E+07		-6.0	20
gamma-Chlordane [2C]	A	50.0	56.4	1.473116E+08	1.59372E+08		12.8	
Heptachlor	A	50.0	47.1	3.23515E+07	2.974E+07		-5.7	20
Heptachlor [2C]	A	50.0	57.0	1.15126E+08	1.238E+08		13.9	
Heptachlor epoxide	A	50.0	47.1	3.116562E+07	2.8696E+07		-5.7	20
Heptachlor epoxide [2C]	A	50.0	55.6	1.358492E+08	1.432E+08		11.2	
Methoxychlor	A	50.0	45.2	1.186888E+07	1.0012E+07		-9.6	20
Methoxychlor [2C]	A	50.0	46.3	2.043591E+07	1.9982E+07		-7.4	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040961.D
Acq On : 16 May 2023 4:58 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV5
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 17:35:00 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

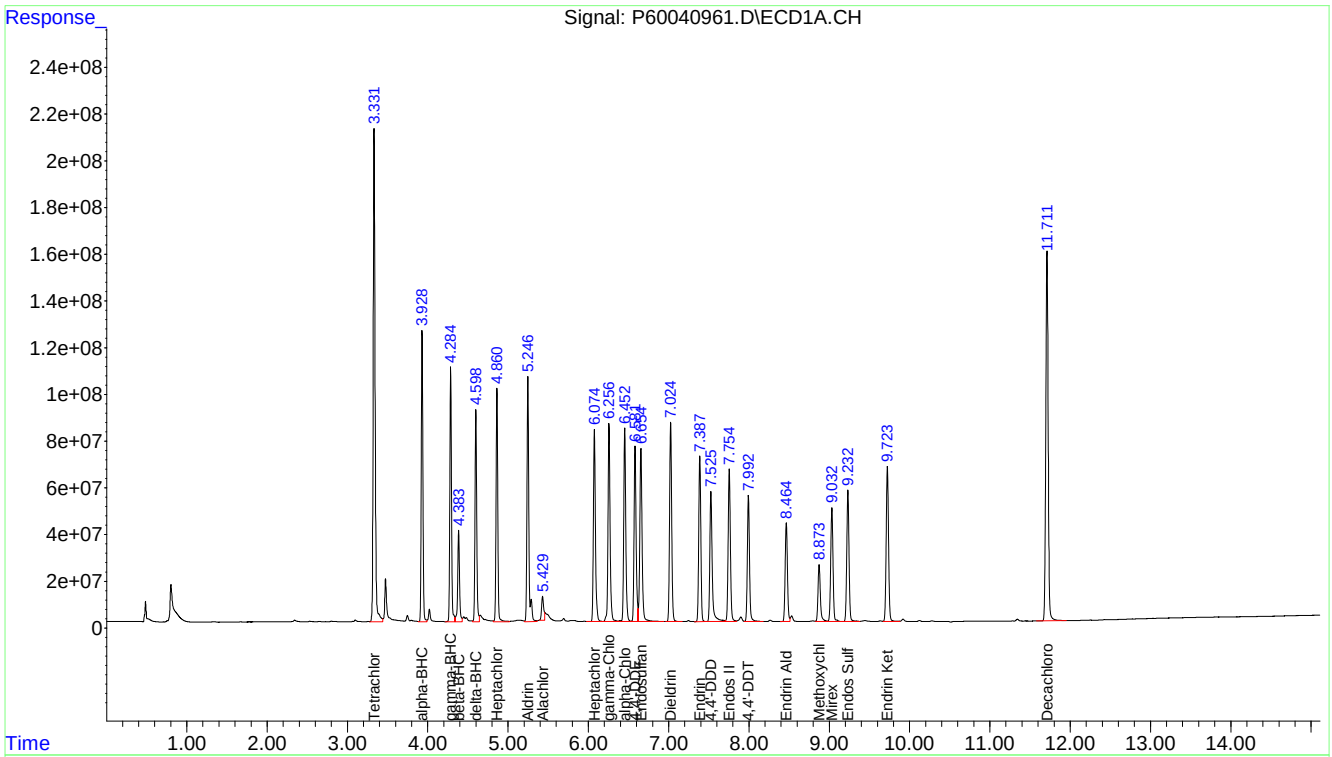
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.331	3.691	3427.0E6	15508.2E6	142.670	160.369
24) S	Decachlor...	11.712	12.943	3183.5E6	19817.1E6	145.367	179.198
	Target Compounds						
2)	alpha-BHC	3.929	4.420	1758.4E6	8511.7E6	48.013	58.241
3)	gamma-BHC...	4.285	4.881	1570.5E6	7668.4E6	48.034	58.647
4)	beta-BHC	4.384	4.979	617.7E6	2860.5E6	47.859	56.410m
5)	delta-BHC	4.598	5.392	1342.6E6	7067.0E6	45.452	56.396
6)	Heptachlor	4.861	5.501	1487.0E6	6190.0E6	47.129	56.954
7)	Aldrin	5.246	5.981	1704.3E6	8485.7E6	52.058	56.361
8)	Alachlor	5.429	5.791	180.2E6	938.9E6	46.488m	58.427 #
9)	Heptachlo...	6.074	6.864	1434.8E6	7160.0E6	47.138	55.601
10)	gamma-Chl...	6.257	7.172	1515.7E6	7968.6E6	46.992	56.415
11)	alpha-Chl...	6.452	7.415	1453.4E6	7646.5E6	48.128	56.722
12)	Endosulfan I	6.654	7.513	1469.4E6	6625.0E6	48.288	58.224
13)	4,4'-DDE	6.581	7.697	1332.3E6	7707.8E6	45.728	57.307 #
14)	Dieldrin	7.024	7.980	1554.7E6	7951.8E6	47.083	56.725
15)	Endrin	7.388	8.512	1275.1E6	6725.3E6	46.589	55.896
16)	4,4'-DDD	7.526	8.720	1155.4E6	6546.1E6	47.148	56.362
17)	Endos II	7.754	8.892	1262.0E6	6650.6E6	47.764	57.066
18)	4,4'-DDT	7.993	9.296	1002.1E6	2230.4E6	45.389	45.852
19)	Endrin Al...	8.465	9.510	835.7E6	4645.0E6	48.172	58.277
20)	Methoxychlor	8.874	10.618	500.6E6	999.1E6	45.203	46.280
21)	Mirex	9.032	10.967	977.4E6	5154.9E6	48.338	57.568
22)	Endos Sulf	9.232	10.033	1090.3E6	6587.9E6	48.326	58.369
23)	Endrin Ke...	9.724	11.047	1348.8E6	5951.7E6	48.944	57.404

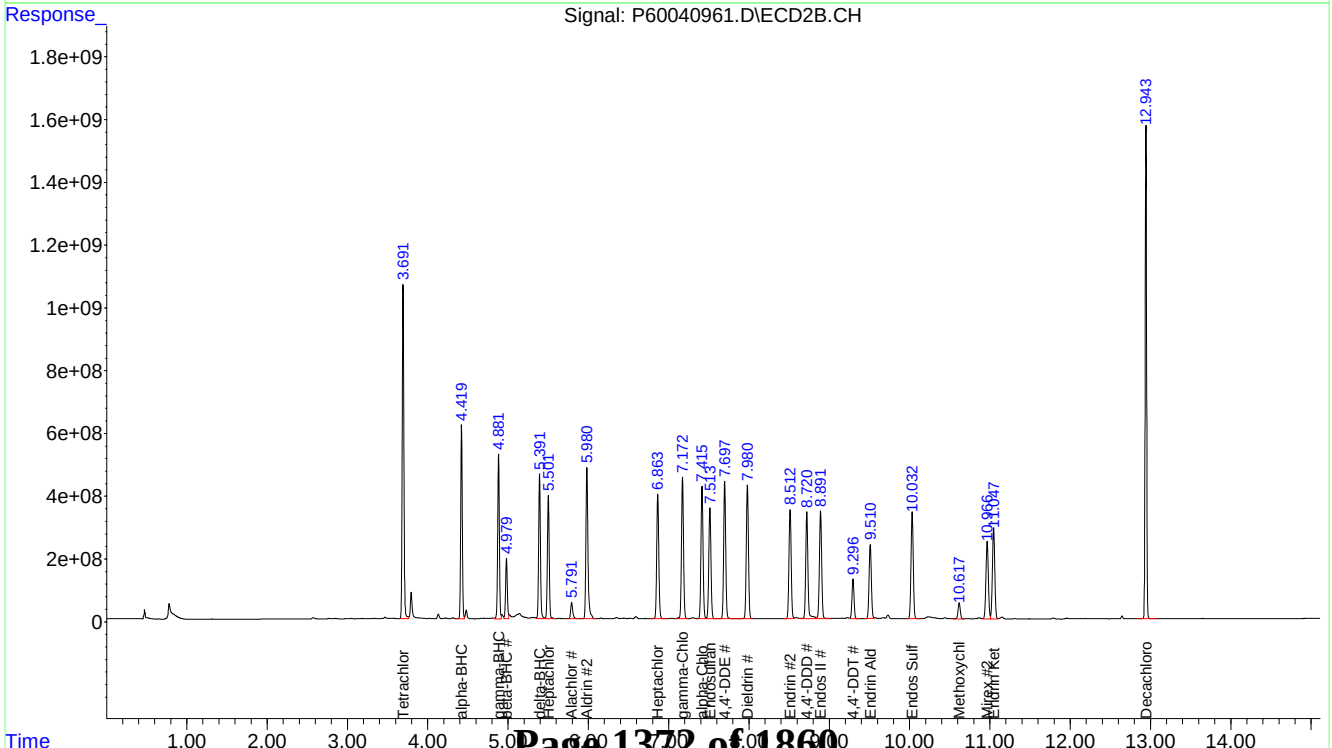
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040961.D
Acq On : 16 May 2023 4:58 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV5
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 17:35:00 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040973.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV6	Injection Time:	20:56

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	48.1	2.442319E+07	2.3578E+07		-3.7	20
4,4'-DDD [2C]	A	50.0	46.4	1.160797E+08	1.08124E+08		-7.2	
4,4'-DDE	A	50.0	46.4	2.9431E+07	2.704E+07		-7.1	20
4,4'-DDE [2C]	A	50.0	47.4	1.396829E+08	1.27894E+08		-5.3	
4,4'-DDT	A	50.0	48.3	2.2373E+07	2.1316E+07		-3.3	20
4,4'-DDT [2C]	A	50.0	55.1	4.599971E+07	5.4738E+07		10.3	
Aldrin	A	50.0	47.9	3.379527E+07	3.1484E+07		-4.2	20
Aldrin [2C]	A	50.0	47.5	1.529371E+08	1.4369E+08		-5.0	
alpha-BHC	A	50.0	48.8	4.051058E+07	3.5746E+07		-2.4	20
alpha-BHC [2C]	A	50.0	48.0	1.518686E+08	1.39682E+08		-3.9	
alpha-Chlordane	A	50.0	45.8	3.086117E+07	2.773E+07		-8.4	20
alpha-Chlordane [2C]	A	50.0	47.5	1.423799E+08	1.28682E+08		-4.9	
beta-BHC	A	50.0	48.7	1.443474E+07	1.2574E+07		-2.5	20
beta-BHC [2C]	A	50.0	48.6	5.74E+07	4.9288E+07		-2.7	
delta-BHC	A	50.0	47.0	3.111527E+07	2.7738E+07		-6.0	20
delta-BHC [2C]	A	50.0	46.1	1.351092E+08	1.15302E+08		-7.7	
Dieldrin	A	50.0	47.0	3.333983E+07	3.106E+07		-5.9	20
Dieldrin [2C]	A	50.0	47.2	1.435695E+08	1.3329E+08		-5.7	
Endosulfan I	A	50.0	48.1	3.101062E+07	2.9292E+07		-3.8	20
Endosulfan I [2C]	A	50.0	47.9	1.213639E+08	1.1017E+08		-4.1	
Endosulfan II	A	50.0	47.8	2.749536E+07	2.5268E+07		-4.4	20
Endosulfan II [2C]	A	50.0	46.6	1.235378E+08	1.096E+08		-6.8	
Endosulfan sulfate	A	50.0	48.1	2.431272E+07	2.1718E+07		-3.8	20
Endosulfan sulfate [2C]	A	50.0	45.1	1.201454E+08	1.02426E+08		-9.9	
Endrin	A	50.0	47.8	2.785477E+07	2.614E+07		-4.4	20
Endrin [2C]	A	50.0	46.9	1.244503E+08	1.136E+08		-6.2	
Endrin aldehyde	A	50.0	47.5	1.90327E+07	1.6498E+07		-5.0	20
Endrin aldehyde [2C]	A	50.0	46.4	8.863942E+07	7.4516E+07		-7.2	
Endrin ketone	A	50.0	49.0	2.902601E+07	2.6982E+07		-2.1	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040973.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/16/23
Lab Sample ID:	S3E1644-CCV6	Injection Time:	20:56

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	50.0	48.1	1.05658E+08	1.00164E+08		-3.9	
gamma-BHC (Lindane)	A	50.0	48.8	3.427558E+07	3.1914E+07		-2.4	20
gamma-BHC (Lindane) [2C]	A	50.0	47.5	1.389332E+08	1.23494E+08		-4.9	
gamma-Chlordane	A	50.0	46.9	3.290304E+07	3.0286E+07		-6.1	20
gamma-Chlordane [2C]	A	50.0	46.3	1.473116E+08	1.31172E+08		-7.5	
Heptachlor	A	50.0	48.3	3.23515E+07	3.0454E+07		-3.4	20
Heptachlor [2C]	A	50.0	46.8	1.15126E+08	1.02228E+08		-6.4	
Heptachlor epoxide	A	50.0	47.3	3.116562E+07	2.8794E+07		-5.4	20
Heptachlor epoxide [2C]	A	50.0	47.0	1.358492E+08	1.21904E+08		-6.1	
Methoxychlor	A	50.0	48.8	1.186888E+07	1.0782E+07		-2.3	20
Methoxychlor [2C]	A	50.0	57.1	2.043591E+07	2.5122E+07		14.1	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040973.D
Acq On : 16 May 2023 8:56 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV6
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 14:05:30 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

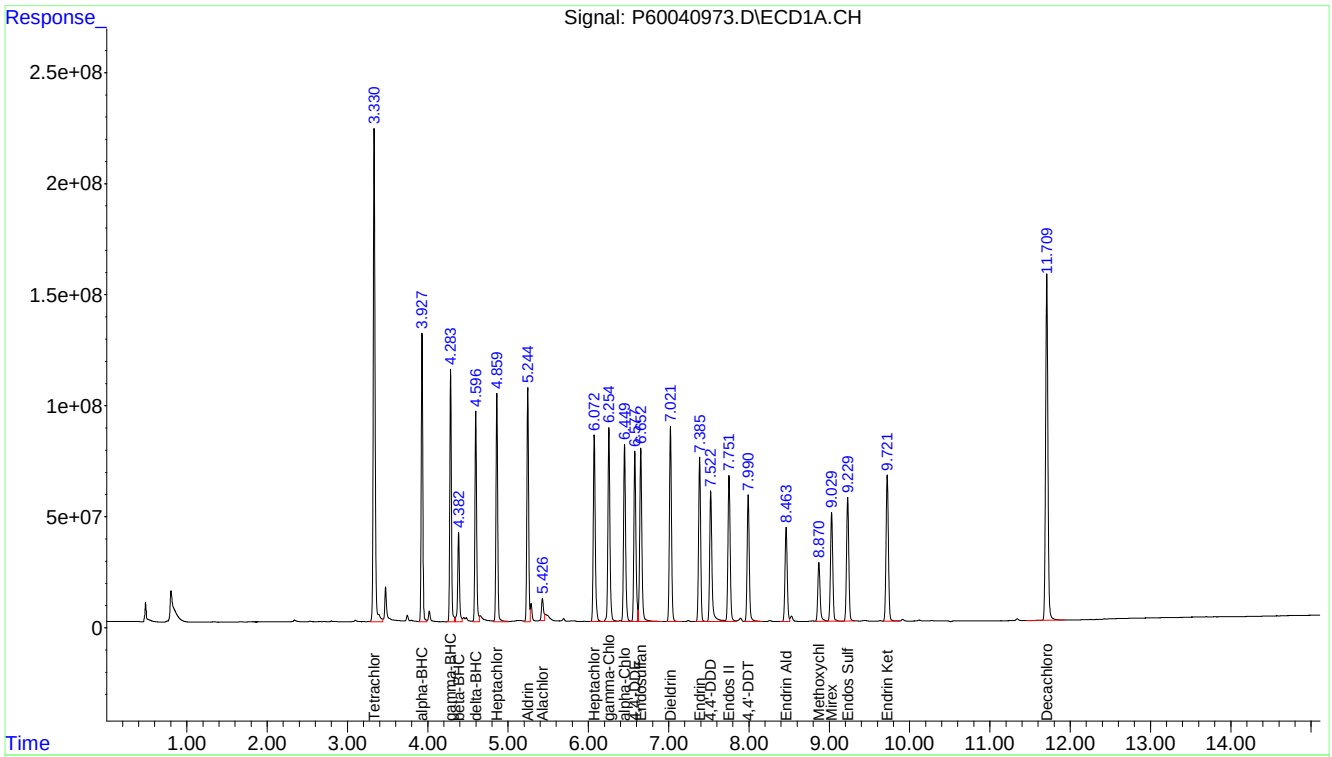
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.331	3.691	3463.2E6	13751.0E6	144.176	142.198
24) S	Decachlor...	11.709	12.935	3105.4E6	14499.2E6	141.801	131.111
	Target Compounds						
2)	alpha-BHC	3.927	4.419	1787.3E6	6984.1E6	48.820	48.047
3)	gamma-BHC...	4.283	4.880	1595.7E6	6174.7E6	48.824	47.549
4)	beta-BHC	4.383	4.978	628.7E6	2464.4E6	48.736	48.640
5)	delta-BHC	4.596	5.392	1386.9E6	5765.1E6	46.979	46.126
6)	Heptachlor	4.859	5.501	1522.7E6	5111.4E6	48.317	46.824
7)	Aldrin	5.244	5.980	1574.2E6	7184.5E6	47.897	47.499
8)	Alachlor	5.426	5.791	176.8E6	780.4E6	45.530m	47.828
9)	Heptachlo...	6.072	6.863	1439.7E6	6095.2E6	47.312	46.958
10)	gamma-Chl...	6.255	7.171	1514.3E6	6558.6E6	46.948	46.267
11)	alpha-Chl...	6.450	7.415	1386.5E6	6434.1E6	45.813	47.548
12)	Endosulfan I	6.652	7.512	1464.6E6	5508.5E6	48.121	47.930
13)	4,4'-DDE	6.578	7.696	1352.0E6	6394.7E6	46.431	47.373
14)	Dieldrin	7.022	7.980	1553.0E6	6664.5E6	47.029	47.150
15)	Endrin	7.385	8.511	1307.0E6	5680.0E6	47.812	46.878
16)	4,4'-DDD	7.523	8.719	1178.9E6	5406.2E6	48.138	46.401
17)	Endos II	7.751	8.891	1263.4E6	5480.0E6	47.819	46.591
18)	4,4'-DDT	7.990	9.295	1065.8E6	2736.9E6	48.326	55.145
19)	Endrin Al...	8.462	9.510	824.9E6	3725.8E6	47.523	46.378
20)	Methoxychlor	8.871	10.618	539.1E6	1256.1E6	48.842	57.064
21)	Mirex	9.029	10.966	971.8E6	4096.7E6	48.047	45.612
22)	Endos Sulf	9.230	10.033	1085.9E6	5121.3E6	48.122	45.063
23)	Endrin Ke...	9.722	11.047	1349.1E6	5008.2E6	48.954	48.062

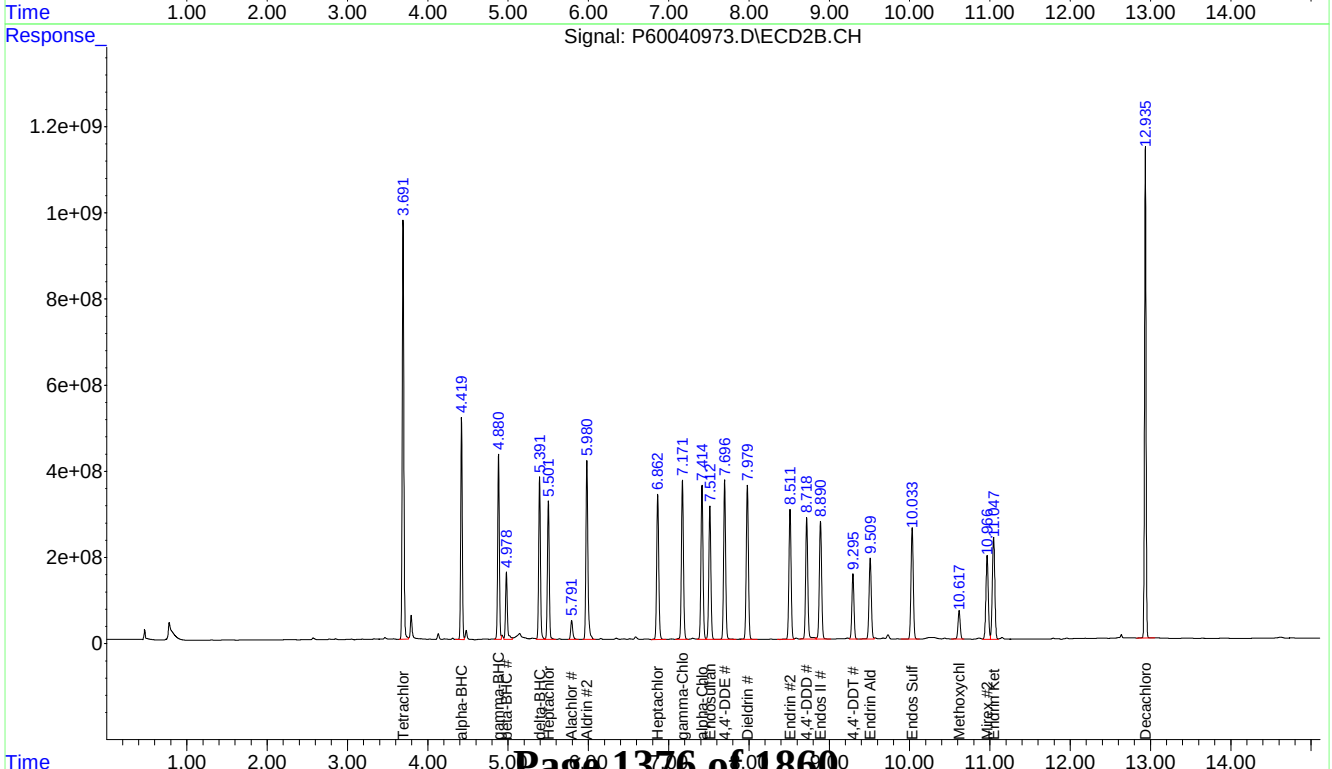
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040973.D
Acq On : 16 May 2023 8:56 pm
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV6
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 2 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 14:05:30 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040985.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/17/23
Lab Sample ID:	S3E1644-CCV7	Injection Time:	00:46

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	45.0	2.442319E+07	2.209E+07		-10.0	20
4,4'-DDD [2C]	A	50.0	55.6	1.160797E+08	1.29158E+08		11.2	
4,4'-DDE	A	50.0	43.5	2.9431E+07	2.5414E+07		-12.9	20
4,4'-DDE [2C]	A	50.0	55.4	1.396829E+08	1.4901E+08		10.7	
4,4'-DDT	A	50.0	44.3	2.2373E+07	1.9576E+07		-11.4	20
4,4'-DDT [2C]	A	50.0	60.6	4.599971E+07	6.089E+07		21.3	
Aldrin	A	50.0	44.6	3.379527E+07	2.9428E+07		-10.7	20
Aldrin [2C]	A	50.0	55.8	1.529371E+08	1.68182E+08		11.7	
alpha-BHC	A	50.0	46.3	4.051058E+07	3.3956E+07		-7.4	20
alpha-BHC [2C]	A	50.0	58.8	1.518686E+08	1.71796E+08		17.5	
alpha-Chlordane	A	50.0	44.7	3.086117E+07	2.7086E+07		-10.6	20
alpha-Chlordane [2C]	A	50.0	55.2	1.423799E+08	1.48974E+08		10.4	
beta-BHC	A	50.0	45.9	1.443474E+07	1.1858E+07		-8.2	20
beta-BHC [2C]	A	50.0	55.4	5.74E+07	5.6168E+07		10.8	
delta-BHC	A	50.0	43.5	3.111527E+07	2.573E+07		-13.0	20
delta-BHC [2C]	A	50.0	55.8	1.351092E+08	1.39902E+08		11.7	
Dieldrin	A	50.0	44.6	3.333983E+07	2.9516E+07		-10.8	20
Dieldrin [2C]	A	50.0	56.0	1.435695E+08	1.57056E+08		12.0	
Endosulfan I	A	50.0	45.7	3.101062E+07	2.7916E+07		-8.5	20
Endosulfan I [2C]	A	50.0	55.9	1.213639E+08	1.27474E+08		11.8	
Endosulfan II	A	50.0	44.9	2.749536E+07	2.3814E+07		-10.1	20
Endosulfan II [2C]	A	50.0	56.2	1.235378E+08	1.31112E+08		12.4	
Endosulfan sulfate	A	50.0	45.1	2.431272E+07	2.0418E+07		-9.8	20
Endosulfan sulfate [2C]	A	50.0	58.2	1.201454E+08	1.31442E+08		16.4	
Endrin	A	50.0	44.4	2.785477E+07	2.4332E+07		-11.3	20
Endrin [2C]	A	50.0	54.9	1.244503E+08	1.32218E+08		9.8	
Endrin aldehyde	A	50.0	44.8	1.90327E+07	1.5584E+07		-10.4	20
Endrin aldehyde [2C]	A	50.0	56.9	8.863942E+07	9.0824E+07		13.8	
Endrin ketone	A	50.0	47.1	2.902601E+07	2.603E+07		-5.7	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040985.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/17/23
Lab Sample ID:	S3E1644-CCV7	Injection Time:	00:46

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	50.0	61.3	1.05658E+08	1.26824E+08		22.6	
gamma-BHC (Lindane)	A	50.0	46.1	3.427558E+07	3.017E+07		-7.8	20
gamma-BHC (Lindane) [2C]	A	50.0	58.8	1.389332E+08	1.5383E+08		17.6	
gamma-Chlordane	A	50.0	44.4	3.290304E+07	2.8712E+07		-11.2	20
gamma-Chlordane [2C]	A	50.0	55.4	1.473116E+08	1.56566E+08		10.8	
Heptachlor	A	50.0	44.6	3.23515E+07	2.822E+07		-10.8	20
Heptachlor [2C]	A	50.0	55.8	1.15126E+08	1.21424E+08		11.7	
Heptachlor epoxide	A	50.0	44.7	3.116562E+07	2.7268E+07		-10.7	20
Heptachlor epoxide [2C]	A	50.0	54.9	1.358492E+08	1.41376E+08		9.7	
Methoxychlor	A	50.0	44.8	1.186888E+07	9934000		-10.3	20
Methoxychlor [2C]	A	50.0	62.6	2.043591E+07	2.7812E+07		25.1	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040985.D
Acq On : 17 May 2023 0:46 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV7
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 5 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 10:41:35 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

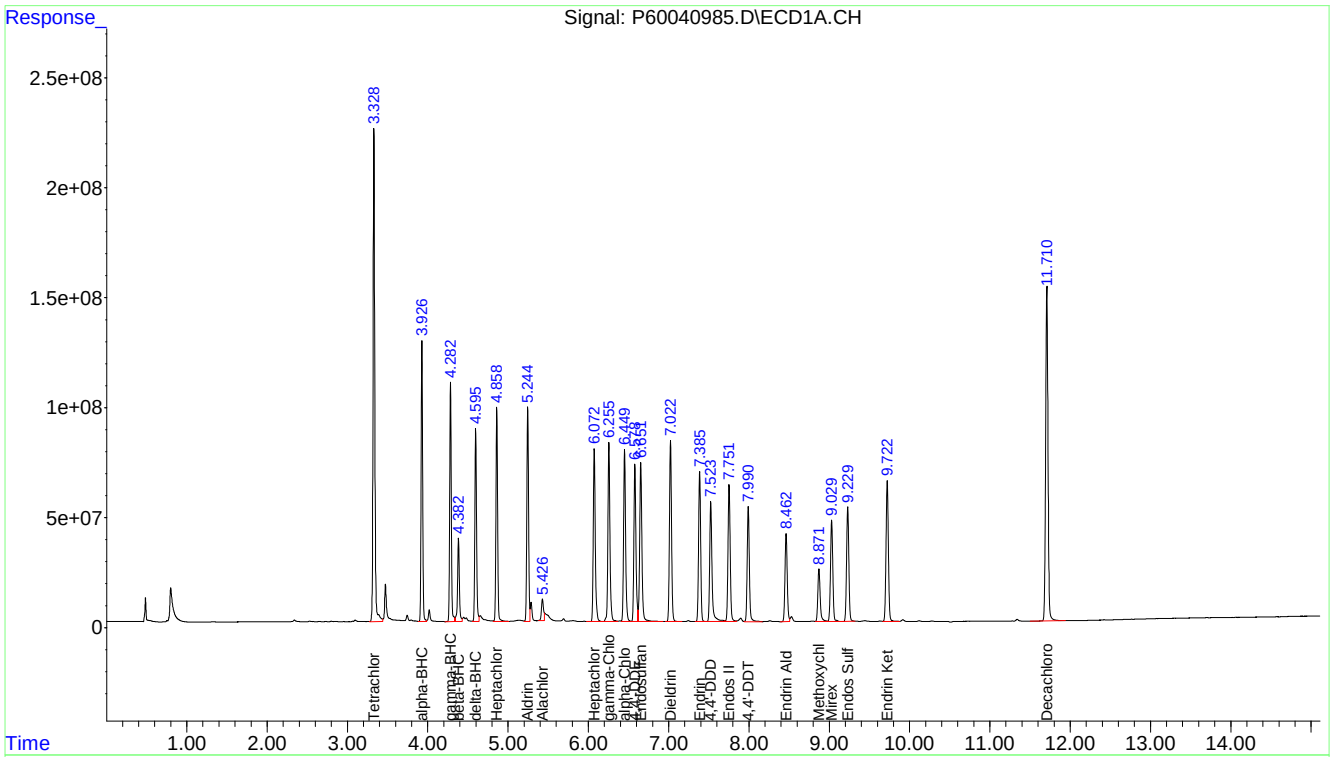
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.329	3.690	3301.1E6	16273.8E6	137.429	168.286
24) S	Decachlor...	11.710	12.935	3029.8E6	19719.2E6	138.349	178.313 #
	Target Compounds						
2)	alpha-BHC	3.926	4.419	1697.8E6	8589.8E6	46.319	58.760 #
3)	gamma-BHC...	4.283	4.879	1508.5E6	7691.5E6	46.094	58.817m#
4)	beta-BHC	4.382	4.978	592.9E6	2808.4E6	45.896	55.389m
5)	delta-BHC	4.596	5.391	1286.5E6	6995.1E6	43.522	55.831 #
6)	Heptachlor	4.859	5.501	1411.0E6	6071.2E6	44.607	55.834 #
7)	Aldrin	5.244	5.981	1471.4E6	8409.1E6	44.633	55.837 #
8)	Alachlor	5.426	5.791	176.3E6	955.9E6	45.371m	59.587 #
9)	Heptachlo...	6.072	6.864	1363.4E6	7068.8E6	44.665	54.855
10)	gamma-Chl...	6.255	7.172	1435.6E6	7828.3E6	44.403	55.403
11)	alpha-Chl...	6.450	7.414	1354.3E6	7448.7E6	44.706	55.221
12)	Endosulfan I	6.652	7.512	1395.8E6	6373.7E6	45.736	55.887
13)	4,4'-DDE	6.579	7.697	1270.7E6	7450.5E6	43.540	55.355 #
14)	Dieldrin	7.023	7.979	1475.8E6	7852.8E6	44.576	55.983 #
15)	Endrin	7.386	8.512	1216.6E6	6610.9E6	44.354	54.903
16)	4,4'-DDD	7.523	8.719	1104.5E6	6457.9E6	45.013	55.589
17)	Endos II	7.752	8.890	1190.7E6	6555.6E6	44.943	56.209 #
18)	4,4'-DDT	7.991	9.295	978.8E6	3044.5E6	44.316	60.630 #
19)	Endrin Al...	8.462	9.510	779.2E6	4541.2E6	44.787	56.923 #
20)	Methoxychlor	8.871	10.617	496.7E6	1390.6E6	44.839	62.560 #
21)	Mirex	9.029	10.965	921.7E6	5277.4E6	45.465	58.957 #
22)	Endos Sulf	9.230	10.032	1020.9E6	6572.1E6	45.120	58.224 #
23)	Endrin Ke...	9.722	11.046	1301.5E6	6341.2E6	47.146	61.289 #

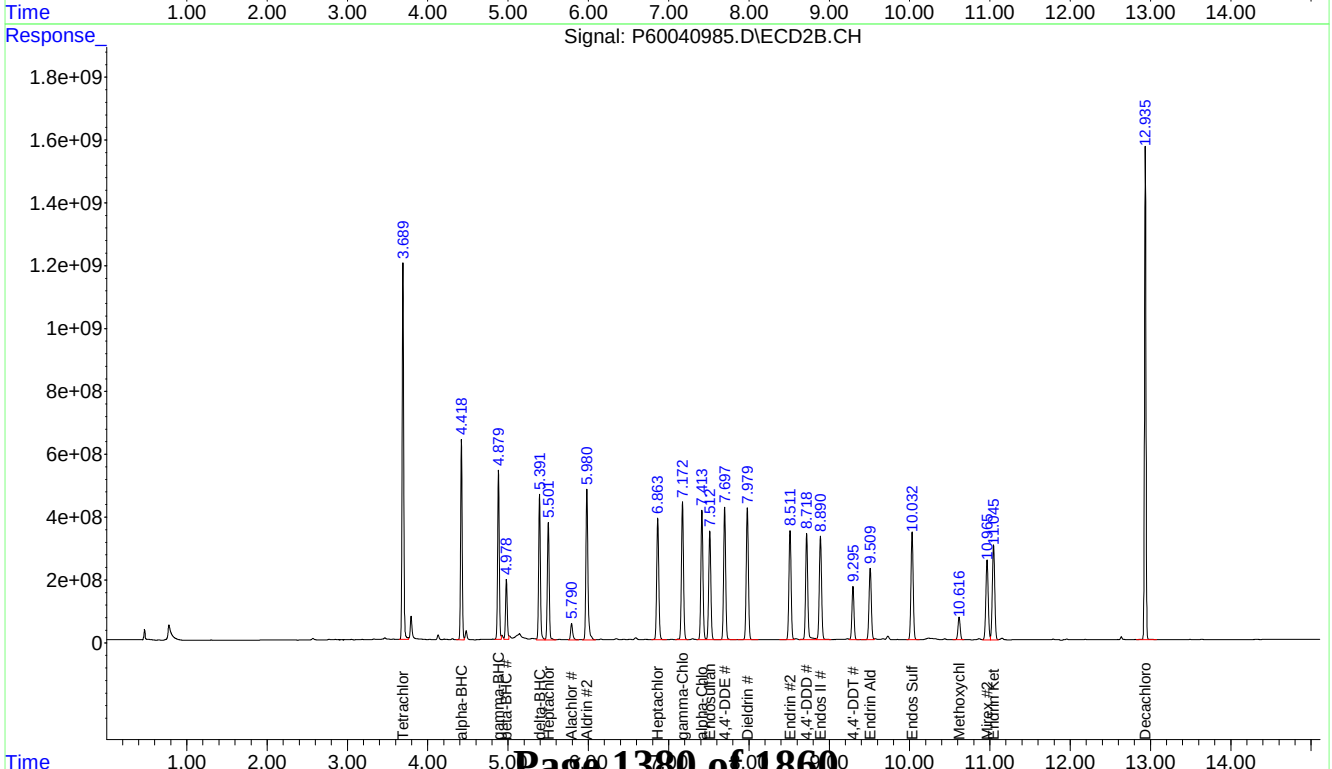
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040985.D
Acq On : 17 May 2023 0:46 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV7
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 5 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 10:41:35 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040998.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/17/23
Lab Sample ID:	S3E1644-CCV8	Injection Time:	04:55

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	46.9	2.442319E+07	2.2988E+07		-6.2	20
4,4'-DDD [2C]	A	50.0	49.4	1.160797E+08	1.15E+08		-1.2	
4,4'-DDE	A	50.0	45.6	2.9431E+07	2.6578E+07		-8.8	20
4,4'-DDE [2C]	A	50.0	51.7	1.396829E+08	1.39348E+08		3.4	
4,4'-DDT	A	50.0	45.4	2.2373E+07	2.0042E+07		-9.2	20
4,4'-DDT [2C]	A	50.0	43.5	4.599971E+07	4.2094E+07		-13.0	
Aldrin	A	50.0	46.6	3.379527E+07	3.0686E+07		-6.7	20
Aldrin [2C]	A	50.0	51.6	1.529371E+08	1.55898E+08		3.3	
alpha-BHC	A	50.0	47.8	4.051058E+07	3.5046E+07		-4.3	20
alpha-BHC [2C]	A	50.0	51.1	1.518686E+08	1.48678E+08		2.1	
alpha-Chlordane	A	50.0	43.1	3.086117E+07	2.6152E+07		-13.8	20
alpha-Chlordane [2C]	A	50.0	51.6	1.423799E+08	1.39282E+08		3.1	
beta-BHC	A	50.0	46.6	1.443474E+07	1.2042E+07		-6.8	20
beta-BHC [2C]	A	50.0	57.7	5.74E+07	5.8558E+07		15.5	
delta-BHC	A	50.0	42.7	3.111527E+07	2.5266E+07		-14.5	20
delta-BHC [2C]	A	50.0	50.7	1.351092E+08	1.26834E+08		1.4	
Dieldrin	A	50.0	46.2	3.333983E+07	3.0534E+07		-7.6	20
Dieldrin [2C]	A	50.0	50.5	1.435695E+08	1.42466E+08		1.1	
Endosulfan I	A	50.0	47.7	3.101062E+07	2.9052E+07		-4.6	20
Endosulfan I [2C]	A	50.0	50.7	1.213639E+08	1.16138E+08		1.3	
Endosulfan II	A	50.0	47.3	2.749536E+07	2.4992E+07		-5.5	20
Endosulfan II [2C]	A	50.0	51.6	1.235378E+08	1.20848E+08		3.2	
Endosulfan sulfate	A	50.0	47.2	2.431272E+07	2.1338E+07		-5.5	20
Endosulfan sulfate [2C]	A	50.0	51.4	1.201454E+08	1.16466E+08		2.8	
Endrin	A	50.0	46.3	2.785477E+07	2.5358E+07		-7.4	20
Endrin [2C]	A	50.0	49.0	1.244503E+08	1.18444E+08		-2.1	
Endrin aldehyde	A	50.0	46.0	1.90327E+07	1.6004E+07		-7.9	20
Endrin aldehyde [2C]	A	50.0	51.6	8.863942E+07	8.2616E+07		3.2	
Endrin ketone	A	50.0	49.4	2.902601E+07	2.7226E+07		-1.2	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60040998.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/17/23
Lab Sample ID:	S3E1644-CCV8	Injection Time:	04:55

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	50.0	52.1	1.05658E+08	1.08308E+08		4.2	
gamma-BHC (Lindane)	A	50.0	47.6	3.427558E+07	3.111E+07		-4.9	20
gamma-BHC (Lindane) [2C]	A	50.0	54.6	1.389332E+08	1.42486E+08		9.2	
gamma-Chlordane	A	50.0	46.2	3.290304E+07	2.9844E+07		-7.5	20
gamma-Chlordane [2C]	A	50.0	51.7	1.473116E+08	1.46288E+08		3.4	
Heptachlor	A	50.0	46.7	3.23515E+07	2.9502E+07		-6.5	20
Heptachlor [2C]	A	50.0	46.5	1.15126E+08	1.01448E+08		-7.1	
Heptachlor epoxide	A	50.0	46.6	3.116562E+07	2.8388E+07		-6.8	20
Heptachlor epoxide [2C]	A	50.0	51.3	1.358492E+08	1.326E+08		2.6	
Methoxychlor	A	50.0	45.7	1.186888E+07	1.0124E+07		-8.5	20
Methoxychlor [2C]	A	50.0	43.1	2.043591E+07	1.8516E+07		-13.7	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040998.D
Acq On : 17 May 2023 4:55 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV8
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 99 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 10:27:34 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

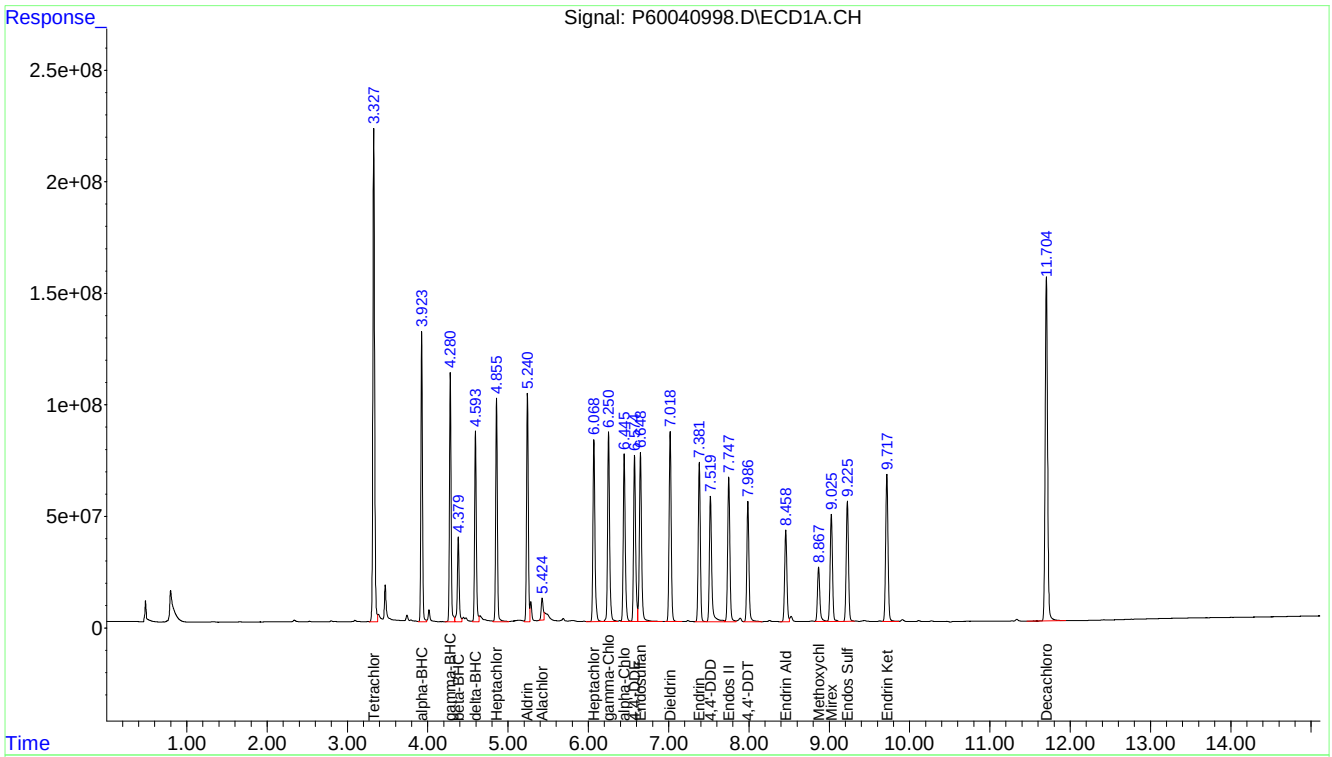
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
1) S	Tetrachlo...	3.327	3.688	3293.6E6	14611.7E6	137.116	151.099	
24) S	Decachlor...	11.704	12.934	3175.0E6	18716.7E6	144.979	169.248	
	Target Compounds							
2)	alpha-BHC	3.924	4.417	1752.3E6	7433.9E6	47.841	51.059	
3)	gamma-BHC...	4.280	4.878	1555.5E6	7124.3E6	47.563	54.622	
4)	beta-BHC	4.380	4.976	602.1E6	2927.9E6	46.625	57.729	
5)	delta-BHC	4.593	5.388	1263.3E6	6341.7E6	42.727	50.681	
6)	Heptachlor	4.856	5.498	1475.1E6	5072.4E6	46.734	46.459	
7)	Aldrin	5.241	5.978	1534.3E6	7794.9E6	46.627	51.646	
8)	Alachlor	5.424	5.788	174.1E6	978.6E6	44.752m	61.140	#
9)	Heptachlo...	6.068	6.860	1419.4E6	6630.0E6	46.604	51.281	
10)	gamma-Chl...	6.251	7.168	1492.2E6	7314.4E6	46.233	51.697	
11)	alpha-Chl...	6.446	7.412	1307.6E6	6964.1E6	43.099	51.550	
12)	Endosulfan I	6.648	7.509	1452.6E6	5806.9E6	47.703	50.659	
13)	4,4'-DDE	6.574	7.694	1328.9E6	6967.4E6	45.608	51.697	
14)	Dieldrin	7.019	7.977	1526.7E6	7123.3E6	46.191	50.543	
15)	Endrin	7.382	8.509	1267.9E6	5922.2E6	46.315	48.956	
16)	4,4'-DDD	7.520	8.716	1149.4E6	5750.0E6	46.896	49.399	
17)	Endos II	7.748	8.888	1249.6E6	6042.4E6	47.272	51.598	
18)	4,4'-DDT	7.986	9.292	1002.1E6	2104.7E6	45.388	43.494	
19)	Endrin Al...	8.458	9.507	800.2E6	4130.8E6	46.044	51.597	
20)	Methoxychlor	8.867	10.614	506.2E6	925.8E6	45.728	43.131	
21)	Mirex	9.025	10.962	977.5E6	4758.3E6	48.344	53.078	
22)	Endos Sulf	9.225	10.028	1066.9E6	5823.3E6	47.244	51.408	
23)	Endrin Ke...	9.718	11.042	1361.3E6	5415.4E6	49.420	52.082	

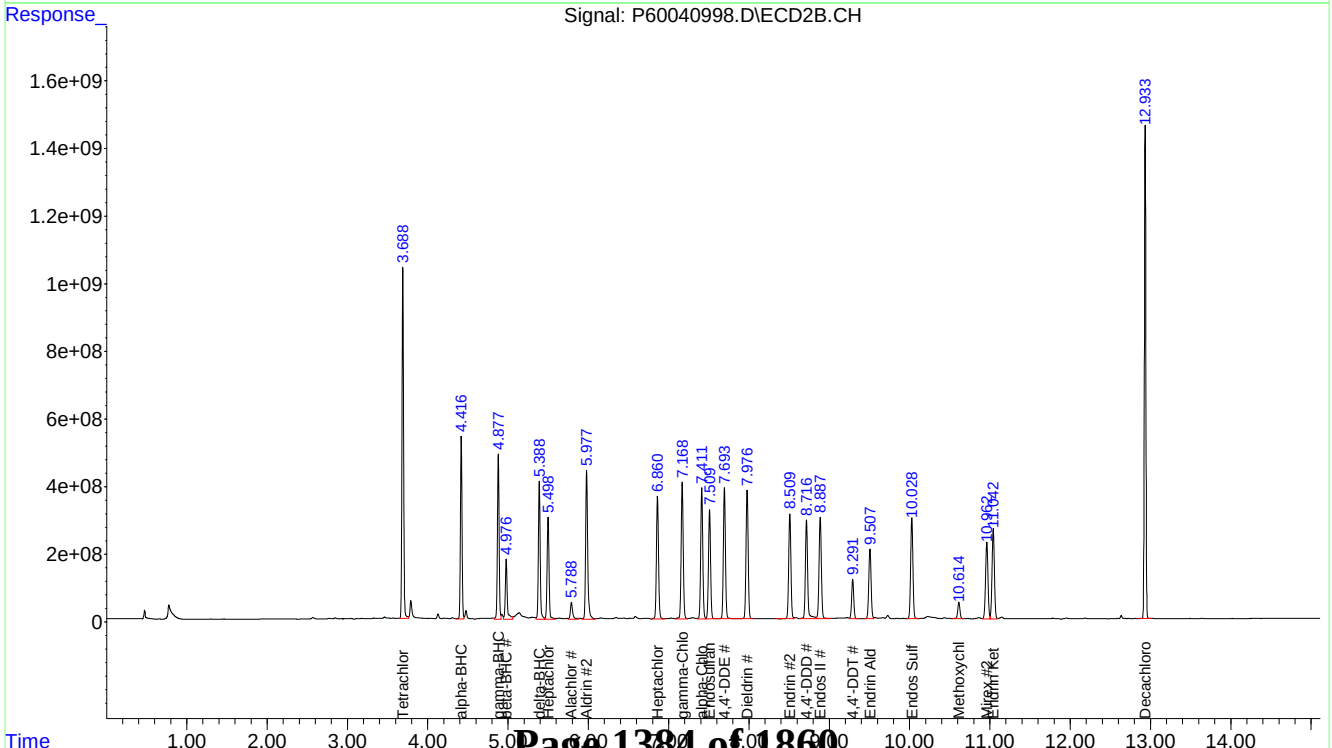
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040998.D
Acq On : 17 May 2023 4:55 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV8
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 99 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 10:27:34 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60041010.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/17/23
Lab Sample ID:	S3E1644-CCV9	Injection Time:	08:44

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	49.1	2.442319E+07	2.403E+07		-1.8	20
4,4'-DDD [2C]	A	50.0	56.8	1.160797E+08	1.31994E+08		13.7	
4,4'-DDE	A	50.0	47.1	2.9431E+07	2.7426E+07		-5.8	20
4,4'-DDE [2C]	A	50.0	57.2	1.396829E+08	1.53768E+08		14.3	
4,4'-DDT	A	50.0	46.6	2.2373E+07	2.056E+07		-6.8	20
4,4'-DDT [2C]	A	50.0	66.6	4.599971E+07	6.7746E+07		33.2	
Aldrin	A	50.0	48.5	3.379527E+07	3.1882E+07		-2.9	20
Aldrin [2C]	A	50.0	56.3	1.529371E+08	1.69652E+08		12.7	
alpha-BHC	A	50.0	49.7	4.051058E+07	3.6396E+07		-0.5	20
alpha-BHC [2C]	A	50.0	60.5	1.518686E+08	1.7699E+08		21.0	
alpha-Chlordane	A	50.0	45.8	3.086117E+07	2.7746E+07		-8.3	20
alpha-Chlordane [2C]	A	50.0	57.7	1.423799E+08	1.55508E+08		15.4	
beta-BHC	A	50.0	49.2	1.443474E+07	1.2692E+07		-1.6	20
beta-BHC [2C]	A	50.0	62.1	5.74E+07	6.3004E+07		24.2	
delta-BHC	A	50.0	45.4	3.111527E+07	2.6822E+07		-9.2	20
delta-BHC [2C]	A	50.0	56.5	1.351092E+08	1.41522E+08		12.9	
Dieldrin	A	50.0	47.7	3.333983E+07	3.149E+07		-4.6	20
Dieldrin [2C]	A	50.0	56.6	1.435695E+08	1.58608E+08		13.1	
Endosulfan I	A	50.0	49.6	3.101062E+07	3.013E+07		-0.8	20
Endosulfan I [2C]	A	50.0	55.6	1.213639E+08	1.26778E+08		11.1	
Endosulfan II	A	50.0	49.2	2.749536E+07	2.5954E+07		-1.6	20
Endosulfan II [2C]	A	50.0	58.5	1.235378E+08	1.36074E+08		16.9	
Endosulfan sulfate	A	50.0	49.6	2.431272E+07	2.2338E+07		-0.9	20
Endosulfan sulfate [2C]	A	50.0	63.4	1.201454E+08	1.42696E+08		26.8	
Endrin	A	50.0	48.2	2.785477E+07	2.6338E+07		-3.6	20
Endrin [2C]	A	50.0	55.3	1.244503E+08	1.33084E+08		10.6	
Endrin aldehyde	A	50.0	48.2	1.90327E+07	1.6728E+07		-3.6	20
Endrin aldehyde [2C]	A	50.0	58.7	8.863942E+07	9.36E+07		17.5	
Endrin ketone	A	50.0	51.3	2.902601E+07	2.8224E+07		2.6	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD6	Calibration:	SE30027
Lab File ID:	P60041010.D	Calibration Date:	05/16/23 10:15
Sequence:	S3E1644	Injection Date:	05/17/23
Lab Sample ID:	S3E1644-CCV9	Injection Time:	08:44

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Endrin ketone [2C]	A	50.0	65.1	1.05658E+08	1.34406E+08		30.2	
gamma-BHC (Lindane)	A	50.0	49.3	3.427558E+07	3.2202E+07		-1.4	20
gamma-BHC (Lindane) [2C]	A	50.0	60.8	1.389332E+08	1.5931E+08		21.7	
gamma-Chlordane	A	50.0	48.2	3.290304E+07	3.1084E+07		-3.5	20
gamma-Chlordane [2C]	A	50.0	58.0	1.473116E+08	1.63634E+08		15.9	
Heptachlor	A	50.0	47.6	3.23515E+07	3.001E+07		-4.8	20
Heptachlor [2C]	A	50.0	47.1	1.15126E+08	1.02838E+08		-5.8	
Heptachlor epoxide	A	50.0	48.2	3.116562E+07	2.9318E+07		-3.6	20
Heptachlor epoxide [2C]	A	50.0	57.9	1.358492E+08	1.48812E+08		15.8	
Methoxychlor	A	50.0	46.8	1.186888E+07	1.0342E+07		-6.5	20
Methoxychlor [2C]	A	50.0	73.9	2.043591E+07	3.3526E+07		47.9	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60041010.D
Acq On : 17 May 2023 8:44 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV9
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 100 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 10:26:02 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

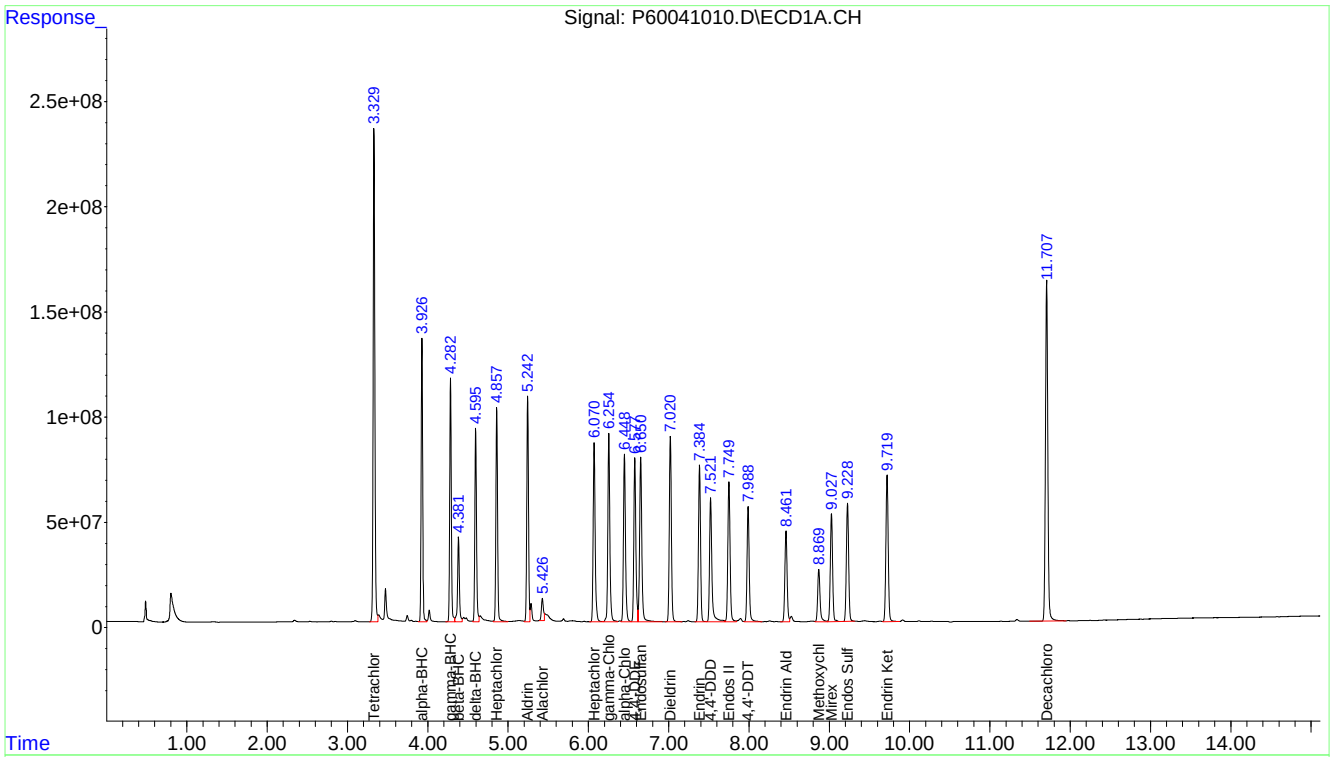
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.329	3.691	3393.9E6	16550.9E6	141.294	171.151
24) S	Decachlor...	11.707	12.934	3297.7E6	21841.2E6	150.581	197.502 #
	Target Compounds						
2)	alpha-BHC	3.926	4.420	1819.8E6	8849.5E6	49.729	60.481
3)	gamma-BHC...	4.282	4.880	1610.1E6	7965.5E6	49.275	60.837
4)	beta-BHC	4.382	4.979	634.6E6	3150.2E6	49.203	62.083 #
5)	delta-BHC	4.595	5.392	1341.1E6	7076.1E6	45.400	56.468
6)	Heptachlor	4.858	5.501	1500.5E6	5141.9E6	47.580	47.109
7)	Aldrin	5.243	5.981	1594.1E6	8482.6E6	48.530	56.340
8)	Alachlor	5.426	5.791	189.3E6	921.6E6	49.069m	57.254
9)	Heptachlo...	6.071	6.863	1465.9E6	7440.6E6	48.223	57.902
10)	gamma-Chl...	6.254	7.171	1554.2E6	8181.7E6	48.242	57.956
11)	alpha-Chl...	6.448	7.414	1387.3E6	7775.4E6	45.842	57.702 #
12)	Endosulfan I	6.651	7.511	1506.5E6	6338.9E6	49.580	55.565
13)	4,4'-DDE	6.578	7.696	1371.3E6	7688.4E6	47.118	57.160
14)	Dieldrin	7.020	7.979	1574.5E6	7930.4E6	47.713	56.564
15)	Endrin	7.384	8.510	1316.9E6	6654.2E6	48.195	55.278
16)	4,4'-DDD	7.522	8.718	1201.5E6	6599.7E6	49.092	56.832
17)	Endos II	7.750	8.890	1297.7E6	6803.7E6	49.183	58.452
18)	4,4'-DDT	7.989	9.294	1028.0E6	3387.3E6	46.583	66.613 #
19)	Endrin Al...	8.461	9.508	836.4E6	4680.0E6	48.213	58.733
20)	Methoxychlor	8.869	10.616	517.1E6	1676.3E6	46.761	73.933 #
21)	Mirex	9.028	10.964	1013.0E6	5573.3E6	50.184	62.315
22)	Endos Sulf	9.228	10.030	1116.9E6	7134.8E6	49.563	63.380 #
23)	Endrin Ke...	9.720	11.045	1411.2E6	6720.3E6	51.325	65.087 #

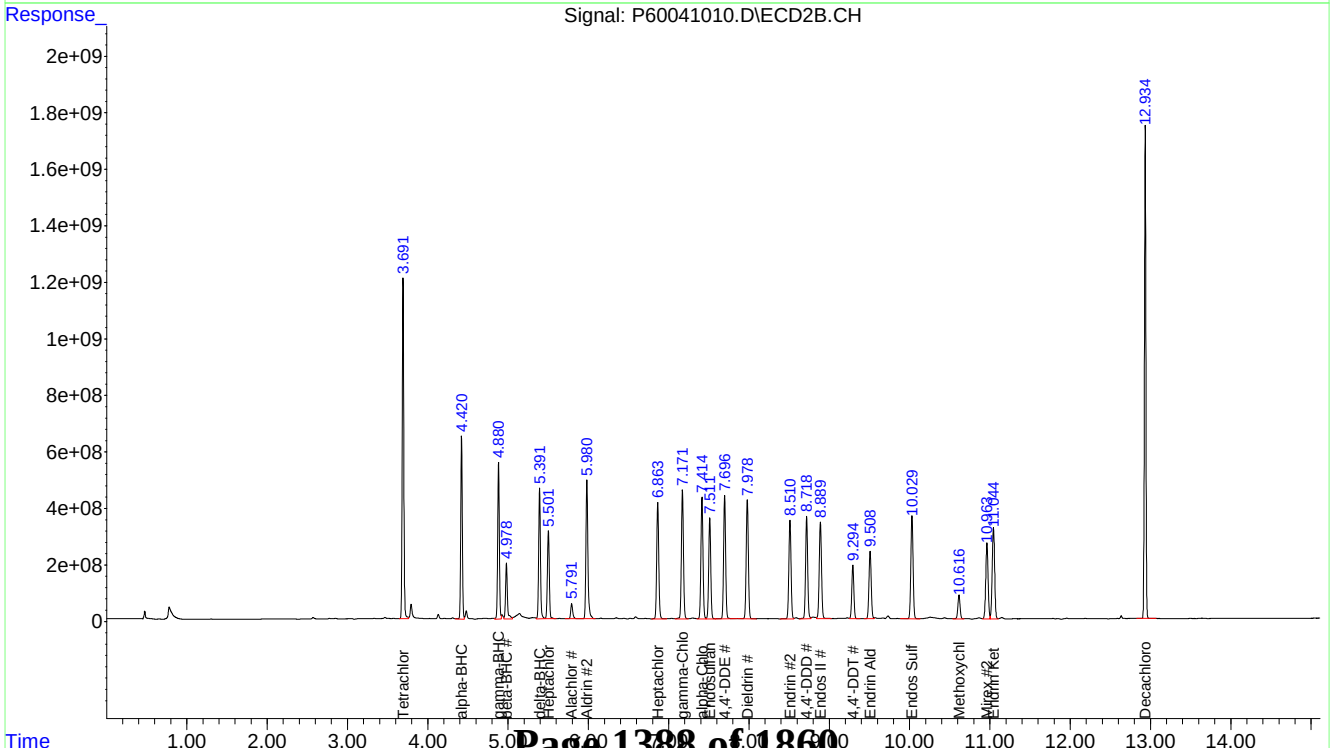
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60041010.D
Acq On : 17 May 2023 8:44 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : SEQ-CCV9
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 100 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 17 10:26:02 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: PEST
METHOD: EPA 8081B

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30881-BLK1	File ID:	P60040944.D
Prepared:	05/14/23 08:42	Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL
Analyzed:	05/16/23 11:15	Instrument:	GCECD6		
Batch:	BE30881	Sequence:	S3E1644	Calibration:	SE30027

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
72-54-8	4,4'-DDD	0.00165	U
72-54-8	4,4'-DDD [2C]	0.00165	U
72-55-9	4,4'-DDE	0.00165	U
72-55-9	4,4'-DDE [2C]	0.00165	U
50-29-3	4,4'-DDT	0.00165	U
50-29-3	4,4'-DDT [2C]	0.00165	U
309-00-2	Aldrin	0.00165	U
309-00-2	Aldrin [2C]	0.00165	U
319-84-6	alpha-BHC	0.00165	U
319-84-6	alpha-BHC [2C]	0.00165	U
5103-71-9	alpha-Chlordane	0.00165	U
5103-71-9	alpha-Chlordane [2C]	0.00165	U
319-85-7	beta-BHC	0.00165	U
319-85-7	beta-BHC [2C]	0.00165	U
319-86-8	delta-BHC	0.00165	U
319-86-8	delta-BHC [2C]	0.00165	U
60-57-1	Dieldrin	0.00165	U
60-57-1	Dieldrin [2C]	0.00165	U
959-98-8	Endosulfan I	0.00165	U
959-98-8	Endosulfan I [2C]	0.00165	U
33213-65-9	Endosulfan II	0.00165	U
33213-65-9	Endosulfan II [2C]	0.00165	U
1031-07-8	Endosulfan sulfate	0.00165	U
1031-07-8	Endosulfan sulfate [2C]	0.00165	U
72-20-8	Endrin	0.00165	U
72-20-8	Endrin [2C]	0.00165	U
7421-93-4	Endrin aldehyde	0.00165	U
7421-93-4	Endrin aldehyde [2C]	0.00165	U
53494-70-5	Endrin ketone	0.00165	U
53494-70-5	Endrin ketone [2C]	0.00165	U

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30881-BLK1	File ID:	P60040944.D
Prepared:	05/14/23 08:42	Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL
Analyzed:	05/16/23 11:15	Instrument:	GCECD6		
Batch:	BE30881	Sequence:	S3E1644	Calibration:	SE30027

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
58-89-9	gamma-BHC (Lindane)	0.00165	U
58-89-9	gamma-BHC (Lindane) [2C]	0.00165	U
5566-34-7	gamma-Chlordane	0.00165	U
5566-34-7	gamma-Chlordane [2C]	0.00165	U
76-44-8	Heptachlor	0.00165	U
76-44-8	Heptachlor [2C]	0.00165	U
1024-57-3	Heptachlor epoxide	0.00165	U
1024-57-3	Heptachlor epoxide [2C]	0.00165	U
72-43-5	Methoxychlor	0.00165	U
72-43-5	Methoxychlor [2C]	0.00165	U
8001-35-2	Toxaphene	0.165	U
8001-35-2	Toxaphene [2C]	0.165	U
57-74-9	Chlordane, total	0.0330	U
57-74-9	Chlordane, total [2C]	0.0330	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0667	0.0660	99.0	30 - 150	
Decachlorobiphenyl [2C]	0.0667	0.0816	122	30 - 150	
Tetrachloro-m-xylene	0.0667	0.0526	78.8	30 - 150	
Tetrachloro-m-xylene [2C]	0.0667	0.0616	92.4	30 - 150	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040944.D
Acq On : 16 May 2023 11:15 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : BE30881-BLK1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 6 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 13:26:50 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

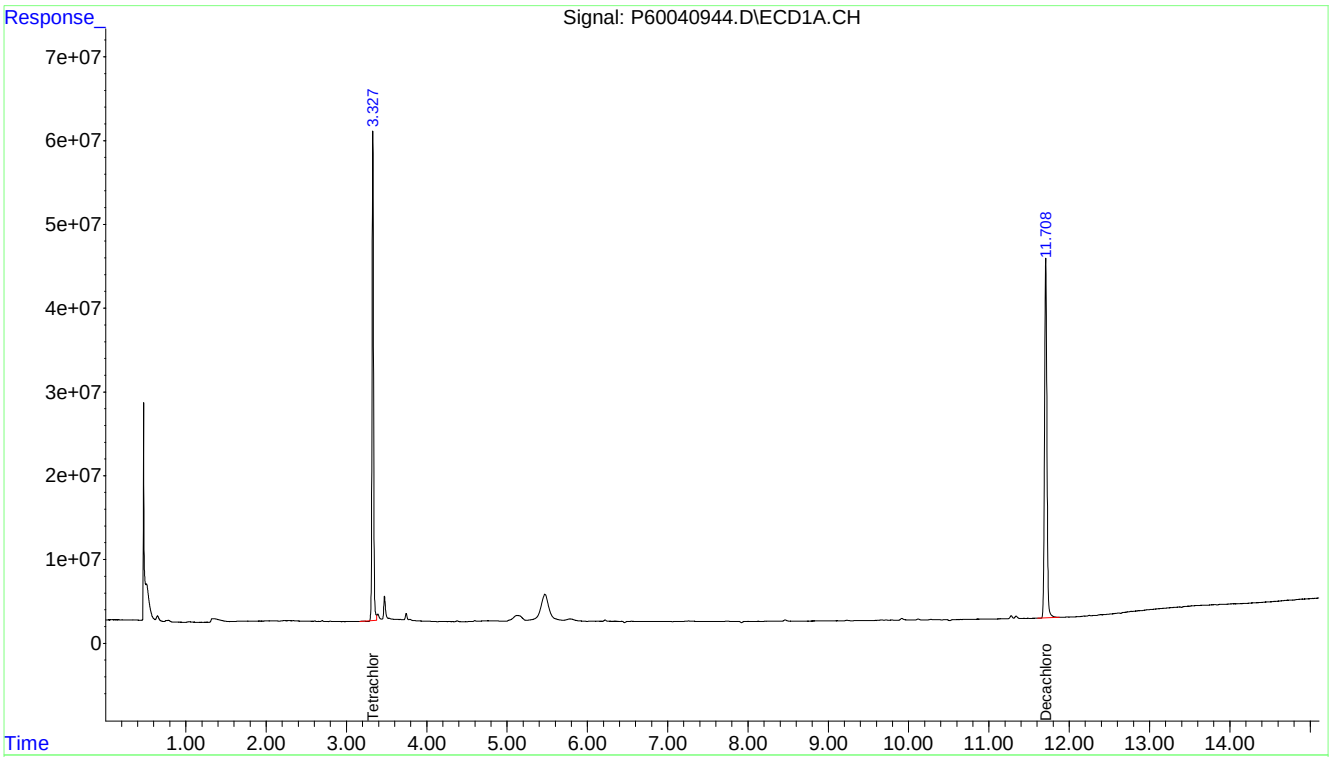
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) S	Tetrachlo...	3.327	3.685	757.6E6	3574.6E6	31.539	36.965
24) S	Decachlor...	11.708	12.939	867.5E6	5412.7E6	39.614	48.945
	Target Compounds						

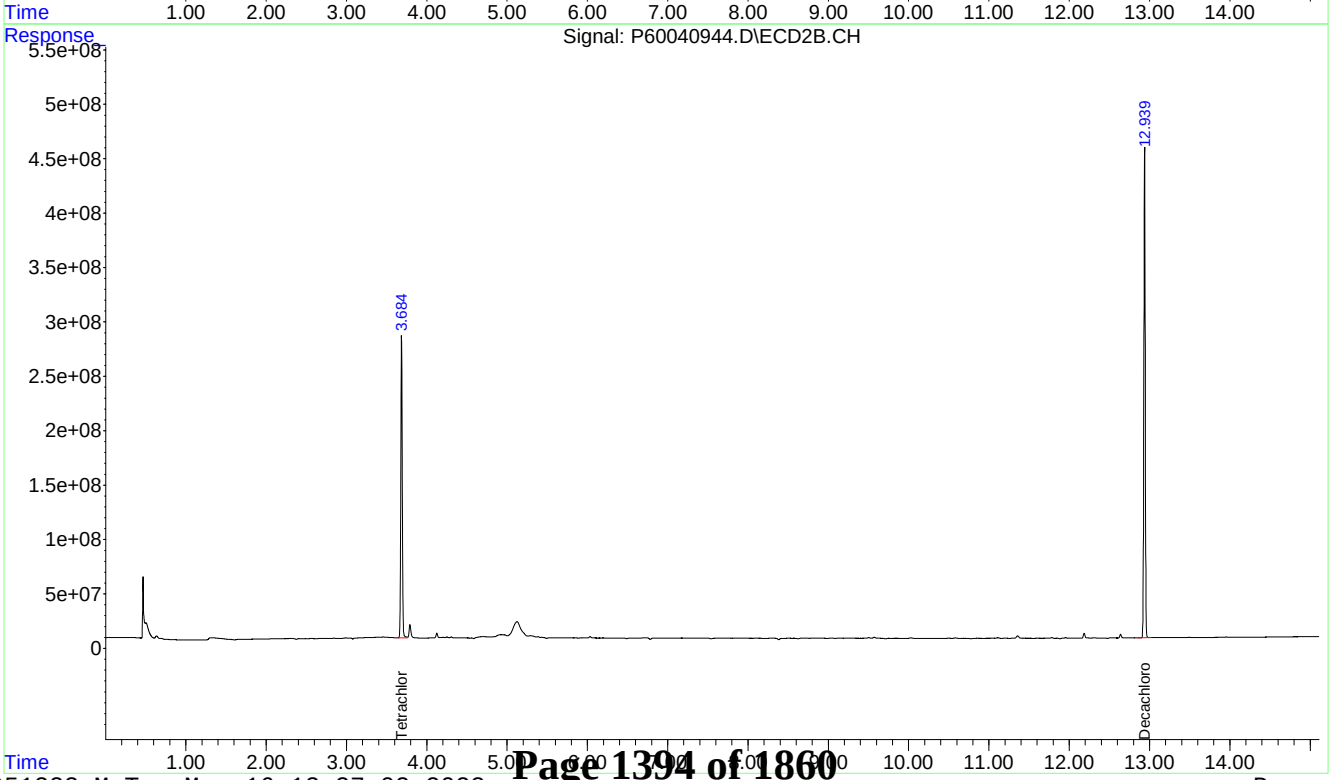
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040944.D
Acq On : 16 May 2023 11:15 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : BE30881-BLK1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 6 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 13:26:50 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





LCS RAW DATA

SDG: 23E0419
CLASS: PEST
METHOD: EPA 8081B

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040945.D
Acq On : 16 May 2023 11:34 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : BE30881-BS1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 7 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 11:53:47 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e

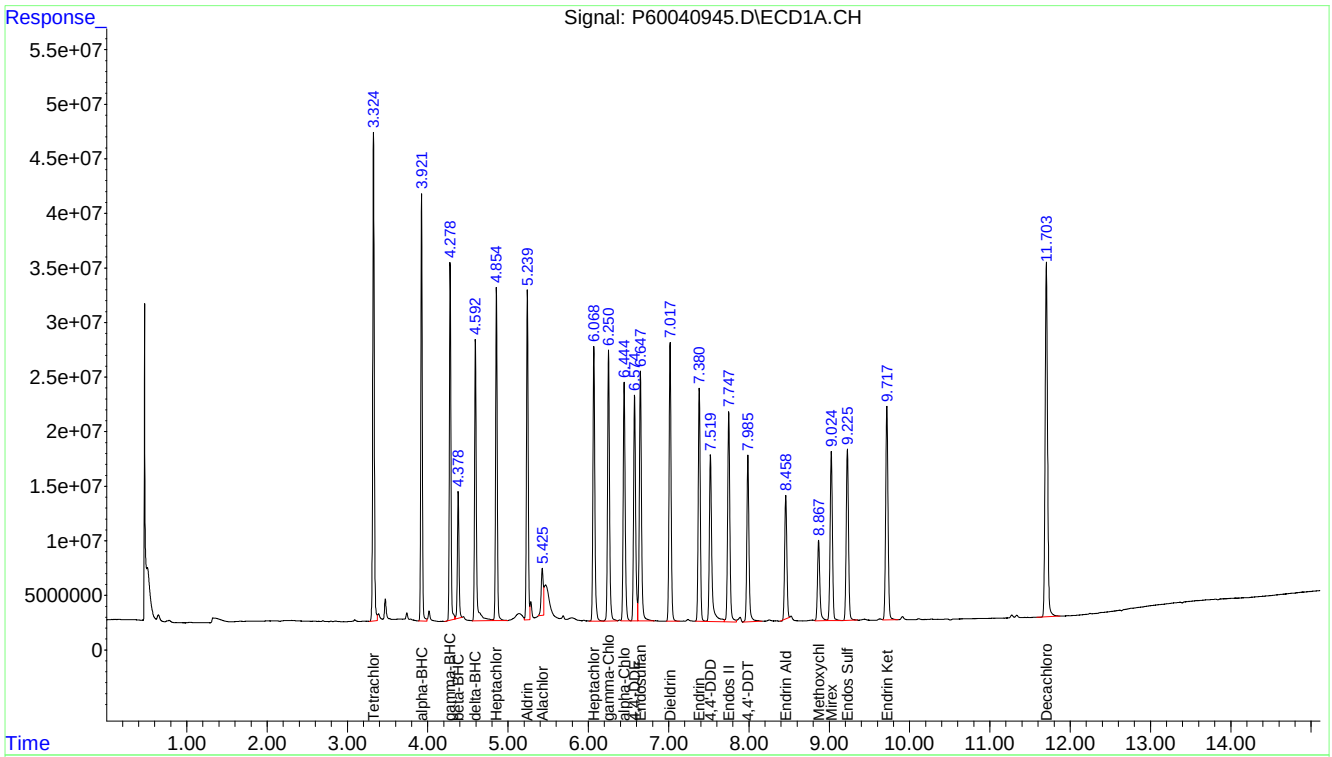
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL	
	System Monitoring Compounds							
1) S	Tetrachlo...	3.324	3.686	586.6E6	2781.7E6	24.420	28.766	
24) S	Decachlor...	11.704	12.936	672.4E6	4034.4E6	30.702	36.481	
	Target Compounds							
2)	alpha-BHC	3.922	4.416	493.1E6	2381.2E6	13.239	16.658	#
3)	gamma-BHC...	4.278	4.876	434.9E6	2127.9E6	13.075	16.706	#
4)	beta-BHC	4.379	4.975	161.5E6	899.4E6	12.295	17.814	#
5)	delta-BHC	4.592	5.388	399.5E6	1955.1E6	13.371	15.762	
6)	Heptachlor	4.854	5.497	428.6E6	1714.6E6	13.138	15.497	
7)	Aldrin	5.239	5.976	438.5E6	2270.8E6	12.919	14.762	
8)	Alachlor	5.425	5.788	81199647	302.5E6	19.923m	17.775	
9)	Heptachlo...	6.068	6.859	414.3E6	2148.1E6	13.094	16.096	
10)	gamma-Chl...	6.250	7.167	418.8E6	2224.9E6	12.587	15.527	
11)	alpha-Chl...	6.445	7.410	374.9E6	2173.9E6	12.017	15.859	#
12)	Endosulfan I	6.648	7.509	418.0E6	1942.8E6	13.206	16.405	
13)	4,4'-DDE	6.575	7.693	363.6E6	2148.6E6	12.166	15.737	#
14)	Dieldrin	7.018	7.975	439.8E6	2297.8E6	12.861	15.829	
15)	Endrin	7.381	8.508	375.7E6	2099.7E6	13.288	16.937	#
16)	4,4'-DDD	7.520	8.715	324.8E6	1885.5E6	12.977	16.029	
17)	Endos II	7.748	8.887	369.7E6	1915.0E6	13.547	15.855	
18)	4,4'-DDT	7.986	9.291	284.9E6	415.8E6	12.748	9.290	#
19)	Endrin Al...	8.458	9.505	214.1E6	1231.9E6	11.971	15.024	#
20)	Methoxychlor	8.867	10.612	150.7E6	182.5E6	13.224	9.069	#
21)	Mirex	9.025	10.960	308.4E6	1579.9E6	14.799	17.466	
22)	Endos Sulf	9.225	10.027	312.3E6	1786.0E6	13.418	15.479	
23)	Endrin Ke...	9.717	11.041	398.8E6	1569.4E6	13.993	14.797	

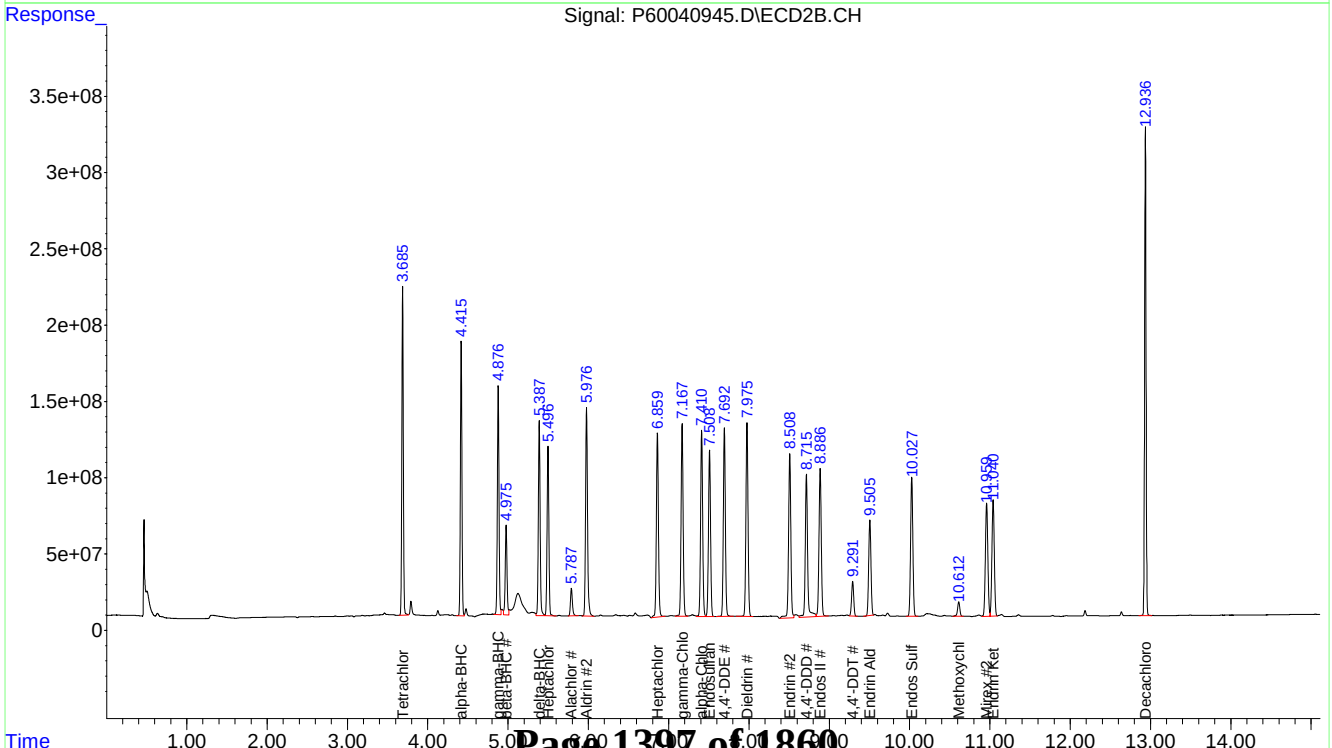
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051623A\
Data File : P60040945.D
Acq On : 16 May 2023 11:34 am
Operator : BCJ
DataAcq Meth:PEST6PULSEDACQ.M
Sample : BE30881-BS1
Misc : QBPST6051323A
InstName : GCECD6
ALS Vial : 7 (Sig #1); 0 (Sig #2)
SmplMult : 1

Quant Time: May 16 11:53:47 2023
Quant Method : C:\msdchem\PS6051223.M
Quant Title : Pesticides 8081/608
QLast Update : Mon May 15 10:24:26 2023
Response via : Initial Calibration
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Integration File signal 1: autoint1.e
Integration File signal 2: events2.e





BENCHSHEETS

SDG: 23E0419

CLASS: PEST

METHOD: EPA 8081B

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30881

Preparation Date: 05/14/2023 08:42

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:20:12AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: S23E149 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0239-01 A	Polychlorinated Biphenyls (PCB)	30.7	10				rocky
23E0239-01 A	Pesticides, NYSDEC Part 375 Target List	30.7	10				rocky
23E0383-03 E	Pesticides, 8081 target list	30.8	10				rocky
23E0383-03 E	Polychlorinated Biphenyls (PCB)	30.8	10				rocky
23E0383-04 E	Pesticides, 8081 target list	30.3	10				rocky
23E0383-04 E	Polychlorinated Biphenyls (PCB)	30.3	10				rocky
23E0419-11 B	PCB, 8082 MASTER	30.1	10				rocky
23E0419-11 B	PEST, 8081 MASTER	30.1	10				rocky
23E0419-12 B	PCB, 8082 MASTER	30.2	10				
23E0419-12 B	PEST, 8081 MASTER	30.2	10				
23E0428-01 D	Polychlorinated Biphenyls (PCB)	30.2	10				
23E0428-01 D	Pesticides, 8081 target list	30.2	10				
23E0428-02 D	Pesticides, 8081 target list	30.3	10				
23E0428-02 D	Polychlorinated Biphenyls (PCB)	30.3	10				
23E0428-03 D	Pesticides, 8081 target list	30.3	10				
23E0428-03 D	Polychlorinated Biphenyls (PCB)	30.3	10				
23E0430-01 B	Pesticides, EPA TCL List	30.8	10				
23E0430-01 B	Polychlorinated Biphenyls (PCB)	30.8	10				
23E0430-02 B	Pesticides, EPA TCL List	30.5	10				
23E0430-02 B	Polychlorinated Biphenyls (PCB)	30.5	10				
23E0433-01 T	Pesticides, 8081 target list	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	PCB, 8082 MASTER	30.5	10				
23E0433-01 T	PCB, 8082 NJ DKQP MASTER	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	PEST, 8081 MASTER	30.5	10				
23E0433-01 T	Pesticides, EPA TCL List	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	Pesticides, NYSDEC Part 375 Target List	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	Polychlorinated Biphenyls (PCB)	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	PEST, 8081 NJ DKQP MASTER	30.5	10				Added for BatchQC in: BE3(
23E0433-03 F	PCB, 8082 MASTER	30.6	10				
23E0433-03 F	PEST, 8081 MASTER	30.6	10				
23E0433-04 F	PCB, 8082 MASTER	30.7	10				
23E0433-04 F	PEST, 8081 MASTER	30.7	10				
23E0439-01 E	Pesticides, 8081 target list	30.2	10				

Preparations Performed by **kaz** **Date:** **05/14/2023 08:42**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30881

Preparation Date: 05/14/2023 08:42

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:20:12AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: S23E149 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0439-01 E	Polychlorinated Biphenyls (PCB)	30.2	10				
23E0440-21 F	PCB, 8082 NJ DKQP MASTER	30.4	10				
23E0440-21 F	PEST, 8081 NJ DKQP MASTER	30.4	10				
23E0440-22 F	PCB, 8082 NJ DKQP MASTER	30.3	10				
23E0440-22 F	PEST, 8081 NJ DKQP MASTER	30.3	10				
23E0529-01 E	Polychlorinated Biphenyls (PCB)	30.3	10				
23E0529-01 E	Pesticides, 8081 target list	30.3	10				
23E0751-01 A	Polychlorinated Biphenyls (PCB)	30.6	10				
23E0751-06 A	Pesticides, 8081 target list	30.5	10				
BE30881-BLK1	QC	30	10				
BE30881-BLK2	QC	30	10				
BE30881-BS1	QC	30	10	S23D303		100	
BE30881-BS2	QC	30	10				
BE30881-MS1	QC	30.1	10	S23D303	23E0433-01	100	
BE30881-MS2	QC	30.7	10		23E0433-01		
BE30881-MSD1	QC	30.9	10	S23D303	23E0433-01	100	
BE30881-MSD2	QC	30.2	10		23E0433-01		

SUNDAY MAY 14TH

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
S23A293	Methylene Chloride HW	ED535-US	S23A294	HEXANE	ED590-US
S23B045	Sodium Sulfate, Anhydrous	139404			

Preparations Performed by **kaz** **Date:** **05/14/2023 08:42**

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: ARO

METHOD: EPA 8082A

DATA PACKAGE COVER PAGE

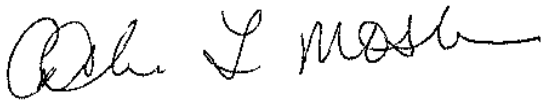
EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/19/2023 Title: Laboratory Manager

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1636 Instrument: ECD#1

Calibration: SE30026

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1636-CCV1)			Lab File ID: P1121475.D		Analyzed: 05/15/23 20:05			
Tetrachloro-m-xylene	0.160	104	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	105	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	92.5	0 - 200	8.72	8.71	0.0100	+/-0.05	
Decachlorobiphenyl [2C]	0.160	97.5	0 - 200	7.62	7.62	0.0000	+/-0.05	
Calibration Check (S3E1636-CCV2)			Lab File ID: P1121498.D		Analyzed: 05/16/23 03:12			
Tetrachloro-m-xylene	0.160	104	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	104	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	71.2	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	76.9	0 - 200	7.62	7.62	0.0000	+/-0.05	
Calibration Check (S3E1636-CCV3)			Lab File ID: P1121519.D		Analyzed: 05/16/23 08:00			
Tetrachloro-m-xylene	0.160	109	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	108	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	83.1	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	92.5	0 - 200	7.62	7.62	0.0000	+/-0.05	
Blank (BE30881-BLK2)			Lab File ID: P1121526.D		Analyzed: 05/16/23 09:36			
Tetrachloro-m-xylene	0.0667	84.0	30 - 120	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0667	81.5	30 - 120	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.0667	68.0	30 - 120	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.0667	76.0	30 - 120	7.62	7.62	0.0000	+/-0.05	
LCS (BE30881-BS2)			Lab File ID: P1121527.D		Analyzed: 05/16/23 09:49			
Tetrachloro-m-xylene	0.0667	74.5	30 - 120	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0667	75.0	30 - 120	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.0667	65.5	30 - 120	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.0667	73.5	30 - 120	7.62	7.62	0.0000	+/-0.05	
EHQ_ITEM304_COMP01_230505 (23E0419-11)			Lab File ID: P1121530.D		Analyzed: 05/16/23 10:31			
Tetrachloro-m-xylene	0.0733	81.0	30 - 120	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0733	78.0	30 - 120	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.0733	72.0	30 - 120	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.0733	80.0	30 - 120	7.62	7.62	0.0000	+/-0.05	
EHQ_ITEM304_COMP02_230505 (23E0419-12)			Lab File ID: P1121531.D		Analyzed: 05/16/23 10:44			
Tetrachloro-m-xylene	0.0725	65.0	30 - 120	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0725	66.0	30 - 120	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.0725	54.0	30 - 120	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.0725	63.0	30 - 120	7.62	7.62	0.0000	+/-0.05	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1636	Instrument:	ECD#1
		Calibration:	SE30026

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1636-CCV4)				Lab File ID: P1121537.D		Analyzed: 05/16/23 12:06		
Tetrachloro-m-xylene	0.160	111	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	112	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	85.6	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	99.4	0 - 200	7.61	7.62	-0.0100	+/-0.05	
Calibration Check (S3E1636-CCV5)				Lab File ID: P1121554.D		Analyzed: 05/16/23 16:00		
Tetrachloro-m-xylene	0.160	106	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	107	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	81.2	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	95.6	0 - 200	7.61	7.62	-0.0100	+/-0.05	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1718 Instrument: ECD#1

Calibration: SE30026

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1718-CCV1)				Lab File ID: P1121557.D		Analyzed: 05/16/23 17:00		
Tetrachloro-m-xylene	0.160	112	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	112	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	86.2	0 - 200	8.72	8.71	0.0100	+/-0.05	
Decachlorobiphenyl [2C]	0.160	101	0 - 200	7.62	7.62	0.0000	+/-0.05	
Calibration Check (S3E1718-CCV2)				Lab File ID: P1121579.D		Analyzed: 05/16/23 22:01		
Tetrachloro-m-xylene	0.160	112	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	113	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	97.5	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	112	0 - 200	7.61	7.62	-0.0100	+/-0.05	
Calibration Check (S3E1718-CCV3)				Lab File ID: P1121596.D		Analyzed: 05/17/23 01:54		
Tetrachloro-m-xylene	0.160	112	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	113	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	82.5	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	97.5	0 - 200	7.61	7.62	-0.0100	+/-0.05	
Calibration Check (S3E1718-CCV4)				Lab File ID: P1121615.D		Analyzed: 05/17/23 06:15		
Tetrachloro-m-xylene	0.160	104	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	102	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	90.0	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	106	0 - 200	7.61	7.62	-0.0100	+/-0.05	
Calibration Check (S3E1718-CCV5)				Lab File ID: P1121629.D		Analyzed: 05/17/23 09:27		
Tetrachloro-m-xylene	0.160	109	0 - 200	2.61	2.61	0.0000	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	105	0 - 200	2.08	2.08	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	100	0 - 200	8.71	8.71	0.0000	+/-0.05	
Decachlorobiphenyl [2C]	0.160	111	0 - 200	7.61	7.62	-0.0100	+/-0.05	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30881	Laboratory ID:	BE30881-BS2
Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	0.333	0.279	83.6	40 - 130
Aroclor 1016 [2C]	0.333	0.288	86.4	40 - 130
Aroclor 1260	0.333	0.274	82.3	40 - 130
Aroclor 1260 [2C]	0.333	0.297	89.2	40 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30881 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11	P1121530.D	05/14/23 08:42	rocky
EHQ_ITEM304_COMP02_230505	23E0419-12	P1121531.D	05/14/23 08:42	
Blank	BE30881-BLK2	P1121526.D	05/14/23 08:42	
LCS	BE30881-BS2	P1121527.D	05/14/23 08:42	

FORM I

METHOD BLANK DATA SHEET

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30881-BLK2	File ID:	P1121526.D
Prepared:	05/14/23 08:42	Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL
Analyzed:	05/16/23 09:36	Instrument:	ECD#1		
Batch:	BE30881	Sequence:	S3E1636	Calibration:	SE30026

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
12674-11-2	Aroclor 1016	0.0167	U
12674-11-2	Aroclor 1016 [2C]	0.0167	U
11104-28-2	Aroclor 1221	0.0167	U
11104-28-2	Aroclor 1221 [2C]	0.0167	U
11141-16-5	Aroclor 1232	0.0167	U
11141-16-5	Aroclor 1232 [2C]	0.0167	U
53469-21-9	Aroclor 1242	0.0167	U
53469-21-9	Aroclor 1242 [2C]	0.0167	U
12672-29-6	Aroclor 1248	0.0167	U
12672-29-6	Aroclor 1248 [2C]	0.0167	U
11097-69-1	Aroclor 1254	0.0167	U
11097-69-1	Aroclor 1254 [2C]	0.0167	U
11096-82-5	Aroclor 1260	0.0167	U
11096-82-5	Aroclor 1260 [2C]	0.0167	U
1336-36-3	Total PCBs	0.0167	U
1336-36-3	Total PCBs [2C]	0.0167	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0667	0.0453	68.0	30 - 120	
Decachlorobiphenyl [2C]	0.0667	0.0507	76.0	30 - 120	
Tetrachloro-m-xylene	0.0667	0.0560	84.0	30 - 120	
Tetrachloro-m-xylene [2C]	0.0667	0.0543	81.5	30 - 120	

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1601	Instrument:	ECD#1
		Calibration:	SE30026

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	S3E1601-CAL1	P1121458.D	05/15/23 15:27
Cal Standard	S3E1601-CAL2	P1121459.D	05/15/23 15:40
Cal Standard	S3E1601-CAL3	P1121460.D	05/15/23 15:54
Cal Standard	S3E1601-CAL4	P1121461.D	05/15/23 16:08
Cal Standard	S3E1601-CAL5	P1121462.D	05/15/23 16:21
Cal Standard	S3E1601-CAL6	P1121463.D	05/15/23 16:35
Secondary Cal Check	S3E1601-SCV1	P1121464.D	05/15/23 16:49

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1636	Instrument:	ECD#1
		Calibration:	SE30026

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	S3E1636-CCV1	P1121475.D	05/15/23 20:05
Aroclor Reference	S3E1636-ARC1	P1121476.D	05/15/23 20:19
Calibration Check	S3E1636-CCV2	P1121498.D	05/16/23 03:12
Calibration Check	S3E1636-CCV3	P1121519.D	05/16/23 08:00
Blank	BE30881-BLK2	P1121526.D	05/16/23 09:36
LCS	BE30881-BS2	P1121527.D	05/16/23 09:49
EHQ_ITEM304_COMP01_230505	23E0419-11	P1121530.D	05/16/23 10:31
EHQ_ITEM304_COMP02_230505	23E0419-12	P1121531.D	05/16/23 10:44
Calibration Check	S3E1636-CCV4	P1121537.D	05/16/23 12:06
Calibration Check	S3E1636-CCV5	P1121554.D	05/16/23 16:00

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1718	Instrument:	ECD#1
		Calibration:	SE30026

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	S3E1718-CCV1	P1121557.D	05/16/23 17:00
Aroclor Reference	S3E1718-ARC1	P1121558.D	05/16/23 17:13
Calibration Check	S3E1718-CCV2	P1121579.D	05/16/23 22:01
Calibration Check	S3E1718-CCV3	P1121596.D	05/17/23 01:54
Calibration Check	S3E1718-CCV4	P1121615.D	05/17/23 06:15
Calibration Check	S3E1718-CCV5	P1121629.D	05/17/23 09:27

HOLDING TIME SUMMARY

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/14/23 08:42	8.82	14.00	05/16/23 10:31	2.08	40.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/14/23 08:42	8.81	14.00	05/16/23 10:44	2.09	40.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:** ECD#1

Analyte	LOD	LOQ	Units
Aroclor 1016	0.0167	0.0167	mg/kg
Aroclor 1016 [2C]	0.0167	0.0167	mg/kg
Aroclor 1221	0.0167	0.0167	mg/kg
Aroclor 1221 [2C]	0.0167	0.0167	mg/kg
Aroclor 1232	0.0167	0.0167	mg/kg
Aroclor 1232 [2C]	0.0167	0.0167	mg/kg
Aroclor 1242	0.0167	0.0167	mg/kg
Aroclor 1242 [2C]	0.0167	0.0167	mg/kg
Aroclor 1248	0.0167	0.0167	mg/kg
Aroclor 1248 [2C]	0.0167	0.0167	mg/kg
Aroclor 1254	0.0167	0.0167	mg/kg
Aroclor 1254 [2C]	0.0167	0.0167	mg/kg
Aroclor 1260	0.0167	0.0167	mg/kg
Aroclor 1260 [2C]	0.0167	0.0167	mg/kg
Total PCBs	0.0167	0.0167	mg/kg
Total PCBs [2C]	0.0167	0.0167	mg/kg

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	P1121530.D
Sampled:	05/05/23 13:00	Prepared:	05/14/23 08:42	Analyzed:	05/16/23 10:31
Solids:	90.64	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Batch:	BE30881	Sequence:	S3E1636	Calibration:	SE30026
Instrument:	ECD#1				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0183	U
11104-28-2	Aroclor 1221	1	0.0183	U
11141-16-5	Aroclor 1232	1	0.0183	U
53469-21-9	Aroclor 1242	1	0.0183	U
12672-29-6	Aroclor 1248	1	0.0183	U
11097-69-1	Aroclor 1254	1	0.0183	U
11096-82-5	Aroclor 1260	1	0.0183	U
1336-36-3	Total PCBs	1	0.0183	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0733	0.0594	81.0	30 - 120	
Decachlorobiphenyl	0.0733	0.0528	72.0	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121530.D\ECD1A.CH Vial: 55
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121530.D\ECD2B.CH
Acq On : 5-16-2023 10:31:00 AM Operator: BCJ
Sample : 23E0419-11 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:55 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2345.5E6	6099.7E6	0.162	0.156
	Spiked Amount 0.200	Range 30 - 150		Recovery =		81.00%	78.00%
45) S	Decachlorobiphen	8.71	7.62	1124.7E6	3114.6E6	0.144	0.160
	Spiked Amount 0.200	Range 30 - 150		Recovery =		72.00%	80.00%
	Target Compounds						

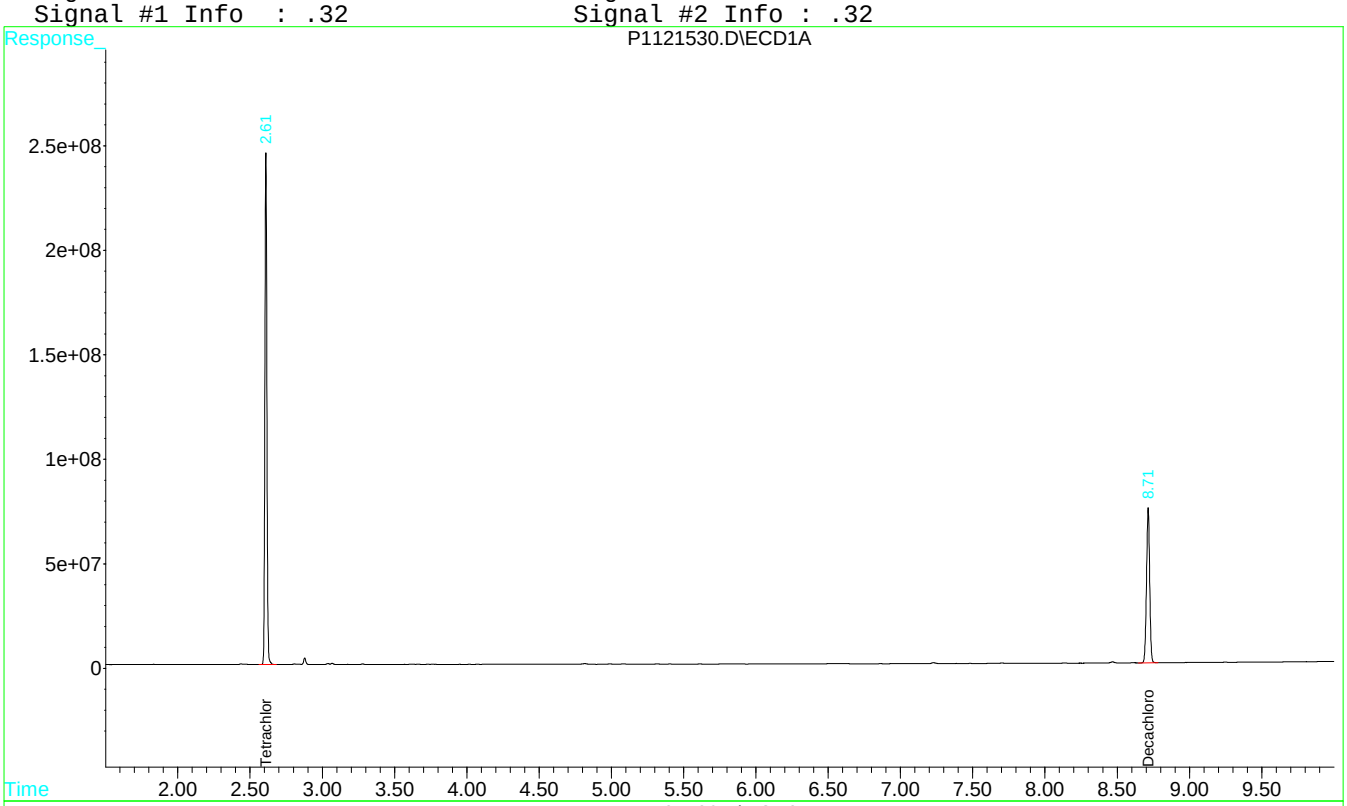
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121530.D P1051523.M Wed May 17 10:44:01 2023 Page 1

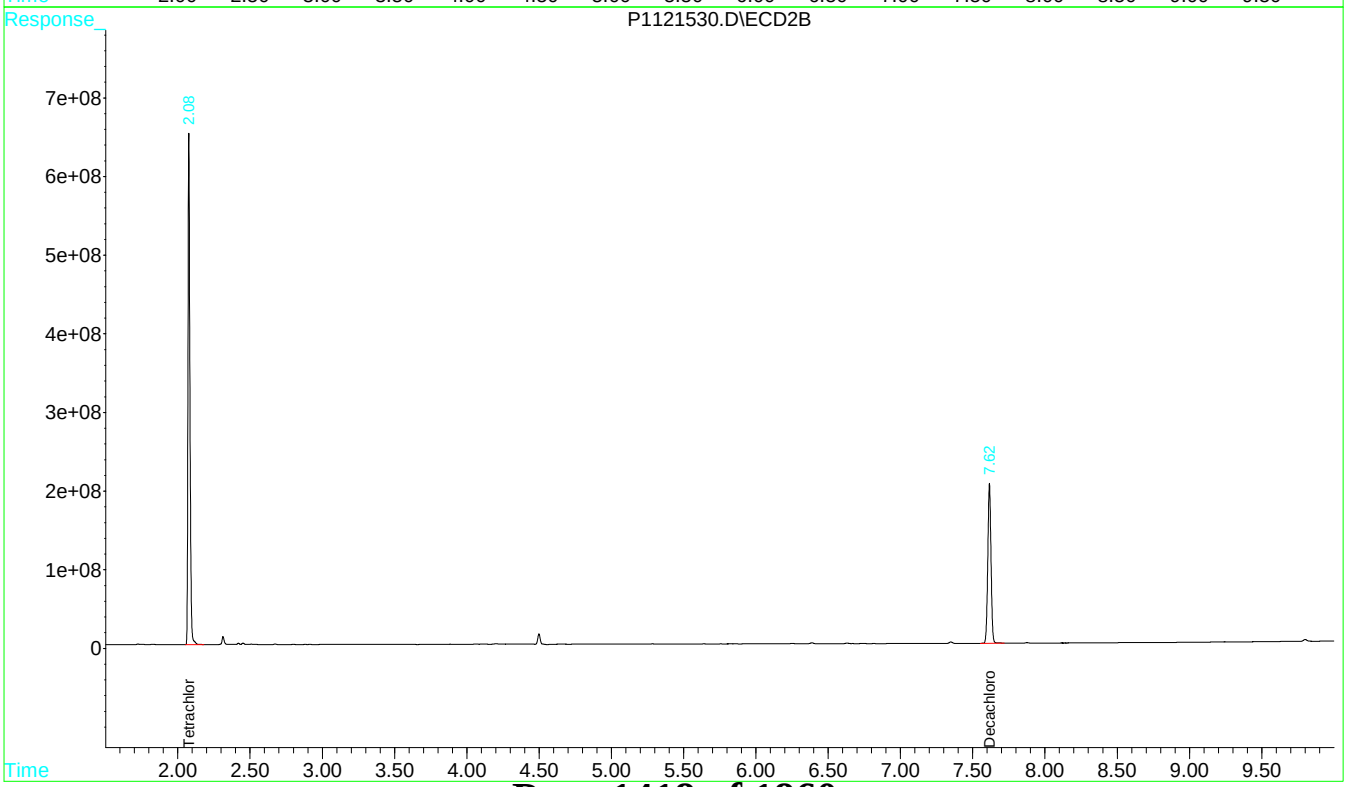
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121530.D\ECD1A.CH Vial: 55
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121530.D\ECD2B.CH
Acq On : 5-16-2023 10:31:00 AM Operator: BCJ
Sample : 23E0419-11 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:55 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	P1121531.D
Sampled:	05/05/23 13:15	Prepared:	05/14/23 08:42	Analyzed:	05/16/23 10:44
Solids:	91.31	Preparation:	EPA 3550C	Initial/Final:	30.2 g / 10 mL
Batch:	BE30881	Sequence:	S3E1636	Calibration:	SE30026
Instrument:	ECD#1				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0181	U
11104-28-2	Aroclor 1221	1	0.0181	U
11141-16-5	Aroclor 1232	1	0.0181	U
53469-21-9	Aroclor 1242	1	0.0181	U
12672-29-6	Aroclor 1248	1	0.0181	U
11097-69-1	Aroclor 1254	1	0.0181	U
11096-82-5	Aroclor 1260	1	0.0181	U
1336-36-3	Total PCBs	1	0.0181	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0725	0.0471	65.0	30 - 120	
Decachlorobiphenyl	0.0725	0.0392	54.0	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121531.D\ECD1A.CH Vial: 56
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121531.D\ECD2B.CH
Acq On : 5-16-2023 10:44:43 AM Operator: BCJ
Sample : 23E0419-12 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:55 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.61	2.08	1885.3E6	5151.7E6	0.130	0.132
Spiked Amount 0.200	Range 30 - 150		Recovery =		65.00%	66.00%
45) S Decachlorobiphen	8.71	7.62	840.1E6	2448.6E6	0.108	0.126
Spiked Amount 0.200	Range 30 - 150		Recovery =		54.00%	63.00%
Target Compounds						

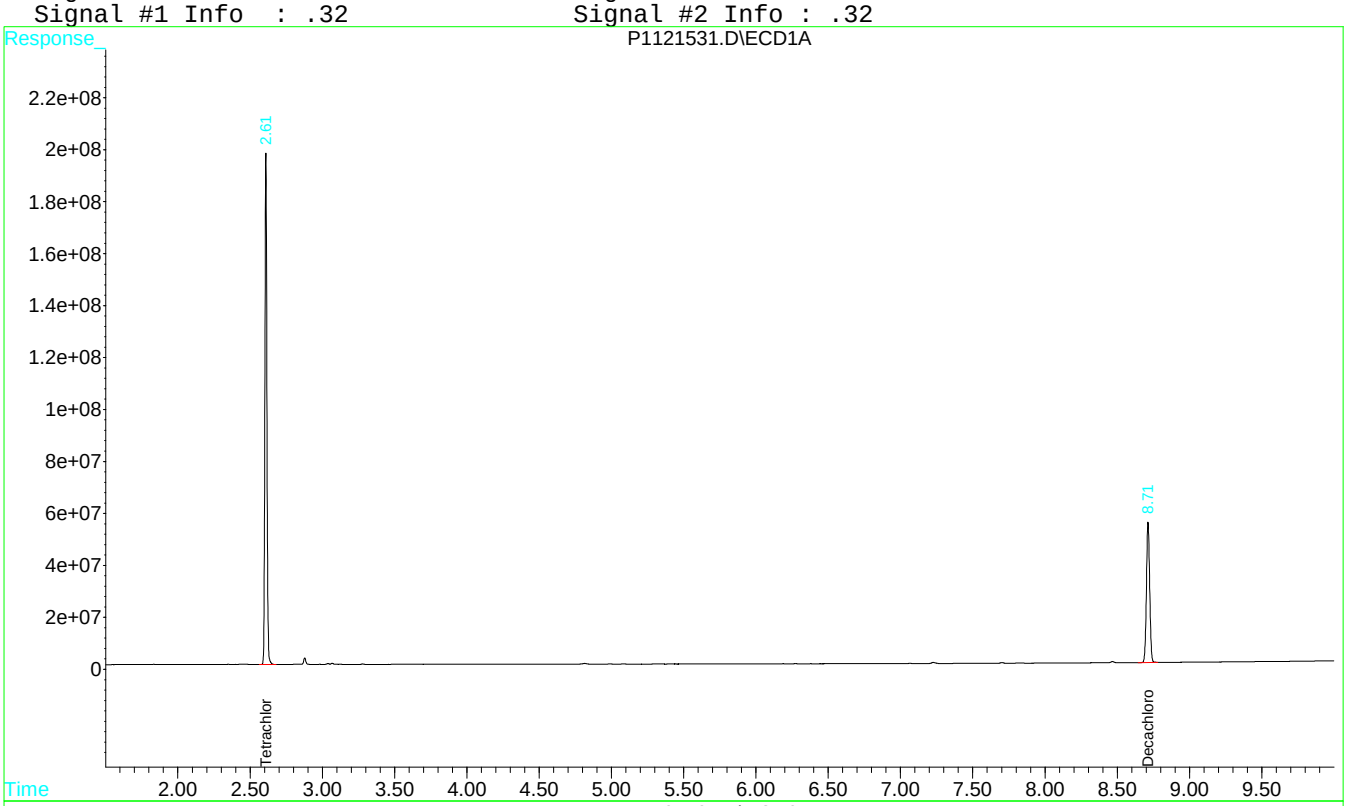
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121531.D P1051523.M Wed May 17 10:44:06 2023 Page 1

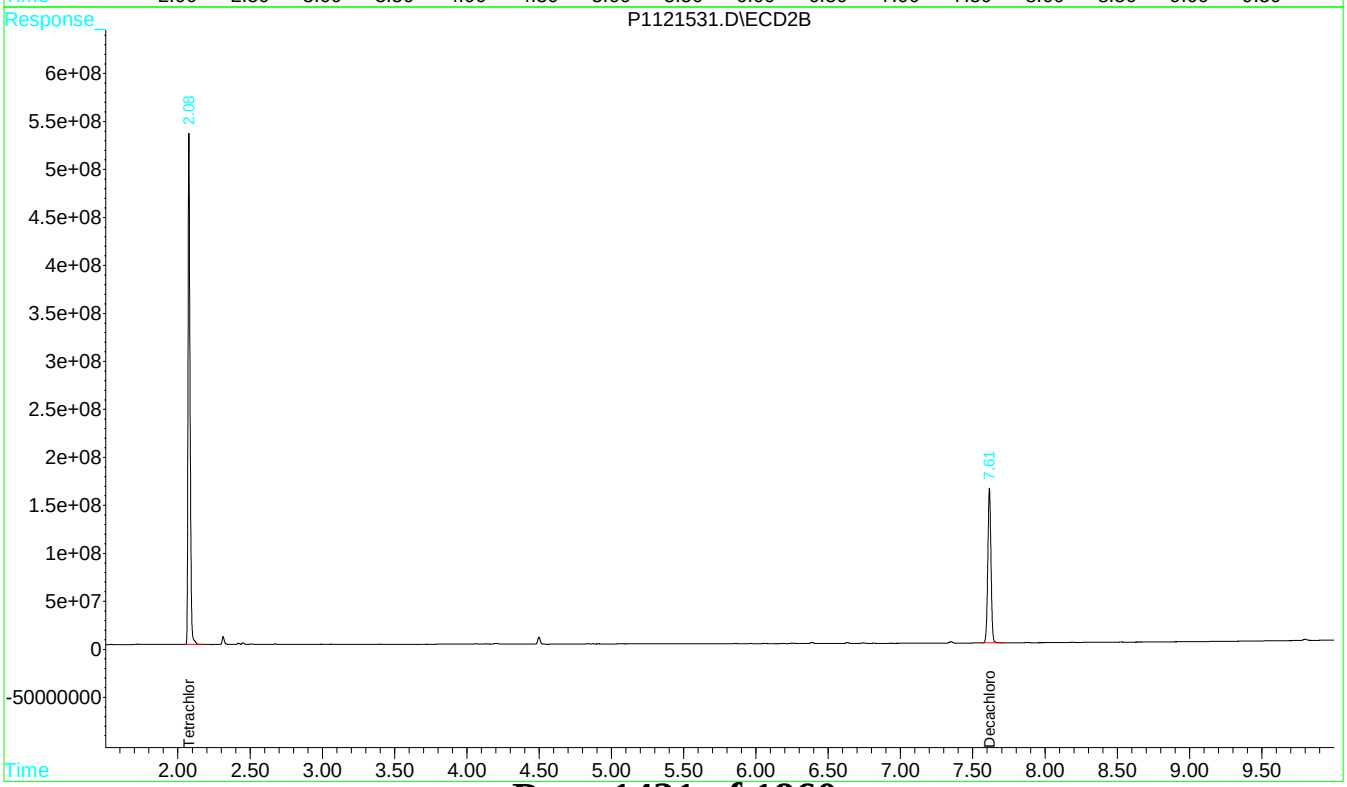
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121531.D\ECD1A.CH Vial: 56
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121531.D\ECD2B.CH
Acq On : 5-16-2023 10:44:43 AM Operator: BCJ
Sample : 23E0419-12 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:55 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - St | SDG: 23E0419

Client: Langan Engineering & Environmental | Project: 170446801

Matrix: Soil | Laboratory ID: 23E0419-11 | File ID: P1121530.D

Sampled: 05/05/23 13:00 | Prepared: 05/14/23 08:42 | Analyzed: 05/16/23 10:31

Solids: 90.64 | Preparation: EPA 3550C | Initial/Final: 30.1 g / 10 mL

Batch: BE30881 | Sequence: S3E1636 | Calibration: SE30026 | Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0183	0.0183		U
11104-28-2	Aroclor 1221	1	0.0183	0.0183		U
11141-16-5	Aroclor 1232	1	0.0183	0.0183		U
53469-21-9	Aroclor 1242	1	0.0183	0.0183		U
12672-29-6	Aroclor 1248	1	0.0183	0.0183		U
11097-69-1	Aroclor 1254	1	0.0183	0.0183		U
11096-82-5	Aroclor 1260	1	0.0183	0.0183		U
1336-36-3	Total PCBs	1	0.0183	0.0183		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0733	0.0594	81.0	30 - 120	
Decachlorobiphenyl	0.0733	0.0528	72.0	30 - 120	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - St			SDG:	23E0419
Client:	Langan Engineering & Environmental			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	P1121531.D
Sampled:	05/05/23 13:15	Prepared:	05/14/23 08:42	Analyzed:	05/16/23 10:44
Solids:	91.31	Preparation:	EPA 3550C	Initial/Final:	30.2 g / 10 mL
Batch:	BE30881	Sequence:	S3E1636	Calibration:	SE30026
Instrument:	ECD#1				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0181	0.0181		U
11104-28-2	Aroclor 1221	1	0.0181	0.0181		U
11141-16-5	Aroclor 1232	1	0.0181	0.0181		U
53469-21-9	Aroclor 1242	1	0.0181	0.0181		U
12672-29-6	Aroclor 1248	1	0.0181	0.0181		U
11097-69-1	Aroclor 1254	1	0.0181	0.0181		U
11096-82-5	Aroclor 1260	1	0.0181	0.0181		U
1336-36-3	Total PCBs	1	0.0181	0.0181		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0725	0.0471	65.0	30 - 120	
Decachlorobiphenyl	0.0725	0.0392	54.0	30 - 120	

* Values outside of QC limits

FORM VI

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC)

Project: 170446801

Calibration: SE30026

Instrument: ECD#1

Calibration Date: 05/16/23 09:47

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Aroclor 1016	0.05	4.540036E+08	0.2	3.286614E+08	0.5	3.0368E+08	1	2.9148E+08	2	3.115E+08	3	2.8662E+08
Aroclor 1016 (1)	0.05	3.320456E+08	0.2	2.402584E+08	0.5	2.182E+08	1	2.065E+08	2	2.1665E+08	3	1.986333E+08
Aroclor 1016 (1) [2C]	0.05	9.458522E+08	0.2	6.87E+08	0.5	6.234E+08	1	5.517E+08	2	5.7005E+08	3	5.183E+08
Aroclor 1016 (2)	0.05	4.752878E+08	0.2	3.409864E+08	0.5	3.134E+08	1	3.009E+08	2	3.1875E+08	3	2.932333E+08
Aroclor 1016 (2) [2C]	0.05	1.38135E+09	0.2	9.73E+08	0.5	8.948E+08	1	8.386E+08	2	8.456E+08	3	7.663E+08
Aroclor 1016 (3)	0.05	5.555838E+08	0.2	4.014473E+08	0.5	3.734E+08	1	3.586E+08	2	3.8515E+08	3	3.539667E+08
Aroclor 1016 (3) [2C]	0.05	1.904483E+09	0.2	1.337E+09	0.5	1.2138E+09	1	1.1278E+09	2	1.1605E+09	3	1.0536E+09
Aroclor 1016 (4)	0.05	4.599756E+08	0.2	3.364806E+08	0.5	3.144E+08	1	3.035E+08	2	3.2885E+08	3	3.026E+08
Aroclor 1016 (4) [2C]	0.05	1.369239E+09	0.2	9.755E+08	0.5	8.87E+08	1	8.06E+08	2	8.477E+08	3	7.795E+08
Aroclor 1016 (5)	0.05	4.471248E+08	0.2	3.241345E+08	0.5	2.99E+08	1	2.879E+08	2	3.081E+08	3	2.846667E+08
Aroclor 1016 (5) [2C]	0.05	1.409719E+09	0.2	9.99E+08	0.5	9.052E+08	1	8.465E+08	2	8.701E+08	3	7.959334E+08
Aroclor 1016 [2C]	0.05	1.402129E+09	0.2	9.943E+08	0.5	9.0484E+08	1	8.3412E+08	2	8.5879E+08	3	7.827267E+08
Aroclor 1260	0.05	1.000952E+09	0.2	7.53151E+08	0.5	7.2296E+08	1	7.0556E+08	2	7.6719E+08	3	7.144533E+08
Aroclor 1260 (1)	0.05	7.69879E+08	0.2	5.535E+08	0.5	5.184E+08	1	5.02E+08	2	5.4165E+08	3	5.012667E+08
Aroclor 1260 (1) [2C]	0.05	2.326E+09	0.2	1.6015E+09	0.5	1.4518E+09	1	1.3712E+09	2	1.40705E+09	3	1.291133E+09
Aroclor 1260 (2)	0.05	1.131392E+09	0.2	8.315E+08	0.5	7.896E+08	1	7.603E+08	2	8.2995E+08	3	7.691333E+08
Aroclor 1260 (2) [2C]	0.05	2.708E+09	0.2	1.8695E+09	0.5	1.7174E+09	1	1.6198E+09	2	1.6663E+09	3	1.525467E+09
Aroclor 1260 (3)	0.05	9.42783E+08	0.2	7.63E+08	0.5	7.314E+08	1	7.119E+08	2	7.749E+08	3	7.193334E+08
Aroclor 1260 (3) [2C]	0.05	3.194E+09	0.2	2.2155E+09	0.5	2.0458E+09	1	1.9293E+09	2	2.00225E+09	3	1.838467E+09
Aroclor 1260 (4)	0.05	6.25414E+08	0.2	4.812557E+08	0.5	4.564E+08	1	4.417E+08	2	4.735E+08	3	4.397E+08
Aroclor 1260 (4) [2C]	0.05	2.042E+09	0.2	1.4155E+09	0.5	1.2994E+09	1	1.1946E+09	2	1.23995E+09	3	1.147367E+09
Aroclor 1260 (5)	0.05	1.535291E+09	0.2	1.1365E+09	0.5	1.119E+09	1	1.1119E+09	2	1.21595E+09	3	1.142833E+09
Aroclor 1260 (5) [2C]	0.05	4.388E+09	0.2	3.111E+09	0.5	2.9418E+09	1	2.8045E+09	2	2.90435E+09	3	2.6962E+09
Aroclor 1260 [2C]	0.05	2.9316E+09	0.2	2.0426E+09	0.5	1.89124E+09	1	1.78388E+09	2	1.84398E+09	3	1.699727E+09
Decachlorobiphenyl	0.04	9.4025E+09	0.08	7.2625E+09	0.12	7.6675E+09	0.16	7.515E+09	0.2	7.6725E+09	0.24	7.36125E+09
Decachlorobiphenyl [2C]	0.04	2.4465E+10	0.08	1.8465E+10	0.12	1.911417E+10	0.16	1.852063E+10	0.2	1.848E+10	0.24	1.768875E+10
Tetrachloro-m-xylene	0.04	1.75225E+10	0.08	1.3955E+10	0.12	1.375083E+10	0.16	1.47775E+10	0.2	1.39155E+10	0.24	1.294042E+10
Tetrachloro-m-xylene [2C]	0.04	4.8465E+10	0.08	3.78425E+10	0.12	3.67925E+10	0.16	3.956E+10	0.2	3.7159E+10	0.24	3.469875E+10

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30026
Instrument: ECD#1
Calibration Date: 05/16/23 09:47

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Aroclor 1016	3.293242E+08	19.09707	4.28	1.734563E-02		0.9981403	0.99	
Aroclor 1016 (1)	2.353812E+08	20.98429	2.96	1.917853E-02		0.998442	0.99	
Aroclor 1016 (1) [2C]	6.493837E+08	24.15298	2.39	3.035786E-03		0.9983949	0.99	
Aroclor 1016 (2)	3.404263E+08	19.99988	3.48	8.156386E-03		0.9983154	0.99	
Aroclor 1016 (2) [2C]	9.499416E+08	23.38282	2.826667	0.1831643		0.9989514	0.99	
Aroclor 1016 (3)	4.046913E+08	18.76591	3.85	2.778624E-03		0.9979983	0.99	
Aroclor 1016 (3) [2C]	1.29953E+09	23.94209	3.11	1.703992E-02		0.9985857	0.99	
Aroclor 1016 (4)	3.409677E+08	17.55371	3.95	1.786233E-02		0.9978217	0.99	
Aroclor 1016 (4) [2C]	9.441566E+08	23.22636	3.23	1.874711E-02		0.9983954	0.99	
Aroclor 1016 (5)	3.251543E+08	18.8984	4.28	1.734563E-02		0.9982104	0.99	
Aroclor 1016 (5) [2C]	9.710754E+08	23.20643	3.5	0		0.998762	0.99	
Aroclor 1016 [2C]	9.628176E+08	23.55463	3.5	0		0.9986525	0.99	
Aroclor 1260	7.773777E+08	14.41139	7.041667	5.862007E-02		0.9980759	0.99	
Aroclor 1260 (1)	5.644493E+08	18.21492	5.61	1.045148E-02		0.998067	0.99	
Aroclor 1260 (1) [2C]	1.574781E+09	24.26703	4.67	8.144179E-03		0.9988326	0.99	
Aroclor 1260 (2)	8.519793E+08	16.44372	5.94	1.676345E-02		0.9978734	0.99	
Aroclor 1260 (2) [2C]	1.851078E+09	23.5005	4.91	1.549219E-02		0.9987732	0.99	
Aroclor 1260 (3)	7.738861E+08	11.15609	6.27	1.545382E-02		0.9979924	0.99	
Aroclor 1260 (3) [2C]	2.204219E+09	22.72943	5.28	1.458778E-02		0.9986839	0.99	
Aroclor 1260 (4)	4.863283E+08	14.42195	6.38	2.077013E-02		0.9983413	0.99	
Aroclor 1260 (4) [2C]	1.389803E+09	23.94044	5.35	0.0142798		0.9987778	0.99	
Aroclor 1260 (5)	1.210246E+09	13.50996	7.041667	5.862007E-02		0.9981339	0.99	
Aroclor 1260 (5) [2C]	3.140975E+09	19.94685	5.97	0.0235798		0.9989755	0.99	
Aroclor 1260 [2C]	2.032171E+09	22.405	5.97	0.0235798		0.9988385	0.99	
Decachlorobiphenyl	7.813542E+09	10.17984	8.71	2.203396E-02			20	
Decachlorobiphenyl [2C]	1.945559E+10	12.82708	7.62	1.739022E-02			20	
Tetrachloro-m-xylene	1.447696E+10	11.06996	2.61	2.779896E-03			20	
Tetrachloro-m-xylene [2C]	3.908629E+10	12.42666	2.08	1.828525E-02			20	

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121458.D\ECD1A.CH Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121458.D\ECD2B.CH
Acq On : 5-15-2023 3:27:00 PM Operator: BCJ
Sample : SEQ-CAL1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:14 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:14:03 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	700.9E6	1938.6E6	0.046	0.044
	Spiked Amount 0.200	Range 30 - 150		Recovery =		23.00%#	22.00%#
45) S	Decachlorobiphen	8.71	7.62	376.1E6	978.6E6	0.055	0.040 #
	Spiked Amount 0.200	Range 30 - 150		Recovery =		27.50%#	20.00%#
	Target Compounds						
5) T	1016 1	2.96	2.39	16602280	47292612	0.071	0.073
6) T	1016 2	3.48	2.83	23764392	69067481	0.070	0.071
7) T	1016 3	3.85	3.11	27779186	95224133	0.063	0.067
8) T	1016 4	3.95	3.23	22998785	68461966	0.068	0.070
9) T	1016 5	4.28	3.50	22356245	70485952	0.077	0.074
30) T	1260 1	5.61	4.67	38493948	116.3E6	0.068	0.068
31) T	1260 2	5.94	4.91	56569608	135.4E6	0.070	0.064
32) T	1260 3	6.27	5.28	47139154	159.7E6	0.059	0.070
33) T	1260 4	6.38	5.35	31270698	102.1E6	0.064	0.060
34) T	1260 5	7.05	5.97	76764536	219.4E6	0.066	0.063

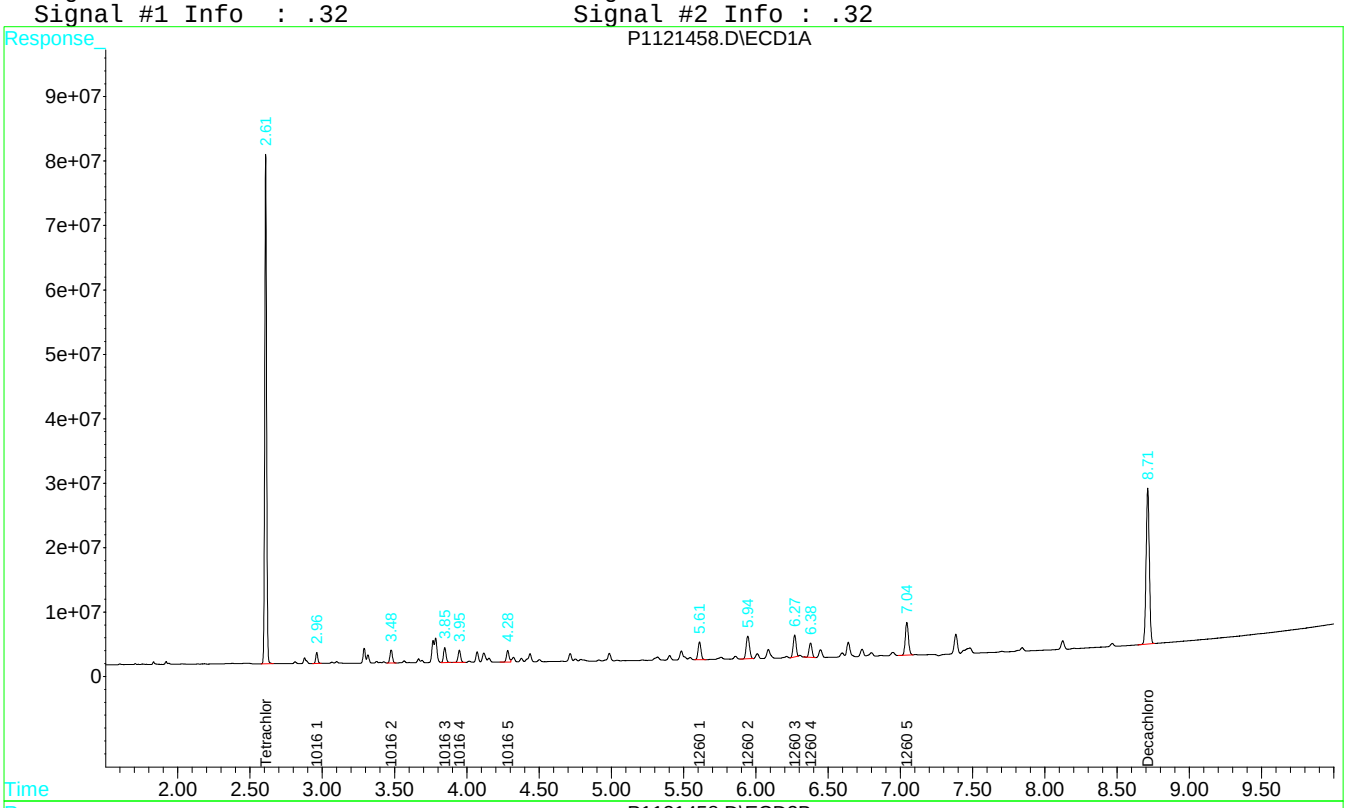
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

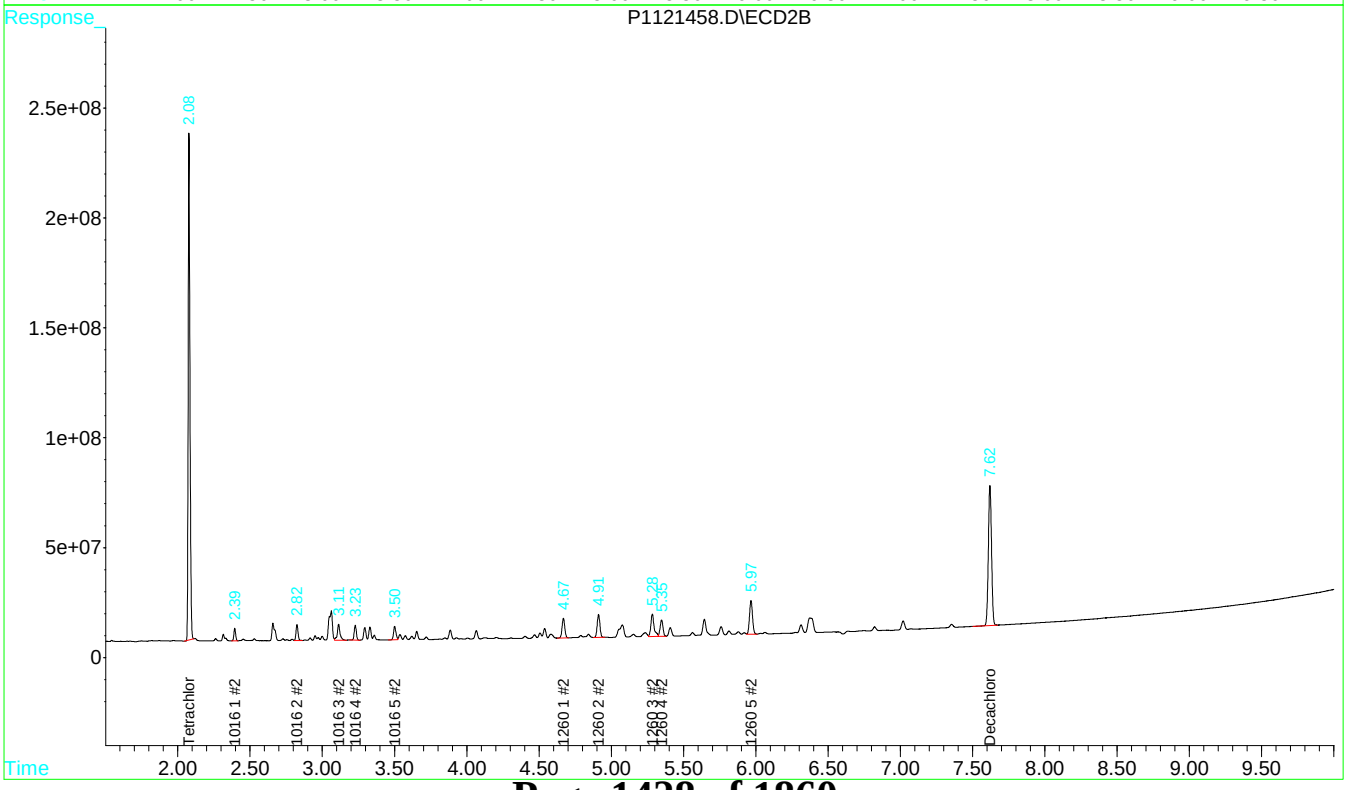
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121458.D\ECD1A.CH Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121458.D\ECD2B.CH
Acq On : 5-15-2023 3:27:00 PM Operator: BCJ
Sample : SEQ-CAL1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:14 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:14:03 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121459.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121459.D\ECD2B.CH
Acq On : 5-15-2023 3:40:40 PM Operator: BCJ
Sample : SEQ-CAL2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:15 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:14:52 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL	
	System Monitoring Compounds							
1)	S Tetrachloro-m-xy	2.61	2.08	1116.4E6	3027.4E6	0.075	0.071	
	Spiked Amount 0.200	Range 30 - 150		Recovery =		37.50%	35.50%	
45)	S Decachlorobiphen	8.71	7.62	581.0E6	1477.2E6	0.085	0.061	#
	Spiked Amount 0.200	Range 30 - 150		Recovery =		42.50%	30.50%	
	Target Compounds							
5)	T 1016 1	2.96	2.39	48051691	137.4E6	0.207	0.213	
6)	T 1016 2	3.48	2.83	68197276	194.6E6	0.202	0.200	
7)	T 1016 3	3.85	3.11	80289467	267.4E6	0.181	0.189	
8)	T 1016 4	3.95	3.23	67296130	195.1E6	0.199	0.199	
9)	T 1016 5	4.28	3.50	64826901	199.8E6	0.225	0.210	
30)	T 1260 1	5.61	4.67	110.7E6	320.3E6	0.196	0.187	
31)	T 1260 2	5.94	4.91	166.3E6	373.9E6	0.207	0.175	
32)	T 1260 3	6.27	5.28	152.6E6	443.1E6	0.192	0.193	
33)	T 1260 4	6.38	5.35	96251137	283.1E6	0.198	0.165	
34)	T 1260 5	7.04	5.97	227.3E6	622.2E6	0.194	0.178	

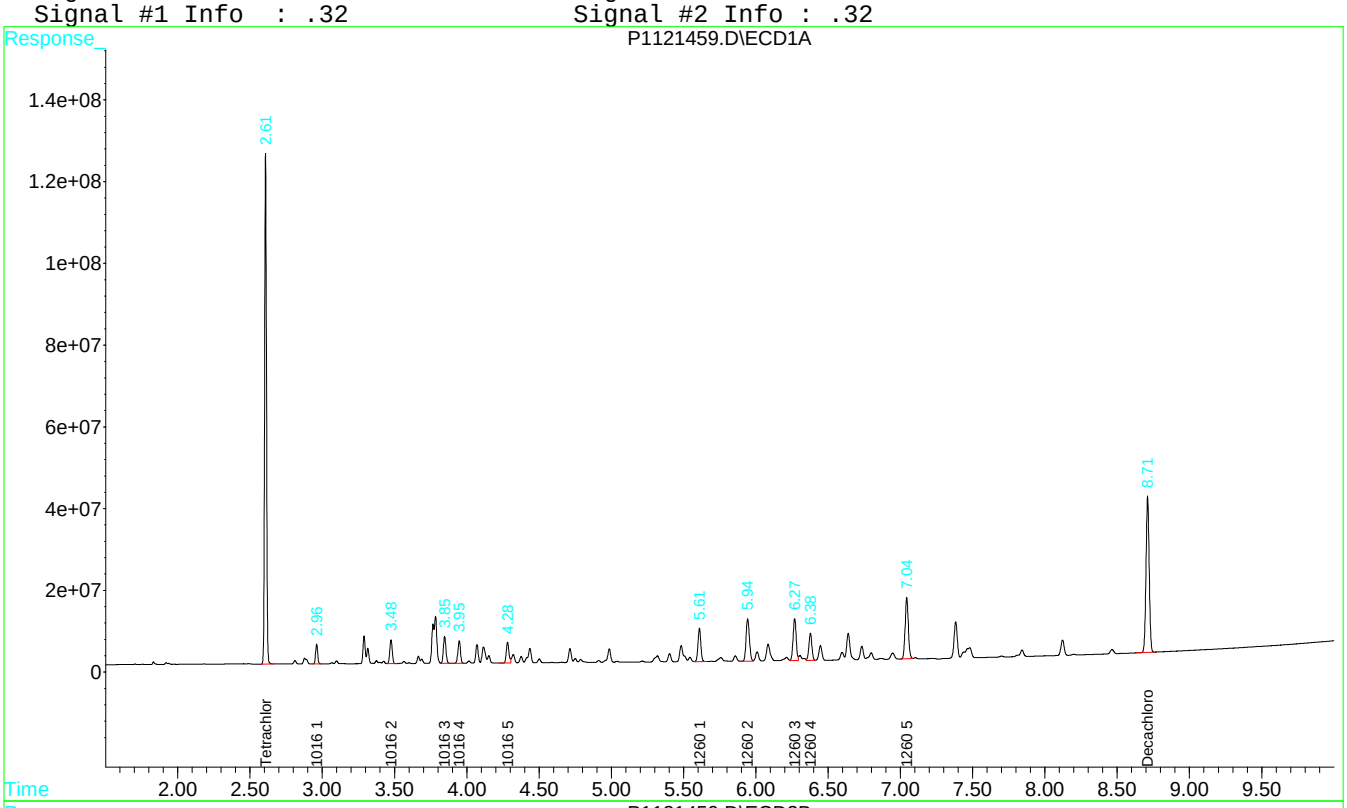
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121459.D P1051523.M Wed May 17 10:39:46 2023 Page 1

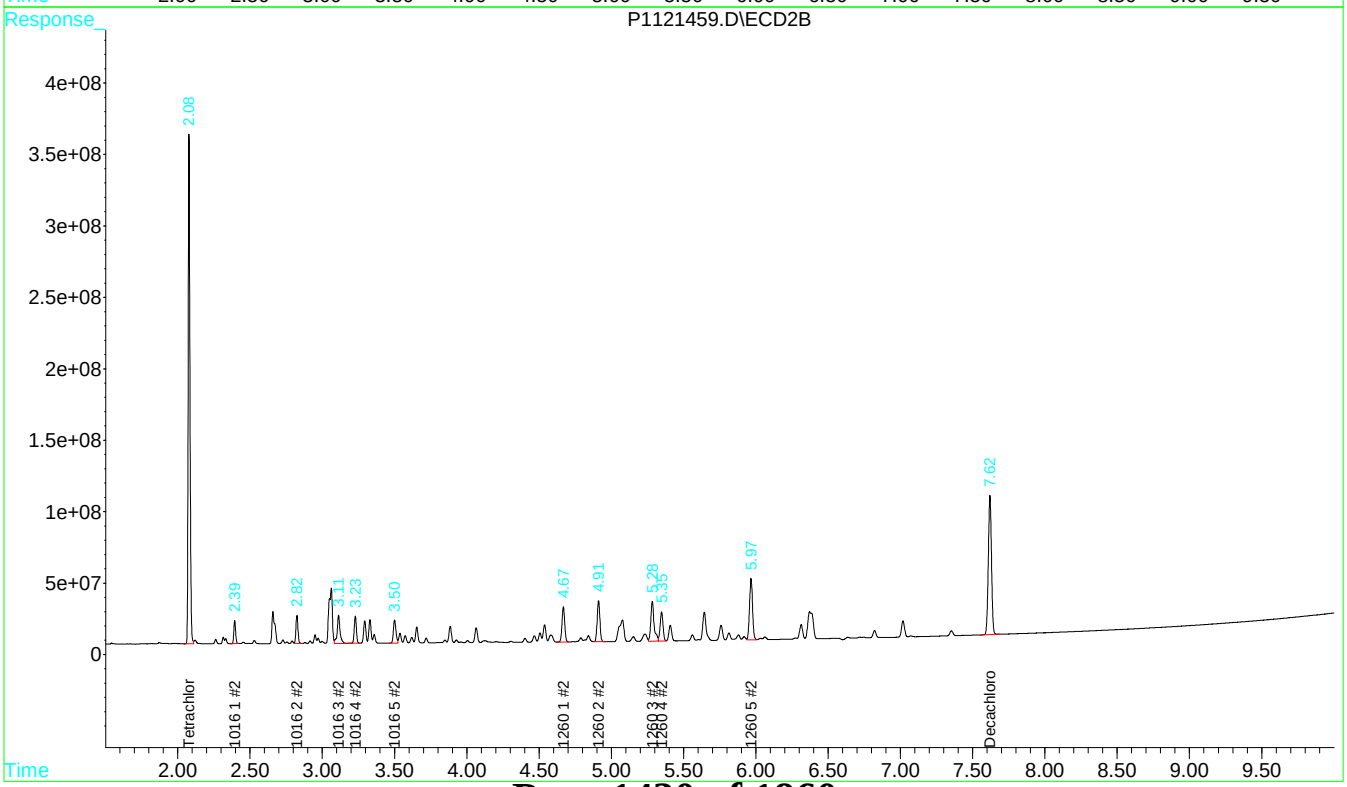
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121459.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121459.D\ECD2B.CH
Acq On : 5-15-2023 3:40:40 PM Operator: BCJ
Sample : SEQ-CAL2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:15 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:14:52 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121460.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121460.D\ECD2B.CH
Acq On : 5-15-2023 3:54:21 PM Operator: BCJ
Sample : SEQ-CAL3 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:15 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:15:29 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	1650.1E6	4415.1E6	0.112	0.105
	Spiked Amount 0.200	Range 30 - 150		Recovery =		56.00%	52.50%
45) S	Decachlorobiphen	8.71	7.62	920.1E6	2293.7E6	0.135	0.096 #
	Spiked Amount 0.200	Range 30 - 150		Recovery =		67.50%	48.00%
	Target Compounds						
5) T	1016 1	2.96	2.39	109.1E6	311.7E6	0.472	0.490
6) T	1016 2	3.48	2.83	156.7E6	447.4E6	0.464	0.465
7) T	1016 3	3.85	3.11	186.7E6	606.9E6	0.421	0.432
8) T	1016 4	3.95	3.23	157.2E6	443.5E6	0.463	0.453
9) T	1016 5	4.28	3.50	149.5E6	452.6E6	0.517	0.478
30) T	1260 1	5.61	4.67	259.2E6	725.9E6	0.461	0.426
31) T	1260 2	5.94	4.91	394.8E6	858.7E6	0.496	0.403
32) T	1260 3	6.27	5.28	365.7E6	1022.9E6	0.459	0.447
33) T	1260 4	6.38	5.35	228.2E6	649.7E6	0.469	0.379
34) T	1260 5	7.04	5.97	559.5E6	1470.9E6	0.479	0.419

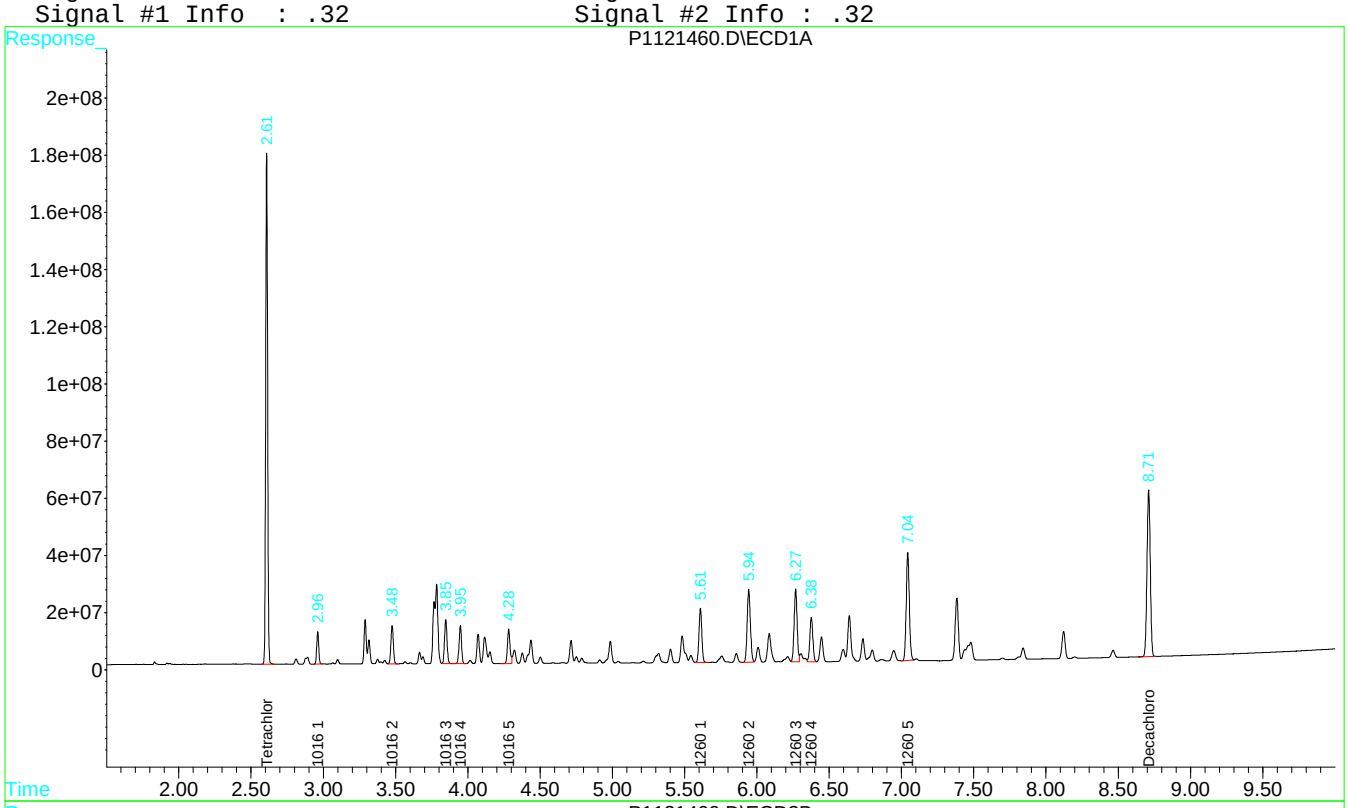
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121460.D P1051523.M Wed May 17 10:39:50 2023 Page 1

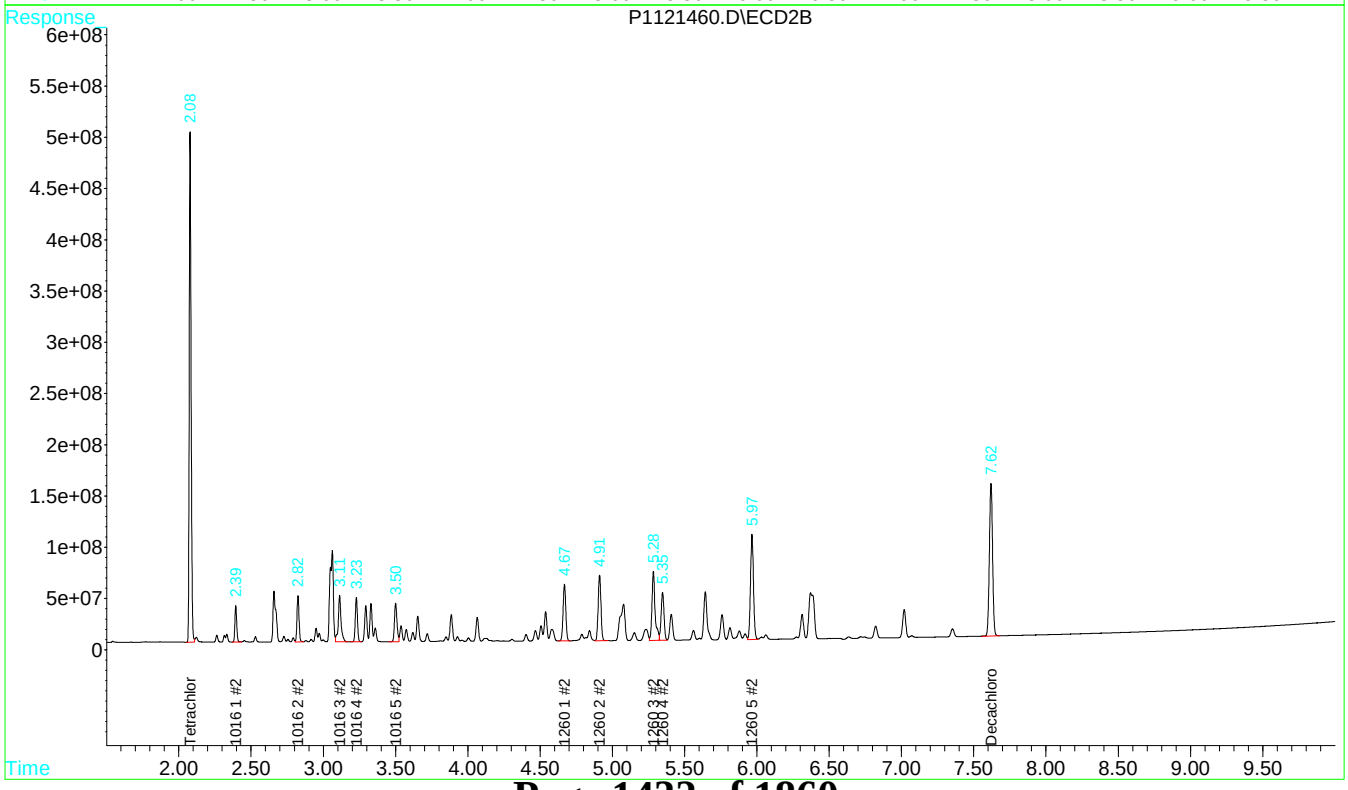
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121460.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121460.D\ECD2B.CH
Acq On : 5-15-2023 3:54:21 PM Operator: BCJ
Sample : SEQ-CAL3 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:15 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:15:29 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121461.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121461.D\ECD2B.CH
Acq On : 5-15-2023 4:08:02 PM Operator: BCJ
Sample : SEQ-CAL4 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:13 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:13:21 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL	
	System Monitoring Compounds							
1) S	Tetrachloro-m-xy	2.61	2.08	2364.4E6	6329.6E6	0.154	0.140	
	Spiked Amount 0.200	Range 30 - 150		Recovery =		77.00%	70.00%	
45) S	Decachlorobiphen	8.71	7.62	1202.4E6	2963.3E6	0.180	0.116	#
	Spiked Amount 0.200	Range 30 - 150		Recovery =		90.00%	58.00%	
	Target Compounds							
5) T	1016 1	2.96	2.39	206.5E6	551.7E6	0.866	0.814	
6) T	1016 2	3.48	2.83	300.9E6	838.6E6	0.839	0.818	
7) T	1016 3	3.85	3.11	358.6E6	1127.8E6	0.694	0.693	
8) T	1016 4	3.95	3.23	303.5E6	806.0E6	0.836	0.729	
9) T	1016 5	4.28	3.50	287.9E6	846.5E6	1.030	0.869	
30) T	1260 1	5.61	4.67	502.0E6	1371.2E6	0.844	0.695	
31) T	1260 2	5.94	4.91	760.3E6	1619.8E6	0.989	0.616	#
32) T	1260 3	6.27	5.28	711.9E6	1929.3E6	0.835	0.749	
33) T	1260 4	6.38	5.35	441.7E6	1194.6E6	0.861	0.519	#
34) T	1260 5	7.04	5.97	1111.9E6	2804.5E6	0.937	0.661	#

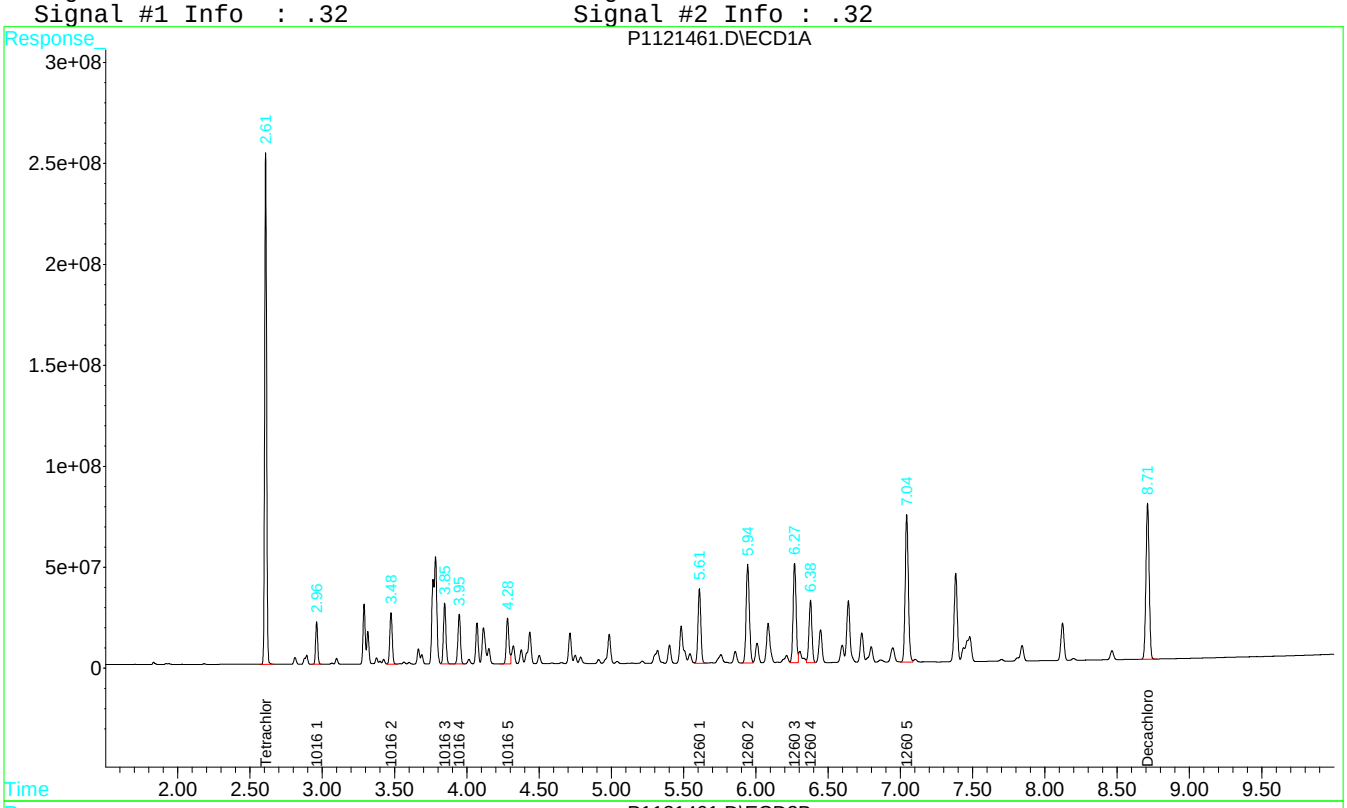
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121461.D P1051523.M Wed May 17 10:39:55 2023 Page 1

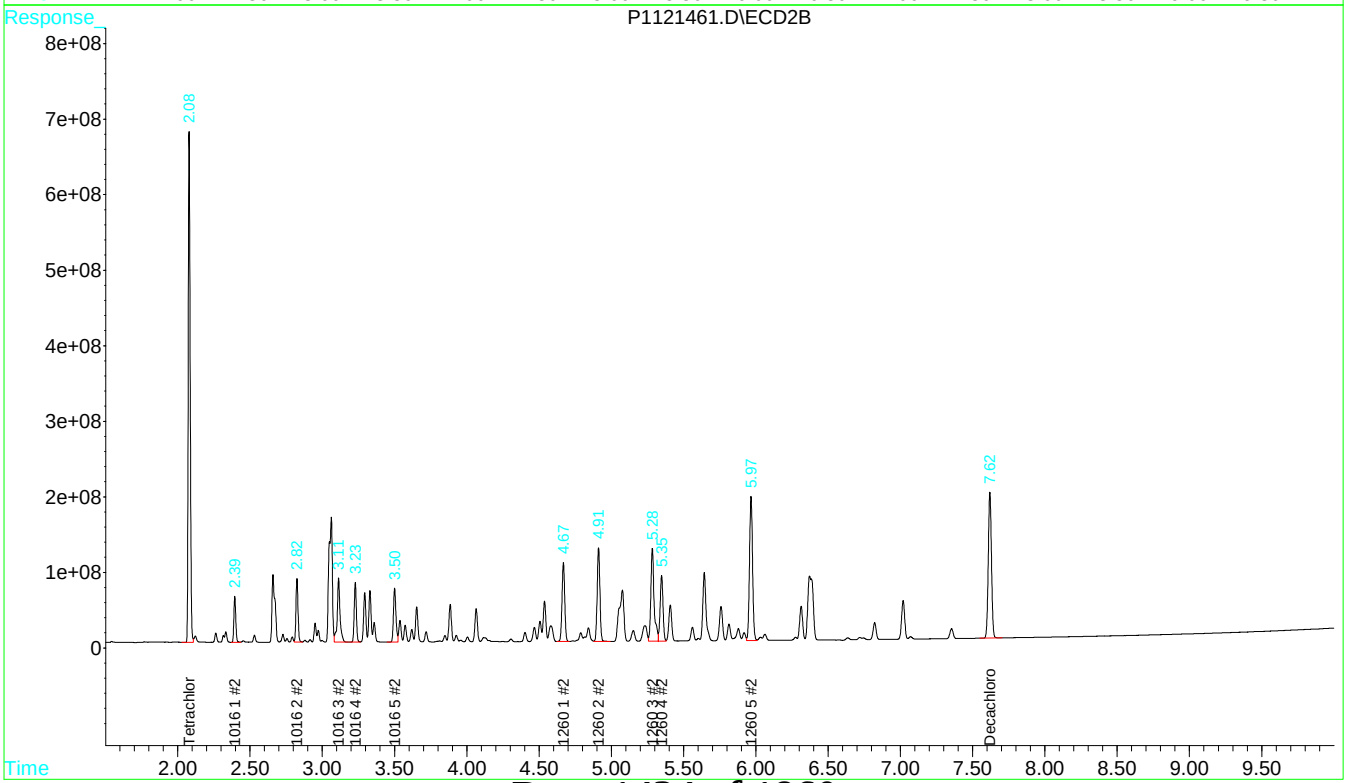
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121461.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121461.D\ECD2B.CH
Acq On : 5-15-2023 4:08:02 PM Operator: BCJ
Sample : SEQ-CAL4 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:13 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:13:21 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121462.D\ECD1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121462.D\ECD2B.CH
Acq On : 5-15-2023 4:21:42 PM Operator: BCJ
Sample : SEQ-CAL5 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:16 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:16:07 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL	
	System Monitoring Compounds							
1)	S Tetrachloro-m-xy	2.61	2.08	2783.1E6	7431.8E6	0.191	0.182	
	Spiked Amount 0.200	Range 30 - 150		Recovery =		95.50%	91.00%	
45)	S Decachlorobiphen	8.71	7.62	1534.5E6	3696.0E6	0.223	0.160	#
	Spiked Amount 0.200	Range 30 - 150		Recovery =		111.50%	80.00%	
	Target Compounds							
5)	T 1016 1	2.96	2.39	433.3E6	1140.1E6	1.951	1.882	
6)	T 1016 2	3.48	2.82	637.5E6	1691.2E6	1.909	1.848	
7)	T 1016 3	3.85	3.11	770.3E6	2321.0E6	1.703	1.667	
8)	T 1016 4	3.95	3.23	657.7E6	1695.4E6	1.913	1.727	
9)	T 1016 5	4.28	3.50	616.2E6	1740.2E6	2.179	1.911	
30)	T 1260 1	5.61	4.67	1083.3E6	2814.1E6	1.954	1.643	
31)	T 1260 2	5.94	4.91	1659.9E6	3332.6E6	2.218	1.529	#
32)	T 1260 3	6.27	5.28	1549.8E6	4004.5E6	1.934	1.739	
33)	T 1260 4	6.38	5.35	947.0E6	2479.9E6	1.952	1.395	#
34)	T 1260 5	7.04	5.97	2431.9E6	5808.7E6	2.103	1.589	

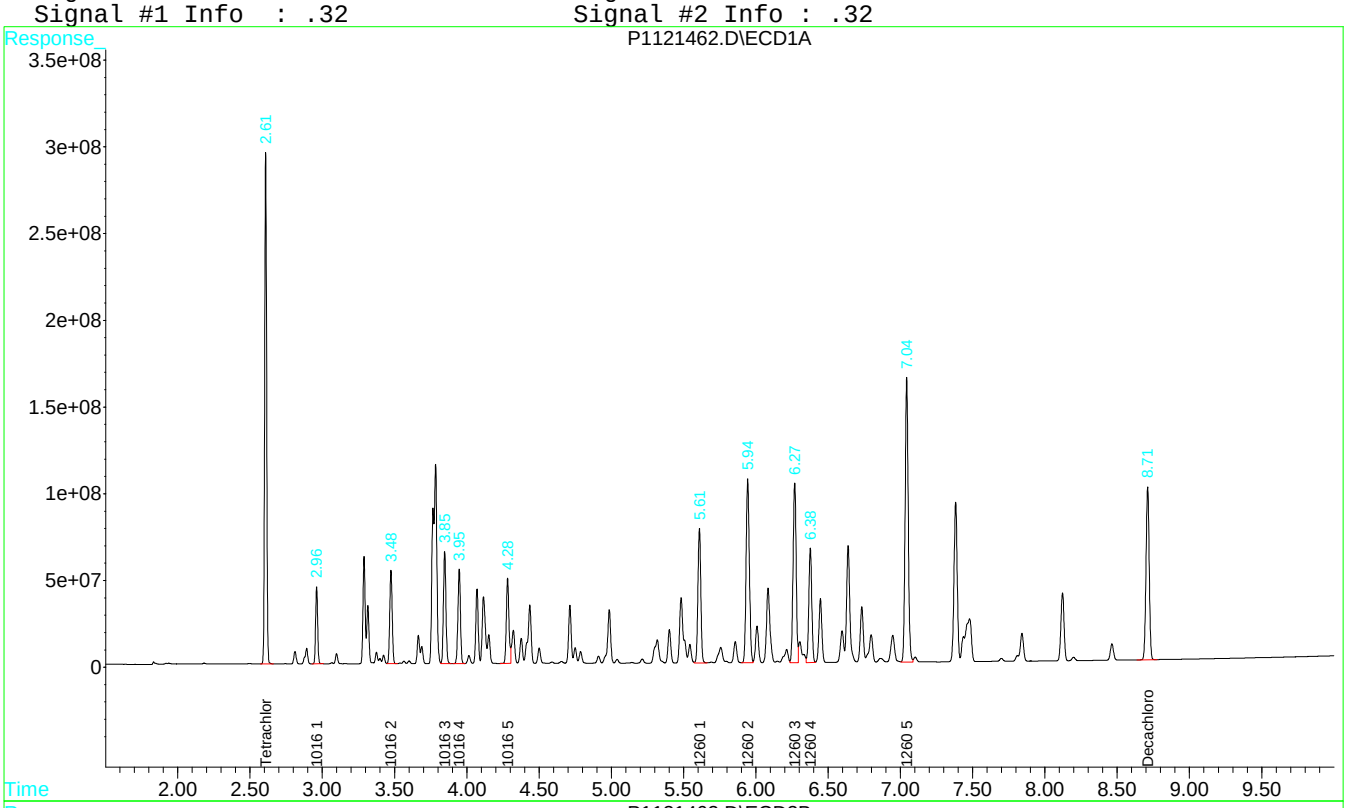
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121462.D P1051523.M Wed May 17 10:39:59 2023 Page 1

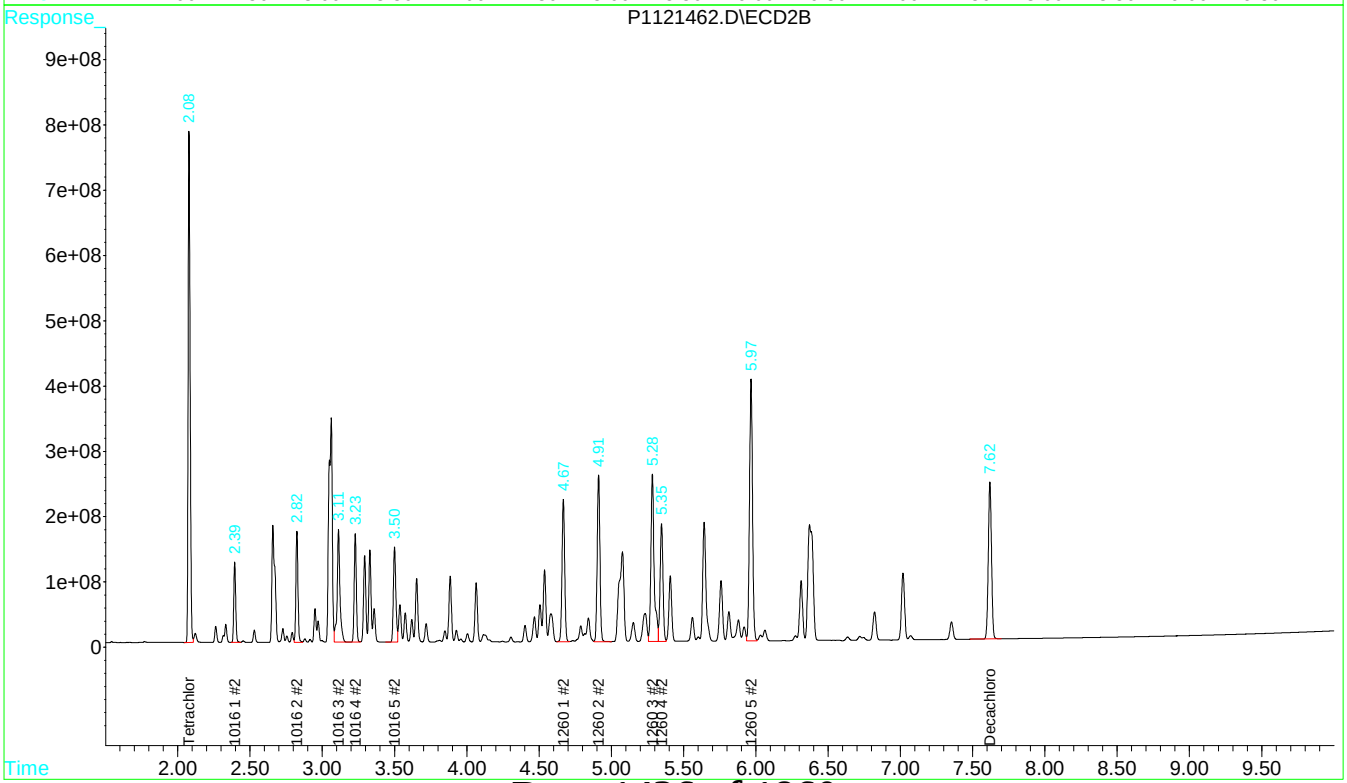
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121462.D\ECD1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121462.D\ECD2B.CH
Acq On : 5-15-2023 4:21:42 PM Operator: BCJ
Sample : SEQ-CAL5 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:16 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:16:07 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121463.D\ECD1A.CH Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121463.D\ECD2B.CH
Acq On : 5-15-2023 4:35:23 PM Operator: BCJ
Sample : SEQ-CAL6 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:17 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:16:47 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL	
	System Monitoring Compounds							
1)	S Tetrachloro-m-xy	2.61	2.08	3105.7E6	8327.7E6	0.213	0.208	
	Spiked Amount 0.200	Range 30 - 150		Recovery =		106.50%	104.00%	
45)	S Decachlorobiphen	8.71	7.62	1766.7E6	4245.3E6	0.244	0.199	
	Spiked Amount 0.200	Range 30 - 150		Recovery =		122.00%	99.50%	
	Target Compounds							
5)	T 1016 1	2.96	2.39	595.9E6	1554.9E6	2.758	2.677	
6)	T 1016 2	3.48	2.82	879.7E6	2298.9E6	2.703	2.625	
7)	T 1016 3	3.85	3.11	1061.9E6	3160.8E6	2.446	2.412	
8)	T 1016 4	3.95	3.23	907.8E6	2338.5E6	2.665	2.488	
9)	T 1016 5	4.28	3.50	854.0E6	2387.8E6	3.079	2.716	
30)	T 1260 1	5.61	4.67	1503.8E6	3873.4E6	2.743	2.402	
31)	T 1260 2	5.94	4.91	2307.4E6	4576.4E6	3.189	2.281	#
32)	T 1260 3	6.27	5.28	2158.0E6	5515.4E6	2.703	2.487	
33)	T 1260 4	6.38	5.35	1319.1E6	3442.1E6	2.730	2.172	
34)	T 1260 5	7.04	5.97	3428.5E6	8088.6E6	2.949	2.333	

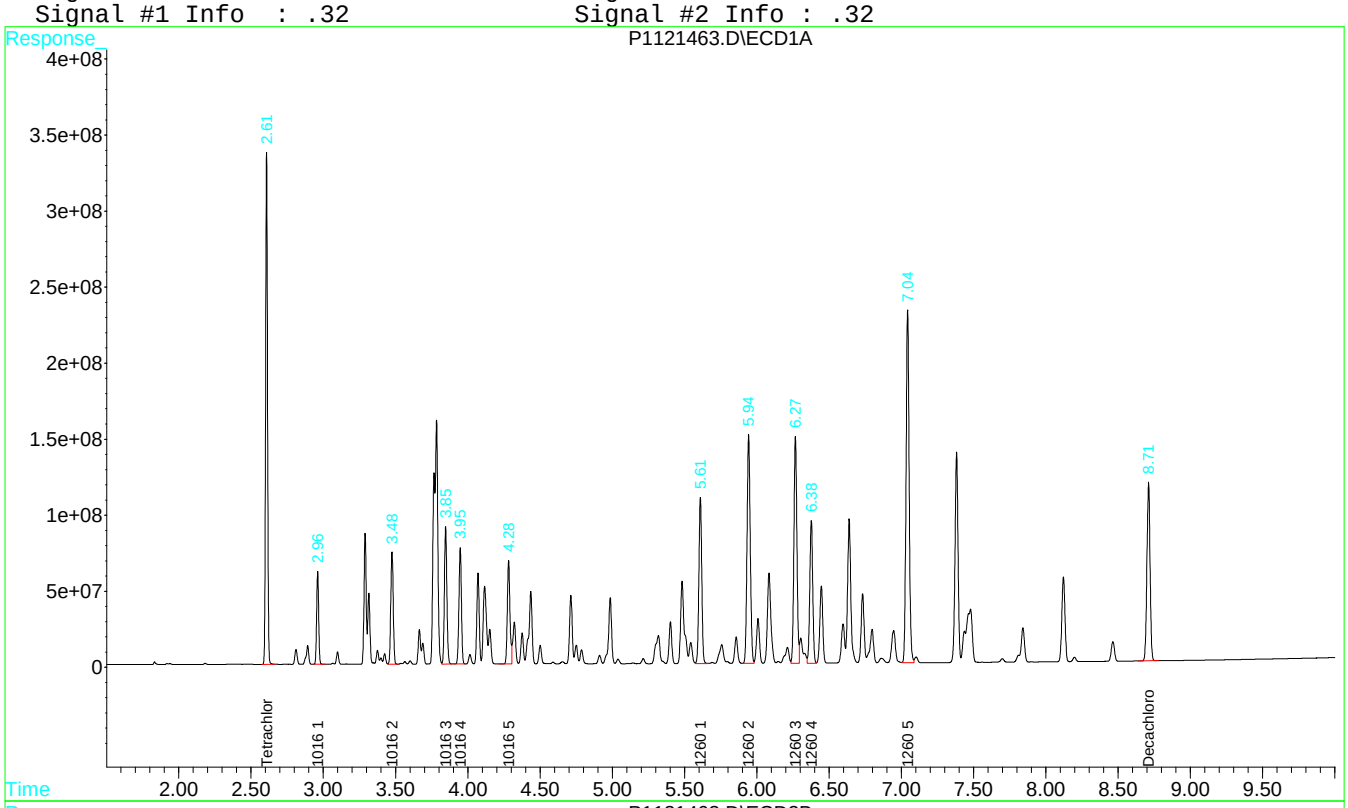
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121463.D P1051523.M Wed May 17 10:40:04 2023 Page 1

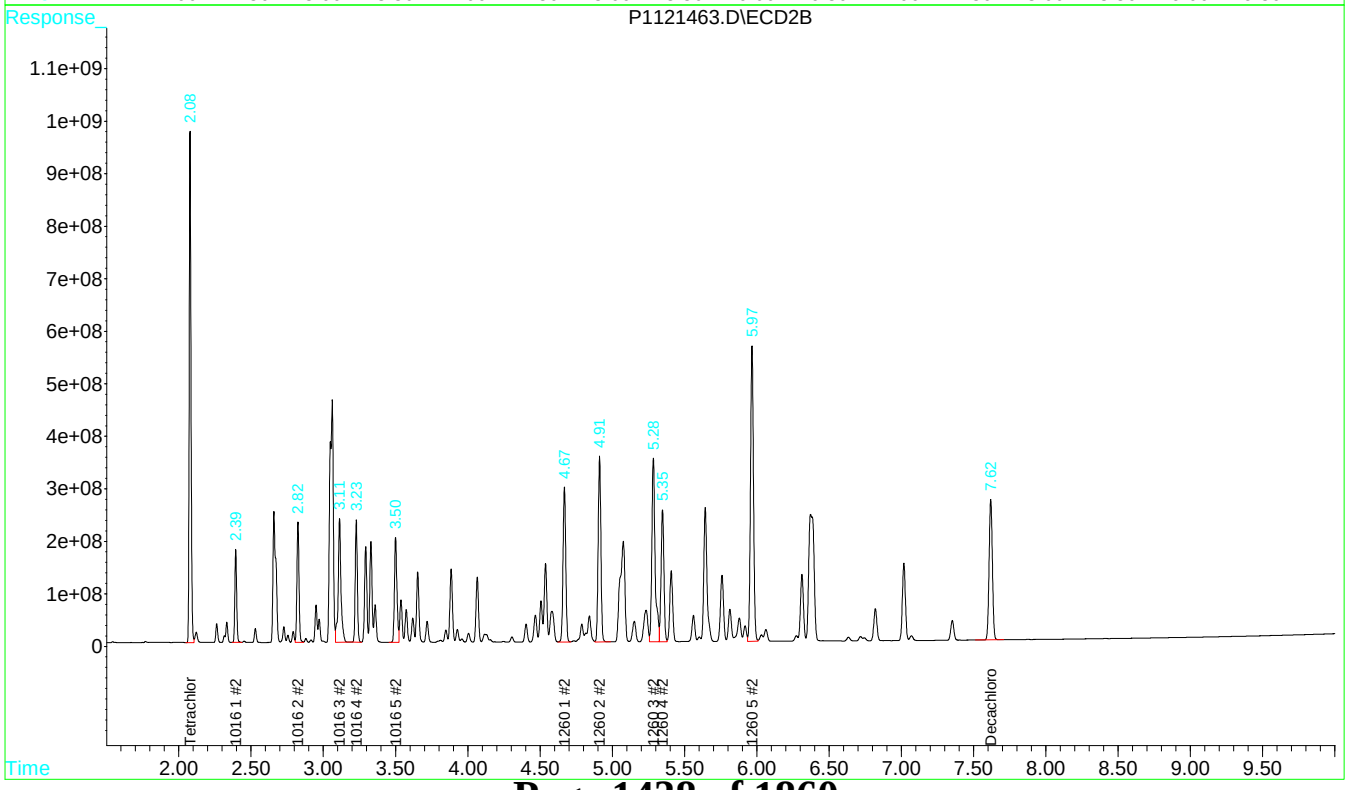
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121463.D\ECD1A.CH Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121463.D\ECD2B.CH
Acq On : 5-15-2023 4:35:23 PM Operator: BCJ
Sample : SEQ-CAL6 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:17 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:16:47 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30026
Laboratory ID: S3E1601-SCV1
Sequence: S3E1601
Standard ID: S23B096

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
Aroclor 1016	1.00	0.938	-6.2	20.00
Aroclor 1016 (1)	1.00	0.940	-6.0	20.00
Aroclor 1016 (2)	1.00	0.941	-5.9	20.00
Aroclor 1016 (3)	1.00	0.935	-6.5	20.00
Aroclor 1016 (4)	1.00	0.935	-6.5	20.00
Aroclor 1016 (5)	1.00	0.939	-6.1	20.00
Aroclor 1016 [2C]	1.00	0.941	-5.9	20.00
Aroclor 1016 (1) [2C]	1.00	0.939	-6.1	20.00
Aroclor 1016 (2) [2C]	1.00	0.948	-5.2	20.00
Aroclor 1016 (3) [2C]	1.00	0.943	-5.7	20.00
Aroclor 1016 (4) [2C]	1.00	0.932	-6.8	20.00
Aroclor 1016 (5) [2C]	1.00	0.943	-5.7	20.00
Aroclor 1260	1.00	0.927	-7.3	20.00
Aroclor 1260 (1)	1.00	0.932	-6.8	20.00
Aroclor 1260 (2)	1.00	0.920	-8.0	20.00
Aroclor 1260 (3)	1.00	0.926	-7.4	20.00
Aroclor 1260 (4)	1.00	0.929	-7.1	20.00
Aroclor 1260 (5)	1.00	0.926	-7.4	20.00
Aroclor 1260 [2C]	1.00	0.938	-6.2	20.00
Aroclor 1260 (1) [2C]	1.00	0.939	-6.1	20.00
Aroclor 1260 (2) [2C]	1.00	0.935	-6.5	20.00
Aroclor 1260 (3) [2C]	1.00	0.936	-6.4	20.00
Aroclor 1260 (4) [2C]	1.00	0.938	-6.2	20.00
Aroclor 1260 (5) [2C]	1.00	0.940	-6.0	20.00
Tetrachloro-m-xylene	0.160	0.163	1.9	
Tetrachloro-m-xylene [2C]	0.160	0.162	1.2	
Decachlorobiphenyl	0.160	0.149	-6.9	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SE30026
Laboratory ID: S3E1601-SCV1
Sequence: S3E1601
Standard ID: S23B096

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
Decachlorobiphenyl [2C]	0.160	0.150	-6.2	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121464.D\ECD1A.CH Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121464.D\ECD2B.CH
Acq On : 5-15-2023 4:49:01 PM Operator: BCJ
Sample : SEQ-SCV1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:19 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:18:34 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2362.5E6	6317.4E6	0.163	0.162
	Spiked Amount 0.200	Range 30 - 150		Recovery =		81.50%	81.00%
45) S	Decachlorobiphen	8.71	7.62	1166.3E6	2910.6E6	0.149	0.150
	Spiked Amount 0.200	Range 30 - 150		Recovery =		74.50%	75.00%
	Target Compounds						
5) T	1016 1	2.96	2.39	206.9E6	556.0E6	0.940	0.939
6) T	1016 2	3.48	2.83	301.7E6	836.8E6	0.941	0.948
7) T	1016 3	3.85	3.11	359.4E6	1131.2E6	0.935	0.943
8) T	1016 4	3.95	3.23	304.9E6	806.6E6	0.935	0.932
9) T	1016 5	4.28	3.50	288.7E6	845.1E6	0.939	0.943
30) T	1260 1	5.61	4.67	500.7E6	1359.5E6	0.932	0.939
31) T	1260 2	5.94	4.91	753.0E6	1601.5E6	0.920	0.935
32) T	1260 3	6.27	5.28	706.2E6	1914.9E6	0.926	0.936
33) T	1260 4	6.38	5.35	437.3E6	1190.2E6	0.929	0.938
34) T	1260 5	7.04	5.97	1096.2E6	2775.4E6	0.926	0.940

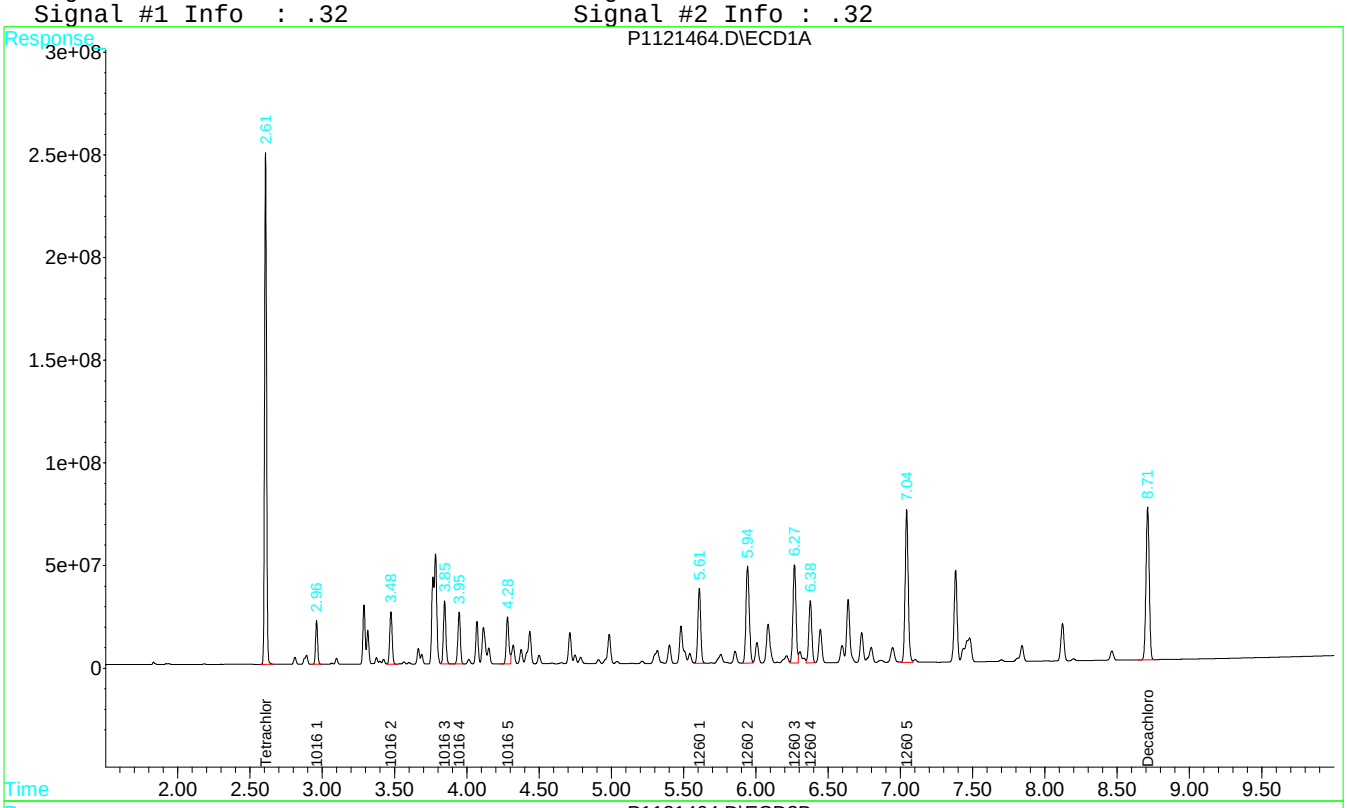
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

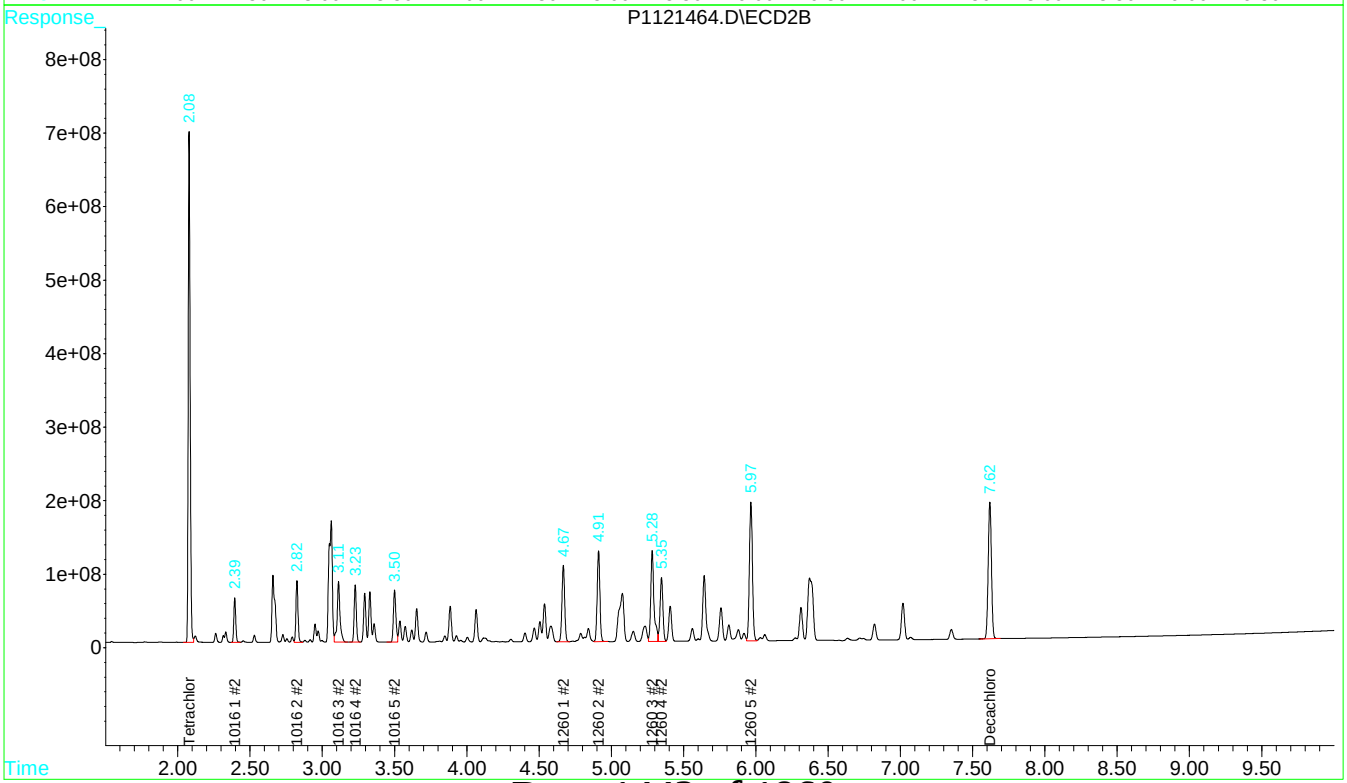
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523A\P1121464.D\ECD1A.CH Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\051523A\P1121464.D\ECD2B.CH
Acq On : 5-15-2023 4:49:01 PM Operator: BCJ
Sample : SEQ-SCV1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 17:19 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 17:18:34 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121475.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1636	Injection Date:	05/15/23
Lab Sample ID:	S3E1636-CCV1	Injection Time:	20:05

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	0.972	3.293242E+08	3.0248E+08		-2.8	20
Aroclor 1016 (1)	A	1.00	0.976	2.353812E+08	2.144E+08		-2.4	20
Aroclor 1016 (1) [2C]	A	1.00	0.963	6.493837E+08	5.697E+08		-3.7	20
Aroclor 1016 (2)	A	1.00	0.975	3.404263E+08	3.123E+08		-2.5	20
Aroclor 1016 (2) [2C]	A	1.00	0.991	9.499416E+08	8.725E+08		-0.9	20
Aroclor 1016 (3)	A	1.00	0.965	4.046913E+08	3.705E+08		-3.5	20
Aroclor 1016 (3) [2C]	A	1.00	0.988	1.29953E+09	1.1821E+09		-1.2	20
Aroclor 1016 (4)	A	1.00	0.965	3.409677E+08	3.145E+08		-3.5	20
Aroclor 1016 (4) [2C]	A	1.00	0.967	9.441566E+08	8.349E+08		-3.3	20
Aroclor 1016 (5)	A	1.00	0.979	3.251543E+08	3.007E+08		-2.1	20
Aroclor 1016 (5) [2C]	A	1.00	1.00	9.710754E+08	8.95E+08		0.1	20
Aroclor 1016 [2C]	A	1.00	0.982	9.628176E+08	8.7084E+08		-1.8	20
Aroclor 1260	A	1.00	0.953	7.773777E+08	7.1662E+08		-4.7	20
Aroclor 1260 (1)	A	1.00	0.962	5.644493E+08	5.164E+08		-3.8	20
Aroclor 1260 (1) [2C]	A	1.00	1.00	1.574781E+09	1.4451E+09		0.1	20
Aroclor 1260 (2)	A	1.00	0.954	8.519793E+08	7.795E+08		-4.6	20
Aroclor 1260 (2) [2C]	A	1.00	0.995	1.851078E+09	1.7E+09		-0.5	20
Aroclor 1260 (3)	A	1.00	0.949	7.738861E+08	7.235E+08		-5.1	20
Aroclor 1260 (3) [2C]	A	1.00	0.991	2.204219E+09	2.0229E+09		-0.9	20
Aroclor 1260 (4)	A	1.00	0.958	4.863283E+08	4.507E+08		-4.2	20
Aroclor 1260 (4) [2C]	A	1.00	1.00	1.389803E+09	1.2661E+09		0.0	20
Aroclor 1260 (5)	A	1.00	0.940	1.210246E+09	1.113E+09		-6.0	20
Aroclor 1260 (5) [2C]	A	1.00	0.993	3.140975E+09	2.9249E+09		-0.7	20
Aroclor 1260 [2C]	A	1.00	0.996	2.032171E+09	1.8718E+09		-0.4	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121475.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121475.D\ECD2B.CH
Acq On : 5-15-2023 8:05:27 PM Operator: BCJ
Sample : SEQ-CCV1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 21:52 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2424.5E6	6547.9E6	0.167	0.168
	Spiked Amount 0.200	Range 30 - 150		Recovery =		83.50%	84.00%
45) S	Decachlorobiphen	8.72	7.62	1157.8E6	3027.8E6	0.148	0.156
	Spiked Amount 0.200	Range 30 - 150		Recovery =		74.00%	78.00%
	Target Compounds						
5) T	1016 1	2.96	2.39	214.4E6	569.7E6	0.976	0.963
6) T	1016 2	3.48	2.82	312.3E6	872.5E6	0.975	0.991
7) T	1016 3	3.85	3.11	370.5E6	1182.1E6	0.965	0.988
8) T	1016 4	3.95	3.23	314.5E6	834.9E6	0.965	0.967
9) T	1016 5	4.29	3.50	300.7E6	895.0E6	0.979	1.001
30) T	1260 1	5.61	4.67	516.4E6	1445.1E6	0.962	1.001
31) T	1260 2	5.95	4.91	779.5E6	1700.0E6	0.954	0.995
32) T	1260 3	6.27	5.28	723.5E6	2022.9E6	0.949	0.991
33) T	1260 4	6.38	5.35	450.7E6	1266.1E6	0.958	1.000
34) T	1260 5	7.05	5.97	1113.0E6	2924.9E6	0.940	0.993

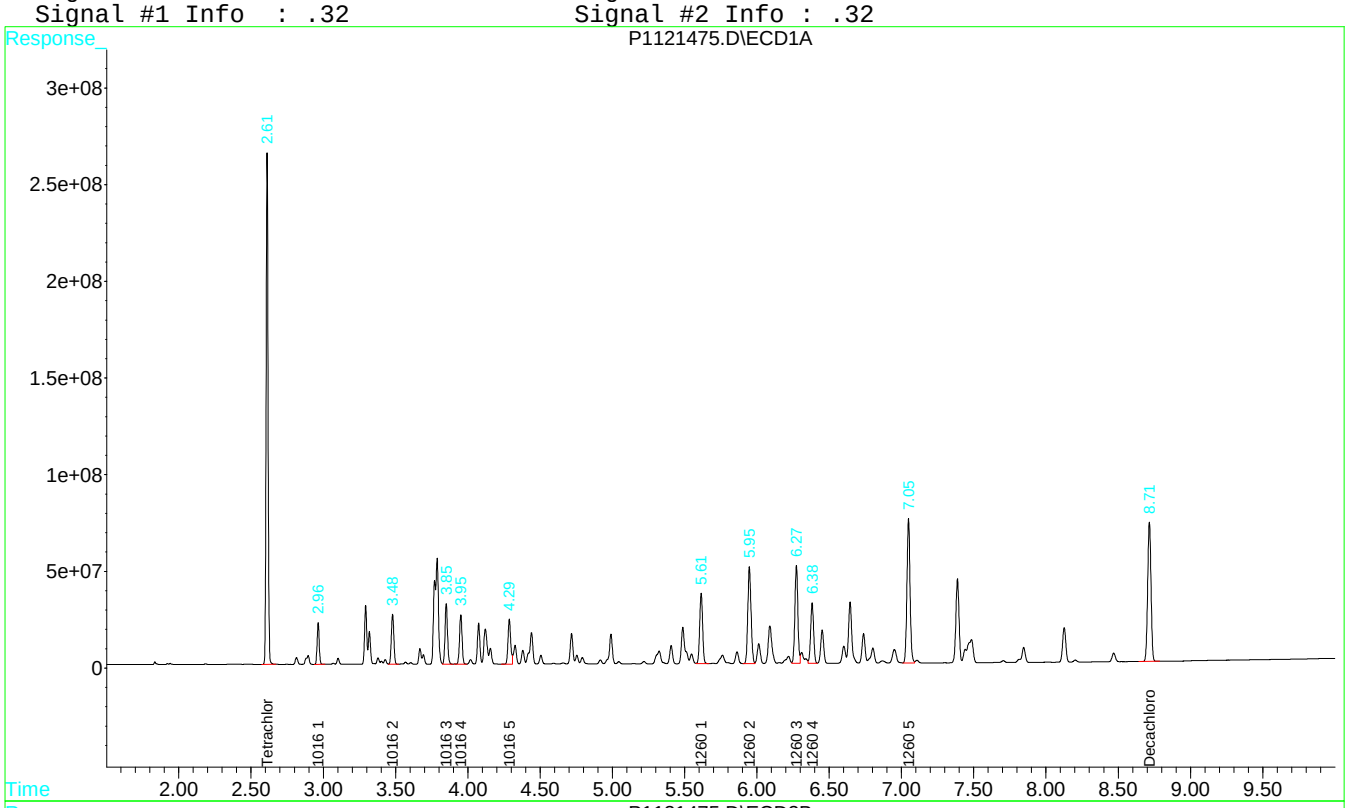
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121475.D P1051523.M Wed May 17 10:40:13 2023 Page 1

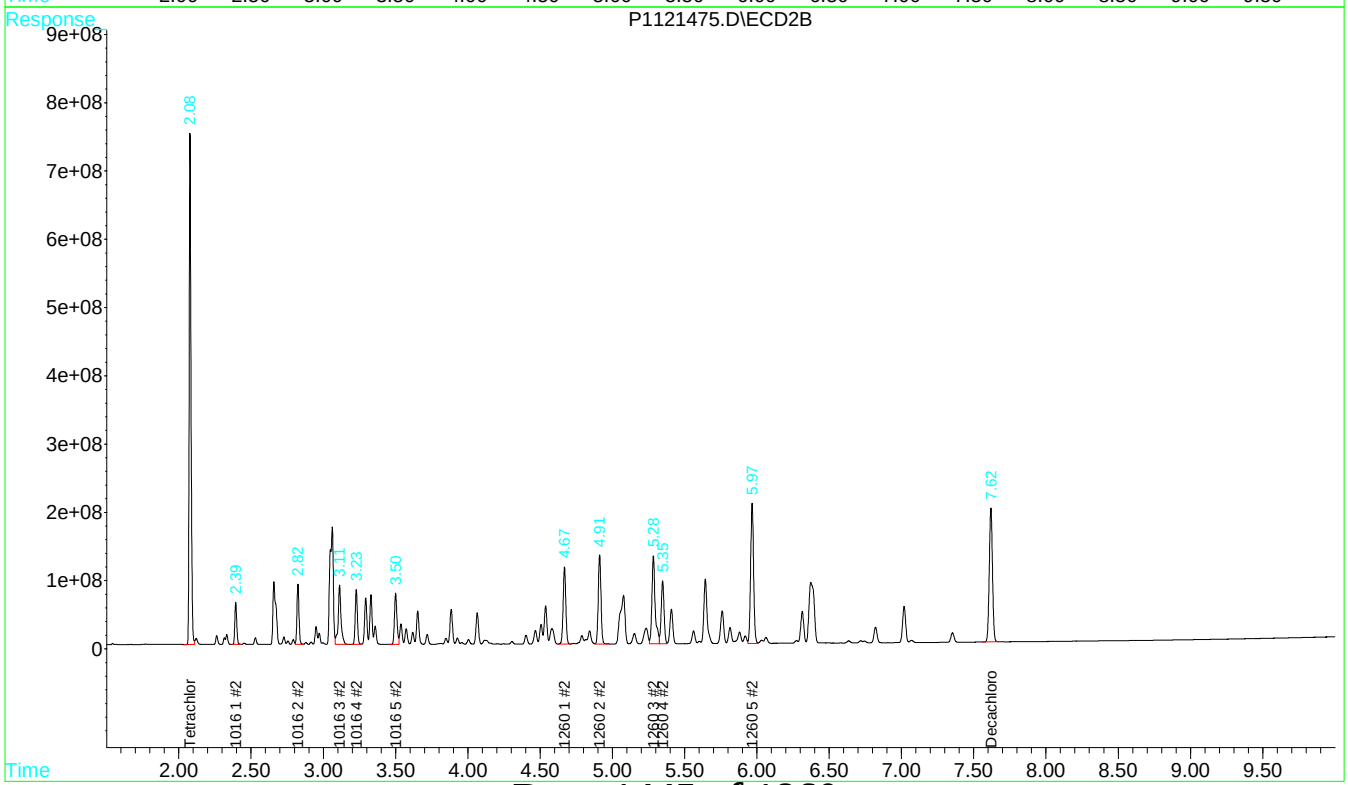
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121475.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121475.D\ECD2B.CH
Acq On : 5-15-2023 8:05:27 PM Operator: BCJ
Sample : SEQ-CCV1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 21:52 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121498.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1636	Injection Date:	05/16/23
Lab Sample ID:	S3E1636-CCV2	Injection Time:	03:12

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	0.914	3.293242E+08	2.839E+08		-8.6	20	
Aroclor 1016 (1)	A	1.00	0.963	2.353812E+08	2.117E+08		-3.7	20	
Aroclor 1016 (1) [2C]	A	1.00	1.03	6.493837E+08	6.09E+08		3.4	20	
Aroclor 1016 (2)	A	1.00	0.916	3.404263E+08	2.94E+08		-8.4	20	
Aroclor 1016 (2) [2C]	A	1.00	0.994	9.499416E+08	8.751E+08		-0.6	20	
Aroclor 1016 (3)	A	1.00	0.897	4.046913E+08	3.453E+08		-10.3	20	
Aroclor 1016 (3) [2C]	A	1.00	0.986	1.29953E+09	1.1796E+09		-1.4	20	
Aroclor 1016 (4)	A	1.00	0.896	3.409677E+08	2.925E+08		-10.4	20	
Aroclor 1016 (4) [2C]	A	1.00	1.02	9.441566E+08	8.805E+08		2.2	20	
Aroclor 1016 (5)	A	1.00	0.896	3.251543E+08	2.76E+08		-10.4	20	
Aroclor 1016 (5) [2C]	A	1.00	0.973	9.710754E+08	8.713E+08		-2.7	20	
Aroclor 1016 [2C]	A	1.00	1.00	9.628176E+08	8.831E+08		0.2	20	
Aroclor 1260	A	1.00	0.816	7.773777E+08	6.1218E+08		-18.4	20	
Aroclor 1260 (1)	A	1.00	0.838	5.644493E+08	4.512E+08		-16.2	20	
Aroclor 1260 (1) [2C]	A	1.00	0.924	1.574781E+09	1.3387E+09		-7.6	20	
Aroclor 1260 (2)	A	1.00	0.816	8.519793E+08	6.691E+08		-18.4	20	
Aroclor 1260 (2) [2C]	A	1.00	0.899	1.851078E+09	1.5434E+09		-10.1	20	
Aroclor 1260 (3)	A	1.00	0.832	7.738861E+08	6.359E+08		-16.8	20	
Aroclor 1260 (3) [2C]	A	1.00	0.880	2.204219E+09	1.8043E+09		-12.0	20	
Aroclor 1260 (4)	A	1.00	0.823	4.863283E+08	3.887E+08		-17.7	20	
Aroclor 1260 (4) [2C]	A	1.00	0.905	1.389803E+09	1.1503E+09		-9.5	20	
Aroclor 1260 (5)	A	1.00	0.772	1.210246E+09	9.16E+08		-22.8	20	*
Aroclor 1260 (5) [2C]	A	1.00	0.870	3.140975E+09	2.5756E+09		-13.0	20	
Aroclor 1260 [2C]	A	1.00	0.896	2.032171E+09	1.68246E+09		-10.4	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121498.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121498.D\ECD2B.CH
Acq On : 5-16-2023 3:12:46 AM Operator: BCJ
Sample : SEQ-CCV2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 9:04 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2415.0E6	6476.6E6	0.167	0.166
	Spiked Amount 0.200	Range 30 - 150		Recovery =		83.50%	83.00%
45) S	Decachlorobiphen	8.71	7.62	892.7E6	2402.5E6	0.114	0.123
	Spiked Amount 0.200	Range 30 - 150		Recovery =		57.00%	61.50%
	Target Compounds						
5) T	1016 1	2.96	2.39	211.7E6	609.0E6	0.963	1.034
6) T	1016 2	3.48	2.82	294.0E6	875.1E6	0.916	0.994
7) T	1016 3	3.85	3.11	345.3E6	1179.6E6	0.897	0.986
8) T	1016 4	3.95	3.23	292.5E6	880.5E6	0.896	1.022
9) T	1016 5	4.28	3.50	276.0E6	871.3E6	0.896	0.973
30) T	1260 1	5.61	4.67	451.2E6	1338.7E6	0.838	0.924
31) T	1260 2	5.95	4.91	669.1E6	1543.4E6	0.816	0.899
32) T	1260 3	6.27	5.28	635.9E6	1804.3E6	0.832	0.880
33) T	1260 4	6.38	5.35	388.7E6	1150.3E6	0.823	0.905
34) T	1260 5	7.05	5.97	916.0E6	2575.6E6	0.772	0.870

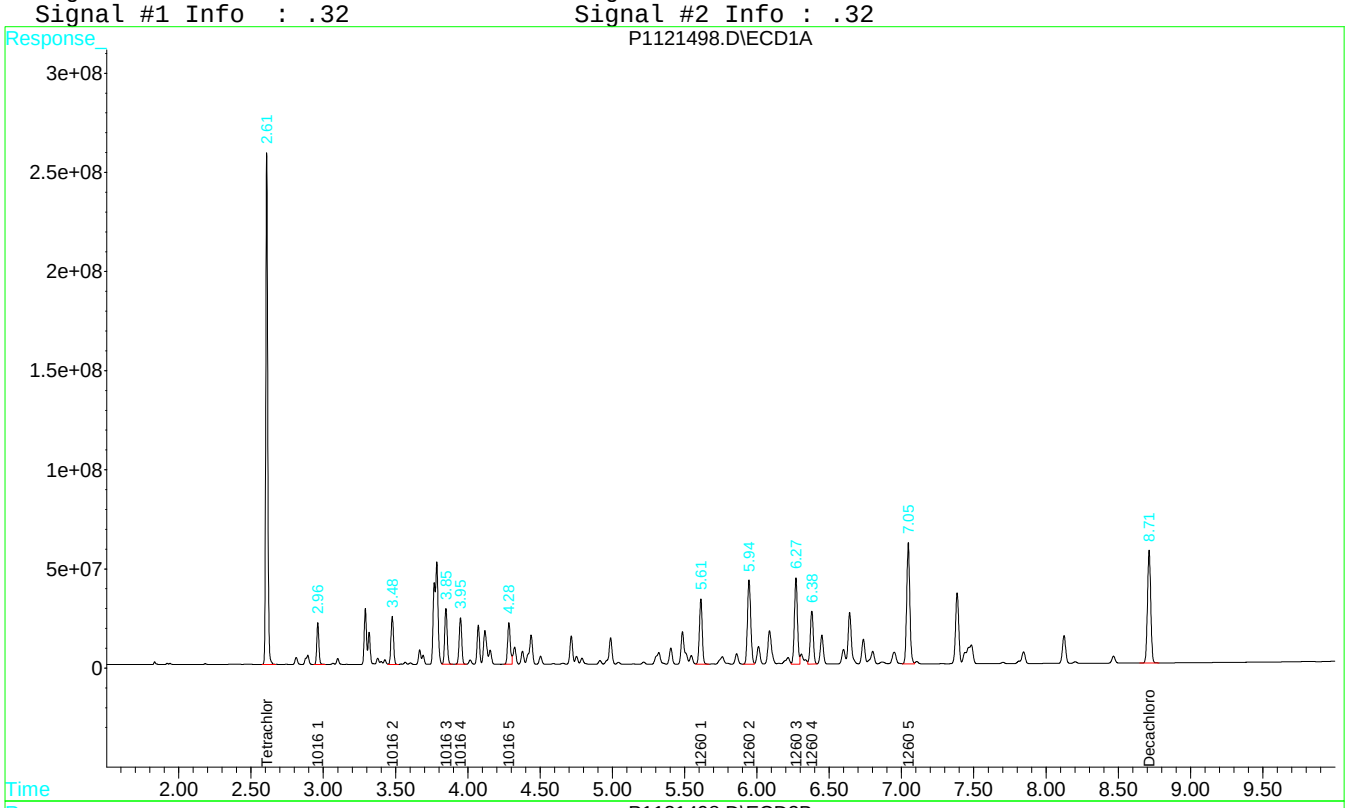
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121498.D P1051523.M Wed May 17 10:41:51 2023 Page 1

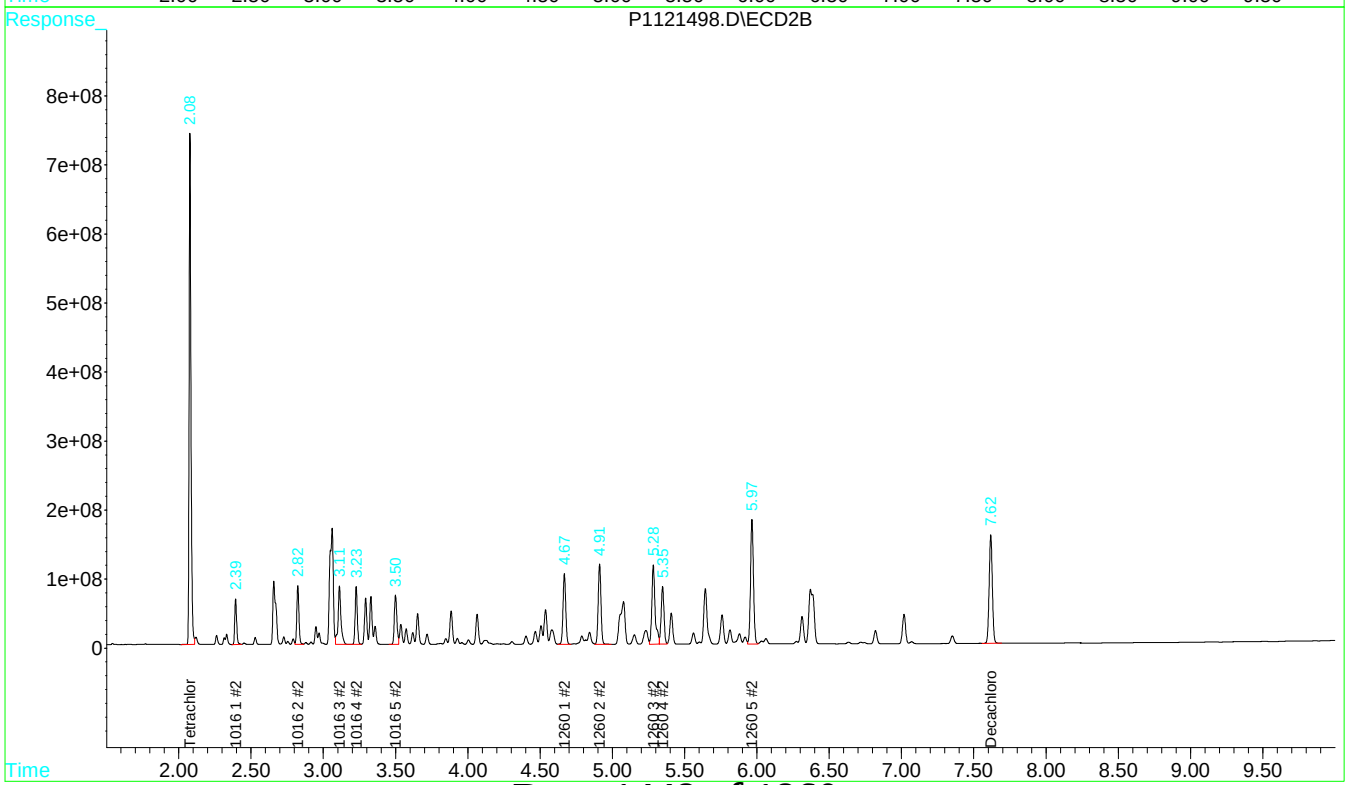
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121498.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121498.D\ECD2B.CH
Acq On : 5-16-2023 3:12:46 AM Operator: BCJ
Sample : SEQ-CCV2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 9:04 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121519.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1636	Injection Date:	05/16/23
Lab Sample ID:	S3E1636-CCV3	Injection Time:	08:00

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.03	3.293242E+08	3.185E+08		2.5	20
Aroclor 1016 (1)	A	1.00	1.03	2.353812E+08	2.254E+08		2.9	20
Aroclor 1016 (1) [2C]	A	1.00	1.06	6.493837E+08	6.258E+08		6.4	20
Aroclor 1016 (2)	A	1.00	1.02	3.404263E+08	3.276E+08		2.5	20
Aroclor 1016 (2) [2C]	A	1.00	1.03	9.499416E+08	9.023E+08		2.7	20
Aroclor 1016 (3)	A	1.00	1.02	4.046913E+08	3.912E+08		2.0	20
Aroclor 1016 (3) [2C]	A	1.00	1.03	1.29953E+09	1.2339E+09		3.4	20
Aroclor 1016 (4)	A	1.00	1.02	3.409677E+08	3.327E+08		2.3	20
Aroclor 1016 (4) [2C]	A	1.00	1.08	9.441566E+08	9.281E+08		8.0	20
Aroclor 1016 (5)	A	1.00	1.03	3.251543E+08	3.156E+08		2.9	20
Aroclor 1016 (5) [2C]	A	1.00	1.05	9.710754E+08	9.349E+08		4.9	20
Aroclor 1016 [2C]	A	1.00	1.05	9.628176E+08	9.25E+08		5.1	20
Aroclor 1260	A	1.00	0.961	7.773777E+08	7.1934E+08		-3.9	20
Aroclor 1260 (1)	A	1.00	1.00	5.644493E+08	5.361E+08		0.0	20
Aroclor 1260 (1) [2C]	A	1.00	1.04	1.574781E+09	1.5033E+09		4.4	20
Aroclor 1260 (2)	A	1.00	0.959	8.519793E+08	7.841E+08		-4.1	20
Aroclor 1260 (2) [2C]	A	1.00	1.04	1.851078E+09	1.7639E+09		3.5	20
Aroclor 1260 (3)	A	1.00	0.964	7.738861E+08	7.348E+08		-3.6	20
Aroclor 1260 (3) [2C]	A	1.00	1.04	2.204219E+09	2.1078E+09		3.5	20
Aroclor 1260 (4)	A	1.00	0.966	4.863283E+08	4.543E+08		-3.4	20
Aroclor 1260 (4) [2C]	A	1.00	1.07	1.389803E+09	1.3491E+09		6.9	20
Aroclor 1260 (5)	A	1.00	0.918	1.210246E+09	1.0874E+09		-8.2	20
Aroclor 1260 (5) [2C]	A	1.00	1.02	3.140975E+09	3.0051E+09		2.1	20
Aroclor 1260 [2C]	A	1.00	1.04	2.032171E+09	1.94584E+09		4.1	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121519.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121519.D\ECD2B.CH
Acq On : 5-16-2023 8:00:35 AM Operator: BCJ
Sample : SEQ-CCV3 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 9:05 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2527.6E6	6721.2E6	0.175	0.172
	Spiked Amount 0.200	Range 30 - 150		Recovery =		87.50%	86.00%
45) S	Decachlorobiphen	8.71	7.62	1035.7E6	2872.4E6	0.133	0.148
	Spiked Amount 0.200	Range 30 - 150		Recovery =		66.50%	74.00%
	Target Compounds						
5) T	1016 1	2.96	2.39	225.4E6	625.8E6	1.029	1.064
6) T	1016 2	3.48	2.82	327.6E6	902.3E6	1.025	1.027
7) T	1016 3	3.85	3.11	391.2E6	1233.9E6	1.020	1.034
8) T	1016 4	3.95	3.23	332.7E6	928.1E6	1.023	1.080
9) T	1016 5	4.28	3.50	315.6E6	934.9E6	1.029	1.049
30) T	1260 1	5.61	4.67	536.1E6	1503.3E6	1.000	1.044
31) T	1260 2	5.95	4.91	784.1E6	1763.9E6	0.959	1.035
32) T	1260 3	6.27	5.28	734.8E6	2107.8E6	0.964	1.035
33) T	1260 4	6.38	5.35	454.3E6	1349.1E6	0.966	1.069
34) T	1260 5	7.05	5.97	1087.4E6	3005.1E6	0.918	1.021

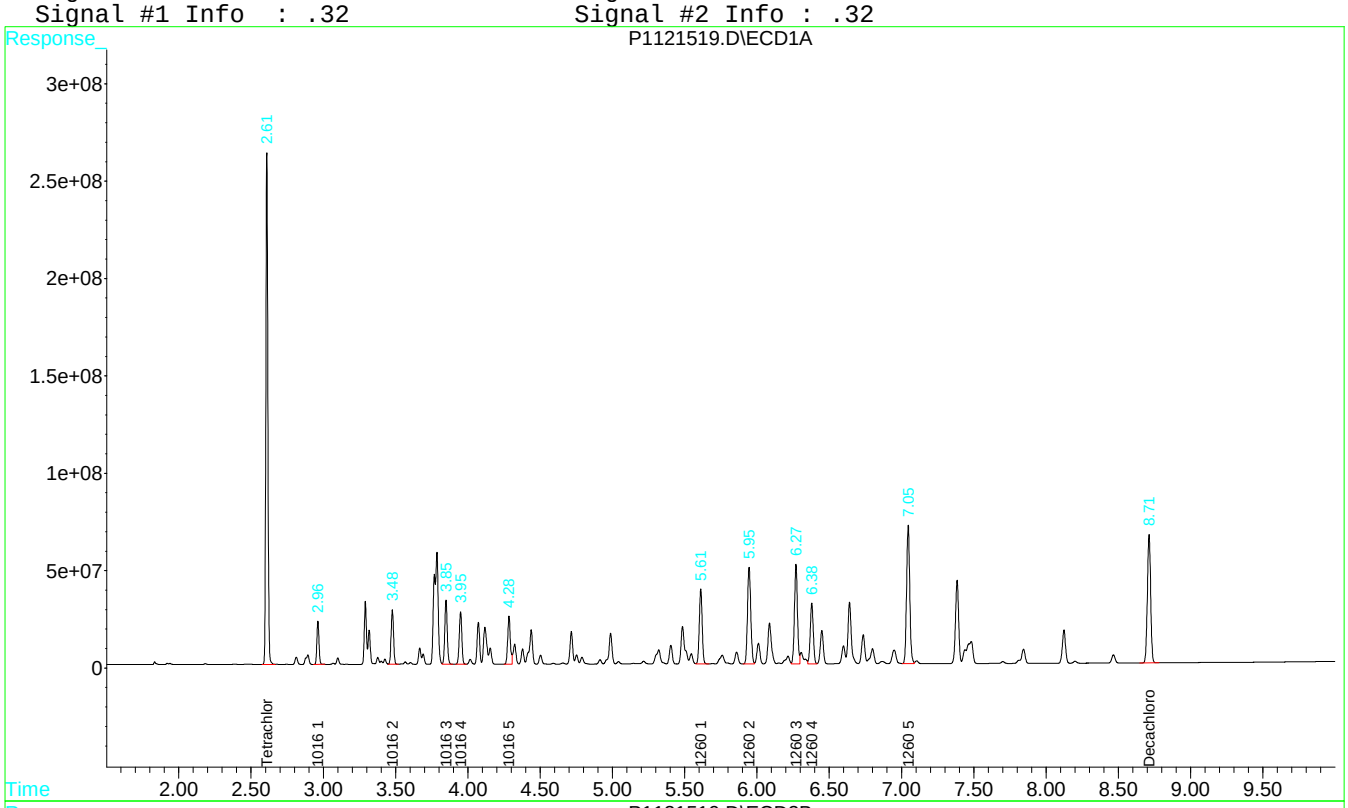
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121519.D P1051523.M Wed May 17 10:43:19 2023 Page 1

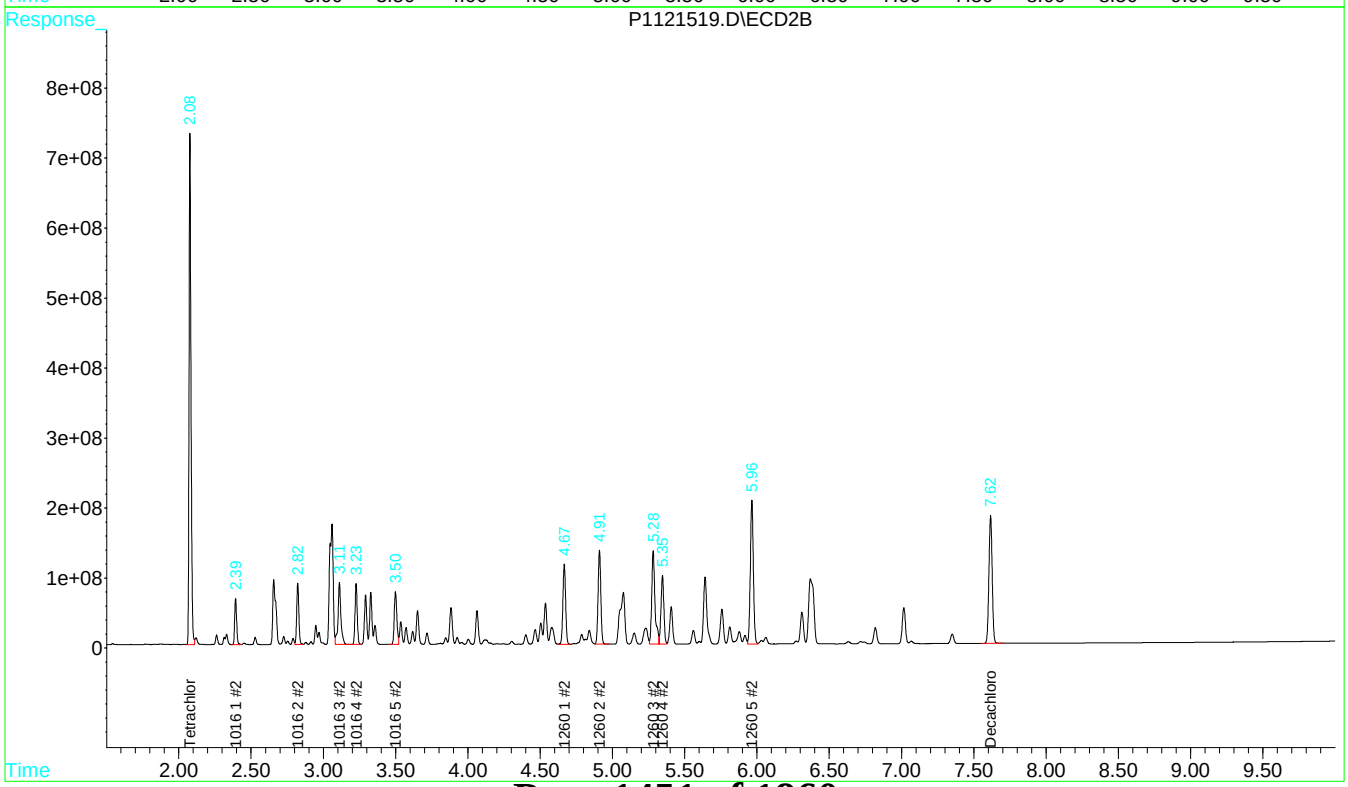
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121519.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121519.D\ECD2B.CH
Acq On : 5-16-2023 8:00:35 AM Operator: BCJ
Sample : SEQ-CCV3 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 9:05 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121537.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1636	Injection Date:	05/16/23
Lab Sample ID:	S3E1636-CCV4	Injection Time:	12:06

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.05	3.293242E+08	3.2536E+08		4.8	20
Aroclor 1016 (1)	A	1.00	1.05	2.353812E+08	2.292E+08		4.6	20
Aroclor 1016 (1) [2C]	A	1.00	1.10	6.493837E+08	6.432E+08		9.6	20
Aroclor 1016 (2)	A	1.00	1.04	3.404263E+08	3.335E+08		4.4	20
Aroclor 1016 (2) [2C]	A	1.00	1.06	9.499416E+08	9.336E+08		6.5	20
Aroclor 1016 (3)	A	1.00	1.04	4.046913E+08	3.997E+08		4.3	20
Aroclor 1016 (3) [2C]	A	1.00	1.08	1.29953E+09	1.2884E+09		8.3	20
Aroclor 1016 (4)	A	1.00	1.05	3.409677E+08	3.4E+08		4.6	20
Aroclor 1016 (4) [2C]	A	1.00	1.13	9.441566E+08	9.698E+08		13.1	20
Aroclor 1016 (5)	A	1.00	1.06	3.251543E+08	3.244E+08		5.9	20
Aroclor 1016 (5) [2C]	A	1.00	1.10	9.710754E+08	9.782E+08		10.0	20
Aroclor 1016 [2C]	A	1.00	1.10	9.628176E+08	9.6264E+08		9.5	20
Aroclor 1260	A	1.00	0.991	7.773777E+08	7.401E+08		-0.9	20
Aroclor 1260 (1)	A	1.00	1.03	5.644493E+08	5.53E+08		3.2	20
Aroclor 1260 (1) [2C]	A	1.00	1.11	1.574781E+09	1.5895E+09		10.7	20
Aroclor 1260 (2)	A	1.00	0.977	8.519793E+08	7.985E+08		-2.3	20
Aroclor 1260 (2) [2C]	A	1.00	1.10	1.851078E+09	1.8635E+09		9.7	20
Aroclor 1260 (3)	A	1.00	0.999	7.738861E+08	7.605E+08		-0.1	20
Aroclor 1260 (3) [2C]	A	1.00	1.10	2.204219E+09	2.2352E+09		10.1	20
Aroclor 1260 (4)	A	1.00	1.00	4.863283E+08	4.714E+08		0.4	20
Aroclor 1260 (4) [2C]	A	1.00	1.14	1.389803E+09	1.4344E+09		14.1	20
Aroclor 1260 (5)	A	1.00	0.944	1.210246E+09	1.1171E+09		-5.6	20
Aroclor 1260 (5) [2C]	A	1.00	1.08	3.140975E+09	3.1838E+09		8.5	20
Aroclor 1260 [2C]	A	1.00	1.11	2.032171E+09	2.06128E+09		10.6	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121537.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121537.D\ECD2B.CH
Acq On : 5-16-2023 12:06:56 PM Operator: BCJ
Sample : SEQ-CCV4 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:21 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2555.7E6	6977.2E6	0.177	0.179
	Spiked Amount 0.200	Range 30 - 150		Recovery =		88.50%	89.50%
45) S	Decachlorobiphen	8.71	7.61	1071.4E6	3097.2E6	0.137	0.159
	Spiked Amount 0.200	Range 30 - 150		Recovery =		68.50%	79.50%
	Target Compounds						
5) T	1016 1	2.96	2.39	229.2E6	643.2E6	1.046	1.096
6) T	1016 2	3.48	2.82	333.5E6	933.6E6	1.044	1.065
7) T	1016 3	3.85	3.11	399.7E6	1288.4E6	1.043	1.083
8) T	1016 4	3.95	3.23	340.0E6	969.8E6	1.046	1.131
9) T	1016 5	4.28	3.50	324.4E6	978.2E6	1.059	1.100
30) T	1260 1	5.61	4.67	553.0E6	1589.5E6	1.032	1.107
31) T	1260 2	5.95	4.91	798.5E6	1863.5E6	0.977	1.097
32) T	1260 3	6.27	5.28	760.5E6	2235.2E6	0.999	1.101
33) T	1260 4	6.38	5.34	471.4E6	1434.4E6	1.004	1.141
34) T	1260 5	7.05	5.96	1117.1E6	3183.8E6	0.944	1.085

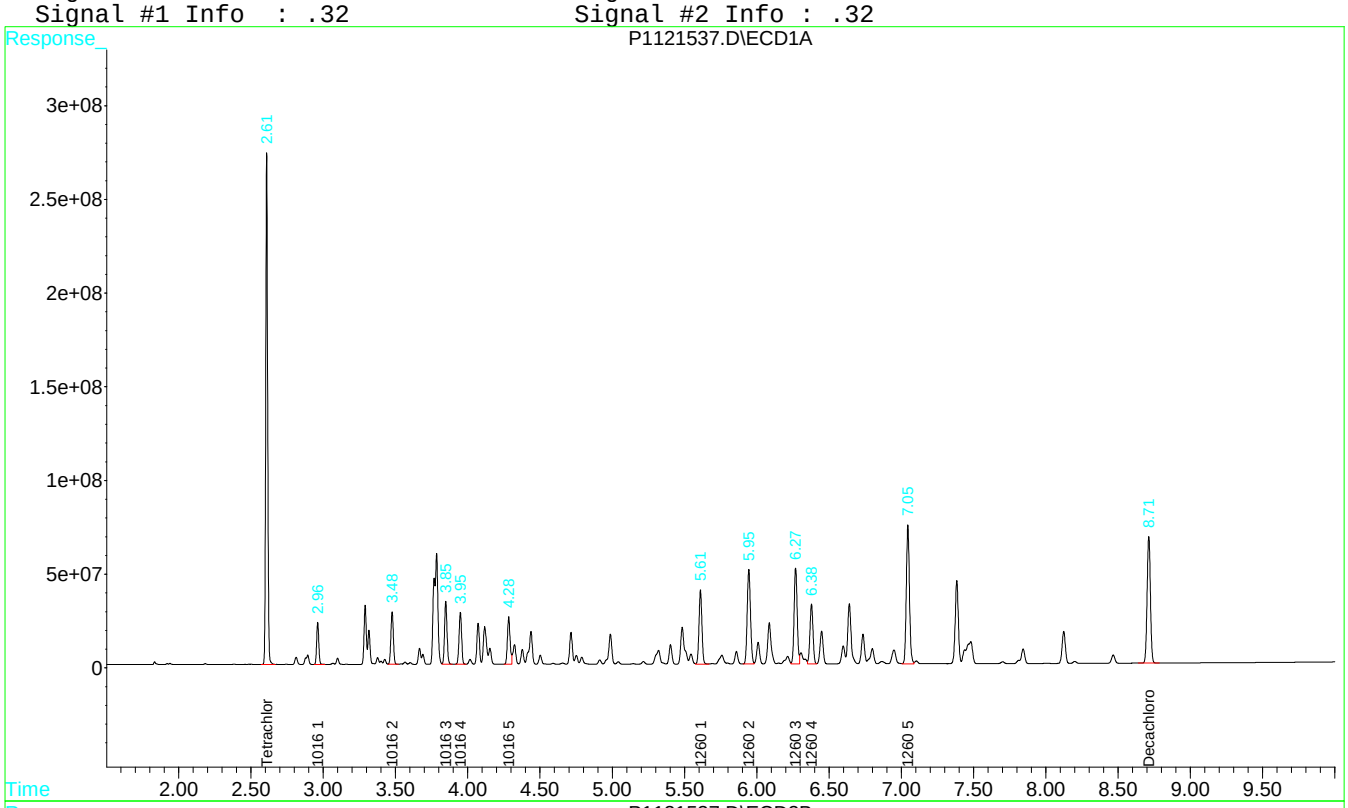
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121537.D P1051523.M Wed May 17 10:44:31 2023 Page 1

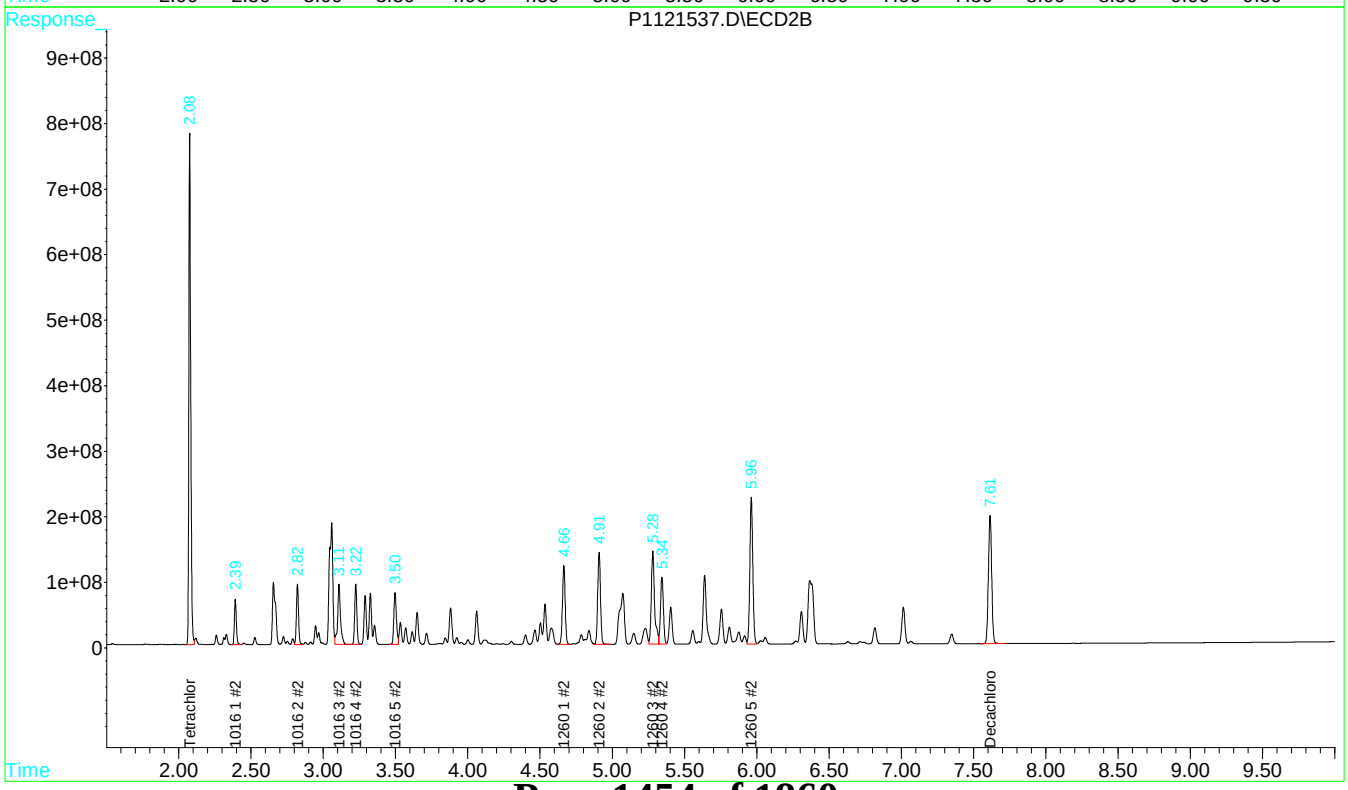
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121537.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121537.D\ECD2B.CH
Acq On : 5-16-2023 12:06:56 PM Operator: BCJ
Sample : SEQ-CCV4 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:21 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121554.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1636	Injection Date:	05/16/23
Lab Sample ID:	S3E1636-CCV5	Injection Time:	16:00

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.01	3.293242E+08	3.1366E+08		0.8	20
Aroclor 1016 (1)	A	1.00	1.00	2.353812E+08	2.199E+08		0.2	20
Aroclor 1016 (1) [2C]	A	1.00	1.05	6.493837E+08	6.174E+08		4.9	20
Aroclor 1016 (2)	A	1.00	1.01	3.404263E+08	3.218E+08		0.6	20
Aroclor 1016 (2) [2C]	A	1.00	1.02	9.499416E+08	8.95E+08		1.8	20
Aroclor 1016 (3)	A	1.00	1.00	4.046913E+08	3.854E+08		0.5	20
Aroclor 1016 (3) [2C]	A	1.00	1.04	1.29953E+09	1.2344E+09		3.5	20
Aroclor 1016 (4)	A	1.00	1.01	3.409677E+08	3.289E+08		1.1	20
Aroclor 1016 (4) [2C]	A	1.00	1.08	9.441566E+08	9.27E+08		7.9	20
Aroclor 1016 (5)	A	1.00	1.02	3.251543E+08	3.123E+08		1.8	20
Aroclor 1016 (5) [2C]	A	1.00	1.04	9.710754E+08	9.301E+08		4.3	20
Aroclor 1016 [2C]	A	1.00	1.04	9.628176E+08	9.2078E+08		4.5	20
Aroclor 1260	A	1.00	0.929	7.773777E+08	6.949E+08		-7.1	20
Aroclor 1260 (1)	A	1.00	0.972	5.644493E+08	5.218E+08		-2.8	20
Aroclor 1260 (1) [2C]	A	1.00	1.06	1.574781E+09	1.5234E+09		5.9	20
Aroclor 1260 (2)	A	1.00	0.907	8.519793E+08	7.424E+08		-9.3	20
Aroclor 1260 (2) [2C]	A	1.00	1.05	1.851078E+09	1.7924E+09		5.2	20
Aroclor 1260 (3)	A	1.00	0.939	7.738861E+08	7.162E+08		-6.1	20
Aroclor 1260 (3) [2C]	A	1.00	1.04	2.204219E+09	2.1157E+09		3.9	20
Aroclor 1260 (4)	A	1.00	0.939	4.863283E+08	4.419E+08		-6.1	20
Aroclor 1260 (4) [2C]	A	1.00	1.07	1.389803E+09	1.3465E+09		6.7	20
Aroclor 1260 (5)	A	1.00	0.888	1.210246E+09	1.0522E+09		-11.2	20
Aroclor 1260 (5) [2C]	A	1.00	1.01	3.140975E+09	2.9687E+09		0.8	20
Aroclor 1260 [2C]	A	1.00	1.04	2.032171E+09	1.94934E+09		4.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121554.D\ECD1A.CH Vial: 99
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121554.D\ECD2B.CH
Acq On : 5-16-2023 4:00:04 PM Operator: BCJ
Sample : SEQ-CCV5 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 16:13 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2465.8E6	6688.6E6	0.170	0.171
	Spiked Amount 0.200	Range 30 - 150		Recovery =		85.00%	85.50%
45) S	Decachlorobiphen	8.71	7.61	1016.1E6	2967.3E6	0.130	0.153
	Spiked Amount 0.200	Range 30 - 150		Recovery =		65.00%	76.50%
	Target Compounds						
5) T	1016 1	2.96	2.39	219.9E6	617.4E6	1.002	1.049
6) T	1016 2	3.48	2.82	321.8E6	895.0E6	1.006	1.018
7) T	1016 3	3.85	3.11	385.4E6	1234.4E6	1.005	1.035
8) T	1016 4	3.95	3.23	328.9E6	927.0E6	1.011	1.079
9) T	1016 5	4.28	3.50	312.3E6	930.1E6	1.018	1.043
30) T	1260 1	5.61	4.67	521.8E6	1523.4E6	0.972	1.059
31) T	1260 2	5.95	4.91	742.4E6	1792.4E6	0.907	1.052
32) T	1260 3	6.27	5.28	716.2E6	2115.7E6	0.939	1.039
33) T	1260 4	6.38	5.34	441.9E6	1346.5E6	0.939	1.067
34) T	1260 5	7.05	5.96	1052.2E6	2968.7E6	0.888	1.008

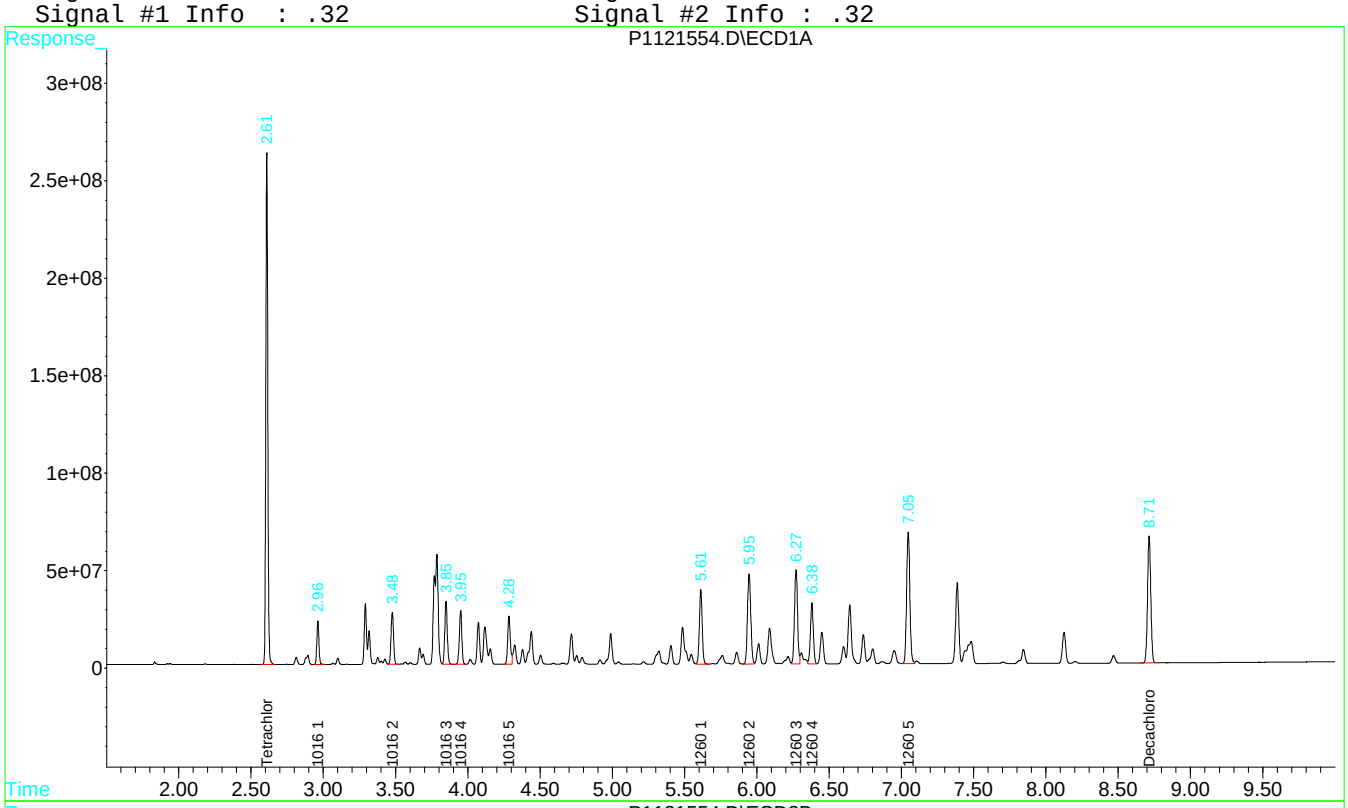
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121554.D P1051523.M Wed May 17 10:45:40 2023 Page 1

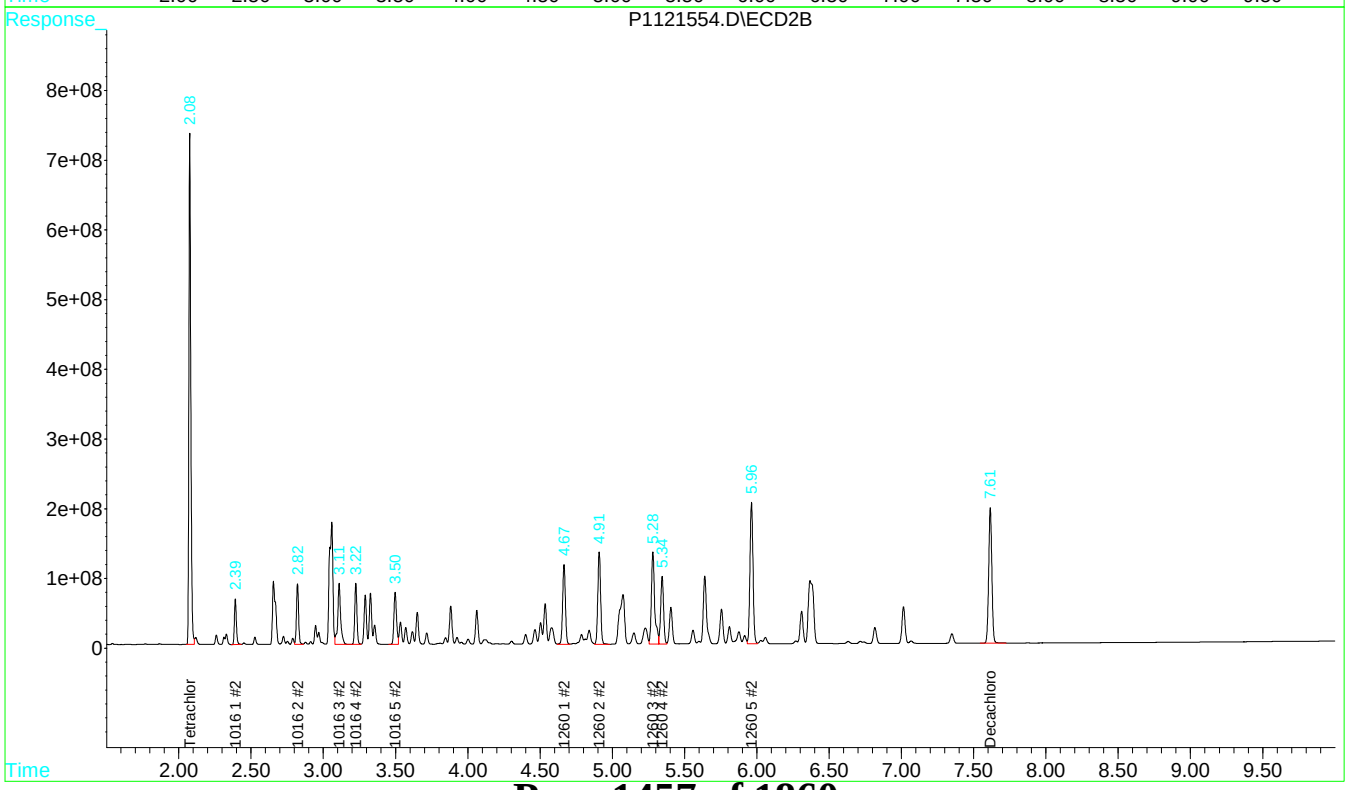
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121554.D\ECD1A.CH Vial: 99
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121554.D\ECD2B.CH
Acq On : 5-16-2023 4:00:04 PM Operator: BCJ
Sample : SEQ-CCV5 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 16:13 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121557.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1718	Injection Date:	05/16/23
Lab Sample ID:	S3E1718-CCV1	Injection Time:	17:00

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.08	3.293242E+08	3.3576E+08		8.2	20
Aroclor 1016 (1)	A	1.00	1.07	2.353812E+08	2.339E+08		6.9	20
Aroclor 1016 (1) [2C]	A	1.00	1.11	6.493837E+08	6.507E+08		10.9	20
Aroclor 1016 (2)	A	1.00	1.07	3.404263E+08	3.426E+08		7.4	20
Aroclor 1016 (2) [2C]	A	1.00	1.08	9.499416E+08	9.48E+08		8.3	20
Aroclor 1016 (3)	A	1.00	1.08	4.046913E+08	4.134E+08		8.1	20
Aroclor 1016 (3) [2C]	A	1.00	1.10	1.29953E+09	1.3126E+09		10.5	20
Aroclor 1016 (4)	A	1.00	1.09	3.409677E+08	3.527E+08		8.6	20
Aroclor 1016 (4) [2C]	A	1.00	1.15	9.441566E+08	9.885E+08		15.4	20
Aroclor 1016 (5)	A	1.00	1.10	3.251543E+08	3.362E+08		9.9	20
Aroclor 1016 (5) [2C]	A	1.00	1.12	9.710754E+08	9.931E+08		11.8	20
Aroclor 1016 [2C]	A	1.00	1.11	9.628176E+08	9.7858E+08		11.4	20
Aroclor 1260	A	1.00	1.01	7.773777E+08	7.5522E+08		1.0	20
Aroclor 1260 (1)	A	1.00	1.06	5.644493E+08	5.649E+08		5.5	20
Aroclor 1260 (1) [2C]	A	1.00	1.13	1.574781E+09	1.6236E+09		13.3	20
Aroclor 1260 (2)	A	1.00	1.02	8.519793E+08	8.31E+08		1.8	20
Aroclor 1260 (2) [2C]	A	1.00	1.12	1.851078E+09	1.9053E+09		12.3	20
Aroclor 1260 (3)	A	1.00	1.00	7.738861E+08	7.644E+08		0.4	20
Aroclor 1260 (3) [2C]	A	1.00	1.12	2.204219E+09	2.2653E+09		11.7	20
Aroclor 1260 (4)	A	1.00	1.01	4.863283E+08	4.727E+08		0.6	20
Aroclor 1260 (4) [2C]	A	1.00	1.14	1.389803E+09	1.4381E+09		14.4	20
Aroclor 1260 (5)	A	1.00	0.966	1.210246E+09	1.1431E+09		-3.4	20
Aroclor 1260 (5) [2C]	A	1.00	1.07	3.140975E+09	3.1486E+09		7.2	20
Aroclor 1260 [2C]	A	1.00	1.12	2.032171E+09	2.07618E+09		11.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121557.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121557.D\ECD2B.CH
Acq On : 5-16-2023 5:00:09 PM Operator: BCJ
Sample : SEQ-CCV1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:30 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2612.8E6	7053.0E6	0.180	0.180
	Spiked Amount 0.200	Range 30 - 150		Recovery =		90.00%	90.00%
45) S	Decachlorobiphen	8.72	7.62	1075.7E6	3131.9E6	0.138	0.161
	Spiked Amount 0.200	Range 30 - 150		Recovery =		69.00%	80.50%
	Target Compounds						
5) T	1016 1	2.96	2.39	233.9E6	650.7E6	1.069	1.109
6) T	1016 2	3.48	2.82	342.6E6	948.0E6	1.074	1.083
7) T	1016 3	3.85	3.11	413.4E6	1312.6E6	1.081	1.105
8) T	1016 4	3.95	3.22	352.7E6	988.5E6	1.086	1.154
9) T	1016 5	4.29	3.50	336.2E6	993.1E6	1.099	1.118
30) T	1260 1	5.61	4.67	564.9E6	1623.6E6	1.055	1.133
31) T	1260 2	5.95	4.91	831.0E6	1905.3E6	1.018	1.123
32) T	1260 3	6.27	5.28	764.4E6	2265.3E6	1.004	1.117
33) T	1260 4	6.38	5.34	472.7E6	1438.1E6	1.006	1.144
34) T	1260 5	7.05	5.96	1143.1E6	3148.6E6	0.966	1.072

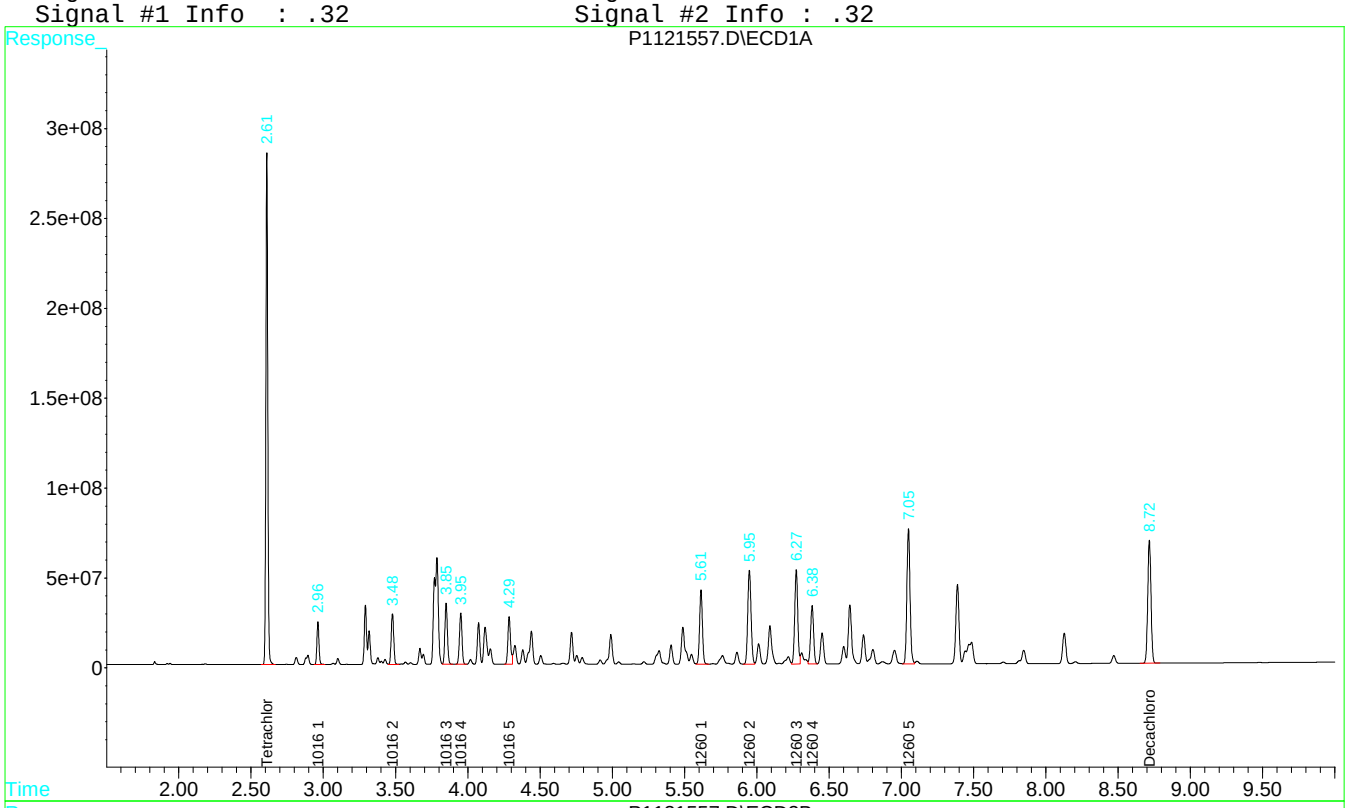
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121557.D P1051523.M Wed May 17 15:59:52 2023 Page 1

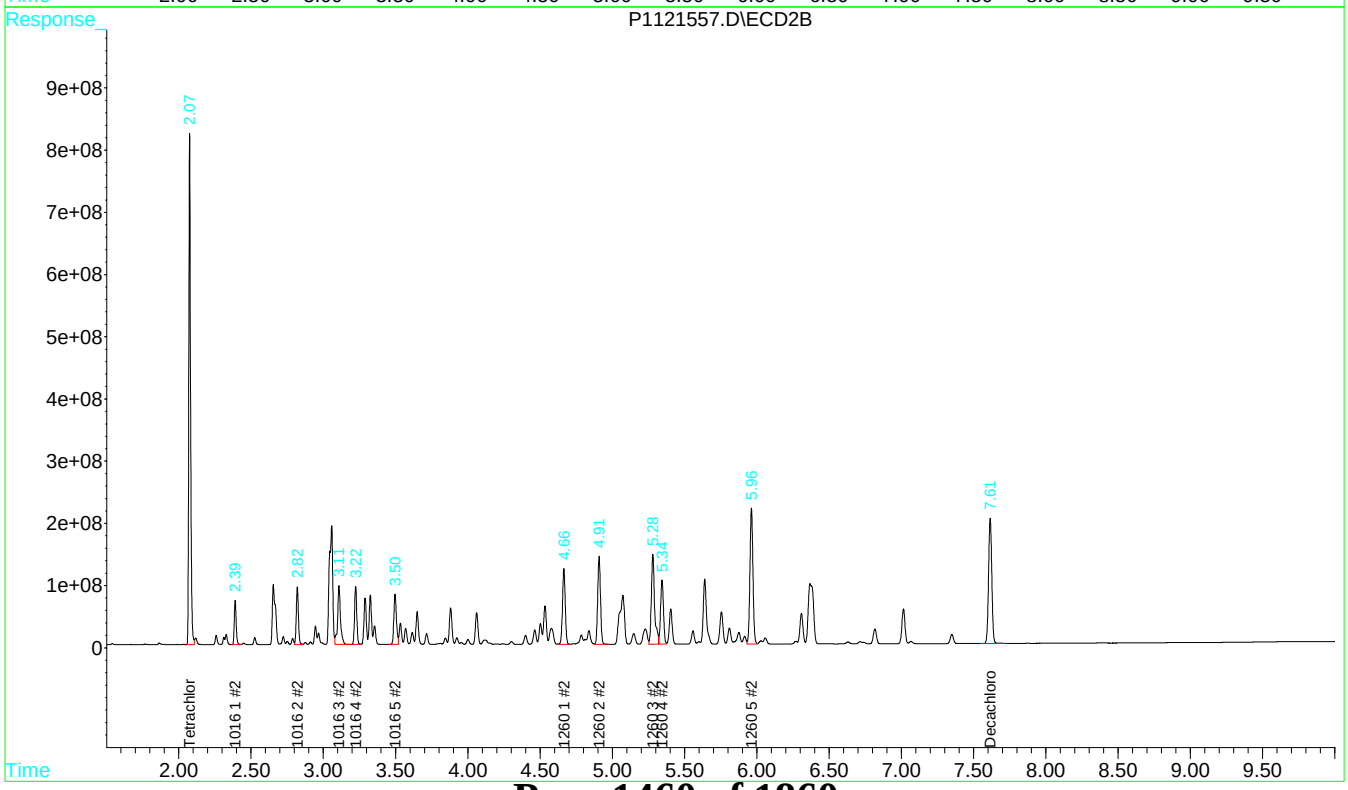
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121557.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121557.D\ECD2B.CH
Acq On : 5-16-2023 5:00:09 PM Operator: BCJ
Sample : SEQ-CCV1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:30 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121579.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1718	Injection Date:	05/16/23
Lab Sample ID:	S3E1718-CCV2	Injection Time:	22:01

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.08	3.293242E+08	3.3582E+08		8.2	20
Aroclor 1016 (1)	A	1.00	1.07	2.353812E+08	2.333E+08		6.6	20
Aroclor 1016 (1) [2C]	A	1.00	1.11	6.493837E+08	6.522E+08		11.2	20
Aroclor 1016 (2)	A	1.00	1.07	3.404263E+08	3.426E+08		7.4	20
Aroclor 1016 (2) [2C]	A	1.00	1.08	9.499416E+08	9.498E+08		8.5	20
Aroclor 1016 (3)	A	1.00	1.08	4.046913E+08	4.142E+08		8.3	20
Aroclor 1016 (3) [2C]	A	1.00	1.11	1.29953E+09	1.3187E+09		11.0	20
Aroclor 1016 (4)	A	1.00	1.09	3.409677E+08	3.53E+08		8.7	20
Aroclor 1016 (4) [2C]	A	1.00	1.16	9.441566E+08	9.927E+08		16.0	20
Aroclor 1016 (5)	A	1.00	1.10	3.251543E+08	3.36E+08		9.8	20
Aroclor 1016 (5) [2C]	A	1.00	1.13	9.710754E+08	1.0024E+09		12.9	20
Aroclor 1016 [2C]	A	1.00	1.12	9.628176E+08	9.8316E+08		11.9	20
Aroclor 1260	A	1.00	1.05	7.773777E+08	7.8764E+08		5.3	20
Aroclor 1260 (1)	A	1.00	1.08	5.644493E+08	5.784E+08		8.1	20
Aroclor 1260 (1) [2C]	A	1.00	1.15	1.574781E+09	1.652E+09		15.4	20
Aroclor 1260 (2)	A	1.00	1.03	8.519793E+08	8.409E+08		3.1	20
Aroclor 1260 (2) [2C]	A	1.00	1.15	1.851078E+09	1.951E+09		15.1	20
Aroclor 1260 (3)	A	1.00	1.06	7.738861E+08	8.075E+08		6.2	20
Aroclor 1260 (3) [2C]	A	1.00	1.16	2.204219E+09	2.3433E+09		15.7	20
Aroclor 1260 (4)	A	1.00	1.06	4.863283E+08	4.983E+08		6.3	20
Aroclor 1260 (4) [2C]	A	1.00	1.19	1.389803E+09	1.4936E+09		19.0	20
Aroclor 1260 (5)	A	1.00	1.03	1.210246E+09	1.2131E+09		2.6	20
Aroclor 1260 (5) [2C]	A	1.00	1.14	3.140975E+09	3.3389E+09		14.0	20
Aroclor 1260 [2C]	A	1.00	1.16	2.032171E+09	2.15576E+09		15.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121579.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121579.D\ECD2B.CH
Acq On : 5-16-2023 10:01:14 PM Operator: BCJ
Sample : SEQ-CCV2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:32 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2600.7E6	7090.5E6	0.180	0.181
	Spiked Amount 0.200	Range 30 - 150		Recovery =		90.00%	90.50%
45) S	Decachlorobiphen	8.71	7.61	1222.4E6	3491.3E6	0.156	0.179
	Spiked Amount 0.200	Range 30 - 150		Recovery =		78.00%	89.50%
	Target Compounds						
5) T	1016 1	2.96	2.39	233.3E6	652.2E6	1.066	1.112
6) T	1016 2	3.48	2.82	342.6E6	949.8E6	1.074	1.085
7) T	1016 3	3.85	3.11	414.2E6	1318.7E6	1.083	1.110
8) T	1016 4	3.95	3.22	353.0E6	992.7E6	1.087	1.160
9) T	1016 5	4.28	3.50	336.0E6	1002.4E6	1.098	1.129
30) T	1260 1	5.61	4.66	578.4E6	1652.0E6	1.081	1.154
31) T	1260 2	5.95	4.91	840.9E6	1951.0E6	1.031	1.151
32) T	1260 3	6.27	5.28	807.5E6	2343.3E6	1.062	1.157
33) T	1260 4	6.38	5.34	498.3E6	1493.6E6	1.063	1.190
34) T	1260 5	7.05	5.96	1213.1E6	3338.9E6	1.026	1.140

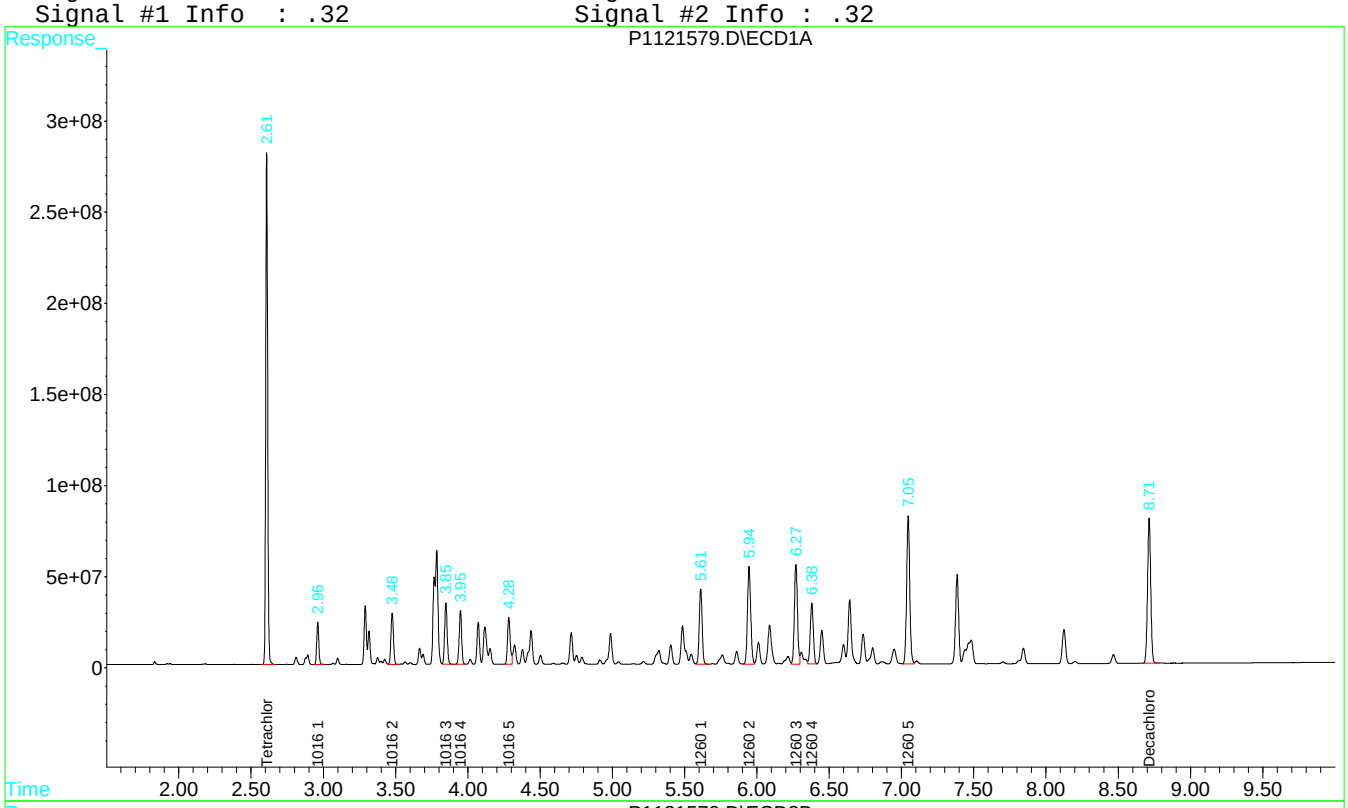
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121579.D P1051523.M Wed May 17 16:01:24 2023 Page 1

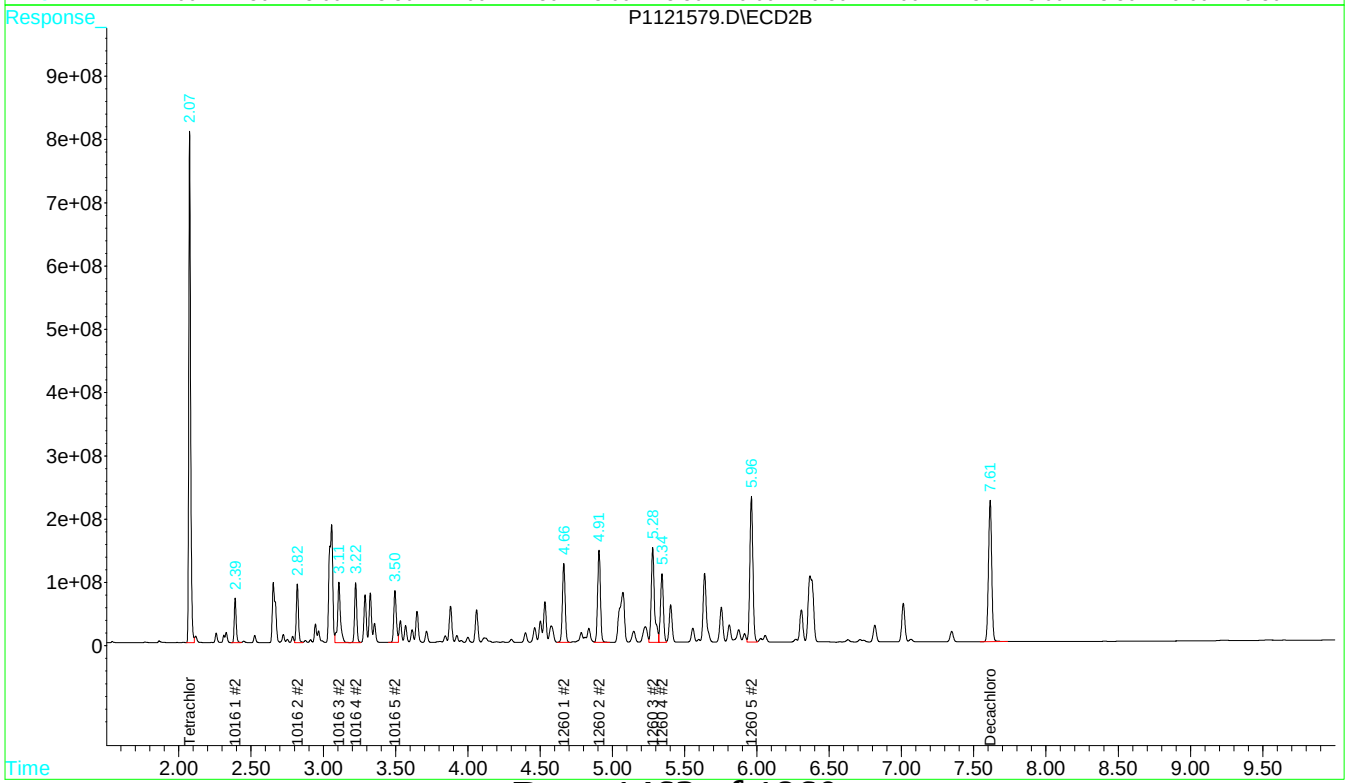
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121579.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121579.D\ECD2B.CH
Acq On : 5-16-2023 10:01:14 PM Operator: BCJ
Sample : SEQ-CCV2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:32 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121596.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1718	Injection Date:	05/17/23
Lab Sample ID:	S3E1718-CCV3	Injection Time:	01:54

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.08	3.293242E+08	3.3482E+08		7.9	20
Aroclor 1016 (1)	A	1.00	1.07	2.353812E+08	2.334E+08		6.7	20
Aroclor 1016 (1) [2C]	A	1.00	1.11	6.493837E+08	6.495E+08		10.7	20
Aroclor 1016 (2)	A	1.00	1.07	3.404263E+08	3.425E+08		7.3	20
Aroclor 1016 (2) [2C]	A	1.00	1.08	9.499416E+08	9.429E+08		7.7	20
Aroclor 1016 (3)	A	1.00	1.08	4.046913E+08	4.119E+08		7.6	20
Aroclor 1016 (3) [2C]	A	1.00	1.10	1.29953E+09	1.3083E+09		10.1	20
Aroclor 1016 (4)	A	1.00	1.08	3.409677E+08	3.508E+08		8.0	20
Aroclor 1016 (4) [2C]	A	1.00	1.15	9.441566E+08	9.886E+08		15.4	20
Aroclor 1016 (5)	A	1.00	1.10	3.251543E+08	3.355E+08		9.7	20
Aroclor 1016 (5) [2C]	A	1.00	1.12	9.710754E+08	9.927E+08		11.7	20
Aroclor 1016 [2C]	A	1.00	1.11	9.628176E+08	9.764E+08		11.1	20
Aroclor 1260	A	1.00	1.00	7.773777E+08	7.4656E+08		0.3	20
Aroclor 1260 (1)	A	1.00	1.06	5.644493E+08	5.679E+08		6.1	20
Aroclor 1260 (1) [2C]	A	1.00	1.13	1.574781E+09	1.6195E+09		13.0	20
Aroclor 1260 (2)	A	1.00	0.985	8.519793E+08	8.042E+08		-1.5	20
Aroclor 1260 (2) [2C]	A	1.00	1.11	1.851078E+09	1.8854E+09		11.0	20
Aroclor 1260 (3)	A	1.00	1.02	7.738861E+08	7.746E+08		1.8	20
Aroclor 1260 (3) [2C]	A	1.00	1.11	2.204219E+09	2.2586E+09		11.3	20
Aroclor 1260 (4)	A	1.00	1.02	4.863283E+08	4.768E+08		1.6	20
Aroclor 1260 (4) [2C]	A	1.00	1.14	1.389803E+09	1.4318E+09		13.8	20
Aroclor 1260 (5)	A	1.00	0.937	1.210246E+09	1.1093E+09		-6.3	20
Aroclor 1260 (5) [2C]	A	1.00	1.05	3.140975E+09	3.0886E+09		5.1	20
Aroclor 1260 [2C]	A	1.00	1.11	2.032171E+09	2.05678E+09		10.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121596.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121596.D\ECD2B.CH
Acq On : 5-17-2023 1:54:26 AM Operator: BCJ
Sample : SEQ-CCV3 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:32 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2600.4E6	7070.4E6	0.180	0.181
	Spiked Amount 0.200	Range 30 - 150		Recovery =		90.00%	90.50%
45) S	Decachlorobiphen	8.71	7.61	1030.2E6	3026.7E6	0.132	0.156
	Spiked Amount 0.200	Range 30 - 150		Recovery =		66.00%	78.00%
	Target Compounds						
5) T	1016 1	2.96	2.39	233.4E6	649.5E6	1.067	1.107
6) T	1016 2	3.48	2.82	342.5E6	942.9E6	1.073	1.077
7) T	1016 3	3.85	3.11	411.9E6	1308.3E6	1.076	1.101
8) T	1016 4	3.95	3.22	350.8E6	988.6E6	1.080	1.154
9) T	1016 5	4.28	3.50	335.5E6	992.7E6	1.097	1.117
30) T	1260 1	5.61	4.66	567.9E6	1619.5E6	1.061	1.130
31) T	1260 2	5.95	4.91	804.2E6	1885.4E6	0.985	1.110
32) T	1260 3	6.27	5.28	774.6E6	2258.6E6	1.018	1.113
33) T	1260 4	6.38	5.34	476.8E6	1431.8E6	1.016	1.138
34) T	1260 5	7.05	5.96	1109.3E6	3088.6E6	0.937	1.051

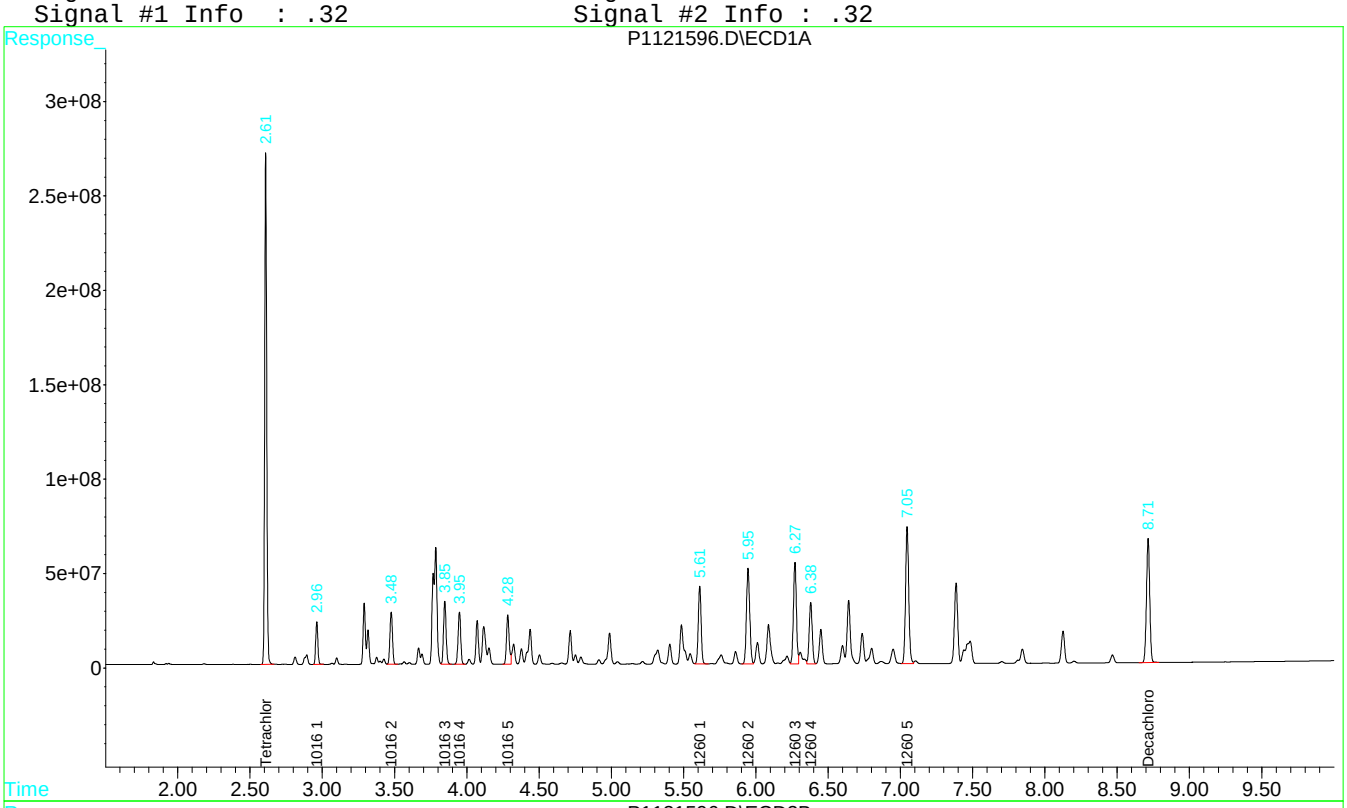
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121596.D P1051523.M Wed May 17 16:02:30 2023 Page 1

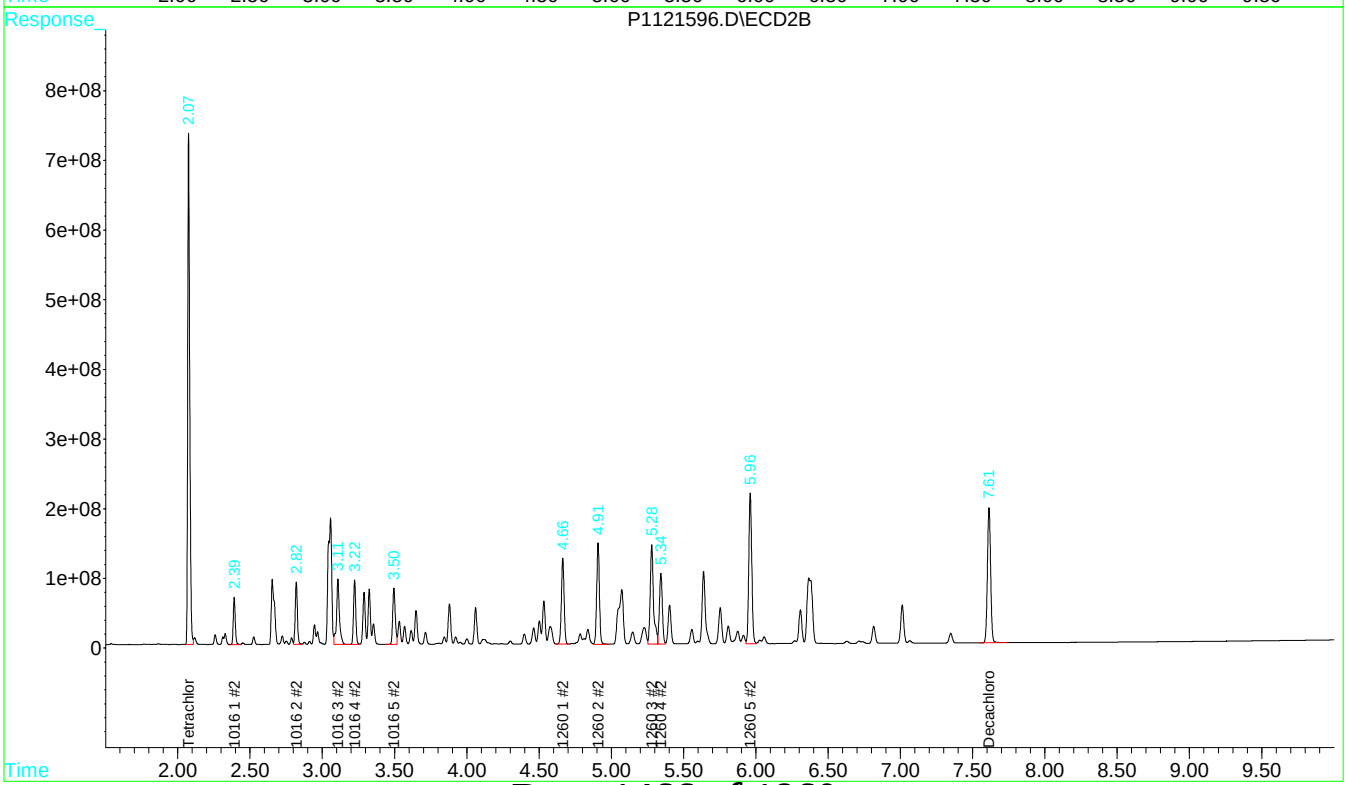
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121596.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121596.D\ECD2B.CH
Acq On : 5-17-2023 1:54:26 AM Operator: BCJ
Sample : SEQ-CCV3 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:32 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121615.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1718	Injection Date:	05/17/23
Lab Sample ID:	S3E1718-CCV4	Injection Time:	06:15

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	0.993	3.293242E+08	3.0896E+08		-0.7	20
Aroclor 1016 (1)	A	1.00	0.980	2.353812E+08	2.152E+08		-2.0	20
Aroclor 1016 (1) [2C]	A	1.00	0.999	6.493837E+08	5.897E+08		-0.1	20
Aroclor 1016 (2)	A	1.00	0.988	3.404263E+08	3.162E+08		-1.2	20
Aroclor 1016 (2) [2C]	A	1.00	0.976	9.499416E+08	8.601E+08		-2.4	20
Aroclor 1016 (3)	A	1.00	0.986	4.046913E+08	3.785E+08		-1.4	20
Aroclor 1016 (3) [2C]	A	1.00	0.998	1.29953E+09	1.1935E+09		-0.2	20
Aroclor 1016 (4)	A	1.00	0.995	3.409677E+08	3.239E+08		-0.5	20
Aroclor 1016 (4) [2C]	A	1.00	1.04	9.441566E+08	8.968E+08		4.2	20
Aroclor 1016 (5)	A	1.00	1.01	3.251543E+08	3.11E+08		1.4	20
Aroclor 1016 (5) [2C]	A	1.00	1.02	9.710754E+08	9.1E+08		1.9	20
Aroclor 1016 [2C]	A	1.00	1.01	9.628176E+08	8.9002E+08		0.7	20
Aroclor 1260	A	1.00	0.993	7.773777E+08	7.4488E+08		-0.7	20
Aroclor 1260 (1)	A	1.00	1.01	5.644493E+08	5.429E+08		1.3	20
Aroclor 1260 (1) [2C]	A	1.00	1.06	1.574781E+09	1.5227E+09		5.8	20
Aroclor 1260 (2)	A	1.00	0.978	8.519793E+08	7.992E+08		-2.2	20
Aroclor 1260 (2) [2C]	A	1.00	1.06	1.851078E+09	1.8133E+09		6.5	20
Aroclor 1260 (3)	A	1.00	0.998	7.738861E+08	7.597E+08		-0.2	20
Aroclor 1260 (3) [2C]	A	1.00	1.08	2.204219E+09	2.195E+09		8.0	20
Aroclor 1260 (4)	A	1.00	1.00	4.863283E+08	4.7E+08		0.0	20
Aroclor 1260 (4) [2C]	A	1.00	1.11	1.389803E+09	1.3976E+09		11.0	20
Aroclor 1260 (5)	A	1.00	0.974	1.210246E+09	1.1526E+09		-2.6	20
Aroclor 1260 (5) [2C]	A	1.00	1.06	3.140975E+09	3.1029E+09		5.6	20
Aroclor 1260 [2C]	A	1.00	1.07	2.032171E+09	2.0063E+09		7.4	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121615.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121615.D\ECD2B.CH
Acq On : 5-17-2023 6:15:14 AM Operator: BCJ
Sample : SEQ-CCV4 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:33 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2403.3E6	6353.1E6	0.166	0.163
	Spiked Amount 0.200	Range 30 - 150		Recovery =		83.00%	81.50%
45) S	Decachlorobiphen	8.71	7.61	1126.9E6	3282.4E6	0.144	0.169
	Spiked Amount 0.200	Range 30 - 150		Recovery =		72.00%	84.50%
	Target Compounds						
5) T	1016 1	2.96	2.39	215.2E6	589.7E6	0.980	0.999
6) T	1016 2	3.48	2.82	316.2E6	860.1E6	0.988	0.976
7) T	1016 3	3.85	3.11	378.5E6	1193.5E6	0.986	0.998
8) T	1016 4	3.95	3.22	323.9E6	896.8E6	0.995	1.042
9) T	1016 5	4.28	3.50	311.0E6	910.0E6	1.014	1.019
30) T	1260 1	5.61	4.66	542.9E6	1522.7E6	1.013	1.058
31) T	1260 2	5.95	4.91	799.2E6	1813.3E6	0.978	1.065
32) T	1260 3	6.27	5.28	759.7E6	2195.0E6	0.998	1.080
33) T	1260 4	6.38	5.34	470.0E6	1397.6E6	1.000	1.110
34) T	1260 5	7.05	5.96	1152.6E6	3102.9E6	0.974	1.056

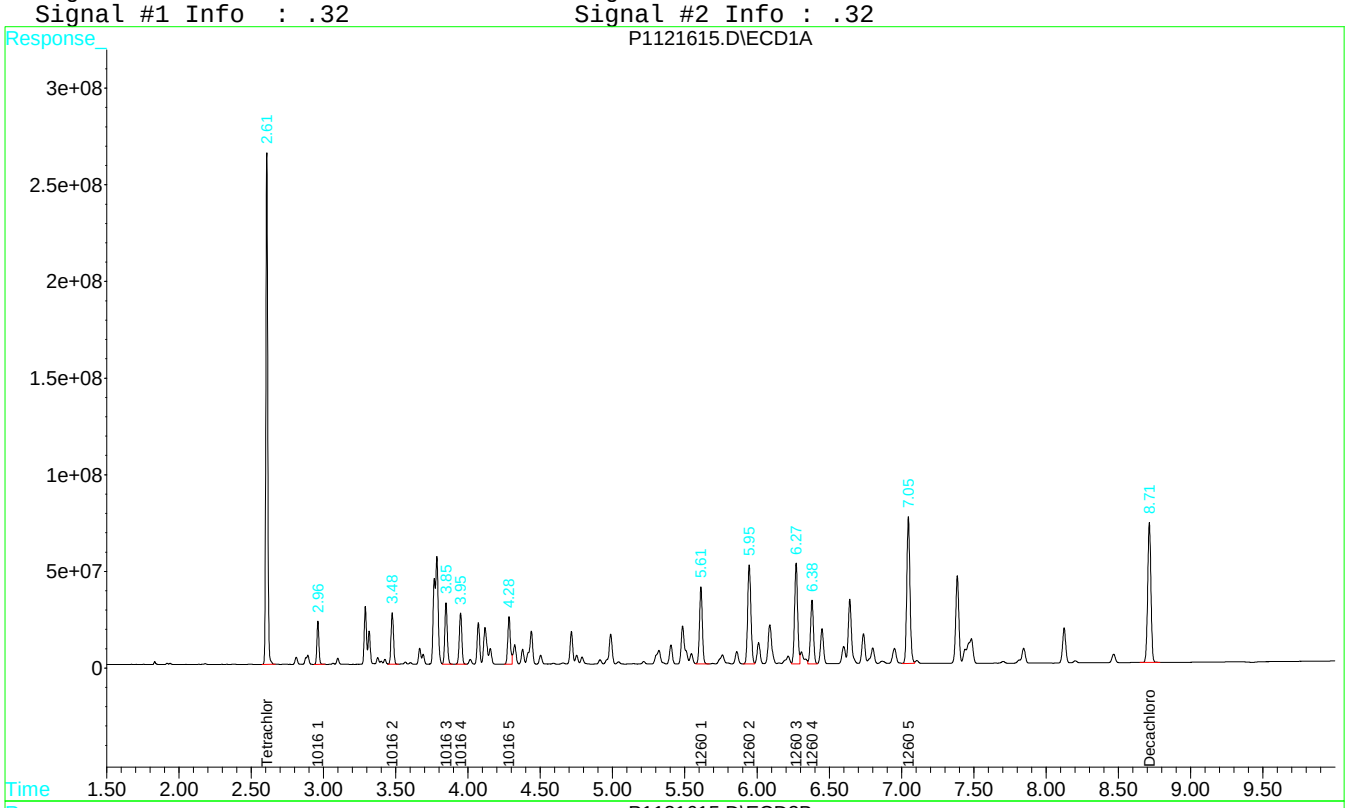
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121615.D P1051523.M Wed May 17 16:03:48 2023 Page 1

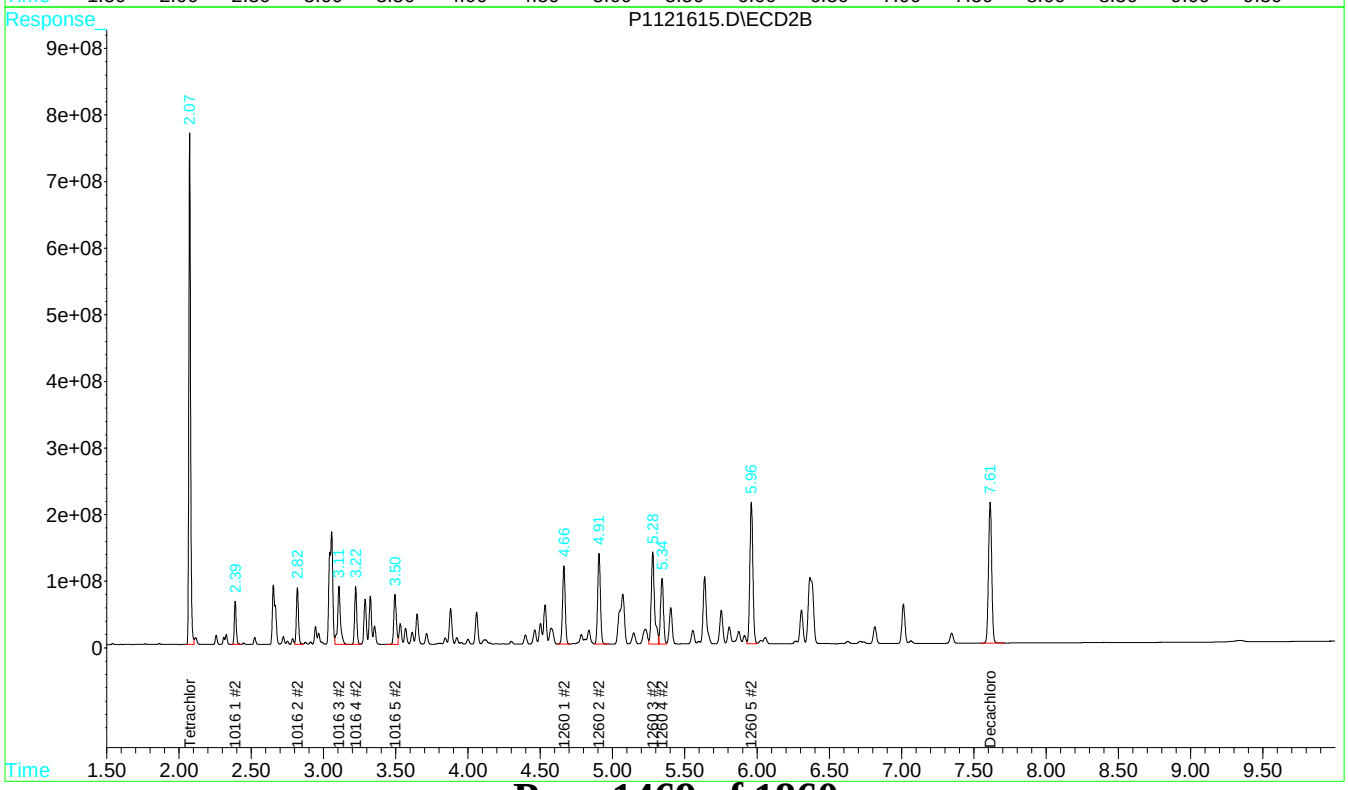
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121615.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121615.D\ECD2B.CH
Acq On : 5-17-2023 6:15:14 AM Operator: BCJ
Sample : SEQ-CCV4 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:33 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	ECD#1	Calibration:	SE30026
Lab File ID:	P1121629.D	Calibration Date:	05/16/23 09:47
Sequence:	S3E1718	Injection Date:	05/17/23
Lab Sample ID:	S3E1718-CCV5	Injection Time:	09:27

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.05	3.293242E+08	3.2768E+08		5.5	20
Aroclor 1016 (1)	A	1.00	1.04	2.353812E+08	2.277E+08		3.9	20
Aroclor 1016 (1) [2C]	A	1.00	1.03	6.493837E+08	6.08E+08		3.2	20
Aroclor 1016 (2)	A	1.00	1.04	3.404263E+08	3.337E+08		4.5	20
Aroclor 1016 (2) [2C]	A	1.00	1.00	9.499416E+08	8.819E+08		0.3	20
Aroclor 1016 (3)	A	1.00	1.05	4.046913E+08	4.035E+08		5.4	20
Aroclor 1016 (3) [2C]	A	1.00	1.03	1.29953E+09	1.227E+09		2.8	20
Aroclor 1016 (4)	A	1.00	1.06	3.409677E+08	3.444E+08		6.0	20
Aroclor 1016 (4) [2C]	A	1.00	1.08	9.441566E+08	9.253E+08		7.7	20
Aroclor 1016 (5)	A	1.00	1.08	3.251543E+08	3.291E+08		7.5	20
Aroclor 1016 (5) [2C]	A	1.00	1.05	9.710754E+08	9.324E+08		4.6	20
Aroclor 1016 [2C]	A	1.00	1.04	9.628176E+08	9.1492E+08		3.7	20
Aroclor 1260	A	1.00	1.06	7.773777E+08	7.9628E+08		6.1	20
Aroclor 1260 (1)	A	1.00	1.07	5.644493E+08	5.727E+08		7.0	20
Aroclor 1260 (1) [2C]	A	1.00	1.09	1.574781E+09	1.5706E+09		9.3	20
Aroclor 1260 (2)	A	1.00	1.04	8.519793E+08	8.525E+08		4.5	20
Aroclor 1260 (2) [2C]	A	1.00	1.10	1.851078E+09	1.8762E+09		10.5	20
Aroclor 1260 (3)	A	1.00	1.07	7.738861E+08	8.109E+08		6.6	20
Aroclor 1260 (3) [2C]	A	1.00	1.11	2.204219E+09	2.2588E+09		11.3	20
Aroclor 1260 (4)	A	1.00	1.07	4.863283E+08	5.024E+08		7.2	20
Aroclor 1260 (4) [2C]	A	1.00	1.14	1.389803E+09	1.4316E+09		13.8	20
Aroclor 1260 (5)	A	1.00	1.05	1.210246E+09	1.2429E+09		5.1	20
Aroclor 1260 (5) [2C]	A	1.00	1.10	3.140975E+09	3.2253E+09		9.9	20
Aroclor 1260 [2C]	A	1.00	1.11	2.032171E+09	2.0725E+09		11.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121629.D\ECD1A.CH Vial: 99
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121629.D\ECD2B.CH
Acq On : 5-17-2023 9:27:09 AM Operator: BCJ
Sample : SEQ-CCV5 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:33 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2529.2E6	6564.4E6	0.175	0.168
	Spiked Amount 0.200	Range 30 - 150		Recovery =		87.50%	84.00%
45) S	Decachlorobiphen	8.71	7.61	1253.3E6	3454.9E6	0.160	0.178
	Spiked Amount 0.200	Range 30 - 150		Recovery =		80.00%	89.00%
	Target Compounds						
5) T	1016 1	2.96	2.39	227.7E6	608.0E6	1.039	1.032
6) T	1016 2	3.48	2.82	333.7E6	881.9E6	1.045	1.003
7) T	1016 3	3.85	3.11	403.5E6	1227.0E6	1.054	1.028
8) T	1016 4	3.95	3.22	344.4E6	925.3E6	1.060	1.077
9) T	1016 5	4.28	3.50	329.1E6	932.4E6	1.075	1.046
30) T	1260 1	5.61	4.66	572.7E6	1570.6E6	1.070	1.093
31) T	1260 2	5.95	4.91	852.5E6	1876.2E6	1.045	1.105
32) T	1260 3	6.27	5.28	810.9E6	2258.8E6	1.066	1.113
33) T	1260 4	6.38	5.34	502.4E6	1431.6E6	1.072	1.138
34) T	1260 5	7.05	5.96	1242.9E6	3225.3E6	1.051	1.099

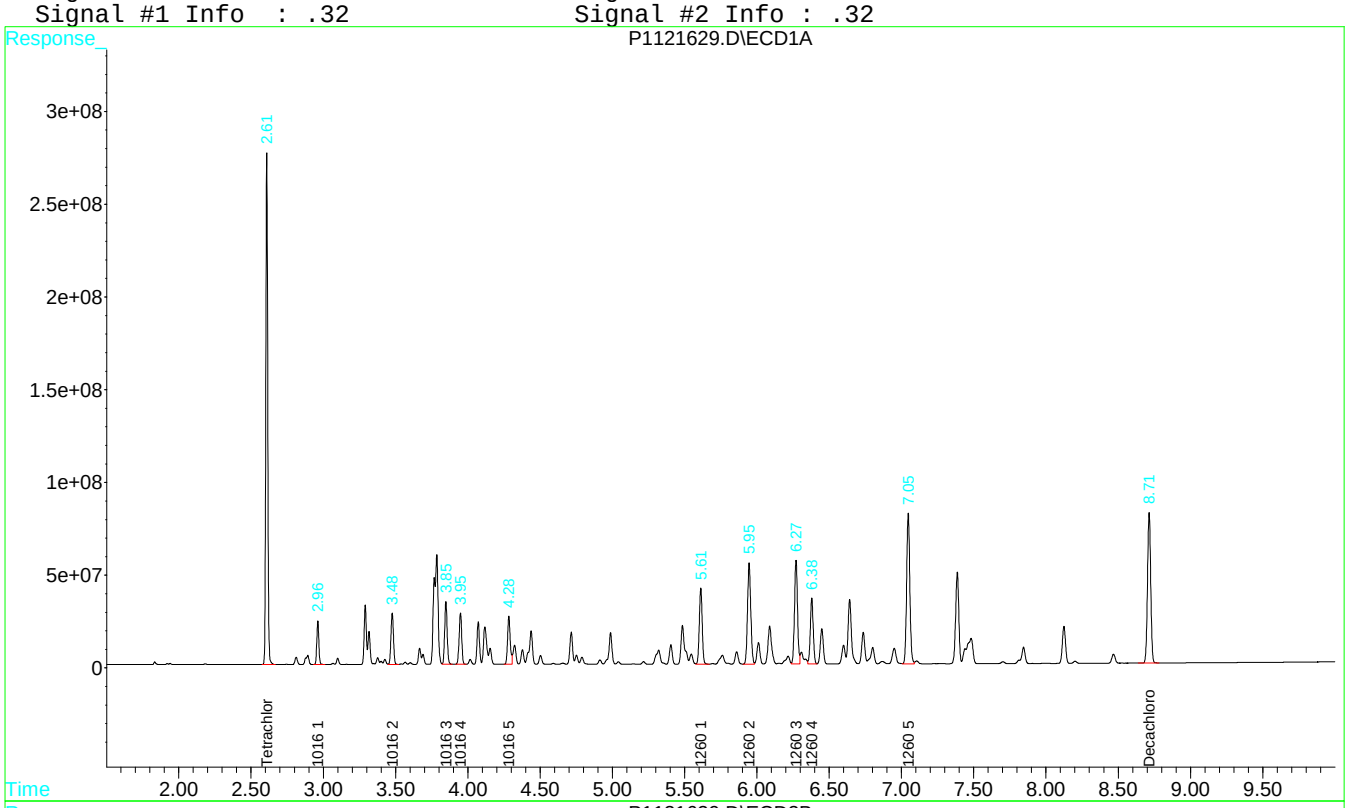
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121629.D P1051523.M Wed May 17 16:04:44 2023 Page 1

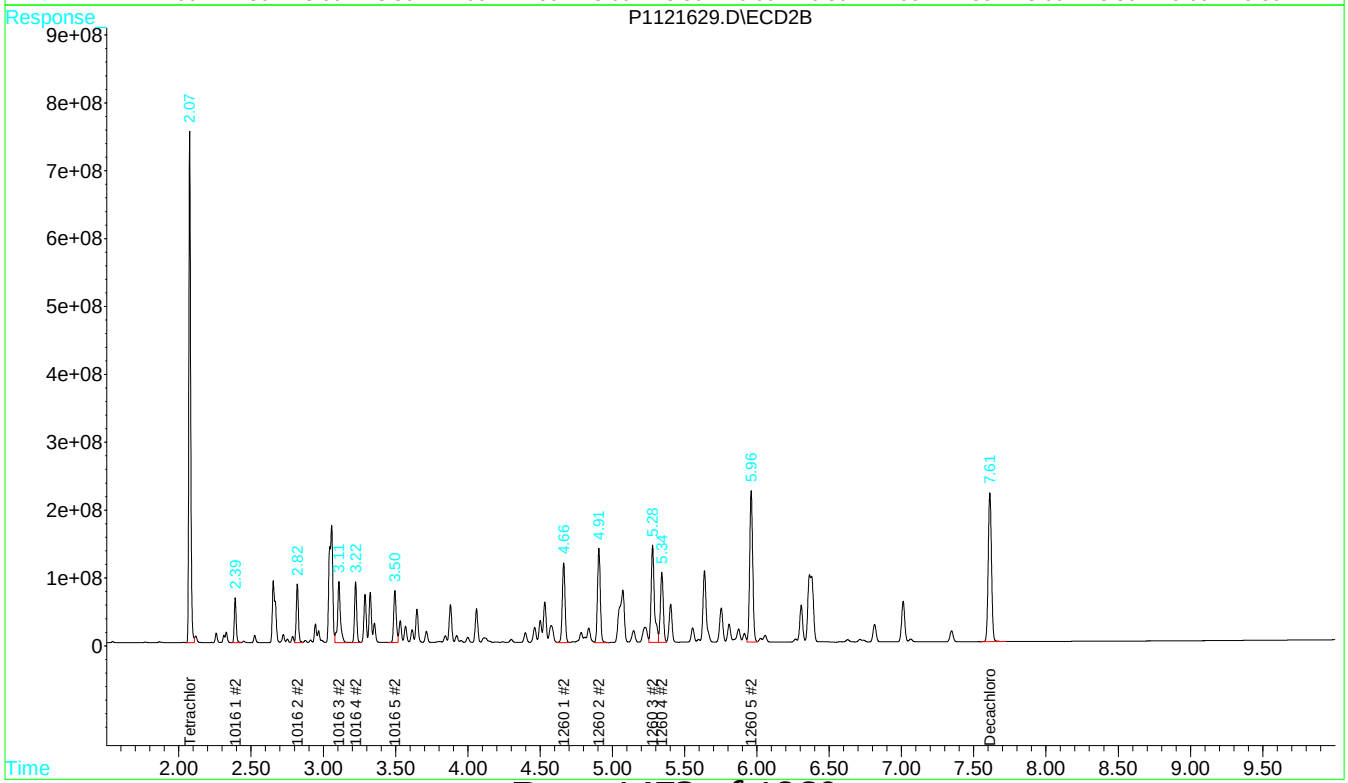
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121629.D\ECD1A.CH Vial: 99
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121629.D\ECD2B.CH
Acq On : 5-17-2023 9:27:09 AM Operator: BCJ
Sample : SEQ-CCV5 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:33 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





AROCLOR INITIAL CALIBRATION (SINGLE POINT)

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **23E0419**
Project: **170446801**

Instrument ID: ECD#1 Col 1 Date(s) Analyzed: 05/15/2023
Calibration: SE30026
Sequence: S3E1636
Lab Number: S3E1636-ARC1

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	2.000	1	04.07	04.02	04.12	232950000
		2	04.72	04.67	04.77	429200000
		3	05.41	05.36	05.46	708250000
		4	05.76	05.71	05.81	520200000
		5	06.27	06.22	06.32	553150000

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **23E0419**
Project: **170446801**

Instrument ID: ECD#1 Col 2 Date(s) Analyzed: 05/15/2023
Calibration: SE30026
Sequence: S3E1636
Lab Number: S3E1636-ARC1

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	2.000	1	03.29	03.24	03.34	646300000
		2	03.89	03.84	03.94	1556900000
		3	04.51	04.46	04.56	1891400000
		4	04.79	04.74	04.84	1365500000
		5	05.28	05.23	05.33	1706150000

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121476.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121476.D\ECD2B.CH
Acq On : 5-15-2023 8:19:09 PM Operator: BCJ
Sample : SEQ-ARC1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 21:54 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2958.1E6	7784.9E6	0.204	0.199
	Spiked Amount 0.200	Range 30 - 150		Recovery =		102.00%	99.50%
45) S	Decachlorobiphen	8.71	7.62	1281.5E6	3353.7E6	0.164	0.172
	Spiked Amount 0.200	Range 30 - 150		Recovery =		82.00%	86.00%
	Target Compounds						
25) T	1254 1	4.07	3.29	465.9E6	1292.6E6	1.972	1.973
26) T	1254 2	4.72	3.89	858.4E6	3113.8E6	1.971	1.939
27) T	1254 3	5.41	4.51	1416.5E6	3782.8E6	1.955	1.990
28) T	1254 4	5.76	4.79	1040.4E6	2731.0E6	1.942	1.948
29) T	1254 5	6.27	5.28	1106.3E6	3412.3E6	1.946	1.942

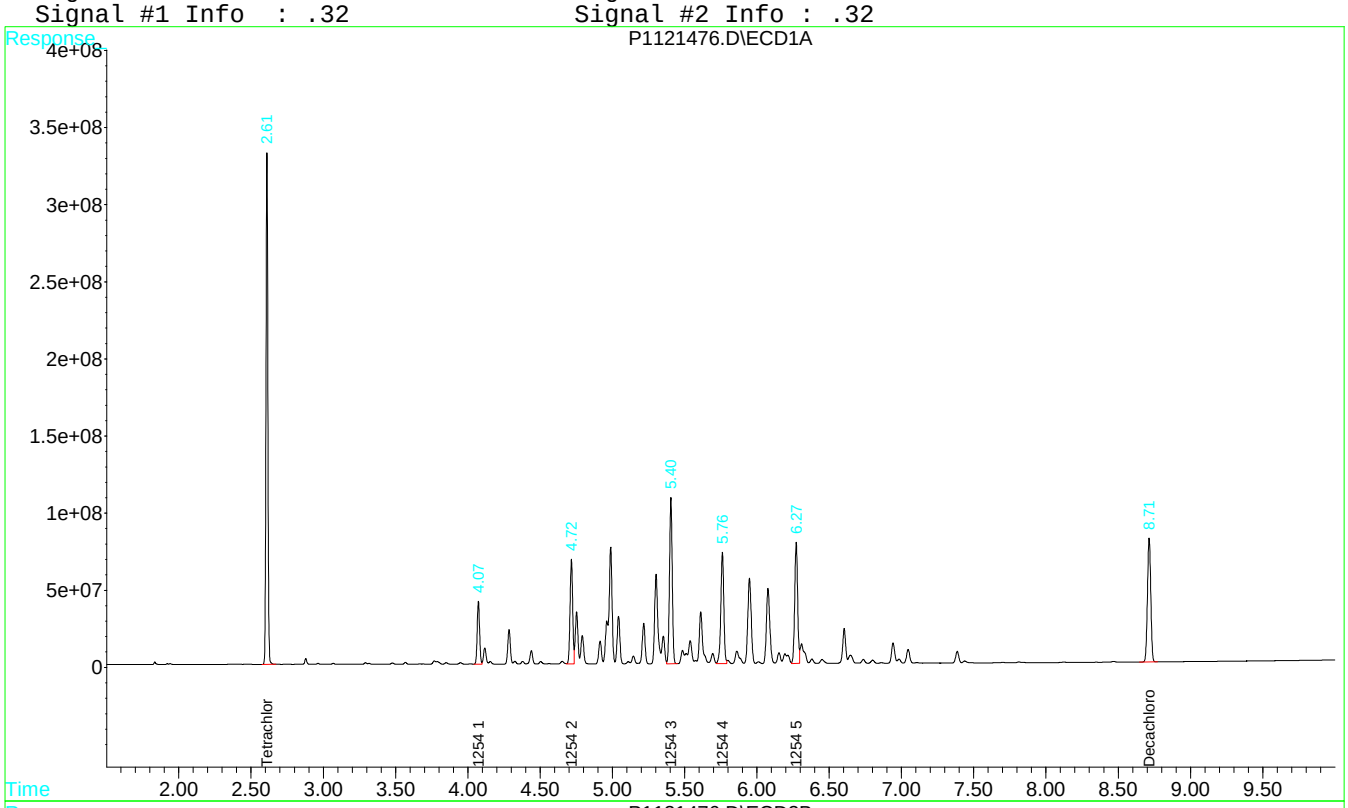
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121476.D P1051523.M Wed May 17 10:40:18 2023 Page 1

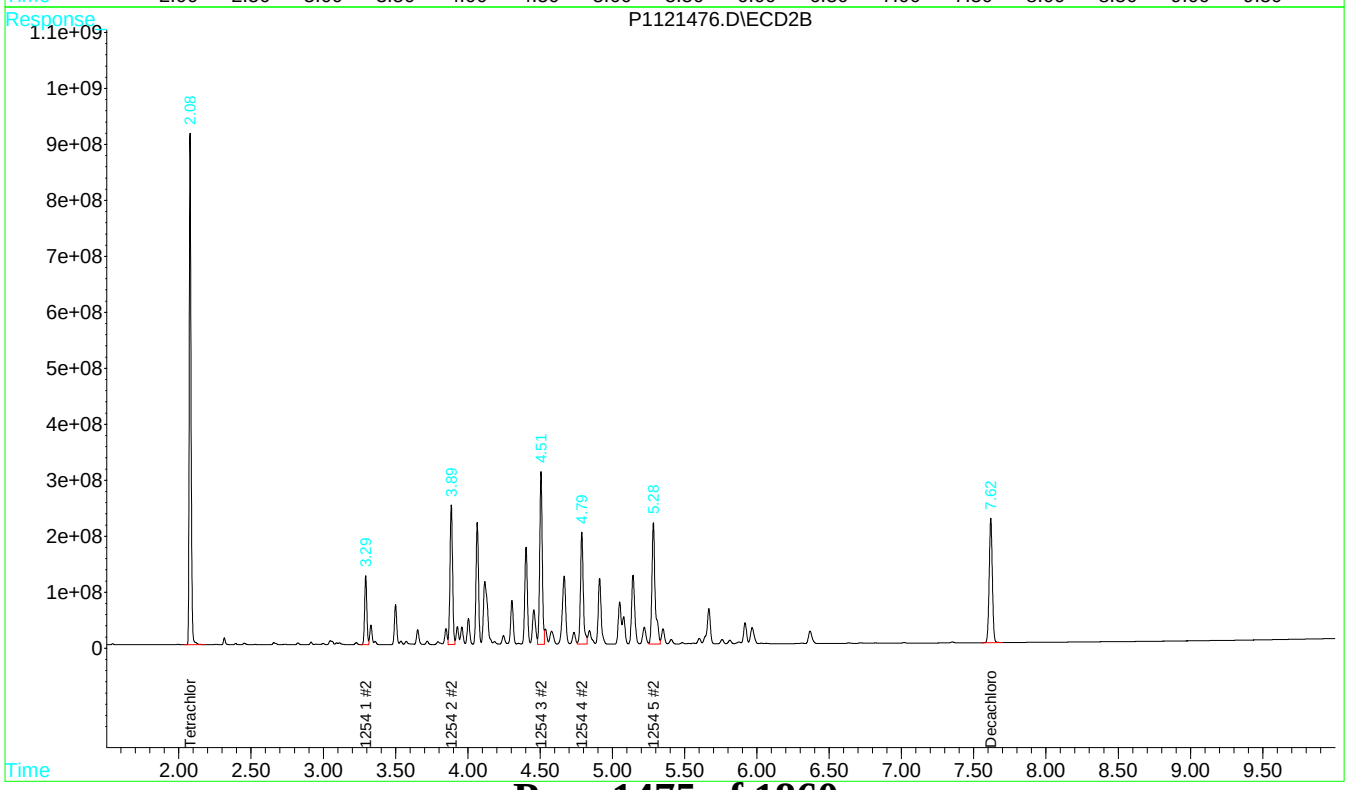
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121476.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121476.D\ECD2B.CH
Acq On : 5-15-2023 8:19:09 PM Operator: BCJ
Sample : SEQ-ARC1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 15 21:54 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





AROCLOR INITIAL CALIBRATION (SINGLE POINT)

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **23E0419**
Project: **170446801**

Instrument ID: ECD#1 Col 1
Calibration: SE30026
Sequence: S3E1718
Lab Number: S3E1718-ARC1

Date(s) Analyzed: 05/16/2023

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	2.000	1	04.07	04.02	04.12	258000000
		2	04.72	04.67	04.77	474150000
		3	05.41	05.36	05.46	782050000
		4	05.76	05.71	05.81	579400000
		5	06.27	06.22	06.32	607450000

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **23E0419**
Project: **170446801**

Instrument ID: ECD#1 Col 2
Calibration: SE30026
Sequence: S3E1718
Lab Number: S3E1718-ARC1

Date(s) Analyzed: 05/16/2023

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	2.000	1	03.29	03.24	03.34	707350000
		2	03.88	03.83	03.93	1711450000
		3	04.50	04.45	04.55	2111500000
		4	04.79	04.74	04.84	1593800000
		5	05.28	05.23	05.33	1952400000

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121558.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121558.D\ECD2B.CH
Acq On : 5-16-2023 5:13:48 PM Operator: BCJ
Sample : SEQ-ARC1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:31 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	3193.9E6	8388.6E6	0.221	0.215
	Spiked Amount 0.200	Range 30 - 150		Recovery =		110.50%	107.50%
45) S	Decachlorobiphen	8.72	7.62	1315.8E6	3785.7E6	0.168	0.195
	Spiked Amount 0.200	Range 30 - 150		Recovery =		84.00%	97.50%
	Target Compounds						
25) T	1254 1	4.07	3.29	516.0E6	1414.7E6	2.184	2.160
26) T	1254 2	4.72	3.88	948.3E6	3422.9E6	2.177	2.132
27) T	1254 3	5.41	4.50	1564.1E6	4223.0E6	2.159	2.222
28) T	1254 4	5.76	4.79	1158.8E6	3187.6E6	2.163	2.274
29) T	1254 5	6.27	5.28	1214.9E6	3904.8E6	2.137	2.222

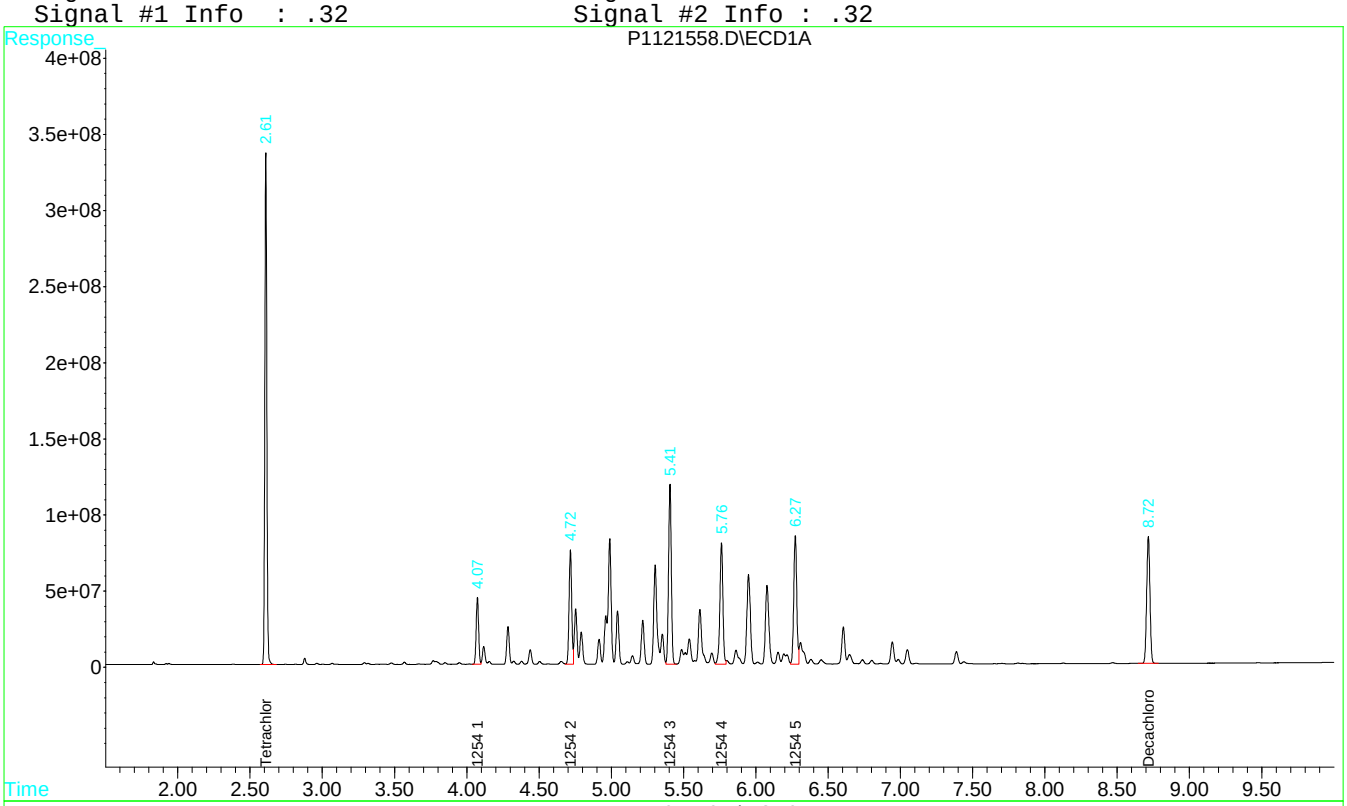
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121558.D P1051523.M Wed May 17 15:59:56 2023 Page 1

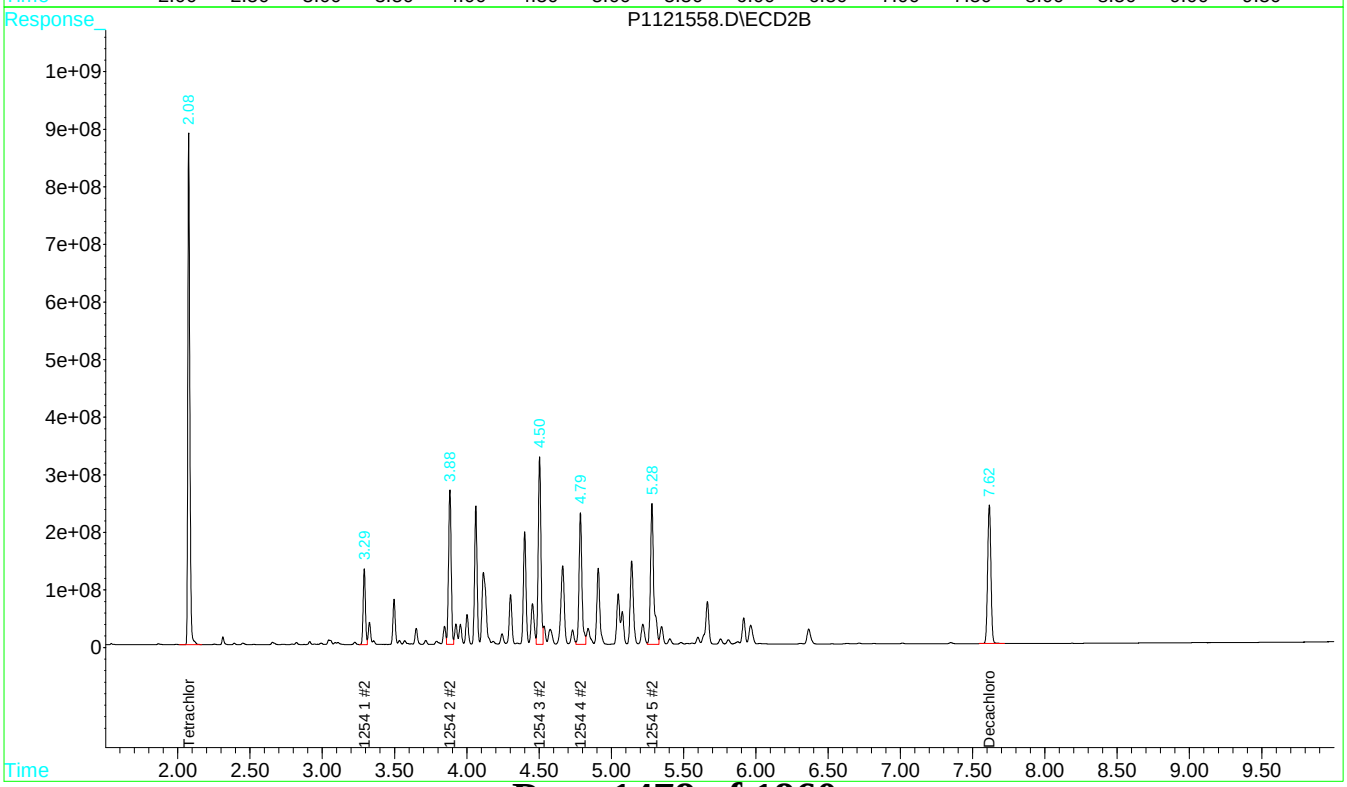
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051623A\P1121558.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\051623A\P1121558.D\ECD2B.CH
Acq On : 5-16-2023 5:13:48 PM Operator: BCJ
Sample : SEQ-ARC1 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 17 10:31 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: ARO
METHOD: EPA 8082A

FORM I

METHOD BLANK DATA SHEET

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30881-BLK2	File ID:	P1121526.D
Prepared:	05/14/23 08:42	Preparation:	EPA 3550C	Initial/Final:	30 g / 10 mL
Analyzed:	05/16/23 09:36	Instrument:	ECD#1		
Batch:	BE30881	Sequence:	S3E1636	Calibration:	SE30026

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
12674-11-2	Aroclor 1016	0.0167	U
12674-11-2	Aroclor 1016 [2C]	0.0167	U
11104-28-2	Aroclor 1221	0.0167	U
11104-28-2	Aroclor 1221 [2C]	0.0167	U
11141-16-5	Aroclor 1232	0.0167	U
11141-16-5	Aroclor 1232 [2C]	0.0167	U
53469-21-9	Aroclor 1242	0.0167	U
53469-21-9	Aroclor 1242 [2C]	0.0167	U
12672-29-6	Aroclor 1248	0.0167	U
12672-29-6	Aroclor 1248 [2C]	0.0167	U
11097-69-1	Aroclor 1254	0.0167	U
11097-69-1	Aroclor 1254 [2C]	0.0167	U
11096-82-5	Aroclor 1260	0.0167	U
11096-82-5	Aroclor 1260 [2C]	0.0167	U
1336-36-3	Total PCBs	0.0167	U
1336-36-3	Total PCBs [2C]	0.0167	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0667	0.0560	84.0	30 - 120	
Tetrachloro-m-xylene [2C]	0.0667	0.0543	81.5	30 - 120	
Decachlorobiphenyl	0.0667	0.0453	68.0	30 - 120	
Decachlorobiphenyl [2C]	0.0667	0.0507	76.0	30 - 120	

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121526.D\ECD1A.CH Vial: 51
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121526.D\ECD2B.CH
Acq On : 5-16-2023 9:36:16 AM Operator: BCJ
Sample : BE30881-BLK2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:53 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.61	2.08	2429.4E6	6368.9E6	0.168	0.163
Spiked Amount 0.200	Range 30 - 150		Recovery =		84.00%	81.50%
45) S Decachlorobiphen	8.71	7.62	1063.7E6	2958.1E6	0.136	0.152
Spiked Amount 0.200	Range 30 - 150		Recovery =		68.00%	76.00%
Target Compounds						

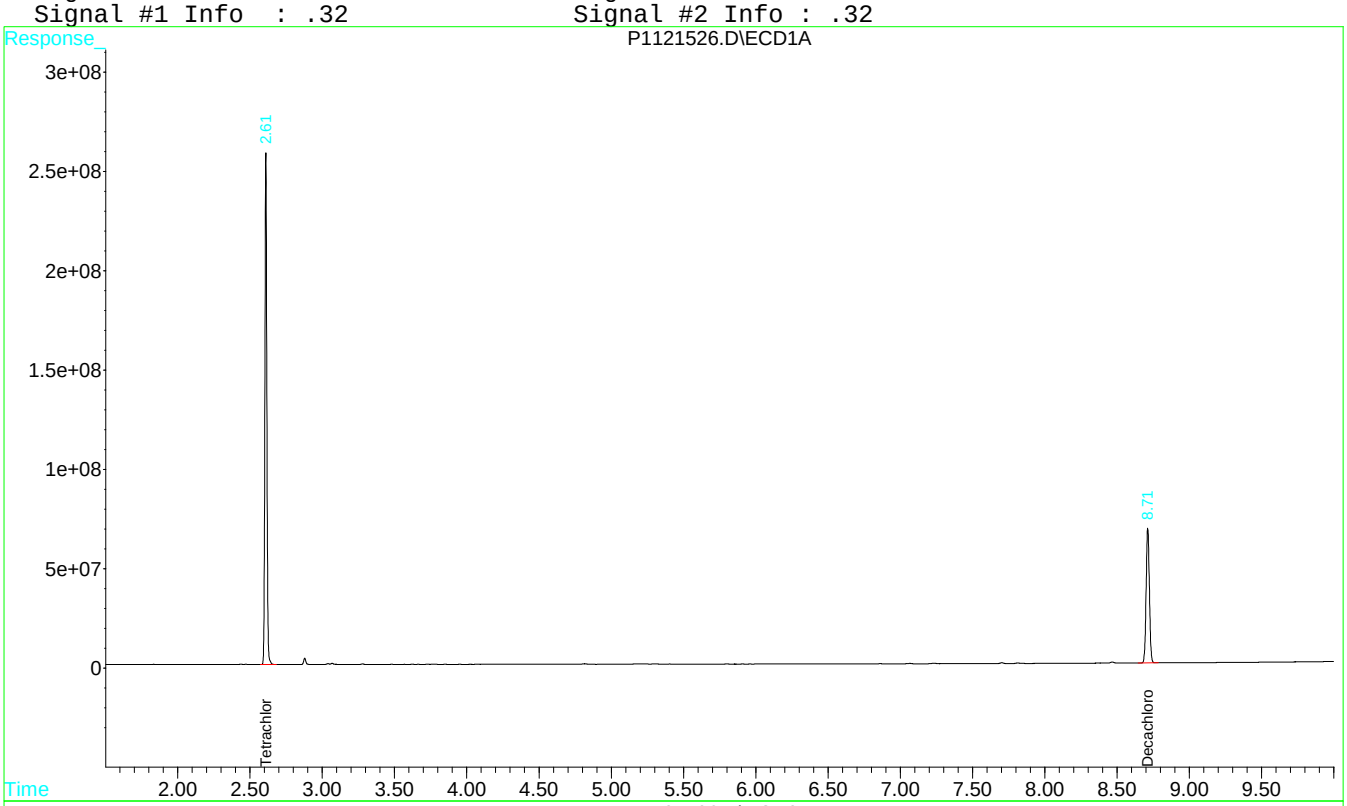
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121526.D P1051523.M Wed May 17 10:43:45 2023 Page 1

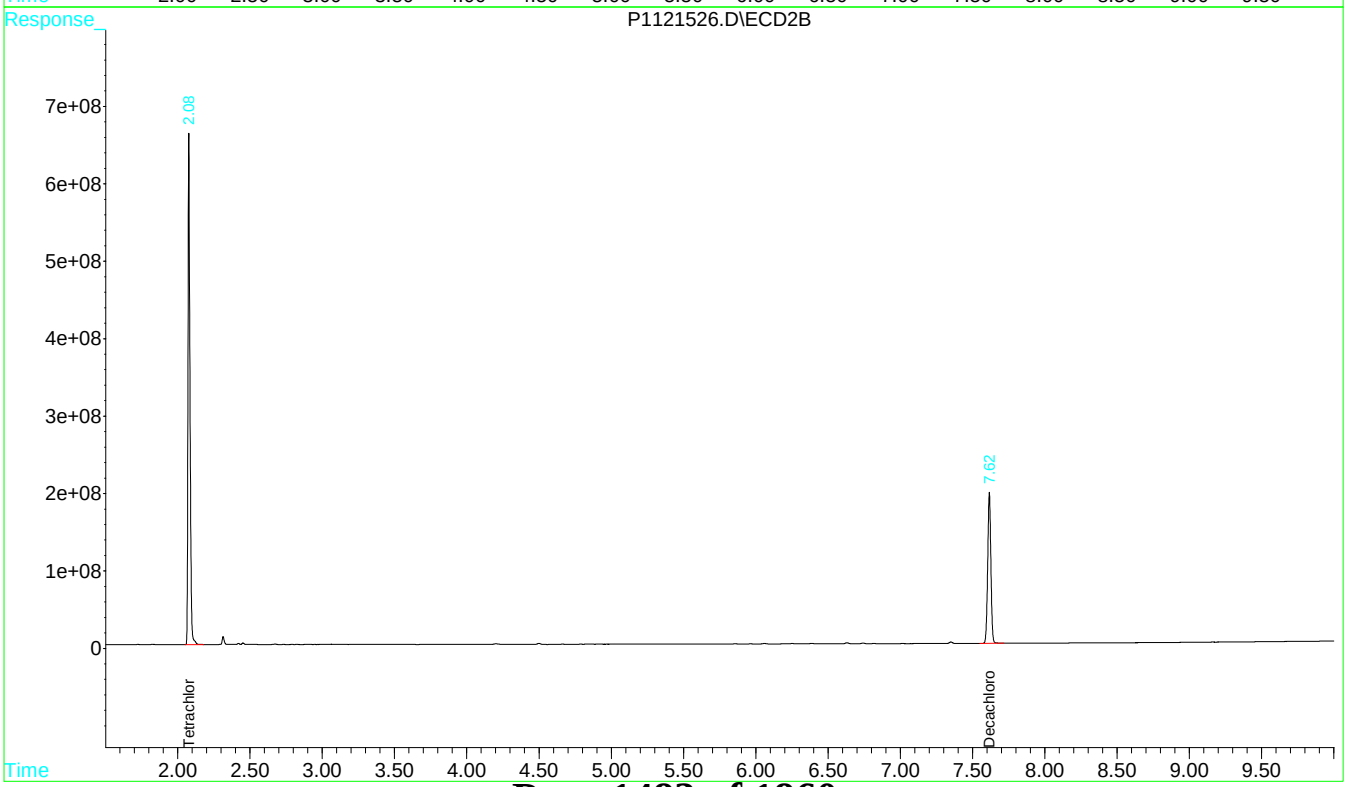
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121526.D\ECD1A.CH Vial: 51
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121526.D\ECD2B.CH
Acq On : 5-16-2023 9:36:16 AM Operator: BCJ
Sample : BE30881-BLK2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:53 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





LCS RAW DATA

SDG: 23E0419
CLASS: ARO
METHOD: EPA 8082A

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121527.D\ECD1A.CH Vial: 52
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121527.D\ECD2B.CH
Acq On : 5-16-2023 9:49:56 AM Operator: BCJ
Sample : BE30881-BS2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:53 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.61	2.08	2153.5E6	5854.5E6	0.149	0.150
	Spiked Amount 0.200	Range 30 - 150		Recovery =		74.50%	75.00%
45) S	Decachlorobiphen	8.71	7.62	1020.8E6	2854.5E6	0.131	0.147
	Spiked Amount 0.200	Range 30 - 150		Recovery =		65.50%	73.50%
	Target Compounds						
5) T	1016 1	2.96	2.39	185.9E6	533.4E6	0.841	0.898
6) T	1016 2	3.48	2.82	268.4E6	749.2E6	0.833	0.843
7) T	1016 3	3.85	3.11	324.1E6	1019.2E6	0.840	0.845
8) T	1016 4	3.95	3.23	274.5E6	770.6E6	0.839	0.889
9) T	1016 5	4.28	3.50	255.4E6	761.7E6	0.827	0.845
30) T	1260 1	5.61	4.67	476.2E6	1329.1E6	0.885	0.917
31) T	1260 2	5.95	4.91	682.9E6	1551.6E6	0.833	0.904
32) T	1260 3	6.27	5.28	629.3E6	1824.9E6	0.823	0.890
33) T	1260 4	6.38	5.35	386.4E6	1152.6E6	0.818	0.907
34) T	1260 5	7.05	5.96	895.1E6	2498.5E6	0.755	0.843

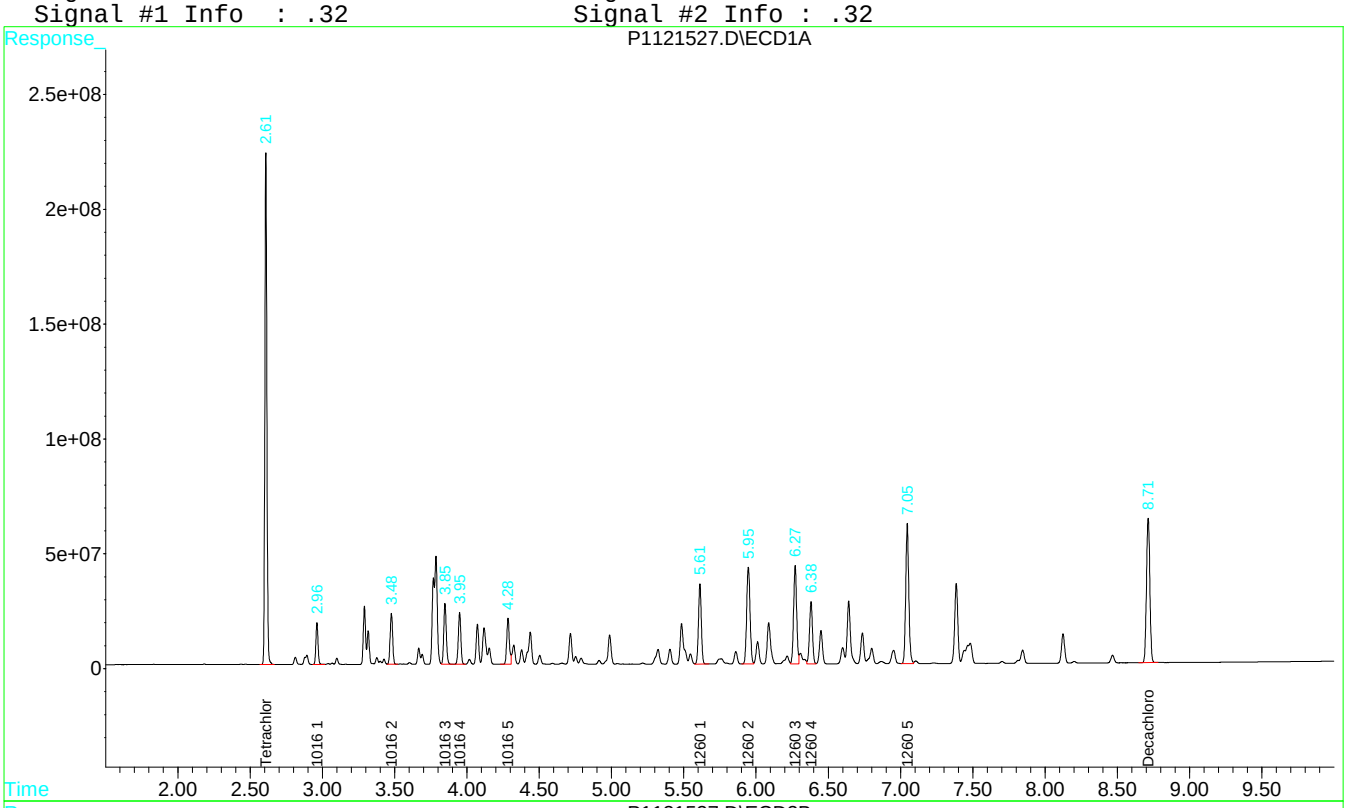
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1121527.D P1051523.M Wed May 17 10:43:49 2023 Page 1

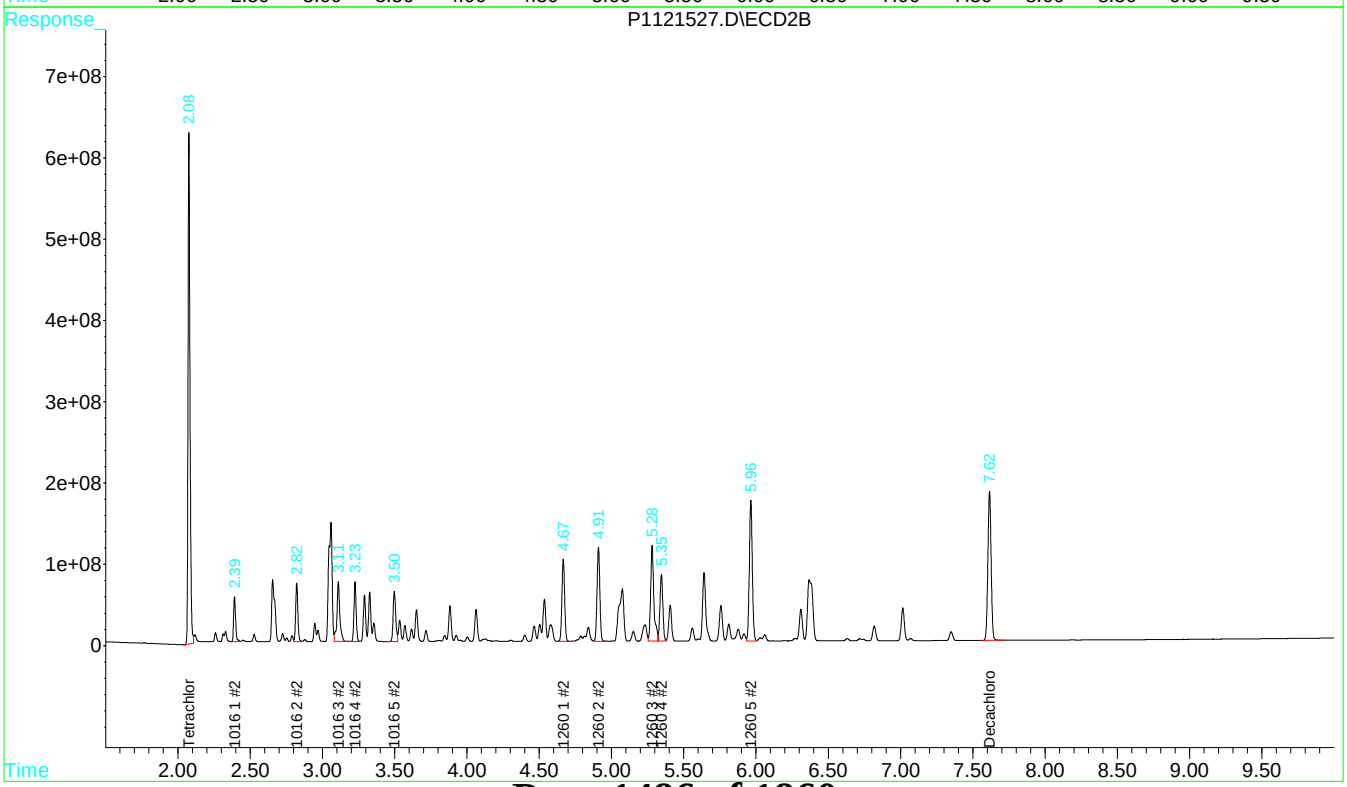
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051523B\P1121527.D\ECD1A.CH Vial: 52
Signal #2 : C:\HPCHEM\1\DATA\051523B\P1121527.D\ECD2B.CH
Acq On : 5-16-2023 9:49:56 AM Operator: BCJ
Sample : BE30881-BS2 Inst : ECD#1
Misc : QBP051323A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 10:53 2023 Quant Results File: P1051523.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051523.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Mon May 15 21:51:50 2023
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





BENCHSHEETS

SDG: 23E0419

CLASS: ARO

METHOD: EPA 8082A

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30881

Preparation Date: 05/14/2023 08:42

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:20:12AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: S23E149 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0239-01 A	Polychlorinated Biphenyls (PCB)	30.7	10				rocky
23E0239-01 A	Pesticides, NYSDEC Part 375 Target List	30.7	10				rocky
23E0383-03 E	Pesticides, 8081 target list	30.8	10				rocky
23E0383-03 E	Polychlorinated Biphenyls (PCB)	30.8	10				rocky
23E0383-04 E	Pesticides, 8081 target list	30.3	10				rocky
23E0383-04 E	Polychlorinated Biphenyls (PCB)	30.3	10				rocky
23E0419-11 B	PCB, 8082 MASTER	30.1	10				rocky
23E0419-11 B	PEST, 8081 MASTER	30.1	10				rocky
23E0419-12 B	PCB, 8082 MASTER	30.2	10				
23E0419-12 B	PEST, 8081 MASTER	30.2	10				
23E0428-01 D	Polychlorinated Biphenyls (PCB)	30.2	10				
23E0428-01 D	Pesticides, 8081 target list	30.2	10				
23E0428-02 D	Pesticides, 8081 target list	30.3	10				
23E0428-02 D	Polychlorinated Biphenyls (PCB)	30.3	10				
23E0428-03 D	Pesticides, 8081 target list	30.3	10				
23E0428-03 D	Polychlorinated Biphenyls (PCB)	30.3	10				
23E0430-01 B	Pesticides, EPA TCL List	30.8	10				
23E0430-01 B	Polychlorinated Biphenyls (PCB)	30.8	10				
23E0430-02 B	Pesticides, EPA TCL List	30.5	10				
23E0430-02 B	Polychlorinated Biphenyls (PCB)	30.5	10				
23E0433-01 T	Pesticides, 8081 target list	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	PCB, 8082 MASTER	30.5	10				
23E0433-01 T	PCB, 8082 NJ DKQP MASTER	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	PEST, 8081 MASTER	30.5	10				
23E0433-01 T	Pesticides, EPA TCL List	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	Pesticides, NYSDEC Part 375 Target List	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	Polychlorinated Biphenyls (PCB)	30.5	10				Added for BatchQC in: BE3(
23E0433-01 T	PEST, 8081 NJ DKQP MASTER	30.5	10				Added for BatchQC in: BE3(
23E0433-03 F	PCB, 8082 MASTER	30.6	10				
23E0433-03 F	PEST, 8081 MASTER	30.6	10				
23E0433-04 F	PCB, 8082 MASTER	30.7	10				
23E0433-04 F	PEST, 8081 MASTER	30.7	10				
23E0439-01 E	Pesticides, 8081 target list	30.2	10				

Preparations Performed by **kaz** **Date:** **05/14/2023 08:42**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30881

Preparation Date: 05/14/2023 08:42

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:20:12AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: S23E149 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0439-01 E	Polychlorinated Biphenyls (PCB)	30.2	10				
23E0440-21 F	PCB, 8082 NJ DKQP MASTER	30.4	10				
23E0440-21 F	PEST, 8081 NJ DKQP MASTER	30.4	10				
23E0440-22 F	PCB, 8082 NJ DKQP MASTER	30.3	10				
23E0440-22 F	PEST, 8081 NJ DKQP MASTER	30.3	10				
23E0529-01 E	Polychlorinated Biphenyls (PCB)	30.3	10				
23E0529-01 E	Pesticides, 8081 target list	30.3	10				
23E0751-01 A	Polychlorinated Biphenyls (PCB)	30.6	10				
23E0751-06 A	Pesticides, 8081 target list	30.5	10				
BE30881-BLK1	QC	30	10				
BE30881-BLK2	QC	30	10				
BE30881-BS1	QC	30	10	S23D303		100	
BE30881-BS2	QC	30	10				
BE30881-MS1	QC	30.1	10	S23D303	23E0433-01	100	
BE30881-MS2	QC	30.7	10		23E0433-01		
BE30881-MSD1	QC	30.9	10	S23D303	23E0433-01	100	
BE30881-MSD2	QC	30.2	10		23E0433-01		

SUNDAY MAY 14TH

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
S23A293	Methylene Chloride HW	ED535-US	S23A294	HEXANE	ED590-US
S23B045	Sodium Sulfate, Anhydrous	139404			

Preparations Performed by **kaz** **Date:** **05/14/2023 08:42**

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: HERB

METHOD: EPA 8151A

DATA PACKAGE COVER PAGE

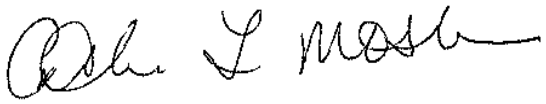
EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/19/2023 Title: Laboratory Manager

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sequence: S3E1157 Instrument: GCECD4

Calibration: SD30025

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (S3E1157-CCV1)				Lab File ID: PS454000.d		Analyzed: 05/11/23 12:09		
2,4-Dichlorophenylacetic acid (DCAA)	0.400	106	0 - 200	2.614	2.6125	0.0015	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	95.0	0 - 200	2.888	2.886833	0.0012	+/-1.00	
Blank (BE30644-BLK1)				Lab File ID: PS454014.d		Analyzed: 05/11/23 15:03		
2,4-Dichlorophenylacetic acid (DCAA)	0.415	85.0	21 - 150	2.614	2.6125	0.0015	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.415	83.2	21 - 150	2.888	2.886833	0.0012	+/-1.00	
LCS (BE30644-BS1)				Lab File ID: PS454015.d		Analyzed: 05/11/23 15:14		
2,4-Dichlorophenylacetic acid (DCAA)	0.415	90.8	21 - 150	2.615	2.6125	0.0025	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.415	89.8	21 - 150	2.888	2.886833	0.0012	+/-1.00	
Calibration Check (S3E1157-CCV2)				Lab File ID: PS454019.d		Analyzed: 05/11/23 15:57		
2,4-Dichlorophenylacetic acid (DCAA)	0.400	100	0 - 200	2.613	2.6125	0.0005	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	94.5	0 - 200	2.887	2.886833	0.0002	+/-1.00	
EHQ_ITEM304_COMP01_230505 (23E0419-11)				Lab File ID: PS454032.d		Analyzed: 05/11/23 18:16		
2,4-Dichlorophenylacetic acid (DCAA)	0.451	81.6	21 - 150	2.614	2.6125	0.0015	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.451	77.8	21 - 150	2.888	2.886833	0.0012	+/-1.00	
EHQ_ITEM304_COMP02_230505 (23E0419-12)				Lab File ID: PS454033.d		Analyzed: 05/11/23 18:27		
2,4-Dichlorophenylacetic acid (DCAA)	0.444	70.6	21 - 150	2.614	2.6125	0.0015	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.444	68.6	21 - 150	2.888	2.886833	0.0012	+/-1.00	
Calibration Check (S3E1157-CCV3)				Lab File ID: PS454041.d		Analyzed: 05/11/23 19:53		
2,4-Dichlorophenylacetic acid (DCAA)	0.400	99.5	0 - 200	2.614	2.6125	0.0015	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	93.8	0 - 200	2.887	2.886833	0.0002	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Soil		
Batch:	BE30644	Laboratory ID:	BE30644-BS1
Preparation:	EPA 3550C/8151A	Initial/Final:	30.1 g / 25 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
2,4,5-T	0.133	0.110	82.5	10 - 120
2,4,5-T [2C]	0.133	0.104	78.1	10 - 120
2,4,5-TP (Silvex)	0.133	0.115	86.9	10 - 120
2,4,5-TP (Silvex) [2C]	0.133	0.109	81.9	10 - 120
2,4-D	0.133	0.120	90.6	10 - 118
2,4-D [2C]	0.133	0.117	88.1	10 - 118

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30644 Batch Matrix: Soil Preparation: EPA 3550C/8151A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11	PS454032.d	05/10/23 08:22	
EHQ_ITEM304_COMP02_230505	23E0419-12	PS454033.d	05/10/23 08:22	
Blank	BE30644-BLK1	PS454014.d	05/10/23 08:22	
LCS	BE30644-BS1	PS454015.d	05/10/23 08:22	

FORM I

METHOD BLANK DATA SHEET

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30644-BLK1	File ID:	PS454014.d
Prepared:	05/10/23 08:22	Preparation:	EPA 3550C/8151A	Initial/Final:	30.1 g / 25 mL
Analyzed:	05/11/23 15:03	Instrument:	GCECD4		
Batch:	BE30644	Sequence:	S3E1157	Calibration:	SD30025

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
93-76-5	2,4,5-T	0.0199	U
93-76-5	2,4,5-T [2C]	0.0199	U
93-72-1	2,4,5-TP (Silvex)	0.0199	U
93-72-1	2,4,5-TP (Silvex) [2C]	0.0199	U
94-75-7	2,4-D	0.0199	U
94-75-7	2,4-D [2C]	0.0199	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.415	0.353	85.0	21 - 150	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.415	0.346	83.2	21 - 150	

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3D1230	Instrument:	GCECD4
		Calibration:	SD30025

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	S3D1230-CAL1	PS452936.d	04/12/23 12:34
Cal Standard	S3D1230-CAL2	PS452937.d	04/12/23 12:45
Cal Standard	S3D1230-CAL3	PS452938.d	04/12/23 12:56
Cal Standard	S3D1230-CAL4	PS452939.d	04/12/23 13:07
Cal Standard	S3D1230-CAL5	PS452940.d	04/12/23 13:17
Cal Standard	S3D1230-CAL6	PS452941.d	04/12/23 13:28
Secondary Cal Check	S3D1230-SCV1	PS452942.d	04/12/23 13:39

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1157	Instrument:	GCECD4
		Calibration:	SD30025

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	S3E1157-CCV1	PS454000.d	05/11/23 12:09
Blank	BE30644-BLK1	PS454014.d	05/11/23 15:03
LCS	BE30644-BS1	PS454015.d	05/11/23 15:14
Calibration Check	S3E1157-CCV2	PS454019.d	05/11/23 15:57
EHQ_ITEM304_COMP01_230505	23E0419-11	PS454032.d	05/11/23 18:16
EHQ_ITEM304_COMP02_230505	23E0419-12	PS454033.d	05/11/23 18:27
Calibration Check	S3E1157-CCV3	PS454041.d	05/11/23 19:53

HOLDING TIME SUMMARY

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/10/23 08:22	4.81	14.00	05/11/23 18:16	1.41	40.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/10/23 08:22	4.80	14.00	05/11/23 18:27	1.42	40.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:** GCECD4

Analyte	LOD	LOQ	Units
2,4,5-T	0.0200	0.0200	mg/kg
2,4,5-T [2C]	0.0200	0.0200	mg/kg
2,4,5-TP (Silvex)	0.0200	0.0200	mg/kg
2,4,5-TP (Silvex) [2C]	0.0200	0.0200	mg/kg
2,4-D	0.0200	0.0200	mg/kg
2,4-D [2C]	0.0200	0.0200	mg/kg

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	PS454032.d
Sampled:	05/05/23 13:00	Prepared:	05/10/23 08:22	Analyzed:	05/11/23 18:16
Solids:	90.64	Preparation:	EPA 3550C/8151A	Initial/Final:	30.6 g / 25 mL
Batch:	BE30644	Sequence:	S3E1157	Calibration:	SD30025
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-76-5	2,4,5-T	1	0.0216	U
93-72-1	2,4,5-TP (Silvex)	1	0.0216	U
94-75-7	2,4-D	1	0.0216	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.451	0.368	81.6	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454032.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 18:16 pm
Operator : BCJ-GXB
Sample : 23E0419-11
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 30 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 08:44:18 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.614	2.888	82536431	44964002	0.408	0.389
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.20%#	0.19%#
	Target Compounds						
1) M	Dalapon	0.000	0.000	0	0	N.D. d	N.D. d
3) M	Dicamba	0.000	0.000	0	0	N.D.	N.D.
4) M	Dichloroprop	0.000	0.000	0	0	N.D. d	N.D. d
5) M	2,4-D	0.000	0.000	0	0	N.D. d	N.D. d
6) M	2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
7) M	2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
8) M	2,4-DB	0.000	0.000	0	0	N.D.	N.D.
9) M	Dinoseb	0.000	0.000	0	0	N.D.	N.D.

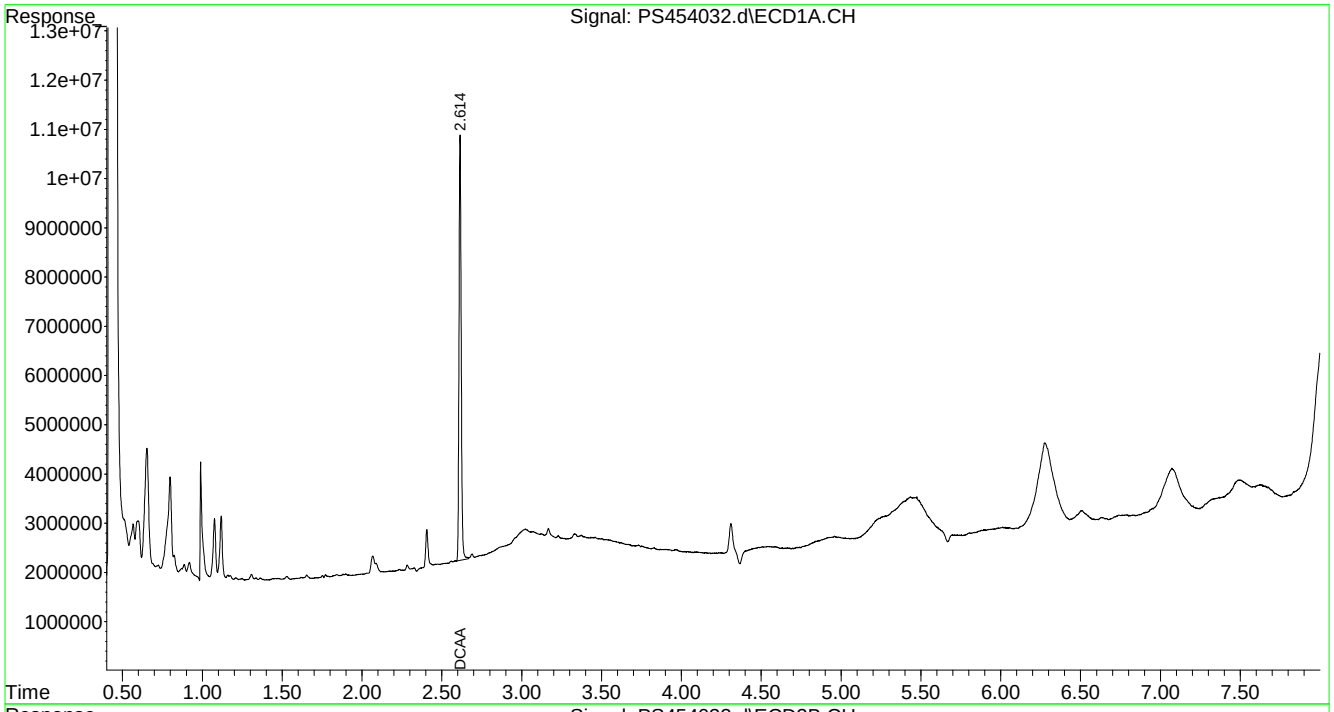
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

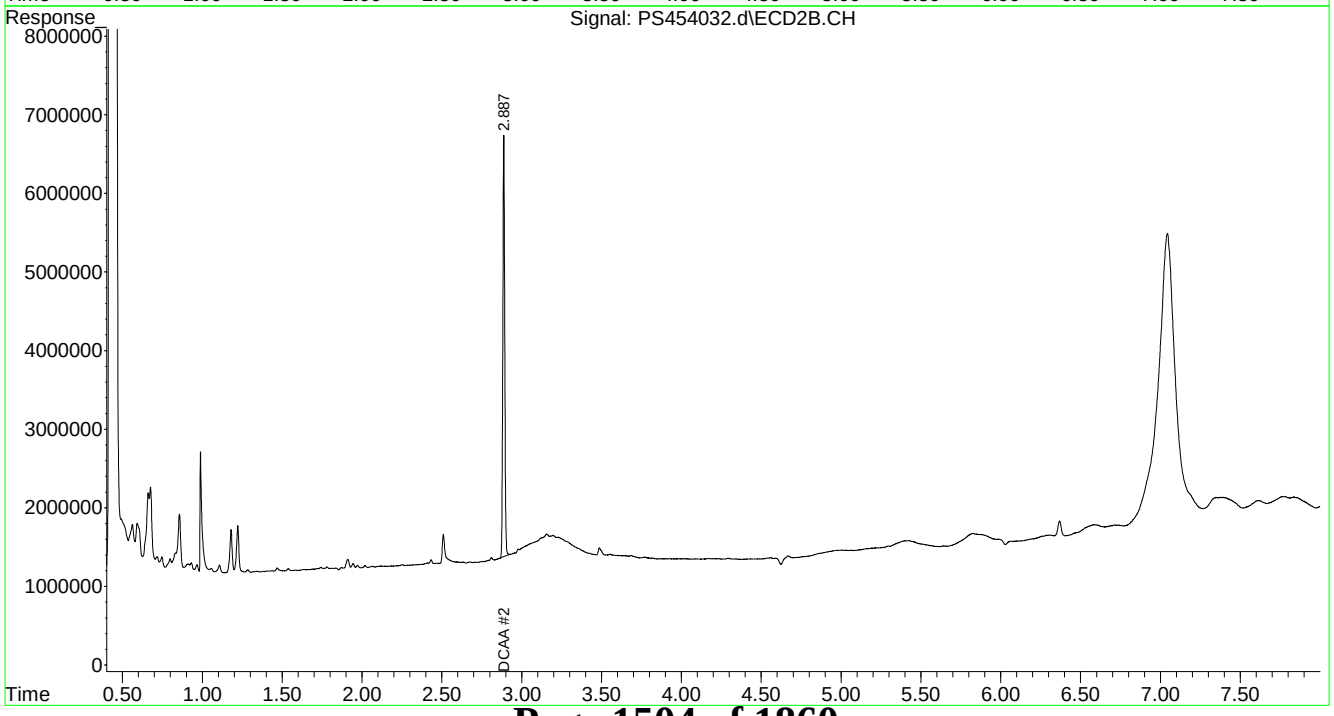
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454032.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 18:16 pm
Operator : BCJ-GXB
Sample : 23E0419-11
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 30 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 08:44:18 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	PS454033.d
Sampled:	05/05/23 13:15	Prepared:	05/10/23 08:22	Analyzed:	05/11/23 18:27
Solids:	91.31	Preparation:	EPA 3550C/8151A	Initial/Final:	30.8 g / 25 mL
Batch:	BE30644	Sequence:	S3E1157	Calibration:	SD30025
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-76-5	2,4,5-T	1	0.0213	U
93-72-1	2,4,5-TP (Silvex)	1	0.0213	U
94-75-7	2,4-D	1	0.0213	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.444	0.314	70.6	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454033.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 18:27 pm
Operator : BCJ-GXB
Sample : 23E0419-12
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 31 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 08:44:41 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.614	2.888	71458380	39653216	0.353	0.343
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.18%#	0.17%#
	Target Compounds						
1) M	Dalapon	0.000	0.000	0	0	N.D. d	N.D. d
3) M	Dicamba	0.000	0.000	0	0	N.D.	N.D.
4) M	Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
5) M	2,4-D	0.000	0.000	0	0	N.D.	N.D.
6) M	2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
7) M	2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
8) M	2,4-DB	0.000	0.000	0	0	N.D.	N.D.
9) M	Dinoseb	0.000	0.000	0	0	N.D.	N.D.

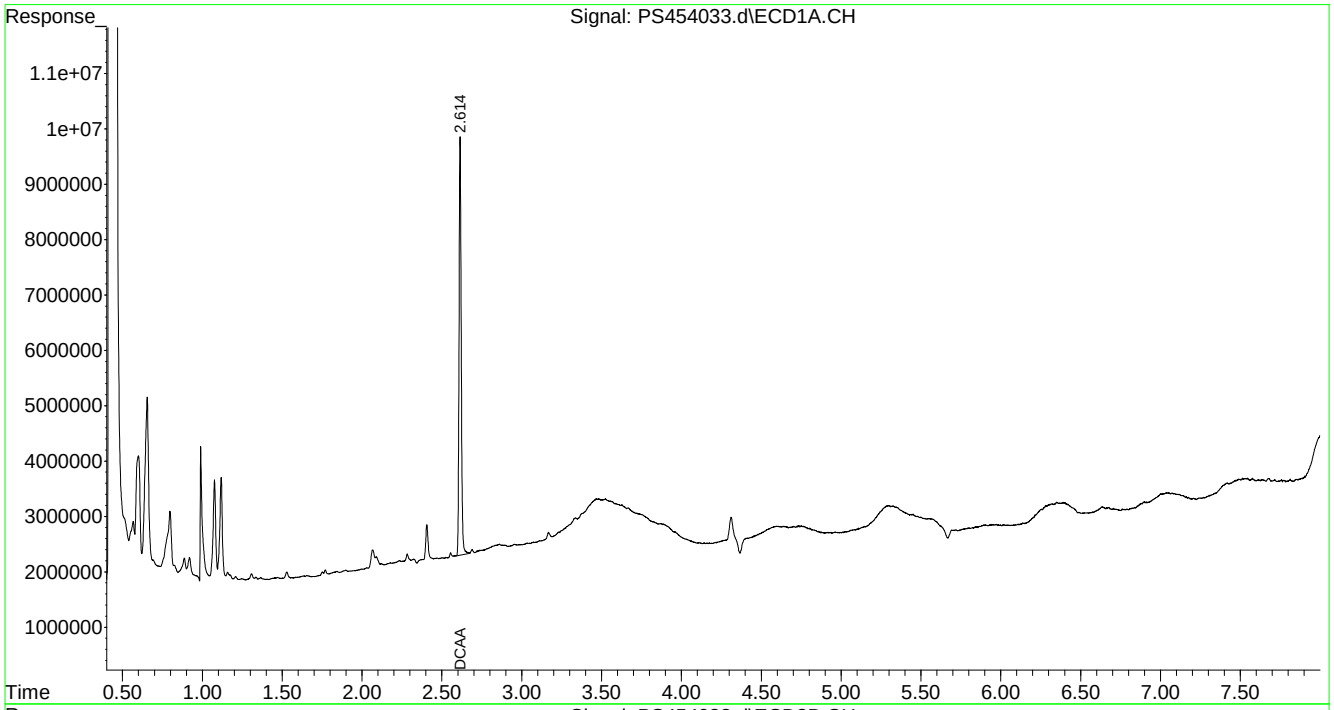
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

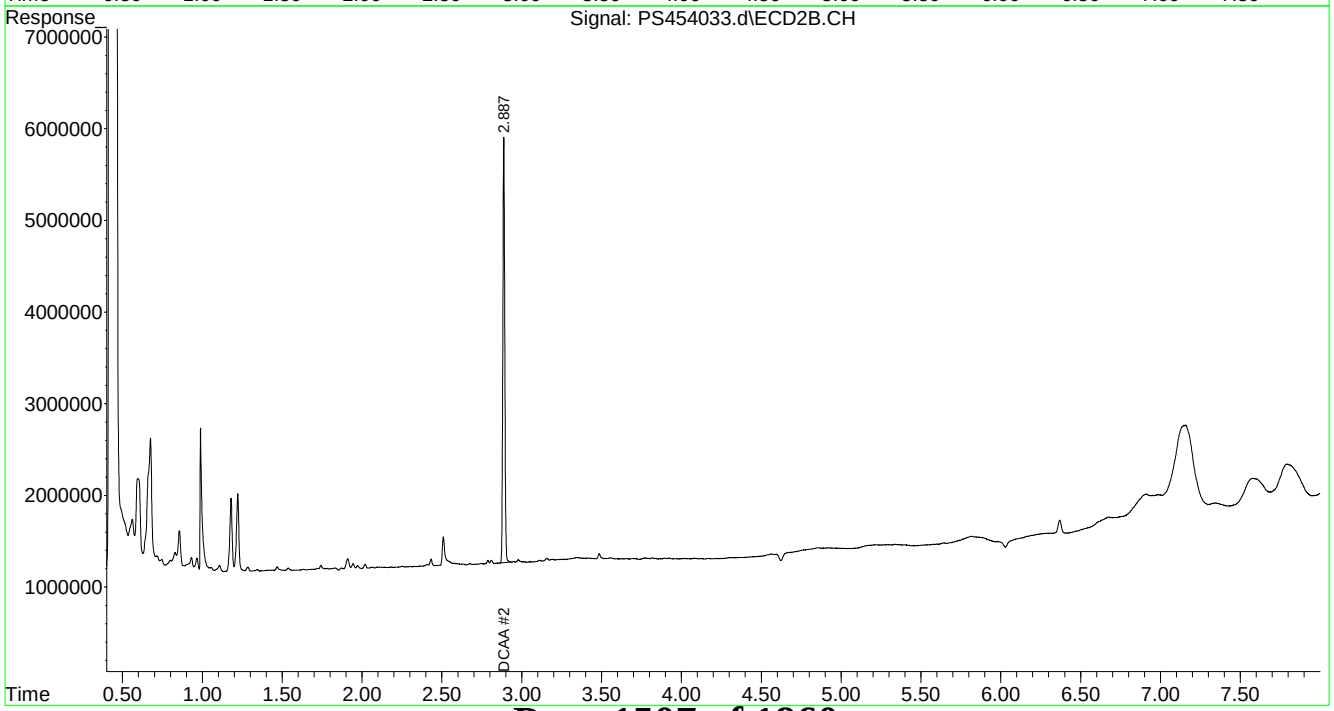
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454033.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 18:27 pm
Operator : BCJ-GXB
Sample : 23E0419-12
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 31 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 08:44:41 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

EHQ_ITEM304_COMP01_230505

Laboratory:	York Analytical Laboratories, Inc. - St			SDG:	23E0419
Client:	Langan Engineering & Environmental			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-11	File ID:	PS454032.d
Sampled:	05/05/23 13:00	Prepared:	05/10/23 08:22	Analyzed:	05/11/23 18:16
Solids:	90.64	Preparation:	EPA 3550C/8151A	Initial/Final:	30.6 g / 25 mL
Batch:	BE30644	Sequence:	S3E1157	Calibration:	SD30025
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-76-5	2,4,5-T	1	0.0216	0.0216		U
93-72-1	2,4,5-TP (Silvex)	1	0.0216	0.0216		U
94-75-7	2,4-D	1	0.0216	0.0216		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.451	0.368	81.6	21 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - St			SDG:	23E0419
Client:	Langan Engineering & Environmental			Project:	170446801
Matrix:	Soil	Laboratory ID:	23E0419-12	File ID:	PS454033.d
Sampled:	05/05/23 13:15	Prepared:	05/10/23 08:22	Analyzed:	05/11/23 18:27
Solids:	91.31	Preparation:	EPA 3550C/8151A	Initial/Final:	30.8 g / 25 mL
Batch:	BE30644	Sequence:	S3E1157	Calibration:	SD30025
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-76-5	2,4,5-T	1	0.0213	0.0213		U
93-72-1	2,4,5-TP (Silvex)	1	0.0213	0.0213		U
94-75-7	2,4-D	1	0.0213	0.0213		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.444	0.314	70.6	21 - 150	

* Values outside of QC limits

FORM VI

INITIAL CALIBRATION DATA

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30025
Instrument: GCECD4
Calibration Date: 04/12/23 14:05

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
2,4,5-T	0.02	1.007992E+09	0.05	1.102163E+09	0.1	1.114E+09	0.15	1.002E+09	0.2	1.0525E+09	0.25	1.0804E+09
2,4,5-T [2C]	0.02	5.50036E+08	0.05	6.007116E+08	0.1	6.037918E+08	0.15	5.322253E+08	0.2	5.55E+08	0.25	5.7E+08
2,4,5-TP (Silvex)	0.02	1.205604E+09	0.05	1.204825E+09	0.1	1.143E+09	0.15	1.088667E+09	0.2	1.0875E+09	0.25	1.1148E+09
2,4,5-TP (Silvex) [2C]	0.02	6.50003E+08	0.05	6.492302E+08	0.1	5.983327E+08	0.15	5.725637E+08	0.2	5.725E+08	0.25	5.824E+08
2,4-D	0.02	2.076452E+08	0.05	2.424612E+08	0.1	2.469174E+08	0.15	2.175071E+08	0.2	2.296551E+08	0.25	2.325566E+08
2,4-D [2C]	0.02	1.215561E+08	0.05	1.403343E+08	0.1	1.442468E+08	0.15	1.246121E+08	0.2	1.306088E+08	0.25	1.328094E+08
2,4-DB	0.02	1.353621E+08	0.05	1.57435E+08	0.1	1.746411E+08	0.15	1.383553E+08	0.2	1.507631E+08	0.25	1.552928E+08
2,4-DB [2C]	0.02	9.2271E+07	0.05	8.854226E+07	0.1	9.503211E+07	0.15	8.320434E+07	0.2	8.818905E+07	0.25	9.051412E+07
2,4-Dichlorophenylacetic acid (DCAA)	0.2	2.332078E+08	0.3	2.114017E+08	0.4	1.969735E+08	0.5	1.929792E+08	0.6	1.901667E+08	0.7	1.9E+08
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.2	1.324442E+08	0.3	1.207292E+08	0.4	1.134976E+08	0.5	1.094502E+08	0.6	1.087119E+08	0.7	1.082217E+08
Dalapon	0.05	3.457586E+08	0.1	3.250049E+08	0.2	3.000701E+08	0.5	2.624E+08	1	2.59E+08	1.5	2.534667E+08
Dalapon [2C]	0.05	1.606517E+08	0.1	1.584556E+08	0.2	1.470763E+08	0.5	1.290452E+08	1	1.274E+08	1.5	1.247333E+08
Dicamba	0.02	8.91724E+08	0.05	8.53695E+08	0.1	7.954481E+08	0.15	7.6E+08	0.2	7.57E+08	0.25	7.696E+08
Dicamba [2C]	0.02	4.776577E+08	0.05	4.589976E+08	0.1	4.263026E+08	0.15	4.020596E+08	0.2	3.993066E+08	0.25	4.04E+08

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30025
Instrument: GCECD4
Calibration Date: 04/12/23 14:05

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
2,4,5-T	1.059842E+09	4.472559	3.932	2.009912E-02		0.9971119	0.99	
2,4,5-T [2C]	5.686274E+08	5.05081	4.45	8.723054E-03		0.9961269	0.99	
2,4,5-TP (Silvex)	1.140733E+09	4.727024	3.745333	0.0192758		0.9986104	0.99	
2,4,5-TP (Silvex) [2C]	6.041716E+08	6.032157	4.125833	0.023685		0.9985553	0.99	
2,4-D	2.294571E+08	6.470526	3.258	6.40334E-03		0.9964482	0.99	
2,4-D [2C]	1.323613E+08	6.628765	3.568833	2.080821E-02		0.9954718	0.99	
2,4-DB	1.519749E+08	9.386749	4.346667	3.310256E-02			20	
2,4-DB [2C]	8.962548E+07	4.504329	4.893333	0.0103633			20	
2,4-Dichlorophenylacetic acid (DCAA)	2.024548E+08	8.416511	2.6125	1.926087E-02	0.98994		0.99	*
2,4-Dichlorophenylacetic acid (DCAA) [2C]	1.155091E+08	8.25048	2.886833	6.319272E-03	0.98981		0.99	*
Dalapon	2.909501E+08	13.30067	0.6038333	0.1941342		0.9992412	0.99	
Dalapon [2C]	1.41227E+08	11.50485	0.6051667	0.2203852		0.9993438	0.99	
Dicamba	8.045779E+08	6.934509	2.715	1.457883E-02		0.9985979	0.99	
Dicamba [2C]	4.28054E+08	7.749424	2.989	2.194045E-02		0.9983692	0.99	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452936.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 12:34 pm
Operator : BJ-KEO
Sample : SEQ-CAL1
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:26:43 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:26:07 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.613	2.887	46641547	26488826	0.256	0.244
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.13%#	0.12%#
	Target Compounds						
1) M	Dalapon	0.605	0.606	17287928	8032584	0.074	0.066
3) M	Dicamba	2.715	2.989	17834480	9553153	0.025	0.024
4) M	Dichloroprop	3.132	3.384	4945018	2638650	0.025	0.023
5) M	2,4-D	3.259	3.569	4152903	2431122	0.020	0.019
6) M	2,4,5-TP ...	3.745	4.126	24112080	13000063	0.023	0.023
7) M	2,4,5-T	3.933	4.451	20159842	11000716	0.021	0.020
8) M	2,4-DB	4.349	4.894	2707243	1845420	0.020m	0.023m
9) M	Dinoseb	5.223	5.170	14058968	6952102	0.021	0.020

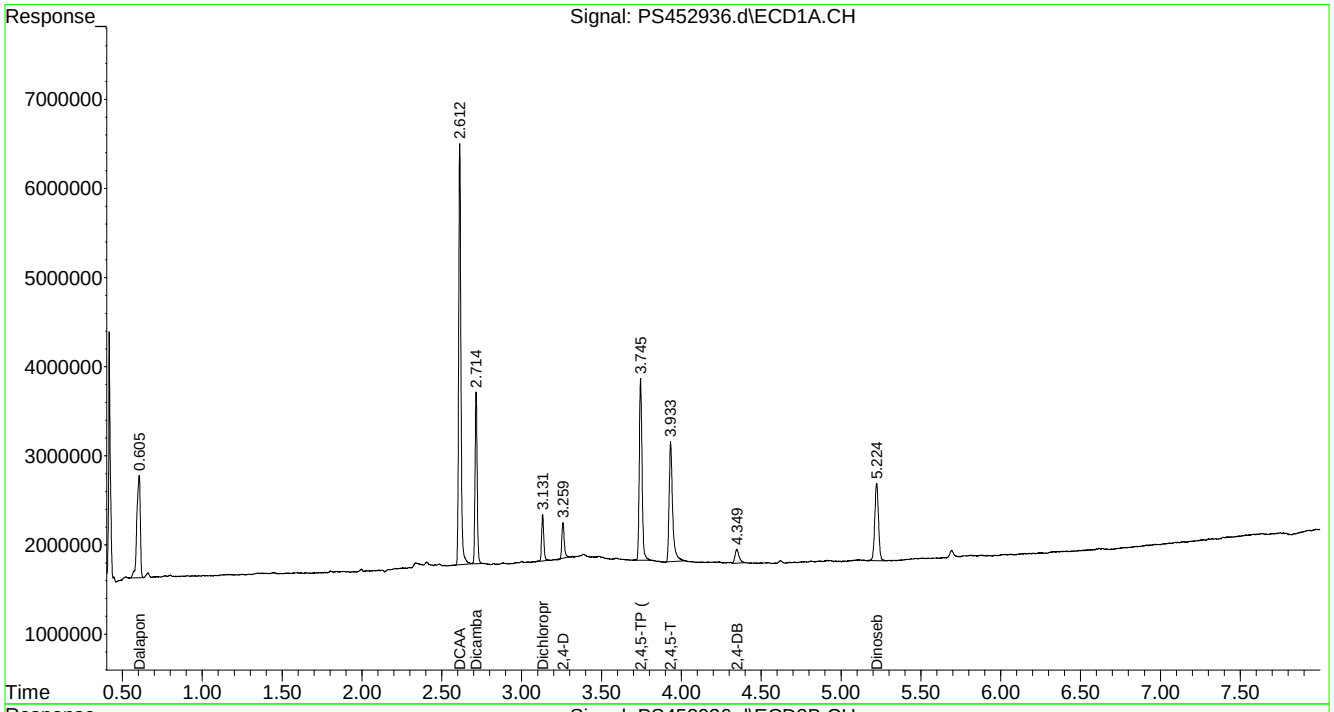
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

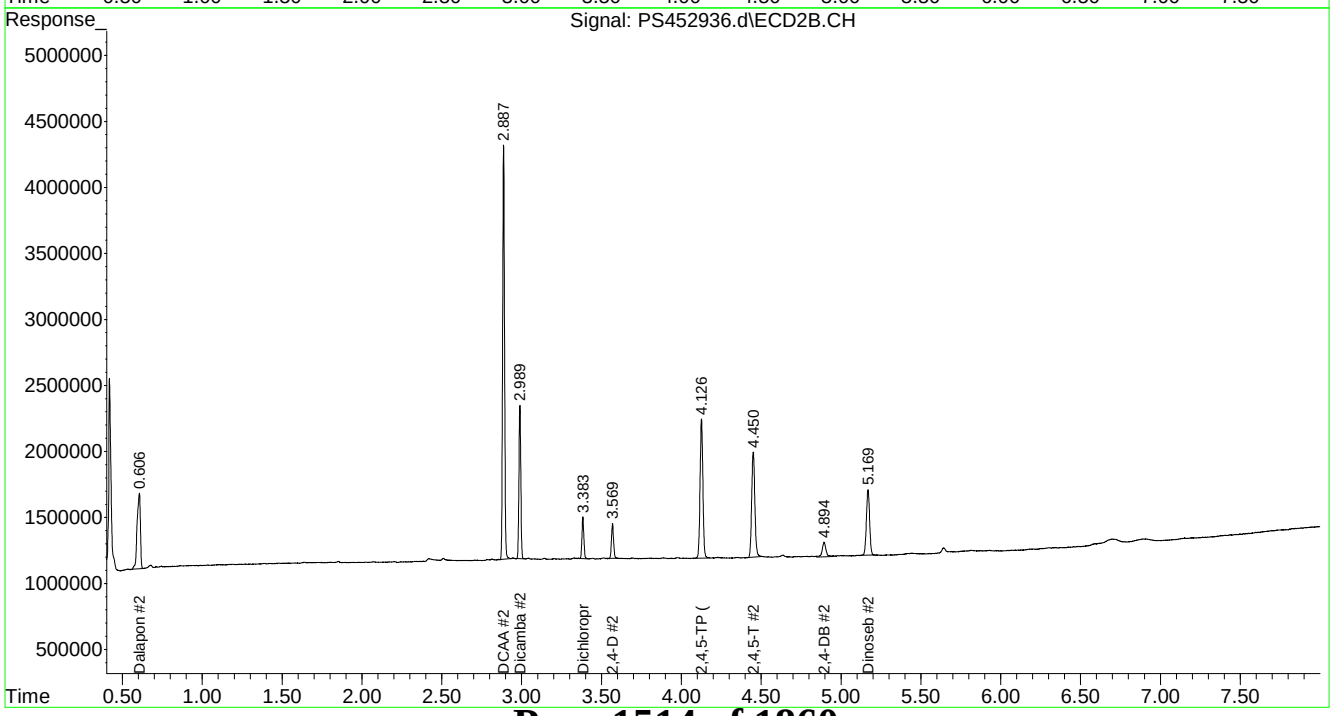
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452936.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 12:34 pm
Operator : BJ-KEO
Sample : SEQ-CAL1
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:26:43 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:26:07 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452937.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 12:45 pm
Operator : BJ-KEO
Sample : SEQ-CAL2
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:27:20 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:26:56 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.612	2.887	63420515	36218748	0.338	0.328
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.17%#	0.16%#
	Target Compounds						
1) M	Dalapon	0.604	0.606	32500489	15845557	0.138m	0.131m
3) M	Dicamba	2.715	2.989	42684752	22949882	0.057	0.056
4) M	Dichloroprop	3.132	3.383	12351616	6951454	0.059	0.059
5) M	2,4-D	3.258	3.569	12123062	7016717	0.057	0.055
6) M	2,4,5-TP ...	3.745	4.126	60241228	32461511	0.057	0.056
7) M	2,4,5-T	3.932	4.450	55108132	30035577	0.056	0.055
8) M	2,4-DB	4.347	4.893	7871752	4427113	0.057	0.053
9) M	Dinoseb	5.223	5.169	37480725	18754115	0.056	0.054

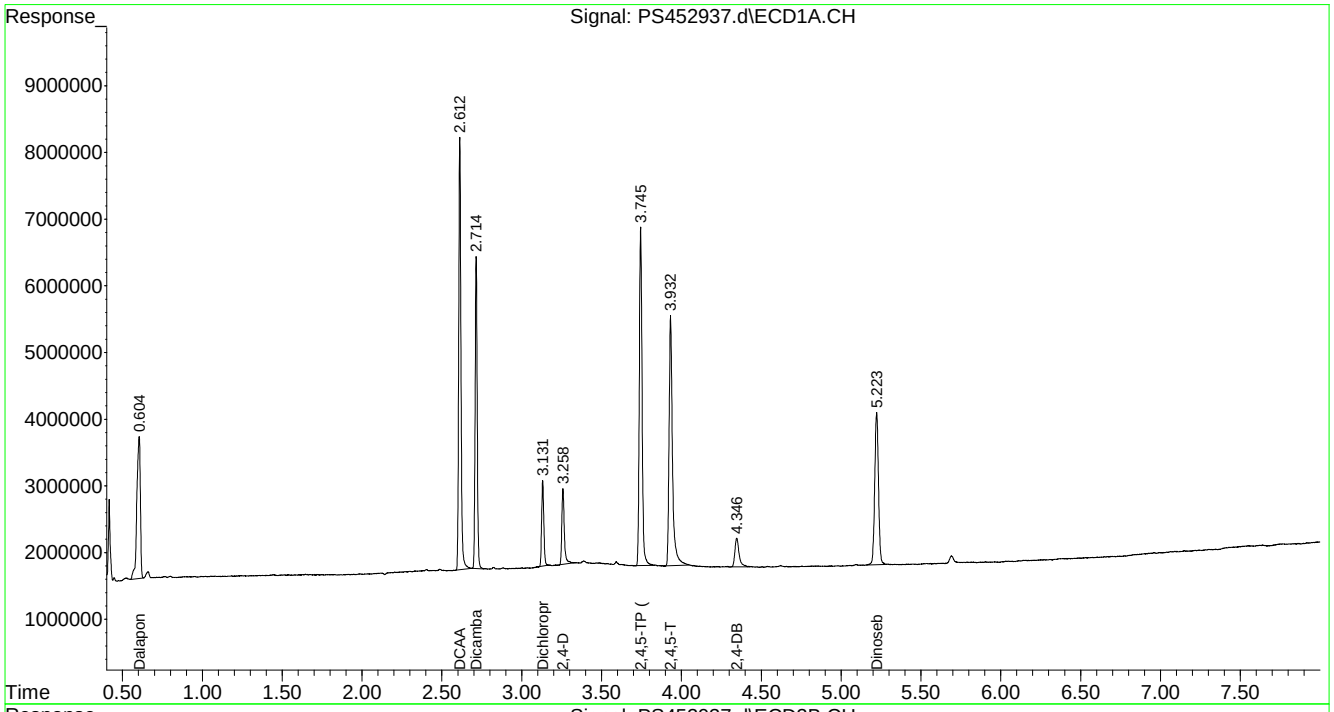
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

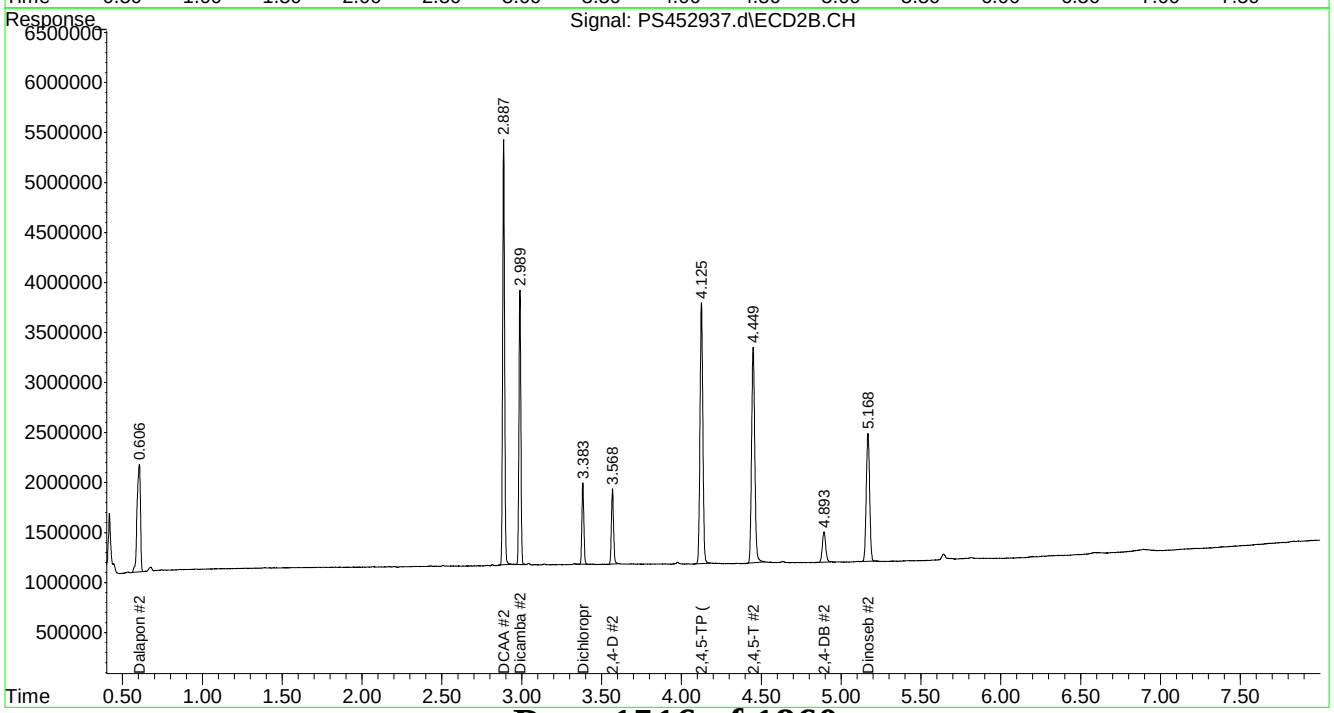
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452937.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 12:45 pm
Operator : BJ-KEO
Sample : SEQ-CAL2
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:27:20 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:26:56 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452938.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 12:56 pm
Operator : BJ-KEO
Sample : SEQ-CAL3
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:25:49 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Tue Apr 04 16:29:47 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.612	2.887	78789395	45399030	0.440m	0.422m
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.22%#	0.21%#
	Target Compounds						
1) M	Dalapon	0.603	0.604	60014032	29415246	0.259m	0.244m
3) M	Dicamba	2.715	2.989	79544810	42630258	0.112m	0.107m
4) M	Dichloroprop	3.131	3.383	23216994	12778503	0.117m	0.110m
5) M	2,4-D	3.258	3.569	24691744	14424677	0.121	0.116
6) M	2,4,5-TP ...	3.746	4.126	114.3E6	59833269	0.113	0.106
7) M	2,4,5-T	3.932	4.450	111.4E6	60379174	0.118m	0.113m
8) M	2,4-DB	4.347	4.894	17464111	9503211	0.136	0.120
9) M	Dinoseb	5.223	5.168	72890219	36562105	0.110	0.106m

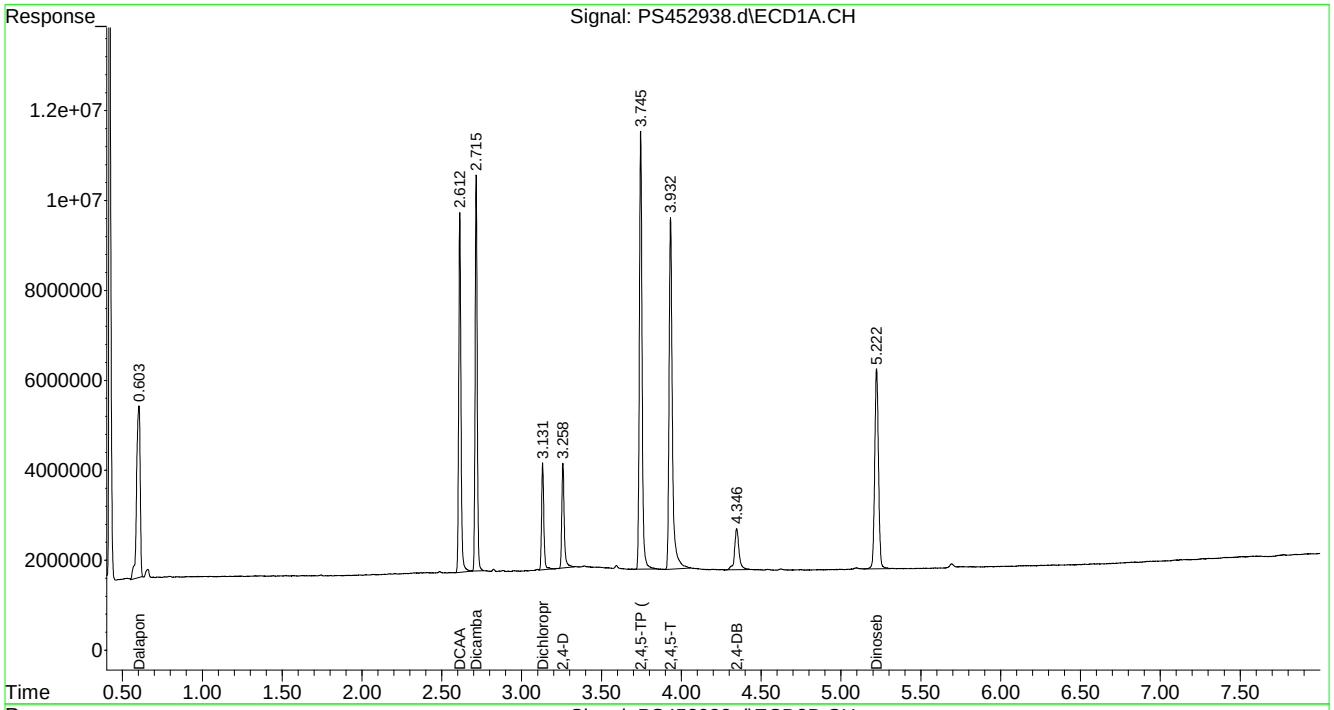
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

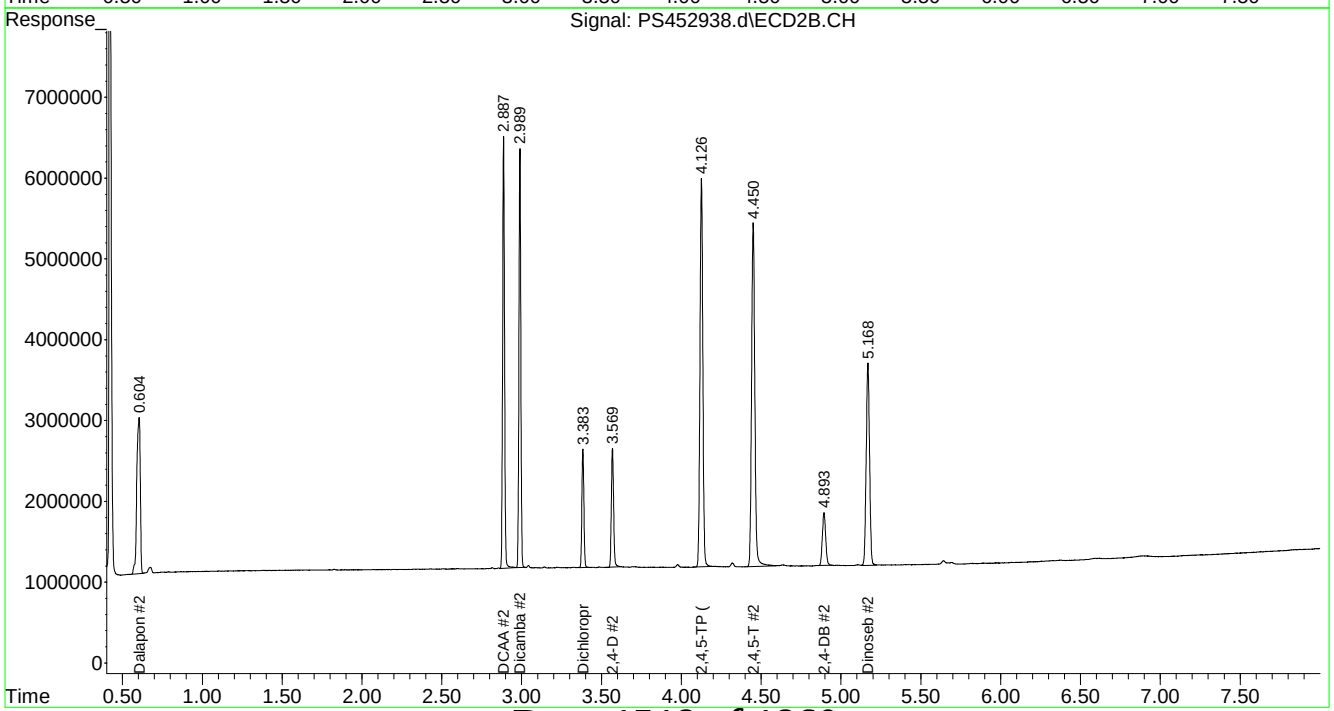
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452938.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 12:56 pm
Operator : BJ-KEO
Sample : SEQ-CAL3
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:25:49 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Tue Apr 04 16:29:47 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452939.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:07 pm
Operator : BJ-KEO
Sample : SEQ-CAL4
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:28:05 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:27:45 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2)	SA DCAA	2.613	2.887	96489577	54725125	0.505	0.490
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.25%#	0.25%#
	Target Compounds						
1)	M Dalapon	0.604	0.606	131.2E6	64522592	0.558m	0.533
3)	M Dicamba	2.715	2.989	114.0E6	60308937	0.150	0.146
4)	M Dichloroprop	3.132	3.384	31736314	17545548	0.149	0.146
5)	M 2,4-D	3.258	3.569	32626056	18691825	0.151	0.146
6)	M 2,4,5-TP ...	3.746	4.126	163.3E6	85884561	0.152	0.147
7)	M 2,4,5-T	3.932	4.450	150.3E6	79833788	0.150	0.144
8)	M 2,4-DB	4.347	4.893	20753298	12480651	0.146	0.146
9)	M Dinoseb	5.224	5.169	96654712	48243991	0.142	0.139

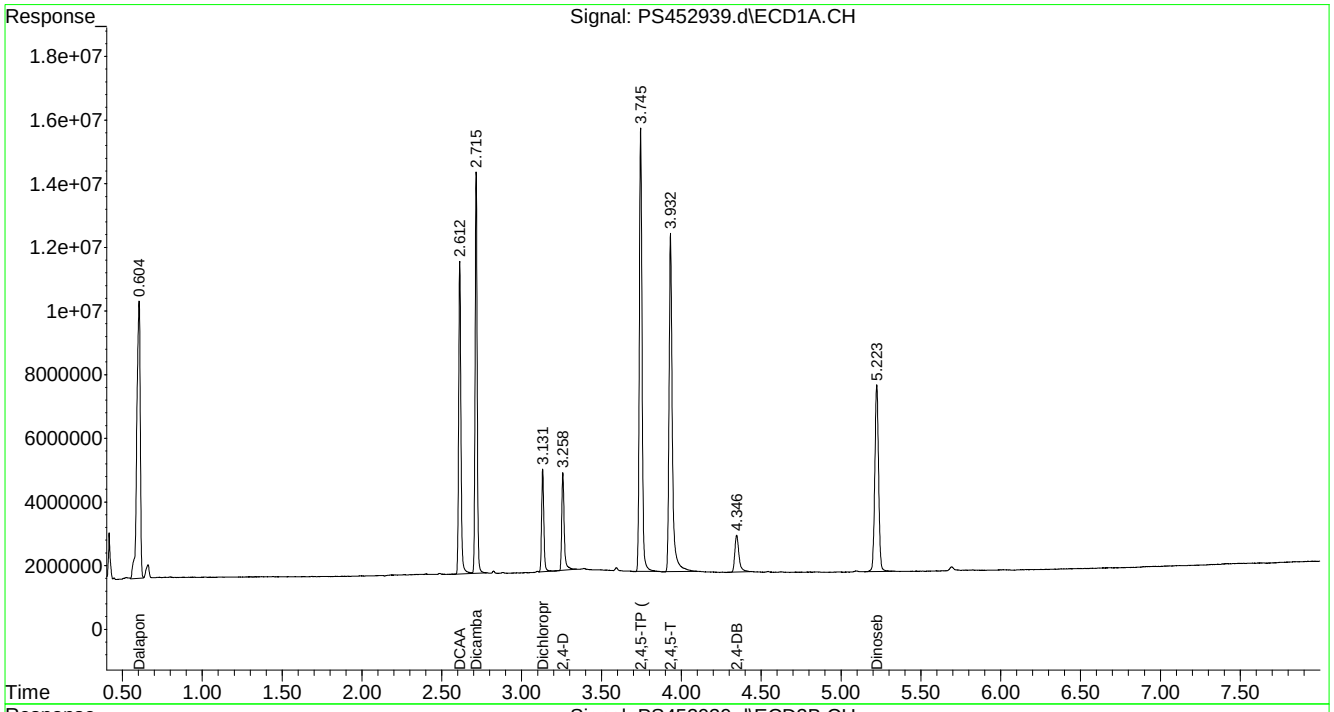
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

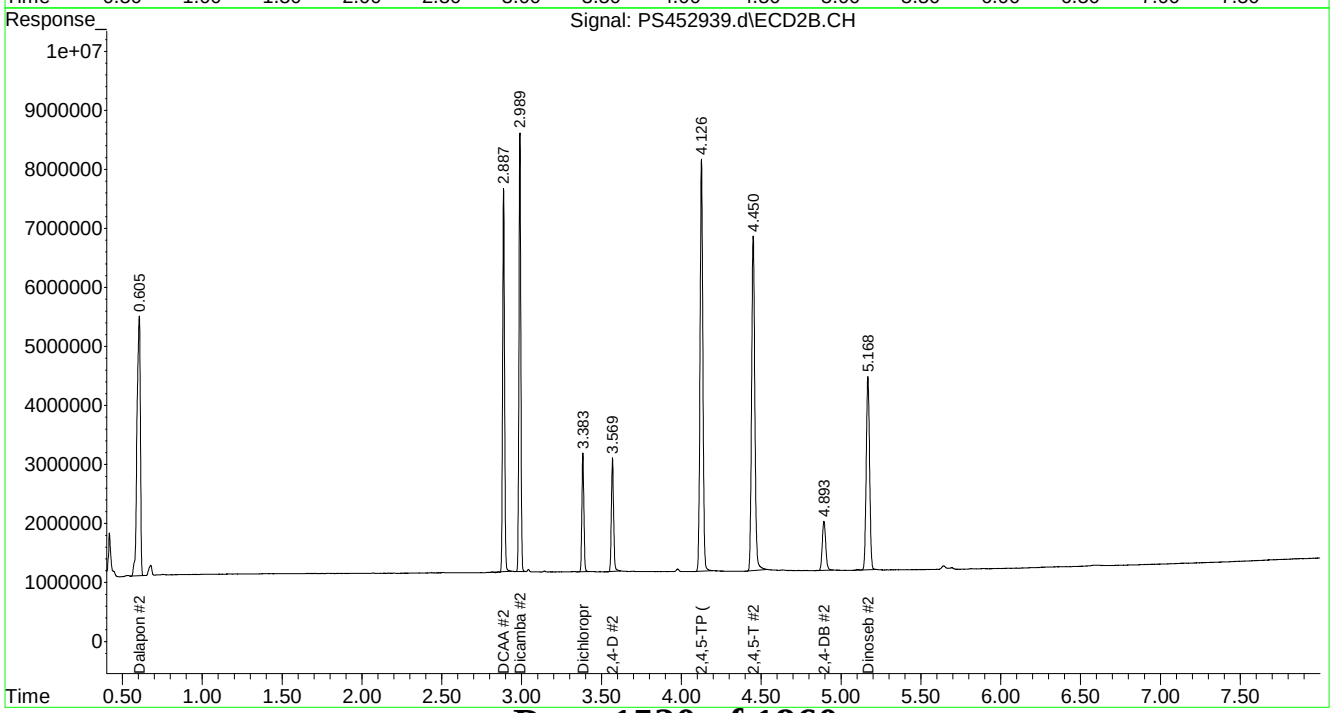
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452939.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:07 pm
Operator : BJ-KEO
Sample : SEQ-CAL4
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:28:05 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:27:45 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452940.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:17 pm
Operator : BJ-KEO
Sample : SEQ-CAL5
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:28:41 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:28:32 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.612	2.886	114.1E6	65227144	0.580	0.571
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.29%#	0.29%#
	Target Compounds						
1) M	Dalapon	0.602	0.603	259.0E6	127.4E6	1.073	1.026
3) M	Dicamba	2.715	2.989	151.4E6	79861315	0.194	0.189
4) M	Dichloroprop	3.131	3.383	41851943	23171306	0.190	0.188
5) M	2,4-D	3.257	3.568	45931020	26121771	0.205	0.199
6) M	2,4,5-TP ...	3.745	4.125	217.5E6	114.5E6	0.196	0.191
7) M	2,4,5-T	3.931	4.449	210.5E6	111.0E6	0.204	0.196
8) M	2,4-DB	4.345	4.893	30152624	17637808	0.205	0.200
9) M	Dinoseb	5.222	5.169	134.2E6	66824112	0.194	0.191

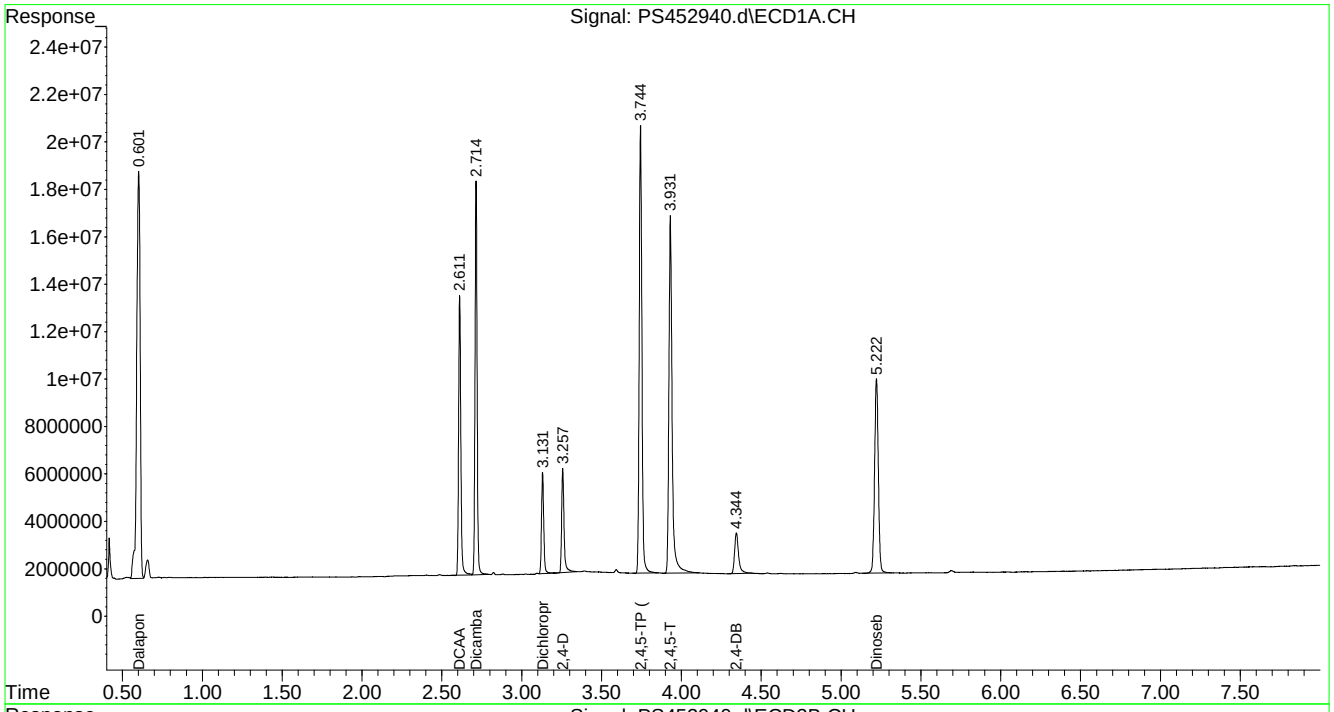
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

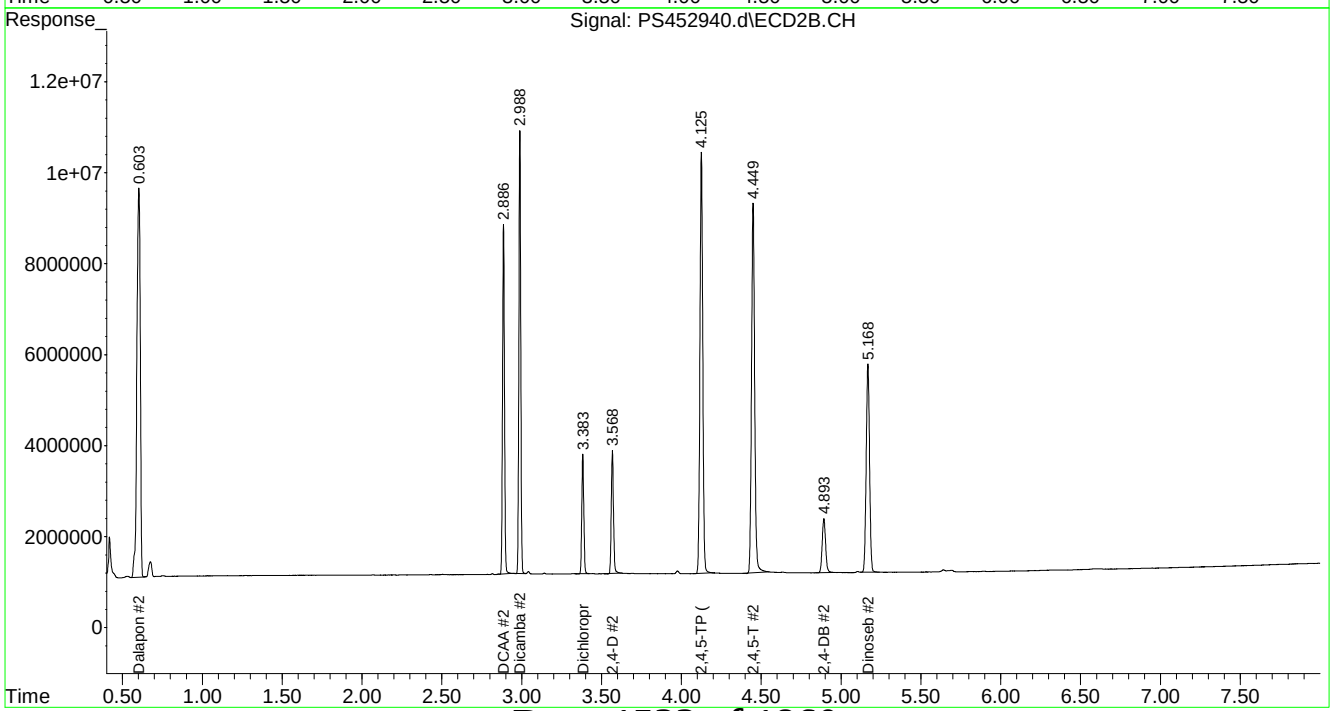
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452940.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:17 pm
Operator : BJ-KEO
Sample : SEQ-CAL5
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:28:41 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:28:32 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452941.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:28 pm
Operator : BJ-KEO
Sample : SEQ-CAL6
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:37:59 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:29:09 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.613	2.887	133.0E6	75755160	0.666	0.659
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.33%#	0.33%#
	Target Compounds						
1) M	Dalapon	0.605	0.606	380.2E6	187.1E6	1.692	1.561
3) M	Dicamba	2.715	2.989	192.4E6	101.0E6	0.243	0.237
4) M	Dichloroprop	3.131	3.384	52225848	28997694	0.234	0.234
5) M	2,4-D	3.258	3.569	58139144	33202351	0.256	0.252
6) M	2,4,5-TP ...	3.745	4.126	278.7E6	145.6E6	0.248	0.242
7) M	2,4,5-T	3.932	4.450	270.1E6	142.5E6	0.258	0.251
8) M	2,4-DB	4.345	4.893	38823195	22628534	0.259	0.254
9) M	Dinoseb	5.223	5.169	167.4E6	83612168	0.241	0.240

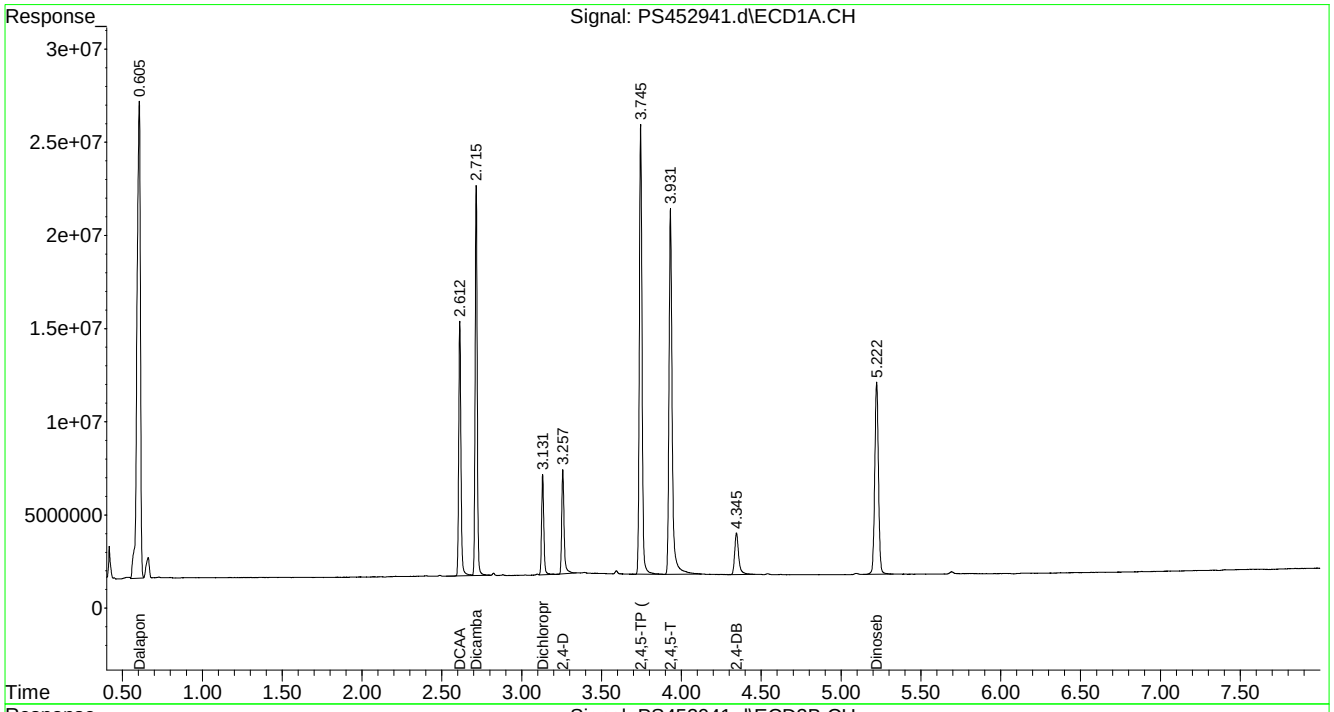
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

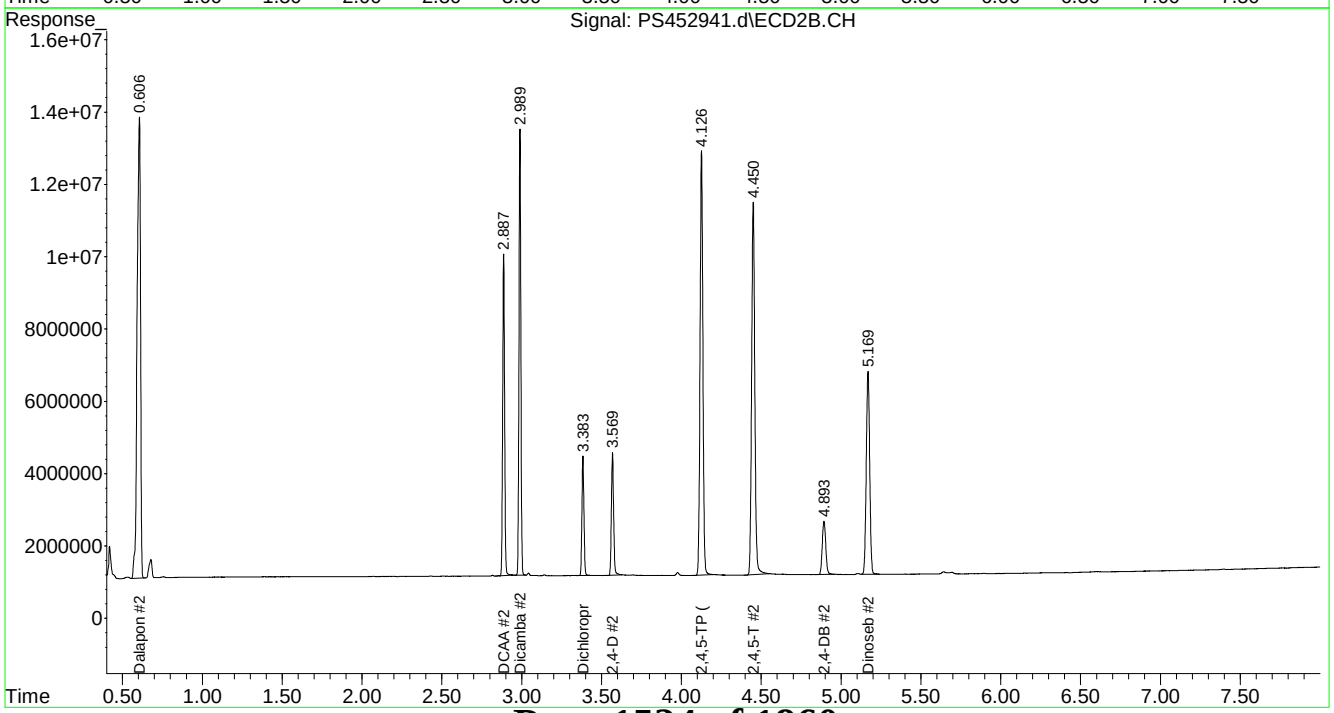
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452941.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:28 pm
Operator : BJ-KEO
Sample : SEQ-CAL6
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:37:59 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:29:09 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Calibration: SD30025
Laboratory ID: S3D1230-SCV1
Sequence: S3D1230
Standard ID: S23B082

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
2,4,5-T	0.100	0.105	5.0	20.00
2,4,5-T [2C]	0.100	0.104	4.0	20.00
2,4,5-TP (Silvex)	0.100	0.104	4.0	20.00
2,4,5-TP (Silvex) [2C]	0.100	0.105	5.0	20.00
2,4-D	0.100	0.112	12.0	20.00
2,4-D [2C]	0.100	0.114	14.0	20.00
2,4-Dichlorophenylacetic acid (DCAA)	0.500	0.443	-11.4	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.500	0.439	-12.2	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452942.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:39 pm
Operator : BJ-KEO
Sample : SEQ-SCV1
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:55:59 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:45:39 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.612	2.887	85913270	48632952	0.443	0.439
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.22%#	0.22%#
	Target Compounds						
1) M	Dalapon	0.604	0.605	30039640	14030957	0.109	0.104
3) M	Dicamba	2.715	2.989	75482845	39758100	0.096	0.095
4) M	Dichloroprop	3.132	3.384	21607604	12035616	0.096	0.097
5) M	2,4-D	3.257	3.569	25762037	15089869	0.112m	0.114
6) M	2,4,5-TP ...	3.745	4.126	116.5E6	61632545	0.104	0.105
7) M	2,4,5-T	3.932	4.450	109.9E6	58259403	0.105	0.104
8) M	2,4-DB	4.346	4.893	17307144	9789001	0.114	0.109
9) M	Dinoseb	5.223	5.169	71523568	35386392	0.104	0.103

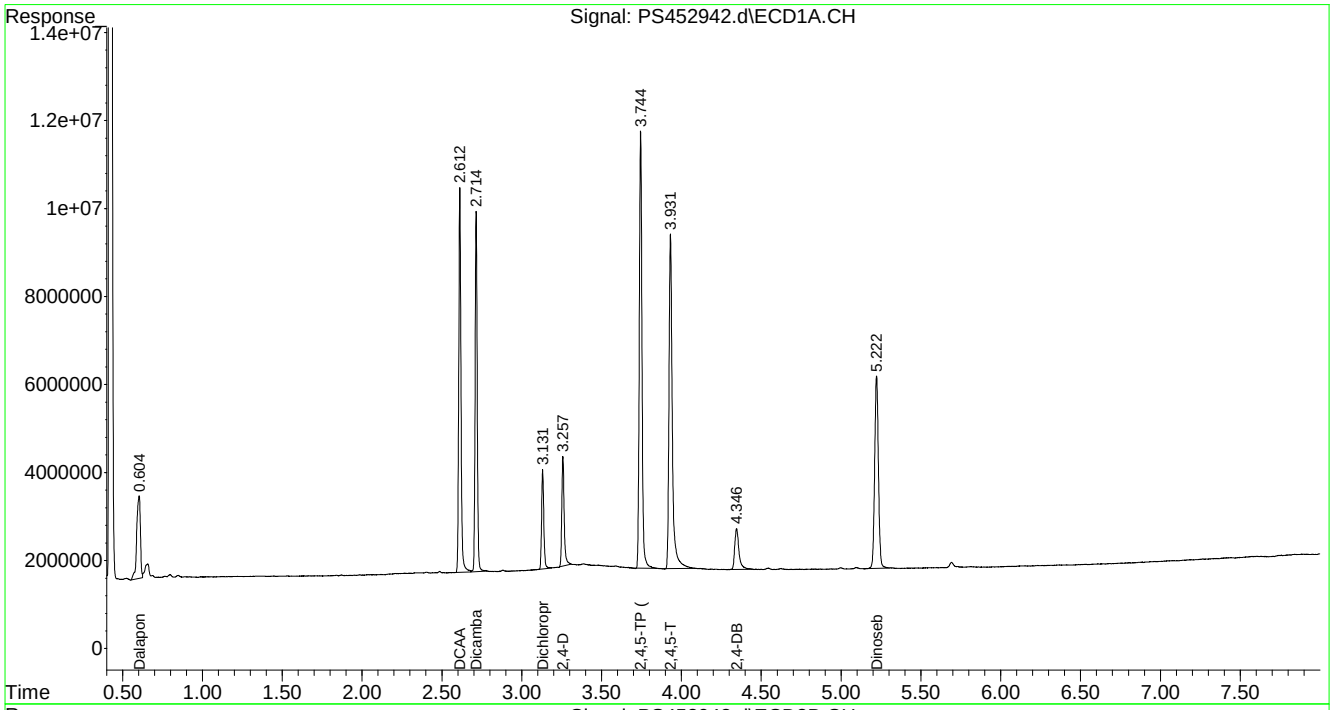
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

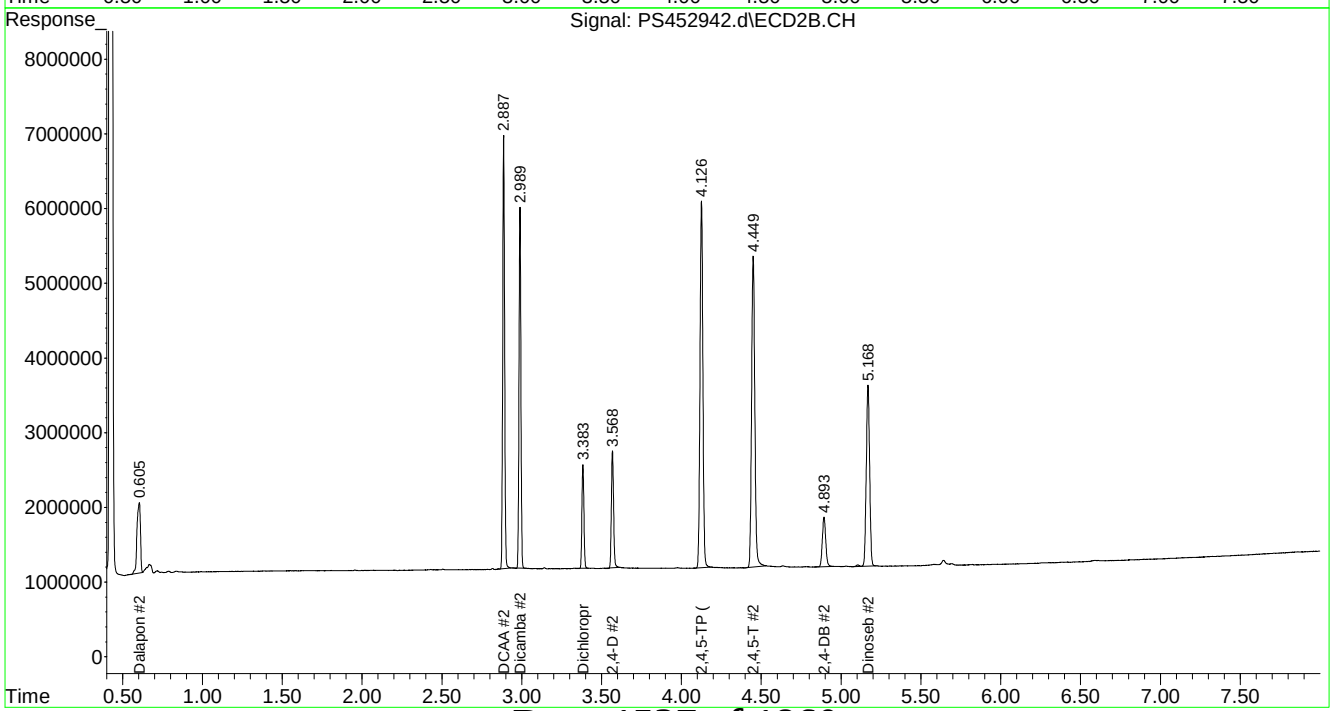
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\041223A\
Data File : PS452942.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Apr 2023 13:39 pm
Operator : BJ-KEO
Sample : SEQ-SCV1
Misc : QBH40103122A
InstName : GCECD4
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 12 13:55:59 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:45:39 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD4	Calibration:	SD30025
Lab File ID:	PS454000.d	Calibration Date:	04/12/23 14:05
Sequence:	S3E1157	Injection Date:	05/11/23
Lab Sample ID:	S3E1157-CCV1	Injection Time:	12:09

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-T	A	0.100	0.100	1.059842E+09	1.064E+09		0.0	20
2,4,5-T [2C]	A	0.100	0.0910	5.686274E+08	5.187505E+08		-9.0	20
2,4,5-TP (Silvex)	A	0.100	0.101	1.140733E+09	1.156E+09		1.0	20
2,4,5-TP (Silvex) [2C]	A	0.100	0.0930	6.041716E+08	5.645201E+08		-7.0	20
2,4-D	A	0.100	0.108	2.294571E+08	2.472826E+08		8.0	20
2,4-D [2C]	A	0.100	0.0990	1.323613E+08	1.30902E+08		-1.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454000.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 12:09 pm
Operator : BCJ-GXB
Sample : SEQ-CCV1
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 12:47:42 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.614	2.888	85840600	43946633	0.424	0.380
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.21%#	0.19%#
	Target Compounds						
1) M	Dalapon	0.606	0.607	61904949	27684083	0.227	0.207
3) M	Dicamba	2.716	2.989	87920432	41967860	0.109	0.098
4) M	Dichloroprop	3.132	3.383	23969308	12310935	0.106	0.099
5) M	2,4-D	3.259	3.568	24728261	13090197	0.108	0.099
6) M	2,4,5-TP ...	3.745	4.125	115.6E6	56452012	0.101	0.093
7) M	2,4,5-T	3.932	4.448	106.4E6	51875053	0.100	0.091
8) M	2,4-DB	4.346	4.891	15915256	8995933	0.105	0.100
9) M	Dinoseb	5.221	5.166	43979168	17284597	0.063	0.050

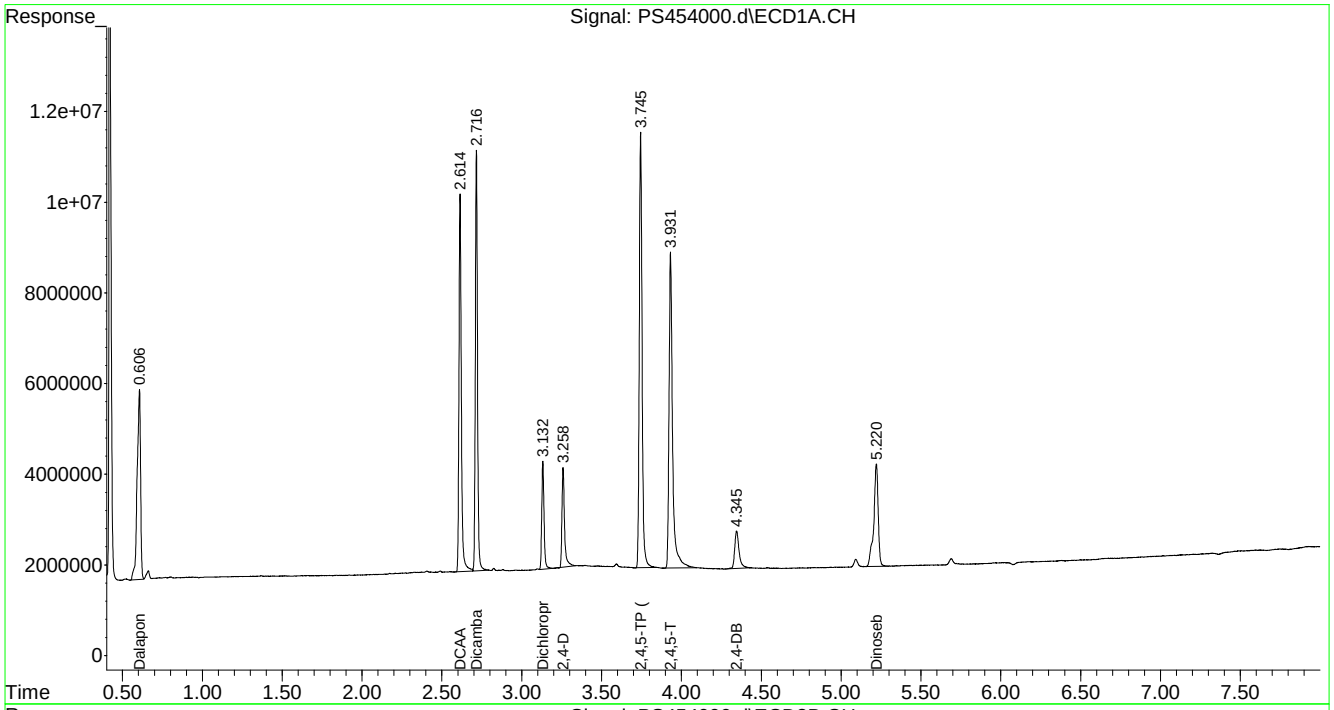
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

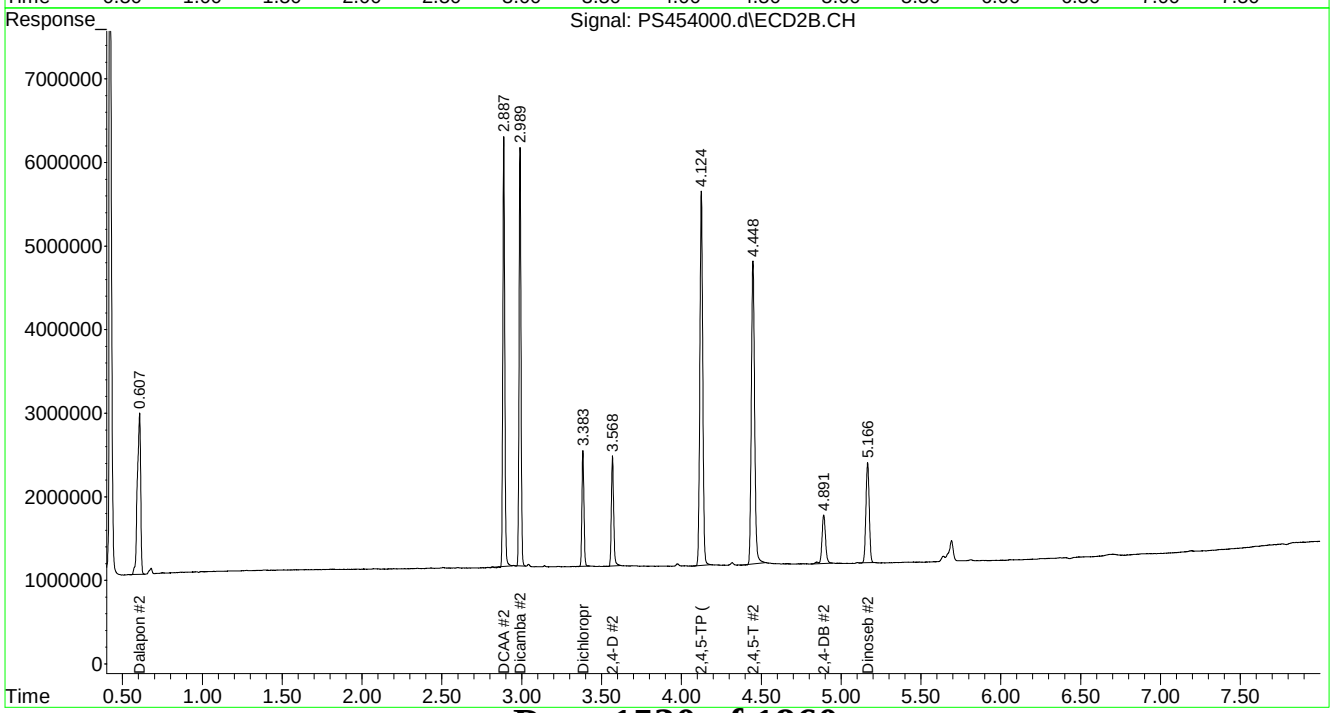
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454000.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 12:09 pm
Operator : BCJ-GXB
Sample : SEQ-CCV1
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 12:47:42 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD4	Calibration:	SD30025
Lab File ID:	PS454019.d	Calibration Date:	04/12/23 14:05
Sequence:	S3E1157	Injection Date:	05/11/23
Lab Sample ID:	S3E1157-CCV2	Injection Time:	15:57

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-T	A	0.100	0.0970	1.059842E+09	1.029E+09		-3.0	20
2,4,5-T [2C]	A	0.100	0.0930	5.686274E+08	5.281788E+08		-7.0	20
2,4,5-TP (Silvex)	A	0.100	0.0960	1.140733E+09	1.092E+09		-4.0	20
2,4,5-TP (Silvex) [2C]	A	0.100	0.0920	6.041716E+08	5.532647E+08		-8.0	20
2,4-D	A	0.100	0.0970	2.294571E+08	2.222878E+08		-3.0	20
2,4-D [2C]	A	0.100	0.0980	1.323613E+08	1.299179E+08		-2.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454019.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 15:57 pm
Operator : BCJ-GXB
Sample : SEQ-CCV2
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 16:11:56 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.613	2.887	81165597	43619056	0.401	0.378
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.20%#	0.19%#
	Target Compounds						
1) M	Dalapon	0.605	0.606	62610421	28233459	0.230	0.211
3) M	Dicamba	2.716	2.989	82525872	41158932	0.103	0.096
4) M	Dichloroprop	3.132	3.383	20440168	12007810	0.090	0.096
5) M	2,4-D	3.258	3.568	22228784	12991793	0.097	0.098
6) M	2,4,5-TP ...	3.744	4.124	109.2E6	55326472	0.096	0.092
7) M	2,4,5-T	3.930	4.447	102.9E6	52817880	0.097	0.093
8) M	2,4-DB	4.343	4.890	15471779	8471305	0.102	0.095
9) M	Dinoseb	5.220	5.166	40379936	15509722	0.058	0.045

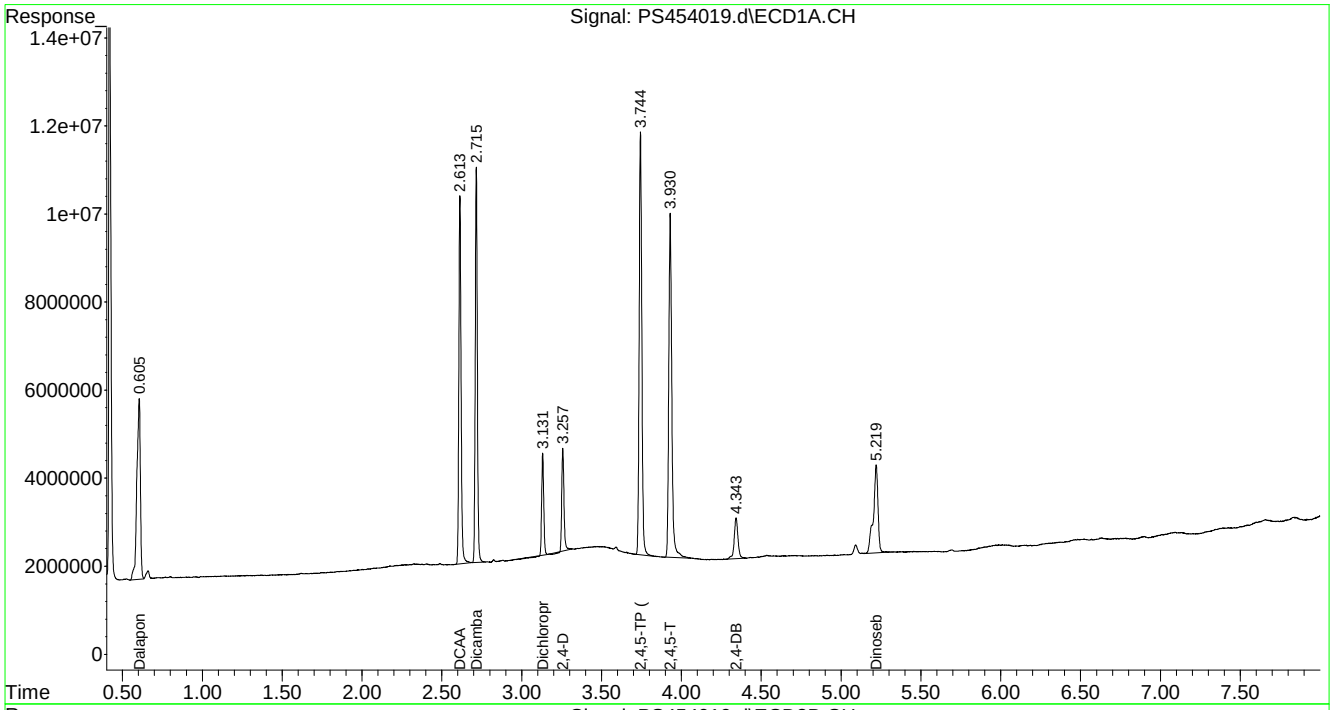
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

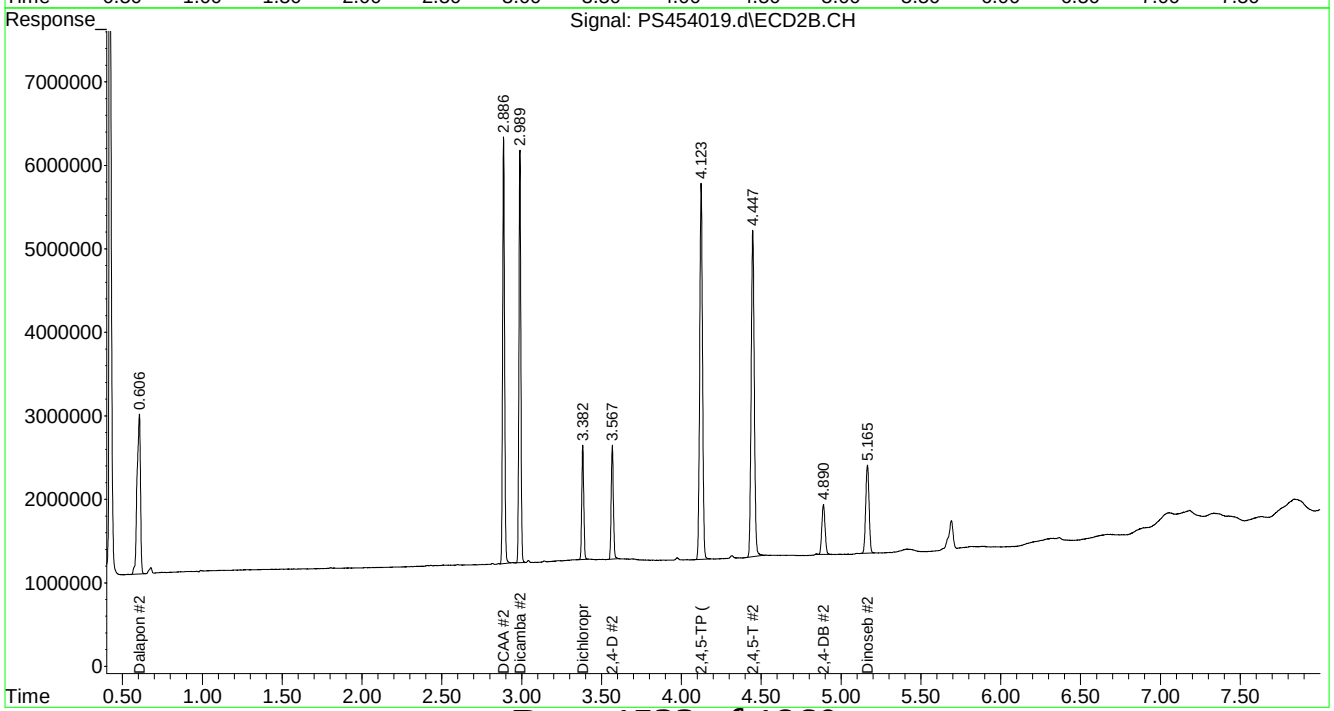
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454019.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 15:57 pm
Operator : BCJ-GXB
Sample : SEQ-CCV2
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 16:11:56 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC	Project:	170446801
Instrument ID:	GCECD4	Calibration:	SD30025
Lab File ID:	PS454041.d	Calibration Date:	04/12/23 14:05
Sequence:	S3E1157	Injection Date:	05/11/23
Lab Sample ID:	S3E1157-CCV3	Injection Time:	19:53

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-T	A	0.100	0.0950	1.059842E+09	1.01E+09		-5.0	20
2,4,5-T [2C]	A	0.100	0.0930	5.686274E+08	5.306134E+08		-7.0	20
2,4,5-TP (Silvex)	A	0.100	0.0940	1.140733E+09	1.069E+09		-6.0	20
2,4,5-TP (Silvex) [2C]	A	0.100	0.0910	6.041716E+08	5.506702E+08		-9.0	20
2,4-D	A	0.100	0.0970	2.294571E+08	2.233533E+08		-3.0	20
2,4-D [2C]	A	0.100	0.0980	1.323613E+08	1.290671E+08		-2.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454041.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 19:53 pm
Operator : BCJ-GXB
Sample : SEQ-CCV3
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 99 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 08:22:11 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.614	2.887	80497936	43312136	0.398	0.375
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.20%#	0.19%#
	Target Compounds						
1) M	Dalapon	0.605	0.606	61632408	27877386	0.226	0.208
3) M	Dicamba	2.716	2.990	82027968	40840747	0.102	0.095
4) M	Dichloroprop	3.132	3.383	18799106	11933869	0.083	0.096
5) M	2,4-D	3.257	3.568	22335328	12906714	0.097	0.098
6) M	2,4,5-TP ...	3.744	4.124	106.9E6	55067024	0.094	0.091
7) M	2,4,5-T	3.930	4.447	101.0E6	53061340	0.095	0.093
8) M	2,4-DB	4.342	4.890	14880948	8881211	0.098	0.099
9) M	Dinoseb	5.220	5.165	31659678	15118736	0.046	0.044

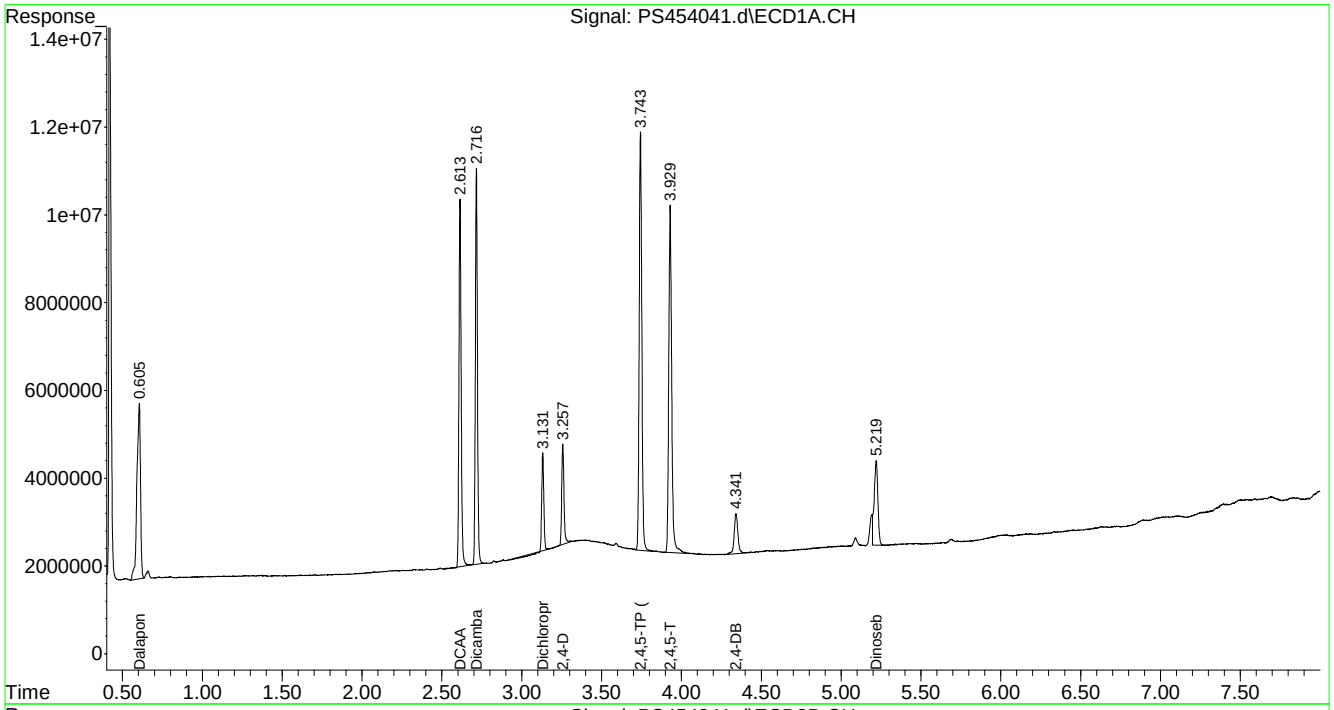
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

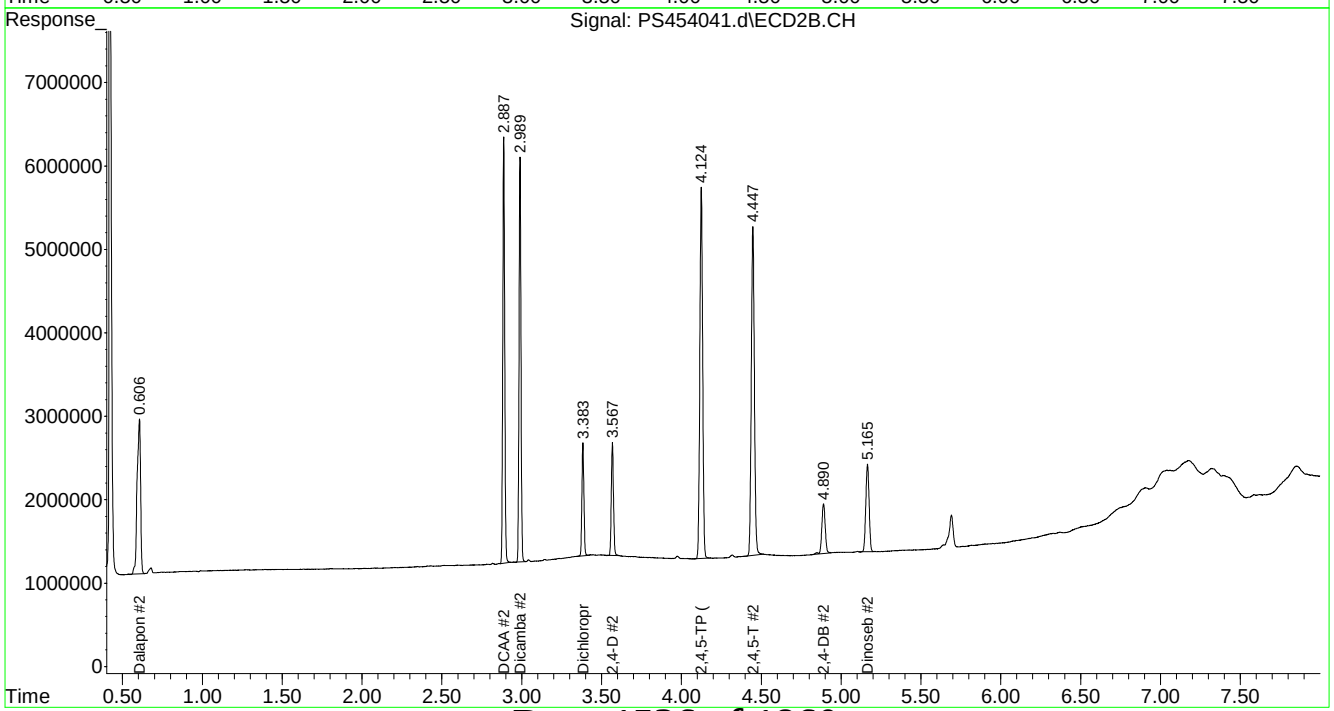
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454041.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 19:53 pm
Operator : BCJ-GXB
Sample : SEQ-CCV3
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 99 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 12 08:22:11 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





METHOD BLANK RAW DATA

SDG: 23E0419
CLASS: HERB
METHOD: EPA 8151A

FORM I

METHOD BLANK DATA SHEET

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30644-BLK1	File ID:	PS454014.d
Prepared:	05/10/23 08:22	Preparation:	EPA 3550C/8151A	Initial/Final:	30.1 g / 25 mL
Analyzed:	05/11/23 15:03	Instrument:	GCECD4		
Batch:	BE30644	Sequence:	S3E1157	Calibration:	SD30025

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
93-76-5	2,4,5-T	0.0199	U
93-76-5	2,4,5-T [2C]	0.0199	U
93-72-1	2,4,5-TP (Silvex)	0.0199	U
93-72-1	2,4,5-TP (Silvex) [2C]	0.0199	U
94-75-7	2,4-D	0.0199	U
94-75-7	2,4-D [2C]	0.0199	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.415	0.353	85.0	21 - 150	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.415	0.346	83.2	21 - 150	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454014.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 15:03 pm
Operator : BCJ-GXB
Sample : BE30644-BLK1
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 15:30:58 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.614	2.888	86049498	48014020	0.425	0.416
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.21%#	0.21%#
	Target Compounds						
1) M	Dalapon	0.000	0.000	0	0	N.D. d	N.D. d
3) M	Dicamba	0.000	0.000	0	0	N.D.	N.D.
4) M	Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
5) M	2,4-D	0.000	0.000	0	0	N.D.	N.D.
6) M	2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
7) M	2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
8) M	2,4-DB	0.000	0.000	0	0	N.D.	N.D.
9) M	Dinoseb	0.000	0.000	0	0	N.D.	N.D.

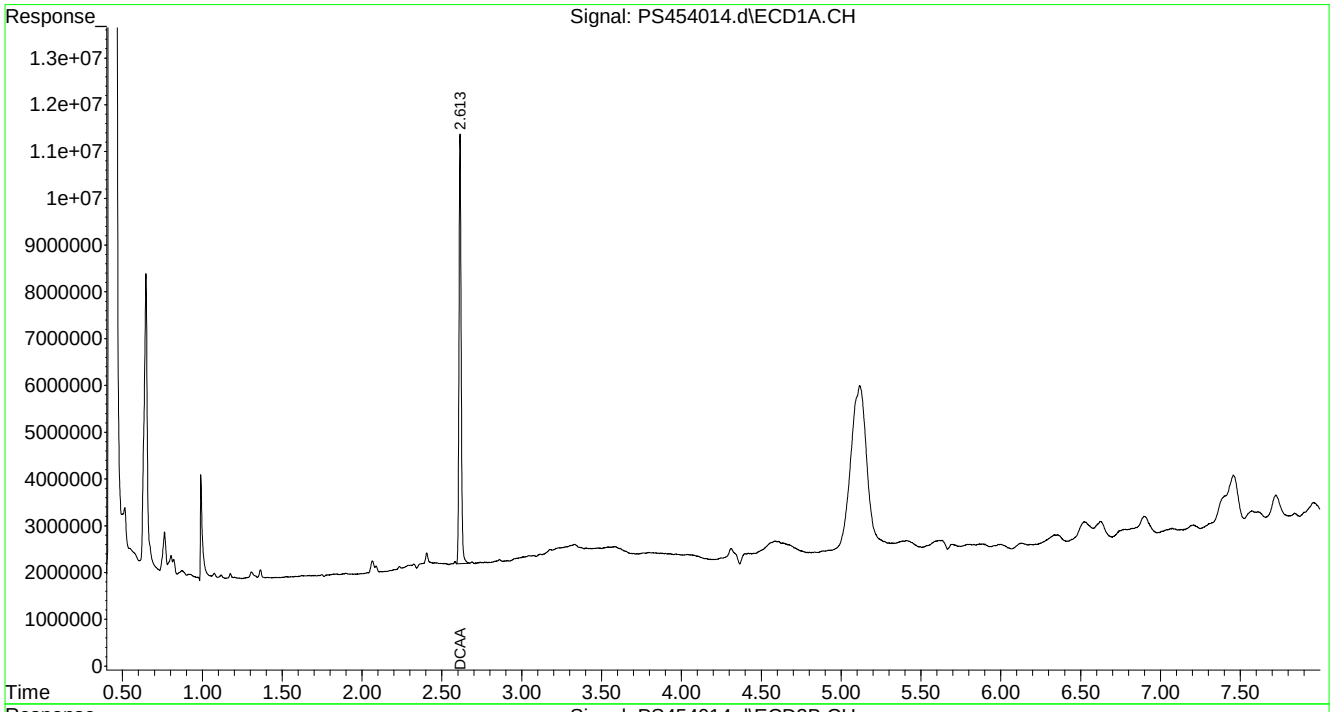
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

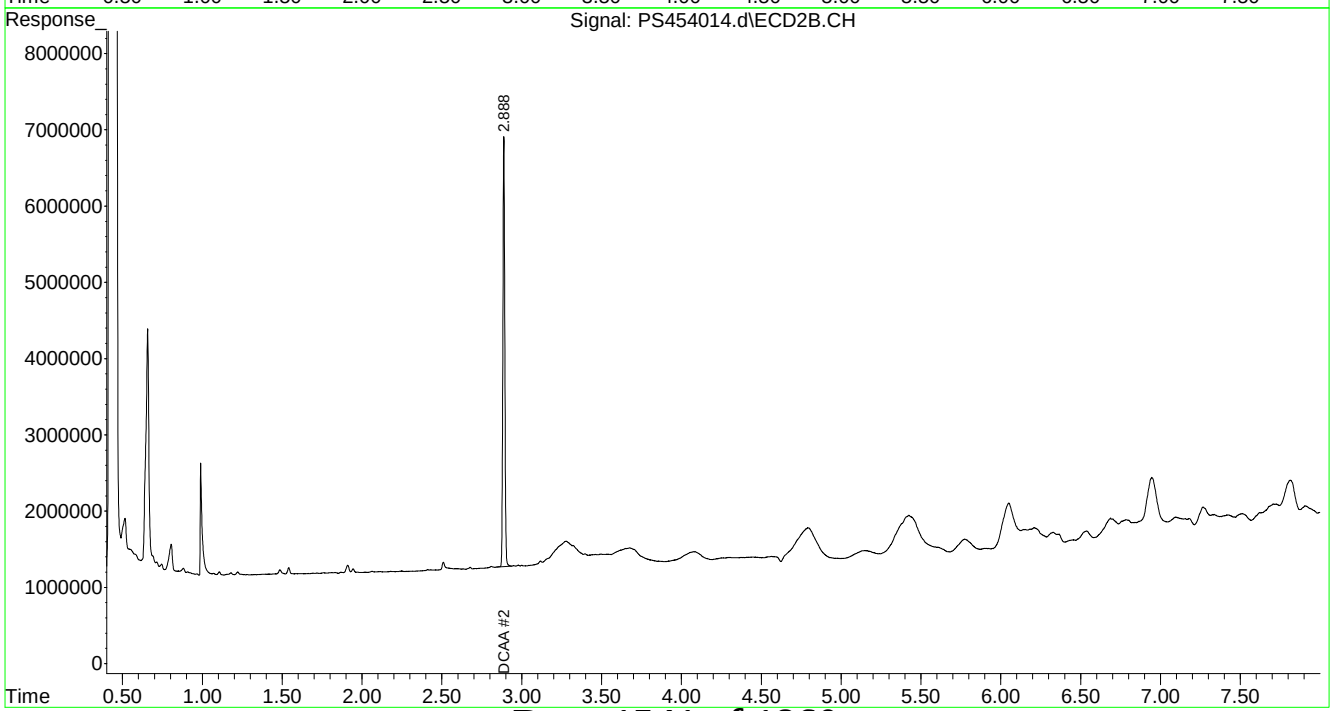
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454014.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 15:03 pm
Operator : BCJ-GXB
Sample : BE30644-BLK1
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 15:30:58 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





LCS RAW DATA

SDG: 23E0419
CLASS: HERB
METHOD: EPA 8151A

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454015.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 15:14 pm
Operator : BCJ-GXB
Sample : BE30644-BS1
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 15:31:10 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
2) SA	DCAA	2.615	2.888	91997471	51846181	0.454	0.449
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.23%#	0.22%#
	Target Compounds						
1) M	Dalapon	0.609	0.610	45114179	21477731	0.165	0.160
3) M	Dicamba	2.717	2.990	108.0E6	60697888	0.134	0.142
4) M	Dichloroprop	3.132	3.383	32916976	25975486	0.146	0.208 #
5) M	2,4-D	3.258	3.568	33287860	18666940	0.145	0.141
6) M	2,4,5-TP ...	3.745	4.124	159.0E6	78861536	0.139	0.131
7) M	2,4,5-T	3.931	4.448	139.9E6	71226732	0.132	0.125
8) M	2,4-DB	4.342	4.890	24425802	12573540	0.161	0.140
9) M	Dinoseb	5.221	5.166	32352104	13024904	0.047	0.038

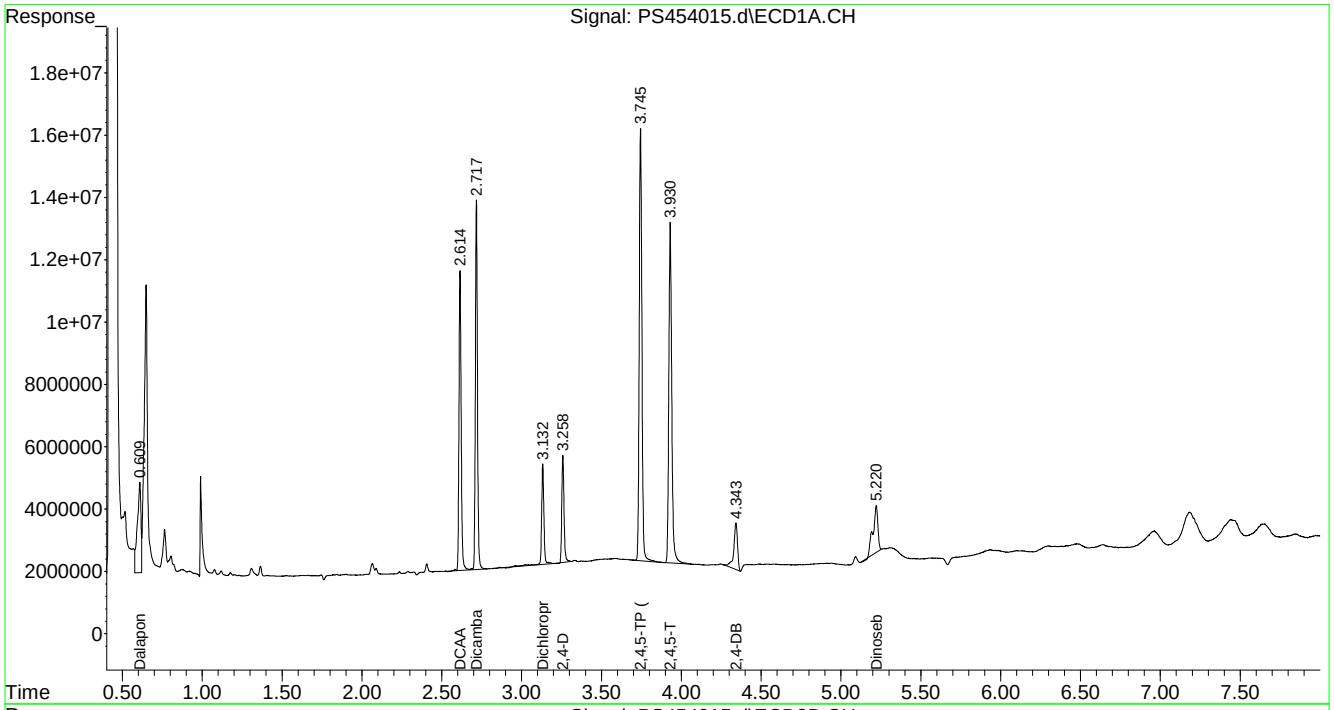
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

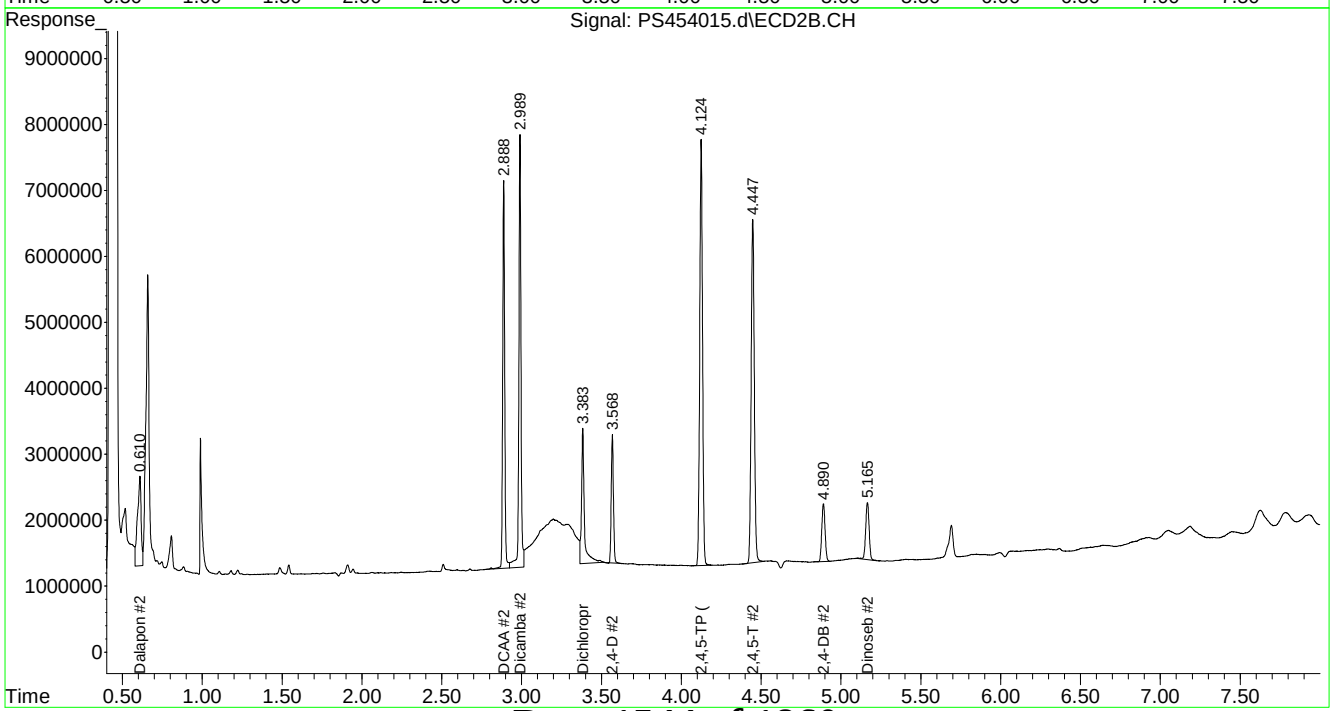
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051123A\
Data File : PS454015.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 May 2023 15:14 pm
Operator : BCJ-GXB
Sample : BE30644-BS1
Misc : QBH4051123A
InstName : GCECD4
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 11 15:31:10 2023
Quant Method : C:\msdchem\1\methods\HERB4041223.M
Quant Title : ug/mL
QLast Update : Wed Apr 12 13:38:23 2023
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





BENCHSHEETS

SDG: 23E0419

CLASS: HERB

METHOD: EPA 8151A

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30644

Preparation Date: 05/10/2023 08:22

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:24:04AM**

Matrix: Soil **Preparation: EPA 3550C/8151A** **Surrogate used: S23D458 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0165-01 A	Herbicides, Target List	30.4	25				
23E0165-02 A	Herbicides, Target List	30.3	25				
23E0165-03 A	Herbicides, Target List	30.4	25				
23E0270-01 E	HERB, 8151 RCP MASTER	30.1	25				
23E0270-02 E	HERB, 8151 RCP MASTER	30.4	25				
23E0270-03 E	HERB, 8151 RCP MASTER	30.8	25				
23E0270-04 E	HERB, 8151 RCP MASTER	30.7	25				
23E0279-01 A	HERB, 8151 MASTER	30.1	25				
23E0279-03 A	HERB, 8151 MASTER	30.7	25				
23E0279-05 A	HERB, 8151 MASTER	30.1	25				
23E0279-07 A	HERB, 8151 MASTER	30.8	25				
23E0331-01 A	Herbicides, Target List	30.1	25				
23E0331-02 A	Herbicides, Target List	30.3	25				
23E0331-03 A	Herbicides, Target List	30.4	25				
23E0419-11 A	HERB, 8151 MASTER	30.6	25				
23E0419-12 A	HERB, 8151 MASTER	30.8	25				
23E0433-01 F	HERB, 8151 MASTER	30.2	25				
23E0433-01 F	HERB, 8151 RCP MASTER	30.2	25				Added for BatchQC in: BE3(
23E0433-01 F	Herbicides, Target List	30.2	25				Added for BatchQC in: BE3(
23E0433-02 F	HERB, 8151 MASTER	30.6	25				
23E0433-03 F	HERB, 8151 MASTER	30.1	25				
23E0433-04 F	HERB, 8151 MASTER	30.6	25				
BE30644-BLK1	QC	30.1	25				
BE30644-BS1	QC	30.1	25	S22L122		20	
BE30644-MS1	QC	30.4	25	S22L122	23E0433-01	20	
BE30644-MSD1	QC	30.1	25	S22L122	23E0433-01	20	

SW: GXB

Preparations Performed by **agg** **Date:** **05/10/2023 08:22**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30644

Preparation Date: 05/10/2023 08:22

York Analytical Laboratories, Inc. - Stratford

Printed: 5/18/2023 6:24:04AM

Matrix: Soil **Preparation: EPA 3550C/8151A** **Surrogate used: S23D458** **100** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments

Reagents:

ID Number	Description	Lot Number
Y21D127	Silicic Acid	MKCJ8025
Y22B004	2-(2-ethoxyethoxy) Ethanol	MKCQ2376
Y22C265	N-Nitroso-N-methylurea precurs	032422A
Y22H292	Potassium Hydroxide 37%	10272021
Y22I040	Methanol	BO002909
Y22I327	Methylene Chloride HW	ED671-US

ID Number	Description	Lot Number
Y22B001	2,2,4-Trimethylpentane	MKCQ1910
Y22B085	Hydrochloric Acid	0000267411
Y22G116	HEXANE	ED437-US
Y22H404	ETHER, Anhydrous	22030592
Y22I244	Sodium Sulfate, Anhydrous	22G1861008

Preparations Performed by **agg** **Date:** **05/10/2023 08:22**

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: METALS

METHOD: EPA 6010D

DATA PACKAGE COVER PAGE

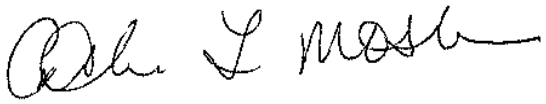
EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/19/2023 Title: Laboratory Manager

STANDARD REFERENCE MATERIAL RECOVERY

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Soil
Batch: BE30803
Laboratory ID: BE30803-SRM1
Preparation: EPA 3050B
Initial/Final: 0.6 g / 50 mL

ANALYTE	TRUE (mg/kg wet)	FOUND (mg/kg wet)	SRM % REC.	QC LIMITS REC.
Aluminum	8040	8680	108	49.9 - 150.5
Antimony	129	55.1	42.7	18 - 250.4
Arsenic	183	200	109	69.9 - 130.1
Barium	297	324	109	75.1 - 125.3
Beryllium	78.8	80.9	103	75 - 124.9
Cadmium	221	233	105	75.1 - 124.9
Calcium	4710	4830	102	72.4 - 127.4
Chromium	200	202	101	70 - 130
Cobalt	97.4	105	108	74.9 - 125.3
Copper	136	155	114	75 - 125
Iron	14000	13300	94.7	34.9 - 165.7
Lead	257	270	105	73.9 - 126.1
Magnesium	2290	2380	104	62 - 138.4
Manganese	381	407	107	75.9 - 124.1
Nickel	169	196	116	69.8 - 129.6
Potassium	2030	2070	102	59.1 - 140.9
Selenium	217	176	81.3	69.1 - 131.3
Silver	67.8	58.5	86.3	70.6 - 129.2
Sodium	427	447	105	58.3 - 141.9
Thallium	80.5	83.0	103	65.1 - 135.4
Vanadium	205	207	101	74.6 - 125.4
Zinc	224	228	102	70.1 - 130.4

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30803 Batch Matrix: Soil Preparation: EPA 3050B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11	QBI051523ARE_1-022	05/11/23 15:46	
EHQ_ITEM304_COMP02_230505	23E0419-12	QBI051523ARE_1-023	05/11/23 15:46	
Blank	BE30803-BLK1	QBI051523ARE_1-009	05/11/23 15:46	
Reference	BE30803-SRM1	QBI051523ARE_1-010	05/11/23 15:46	

FORM I **BLANKS**

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170446801

Sequence: S3E1531 Calibration: 05/15/23 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S3E1531-ICB1	Aluminum	-0.278	0.050	ug/mL		EPA 6010D
	Antimony	0.009	0.025	ug/mL		EPA 6010D
	Arsenic	-0.001	0.015	ug/mL		EPA 6010D
	Barium	0.002	0.025	ug/mL		EPA 6010D
	Beryllium	-0.00003	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00002	0.003	ug/mL		EPA 6010D
	Calcium	-0.014	0.050	ug/mL		EPA 6010D
	Chromium	0.0005	0.005	ug/mL		EPA 6010D
	Cobalt	0.0003	0.004	ug/mL		EPA 6010D
	Copper	0.004	0.020	ug/mL		EPA 6010D
	Iron	-0.160	0.250	ug/mL		EPA 6010D
	Lead	-0.0007	0.005	ug/mL		EPA 6010D
	Magnesium	-0.188	0.050	ug/mL		EPA 6010D
	Manganese	0.0006	0.005	ug/mL		EPA 6010D
	Nickel	-0.002	0.010	ug/mL		EPA 6010D
	Potassium	-0.040	0.050	ug/mL		EPA 6010D
	Selenium	-0.011	0.025	ug/mL		EPA 6010D
	Silver	0.0006	0.005	ug/mL		EPA 6010D
	Sodium	0.024	0.500	ug/mL		EPA 6010D
	Thallium	-0.0009	0.025	ug/mL		EPA 6010D
	Vanadium	-0.000002	0.010	ug/mL		EPA 6010D
	Zinc	0.001	0.025	ug/mL		EPA 6010D
S3E1531-CCB1	Aluminum	-0.265	0.050	ug/mL		EPA 6010D
	Antimony	0.009	0.025	ug/mL		EPA 6010D
	Arsenic	0.0002	0.015	ug/mL		EPA 6010D
	Barium	0.002	0.025	ug/mL		EPA 6010D
	Beryllium	-0.0001	0.0005	ug/mL		EPA 6010D
	Cadmium	0.0002	0.003	ug/mL		EPA 6010D
	Calcium	-0.003	0.050	ug/mL		EPA 6010D
	Chromium	0.0005	0.005	ug/mL		EPA 6010D
	Cobalt	0.0004	0.004	ug/mL		EPA 6010D
	Copper	0.005	0.020	ug/mL		EPA 6010D
	Iron	-0.157	0.250	ug/mL		EPA 6010D

FORM I

BLANKS

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170446801

Sequence: S3E1531 Calibration: 05/15/23 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S3E1531-CCB1	Lead	0.0004	0.005	ug/mL		EPA 6010D
	Magnesium	-0.191	0.050	ug/mL		EPA 6010D
	Manganese	0.0006	0.005	ug/mL		EPA 6010D
	Nickel	-0.004	0.010	ug/mL		EPA 6010D
	Potassium	0.028	0.050	ug/mL		EPA 6010D
	Selenium	-0.005	0.025	ug/mL		EPA 6010D
	Silver	0.0008	0.005	ug/mL		EPA 6010D
	Sodium	0.022	0.500	ug/mL		EPA 6010D
	Thallium	-0.006	0.025	ug/mL		EPA 6010D
	Vanadium	0.0006	0.010	ug/mL		EPA 6010D
	Zinc	0.0006	0.025	ug/mL		EPA 6010D
BE30803-BLK1	Aluminum	-20.8	4.17	mg/kg wet		EPA 6010D
	Antimony	0.050	2.08	mg/kg wet		EPA 6010D
	Arsenic	0.048	1.25	mg/kg wet		EPA 6010D
	Barium	0.021	2.08	mg/kg wet		EPA 6010D
	Beryllium	-0.011	0.042	mg/kg wet		EPA 6010D
	Cadmium	0.047	0.250	mg/kg wet		EPA 6010D
	Calcium	-0.704	4.17	mg/kg wet		EPA 6010D
	Chromium	0.039	0.417	mg/kg wet		EPA 6010D
	Cobalt	0.019	0.333	mg/kg wet		EPA 6010D
	Copper	-0.046	1.67	mg/kg wet		EPA 6010D
	Iron	-13.1	20.8	mg/kg wet		EPA 6010D
	Lead	0.121	0.417	mg/kg wet		EPA 6010D
	Magnesium	-15.9	4.17	mg/kg wet		EPA 6010D
	Manganese	0.061	0.417	mg/kg wet		EPA 6010D
	Nickel	-0.213	0.830	mg/kg wet		EPA 6010D
	Potassium	-4.21	4.17	mg/kg wet		EPA 6010D
	Selenium	-0.445	2.08	mg/kg wet		EPA 6010D
	Silver	-0.282	0.420	mg/kg wet		EPA 6010D
	Sodium	-6.91	41.7	mg/kg wet		EPA 6010D
	Thallium	-0.398	2.08	mg/kg wet		EPA 6010D
	Vanadium	0.040	0.830	mg/kg wet		EPA 6010D
	Zinc	0.068	2.08	mg/kg wet		EPA 6010D

FORM I **BLANKS**

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170446801

Sequence: S3E1531 Calibration: 05/15/23 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S3E1531-CCB2	Aluminum	-0.266	0.050	ug/mL		EPA 6010D
	Antimony	0.009	0.025	ug/mL		EPA 6010D
	Arsenic	-0.004	0.015	ug/mL		EPA 6010D
	Barium	0.003	0.025	ug/mL		EPA 6010D
	Beryllium	-0.00006	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00004	0.003	ug/mL		EPA 6010D
	Calcium	-0.0003	0.050	ug/mL		EPA 6010D
	Chromium	0.0005	0.005	ug/mL		EPA 6010D
	Cobalt	0.0006	0.004	ug/mL		EPA 6010D
	Copper	0.005	0.020	ug/mL		EPA 6010D
	Iron	-0.159	0.250	ug/mL		EPA 6010D
	Lead	0.0007	0.005	ug/mL		EPA 6010D
	Magnesium	-0.189	0.050	ug/mL		EPA 6010D
	Manganese	0.0008	0.005	ug/mL		EPA 6010D
	Nickel	-0.001	0.010	ug/mL		EPA 6010D
	Potassium	0.008	0.050	ug/mL		EPA 6010D
	Selenium	-0.003	0.025	ug/mL		EPA 6010D
	Silver	0.032	0.005	ug/mL	*	EPA 6010D
	Sodium	-0.203	0.500	ug/mL		EPA 6010D
	Thallium	-0.008	0.025	ug/mL		EPA 6010D
	Vanadium	0.0003	0.010	ug/mL		EPA 6010D
	Zinc	0.001	0.025	ug/mL		EPA 6010D
S3E1531-CCB3	Aluminum	-0.266	0.050	ug/mL		EPA 6010D
	Antimony	0.012	0.025	ug/mL		EPA 6010D
	Arsenic	0.002	0.015	ug/mL		EPA 6010D
	Barium	0.003	0.025	ug/mL		EPA 6010D
	Beryllium	-0.00007	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00009	0.003	ug/mL		EPA 6010D
	Calcium	-0.006	0.050	ug/mL		EPA 6010D
	Chromium	0.0005	0.005	ug/mL		EPA 6010D
	Cobalt	0.0005	0.004	ug/mL		EPA 6010D
	Copper	0.004	0.020	ug/mL		EPA 6010D
	Iron	-0.155	0.250	ug/mL		EPA 6010D

FORM I **BLANKS**

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170446801

Sequence: S3E1531 Calibration: 05/15/23 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
S3E1531-CCB3	Lead	-0.0002	0.005	ug/mL		EPA 6010D
	Magnesium	-0.187	0.050	ug/mL		EPA 6010D
	Manganese	0.0009	0.005	ug/mL		EPA 6010D
	Nickel	-0.004	0.010	ug/mL		EPA 6010D
	Potassium	-0.062	0.050	ug/mL		EPA 6010D
	Selenium	0.0003	0.025	ug/mL		EPA 6010D
	Silver	0.006	0.005	ug/mL	*	EPA 6010D
	Sodium	-0.230	0.500	ug/mL		EPA 6010D
	Thallium	-0.005	0.025	ug/mL		EPA 6010D
	Vanadium	0.0009	0.010	ug/mL		EPA 6010D
	Zinc	0.001	0.025	ug/mL		EPA 6010D
S3E1531-CCB4	Aluminum	-0.265	0.050	ug/mL		EPA 6010D
	Antimony	0.012	0.025	ug/mL		EPA 6010D
	Arsenic	-0.001	0.015	ug/mL		EPA 6010D
	Barium	0.004	0.025	ug/mL		EPA 6010D
	Beryllium	-0.00002	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00002	0.003	ug/mL		EPA 6010D
	Calcium	-0.015	0.050	ug/mL		EPA 6010D
	Chromium	0.0007	0.005	ug/mL		EPA 6010D
	Cobalt	0.001	0.004	ug/mL		EPA 6010D
	Copper	0.005	0.020	ug/mL		EPA 6010D
	Iron	-0.155	0.250	ug/mL		EPA 6010D
	Lead	-0.001	0.005	ug/mL		EPA 6010D
	Magnesium	-0.184	0.050	ug/mL		EPA 6010D
	Manganese	0.001	0.005	ug/mL		EPA 6010D
	Nickel	-0.002	0.010	ug/mL		EPA 6010D
	Potassium	-0.122	0.050	ug/mL		EPA 6010D
	Selenium	-0.004	0.025	ug/mL		EPA 6010D
	Silver	0.003	0.005	ug/mL		EPA 6010D
	Sodium	-0.239	0.500	ug/mL		EPA 6010D
	Thallium	-0.006	0.025	ug/mL		EPA 6010D
	Vanadium	0.0008	0.010	ug/mL		EPA 6010D
	Zinc	0.002	0.025	ug/mL		EPA 6010D

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010D

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1531	Instrument:	WinLabICP
		Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	S3E1531-ICV1	QBI051523ARE_1-001	05/15/23 10:51
Initial Cal Blank	S3E1531-ICB1	QBI051523ARE_1-002	05/15/23 10:54
Instrument RL Check	S3E1531-CRL1	QBI051523ARE_1-003	05/15/23 10:58
Interference Check A	S3E1531-IFA1	QBI051523ARE_1-005	05/15/23 11:04
Interference Check B	S3E1531-IFB1	QBI051523ARE_1-006	05/15/23 11:06
Calibration Check	S3E1531-CCV1	QBI051523ARE_1-007	05/15/23 11:09
Calibration Blank	S3E1531-CCB1	QBI051523ARE_1-008	05/15/23 11:12
Blank	BE30803-BLK1	QBI051523ARE_1-009	05/15/23 11:23
Reference	BE30803-SRM1	QBI051523ARE_1-010	05/15/23 11:27
Calibration Check	S3E1531-CCV2	QBI051523ARE_1-019	05/15/23 11:56
Calibration Blank	S3E1531-CCB2	QBI051523ARE_1-020	05/15/23 12:00
EHQ_ITEM304_COMP01_230505	23E0419-11	QBI051523ARE_1-022	05/15/23 12:06
EHQ_ITEM304_COMP02_230505	23E0419-12	QBI051523ARE_1-023	05/15/23 12:08
Calibration Check	S3E1531-CCV3	QBI051523ARE_1-031	05/15/23 12:27
Calibration Blank	S3E1531-CCB3	QBI051523ARE_1-032	05/15/23 12:30
Calibration Check	S3E1531-CCV4	QBI051523ARE_1-043	05/15/23 13:04
Calibration Blank	S3E1531-CCB4	QBI051523ARE_1-044	05/15/23 13:07

HOLDING TIME SUMMARY

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/11/23 15:46	6.12	180.00	05/15/23 12:06	9.96	180.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/11/23 15:46	6.10	180.00	05/15/23 12:08	9.95	180.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:** WinLabICP

Analyte	LOD	LOQ	Units
Aluminum	4.17	4.17	mg/kg
Antimony	2.08	2.08	mg/kg
Arsenic	1.25	1.25	mg/kg
Barium	2.08	2.08	mg/kg
Beryllium	0.042	0.042	mg/kg
Cadmium	0.250	0.250	mg/kg
Calcium	4.17	4.17	mg/kg
Chromium	0.417	0.417	mg/kg
Cobalt	0.333	0.333	mg/kg
Copper	1.67	1.67	mg/kg
Iron	20.8	20.8	mg/kg
Lead	0.417	0.417	mg/kg
Magnesium	4.17	4.17	mg/kg
Manganese	0.417	0.417	mg/kg
Nickel	0.830	0.830	mg/kg
Potassium	4.17	4.17	mg/kg
Selenium	2.08	2.08	mg/kg
Silver	0.420	0.420	mg/kg
Sodium	41.7	41.7	mg/kg
Thallium	2.08	2.08	mg/kg
Vanadium	0.830	0.830	mg/kg
Zinc	2.08	2.08	mg/kg

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-11 File ID: QBI051523ARE_1-022

Sampled: 05/05/23 13:00 Prepared: 05/11/23 15:46 Analyzed: 05/15/23 12:06

Solids: 90.64 Preparation: EPA 3050B Initial/Final: 0.6 g / 50 mL

Batch: BE30803 Sequence: S3E1531 Calibration: 05/15/23 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7429-90-5	Aluminum	30500	1		EPA 6010D
7440-36-0	Antimony	8.95	1		EPA 6010D
7440-38-2	Arsenic	8.58	1		EPA 6010D
7440-39-3	Barium	164	1		EPA 6010D
7440-41-7	Beryllium	0.226	1		EPA 6010D
7440-43-9	Cadmium	0.276	1	U	EPA 6010D
7440-70-2	Calcium	40000	1		EPA 6010D
7440-47-3	Chromium	136	1		EPA 6010D
7440-48-4	Cobalt	36.6	1		EPA 6010D
7440-50-8	Copper	207	1		EPA 6010D
7439-89-6	Iron	51600	1		EPA 6010D
7439-92-1	Lead	35.6	1		EPA 6010D
7439-95-4	Magnesium	29700	1		EPA 6010D
7439-96-5	Manganese	1570	1		EPA 6010D
7440-02-0	Nickel	74.8	1		EPA 6010D
7440-09-7	Potassium	561	1		EPA 6010D
7782-49-2	Selenium	2.30	1	U	EPA 6010D
7440-22-4	Silver	0.463	1	U	EPA 6010D
7440-23-5	Sodium	1800	1		EPA 6010D
7440-28-0	Thallium	8.53	1		EPA 6010D
7440-62-2	Vanadium	148	1		EPA 6010D
7440-66-6	Zinc	68.3	1		EPA 6010D

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-12 File ID: QBI051523ARE_1-023

Sampled: 05/05/23 13:15 Prepared: 05/11/23 15:46 Analyzed: 05/15/23 12:08

Solids: 91.31 Preparation: EPA 3050B Initial/Final: 0.6 g / 50 mL

Batch: BE30803 Sequence: S3E1531 Calibration: 05/15/23 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7429-90-5	Aluminum	29100	1		EPA 6010D
7440-36-0	Antimony	7.17	1		EPA 6010D
7440-38-2	Arsenic	8.57	1		EPA 6010D
7440-39-3	Barium	158	1		EPA 6010D
7440-41-7	Beryllium	0.127	1		EPA 6010D
7440-43-9	Cadmium	0.304	1		EPA 6010D
7440-70-2	Calcium	53000	1		EPA 6010D
7440-47-3	Chromium	134	1		EPA 6010D
7440-48-4	Cobalt	34.3	1		EPA 6010D
7440-50-8	Copper	207	1		EPA 6010D
7439-89-6	Iron	50500	1		EPA 6010D
7439-92-1	Lead	34.7	1		EPA 6010D
7439-95-4	Magnesium	32200	1		EPA 6010D
7439-96-5	Manganese	1590	1		EPA 6010D
7440-02-0	Nickel	70.7	1		EPA 6010D
7440-09-7	Potassium	479	1		EPA 6010D
7782-49-2	Selenium	2.28	1	U	EPA 6010D
7440-22-4	Silver	0.460	1	U	EPA 6010D
7440-23-5	Sodium	2660	1		EPA 6010D
7440-28-0	Thallium	7.78	1		EPA 6010D
7440-62-2	Vanadium	151	1		EPA 6010D
7440-66-6	Zinc	62.1	1		EPA 6010D

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Instrument ID: WinLabICP
Calibration: 05/15/23
Control Limt: +/- 10.00%
Sequence: S3E1531

Lab Sample ID	Analyte	True	Found	%R	Units	Method
S3E1531-ICV1	Aluminum	10.0	10.1	101	ug/mL	EPA 6010D
	Antimony	0.250	0.270	108	ug/mL	EPA 6010D
	Arsenic	0.250	0.251	101	ug/mL	EPA 6010D
	Barium	10.0	10.5	105	ug/mL	EPA 6010D
	Beryllium	0.250	0.255	102	ug/mL	EPA 6010D
	Cadmium	0.125	0.125	100	ug/mL	EPA 6010D
	Calcium	25.0	25.7	103	ug/mL	EPA 6010D
	Chromium	1.00	1.01	101	ug/mL	EPA 6010D
	Cobalt	2.50	2.53	101	ug/mL	EPA 6010D
	Copper	1.25	1.32	105	ug/mL	EPA 6010D
	Iron	5.00	4.94	98.9	ug/mL	EPA 6010D
	Lead	0.250	0.262	105	ug/mL	EPA 6010D
	Magnesium	25.0	25.7	103	ug/mL	EPA 6010D
	Manganese	2.50	2.62	105	ug/mL	EPA 6010D
	Nickel	2.50	2.52	101	ug/mL	EPA 6010D
	Potassium	25.0	24.4	97.5	ug/mL	EPA 6010D
	Selenium	0.250	0.295	118 *	ug/mL	EPA 6010D
	Silver	1.25	1.21	97.0	ug/mL	EPA 6010D
	Sodium	25.0	25.3	101	ug/mL	EPA 6010D
	Thallium	0.250	0.262	105	ug/mL	EPA 6010D
	Vanadium	2.50	2.58	103	ug/mL	EPA 6010D
	Zinc	2.50	2.54	102	ug/mL	EPA 6010D
S3E1531-CCV1	Aluminum	10.0	10.7	107	ug/mL	EPA 6010D
	Antimony	0.250	0.265	106	ug/mL	EPA 6010D
	Arsenic	0.500	0.534	107	ug/mL	EPA 6010D
	Barium	10.0	10.9	109	ug/mL	EPA 6010D
	Beryllium	0.250	0.271	108	ug/mL	EPA 6010D
	Cadmium	0.250	0.269	107	ug/mL	EPA 6010D
	Calcium	25.0	26.5	106	ug/mL	EPA 6010D
	Chromium	1.00	1.05	105	ug/mL	EPA 6010D
	Cobalt	2.50	2.67	107	ug/mL	EPA 6010D
	Copper	1.25	1.36	109	ug/mL	EPA 6010D
	Iron	5.00	5.27	105	ug/mL	EPA 6010D
	Lead	0.500	0.542	108	ug/mL	EPA 6010D
	Magnesium	25.0	27.3	109	ug/mL	EPA 6010D
	Manganese	2.50	2.73	109	ug/mL	EPA 6010D
	Nickel	2.50	2.67	107	ug/mL	EPA 6010D

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Instrument ID: WinLabICP
Calibration: 05/15/23
Control Limt: +/- 10.00%
Sequence: S3E1531

Lab Sample ID	Analyte	True	Found	%R	Units	Method
S3E1531-CCV1	Potassium	5.00	5.29	106	ug/mL	EPA 6010D
	Selenium	0.500	0.534	107	ug/mL	EPA 6010D
	Silver	1.25	1.27	102	ug/mL	EPA 6010D
	Sodium	25.0	26.2	105	ug/mL	EPA 6010D
	Thallium	0.500	0.538	108	ug/mL	EPA 6010D
	Vanadium	2.50	2.66	106	ug/mL	EPA 6010D
	Zinc	2.50	2.74	110	ug/mL	EPA 6010D
S3E1531-CCV2	Aluminum	10.0	10.2	102	ug/mL	EPA 6010D
	Antimony	0.250	0.234	93.5	ug/mL	EPA 6010D
	Arsenic	0.500	0.503	101	ug/mL	EPA 6010D
	Barium	10.0	10.5	105	ug/mL	EPA 6010D
	Beryllium	0.250	0.256	102	ug/mL	EPA 6010D
	Cadmium	0.250	0.255	102	ug/mL	EPA 6010D
	Calcium	25.0	25.9	104	ug/mL	EPA 6010D
	Chromium	1.00	1.01	101	ug/mL	EPA 6010D
	Cobalt	2.50	2.56	102	ug/mL	EPA 6010D
	Copper	1.25	1.29	103	ug/mL	EPA 6010D
	Iron	5.00	5.31	106	ug/mL	EPA 6010D
	Lead	0.500	0.514	103	ug/mL	EPA 6010D
	Magnesium	25.0	25.8	103	ug/mL	EPA 6010D
	Manganese	2.50	2.60	104	ug/mL	EPA 6010D
	Nickel	2.50	2.56	103	ug/mL	EPA 6010D
	Potassium	5.00	5.04	101	ug/mL	EPA 6010D
	Selenium	0.500	0.522	104	ug/mL	EPA 6010D
	Silver	1.25	1.22	97.4	ug/mL	EPA 6010D
	Sodium	25.0	25.5	102	ug/mL	EPA 6010D
	Thallium	0.500	0.520	104	ug/mL	EPA 6010D
	Vanadium	2.50	2.52	101	ug/mL	EPA 6010D
	Zinc	2.50	2.58	103	ug/mL	EPA 6010D
S3E1531-CCV3	Aluminum	10.0	10.3	103	ug/mL	EPA 6010D
	Antimony	0.250	0.248	99.1	ug/mL	EPA 6010D
	Arsenic	0.500	0.535	107	ug/mL	EPA 6010D
	Barium	10.0	10.7	107	ug/mL	EPA 6010D
	Beryllium	0.250	0.267	107	ug/mL	EPA 6010D
	Cadmium	0.250	0.263	105	ug/mL	EPA 6010D
	Calcium	25.0	26.0	104	ug/mL	EPA 6010D
	Chromium	1.00	1.05	105	ug/mL	EPA 6010D

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Instrument ID: WinLabICP
Calibration: 05/15/23
Control Limt: +/- 10.00%
Sequence: S3E1531

Lab Sample ID	Analyte	True	Found	%R		Units	Method
S3E1531-CCV3	Cobalt	2.50	2.66	106		ug/mL	EPA 6010D
	Copper	1.25	1.32	106		ug/mL	EPA 6010D
	Iron	5.00	5.27	105		ug/mL	EPA 6010D
	Lead	0.500	0.538	108		ug/mL	EPA 6010D
	Magnesium	25.0	26.5	106		ug/mL	EPA 6010D
	Manganese	2.50	2.67	107		ug/mL	EPA 6010D
	Nickel	2.50	2.65	106		ug/mL	EPA 6010D
	Potassium	5.00	5.11	102		ug/mL	EPA 6010D
	Selenium	0.500	0.551	110		ug/mL	EPA 6010D
	Silver	1.25	1.25	99.8		ug/mL	EPA 6010D
	Sodium	25.0	25.8	103		ug/mL	EPA 6010D
	Thallium	0.500	0.533	107		ug/mL	EPA 6010D
	Vanadium	2.50	2.62	105		ug/mL	EPA 6010D
	Zinc	2.50	2.67	107		ug/mL	EPA 6010D
S3E1531-CCV4	Aluminum	10.0	10.5	105		ug/mL	EPA 6010D
	Antimony	0.250	0.256	102		ug/mL	EPA 6010D
	Arsenic	0.500	0.521	104		ug/mL	EPA 6010D
	Barium	10.0	10.8	108		ug/mL	EPA 6010D
	Beryllium	0.250	0.266	107		ug/mL	EPA 6010D
	Cadmium	0.250	0.261	105		ug/mL	EPA 6010D
	Calcium	25.0	26.3	105		ug/mL	EPA 6010D
	Chromium	1.00	1.04	104		ug/mL	EPA 6010D
	Cobalt	2.50	2.64	106		ug/mL	EPA 6010D
	Copper	1.25	1.34	107		ug/mL	EPA 6010D
	Iron	5.00	5.24	105		ug/mL	EPA 6010D
	Lead	0.500	0.532	106		ug/mL	EPA 6010D
	Magnesium	25.0	26.6	106		ug/mL	EPA 6010D
	Manganese	2.50	2.68	107		ug/mL	EPA 6010D
	Nickel	2.50	2.64	106		ug/mL	EPA 6010D
	Potassium	5.00	5.28	106		ug/mL	EPA 6010D
	Selenium	0.500	0.556	111	*	ug/mL	EPA 6010D
	Silver	1.25	1.26	101		ug/mL	EPA 6010D
	Sodium	25.0	26.0	104		ug/mL	EPA 6010D
	Thallium	0.500	0.532	106		ug/mL	EPA 6010D
	Vanadium	2.50	2.63	105		ug/mL	EPA 6010D
	Zinc	2.50	2.64	106		ug/mL	EPA 6010D

* Values outside of QC limits

CRDL STANDARD

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Instrument ID: WinLabICP
Calibration: 05/15/23
Sequence: S3E1531

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
S3E1531-CRL1	Aluminum	0.500	0.217	43.4	ug/mL	25 - 175
	Antimony	0.0250	0.028	112	ug/mL	25 - 175
	Arsenic	0.0150	0.014	96.2	ug/mL	25 - 175
	Barium	0.0250	0.031	126	ug/mL	25 - 175
	Beryllium	0.000500	0.0005	106	ug/mL	25 - 175
	Cadmium	0.00300	0.003	106	ug/mL	25 - 175
	Calcium	0.500	0.580	116	ug/mL	25 - 175
	Chromium	0.00500	0.006	115	ug/mL	25 - 175
	Cobalt	0.00400	0.005	124	ug/mL	25 - 175
	Copper	0.0400	0.045	112	ug/mL	25 - 175
	Iron	0.500	0.358	71.6	ug/mL	25 - 175
	Lead	0.00500	0.006	112	ug/mL	25 - 175
	Magnesium	0.500	0.342	68.4	ug/mL	25 - 175
	Manganese	0.0100	0.011	114	ug/mL	25 - 175
	Nickel	0.0100	0.009	94.8	ug/mL	25 - 175
	Potassium	0.500	0.450	90.0	ug/mL	25 - 175
	Selenium	0.0250	0.013	53.5	ug/mL	25 - 175
	Silver	0.0100	0.012	120	ug/mL	25 - 175
	Sodium	0.500	0.481	96.2	ug/mL	25 - 175
	Thallium	0.0250	0.022	86.8	ug/mL	25 - 175
	Vanadium	0.0100	0.011	110	ug/mL	25 - 175
	Zinc	0.0250	0.030	120	ug/mL	25 - 175

* Values outside of QC limits

ICP INTERFERENCE CHECK SAMPLE

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (
Project: 170446801
Instrument ID: WinLabICP
Calibration: 05/15/23
Sequence: S3E1531

Lab Sample ID	Analyte	True	Found	%R	Units
S3E1531-IFA1	Aluminum	500	550.59	110	ug/mL
	Antimony		0.00		ug/mL
	Arsenic		0.00		ug/mL
	Barium		0.00		ug/mL
	Beryllium		0.00		ug/mL
	Cadmium		0.00		ug/mL
	Calcium	500	460.53	92.1	ug/mL
	Chromium		0.00		ug/mL
	Cobalt		0.00		ug/mL
	Copper		0.00		ug/mL
	Iron	200	184.83	92.4	ug/mL
	Lead		0.00		ug/mL
	Magnesium	500	511.23	102	ug/mL
	Manganese		0.00		ug/mL
	Nickel		0.00		ug/mL
	Potassium		0.01		ug/mL
	Selenium		0.00		ug/mL
	Silver		0.00		ug/mL
	Sodium		0.06		ug/mL
	Thallium		0.00		ug/mL
	Vanadium		0.00		ug/mL
	Zinc		0.00		ug/mL
S3E1531-IFB1	Aluminum	500	541.35	108	ug/mL
	Antimony	0.500	0.49	98.0	ug/mL
	Arsenic	0.500	0.50	99.2	ug/mL
	Barium	0.500	0.52	103	ug/mL
	Beryllium	0.500	0.48	97.0	ug/mL
	Cadmium	1.00	0.94	93.6	ug/mL
	Calcium	500	473.38	94.7	ug/mL

ICP INTERFERENCE CHECK SAMPLE

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (
Project: 170446801
Instrument ID: WinLabICP
Calibration: 05/15/23
Sequence: S3E1531

Lab Sample ID	Analyte	True	Found	%R	Units
S3E1531-IFB1	Chromium	0.500	0.47	93.8	ug/mL
	Cobalt	0.500	0.46	92.1	ug/mL
	Copper	0.500	0.55	110	ug/mL
	Iron	200	179.17	89.6	ug/mL
	Lead	1.00	0.94	94.0	ug/mL
	Magnesium	500	502.93	101	ug/mL
	Manganese	0.500	0.50	101	ug/mL
	Nickel	1.00	0.99	99.4	ug/mL
	Potassium		0.09		ug/mL
	Selenium	0.500	0.44	88.0	ug/mL
	Silver	1.00	1.07	107	ug/mL
	Sodium		0.09		ug/mL
	Thallium	0.500	0.44	87.9	ug/mL
	Vanadium	0.500	0.50	100	ug/mL
	Zinc	1.00	0.93	92.7	ug/mL

* Values outside of QC limits

Metals Linear Dynamic Range

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Instrument: WinLabICP

CAS NO.	Analyte	Concentration mg/kg dry
7429-90-5	Aluminum	250000
7440-36-0	Antimony	5000
7440-38-2	Arsenic	25000
7440-39-3	Barium	12500
7440-41-7	Beryllium	1250
7440-43-9	Cadmium	3000
7440-70-2	Calcium	250000
7440-47-3	Chromium	5000
7440-48-4	Cobalt	12500
7440-50-8	Copper	6250
7439-89-6	Iron	100000
7439-92-1	Lead	15000
7439-95-4	Magnesium	250000
7439-96-5	Manganese	7500
7440-02-0	Nickel	12500
7440-09-7	Potassium	25000
7782-49-2	Selenium	10000
7440-22-4	Silver	6250
7440-23-5	Sodium	125000
7440-28-0	Thallium	12500
7440-62-2	Vanadium	12500
7440-66-6	Zinc	3000

IEC File Name: IEC 051523A

IEC File Last Saved: 5/15/2023 3:44:31 PM
Printed On: 5/15/2023 3:44:32 PM

Results Data Set Name: QBI051523A
Method Name: TAL METH_092222FAS
Results Library: G:\ICP Files\Results\041423 RESULTS.mdb

Interfering Analytes

	Analytes	Al RADIAL	Ca RADIAL	Fe RADIAL
1	Ag 338.289	0.000000	0.000000	0.020000
4	As 188.979	0.000000	0.000000	-0.400000
9	Cd 226.502	0.000000	0.000000	0.105000
10	Co 228.616	0.000000	0.000000	-0.020000
11	Cr 267.716	0.000000	0.000000	0.010000
12	Cu 324.752	0.000000	0.000000	-0.090000
18	Mn 257.610	0.000000	0.000000	-0.055000
19	Na 330.237	0.000000	0.000000	-4.780000
21	Ni 232.003	0.000000	0.000000	-0.230000
22	Pb 220.353	0.000000	0.000000	-0.560000
23	Sb 206.836	0.000505	0.090000	-0.350000
24	Se 196.026	0.000000	0.000000	1.220000
25	Tl 190.801	0.000000	0.000000	-0.210000
26	V 292.402	0.000000	0.000000	0.090000
29	Zn 206.200	0.000000	0.000000	-0.050000

METALS RAW DATA

SDG:

CLASS:

METHOD:

Sample Information Detail Report
Document Name: 051523A

File Description
Sample Information File

Parameters Common to All Samples

Batch ID	051523A
Analyst Name	CW
Volume Units	µL
Weight Units	g

Parameters That Vary By Sample

Sample No	A/S Location	Sample ID	Remarks
1	3	SEQ-ICV1	
2	4	SEQ-ICB1	
3	5	SEQ-CRL1	
4	6	SEQ-CRL2	
5	7	SEQ-IFA1	
6	8	SEQ-IFB1	
7	9	SEQ-CCV1	
8	4	SEQ-CCB1	
9	101	BE30803-BLK1	
10	102	BE30803-SRM1	
11	103	23E0375-07	BE30803
12	104	23E0383-03	BE30803
13	105	23E0383-04	BE30803
14	106	23E0390-01	BE30803
15	107	23E0390-02	BE30803
16	108	23E0390-03	BE30803
17	109	23E0390-04	BE30803
18	110	23E0390-05	BE30803
19	9	SEQ-CCV2	
20	4	SEQ-CCB2	
21	111	23E0390-06	BE30803
22	112	23E0419-11	BE30803
23	113	23E0419-12	BE30803
24	114	23E0428-01	BE30803
25	115	23E0428-02	BE30803
26	116	23E0428-03	BE30803
27	117	23E0430-01	BE30803
28	118	23E0430-02	BE30803
29	119	23E0433-01	BE30803
30	120	BE30803-DUP1	
31	9	SEQ-CCV3	
32	4	SEQ-CCB3	
33	121	BE30803-MS1	
34	122	BE30803-PS1	
35	123	SEQ-SRD1	23E0433-01
36	124	23E0433-02	BE30803
37	125	23E0433-03	BE30803
38	126	BE30883-BLK1	
39	127	BE30883-SRM1	
40	128	23E0433-04	BE30883
41	129	23E0439-01	BE30883
42	130	23E0440-01	BE30883
43	9	SEQ-CCV4	
44	4	SEQ-CCB4	
45	131	23E0440-02	BE30883
46	132	23E0440-03	BE30883
47	133	23E0440-04	BE30883
48	134	23E0440-05	BE30883
49	135	23E0440-06	BE30883
50	136	23E0440-07	BE30883
51	137	23E0440-08	BE30883

52	138	23E0440-09	BE30883
53	139	23E0440-10	BE30883
54	140	23E0440-11	BE30883
55	9	SEQ-CCV5	
56	4	SEQ-CCB5	
57	141	23E0440-12	BE30883
58	142	23E0440-13	BE30883
59	143	23E0440-14	BE30883
60	144	23E0440-15	BE30883
61	145	23E0440-16	BE30883
62	146	23E0440-17	BE30883
63	147	23E0440-18	BE30883
64	148	BE30883-DUP1	
65	149	BE30883-MS1	
66	150	BE30883-PS1	
67	9	SEQ-CCV6	
68	4	SEQ-CCB6	
69	151	SEQ-SRD2	23E0440-18
70	152	BE30885-BLK1	
71	153	BE30885-SRM1	
72	154	23E0440-19	BE30885
73	155	23E0440-20	BE30885
74	156	23E0440-21	BE30885
75	157	23E0440-22	BE30885
76	158	23E0444-01	BE30885
77	159	23E0444-02	BE30885
78	160	23E0444-03	BE30885
79	9	SEQ-CCV7	
80	4	SEQ-CCB7	
81	201	23E0444-04	BE30885
82	202	23E0444-05	BE30885
83	203	23E0444-06	BE30885
84	204	23E0452-02	BE30885
85	205	23E0661-09	BE30885
86	206	23E0663-09	BE30885
87	207	BE30885-DUP1	
88	208	BE30885-MS1	
89	209	BE30885-PS1	
90	210	SEQ-SRD3	23E0663-09
91	9	SEQ-CCV8	
92	4	SEQ-CCB8	
93	211	BE30951-BLK1	
94	212	BE30951-SRM1	
95	213	23D1644-50	BE30951
96	214	23D1644-51	BE30951
97	215	BE30951-DUP1	
98	216	BE30951-MS1	
99	217	BE30951-PS1	
100	218	SEQ-SRD4	23D1644-51
101	219	BE30955-BLK1	
102	220	BE30955-LBK1	
103	9	SEQ-CCV9	
104	4	SEQ-CCB9	
105	221	BE30955-BS1	
106	222	23E0444-03	BE30955
107	223	23E0444-04	BE30955
108	224	BE30955-DUP1	
109	225	BE30955-MS1	
110	226	BE30955-PS1	
111	227	SEQ-SRD5	23E0444-04
112	228	23E0444-05	BE30955
113	229	23E0444-06	BE30955
114	230	23E0661-06	BE30955
115	10	SEQ-CCVA	

116	1	SEQ-CCBA	
117	231	23E0663-06	BE30955
118	232	23E0666-02	BE30955
119	233	BE30962-BLK1	
120	234	BE30962-BS1	
121	235	23E0606-01	BE30962
122	236	23E0662-01	BE30962
123	237	23E0662-02	BE30962
124	238	23E0662-03	BE30962
125	239	BE30962-DUP1	
126	240	BE30962-MS1	
127	10	SEQ-CCVB	
128	1	SEQ-CCBB	
129	241	BE30962-PS1	
130	242	SEQ-SRD6	23E0662-03
131	243	BE30963-BLK1	
132	244	BE30963-BS1	
133	245	23E0606-01	BE30963
134	246	23E0414-10	BE30962
135	247	23E0442-12	BE30962 (10X)
136	248	23E0421-01	BE30963
137	249	BE30963-DUP1	
138	250	BE30963-MS1	
139	10	SEQ-CCVC	
140	1	SEQ-CCBC	
141	251	BE30963-PS1	
142	252	SEQ-SRD7	23E0421-01
143	253	23E0722-02	BE30955
144	254	23E0722-04	BE30955
145	255	23E0722-05	BE30955
146	256	23E0722-06	BE30955
147	257	23E0722-07	BE30955
148	258	BE30840-BLK1	
149	259	BE30840-BS1	
150	260	23E0392-01	BE30840
151	10	SEQ-CCVD	
152	1	SEQ-CCBD	
153	301	BE30840-MS2	
154	302	23E0406-04	BE30840
155	303	23E0406-08	BE30840
156	304	23E0409-01	BE30840
157	305	23E0409-02	BE30840
158	306	23E0411-03	BE30840
159	307	23E0414-09	BE30840
160	308	23E0421-01	BE30840
161	309	23E0442-01	BE30840
162	310	23E0442-02	BE30840
163	10	SEQ-CCVE	
164	1	SEQ-CCBE	
165	311	23E0442-03	BE30840
166	312	23E0442-04	BE30840
167	313	23E0442-05	BE30840
168	314	23E0442-06	BE30840
169	315	23E0442-07	BE30840
170	316	23E0442-08	BE30840
171	317	23E0442-09	BE30840 (10X)
172	318	23E0442-10	BE30840 (10X)
173	319	23E0442-11	BE30840 (10X)
174	320	BE30840-DUP1	BE30840 (10X)
175	10	SEQ-CCVF	
176	1	SEQ-CCBF	
177	321	BE30840-MS1	BE30840 (10X)
178	322	BE30840-PS1	BE30840 (10X)
179	323	SEQ-SRD8	23E0442-11 (50X)

180	10	SEQ-CCVG
181	1	SEQ-CCBG
182	5	SEQ-CRL3
183	6	SEQ-CRL4
184	7	SEQ-IFA2
185	8	SEQ-IFB2
186	405	SEQ-HCV1
187	401	RINSE
188	401	RINSE
189	401	RINSE
190	401	RINSE
191	401	RINSE
192	10	SEQ-CCVH
193	1	SEQ-CCBH

Reprocessing Begun
Originator: 7300 Technique: ICP Continuous

Results Data Set (original): QBI051523A
Results Library (original): C:\Users\Public\PerkinElmer Syngistix\ICP\Data\Results\041423 RESULTS.mdb
Results Data Set (reprocessed): QBI051523ARE_1
Results Library (reprocessed): G:\ICP Files\Results\041423 RESULTS.mdb

Method Loaded
Method Name: TAL METH_092222FAS Method Last Saved: 2/13/2023 8:32:56 AM
IEC File: IEC 010521A.iec MSF File:
Method Description: TAL METALS

Batch ID: 051523A
Sequence No.: 1 Autosampler Location: 1
Sample ID: Calib Blank 1 Date Collected: 5/15/2023 10:46:36 AM
Analyst: CW Data Type: Reprocessed on 5/16/2023 9:07:28 AM
Originator (Original): 7300
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample):

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	19589409.8	170250.80	0.87%	5.000	mg/L
Y RADIAL	333243.5	8316.73	2.50%	5.000	mg/L
As 188.979†	-20.2	6.32	31.23%	[0.00]	mg/L
Tl 190.801†	-11.8	3.95	33.58%	[0.00]	mg/L
Se 196.026†	6.0	7.49	125.92%	[0.00]	mg/L
Zn 206.200†	-41.2	6.45	15.65%	[0.00]	mg/L
Sb 206.836†	17.8	0.95	5.32%	[0.00]	mg/L
Pb 220.353†	-47.8	7.32	15.33%	[0.00]	mg/L
Cd 226.502†	38.2	11.12	29.09%	[0.00]	mg/L
Co 228.616†	-57.5	8.94	15.53%	[0.00]	mg/L
Ni 232.003†	-600.6	18.49	3.08%	[0.00]	mg/L
Ba 233.527†	11.2	7.40	65.90%	[0.00]	mg/L
Mn 257.610†	291.5	5.59	1.92%	[0.00]	mg/L
Cr 267.716†	263.0	7.12	2.71%	[0.00]	mg/L
Fe 273.955†	3546.4	3715.59	104.77%	[0.00]	mg/L
Saturated within auto integration window (code 4)					
Mg 279.077†	2257.0	4624.25	204.88%	[0.00]	mg/L
V 292.402†	385.1	120.39	31.26%	[0.00]	mg/L
Al 308.215†	11124.9	8801.75	79.12%	[0.00]	mg/L
Be 313.107†	-7820.3	192.99	2.47%	[0.00]	mg/L
Cu 324.752†	3255.9	116.14	3.57%	[0.00]	mg/L
Ag 338.289†	710.3	213.41	30.05%	[0.00]	mg/L
Na 330.237†	564.1	78.47	13.91%	[0.00]	mg/L
Ca 227.546†	-185.3	31.90	17.22%	[0.00]	mg/L
Al RADIAL†	83.3	14.17	17.00%	[0.00]	mg/L
Fe RADIAL†	10.1	3.36	33.11%	[0.00]	mg/L
Ca RADIAL†	2202.6	69.05	3.13%	[0.00]	mg/L
K RADIAL†	346.5	165.50	47.77%	[0.00]	mg/L
Mg RADIAL†	-73.5	4.04	5.50%	[0.00]	mg/L
Na RADIAL†	2565.0	118.74	4.63%	[0.00]	mg/L

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 2
Sample ID: CAL STD 1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 2
Date Collected: 5/15/2023 10:49:31 AM
Data Type: Reprocessed on 5/16/2023 9:07:57 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CAL STD 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	17801743.7	175035.26	0.98%	4.544	mg/L
Y RADIAL	331316.4	9813.57	2.96%	4.971	mg/L
As 188.979†	701.7	13.18	1.88%	[1.0000]	mg/L
Tl 190.801†	743.9	12.20	1.64%	[1.0000]	mg/L
Se 196.026†	768.3	5.63	0.73%	[1.0000]	mg/L
Zn 206.200†	86763.2	1923.54	2.22%	[5.0000]	mg/L
Sb 206.836†	632.8	19.66	3.11%	[0.5000]	mg/L
Pb 220.353†	5826.3	75.79	1.30%	[1.0000]	mg/L
Cd 226.502†	41464.6	700.49	1.69%	[0.5000]	mg/L
Co 228.616†	135456.9	2362.07	1.74%	[5.0000]	mg/L
Ni 232.003†	61340.8	1535.92	2.50%	[5.0000]	mg/L
Ba 233.527†	1095751.7	40170.25	3.67%	[20.0000]	mg/L
Mn 257.610†	2964747.7	110153.55	3.72%	[5.0000]	mg/L
Cr 267.716†	241788.4	3558.42	1.47%	[2.0000]	mg/L
Fe 273.955†	216869.2	4469.80	2.06%	[10.0000]	mg/L
Mg 279.077†	825329.1	32363.08	3.92%	[50.0000]	mg/L
V 292.402†	1157145.4	43375.44	3.75%	[5.0000]	mg/L
Al 308.215†	448952.9	20196.42	4.50%	[20.0000]	mg/L
Be 313.107†	2232351.5	78836.16	3.53%	[0.5000]	mg/L
Cu 324.752†	705210.6	30260.91	4.29%	[2.5000]	mg/L
Ag 338.289†	356662.8	10436.81	2.93%	[2.5000]	mg/L
Na 330.237†	38349.5	1741.70	4.54%	[50.0000]	mg/L
Ca 227.546†	4434.4	54.83	1.24%	[50.0000]	mg/L
Al RADIAL†	33440.5	1073.52	3.21%	[20.0000]	mg/L
Fe RADIAL†	4430.8	123.75	2.79%	[10.0000]	mg/L
Ca RADIAL†	301486.3	1608.62	0.53%	[50.0000]	mg/L
K RADIAL†	13861.8	430.11	3.10%	[10.0000]	mg/L
Mg RADIAL†	20511.7	551.65	2.69%	[50.0000]	mg/L
Na RADIAL†	375768.4	4759.22	1.27%	[50.0000]	mg/L

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 3
Sample ID: SEQ-ICV1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 3
Date Collected: 5/15/2023 10:51:47 AM
Data Type: Reprocessed on 5/16/2023 9:07:58 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-ICV1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	17997673.1	4.594	mg/L	0.1123	4.594	mg/L	0.1123	2.44%
Y RADIAL	329014.7	4.937	mg/L	0.2191	4.937	mg/L	0.2191	4.44%
As 188.979†	174.9	0.2514	mg/L	0.00955	0.2514	mg/L	0.00955	3.80%
Tl 190.801†	194.0	0.2618	mg/L	0.00400	0.2618	mg/L	0.00400	1.53%
Se 196.026†	231.1	0.2945	mg/L	0.01142	0.2945	mg/L	0.01142	3.88%
Zn 206.200†	44116.9	2.543	mg/L	0.0392	2.543	mg/L	0.0392	1.54%
Sb 206.836†	341.9	0.2697	mg/L	0.00851	0.2697	mg/L	0.00851	3.15%
Pb 220.353†	1510.7	0.2622	mg/L	0.00621	0.2622	mg/L	0.00621	2.37%
Cd 226.502†	10410.8	0.1250	mg/L	0.00223	0.1250	mg/L	0.00223	1.79%
Co 228.616†	68630.8	2.533	mg/L	0.0509	2.533	mg/L	0.0509	2.01%
Ni 232.003†	30853.4	2.516	mg/L	0.0625	2.516	mg/L	0.0625	2.48%
Ba 233.527†	577718.5	10.54	mg/L	0.260	10.54	mg/L	0.260	2.47%
Mn 257.610†	1551474.7	2.617	mg/L	0.0591	2.617	mg/L	0.0591	2.26%
Cr 267.716†	121749.1	1.007	mg/L	0.0206	1.007	mg/L	0.0206	2.04%
Fe 273.955†	107196.2	4.943	mg/L	0.1031	4.943	mg/L	0.1031	2.09%
Mg 279.077†	424951.6	25.74	mg/L	0.584	25.74	mg/L	0.584	2.27%
V 292.402†	596716.8	2.578	mg/L	0.0590	2.578	mg/L	0.0590	2.29%
Al 308.215†	226247.2	10.08	mg/L	0.238	10.08	mg/L	0.238	2.36%
Be 313.107†	1137325.1	0.25474	mg/L	0.006402	0.25474	mg/L	0.006402	2.51%
Cu 324.752†	371797.3	1.319	mg/L	0.0275	1.319	mg/L	0.0275	2.09%
Ag 338.289†	173079.8	1.213	mg/L	0.0270	1.213	mg/L	0.0270	2.22%
Na 330.237†	18035.6	23.54	mg/L	0.390	23.54	mg/L	0.390	1.66%
Ca 227.546†	2196.2	24.76	mg/L	0.523	24.76	mg/L	0.523	2.11%
Al RADIAL†	16360.8	9.785	mg/L	0.1594	9.785	mg/L	0.1594	1.63%
Fe RADIAL†	2289.1	5.166	mg/L	0.2275	5.166	mg/L	0.2275	4.40%
Ca RADIAL†	154853.9	25.68	mg/L	0.174	25.68	mg/L	0.174	0.68%
K RADIAL†	33788.8	24.38	mg/L	0.227	24.38	mg/L	0.227	0.93%
Mg RADIAL†	10667.8	26.00	mg/L	1.081	26.00	mg/L	1.081	4.16%
Na RADIAL†	190483.6	25.35	mg/L	0.311	25.35	mg/L	0.311	1.23%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 4
Sample ID: SEQ-ICB1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 10:54:57 AM
Data Type: Reprocessed on 5/16/2023 9:07:59 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-ICB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	19004909.9	4.851	mg/L	0.1371	4.851	mg/L	0.1371	2.83%
Y RADIAL	339239.0	5.090	mg/L	0.0532	5.090	mg/L	0.0532	1.04%
As 188.979†	-0.9	-0.0013	mg/L	0.00586	-0.0013	mg/L	0.00586	458.99%
Tl 190.801†	-0.7	-0.0009	mg/L	0.00442	-0.0009	mg/L	0.00442	473.48%
Se 196.026†	-8.7	-0.0113	mg/L	0.00698	-0.0113	mg/L	0.00698	61.81%
Zn 206.200†	17.4	0.0010	mg/L	0.00033	0.0010	mg/L	0.00033	32.43%
Sb 206.836†	11.4	0.0090	mg/L	0.00214	0.0090	mg/L	0.00214	23.74%
Pb 220.353†	-3.9	-0.0007	mg/L	0.00109	-0.0007	mg/L	0.00109	161.72%
Cd 226.502†	1.7	0.0000	mg/L	0.00016	0.0000	mg/L	0.00016	741.06%
Co 228.616†	8.3	0.0003	mg/L	0.00054	0.0003	mg/L	0.00054	174.68%
Ni 232.003†	-20.9	-0.0017	mg/L	0.00080	-0.0017	mg/L	0.00080	47.05%
Ba 233.527†	105.5	0.0019	mg/L	0.00175	0.0019	mg/L	0.00175	90.69%
Mn 257.610†	342.2	0.0006	mg/L	0.00051	0.0006	mg/L	0.00051	88.15%
Cr 267.716†	63.5	0.0005	mg/L	0.00031	0.0005	mg/L	0.00031	58.77%
Fe 273.955†	-3468.0	-0.1599	mg/L	0.00150	-0.1599	mg/L	0.00150	0.94%
Mg 279.077†	-3100.7	-0.1878	mg/L	0.00546	-0.1878	mg/L	0.00546	2.91%
V 292.402†	-0.7	-0.0000	mg/L	0.00053	-0.0000	mg/L	0.00053	>999.9%
Al 308.215†	-6239.6	-0.2780	mg/L	0.00473	-0.2780	mg/L	0.00473	1.70%
Be 313.107†	-126.2	-0.00003	mg/L	0.000079	-0.00003	mg/L	0.000079	280.86%
Cu 324.752†	1186.9	0.0042	mg/L	0.00044	0.0042	mg/L	0.00044	10.35%
Ag 338.289†	89.6	0.0006	mg/L	0.00065	0.0006	mg/L	0.00065	103.21%
Na 330.237†	-97.9	-0.1277	mg/L	0.07087	-0.1277	mg/L	0.07087	55.49%
Ca 227.546†	-27.5	-0.3104	mg/L	0.15170	-0.3104	mg/L	0.15170	48.87%
Al RADIAL†	-5.6	-0.0033	mg/L	0.00410	-0.0033	mg/L	0.00410	122.90%
Fe RADIAL†	-4.3	-0.0098	mg/L	0.00871	-0.0098	mg/L	0.00871	89.09%
Ca RADIAL†	-86.0	-0.0143	mg/L	0.00591	-0.0143	mg/L	0.00591	41.41%
K RADIAL†	-55.3	-0.0399	mg/L	0.08238	-0.0399	mg/L	0.08238	206.38%
Mg RADIAL†	0.9	0.0022	mg/L	0.01485	0.0022	mg/L	0.01485	666.13%
Na RADIAL†	183.7	0.0244	mg/L	0.01762	0.0244	mg/L	0.01762	72.08%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 5
Sample ID: SEQ-CRL1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 5
Date Collected: 5/15/2023 10:58:06 AM
Data Type: Reprocessed on 5/16/2023 9:08:00 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CRL1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18823769.7	4.805	mg/L	0.0623	4.805	mg/L	0.0623	1.30%
Y RADIAL	335966.8	5.041	mg/L	0.0940	5.041	mg/L	0.0940	1.86%
As 188.979†	10.0	0.0144	mg/L	0.00841	0.0144	mg/L	0.00841	58.32%
Tl 190.801†	16.1	0.0217	mg/L	0.00382	0.0217	mg/L	0.00382	17.62%
Se 196.026†	10.8	0.0134	mg/L	0.01067	0.0134	mg/L	0.01067	79.84%
Zn 206.200†	518.8	0.0299	mg/L	0.00056	0.0299	mg/L	0.00056	1.87%
Sb 206.836†	35.2	0.0279	mg/L	0.00430	0.0279	mg/L	0.00430	15.42%
Pb 220.353†	30.8	0.0056	mg/L	0.00177	0.0056	mg/L	0.00177	31.68%
Cd 226.502†	267.9	0.0032	mg/L	0.00013	0.0032	mg/L	0.00013	4.03%
Co 228.616†	133.6	0.0049	mg/L	0.00098	0.0049	mg/L	0.00098	19.85%
Ni 232.003†	114.8	0.0095	mg/L	0.00188	0.0095	mg/L	0.00188	19.78%
Ba 233.527†	1721.7	0.0314	mg/L	0.00073	0.0314	mg/L	0.00073	2.33%
Mn 257.610†	6728.7	0.0114	mg/L	0.00019	0.0114	mg/L	0.00019	1.65%
Cr 267.716†	698.4	0.0058	mg/L	0.00049	0.0058	mg/L	0.00049	8.54%
Fe 273.955†	7768.5	0.3582	mg/L	0.00629	0.3582	mg/L	0.00629	1.75%
Mg 279.077†	5642.9	0.3419	mg/L	0.00578	0.3419	mg/L	0.00578	1.69%
V 292.402†	2548.7	0.0110	mg/L	0.00027	0.0110	mg/L	0.00027	2.42%
Al 308.215†	4876.2	0.2172	mg/L	0.01329	0.2172	mg/L	0.01329	6.12%
Be 313.107†	2375.6	0.00053	mg/L	0.000046	0.00053	mg/L	0.000046	8.71%
Cu 324.752†	12629.2	0.0448	mg/L	0.00019	0.0448	mg/L	0.00019	0.42%
Ag 338.289†	1706.5	0.0120	mg/L	0.00120	0.0120	mg/L	0.00120	10.05%
Na 330.237†	183.9	0.2422	mg/L	0.09559	0.2422	mg/L	0.09559	39.46%
Ca 227.546†	10.0	0.1130	mg/L	0.06651	0.1130	mg/L	0.06651	58.84%
Al RADIAL†	869.0	0.5197	mg/L	0.01484	0.5197	mg/L	0.01484	2.85%
Fe RADIAL†	235.5	0.5315	mg/L	0.00451	0.5315	mg/L	0.00451	0.85%
Ca RADIAL†	3499.4	0.5804	mg/L	0.00728	0.5804	mg/L	0.00728	1.25%
K RADIAL†	623.6	0.4499	mg/L	0.11751	0.4499	mg/L	0.11751	26.12%
Mg RADIAL†	215.6	0.5255	mg/L	0.01608	0.5255	mg/L	0.01608	3.06%
Na RADIAL†	3614.7	0.4810	mg/L	0.02433	0.4810	mg/L	0.02433	5.06%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 6
Sample ID: SEQ-CRL2
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 6
Date Collected: 5/15/2023 11:01:13 AM
Data Type: Reprocessed on 5/16/2023 9:08:01 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CRL2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18845863.0	4.810	mg/L	0.1923	4.810	mg/L	0.1923	4.00%
Y RADIAL	330256.6	4.955	mg/L	0.0833	4.955	mg/L	0.0833	1.68%
As 188.979†	6.3	0.0091	mg/L	0.00630	0.0091	mg/L	0.00630	69.41%
Tl 190.801†	6.2	0.0084	mg/L	0.00476	0.0084	mg/L	0.00476	56.62%
Se 196.026†	10.8	0.0138	mg/L	0.00635	0.0138	mg/L	0.00635	46.12%
Zn 206.200†	288.1	0.0166	mg/L	0.00088	0.0166	mg/L	0.00088	5.32%
Sb 206.836†	16.4	0.0130	mg/L	0.00170	0.0130	mg/L	0.00170	13.09%
Pb 220.353†	28.1	0.0050	mg/L	0.00176	0.0050	mg/L	0.00176	35.44%
Cd 226.502†	126.6	0.0015	mg/L	0.00026	0.0015	mg/L	0.00026	17.45%
Co 228.616†	63.7	0.0024	mg/L	0.00034	0.0024	mg/L	0.00034	14.40%
Ni 232.003†	37.4	0.0031	mg/L	0.00217	0.0031	mg/L	0.00217	69.69%
Ba 233.527†	860.0	0.0157	mg/L	0.00044	0.0157	mg/L	0.00044	2.82%
Mn 257.610†	3486.8	0.0059	mg/L	0.00021	0.0059	mg/L	0.00021	3.57%
Cr 267.716†	370.9	0.0031	mg/L	0.00011	0.0031	mg/L	0.00011	3.65%
Fe 273.955†	2097.9	0.0967	mg/L	0.01382	0.0967	mg/L	0.01382	14.28%
Mg 279.077†	1158.7	0.0702	mg/L	0.01372	0.0702	mg/L	0.01372	19.54%
V 292.402†	1129.9	0.0049	mg/L	0.00047	0.0049	mg/L	0.00047	9.77%
Al 308.215†	-483.7	-0.0215	mg/L	0.02112	-0.0215	mg/L	0.02112	97.99%
Be 313.107†	853.6	0.00019	mg/L	0.000104	0.00019	mg/L	0.000104	54.20%
Cu 324.752†	6369.4	0.0226	mg/L	0.00170	0.0226	mg/L	0.00170	7.53%
Ag 338.289†	803.3	0.0056	mg/L	0.00144	0.0056	mg/L	0.00144	25.53%
Na 330.237†	63.2	0.0836	mg/L	0.16030	0.0836	mg/L	0.16030	191.65%
Ca 227.546†	-7.2	-0.0816	mg/L	0.04572	-0.0816	mg/L	0.04572	56.02%
Al RADIAL†	429.9	0.2571	mg/L	0.01251	0.2571	mg/L	0.01251	4.87%
Fe RADIAL†	113.8	0.2569	mg/L	0.01064	0.2569	mg/L	0.01064	4.14%
Ca RADIAL†	1917.7	0.3180	mg/L	0.01019	0.3180	mg/L	0.01019	3.20%
K RADIAL†	357.3	0.2578	mg/L	0.02868	0.2578	mg/L	0.02868	11.13%
Mg RADIAL†	107.9	0.2630	mg/L	0.01041	0.2630	mg/L	0.01041	3.96%
Na RADIAL†	1904.8	0.2535	mg/L	0.02735	0.2535	mg/L	0.02735	10.79%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 7
Sample ID: SEQ-IFA1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 7
Date Collected: 5/15/2023 11:04:21 AM
Data Type: Reprocessed on 5/16/2023 9:08:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFA1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15973977.9	4.077	mg/L	0.0411	4.077	mg/L	0.0411	1.01%
Y RADIAL	323788.5	4.858	mg/L	0.2185	4.858	mg/L	0.2185	4.50%
As 188.979†	-53.6	-0.0009	mg/L	0.01910	-0.0009	mg/L	0.01910	>999.9%
Tl 190.801†	-29.0	0.0006	mg/L	0.00079	0.0006	mg/L	0.00079	130.72%
Se 196.026†	177.3	0.0005	mg/L	0.02941	0.0005	mg/L	0.02941	>999.9%
Zn 206.200†	-178.1	-0.0008	mg/L	0.00096	-0.0008	mg/L	0.00096	116.00%
Sb 206.836†	-31.0	-0.0001	mg/L	0.01263	-0.0001	mg/L	0.01263	>999.9%
Pb 220.353†	-612.4	0.0006	mg/L	0.00222	0.0006	mg/L	0.00222	389.11%
Cd 226.502†	1640.1	-0.0000	mg/L	0.00039	-0.0000	mg/L	0.00039	>999.9%
Co 228.616†	-117.0	-0.0005	mg/L	0.00028	-0.0005	mg/L	0.00028	50.70%
Ni 232.003†	-542.3	-0.0008	mg/L	0.00213	-0.0008	mg/L	0.00213	266.15%
Ba 233.527†	240.2	0.0044	mg/L	0.00026	0.0044	mg/L	0.00026	5.94%
Mn 257.610†	-6055.1	0.0002	mg/L	0.00017	0.0002	mg/L	0.00017	99.30%
Cr 267.716†	172.7	-0.0005	mg/L	0.00011	-0.0005	mg/L	0.00011	24.68%
Fe 273.955†	4008385.3	184.8	mg/L	4.33	184.8	mg/L	4.33	2.34%
Mg 279.077†	8438666.2	511.2	mg/L	6.26	511.2	mg/L	6.26	1.22%
V 292.402†	4131.8	0.0009	mg/L	0.00086	0.0009	mg/L	0.00086	98.74%
Al 308.215†	12359459.4	550.6	mg/L	7.69	550.6	mg/L	7.69	1.40%
Be 313.107†	-2034.9	-0.00046	mg/L	0.000060	-0.00046	mg/L	0.000060	13.19%
Cu 324.752†	-4699.3	0.0003	mg/L	0.00191	0.0003	mg/L	0.00191	589.34%
Ag 338.289†	506.7	-0.0002	mg/L	0.00149	-0.0002	mg/L	0.00149	668.11%
Na 330.237†	178.2	1.134	mg/L	0.2582	1.134	mg/L	0.2582	22.76%
Ca 227.546†	48938.7	551.8	mg/L	11.34	551.8	mg/L	11.34	2.05%
Al RADIAL†	794576.2	475.2	mg/L	19.65	475.2	mg/L	19.65	4.13%
Fe RADIAL†	83611.4	188.7	mg/L	0.78	188.7	mg/L	0.78	0.41%
Ca RADIAL†	2776865.0	460.5	mg/L	18.80	460.5	mg/L	18.80	4.08%
K RADIAL†	12.7	0.0092	mg/L	0.07472	0.0092	mg/L	0.07472	814.21%
Mg RADIAL†	199556.5	486.4	mg/L	2.25	486.4	mg/L	2.25	0.46%
Na RADIAL†	452.4	0.0602	mg/L	0.01805	0.0602	mg/L	0.01805	29.99%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 8
Sample ID: SEQ-IFB1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 8
Date Collected: 5/15/2023 11:06:48 AM
Data Type: Reprocessed on 5/16/2023 9:08:03 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16048297.7	4.096	mg/L	0.0355	4.096	mg/L	0.0355	0.87%
Y RADIAL	320034.0	4.802	mg/L	0.1182	4.802	mg/L	0.1182	2.46%
As 188.979†	294.5	0.4962	mg/L	0.01412	0.4962	mg/L	0.01412	2.84%
Tl 190.801†	297.2	0.4396	mg/L	0.00969	0.4396	mg/L	0.00969	2.21%
Se 196.026†	517.1	0.4399	mg/L	0.01638	0.4399	mg/L	0.01638	3.72%
Zn 206.200†	15927.6	0.9274	mg/L	0.00835	0.9274	mg/L	0.00835	0.90%
Sb 206.836†	589.6	0.4900	mg/L	0.02340	0.4900	mg/L	0.02340	4.78%
Pb 220.353†	4852.6	0.9399	mg/L	0.00864	0.9399	mg/L	0.00864	0.92%
Cd 226.502†	79263.6	0.9357	mg/L	0.01053	0.9357	mg/L	0.01053	1.13%
Co 228.616†	12365.3	0.4603	mg/L	0.00430	0.4603	mg/L	0.00430	0.93%
Ni 232.003†	11661.0	0.9945	mg/L	0.01940	0.9945	mg/L	0.01940	1.95%
Ba 233.527†	28348.4	0.5174	mg/L	0.00494	0.5174	mg/L	0.00494	0.96%
Mn 257.610†	292880.9	0.5044	mg/L	0.00401	0.5044	mg/L	0.00401	0.79%
Cr 267.716†	56922.9	0.4689	mg/L	0.00449	0.4689	mg/L	0.00449	0.96%
Fe 273.955†	3885579.5	179.2	mg/L	3.59	179.2	mg/L	3.59	2.00%
Mg 279.077†	8301709.7	502.9	mg/L	11.21	502.9	mg/L	11.21	2.23%
V 292.402†	119637.8	0.4998	mg/L	0.00326	0.4998	mg/L	0.00326	0.65%
Al 308.215†	12151964.5	541.3	mg/L	4.13	541.3	mg/L	4.13	0.76%
Be 313.107†	2165207.8	0.48496	mg/L	0.010992	0.48496	mg/L	0.010992	2.27%
Cu 324.752†	150322.8	0.5501	mg/L	0.00999	0.5501	mg/L	0.00999	1.82%
Ag 338.289†	152575.3	1.066	mg/L	0.0099	1.066	mg/L	0.0099	0.93%
Na 330.237†	230.7	1.214	mg/L	0.3842	1.214	mg/L	0.3842	31.64%
Ca 227.546†	47489.8	535.5	mg/L	15.35	535.5	mg/L	15.35	2.87%
Al RADIAL†	815647.5	487.8	mg/L	15.90	487.8	mg/L	15.90	3.26%
Fe RADIAL†	84665.8	191.1	mg/L	0.79	191.1	mg/L	0.79	0.42%
Ca RADIAL†	2854321.2	473.4	mg/L	15.10	473.4	mg/L	15.10	3.19%
K RADIAL†	118.5	0.0855	mg/L	0.16836	0.0855	mg/L	0.16836	196.88%
Mg RADIAL†	201844.2	492.0	mg/L	3.67	492.0	mg/L	3.67	0.75%
Na RADIAL†	686.5	0.0913	mg/L	0.02150	0.0913	mg/L	0.02150	23.54%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 9
Sample ID: SEQ-CCV1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 11:09:17 AM
Data Type: Reprocessed on 5/16/2023 9:08:04 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	17480212.5	4.462	mg/L	0.0722	4.462	mg/L	0.0722	1.62%
Y RADIAL	324536.8	4.869	mg/L	0.1653	4.869	mg/L	0.1653	3.40%
As 188.979†	373.1	0.5338	mg/L	0.01291	0.5338	mg/L	0.01291	2.42%
Tl 190.801†	399.5	0.5381	mg/L	0.01666	0.5381	mg/L	0.01666	3.10%
Se 196.026†	415.3	0.5341	mg/L	0.01259	0.5341	mg/L	0.01259	2.36%
Zn 206.200†	47624.0	2.745	mg/L	0.0633	2.745	mg/L	0.0633	2.31%
Sb 206.836†	335.6	0.2647	mg/L	0.01000	0.2647	mg/L	0.01000	3.78%
Pb 220.353†	3141.5	0.5422	mg/L	0.00823	0.5422	mg/L	0.00823	1.52%
Cd 226.502†	22314.9	0.2685	mg/L	0.00533	0.2685	mg/L	0.00533	1.99%
Co 228.616†	72252.2	2.667	mg/L	0.0614	2.667	mg/L	0.0614	2.30%
Ni 232.003†	32699.4	2.667	mg/L	0.0621	2.667	mg/L	0.0621	2.33%
Ba 233.527†	599719.1	10.95	mg/L	0.229	10.95	mg/L	0.229	2.09%
Mn 257.610†	1617572.9	2.728	mg/L	0.0570	2.728	mg/L	0.0570	2.09%
Cr 267.716†	127497.7	1.055	mg/L	0.0222	1.055	mg/L	0.0222	2.11%
Fe 273.955†	114223.4	5.267	mg/L	0.1201	5.267	mg/L	0.1201	2.28%
Mg 279.077†	450840.4	27.31	mg/L	0.587	27.31	mg/L	0.587	2.15%
V 292.402†	616234.5	2.662	mg/L	0.0567	2.662	mg/L	0.0567	2.13%
Al 308.215†	239283.7	10.66	mg/L	0.236	10.66	mg/L	0.236	2.21%
Be 313.107†	1210451.2	0.27112	mg/L	0.005932	0.27112	mg/L	0.005932	2.19%
Cu 324.752†	384457.1	1.363	mg/L	0.0289	1.363	mg/L	0.0289	2.12%
Ag 338.289†	181526.9	1.272	mg/L	0.0215	1.272	mg/L	0.0215	1.69%
Na 330.237†	19010.1	24.81	mg/L	0.752	24.81	mg/L	0.752	3.03%
Ca 227.546†	2293.3	25.86	mg/L	0.420	25.86	mg/L	0.420	1.63%
Al RADIAL†	17550.1	10.50	mg/L	0.369	10.50	mg/L	0.369	3.51%
Fe RADIAL†	2342.9	5.288	mg/L	0.1986	5.288	mg/L	0.1986	3.76%
Ca RADIAL†	159730.9	26.49	mg/L	0.119	26.49	mg/L	0.119	0.45%
K RADIAL†	7336.3	5.293	mg/L	0.1922	5.293	mg/L	0.1922	3.63%
Mg RADIAL†	10909.8	26.59	mg/L	0.973	26.59	mg/L	0.973	3.66%
Na RADIAL†	197219.7	26.24	mg/L	0.325	26.24	mg/L	0.325	1.24%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 10
Sample ID: SEQ-CCB1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 11:12:25 AM
Data Type: Reprocessed on 5/16/2023 9:08:04 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18183074.9	4.641	mg/L	0.2345	4.641	mg/L	0.2345	5.05%
Y RADIAL	338127.8	5.073	mg/L	0.1391	5.073	mg/L	0.1391	2.74%
As 188.979†	0.1	0.0002	mg/L	0.00558	0.0002	mg/L	0.00558	>999.9%
Tl 190.801†	-4.6	-0.0062	mg/L	0.00475	-0.0062	mg/L	0.00475	76.06%
Se 196.026†	-3.9	-0.0051	mg/L	0.00386	-0.0051	mg/L	0.00386	76.05%
Zn 206.200†	11.2	0.0006	mg/L	0.00045	0.0006	mg/L	0.00045	70.09%
Sb 206.836†	11.7	0.0092	mg/L	0.00222	0.0092	mg/L	0.00222	24.06%
Pb 220.353†	2.5	0.0004	mg/L	0.00164	0.0004	mg/L	0.00164	392.79%
Cd 226.502†	16.5	0.0002	mg/L	0.00012	0.0002	mg/L	0.00012	62.08%
Co 228.616†	9.6	0.0004	mg/L	0.00064	0.0004	mg/L	0.00064	182.05%
Ni 232.003†	-45.6	-0.0037	mg/L	0.00376	-0.0037	mg/L	0.00376	101.13%
Ba 233.527†	110.5	0.0020	mg/L	0.00119	0.0020	mg/L	0.00119	59.18%
Mn 257.610†	374.7	0.0006	mg/L	0.00034	0.0006	mg/L	0.00034	54.17%
Cr 267.716†	65.5	0.0005	mg/L	0.00025	0.0005	mg/L	0.00025	46.91%
Fe 273.955†	-3410.1	-0.1572	mg/L	0.00118	-0.1572	mg/L	0.00118	0.75%
Mg 279.077†	-3147.2	-0.1907	mg/L	0.00510	-0.1907	mg/L	0.00510	2.67%
V 292.402†	130.6	0.0006	mg/L	0.00035	0.0006	mg/L	0.00035	61.92%
Al 308.215†	-5956.2	-0.2653	mg/L	0.01568	-0.2653	mg/L	0.01568	5.91%
Be 313.107†	-600.7	-0.00013	mg/L	0.000147	-0.00013	mg/L	0.000147	109.35%
Cu 324.752†	1433.2	0.0051	mg/L	0.00140	0.0051	mg/L	0.00140	27.64%
Ag 338.289†	117.9	0.0008	mg/L	0.00109	0.0008	mg/L	0.00109	132.14%
Na 330.237†	-77.2	-0.1007	mg/L	0.13354	-0.1007	mg/L	0.13354	132.55%
Ca 227.546†	-41.1	-0.4634	mg/L	0.18793	-0.4634	mg/L	0.18793	40.56%
Al RADIAL†	-7.8	-0.0047	mg/L	0.00892	-0.0047	mg/L	0.00892	191.62%
Fe RADIAL†	-3.3	-0.0075	mg/L	0.00652	-0.0075	mg/L	0.00652	86.91%
Ca RADIAL†	-19.4	-0.0032	mg/L	0.01075	-0.0032	mg/L	0.01075	334.37%
K RADIAL†	39.3	0.0283	mg/L	0.05761	0.0283	mg/L	0.05761	203.25%
Mg RADIAL†	-3.3	-0.0081	mg/L	0.01497	-0.0081	mg/L	0.01497	184.75%
Na RADIAL†	168.1	0.0224	mg/L	0.02358	0.0224	mg/L	0.02358	105.45%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 11
Sample ID: BE30803-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 101
Date Collected: 5/15/2023 11:23:54 AM
Data Type: Reprocessed on 5/16/2023 9:08:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30803-BLK1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17647582.6	4.504	mg/L	0.0492	4.504	mg/L	0.0492	1.09%
Y RADIAL	314693.8	4.722	mg/L	0.3877	4.722	mg/L	0.3877	8.21%
As 188.979†	0.4	0.0006	mg/L	0.00238	0.0006	mg/L	0.00238	412.09%
Tl 190.801†	-3.6	-0.0048	mg/L	0.00160	-0.0048	mg/L	0.00160	33.55%
Se 196.026†	-4.1	-0.0053	mg/L	0.01087	-0.0053	mg/L	0.01087	203.54%
Zn 206.200†	14.2	0.0008	mg/L	0.00034	0.0008	mg/L	0.00034	41.09%
Sb 206.836†	0.8	0.0006	mg/L	0.00343	0.0006	mg/L	0.00343	578.17%
Pb 220.353†	8.4	0.0014	mg/L	0.00055	0.0014	mg/L	0.00055	37.67%
Cd 226.502†	46.5	0.0006	mg/L	0.00034	0.0006	mg/L	0.00034	61.36%
Co 228.616†	6.3	0.0002	mg/L	0.00017	0.0002	mg/L	0.00017	71.96%
Ni 232.003†	-31.3	-0.0026	mg/L	0.00081	-0.0026	mg/L	0.00081	31.83%
Ba 233.527†	13.8	0.0003	mg/L	0.00030	0.0003	mg/L	0.00030	120.73%
Mn 257.610†	435.8	0.0007	mg/L	0.00036	0.0007	mg/L	0.00036	48.52%
Cr 267.716†	56.9	0.0005	mg/L	0.00022	0.0005	mg/L	0.00022	47.55%
Fe 273.955†	-3413.0	-0.1574	mg/L	0.00225	-0.1574	mg/L	0.00225	1.43%
Mg 279.077†	-3153.9	-0.1911	mg/L	0.00676	-0.1911	mg/L	0.00676	3.54%
V 292.402†	112.1	0.0005	mg/L	0.00025	0.0005	mg/L	0.00025	52.21%
Al 308.215†	-5608.0	-0.2498	mg/L	0.01014	-0.2498	mg/L	0.01014	4.06%
Be 313.107†	-614.7	-0.00014	mg/L	0.000094	-0.00014	mg/L	0.000094	68.60%
Cu 324.752†	-155.9	-0.0006	mg/L	0.00063	-0.0006	mg/L	0.00063	114.39%
Ag 338.289†	-482.9	-0.0034	mg/L	0.00013	-0.0034	mg/L	0.00013	3.81%
Na 330.237†	-166.5	-0.2171	mg/L	0.07012	-0.2171	mg/L	0.07012	32.30%
Ca 227.546†	-53.4	-0.6018	mg/L	0.10074	-0.6018	mg/L	0.10074	16.74%
Al RADIAL†	1.9	0.0011	mg/L	0.00676	0.0011	mg/L	0.00676	610.72%
Fe RADIAL†	-2.6	-0.0058	mg/L	0.00980	-0.0058	mg/L	0.00980	169.85%
Ca RADIAL†	-50.9	-0.0084	mg/L	0.02814	-0.0084	mg/L	0.02814	333.10%
K RADIAL†	-70.0	-0.0505	mg/L	0.11875	-0.0505	mg/L	0.11875	235.30%
Mg RADIAL†	-7.4	-0.0181	mg/L	0.01867	-0.0181	mg/L	0.01867	102.96%
Na RADIAL†	-622.9	-0.0829	mg/L	0.03689	-0.0829	mg/L	0.03689	44.50%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 12
Sample ID: BE30803-SRM1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 102
Date Collected: 5/15/2023 11:27:01 AM
Data Type: Reprocessed on 5/16/2023 9:08:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30803-SRM1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18003591.0	4.595	mg/L	0.1222	4.595	mg/L	0.1222	2.66%
Y RADIAL	331595.4	4.975	mg/L	0.1951	4.975	mg/L	0.1951	3.92%
As 188.979†	1635.5	2.399	mg/L	0.0680	2.399	mg/L	0.0680	2.83%
Tl 190.801†	714.3	0.9962	mg/L	0.02754	0.9962	mg/L	0.02754	2.76%
Se 196.026†	1787.4	2.117	mg/L	0.0517	2.117	mg/L	0.0517	2.44%
Zn 206.200†	47297.8	2.734	mg/L	0.0561	2.734	mg/L	0.0561	2.05%
Sb 206.836†	767.4	0.6611	mg/L	0.01677	0.6611	mg/L	0.01677	2.54%
Pb 220.353†	18332.5	3.242	mg/L	0.0824	3.242	mg/L	0.0824	2.54%
Cd 226.502†	233333.9	2.796	mg/L	0.0413	2.796	mg/L	0.0413	1.48%
Co 228.616†	34175.6	1.265	mg/L	0.0313	1.265	mg/L	0.0313	2.48%
Ni 232.003†	28308.5	2.347	mg/L	0.0577	2.347	mg/L	0.0577	2.46%
Ba 233.527†	213295.7	3.893	mg/L	0.0624	3.893	mg/L	0.0624	1.60%
Mn 257.610†	2889792.3	4.883	mg/L	0.0794	4.883	mg/L	0.0794	1.63%
Cr 267.716†	293259.7	2.424	mg/L	0.0427	2.424	mg/L	0.0427	1.76%
Fe 273.955†	3448660.0	159.0	mg/L	2.62	159.0	mg/L	2.62	1.65%
Mg 279.077†	472033.2	28.60	mg/L	0.581	28.60	mg/L	0.581	2.03%
V 292.402†	579092.9	2.487	mg/L	0.0378	2.487	mg/L	0.0378	1.52%
Al 308.215†	2337772.9	104.1	mg/L	1.41	104.1	mg/L	1.41	1.35%
Be 313.107†	4334947.7	0.97094	mg/L	0.007978	0.97094	mg/L	0.007978	0.82%
Cu 324.752†	520498.9	1.861	mg/L	0.0284	1.861	mg/L	0.0284	1.52%
Ag 338.289†	100603.2	0.7017	mg/L	0.00671	0.7017	mg/L	0.00671	0.96%
Na 330.237†	3363.4	5.204	mg/L	0.1217	5.204	mg/L	0.1217	2.34%
Ca 227.546†	4592.2	51.78	mg/L	1.138	51.78	mg/L	1.138	2.20%
Al RADIAL†	163492.4	97.78	mg/L	1.509	97.78	mg/L	1.509	1.54%
Fe RADIAL†	75906.6	171.3	mg/L	8.78	171.3	mg/L	8.78	5.13%
Ca RADIAL†	349153.4	57.91	mg/L	0.746	57.91	mg/L	0.746	1.29%
K RADIAL†	34470.5	24.87	mg/L	1.471	24.87	mg/L	1.471	5.92%
Mg RADIAL†	11990.9	29.23	mg/L	1.685	29.23	mg/L	1.685	5.76%
Na RADIAL†	40345.6	5.368	mg/L	0.3366	5.368	mg/L	0.3366	6.27%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 13
Sample ID: 23E0375-07
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 103
Date Collected: 5/15/2023 11:29:29 AM
Data Type: Reprocessed on 5/16/2023 9:08:07 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0375-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18104563.5	4.621	mg/L	0.1309	4.621	mg/L	0.1309	2.83%
Y RADIAL	339548.0	5.095	mg/L	0.1089	5.095	mg/L	0.1089	2.14%
As 188.979†	-2.6	0.0212	mg/L	0.00868	0.0212	mg/L	0.00868	40.92%
Tl 190.801†	-10.1	-0.0004	mg/L	0.00575	-0.0004	mg/L	0.00575	>999.9%
Se 196.026†	90.0	0.0410	mg/L	0.00826	0.0410	mg/L	0.00826	20.14%
Zn 206.200†	71435.8	4.120	mg/L	0.1927	4.120	mg/L	0.1927	4.68%
Sb 206.836†	20.8	0.0298	mg/L	0.00614	0.0298	mg/L	0.00614	20.60%
Pb 220.353†	3735.6	0.6761	mg/L	0.01974	0.6761	mg/L	0.01974	2.92%
Cd 226.502†	773.2	0.0028	mg/L	0.00034	0.0028	mg/L	0.00034	12.31%
Co 228.616†	8680.8	0.3217	mg/L	0.00983	0.3217	mg/L	0.00983	3.06%
Ni 232.003†	4207.4	0.3573	mg/L	0.00941	0.3573	mg/L	0.00941	2.63%
Ba 233.527†	12501.9	0.2282	mg/L	0.00683	0.2282	mg/L	0.00683	2.99%
Mn 257.610†	290641.7	0.4936	mg/L	0.01918	0.4936	mg/L	0.01918	3.89%
Cr 267.716†	27572.8	0.2275	mg/L	0.00851	0.2275	mg/L	0.00851	3.74%
Fe 273.955†	1360390.7	62.73	mg/L	2.520	62.73	mg/L	2.520	4.02%
Mg 279.077†	902933.5	54.70	mg/L	1.997	54.70	mg/L	1.997	3.65%
V 292.402†	61534.2	0.2603	mg/L	0.01063	0.2603	mg/L	0.01063	4.08%
Al 308.215†	711697.8	31.70	mg/L	0.813	31.70	mg/L	0.813	2.56%
Be 313.107†	3002.7	0.00067	mg/L	0.000117	0.00067	mg/L	0.000117	17.42%
Cu 324.752†	301869.4	1.076	mg/L	0.0329	1.076	mg/L	0.0329	3.06%
Ag 338.289†	-2340.3	-0.0177	mg/L	0.00272	-0.0177	mg/L	0.00272	15.39%
Na 330.237†	718.7	1.235	mg/L	0.3696	1.235	mg/L	0.3696	29.93%
Ca 227.546†	8279.0	93.35	mg/L	2.966	93.35	mg/L	2.966	3.18%
Al RADIAL†	49662.8	29.70	mg/L	0.055	29.70	mg/L	0.055	0.18%
Fe RADIAL†	27641.0	62.38	mg/L	0.376	62.38	mg/L	0.376	0.60%
Ca RADIAL†	568943.7	94.36	mg/L	3.732	94.36	mg/L	3.732	3.96%
K RADIAL†	4875.3	3.517	mg/L	0.0400	3.517	mg/L	0.0400	1.14%
Mg RADIAL†	21209.2	51.70	mg/L	0.291	51.70	mg/L	0.291	0.56%
Na RADIAL†	8878.1	1.181	mg/L	0.0417	1.181	mg/L	0.0417	3.53%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 14
Sample ID: 23E0383-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 104
Date Collected: 5/15/2023 11:31:57 AM
Data Type: Reprocessed on 5/16/2023 9:08:08 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0383-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17410139.3	4.444	mg/L	0.1213	4.444	mg/L	0.1213	2.73%
Y RADIAL	332944.8	4.996	mg/L	0.0983	4.996	mg/L	0.0983	1.97%
As 188.979†	-8.2	0.1878	mg/L	0.01346	0.1878	mg/L	0.01346	7.17%
Tl 190.801†	-28.4	0.0666	mg/L	0.00431	0.0666	mg/L	0.00431	6.48%
Se 196.026†	-186.0	-0.8505	mg/L	0.02881	-0.8505	mg/L	0.02881	3.39%
Zn 206.200†	26783.3	1.568	mg/L	0.0692	1.568	mg/L	0.0692	4.41%
Sb 206.836†	-93.0	0.0905	mg/L	0.00887	0.0905	mg/L	0.00887	9.80%
Pb 220.353†	6115.3	1.329	mg/L	0.0260	1.329	mg/L	0.0260	1.95%
Cd 226.502†	4680.6	0.0041	mg/L	0.00480	0.0041	mg/L	0.00480	117.76%
Co 228.616†	3896.9	0.1538	mg/L	0.00344	0.1538	mg/L	0.00344	2.24%
Ni 232.003†	5577.4	0.5693	mg/L	0.01664	0.5693	mg/L	0.01664	2.92%
Ba 233.527†	59726.0	1.090	mg/L	0.0491	1.090	mg/L	0.0491	4.50%
Mn 257.610†	2550498.2	4.329	mg/L	0.0272	4.329	mg/L	0.0272	0.63%
Cr 267.716†	51909.6	0.4244	mg/L	0.01623	0.4244	mg/L	0.01623	3.82%
Fe 273.955†	9720752.2	448.2	mg/L	11.41	448.2	mg/L	11.41	2.55%
Mg 279.077†	586127.8	35.51	mg/L	0.249	35.51	mg/L	0.249	0.70%
V 292.402†	211473.3	0.8689	mg/L	0.03841	0.8689	mg/L	0.03841	4.42%
Al 308.215†	2746743.8	122.4	mg/L	1.07	122.4	mg/L	1.07	0.88%
Be 313.107†	13594.6	0.00304	mg/L	0.000294	0.00304	mg/L	0.000294	9.66%
Cu 324.752†	281115.4	1.041	mg/L	0.0489	1.041	mg/L	0.0489	4.69%
Ag 338.289†	-7481.8	-0.0624	mg/L	0.00350	-0.0624	mg/L	0.00350	5.61%
Na 330.237†	120.1	2.541	mg/L	0.1632	2.541	mg/L	0.1632	6.42%
Ca 227.546†	9276.7	104.6	mg/L	6.87	104.6	mg/L	6.87	6.57%
Al RADIAL†	192631.0	115.2	mg/L	1.00	115.2	mg/L	1.00	0.87%
Fe RADIAL†	220979.3	498.7	mg/L	2.76	498.7	mg/L	2.76	0.55%
Ca RADIAL†	703533.7	116.7	mg/L	0.90	116.7	mg/L	0.90	0.77%
K RADIAL†	12159.5	8.772	mg/L	0.0811	8.772	mg/L	0.0811	0.92%
Mg RADIAL†	14317.9	34.90	mg/L	0.358	34.90	mg/L	0.358	1.03%
Na RADIAL†	8216.2	1.093	mg/L	0.0133	1.093	mg/L	0.0133	1.21%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 15
Sample ID: 23E0383-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 105
Date Collected: 5/15/2023 11:34:24 AM
Data Type: Reprocessed on 5/16/2023 9:08:09 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0383-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17829107.4	4.551	mg/L	0.2572	4.551	mg/L	0.2572	5.65%
Y RADIAL	343447.7	5.153	mg/L	0.0764	5.153	mg/L	0.0764	1.48%
As 188.979†	7.8	0.0839	mg/L	0.00583	0.0839	mg/L	0.00583	6.95%
Tl 190.801†	-20.2	0.0111	mg/L	0.00870	0.0111	mg/L	0.00870	78.26%
Se 196.026†	53.4	-0.1526	mg/L	0.01193	-0.1526	mg/L	0.01193	7.82%
Zn 206.200†	10665.8	0.6238	mg/L	0.04346	0.6238	mg/L	0.04346	6.97%
Sb 206.836†	-50.8	0.0189	mg/L	0.00628	0.0189	mg/L	0.00628	33.20%
Pb 220.353†	587.9	0.2028	mg/L	0.00757	0.2028	mg/L	0.00757	3.73%
Cd 226.502†	1689.9	0.0013	mg/L	0.00155	0.0013	mg/L	0.00155	122.37%
Co 228.616†	3789.5	0.1435	mg/L	0.01017	0.1435	mg/L	0.01017	7.08%
Ni 232.003†	12455.2	1.057	mg/L	0.0664	1.057	mg/L	0.0664	6.28%
Ba 233.527†	48123.6	0.8784	mg/L	0.06312	0.8784	mg/L	0.06312	7.19%
Mn 257.610†	2864050.4	4.840	mg/L	0.3777	4.840	mg/L	0.3777	7.80%
Cr 267.716†	33079.3	0.2718	mg/L	0.02066	0.2718	mg/L	0.02066	7.60%
Fe 273.955†	3870827.2	178.5	mg/L	13.83	178.5	mg/L	13.83	7.75%
Mg 279.077†	1146163.1	69.44	mg/L	5.464	69.44	mg/L	5.464	7.87%
V 292.402†	75497.1	0.3098	mg/L	0.02687	0.3098	mg/L	0.02687	8.67%
Al 308.215†	2586186.2	115.2	mg/L	9.40	115.2	mg/L	9.40	8.16%
Be 313.107†	36374.7	0.00815	mg/L	0.000959	0.00815	mg/L	0.000959	11.77%
Cu 324.752†	307960.3	1.108	mg/L	0.0814	1.108	mg/L	0.0814	7.35%
Ag 338.289†	-14153.4	-0.1028	mg/L	0.00715	-0.1028	mg/L	0.00715	6.95%
Na 330.237†	2214.5	3.757	mg/L	0.5738	3.757	mg/L	0.5738	15.27%
Ca 227.546†	4136.8	46.64	mg/L	2.975	46.64	mg/L	2.975	6.38%
Al RADIAL†	176696.8	105.7	mg/L	0.57	105.7	mg/L	0.57	0.54%
Fe RADIAL†	80648.8	182.0	mg/L	0.74	182.0	mg/L	0.74	0.41%
Ca RADIAL†	309207.1	51.28	mg/L	0.233	51.28	mg/L	0.233	0.45%
K RADIAL†	32703.1	23.59	mg/L	0.208	23.59	mg/L	0.208	0.88%
Mg RADIAL†	27393.3	66.77	mg/L	0.502	66.77	mg/L	0.502	0.75%
Na RADIAL†	27928.2	3.716	mg/L	0.0162	3.716	mg/L	0.0162	0.44%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 16
Sample ID: 23E0390-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 106
Date Collected: 5/15/2023 11:36:52 AM
Data Type: Reprocessed on 5/16/2023 9:08:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0390-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	18360768.0	4.686	mg/L	0.1138	4.686	mg/L	0.1138	2.43%
Y RADIAL	338609.9	5.081	mg/L	0.0998	5.081	mg/L	0.0998	1.96%
As 188.979†	-13.9	0.0396	mg/L	0.01500	0.0396	mg/L	0.01500	37.85%
Tl 190.801†	-16.1	0.0095	mg/L	0.00789	0.0095	mg/L	0.00789	82.70%
Se 196.026†	-24.4	-0.2129	mg/L	0.00978	-0.2129	mg/L	0.00978	4.59%
Zn 206.200†	51523.4	2.977	mg/L	0.0823	2.977	mg/L	0.0823	2.76%
Sb 206.836†	-21.6	0.0325	mg/L	0.00285	0.0325	mg/L	0.00285	8.75%
Pb 220.353†	1301.6	0.3065	mg/L	0.00883	0.3065	mg/L	0.00883	2.88%
Cd 226.502†	1313.5	0.0003	mg/L	0.00035	0.0003	mg/L	0.00035	139.02%
Co 228.616†	1114.6	0.0441	mg/L	0.00147	0.0441	mg/L	0.00147	3.32%
Ni 232.003†	1616.2	0.1659	mg/L	0.00353	0.1659	mg/L	0.00353	2.13%
Ba 233.527†	10494.6	0.1915	mg/L	0.00613	0.1915	mg/L	0.00613	3.20%
Mn 257.610†	489934.8	0.8344	mg/L	0.01206	0.8344	mg/L	0.01206	1.45%
Cr 267.716†	15048.1	0.1230	mg/L	0.00441	0.1230	mg/L	0.00441	3.58%
Fe 273.955†	2997902.1	138.2	mg/L	1.95	138.2	mg/L	1.95	1.41%
Mg 279.077†	264489.4	16.02	mg/L	0.216	16.02	mg/L	0.216	1.35%
V 292.402†	61965.4	0.2544	mg/L	0.00817	0.2544	mg/L	0.00817	3.21%
Al 308.215†	661400.2	29.46	mg/L	0.788	29.46	mg/L	0.788	2.67%
Be 313.107†	-5444.3	-0.00122	mg/L	0.000180	-0.00122	mg/L	0.000180	14.73%
Cu 324.752†	259552.2	0.9335	mg/L	0.02296	0.9335	mg/L	0.02296	2.46%
Ag 338.289†	-5089.6	-0.0386	mg/L	0.00252	-0.0386	mg/L	0.00252	6.52%
Na 330.237†	851.1	1.819	mg/L	0.0744	1.819	mg/L	0.0744	4.09%
Ca 227.546†	1816.8	20.49	mg/L	0.592	20.49	mg/L	0.592	2.89%
Al RADIAL†	49437.6	29.57	mg/L	0.136	29.57	mg/L	0.136	0.46%
Fe RADIAL†	65780.4	148.5	mg/L	4.87	148.5	mg/L	4.87	3.28%
Ca RADIAL†	156111.2	25.89	mg/L	0.070	25.89	mg/L	0.070	0.27%
K RADIAL†	2406.5	1.736	mg/L	0.0371	1.736	mg/L	0.0371	2.14%
Mg RADIAL†	6704.2	16.34	mg/L	0.566	16.34	mg/L	0.566	3.46%
Na RADIAL†	15310.9	2.037	mg/L	0.0819	2.037	mg/L	0.0819	4.02%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 17
Sample ID: 23E0390-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 107
Date Collected: 5/15/2023 11:39:24 AM
Data Type: Reprocessed on 5/16/2023 9:08:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0390-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18270957.7	4.663	mg/L	0.0683	4.663	mg/L	0.0683	1.46%
Y RADIAL	341504.9	5.124	mg/L	0.1301	5.124	mg/L	0.1301	2.54%
As 188.979†	-19.7	0.0394	mg/L	0.00784	0.0394	mg/L	0.00784	19.86%
Tl 190.801†	-19.3	0.0094	mg/L	0.00537	0.0094	mg/L	0.00537	56.88%
Se 196.026†	-38.6	-0.2562	mg/L	0.01037	-0.2562	mg/L	0.01037	4.05%
Zn 206.200†	33375.0	1.932	mg/L	0.0295	1.932	mg/L	0.0295	1.53%
Sb 206.836†	-32.1	0.0314	mg/L	0.00413	0.0314	mg/L	0.00413	13.15%
Pb 220.353†	5780.2	1.087	mg/L	0.0175	1.087	mg/L	0.0175	1.61%
Cd 226.502†	1457.2	-0.0002	mg/L	0.00161	-0.0002	mg/L	0.00161	>999.9%
Co 228.616†	1413.1	0.0555	mg/L	0.00119	0.0555	mg/L	0.00119	2.15%
Ni 232.003†	2255.6	0.2227	mg/L	0.00699	0.2227	mg/L	0.00699	3.14%
Ba 233.527†	6055.2	0.1105	mg/L	0.00164	0.1105	mg/L	0.00164	1.48%
Mn 257.610†	551360.6	0.9391	mg/L	0.01277	0.9391	mg/L	0.01277	1.36%
Cr 267.716†	32931.4	0.2707	mg/L	0.00403	0.2707	mg/L	0.00403	1.49%
Fe 273.955†	3463148.3	159.7	mg/L	2.31	159.7	mg/L	2.31	1.45%
Mg 279.077†	287967.8	17.45	mg/L	0.271	17.45	mg/L	0.271	1.55%
V 292.402†	116907.4	0.4900	mg/L	0.00513	0.4900	mg/L	0.00513	1.05%
Al 308.215†	844788.5	37.63	mg/L	0.532	37.63	mg/L	0.532	1.41%
Be 313.107†	-8300.2	-0.00186	mg/L	0.000097	-0.00186	mg/L	0.000097	5.23%
Cu 324.752†	185277.3	0.6720	mg/L	0.00907	0.6720	mg/L	0.00907	1.35%
Ag 338.289†	-8188.3	-0.0608	mg/L	0.00105	-0.0608	mg/L	0.00105	1.74%
Na 330.237†	1593.9	2.885	mg/L	0.1662	2.885	mg/L	0.1662	5.76%
Ca 227.546†	1725.0	19.45	mg/L	0.314	19.45	mg/L	0.314	1.61%
Al RADIAL†	62678.1	37.49	mg/L	0.562	37.49	mg/L	0.562	1.50%
Fe RADIAL†	74797.0	168.8	mg/L	2.89	168.8	mg/L	2.89	1.71%
Ca RADIAL†	152905.5	25.36	mg/L	0.114	25.36	mg/L	0.114	0.45%
K RADIAL†	1795.5	1.295	mg/L	0.0358	1.295	mg/L	0.0358	2.76%
Mg RADIAL†	7235.8	17.64	mg/L	0.223	17.64	mg/L	0.223	1.27%
Na RADIAL†	22774.0	3.030	mg/L	0.0824	3.030	mg/L	0.0824	2.72%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 18
Sample ID: 23E0390-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 108
Date Collected: 5/15/2023 11:41:55 AM
Data Type: Reprocessed on 5/16/2023 9:08:12 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0390-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17569387.2	4.484	mg/L	0.0720	4.484	mg/L	0.0720	1.61%
Y RADIAL	337728.1	5.067	mg/L	0.1224	5.067	mg/L	0.1224	2.42%
As 188.979†	20.7	0.0677	mg/L	0.00632	0.0677	mg/L	0.00632	9.33%
Tl 190.801†	-13.8	0.0015	mg/L	0.00264	0.0015	mg/L	0.00264	181.47%
Se 196.026†	55.9	-0.0438	mg/L	0.00854	-0.0438	mg/L	0.00854	19.51%
Zn 206.200†	16771.0	0.9713	mg/L	0.01876	0.9713	mg/L	0.01876	1.93%
Sb 206.836†	-12.7	0.0058	mg/L	0.00450	0.0058	mg/L	0.00450	77.51%
Pb 220.353†	3213.3	0.6050	mg/L	0.01227	0.6050	mg/L	0.01227	2.03%
Cd 226.502†	1111.4	0.0034	mg/L	0.00036	0.0034	mg/L	0.00036	10.60%
Co 228.616†	940.1	0.0366	mg/L	0.00032	0.0366	mg/L	0.00032	0.87%
Ni 232.003†	997.3	0.1033	mg/L	0.00185	0.1033	mg/L	0.00185	1.80%
Ba 233.527†	26183.8	0.4779	mg/L	0.00570	0.4779	mg/L	0.00570	1.19%
Mn 257.610†	849467.9	1.438	mg/L	0.0218	1.438	mg/L	0.0218	1.52%
Cr 267.716†	18420.9	0.1514	mg/L	0.00496	0.1514	mg/L	0.00496	3.28%
Fe 273.955†	2014041.6	92.87	mg/L	1.395	92.87	mg/L	1.395	1.50%
Mg 279.077†	818265.5	49.57	mg/L	0.746	49.57	mg/L	0.746	1.51%
V 292.402†	43721.7	0.1803	mg/L	0.00289	0.1803	mg/L	0.00289	1.60%
Al 308.215†	1626899.8	72.48	mg/L	1.744	72.48	mg/L	1.744	2.41%
Be 313.107†	4920.4	0.00110	mg/L	0.000245	0.00110	mg/L	0.000245	22.24%
Cu 324.752†	68796.5	0.2525	mg/L	0.00693	0.2525	mg/L	0.00693	2.75%
Ag 338.289†	-3683.3	-0.0277	mg/L	0.00078	-0.0277	mg/L	0.00078	2.81%
Na 330.237†	929.3	1.668	mg/L	0.3620	1.668	mg/L	0.3620	21.70%
Ca 227.546†	16680.9	188.1	mg/L	6.59	188.1	mg/L	6.59	3.50%
Al RADIAL†	112737.2	67.43	mg/L	0.255	67.43	mg/L	0.255	0.38%
Fe RADIAL†	42320.7	95.51	mg/L	0.337	95.51	mg/L	0.337	0.35%
Ca RADIAL†	1173804.4	194.7	mg/L	8.29	194.7	mg/L	8.29	4.26%
K RADIAL†	8356.9	6.029	mg/L	0.0776	6.029	mg/L	0.0776	1.29%
Mg RADIAL†	19850.0	48.39	mg/L	0.372	48.39	mg/L	0.372	0.77%
Na RADIAL†	12347.0	1.643	mg/L	0.0122	1.643	mg/L	0.0122	0.74%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 19
Sample ID: 23E0390-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 109
Date Collected: 5/15/2023 11:44:23 AM
Data Type: Reprocessed on 5/16/2023 9:08:13 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0390-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17015080.7	4.343	mg/L	0.0305	4.343	mg/L	0.0305	0.70%
Y RADIAL	312742.3	4.692	mg/L	0.4462	4.692	mg/L	0.4462	9.51%
As 188.979†	-32.8	0.0381	mg/L	0.02287	0.0381	mg/L	0.02287	60.03%
Tl 190.801†	-13.6	0.0262	mg/L	0.00929	0.0262	mg/L	0.00929	35.41%
Se 196.026†	81.5	-0.1526	mg/L	0.03061	-0.1526	mg/L	0.03061	20.05%
Zn 206.200†	16903.8	0.9847	mg/L	0.00224	0.9847	mg/L	0.00224	0.23%
Sb 206.836†	-24.5	0.0357	mg/L	0.00600	0.0357	mg/L	0.00600	16.80%
Pb 220.353†	3134.3	0.6567	mg/L	0.01101	0.6567	mg/L	0.01101	1.68%
Cd 226.502†	1813.3	-0.0004	mg/L	0.00167	-0.0004	mg/L	0.00167	419.48%
Co 228.616†	1347.9	0.0540	mg/L	0.00087	0.0540	mg/L	0.00087	1.61%
Ni 232.003†	673.5	0.1037	mg/L	0.00830	0.1037	mg/L	0.00830	8.01%
Ba 233.527†	7497.6	0.1368	mg/L	0.00056	0.1368	mg/L	0.00056	0.41%
Mn 257.610†	1430569.5	2.424	mg/L	0.0146	2.424	mg/L	0.0146	0.60%
Cr 267.716†	10664.4	0.0861	mg/L	0.00077	0.0861	mg/L	0.00077	0.89%
Fe 273.955†	4131982.6	190.5	mg/L	0.97	190.5	mg/L	0.97	0.51%
Mg 279.077†	1997806.3	121.0	mg/L	0.66	121.0	mg/L	0.66	0.55%
V 292.402†	29946.0	0.1103	mg/L	0.00151	0.1103	mg/L	0.00151	1.37%
Al 308.215†	713819.9	31.80	mg/L	0.584	31.80	mg/L	0.584	1.84%
Be 313.107†	456.2	0.00010	mg/L	0.000100	0.00010	mg/L	0.000100	98.23%
Cu 324.752†	63997.6	0.2460	mg/L	0.00635	0.2460	mg/L	0.00635	2.58%
Ag 338.289†	-2264.9	-0.0201	mg/L	0.00072	-0.0201	mg/L	0.00072	3.56%
Na 330.237†	926.8	2.222	mg/L	0.3382	2.222	mg/L	0.3382	15.22%
Ca 227.546†	17784.3	200.5	mg/L	4.18	200.5	mg/L	4.18	2.08%
Al RADIAL†	53863.2	32.21	mg/L	2.269	32.21	mg/L	2.269	7.04%
Fe RADIAL†	93948.7	212.0	mg/L	15.46	212.0	mg/L	15.46	7.29%
Ca RADIAL†	1279265.8	212.2	mg/L	19.41	212.2	mg/L	19.41	9.15%
K RADIAL†	4182.4	3.017	mg/L	0.1924	3.017	mg/L	0.1924	6.38%
Mg RADIAL†	51041.1	124.4	mg/L	9.04	124.4	mg/L	9.04	7.27%
Na RADIAL†	11511.9	1.532	mg/L	0.1699	1.532	mg/L	0.1699	11.09%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 20
Sample ID: 23E0390-05
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 110
Date Collected: 5/15/2023 11:46:49 AM
Data Type: Reprocessed on 5/16/2023 9:08:14 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0390-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18268616.3	4.663	mg/L	0.1622	4.663	mg/L	0.1622	3.48%
Y RADIAL	344159.7	5.164	mg/L	0.1749	5.164	mg/L	0.1749	3.39%
As 188.979†	-5.0	0.0204	mg/L	0.00790	0.0204	mg/L	0.00790	38.68%
Tl 190.801†	-6.8	0.0054	mg/L	0.00705	0.0054	mg/L	0.00705	131.56%
Se 196.026†	-35.5	-0.1303	mg/L	0.01646	-0.1303	mg/L	0.01646	12.63%
Zn 206.200†	13043.8	0.7551	mg/L	0.03369	0.7551	mg/L	0.03369	4.46%
Sb 206.836†	-0.9	0.0231	mg/L	0.00568	0.0231	mg/L	0.00568	24.65%
Pb 220.353†	1548.8	0.3044	mg/L	0.00920	0.3044	mg/L	0.00920	3.02%
Cd 226.502†	712.2	0.0014	mg/L	0.00048	0.0014	mg/L	0.00048	35.52%
Co 228.616†	297.8	0.0124	mg/L	0.00055	0.0124	mg/L	0.00055	4.43%
Ni 232.003†	311.3	0.0412	mg/L	0.00306	0.0412	mg/L	0.00306	7.43%
Ba 233.527†	102016.2	1.862	mg/L	0.0760	1.862	mg/L	0.0760	4.08%
Mn 257.610†	365809.0	0.6207	mg/L	0.02091	0.6207	mg/L	0.02091	3.37%
Cr 267.716†	3847.0	0.0311	mg/L	0.00100	0.0311	mg/L	0.00100	3.20%
Fe 273.955†	1496007.6	68.98	mg/L	2.359	68.98	mg/L	2.359	3.42%
Mg 279.077†	51492.3	3.119	mg/L	0.1173	3.119	mg/L	0.1173	3.76%
V 292.402†	12958.9	0.0498	mg/L	0.00269	0.0498	mg/L	0.00269	5.40%
Al 308.215†	310927.4	13.85	mg/L	0.674	13.85	mg/L	0.674	4.87%
Be 313.107†	188.2	0.00004	mg/L	0.000028	0.00004	mg/L	0.000028	66.28%
Cu 324.752†	18268.0	0.0710	mg/L	0.00278	0.0710	mg/L	0.00278	3.92%
Ag 338.289†	-1726.6	-0.0135	mg/L	0.00047	-0.0135	mg/L	0.00047	3.46%
Na 330.237†	-160.9	0.1196	mg/L	0.08341	0.1196	mg/L	0.08341	69.74%
Ca 227.546†	115.9	1.306	mg/L	0.0898	1.306	mg/L	0.0898	6.87%
Al RADIAL†	23018.4	13.77	mg/L	0.077	13.77	mg/L	0.077	0.56%
Fe RADIAL†	30527.4	68.90	mg/L	2.637	68.90	mg/L	2.637	3.83%
Ca RADIAL†	25041.1	4.153	mg/L	0.1683	4.153	mg/L	0.1683	4.05%
K RADIAL†	1163.4	0.8393	mg/L	0.04724	0.8393	mg/L	0.04724	5.63%
Mg RADIAL†	1246.1	3.038	mg/L	0.1118	3.038	mg/L	0.1118	3.68%
Na RADIAL†	5.8	0.0008	mg/L	0.04442	0.0008	mg/L	0.04442	>999.9%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 21
Sample ID: SEQ-CCV2
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 11:56:51 AM
Data Type: Reprocessed on 5/16/2023 9:08:14 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18098094.5	4.619	mg/L	0.0607	4.619	mg/L	0.0607	1.31%
Y RADIAL	338435.8	5.078	mg/L	0.0175	5.078	mg/L	0.0175	0.34%
As 188.979†	351.3	0.5027	mg/L	0.01752	0.5027	mg/L	0.01752	3.49%
Tl 190.801†	386.0	0.5200	mg/L	0.00900	0.5200	mg/L	0.00900	1.73%
Se 196.026†	405.7	0.5218	mg/L	0.01206	0.5218	mg/L	0.01206	2.31%
Zn 206.200†	44746.4	2.579	mg/L	0.0212	2.579	mg/L	0.0212	0.82%
Sb 206.836†	296.6	0.2338	mg/L	0.00629	0.2338	mg/L	0.00629	2.69%
Pb 220.353†	2975.5	0.5135	mg/L	0.00762	0.5135	mg/L	0.00762	1.48%
Cd 226.502†	21150.4	0.2545	mg/L	0.00438	0.2545	mg/L	0.00438	1.72%
Co 228.616†	69250.4	2.556	mg/L	0.0347	2.556	mg/L	0.0347	1.36%
Ni 232.003†	31425.5	2.563	mg/L	0.0316	2.563	mg/L	0.0316	1.23%
Ba 233.527†	572818.1	10.46	mg/L	0.229	10.46	mg/L	0.229	2.19%
Mn 257.610†	1539511.9	2.597	mg/L	0.0609	2.597	mg/L	0.0609	2.34%
Cr 267.716†	122417.6	1.013	mg/L	0.0133	1.013	mg/L	0.0133	1.32%
Fe 273.955†	115211.1	5.312	mg/L	0.2378	5.312	mg/L	0.2378	4.48%
Mg 279.077†	425206.7	25.76	mg/L	0.600	25.76	mg/L	0.600	2.33%
V 292.402†	583952.8	2.523	mg/L	0.0678	2.523	mg/L	0.0678	2.69%
Al 308.215†	228557.6	10.18	mg/L	0.210	10.18	mg/L	0.210	2.06%
Be 313.107†	1143363.0	0.25609	mg/L	0.005118	0.25609	mg/L	0.005118	2.00%
Cu 324.752†	364016.7	1.291	mg/L	0.0387	1.291	mg/L	0.0387	2.99%
Ag 338.289†	173623.9	1.217	mg/L	0.0679	1.217	mg/L	0.0679	5.58%
Na 330.237†	18190.5	23.74	mg/L	0.282	23.74	mg/L	0.282	1.19%
Ca 227.546†	2198.3	24.79	mg/L	0.334	24.79	mg/L	0.334	1.35%
Al RADIAL†	16628.3	9.945	mg/L	0.0320	9.945	mg/L	0.0320	0.32%
Fe RADIAL†	2240.6	5.057	mg/L	0.0160	5.057	mg/L	0.0160	0.32%
Ca RADIAL†	156116.2	25.89	mg/L	0.202	25.89	mg/L	0.202	0.78%
K RADIAL†	6980.0	5.035	mg/L	0.0226	5.035	mg/L	0.0226	0.45%
Mg RADIAL†	10455.5	25.49	mg/L	0.054	25.49	mg/L	0.054	0.21%
Na RADIAL†	191907.5	25.54	mg/L	0.182	25.54	mg/L	0.182	0.71%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 22
Sample ID: SEQ-CCB2
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 12:00:02 PM
Data Type: Reprocessed on 5/16/2023 9:08:15 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	18771061.9	4.791	mg/L	0.1304	4.791	mg/L	0.1304	2.72%
Y RADIAL	327072.6	4.907	mg/L	0.0967	4.907	mg/L	0.0967	1.97%
As 188.979†	-3.1	-0.0044	mg/L	0.00427	-0.0044	mg/L	0.00427	97.82%
Tl 190.801†	-5.8	-0.0078	mg/L	0.00507	-0.0078	mg/L	0.00507	64.93%
Se 196.026†	-2.2	-0.0028	mg/L	0.00256	-0.0028	mg/L	0.00256	91.06%
Zn 206.200†	20.1	0.0012	mg/L	0.00034	0.0012	mg/L	0.00034	29.55%
Sb 206.836†	11.6	0.0092	mg/L	0.00593	0.0092	mg/L	0.00593	64.73%
Pb 220.353†	4.2	0.0007	mg/L	0.00167	0.0007	mg/L	0.00167	231.04%
Cd 226.502†	3.2	0.0000	mg/L	0.00020	0.0000	mg/L	0.00020	523.46%
Co 228.616†	16.3	0.0006	mg/L	0.00064	0.0006	mg/L	0.00064	107.28%
Ni 232.003†	-12.7	-0.0010	mg/L	0.00175	-0.0010	mg/L	0.00175	169.49%
Ba 233.527†	154.3	0.0028	mg/L	0.00110	0.0028	mg/L	0.00110	38.89%
Mn 257.610†	479.3	0.0008	mg/L	0.00038	0.0008	mg/L	0.00038	46.59%
Cr 267.716†	57.3	0.0005	mg/L	0.00034	0.0005	mg/L	0.00034	71.19%
Fe 273.955†	-3439.1	-0.1586	mg/L	0.00157	-0.1586	mg/L	0.00157	0.99%
Mg 279.077†	-3112.3	-0.1886	mg/L	0.00824	-0.1886	mg/L	0.00824	4.37%
V 292.402†	59.6	0.0003	mg/L	0.00047	0.0003	mg/L	0.00047	183.99%
Al 308.215†	-5975.1	-0.2662	mg/L	0.00762	-0.2662	mg/L	0.00762	2.86%
Be 313.107†	-289.9	-0.00006	mg/L	0.000057	-0.00006	mg/L	0.000057	88.38%
Cu 324.752†	1379.4	0.0049	mg/L	0.00057	0.0049	mg/L	0.00057	11.72%
Ag 338.289†	4547.7	0.0319	mg/L	0.00620	0.0319	mg/L	0.00620	19.44%
Na 330.237†	-236.2	-0.3080	mg/L	0.09290	-0.3080	mg/L	0.09290	30.17%
Ca 227.546†	-29.7	-0.3347	mg/L	0.02709	-0.3347	mg/L	0.02709	8.09%
Al RADIAL†	1.3	0.0008	mg/L	0.00861	0.0008	mg/L	0.00861	>999.9%
Fe RADIAL†	-1.0	-0.0023	mg/L	0.00548	-0.0023	mg/L	0.00548	243.07%
Ca RADIAL†	-1.9	-0.0003	mg/L	0.00436	-0.0003	mg/L	0.00436	>999.9%
K RADIAL†	11.4	0.0082	mg/L	0.08017	0.0082	mg/L	0.08017	973.29%
Mg RADIAL†	0.2	0.0005	mg/L	0.01959	0.0005	mg/L	0.01959	>999.9%
Na RADIAL†	-1527.1	-0.2032	mg/L	0.02017	-0.2032	mg/L	0.02017	9.93%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 23
Sample ID: 23E0390-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 111
Date Collected: 5/15/2023 12:03:11 PM
Data Type: Reprocessed on 5/16/2023 9:08:16 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0390-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18434927.2	4.705	mg/L	0.0852	4.705	mg/L	0.0852	1.81%
Y RADIAL	340553.8	5.110	mg/L	0.1162	5.110	mg/L	0.1162	2.27%
As 188.979†	-2.5	0.0042	mg/L	0.00711	0.0042	mg/L	0.00711	170.30%
Tl 190.801†	-4.0	-0.0013	mg/L	0.00275	-0.0013	mg/L	0.00275	208.38%
Se 196.026†	-9.3	-0.0357	mg/L	0.01795	-0.0357	mg/L	0.01795	50.30%
Zn 206.200†	7523.1	0.4345	mg/L	0.00921	0.4345	mg/L	0.00921	2.12%
Sb 206.836†	4.2	0.0098	mg/L	0.00309	0.0098	mg/L	0.00309	31.50%
Pb 220.353†	317.1	0.0653	mg/L	0.00030	0.0653	mg/L	0.00030	0.46%
Cd 226.502†	243.5	0.0009	mg/L	0.00019	0.0009	mg/L	0.00019	21.26%
Co 228.616†	152.0	0.0060	mg/L	0.00030	0.0060	mg/L	0.00030	4.96%
Ni 232.003†	385.8	0.0359	mg/L	0.00103	0.0359	mg/L	0.00103	2.88%
Ba 233.527†	5414.4	0.0988	mg/L	0.00196	0.0988	mg/L	0.00196	1.99%
Mn 257.610†	155051.5	0.2626	mg/L	0.00548	0.2626	mg/L	0.00548	2.09%
Cr 267.716†	3639.7	0.0299	mg/L	0.00076	0.0299	mg/L	0.00076	2.55%
Fe 273.955†	403327.9	18.60	mg/L	0.376	18.60	mg/L	0.376	2.02%
Mg 279.077†	29375.2	1.780	mg/L	0.0340	1.780	mg/L	0.0340	1.91%
V 292.402†	7196.4	0.0294	mg/L	0.00169	0.0294	mg/L	0.00169	5.76%
Al 308.215†	153583.5	6.842	mg/L	0.1541	6.842	mg/L	0.1541	2.25%
Be 313.107†	-421.2	-0.00009	mg/L	0.000084	-0.00009	mg/L	0.000084	88.77%
Cu 324.752†	32585.2	0.1173	mg/L	0.00354	0.1173	mg/L	0.00354	3.02%
Ag 338.289†	-922.3	-0.0069	mg/L	0.00076	-0.0069	mg/L	0.00076	11.16%
Na 330.237†	-237.0	-0.2163	mg/L	0.19069	-0.2163	mg/L	0.19069	88.16%
Ca 227.546†	146.7	1.654	mg/L	0.1010	1.654	mg/L	0.1010	6.11%
Al RADIAL†	12040.9	7.201	mg/L	0.1060	7.201	mg/L	0.1060	1.47%
Fe RADIAL†	8587.8	19.38	mg/L	0.503	19.38	mg/L	0.503	2.60%
Ca RADIAL†	16643.2	2.760	mg/L	0.0188	2.760	mg/L	0.0188	0.68%
K RADIAL†	941.8	0.6795	mg/L	0.10701	0.6795	mg/L	0.10701	15.75%
Mg RADIAL†	806.1	1.965	mg/L	0.0550	1.965	mg/L	0.0550	2.80%
Na RADIAL†	80.2	0.0107	mg/L	0.01387	0.0107	mg/L	0.01387	129.92%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 24
Sample ID: 23E0419-11
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 112
Date Collected: 5/15/2023 12:06:17 PM
Data Type: Reprocessed on 5/16/2023 9:08:17 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0419-11

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16258067.7	4.150	mg/L	0.0902	4.150	mg/L	0.0902	2.17%
Y RADIAL	314352.7	4.717	mg/L	0.1020	4.717	mg/L	0.1020	2.16%
As 188.979†	-116.9	0.0933	mg/L	0.01827	0.0933	mg/L	0.01827	19.57%
Tl 190.801†	-32.5	0.0927	mg/L	0.00753	0.0927	mg/L	0.00753	8.12%
Se 196.026†	-89.8	-0.9098	mg/L	0.03213	-0.9098	mg/L	0.03213	3.53%
Zn 206.200†	12321.8	0.7426	mg/L	0.01415	0.7426	mg/L	0.01415	1.91%
Sb 206.836†	-115.0	0.0973	mg/L	0.00825	0.0973	mg/L	0.00825	8.48%
Pb 220.353†	132.9	0.3868	mg/L	0.00474	0.3868	mg/L	0.00474	1.23%
Cd 226.502†	5794.0	0.0016	mg/L	0.00172	0.0016	mg/L	0.00172	105.82%
Co 228.616†	10441.6	0.3984	mg/L	0.00747	0.3984	mg/L	0.00747	1.87%
Ni 232.003†	8143.7	0.8133	mg/L	0.03368	0.8133	mg/L	0.03368	4.14%
Ba 233.527†	97647.7	1.782	mg/L	0.0762	1.782	mg/L	0.0762	4.28%
Mn 257.610†	10114763.3	17.09	mg/L	0.285	17.09	mg/L	0.285	1.67%
Cr 267.716†	179951.9	1.482	mg/L	0.0628	1.482	mg/L	0.0628	4.24%
Fe 273.955†	12167777.7	561.1	mg/L	1.67	561.1	mg/L	1.67	0.30%
Mg 279.077†	5330023.6	322.9	mg/L	5.56	322.9	mg/L	5.56	1.72%
V 292.402†	387180.2	1.615	mg/L	0.0657	1.615	mg/L	0.0657	4.07%
Al 308.215†	7445435.2	331.7	mg/L	7.79	331.7	mg/L	7.79	2.35%
Be 313.107†	10953.6	0.00245	mg/L	0.000117	0.00245	mg/L	0.000117	4.77%
Cu 324.752†	617054.8	2.246	mg/L	0.0971	2.246	mg/L	0.0971	4.32%
Ag 338.289†	-5828.9	-0.0539	mg/L	0.00047	-0.0539	mg/L	0.00047	0.87%
Na 330.237†	15939.1	23.89	mg/L	0.382	23.89	mg/L	0.382	1.60%
Ca 227.546†	40628.0	458.1	mg/L	24.70	458.1	mg/L	24.70	5.39%
Al RADIAL†	495491.7	296.3	mg/L	4.40	296.3	mg/L	4.40	1.48%
Fe RADIAL†	287966.7	649.9	mg/L	2.75	649.9	mg/L	2.75	0.42%
Ca RADIAL†	2620578.2	434.6	mg/L	6.73	434.6	mg/L	6.73	1.55%
K RADIAL†	8453.4	6.098	mg/L	0.0635	6.098	mg/L	0.0635	1.04%
Mg RADIAL†	128905.6	314.2	mg/L	1.67	314.2	mg/L	1.67	0.53%
Na RADIAL†	147406.8	19.61	mg/L	0.060	19.61	mg/L	0.060	0.30%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 25
Sample ID: 23E0419-12
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 113
Date Collected: 5/15/2023 12:08:45 PM
Data Type: Reprocessed on 5/16/2023 9:08:18 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0419-12

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15887770.4	4.055	mg/L	0.1039	4.055	mg/L	0.1039	2.56%
Y RADIAL	315190.7	4.729	mg/L	0.0927	4.729	mg/L	0.0927	1.96%
As 188.979†	-111.6	0.0939	mg/L	0.01341	0.0939	mg/L	0.01341	14.29%
Tl 190.801†	-35.4	0.0853	mg/L	0.01030	0.0853	mg/L	0.01030	12.08%
Se 196.026†	-90.9	-0.8897	mg/L	0.03141	-0.8897	mg/L	0.03141	3.53%
Zn 206.200†	11256.4	0.6803	mg/L	0.01870	0.6803	mg/L	0.01870	2.75%
Sb 206.836†	-114.4	0.0785	mg/L	0.00172	0.0785	mg/L	0.00172	2.19%
Pb 220.353†	150.6	0.3799	mg/L	0.00346	0.3799	mg/L	0.00346	0.91%
Cd 226.502†	5781.9	0.0033	mg/L	0.00205	0.0033	mg/L	0.00205	61.43%
Co 228.616†	9848.7	0.3762	mg/L	0.01007	0.3762	mg/L	0.01007	2.68%
Ni 232.003†	7721.5	0.7748	mg/L	0.02647	0.7748	mg/L	0.02647	3.42%
Ba 233.527†	94656.9	1.728	mg/L	0.0165	1.728	mg/L	0.0165	0.95%
Mn 257.610†	10279841.4	17.37	mg/L	0.478	17.37	mg/L	0.478	2.75%
Cr 267.716†	178770.8	1.472	mg/L	0.0304	1.472	mg/L	0.0304	2.06%
Fe 273.955†	12000938.6	553.4	mg/L	15.81	553.4	mg/L	15.81	2.86%
Mg 279.077†	5823816.5	352.8	mg/L	9.83	352.8	mg/L	9.83	2.78%
V 292.402†	396157.2	1.655	mg/L	0.0257	1.655	mg/L	0.0257	1.56%
Al 308.215†	7160452.8	319.0	mg/L	11.32	319.0	mg/L	11.32	3.55%
Be 313.107†	6199.7	0.00139	mg/L	0.000218	0.00139	mg/L	0.000218	15.73%
Cu 324.752†	623816.8	2.268	mg/L	0.0348	2.268	mg/L	0.0348	1.53%
Ag 338.289†	-7220.2	-0.0633	mg/L	0.00132	-0.0633	mg/L	0.00132	2.09%
Na 330.237†	24420.5	34.86	mg/L	1.043	34.86	mg/L	1.043	2.99%
Ca 227.546†	57008.1	642.8	mg/L	7.81	642.8	mg/L	7.81	1.21%
Al RADIAL†	486407.6	290.9	mg/L	10.01	290.9	mg/L	10.01	3.44%
Fe RADIAL†	280158.5	632.3	mg/L	4.95	632.3	mg/L	4.95	0.78%
Ca RADIAL†	3500627.1	580.6	mg/L	18.65	580.6	mg/L	18.65	3.21%
K RADIAL†	7275.5	5.249	mg/L	0.0281	5.249	mg/L	0.0281	0.53%
Mg RADIAL†	139769.2	340.7	mg/L	2.48	340.7	mg/L	2.48	0.73%
Na RADIAL†	219217.9	29.17	mg/L	0.258	29.17	mg/L	0.258	0.89%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 26
Sample ID: 23E0428-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 114
Date Collected: 5/15/2023 12:11:12 PM
Data Type: Reprocessed on 5/16/2023 9:08:19 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0428-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17768444.5	4.535	mg/L	0.1585	4.535	mg/L	0.1585	3.50%
Y RADIAL	325387.2	4.882	mg/L	0.0784	4.882	mg/L	0.0784	1.61%
As 188.979†	-10.0	0.0385	mg/L	0.00770	0.0385	mg/L	0.00770	20.00%
Tl 190.801†	-11.3	0.0124	mg/L	0.00363	0.0124	mg/L	0.00363	29.19%
Se 196.026†	38.4	-0.1109	mg/L	0.01868	-0.1109	mg/L	0.01868	16.84%
Zn 206.200†	5251.5	0.3092	mg/L	0.01169	0.3092	mg/L	0.01169	3.78%
Sb 206.836†	-33.0	0.0172	mg/L	0.00402	0.0172	mg/L	0.00402	23.30%
Pb 220.353†	454.1	0.1518	mg/L	0.00208	0.1518	mg/L	0.00208	1.37%
Cd 226.502†	1050.9	-0.0012	mg/L	0.00166	-0.0012	mg/L	0.00166	141.17%
Co 228.616†	1953.4	0.0747	mg/L	0.00250	0.0747	mg/L	0.00250	3.35%
Ni 232.003†	5686.8	0.4939	mg/L	0.01534	0.4939	mg/L	0.01534	3.11%
Ba 233.527†	25135.2	0.4588	mg/L	0.01662	0.4588	mg/L	0.01662	3.62%
Mn 257.610†	1800284.6	3.043	mg/L	0.0675	3.043	mg/L	0.0675	2.22%
Cr 267.716†	22804.4	0.1873	mg/L	0.00624	0.1873	mg/L	0.00624	3.33%
Fe 273.955†	2755154.1	127.0	mg/L	2.77	127.0	mg/L	2.77	2.18%
Mg 279.077†	689654.6	41.78	mg/L	0.962	41.78	mg/L	0.962	2.30%
V 292.402†	47054.8	0.1915	mg/L	0.00746	0.1915	mg/L	0.00746	3.90%
Al 308.215†	1308424.7	58.29	mg/L	2.045	58.29	mg/L	2.045	3.51%
Be 313.107†	7756.0	0.00174	mg/L	0.000246	0.00174	mg/L	0.000246	14.17%
Cu 324.752†	47393.0	0.1799	mg/L	0.00659	0.1799	mg/L	0.00659	3.66%
Ag 338.289†	-5956.2	-0.0444	mg/L	0.00200	-0.0444	mg/L	0.00200	4.50%
Na 330.237†	676.9	1.513	mg/L	0.2277	1.513	mg/L	0.2277	15.05%
Ca 227.546†	2284.5	25.76	mg/L	0.810	25.76	mg/L	0.810	3.14%
Al RADIAL†	95816.0	57.31	mg/L	0.410	57.31	mg/L	0.410	0.72%
Fe RADIAL†	58427.4	131.9	mg/L	1.30	131.9	mg/L	1.30	0.99%
Ca RADIAL†	188115.2	31.20	mg/L	0.178	31.20	mg/L	0.178	0.57%
K RADIAL†	17605.0	12.70	mg/L	0.070	12.70	mg/L	0.070	0.55%
Mg RADIAL†	17071.6	41.61	mg/L	0.244	41.61	mg/L	0.244	0.59%
Na RADIAL†	10989.3	1.462	mg/L	0.0234	1.462	mg/L	0.0234	1.60%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 27
Sample ID: 23E0428-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 115
Date Collected: 5/15/2023 12:13:42 PM
Data Type: Reprocessed on 5/16/2023 9:08:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0428-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	18041145.2	4.605	mg/L	0.0386	4.605	mg/L	0.0386	0.84%
Y RADIAL	342128.1	5.133	mg/L	0.1538	5.133	mg/L	0.1538	3.00%
As 188.979†	-8.0	0.0390	mg/L	0.00642	0.0390	mg/L	0.00642	16.47%
Tl 190.801†	-7.7	0.0161	mg/L	0.00669	0.0161	mg/L	0.00669	41.61%
Se 196.026†	43.8	-0.0967	mg/L	0.00824	-0.0967	mg/L	0.00824	8.53%
Zn 206.200†	5439.0	0.3197	mg/L	0.00273	0.3197	mg/L	0.00273	0.85%
Sb 206.836†	-30.4	0.0177	mg/L	0.00339	0.0177	mg/L	0.00339	19.19%
Pb 220.353†	424.1	0.1434	mg/L	0.00242	0.1434	mg/L	0.00242	1.69%
Cd 226.502†	1013.0	-0.0010	mg/L	0.00101	-0.0010	mg/L	0.00101	99.44%
Co 228.616†	1965.4	0.0751	mg/L	0.00073	0.0751	mg/L	0.00073	0.98%
Ni 232.003†	6549.8	0.5629	mg/L	0.01478	0.5629	mg/L	0.01478	2.63%
Ba 233.527†	23806.8	0.4345	mg/L	0.00872	0.4345	mg/L	0.00872	2.01%
Mn 257.610†	1808611.4	3.057	mg/L	0.0509	3.057	mg/L	0.0509	1.67%
Cr 267.716†	20837.9	0.1711	mg/L	0.00340	0.1711	mg/L	0.00340	1.99%
Fe 273.955†	2678881.6	123.5	mg/L	1.89	123.5	mg/L	1.89	1.53%
Mg 279.077†	729141.4	44.17	mg/L	0.809	44.17	mg/L	0.809	1.83%
V 292.402†	45401.9	0.1848	mg/L	0.00297	0.1848	mg/L	0.00297	1.61%
Al 308.215†	1309686.9	58.34	mg/L	1.520	58.34	mg/L	1.520	2.61%
Be 313.107†	11704.8	0.00262	mg/L	0.000073	0.00262	mg/L	0.000073	2.78%
Cu 324.752†	45897.1	0.1740	mg/L	0.00383	0.1740	mg/L	0.00383	2.20%
Ag 338.289†	-5834.6	-0.0434	mg/L	0.00137	-0.0434	mg/L	0.00137	3.14%
Na 330.237†	791.8	1.635	mg/L	0.1587	1.635	mg/L	0.1587	9.71%
Ca 227.546†	1863.3	21.01	mg/L	0.221	21.01	mg/L	0.221	1.05%
Al RADIAL†	92572.9	55.37	mg/L	0.334	55.37	mg/L	0.334	0.60%
Fe RADIAL†	55828.2	126.0	mg/L	0.58	126.0	mg/L	0.58	0.46%
Ca RADIAL†	156130.2	25.89	mg/L	0.091	25.89	mg/L	0.091	0.35%
K RADIAL†	14489.2	10.45	mg/L	0.161	10.45	mg/L	0.161	1.54%
Mg RADIAL†	17775.9	43.33	mg/L	0.319	43.33	mg/L	0.319	0.74%
Na RADIAL†	12227.4	1.627	mg/L	0.0305	1.627	mg/L	0.0305	1.87%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 28
Sample ID: 23E0428-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 116
Date Collected: 5/15/2023 12:16:11 PM
Data Type: Reprocessed on 5/16/2023 9:08:21 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0428-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	17494600.9	4.465	mg/L	0.0722	4.465	mg/L	0.0722	1.62%
Y RADIAL	328508.5	4.929	mg/L	0.1076	4.929	mg/L	0.1076	2.18%
As 188.979†	3.9	0.0804	mg/L	0.01367	0.0804	mg/L	0.01367	16.99%
Tl 190.801†	-18.4	0.0145	mg/L	0.00731	0.0145	mg/L	0.00731	50.33%
Se 196.026†	35.9	-0.1817	mg/L	0.00715	-0.1817	mg/L	0.00715	3.93%
Zn 206.200†	7585.6	0.4465	mg/L	0.00851	0.4465	mg/L	0.00851	1.91%
Sb 206.836†	-47.3	0.0244	mg/L	0.00727	0.0244	mg/L	0.00727	29.78%
Pb 220.353†	616.3	0.2107	mg/L	0.00226	0.2107	mg/L	0.00226	1.07%
Cd 226.502†	1571.4	-0.0007	mg/L	0.00039	-0.0007	mg/L	0.00039	54.08%
Co 228.616†	2670.4	0.1023	mg/L	0.00175	0.1023	mg/L	0.00175	1.71%
Ni 232.003†	7727.7	0.6730	mg/L	0.01777	0.6730	mg/L	0.01777	2.64%
Ba 233.527†	28677.5	0.5234	mg/L	0.02109	0.5234	mg/L	0.02109	4.03%
Mn 257.610†	2103574.4	3.558	mg/L	0.1390	3.558	mg/L	0.1390	3.91%
Cr 267.716†	30041.2	0.2466	mg/L	0.00928	0.2466	mg/L	0.00928	3.76%
Fe 273.955†	3885458.5	179.2	mg/L	7.00	179.2	mg/L	7.00	3.91%
Mg 279.077†	960046.2	58.16	mg/L	2.240	58.16	mg/L	2.240	3.85%
V 292.402†	113420.5	0.4732	mg/L	0.01484	0.4732	mg/L	0.01484	3.14%
Al 308.215†	2011678.2	89.62	mg/L	4.019	89.62	mg/L	4.019	4.48%
Be 313.107†	14855.4	0.00333	mg/L	0.000322	0.00333	mg/L	0.000322	9.66%
Cu 324.752†	51142.8	0.1982	mg/L	0.00460	0.1982	mg/L	0.00460	2.32%
Ag 338.289†	-8482.6	-0.0632	mg/L	0.00278	-0.0632	mg/L	0.00278	4.41%
Na 330.237†	3191.6	5.056	mg/L	0.4173	5.056	mg/L	0.4173	8.25%
Ca 227.546†	3094.1	34.89	mg/L	0.859	34.89	mg/L	0.859	2.46%
Al RADIAL†	142236.2	85.07	mg/L	0.233	85.07	mg/L	0.233	0.27%
Fe RADIAL†	82983.1	187.3	mg/L	1.40	187.3	mg/L	1.40	0.75%
Ca RADIAL†	247148.9	40.99	mg/L	0.158	40.99	mg/L	0.158	0.38%
K RADIAL†	24723.1	17.84	mg/L	0.216	17.84	mg/L	0.216	1.21%
Mg RADIAL†	23650.5	57.65	mg/L	0.226	57.65	mg/L	0.226	0.39%
Na RADIAL†	37429.5	4.980	mg/L	0.0493	4.980	mg/L	0.0493	0.99%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 29
Sample ID: 23E0430-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 117
Date Collected: 5/15/2023 12:18:39 PM
Data Type: Reprocessed on 5/16/2023 9:08:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0430-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18131820.1	4.628	mg/L	0.0503	4.628	mg/L	0.0503	1.09%
Y RADIAL	332670.8	4.991	mg/L	0.0759	4.991	mg/L	0.0759	1.52%
As 188.979†	7.6	0.0933	mg/L	0.01591	0.0933	mg/L	0.01591	17.05%
Tl 190.801†	-20.3	0.0161	mg/L	0.00511	0.0161	mg/L	0.00511	31.77%
Se 196.026†	2.8	-0.2481	mg/L	0.01539	-0.2481	mg/L	0.01539	6.21%
Zn 206.200†	15637.8	0.9115	mg/L	0.00710	0.9115	mg/L	0.00710	0.78%
Sb 206.836†	-49.5	0.0305	mg/L	0.00366	0.0305	mg/L	0.00366	12.00%
Pb 220.353†	26629.2	4.686	mg/L	0.0804	4.686	mg/L	0.0804	1.72%
Cd 226.502†	1750.3	-0.0006	mg/L	0.00024	-0.0006	mg/L	0.00024	43.77%
Co 228.616†	2980.0	0.1141	mg/L	0.00031	0.1141	mg/L	0.00031	0.27%
Ni 232.003†	4949.1	0.4509	mg/L	0.00616	0.4509	mg/L	0.00616	1.37%
Ba 233.527†	64429.9	1.176	mg/L	0.0228	1.176	mg/L	0.0228	1.94%
Mn 257.610†	2682289.1	4.535	mg/L	0.0795	4.535	mg/L	0.0795	1.75%
Cr 267.716†	32216.6	0.2644	mg/L	0.00530	0.2644	mg/L	0.00530	2.01%
Fe 273.955†	4159059.9	191.8	mg/L	3.36	191.8	mg/L	3.36	1.75%
Mg 279.077†	714470.3	43.28	mg/L	0.717	43.28	mg/L	0.717	1.66%
V 292.402†	70181.8	0.2847	mg/L	0.00416	0.2847	mg/L	0.00416	1.46%
Al 308.215†	3216310.5	143.3	mg/L	1.92	143.3	mg/L	1.92	1.34%
Be 313.107†	14374.9	0.00322	mg/L	0.000262	0.00322	mg/L	0.000262	8.15%
Cu 324.752†	90318.1	0.3388	mg/L	0.00638	0.3388	mg/L	0.00638	1.88%
Ag 338.289†	-8046.4	-0.0605	mg/L	0.00187	-0.0605	mg/L	0.00187	3.08%
Na 330.237†	446.3	1.568	mg/L	0.1227	1.568	mg/L	0.1227	7.82%
Ca 227.546†	1828.8	20.62	mg/L	0.107	20.62	mg/L	0.107	0.52%
Al RADIAL†	235797.7	141.0	mg/L	2.16	141.0	mg/L	2.16	1.53%
Fe RADIAL†	91426.1	206.3	mg/L	0.53	206.3	mg/L	0.53	0.26%
Ca RADIAL†	168168.4	27.89	mg/L	0.073	27.89	mg/L	0.073	0.26%
K RADIAL†	15838.3	11.43	mg/L	0.100	11.43	mg/L	0.100	0.87%
Mg RADIAL†	18261.5	44.51	mg/L	0.360	44.51	mg/L	0.360	0.81%
Na RADIAL†	9149.8	1.217	mg/L	0.0257	1.217	mg/L	0.0257	2.11%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 30
Sample ID: 23E0430-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 118
Date Collected: 5/15/2023 12:21:08 PM
Data Type: Reprocessed on 5/16/2023 9:08:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0430-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18244976.0	4.657	mg/L	0.1423	4.657	mg/L	0.1423	3.06%
Y RADIAL	336083.8	5.043	mg/L	0.1223	5.043	mg/L	0.1223	2.43%
As 188.979†	-3.1	0.0497	mg/L	0.00421	0.0497	mg/L	0.00421	8.47%
Tl 190.801†	-15.2	0.0079	mg/L	0.00738	0.0079	mg/L	0.00738	92.99%
Se 196.026†	6.3	-0.1566	mg/L	0.00428	-0.1566	mg/L	0.00428	2.74%
Zn 206.200†	7043.4	0.4127	mg/L	0.01257	0.4127	mg/L	0.01257	3.05%
Sb 206.836†	-31.3	0.0205	mg/L	0.00721	0.0205	mg/L	0.00721	35.24%
Pb 220.353†	676.0	0.1917	mg/L	0.00723	0.1917	mg/L	0.00723	3.77%
Cd 226.502†	1070.3	-0.0013	mg/L	0.00082	-0.0013	mg/L	0.00082	64.52%
Co 228.616†	2023.3	0.0774	mg/L	0.00196	0.0774	mg/L	0.00196	2.53%
Ni 232.003†	1661.0	0.1665	mg/L	0.00737	0.1665	mg/L	0.00737	4.43%
Ba 233.527†	28214.0	0.5150	mg/L	0.02083	0.5150	mg/L	0.02083	4.04%
Mn 257.610†	3225655.5	5.447	mg/L	0.0898	5.447	mg/L	0.0898	1.65%
Cr 267.716†	20515.5	0.1683	mg/L	0.00688	0.1683	mg/L	0.00688	4.09%
Fe 273.955†	2748530.0	126.7	mg/L	2.12	126.7	mg/L	2.12	1.67%
Mg 279.077†	470342.3	28.49	mg/L	0.500	28.49	mg/L	0.500	1.75%
V 292.402†	48599.4	0.1978	mg/L	0.00654	0.1978	mg/L	0.00654	3.30%
Al 308.215†	1824921.1	81.30	mg/L	1.463	81.30	mg/L	1.463	1.80%
Be 313.107†	10461.8	0.00234	mg/L	0.000165	0.00234	mg/L	0.000165	7.02%
Cu 324.752†	47367.9	0.1801	mg/L	0.00717	0.1801	mg/L	0.00717	3.98%
Ag 338.289†	-6037.1	-0.0450	mg/L	0.00117	-0.0450	mg/L	0.00117	2.59%
Na 330.237†	353.4	1.106	mg/L	0.1420	1.106	mg/L	0.1420	12.84%
Ca 227.546†	1513.0	17.06	mg/L	0.600	17.06	mg/L	0.600	3.51%
Al RADIAL†	133571.8	79.89	mg/L	1.022	79.89	mg/L	1.022	1.28%
Fe RADIAL†	59845.5	135.1	mg/L	3.79	135.1	mg/L	3.79	2.80%
Ca RADIAL†	135318.8	22.44	mg/L	0.557	22.44	mg/L	0.557	2.48%
K RADIAL†	14377.6	10.37	mg/L	0.226	10.37	mg/L	0.226	2.18%
Mg RADIAL†	11945.7	29.12	mg/L	0.786	29.12	mg/L	0.786	2.70%
Na RADIAL†	7449.7	0.9913	mg/L	0.02014	0.9913	mg/L	0.02014	2.03%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 31
Sample ID: 23E0433-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 119
Date Collected: 5/15/2023 12:23:39 PM
Data Type: Reprocessed on 5/16/2023 9:08:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0433-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18079524.8	4.615	mg/L	0.1136	4.615	mg/L	0.1136	2.46%
Y RADIAL	338606.9	5.080	mg/L	0.2187	5.080	mg/L	0.2187	4.31%
As 188.979†	-4.0	0.0490	mg/L	0.00400	0.0490	mg/L	0.00400	8.16%
Tl 190.801†	-16.2	0.0069	mg/L	0.00616	0.0069	mg/L	0.00616	89.20%
Se 196.026†	21.1	-0.1394	mg/L	0.02985	-0.1394	mg/L	0.02985	21.41%
Zn 206.200†	5501.9	0.3239	mg/L	0.00791	0.3239	mg/L	0.00791	2.44%
Sb 206.836†	-42.6	0.0128	mg/L	0.00478	0.0128	mg/L	0.00478	37.42%
Pb 220.353†	599.5	0.1795	mg/L	0.00270	0.1795	mg/L	0.00270	1.51%
Cd 226.502†	1174.6	-0.0002	mg/L	0.00093	-0.0002	mg/L	0.00093	474.47%
Co 228.616†	1372.6	0.0534	mg/L	0.00127	0.0534	mg/L	0.00127	2.37%
Ni 232.003†	1345.6	0.1411	mg/L	0.00428	0.1411	mg/L	0.00428	3.03%
Ba 233.527†	25334.2	0.4624	mg/L	0.01275	0.4624	mg/L	0.01275	2.76%
Mn 257.610†	1362017.8	2.305	mg/L	0.0877	2.305	mg/L	0.0877	3.80%
Cr 267.716†	26652.5	0.2191	mg/L	0.00701	0.2191	mg/L	0.00701	3.20%
Fe 273.955†	2897211.9	133.6	mg/L	5.16	133.6	mg/L	5.16	3.86%
Mg 279.077†	441505.3	26.75	mg/L	0.703	26.75	mg/L	0.703	2.63%
V 292.402†	69029.7	0.2860	mg/L	0.00748	0.2860	mg/L	0.00748	2.62%
Al 308.215†	3091983.4	137.7	mg/L	6.78	137.7	mg/L	6.78	4.93%
Be 313.107†	7024.0	0.00157	mg/L	0.000430	0.00157	mg/L	0.000430	27.34%
Cu 324.752†	34945.3	0.1362	mg/L	0.00407	0.1362	mg/L	0.00407	2.99%
Ag 338.289†	-7950.6	-0.0585	mg/L	0.00153	-0.0585	mg/L	0.00153	2.62%
Na 330.237†	468.1	1.264	mg/L	0.1031	1.264	mg/L	0.1031	8.15%
Ca 227.546†	857.9	9.673	mg/L	0.2945	9.673	mg/L	0.2945	3.04%
Al RADIAL†	215955.9	129.2	mg/L	0.80	129.2	mg/L	0.80	0.62%
Fe RADIAL†	60600.4	136.8	mg/L	6.07	136.8	mg/L	6.07	4.44%
Ca RADIAL†	88808.0	14.73	mg/L	0.632	14.73	mg/L	0.632	4.29%
K RADIAL†	14689.1	10.60	mg/L	0.551	10.60	mg/L	0.551	5.20%
Mg RADIAL†	10598.5	25.84	mg/L	1.103	25.84	mg/L	1.103	4.27%
Na RADIAL†	10427.9	1.388	mg/L	0.0773	1.388	mg/L	0.0773	5.57%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 32
Sample ID: BE30803-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 120
Date Collected: 5/15/2023 12:25:51 PM
Data Type: Reprocessed on 5/16/2023 9:08:24 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30803-DUP1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18293080.8	4.669	mg/L	0.0804	4.669	mg/L	0.0804	1.72%
Y RADIAL	335157.8	5.029	mg/L	0.1806	5.029	mg/L	0.1806	3.59%
As 188.979†	-19.4	0.0567	mg/L	0.00930	0.0567	mg/L	0.00930	16.40%
Tl 190.801†	-21.4	0.0155	mg/L	0.00613	0.0155	mg/L	0.00613	39.44%
Se 196.026†	-10.3	-0.2707	mg/L	0.02202	-0.2707	mg/L	0.02202	8.14%
Zn 206.200†	5913.4	0.3513	mg/L	0.00724	0.3513	mg/L	0.00724	2.06%
Sb 206.836†	-53.9	0.0300	mg/L	0.00669	0.0300	mg/L	0.00669	22.28%
Pb 220.353†	396.9	0.1862	mg/L	0.00132	0.1862	mg/L	0.00132	0.71%
Cd 226.502†	1715.5	-0.0015	mg/L	0.00038	-0.0015	mg/L	0.00038	26.03%
Co 228.616†	1736.5	0.0683	mg/L	0.00137	0.0683	mg/L	0.00137	2.00%
Ni 232.003†	1568.8	0.1764	mg/L	0.01408	0.1764	mg/L	0.01408	7.98%
Ba 233.527†	23907.9	0.4364	mg/L	0.01130	0.4364	mg/L	0.01130	2.59%
Mn 257.610†	1881605.9	3.185	mg/L	0.0707	3.185	mg/L	0.0707	2.22%
Cr 267.716†	27850.2	0.2283	mg/L	0.00740	0.2283	mg/L	0.00740	3.24%
Fe 273.955†	4303379.4	198.4	mg/L	4.22	198.4	mg/L	4.22	2.13%
Mg 279.077†	586090.2	35.51	mg/L	0.708	35.51	mg/L	0.708	1.99%
V 292.402†	84412.8	0.3458	mg/L	0.00967	0.3458	mg/L	0.00967	2.80%
Al 308.215†	3560433.5	158.6	mg/L	5.88	158.6	mg/L	5.88	3.71%
Be 313.107†	9912.1	0.00222	mg/L	0.000221	0.00222	mg/L	0.000221	9.95%
Cu 324.752†	33040.2	0.1361	mg/L	0.00269	0.1361	mg/L	0.00269	1.97%
Ag 338.289†	-7991.2	-0.0602	mg/L	0.00223	-0.0602	mg/L	0.00223	3.71%
Na 330.237†	274.8	1.366	mg/L	0.2917	1.366	mg/L	0.2917	21.35%
Ca 227.546†	481.5	5.429	mg/L	0.2228	5.429	mg/L	0.2228	4.10%
Al RADIAL†	257830.5	154.2	mg/L	4.60	154.2	mg/L	4.60	2.98%
Fe RADIAL†	93433.5	210.9	mg/L	0.68	210.9	mg/L	0.68	0.32%
Ca RADIAL†	75682.1	12.55	mg/L	0.039	12.55	mg/L	0.039	0.31%
K RADIAL†	15110.3	10.90	mg/L	0.126	10.90	mg/L	0.126	1.16%
Mg RADIAL†	14649.4	35.71	mg/L	0.151	35.71	mg/L	0.151	0.42%
Na RADIAL†	7574.0	1.008	mg/L	0.0124	1.008	mg/L	0.0124	1.23%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 33
Sample ID: SEQ-CCV3
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 12:27:57 PM
Data Type: Reprocessed on 5/16/2023 9:08:25 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV3

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17556232.9	4.481	mg/L	0.0703	4.481	mg/L	0.0703	1.57%
Y RADIAL	333949.7	5.011	mg/L	0.0588	5.011	mg/L	0.0588	1.17%
As 188.979†	374.1	0.5352	mg/L	0.01312	0.5352	mg/L	0.01312	2.45%
Tl 190.801†	395.9	0.5333	mg/L	0.01134	0.5333	mg/L	0.01134	2.13%
Se 196.026†	428.0	0.5508	mg/L	0.01298	0.5508	mg/L	0.01298	2.36%
Zn 206.200†	46279.4	2.667	mg/L	0.0573	2.667	mg/L	0.0573	2.15%
Sb 206.836†	314.4	0.2479	mg/L	0.00862	0.2479	mg/L	0.00862	3.48%
Pb 220.353†	3115.1	0.5375	mg/L	0.01001	0.5375	mg/L	0.01001	1.86%
Cd 226.502†	21870.2	0.2632	mg/L	0.00659	0.2632	mg/L	0.00659	2.51%
Co 228.616†	71938.9	2.656	mg/L	0.0600	2.656	mg/L	0.0600	2.26%
Ni 232.003†	32556.4	2.655	mg/L	0.0637	2.655	mg/L	0.0637	2.40%
Ba 233.527†	588723.9	10.75	mg/L	0.223	10.75	mg/L	0.223	2.08%
Mn 257.610†	1585115.3	2.674	mg/L	0.0597	2.674	mg/L	0.0597	2.23%
Cr 267.716†	127466.6	1.054	mg/L	0.0262	1.054	mg/L	0.0262	2.49%
Fe 273.955†	114290.8	5.270	mg/L	0.1019	5.270	mg/L	0.1019	1.93%
Mg 279.077†	438120.2	26.54	mg/L	0.634	26.54	mg/L	0.634	2.39%
V 292.402†	607000.9	2.622	mg/L	0.0508	2.622	mg/L	0.0508	1.94%
Al 308.215†	231990.1	10.33	mg/L	0.263	10.33	mg/L	0.263	2.55%
Be 313.107†	1190973.6	0.26675	mg/L	0.005252	0.26675	mg/L	0.005252	1.97%
Cu 324.752†	373285.3	1.324	mg/L	0.0316	1.324	mg/L	0.0316	2.39%
Ag 338.289†	178026.4	1.248	mg/L	0.0209	1.248	mg/L	0.0209	1.67%
Na 330.237†	18815.3	24.56	mg/L	0.593	24.56	mg/L	0.593	2.42%
Ca 227.546†	2330.7	26.28	mg/L	0.321	26.28	mg/L	0.321	1.22%
Al RADIAL†	17029.8	10.19	mg/L	0.144	10.19	mg/L	0.144	1.41%
Fe RADIAL†	2270.2	5.124	mg/L	0.0672	5.124	mg/L	0.0672	1.31%
Ca RADIAL†	156679.2	25.98	mg/L	0.404	25.98	mg/L	0.404	1.55%
K RADIAL†	7089.0	5.114	mg/L	0.0820	5.114	mg/L	0.0820	1.60%
Mg RADIAL†	10595.3	25.83	mg/L	0.345	25.83	mg/L	0.345	1.34%
Na RADIAL†	193672.2	25.77	mg/L	0.494	25.77	mg/L	0.494	1.92%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 34
Sample ID: SEQ-CCB3
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 12:30:44 PM
Data Type: Reprocessed on 5/16/2023 9:08:26 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB3

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18275588.6	4.665	mg/L	0.1293	4.665	mg/L	0.1293	2.77%
Y RADIAL	329812.6	4.949	mg/L	0.0388	4.949	mg/L	0.0388	0.78%
As 188.979†	1.4	0.0020	mg/L	0.00192	0.0020	mg/L	0.00192	94.36%
Tl 190.801†	-3.9	-0.0053	mg/L	0.00478	-0.0053	mg/L	0.00478	90.63%
Se 196.026†	0.2	0.0003	mg/L	0.00595	0.0003	mg/L	0.00595	>999.9%
Zn 206.200†	18.5	0.0011	mg/L	0.00016	0.0011	mg/L	0.00016	15.28%
Sb 206.836†	14.6	0.0115	mg/L	0.00321	0.0115	mg/L	0.00321	27.81%
Pb 220.353†	-1.4	-0.0002	mg/L	0.00143	-0.0002	mg/L	0.00143	580.59%
Cd 226.502†	7.5	0.0001	mg/L	0.00008	0.0001	mg/L	0.00008	85.79%
Co 228.616†	13.6	0.0005	mg/L	0.00026	0.0005	mg/L	0.00026	51.70%
Ni 232.003†	-46.8	-0.0038	mg/L	0.00083	-0.0038	mg/L	0.00083	21.86%
Ba 233.527†	171.6	0.0031	mg/L	0.00084	0.0031	mg/L	0.00084	26.88%
Mn 257.610†	529.8	0.0009	mg/L	0.00021	0.0009	mg/L	0.00021	23.69%
Cr 267.716†	65.5	0.0005	mg/L	0.00025	0.0005	mg/L	0.00025	46.28%
Fe 273.955†	-3361.2	-0.1550	mg/L	0.00160	-0.1550	mg/L	0.00160	1.03%
Mg 279.077†	-3090.3	-0.1872	mg/L	0.00629	-0.1872	mg/L	0.00629	3.36%
V 292.402†	197.9	0.0009	mg/L	0.00083	0.0009	mg/L	0.00083	97.38%
Al 308.215†	-5979.1	-0.2664	mg/L	0.00981	-0.2664	mg/L	0.00981	3.68%
Be 313.107†	-330.5	-0.00007	mg/L	0.000077	-0.00007	mg/L	0.000077	103.43%
Cu 324.752†	989.0	0.0035	mg/L	0.00048	0.0035	mg/L	0.00048	13.62%
Ag 338.289†	882.5	0.0062	mg/L	0.00119	0.0062	mg/L	0.00119	19.30%
Na 330.237†	-204.2	-0.2663	mg/L	0.07648	-0.2663	mg/L	0.07648	28.72%
Ca 227.546†	-41.2	-0.4651	mg/L	0.11852	-0.4651	mg/L	0.11852	25.48%
Al RADIAL†	-9.8	-0.0058	mg/L	0.00668	-0.0058	mg/L	0.00668	114.53%
Fe RADIAL†	-1.5	-0.0034	mg/L	0.01487	-0.0034	mg/L	0.01487	439.64%
Ca RADIAL†	-37.8	-0.0063	mg/L	0.00617	-0.0063	mg/L	0.00617	98.56%
K RADIAL†	-86.4	-0.0624	mg/L	0.10008	-0.0624	mg/L	0.10008	160.48%
Mg RADIAL†	0.1	0.0003	mg/L	0.01419	0.0003	mg/L	0.01419	>999.9%
Na RADIAL†	-1729.6	-0.2301	mg/L	0.02995	-0.2301	mg/L	0.02995	13.01%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 35
Sample ID: BE30803-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 121
Date Collected: 5/15/2023 12:33:31 PM
Data Type: Reprocessed on 5/16/2023 9:08:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30803-MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17861630.8	4.559	mg/L	0.1453	4.559	mg/L	0.1453	3.19%
Y RADIAL	339365.2	5.092	mg/L	0.2456	5.092	mg/L	0.2456	4.82%
As 189.979†	1343.4	1.965	mg/L	0.0704	1.965	mg/L	0.0704	3.58%
Tl 190.801†	1318.9	1.799	mg/L	0.0639	1.799	mg/L	0.0639	3.55%
Se 196.026†	1224.1	1.441	mg/L	0.0648	1.441	mg/L	0.0648	4.50%
Zn 206.200†	13817.6	0.8025	mg/L	0.02845	0.8025	mg/L	0.02845	3.55%
Sb 206.836†	64.5	0.0935	mg/L	0.00711	0.0935	mg/L	0.00711	7.61%
Pb 220.353†	3300.6	0.6365	mg/L	0.02129	0.6365	mg/L	0.02129	3.35%
Cd 226.502†	4965.8	0.0468	mg/L	0.00220	0.0468	mg/L	0.00220	4.70%
Co 228.616†	14985.3	0.5556	mg/L	0.01921	0.5556	mg/L	0.01921	3.46%
Ni 232.003†	7289.8	0.6229	mg/L	0.01032	0.6229	mg/L	0.01032	1.66%
Ba 233.527†	141196.7	2.577	mg/L	0.1352	2.577	mg/L	0.1352	5.24%
Mn 257.610†	1653233.5	2.795	mg/L	0.1211	2.795	mg/L	0.1211	4.33%
Cr 267.716†	46507.7	0.3834	mg/L	0.02158	0.3834	mg/L	0.02158	5.63%
Fe 273.955†	2576144.1	118.8	mg/L	5.15	118.8	mg/L	5.15	4.34%
Mg 279.077†	421624.8	25.54	mg/L	1.394	25.54	mg/L	1.394	5.46%
V 292.402†	177521.0	0.7558	mg/L	0.03970	0.7558	mg/L	0.03970	5.25%
Al 308.215†	2765701.8	123.2	mg/L	6.22	123.2	mg/L	6.22	5.05%
Be 313.107†	224263.9	0.05023	mg/L	0.002114	0.05023	mg/L	0.002114	4.21%
Cu 324.752†	107416.1	0.3920	mg/L	0.01904	0.3920	mg/L	0.01904	4.86%
Ag 338.289†	-376.3	-0.0051	mg/L	0.00181	-0.0051	mg/L	0.00181	35.21%
Na 330.237†	999.9	1.901	mg/L	0.2262	1.901	mg/L	0.2262	11.90%
Ca 227.546†	765.4	8.630	mg/L	0.2147	8.630	mg/L	0.2147	2.49%
Al RADIAL†	199178.5	119.1	mg/L	0.86	119.1	mg/L	0.86	0.72%
Fe RADIAL†	55356.0	124.9	mg/L	4.20	124.9	mg/L	4.20	3.36%
Ca RADIAL†	81351.3	13.49	mg/L	0.461	13.49	mg/L	0.461	3.41%
K RADIAL†	15215.9	10.98	mg/L	0.331	10.98	mg/L	0.331	3.01%
Mg RADIAL†	9954.4	24.27	mg/L	0.862	24.27	mg/L	0.862	3.55%
Na RADIAL†	14745.5	1.962	mg/L	0.0881	1.962	mg/L	0.0881	4.49%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 36
Sample ID: BE30803-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 122
Date Collected: 5/15/2023 12:35:37 PM
Data Type: Reprocessed on 5/16/2023 9:08:28 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30803-PS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17833203.1	4.552	mg/L	0.0886	4.552	mg/L	0.0886	1.95%
Y RADIAL	326874.3	4.904	mg/L	0.2627	4.904	mg/L	0.2627	5.36%
As 188.979†	1744.4	2.546	mg/L	0.0482	2.546	mg/L	0.0482	1.89%
Tl 190.801†	1740.1	2.371	mg/L	0.0472	2.371	mg/L	0.0472	1.99%
Se 196.026†	1633.6	1.943	mg/L	0.0365	1.943	mg/L	0.0365	1.88%
Zn 206.200†	16338.2	0.9490	mg/L	0.01745	0.9490	mg/L	0.01745	1.84%
Sb 206.836†	354.5	0.3309	mg/L	0.00753	0.3309	mg/L	0.00753	2.28%
Pb 220.353†	4220.0	0.8082	mg/L	0.01887	0.8082	mg/L	0.01887	2.34%
Cd 226.502†	6305.3	0.0603	mg/L	0.00122	0.0603	mg/L	0.00122	2.02%
Co 228.616†	18167.7	0.6736	mg/L	0.01957	0.6736	mg/L	0.01957	2.90%
Ni 232.003†	9040.0	0.7713	mg/L	0.01205	0.7713	mg/L	0.01205	1.56%
Ba 233.527†	170390.8	3.110	mg/L	0.0685	3.110	mg/L	0.0685	2.20%
Mn 257.610†	1731651.4	2.929	mg/L	0.0422	2.929	mg/L	0.0422	1.44%
Cr 267.716†	56701.8	0.4675	mg/L	0.01238	0.4675	mg/L	0.01238	2.65%
Fe 273.955†	2910741.4	134.2	mg/L	2.01	134.2	mg/L	2.01	1.50%
Mg 279.077†	451906.2	27.38	mg/L	0.429	27.38	mg/L	0.429	1.57%
V 292.402†	217249.0	0.9252	mg/L	0.02461	0.9252	mg/L	0.02461	2.66%
Al 308.215†	3137341.6	139.8	mg/L	2.38	139.8	mg/L	2.38	1.71%
Be 313.107†	280058.1	0.06273	mg/L	0.001069	0.06273	mg/L	0.001069	1.70%
Cu 324.752†	136210.7	0.4964	mg/L	0.01158	0.4964	mg/L	0.01158	2.33%
Ag 338.289†	-1775.9	-0.0154	mg/L	0.00236	-0.0154	mg/L	0.00236	15.25%
Na 330.237†	1577.8	2.773	mg/L	0.1263	2.773	mg/L	0.1263	4.55%
Ca 227.546†	985.7	11.11	mg/L	0.401	11.11	mg/L	0.401	3.60%
Al RADIAL†	233464.4	139.6	mg/L	8.86	139.6	mg/L	8.86	6.35%
Fe RADIAL†	66391.4	149.8	mg/L	11.21	149.8	mg/L	11.21	7.48%
Ca RADIAL†	105610.5	17.51	mg/L	1.352	17.51	mg/L	1.352	7.72%
K RADIAL†	17447.1	12.59	mg/L	0.958	12.59	mg/L	0.958	7.61%
Mg RADIAL†	11996.8	29.24	mg/L	2.209	29.24	mg/L	2.209	7.55%
Na RADIAL†	21285.8	2.832	mg/L	0.2270	2.832	mg/L	0.2270	8.01%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 37
Sample ID: SEQ-SRD1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 123
Date Collected: 5/15/2023 12:37:44 PM
Data Type: Reprocessed on 5/16/2023 9:08:29 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18616692.3	4.752	mg/L	0.0788	4.752	mg/L	0.0788	1.66%
Y RADIAL	336525.2	5.049	mg/L	0.2271	5.049	mg/L	0.2271	4.50%
As 188.979†	-11.5	-0.0029	mg/L	0.00525	-0.0029	mg/L	0.00525	182.76%
Tl 190.801†	-7.8	-0.0034	mg/L	0.00447	-0.0034	mg/L	0.00447	131.65%
Se 196.026†	-3.6	-0.0458	mg/L	0.01696	-0.0458	mg/L	0.01696	37.01%
Zn 206.200†	1442.5	0.0848	mg/L	0.00158	0.0848	mg/L	0.00158	1.87%
Sb 206.836†	-8.6	0.0047	mg/L	0.00095	0.0047	mg/L	0.00095	20.16%
Pb 220.353†	151.7	0.0450	mg/L	0.00166	0.0450	mg/L	0.00166	3.69%
Cd 226.502†	302.2	0.0001	mg/L	0.00031	0.0001	mg/L	0.00031	314.58%
Co 228.616†	332.4	0.0129	mg/L	0.00029	0.0129	mg/L	0.00029	2.21%
Ni 232.003†	301.1	0.0323	mg/L	0.00178	0.0323	mg/L	0.00178	5.51%
Ba 233.527†	6400.3	0.1168	mg/L	0.00204	0.1168	mg/L	0.00204	1.75%
Mn 257.610†	328046.8	0.5551	mg/L	0.01409	0.5551	mg/L	0.01409	2.54%
Cr 267.716†	6503.8	0.0535	mg/L	0.00104	0.0535	mg/L	0.00104	1.95%
Fe 273.955†	710746.1	32.77	mg/L	0.853	32.77	mg/L	0.853	2.60%
Mg 279.077†	107491.2	6.512	mg/L	0.1185	6.512	mg/L	0.1185	1.82%
V 292.402†	16926.2	0.0701	mg/L	0.00155	0.0701	mg/L	0.00155	2.20%
Al 308.215†	703173.5	31.33	mg/L	1.070	31.33	mg/L	1.070	3.42%
Be 313.107†	1660.9	0.00037	mg/L	0.000058	0.00037	mg/L	0.000058	15.48%
Cu 324.752†	8570.1	0.0334	mg/L	0.00064	0.0334	mg/L	0.00064	1.92%
Ag 338.289†	-2266.5	-0.0166	mg/L	0.00100	-0.0166	mg/L	0.00100	6.02%
Na 330.237†	2.6	0.1647	mg/L	0.11818	0.1647	mg/L	0.11818	71.74%
Ca 227.546†	189.1	2.132	mg/L	0.1044	2.132	mg/L	0.1044	4.89%
Al RADIAL†	50797.9	30.38	mg/L	0.354	30.38	mg/L	0.354	1.16%
Fe RADIAL†	14962.0	33.77	mg/L	1.714	33.77	mg/L	1.714	5.08%
Ca RADIAL†	22240.3	3.688	mg/L	0.2041	3.688	mg/L	0.2041	5.53%
K RADIAL†	3667.0	2.645	mg/L	0.1483	2.645	mg/L	0.1483	5.61%
Mg RADIAL†	2588.4	6.310	mg/L	0.2994	6.310	mg/L	0.2994	4.74%
Na RADIAL†	1027.5	0.1367	mg/L	0.03084	0.1367	mg/L	0.03084	22.56%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 38
Sample ID: 23E0433-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 124
Date Collected: 5/15/2023 12:40:30 PM
Data Type: Reprocessed on 5/16/2023 9:08:30 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0433-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17618076.7	4.497	mg/L	0.0995	4.497	mg/L	0.0995	2.21%
Y RADIAL	334398.7	5.017	mg/L	0.2204	5.017	mg/L	0.2204	4.39%
As 188.979†	-7.1	0.0641	mg/L	0.01174	0.0641	mg/L	0.01174	18.32%
Tl 190.801†	-17.5	0.0154	mg/L	0.01176	0.0154	mg/L	0.01176	76.56%
Se 196.026†	4.7	-0.2201	mg/L	0.02368	-0.2201	mg/L	0.02368	10.76%
Zn 206.200†	11866.8	0.6931	mg/L	0.01588	0.6931	mg/L	0.01588	2.29%
Sb 206.836†	-33.8	0.0266	mg/L	0.00232	0.0266	mg/L	0.00232	8.71%
Pb 220.353†	11646.0	2.103	mg/L	0.0446	2.103	mg/L	0.0446	2.12%
Cd 226.502†	1660.4	0.0005	mg/L	0.00041	0.0005	mg/L	0.00041	75.37%
Co 228.616†	1779.5	0.0694	mg/L	0.00135	0.0694	mg/L	0.00135	1.95%
Ni 232.003†	1685.3	0.1800	mg/L	0.01740	0.1800	mg/L	0.01740	9.66%
Ba 233.527†	36287.6	0.6623	mg/L	0.01962	0.6623	mg/L	0.01962	2.96%
Mn 257.610†	1945001.7	3.290	mg/L	0.0906	3.290	mg/L	0.0906	2.75%
Cr 267.716†	23734.8	0.1945	mg/L	0.00499	0.1945	mg/L	0.00499	2.57%
Fe 273.955†	3871019.4	178.5	mg/L	4.70	178.5	mg/L	4.70	2.63%
Mg 279.077†	794589.4	48.14	mg/L	1.226	48.14	mg/L	1.226	2.55%
V 292.402†	72967.6	0.2986	mg/L	0.00882	0.2986	mg/L	0.00882	2.95%
Al 308.215†	2306522.8	102.8	mg/L	3.96	102.8	mg/L	3.96	3.85%
Be 313.107†	8606.9	0.00193	mg/L	0.000566	0.00193	mg/L	0.000566	29.36%
Cu 324.752†	75135.7	0.2831	mg/L	0.00899	0.2831	mg/L	0.00899	3.18%
Ag 338.289†	-7834.5	-0.0586	mg/L	0.00214	-0.0586	mg/L	0.00214	3.66%
Na 330.237†	2749.4	4.471	mg/L	0.3974	4.471	mg/L	0.3974	8.89%
Ca 227.546†	10613.2	119.7	mg/L	4.14	119.7	mg/L	4.14	3.46%
Al RADIAL†	163208.3	97.61	mg/L	0.543	97.61	mg/L	0.543	0.56%
Fe RADIAL†	82179.1	185.5	mg/L	0.95	185.5	mg/L	0.95	0.51%
Ca RADIAL†	774656.9	128.5	mg/L	4.07	128.5	mg/L	4.07	3.17%
K RADIAL†	15368.7	11.09	mg/L	0.175	11.09	mg/L	0.175	1.58%
Mg RADIAL†	19524.7	47.59	mg/L	0.352	47.59	mg/L	0.352	0.74%
Na RADIAL†	32331.5	4.302	mg/L	0.0372	4.302	mg/L	0.0372	0.86%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 39
Sample ID: 23E0433-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 125
Date Collected: 5/15/2023 12:42:35 PM
Data Type: Reprocessed on 5/16/2023 9:08:31 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0433-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15744559.1	4.019	mg/L	0.2871	4.019	mg/L	0.2871	7.14%
Y RADIAL	331988.3	4.981	mg/L	0.1081	4.981	mg/L	0.1081	2.17%
As 188.979†	-15.2	0.0689	mg/L	0.01639	0.0689	mg/L	0.01639	23.79%
Tl 190.801†	-27.6	0.0105	mg/L	0.00499	0.0105	mg/L	0.00499	47.63%
Se 196.026†	-11.3	-0.2908	mg/L	0.01853	-0.2908	mg/L	0.01853	6.37%
Zn 206.200†	67008.6	3.873	mg/L	0.3867	3.873	mg/L	0.3867	9.99%
Sb 206.836†	-30.2	0.0361	mg/L	0.00263	0.0361	mg/L	0.00263	7.28%
Pb 220.353†	30342.6	5.335	mg/L	0.5043	5.335	mg/L	0.5043	9.45%
Cd 226.502†	3966.5	0.0241	mg/L	0.00390	0.0241	mg/L	0.00390	16.19%
Co 228.616†	2596.7	0.1004	mg/L	0.00721	0.1004	mg/L	0.00721	7.18%
Ni 232.003†	2401.2	0.2478	mg/L	0.00758	0.2478	mg/L	0.00758	3.06%
Ba 233.527†	149452.8	2.728	mg/L	0.2616	2.728	mg/L	0.2616	9.59%
Mn 257.610†	3268344.9	5.524	mg/L	0.5155	5.524	mg/L	0.5155	9.33%
Cr 267.716†	40931.2	0.3363	mg/L	0.03385	0.3363	mg/L	0.03385	10.07%
Fe 273.955†	5156269.6	237.8	mg/L	26.40	237.8	mg/L	26.40	11.10%
Mg 279.077†	870221.6	52.72	mg/L	4.977	52.72	mg/L	4.977	9.44%
V 292.402†	98751.3	0.4063	mg/L	0.04159	0.4063	mg/L	0.04159	10.24%
Al 308.215†	3773159.8	168.1	mg/L	15.33	168.1	mg/L	15.33	9.12%
Be 313.107†	22291.5	0.00499	mg/L	0.000300	0.00499	mg/L	0.000300	6.00%
Cu 324.752†	231641.7	0.8416	mg/L	0.08060	0.8416	mg/L	0.08060	9.58%
Ag 338.289†	-9452.1	-0.0708	mg/L	0.00689	-0.0708	mg/L	0.00689	9.74%
Na 330.237†	1648.5	3.231	mg/L	0.2729	3.231	mg/L	0.2729	8.44%
Ca 227.546†	21025.7	237.1	mg/L	24.99	237.1	mg/L	24.99	10.54%
Al RADIAL†	227621.5	136.1	mg/L	9.62	136.1	mg/L	9.62	7.07%
Fe RADIAL†	100295.3	226.4	mg/L	1.92	226.4	mg/L	1.92	0.85%
Ca RADIAL†	1282997.5	212.8	mg/L	15.76	212.8	mg/L	15.76	7.41%
K RADIAL†	20159.8	14.54	mg/L	0.184	14.54	mg/L	0.184	1.27%
Mg RADIAL†	19092.6	46.54	mg/L	0.644	46.54	mg/L	0.644	1.38%
Na RADIAL†	18519.8	2.464	mg/L	0.0341	2.464	mg/L	0.0341	1.39%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 40
Sample ID: BE30883-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 126
Date Collected: 5/15/2023 12:44:43 PM
Data Type: Reprocessed on 5/16/2023 9:08:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30883-BLK1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18273941.1	4.664	mg/L	0.1850	4.664	mg/L	0.1850	3.97%
Y RADIAL	327384.9	4.912	mg/L	0.1878	4.912	mg/L	0.1878	3.82%
As 188.979†	2.6	0.0037	mg/L	0.00280	0.0037	mg/L	0.00280	75.49%
Tl 190.801†	-4.8	-0.0064	mg/L	0.00579	-0.0064	mg/L	0.00579	89.82%
Se 196.026†	-0.8	-0.0011	mg/L	0.00884	-0.0011	mg/L	0.00884	808.75%
Zn 206.200†	100.0	0.0058	mg/L	0.00049	0.0058	mg/L	0.00049	8.46%
Sb 206.836†	3.0	0.0024	mg/L	0.00214	0.0024	mg/L	0.00214	89.32%
Pb 220.353†	16.8	0.0029	mg/L	0.00147	0.0029	mg/L	0.00147	50.64%
Cd 226.502†	25.4	0.0003	mg/L	0.00023	0.0003	mg/L	0.00023	75.77%
Co 228.616†	-1.3	-0.0000	mg/L	0.00053	-0.0000	mg/L	0.00053	>999.9%
Ni 232.003†	-33.3	-0.0027	mg/L	0.00193	-0.0027	mg/L	0.00193	71.46%
Ba 233.527†	25.4	0.0005	mg/L	0.00049	0.0005	mg/L	0.00049	105.42%
Mn 257.610†	766.8	0.0013	mg/L	0.00090	0.0013	mg/L	0.00090	69.44%
Cr 267.716†	380.5	0.0031	mg/L	0.00017	0.0031	mg/L	0.00017	5.37%
Fe 273.955†	-1860.0	-0.0858	mg/L	0.06200	-0.0858	mg/L	0.06200	72.30%
Mg 279.077†	-3084.0	-0.1868	mg/L	0.01087	-0.1868	mg/L	0.01087	5.82%
V 292.402†	36.0	0.0002	mg/L	0.00027	0.0002	mg/L	0.00027	173.82%
Al 308.215†	-5334.5	-0.2376	mg/L	0.02235	-0.2376	mg/L	0.02235	9.41%
Be 313.107†	-975.2	-0.00022	mg/L	0.000090	-0.00022	mg/L	0.000090	41.10%
Cu 324.752†	468.9	0.0017	mg/L	0.00040	0.0017	mg/L	0.00040	23.80%
Ag 338.289†	-427.1	-0.0030	mg/L	0.00031	-0.0030	mg/L	0.00031	10.45%
Na 330.237†	-116.4	-0.1516	mg/L	0.06683	-0.1516	mg/L	0.06683	44.07%
Ca 227.546†	-27.8	-0.3133	mg/L	0.13424	-0.3133	mg/L	0.13424	42.85%
Al RADIAL†	19.0	0.0114	mg/L	0.00445	0.0114	mg/L	0.00445	39.17%
Fe RADIAL†	12.4	0.0280	mg/L	0.00533	0.0280	mg/L	0.00533	19.07%
Ca RADIAL†	228.0	0.0378	mg/L	0.01418	0.0378	mg/L	0.01418	37.50%
K RADIAL†	-102.0	-0.0736	mg/L	0.06847	-0.0736	mg/L	0.06847	93.09%
Mg RADIAL†	-0.0	-0.0000	mg/L	0.02896	-0.0000	mg/L	0.02896	>999.9%
Na RADIAL†	-1447.3	-0.1926	mg/L	0.01832	-0.1926	mg/L	0.01832	9.51%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 41
Sample ID: BE30883-SRM1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 127
Date Collected: 5/15/2023 12:47:28 PM
Data Type: Reprocessed on 5/16/2023 9:08:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30883-SRM1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17730265.5	4.525	mg/L	0.0684	4.525	mg/L	0.0684	1.51%
Y RADIAL	332563.0	4.990	mg/L	0.1357	4.990	mg/L	0.1357	2.72%
As 188.979†	1650.9	2.420	mg/L	0.0455	2.420	mg/L	0.0455	1.88%
Tl 190.801†	719.7	1.003	mg/L	0.0130	1.003	mg/L	0.0130	1.29%
Se 196.026†	1829.4	2.176	mg/L	0.0402	2.176	mg/L	0.0402	1.85%
Zn 206.200†	48207.9	2.787	mg/L	0.0432	2.787	mg/L	0.0432	1.55%
Sb 206.836†	845.0	0.7212	mg/L	0.01049	0.7212	mg/L	0.01049	1.45%
Pb 220.353†	18674.9	3.299	mg/L	0.0519	3.299	mg/L	0.0519	1.57%
Cd 226.502†	219944.2	2.635	mg/L	0.0929	2.635	mg/L	0.0929	3.53%
Co 228.616†	33815.4	1.252	mg/L	0.0194	1.252	mg/L	0.0194	1.55%
Ni 232.003†	27768.5	2.302	mg/L	0.0350	2.302	mg/L	0.0350	1.52%
Ba 233.527†	212886.1	3.886	mg/L	0.1376	3.886	mg/L	0.1376	3.54%
Mn 257.610†	2981917.3	5.038	mg/L	0.1524	5.038	mg/L	0.1524	3.03%
Cr 267.716†	289030.8	2.389	mg/L	0.0772	2.389	mg/L	0.0772	3.23%
Fe 273.955†	3422864.1	157.8	mg/L	4.74	157.8	mg/L	4.74	3.00%
Mg 279.077†	465078.7	28.18	mg/L	0.912	28.18	mg/L	0.912	3.24%
V 292.402†	575164.7	2.470	mg/L	0.0730	2.470	mg/L	0.0730	2.95%
Al 308.215†	2322958.6	103.5	mg/L	3.93	103.5	mg/L	3.93	3.79%
Be 313.107†	4312899.9	0.96600	mg/L	0.004418	0.96600	mg/L	0.004418	0.46%
Cu 324.752†	522133.9	1.866	mg/L	0.0698	1.866	mg/L	0.0698	3.74%
Ag 338.289†	110287.5	0.7697	mg/L	0.02253	0.7697	mg/L	0.02253	2.93%
Na 330.237†	3378.0	5.208	mg/L	0.1577	5.208	mg/L	0.1577	3.03%
Ca 227.546†	4780.3	53.90	mg/L	0.867	53.90	mg/L	0.867	1.61%
Al RADIAL†	162319.8	97.08	mg/L	0.320	97.08	mg/L	0.320	0.33%
Fe RADIAL†	74529.2	168.2	mg/L	7.22	168.2	mg/L	7.22	4.29%
Ca RADIAL†	355652.6	58.98	mg/L	0.163	58.98	mg/L	0.163	0.28%
K RADIAL†	34341.1	24.77	mg/L	1.248	24.77	mg/L	1.248	5.04%
Mg RADIAL†	11738.8	28.61	mg/L	1.299	28.61	mg/L	1.299	4.54%
Na RADIAL†	39563.8	5.264	mg/L	0.2670	5.264	mg/L	0.2670	5.07%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 42
Sample ID: 23E0433-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 128
Date Collected: 5/15/2023 12:49:35 PM
Data Type: Reprocessed on 5/16/2023 9:08:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0433-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16973868.2	4.332	mg/L	0.0764	4.332	mg/L	0.0764	1.76%
Y RADIAL	323205.6	4.849	mg/L	0.1640	4.849	mg/L	0.1640	3.38%
As 188.979†	-15.3	0.0383	mg/L	0.00960	0.0383	mg/L	0.00960	25.08%
Tl 190.801†	-20.8	0.0035	mg/L	0.00869	0.0035	mg/L	0.00869	245.29%
Se 196.026†	109.3	-0.0411	mg/L	0.01226	-0.0411	mg/L	0.01226	29.87%
Zn 206.200†	12211.0	0.7112	mg/L	0.01619	0.7112	mg/L	0.01619	2.28%
Sb 206.836†	-44.4	0.0013	mg/L	0.00979	0.0013	mg/L	0.00979	726.29%
Pb 220.353†	2580.3	0.5270	mg/L	0.00906	0.5270	mg/L	0.00906	1.72%
Cd 226.502†	1462.0	0.0018	mg/L	0.00060	0.0018	mg/L	0.00060	32.49%
Co 228.616†	1708.6	0.0661	mg/L	0.00130	0.0661	mg/L	0.00130	1.97%
Ni 232.003†	1333.6	0.1433	mg/L	0.00418	0.1433	mg/L	0.00418	2.92%
Ba 233.527†	30242.0	0.5520	mg/L	0.00724	0.5520	mg/L	0.00724	1.31%
Mn 257.610†	1722382.7	2.913	mg/L	0.0857	2.913	mg/L	0.0857	2.94%
Cr 267.716†	21268.2	0.1744	mg/L	0.00283	0.1744	mg/L	0.00283	1.62%
Fe 273.955†	3176464.2	146.5	mg/L	3.94	146.5	mg/L	3.94	2.69%
Mg 279.077†	1886354.6	114.3	mg/L	3.33	114.3	mg/L	3.33	2.92%
V 292.402†	56293.8	0.2297	mg/L	0.00482	0.2297	mg/L	0.00482	2.10%
Al 308.215†	2274033.1	101.3	mg/L	3.98	101.3	mg/L	3.98	3.93%
Be 313.107†	7289.3	0.00163	mg/L	0.000108	0.00163	mg/L	0.000108	6.63%
Cu 324.752†	69643.0	0.2604	mg/L	0.00357	0.2604	mg/L	0.00357	1.37%
Ag 338.289†	-6952.1	-0.0517	mg/L	0.00331	-0.0517	mg/L	0.00331	6.40%
Na 330.237†	1400.9	2.545	mg/L	0.1203	2.545	mg/L	0.1203	4.73%
Ca 227.546†	15949.2	179.8	mg/L	6.04	179.8	mg/L	6.04	3.36%
Al RADIAL†	155255.2	92.85	mg/L	1.178	92.85	mg/L	1.178	1.27%
Fe RADIAL†	66589.3	150.3	mg/L	1.93	150.3	mg/L	1.93	1.29%
Ca RADIAL†	1080128.0	179.1	mg/L	6.90	179.1	mg/L	6.90	3.85%
K RADIAL†	15191.2	10.96	mg/L	0.154	10.96	mg/L	0.154	1.40%
Mg RADIAL†	44738.3	109.1	mg/L	1.32	109.1	mg/L	1.32	1.21%
Na RADIAL†	16811.9	2.237	mg/L	0.0140	2.237	mg/L	0.0140	0.63%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 43
Sample ID: 23E0439-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 129
Date Collected: 5/15/2023 12:51:41 PM
Data Type: Reprocessed on 5/16/2023 9:08:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0439-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	17916843.1	4.573	mg/L	0.1083	4.573	mg/L	0.1083	2.37%
Y RADIAL	341636.6	5.126	mg/L	0.0780	5.126	mg/L	0.0780	1.52%
As 188.979†	-1.6	0.0569	mg/L	0.00462	0.0569	mg/L	0.00462	8.11%
Tl 190.801†	-16.7	0.0087	mg/L	0.00474	0.0087	mg/L	0.00474	54.49%
Se 196.026†	4.9	-0.1742	mg/L	0.03075	-0.1742	mg/L	0.03075	17.65%
Zn 206.200†	10412.5	0.6075	mg/L	0.01663	0.6075	mg/L	0.01663	2.74%
Sb 206.836†	-43.9	0.0080	mg/L	0.01062	0.0080	mg/L	0.01062	132.71%
Pb 220.353†	2078.1	0.4396	mg/L	0.00770	0.4396	mg/L	0.00770	1.75%
Cd 226.502†	1364.8	0.0009	mg/L	0.00053	0.0009	mg/L	0.00053	58.19%
Co 228.616†	1832.7	0.0706	mg/L	0.00163	0.0706	mg/L	0.00163	2.30%
Ni 232.003†	1811.9	0.1817	mg/L	0.01395	0.1817	mg/L	0.01395	7.68%
Ba 233.527†	29626.9	0.5408	mg/L	0.01434	0.5408	mg/L	0.01434	2.65%
Mn 257.610†	1528614.8	2.586	mg/L	0.0419	2.586	mg/L	0.0419	1.62%
Cr 267.716†	23560.0	0.1934	mg/L	0.00589	0.1934	mg/L	0.00589	3.05%
Fe 273.955†	3114369.9	143.6	mg/L	2.34	143.6	mg/L	2.34	1.63%
Mg 279.077†	621721.5	37.67	mg/L	0.518	37.67	mg/L	0.518	1.38%
V 292.402†	71816.1	0.2970	mg/L	0.00943	0.2970	mg/L	0.00943	3.18%
Al 308.215†	2178675.6	97.06	mg/L	1.829	97.06	mg/L	1.829	1.88%
Be 313.107†	8766.1	0.00196	mg/L	0.000147	0.00196	mg/L	0.000147	7.48%
Cu 324.752†	86034.4	0.3183	mg/L	0.01037	0.3183	mg/L	0.01037	3.26%
Ag 338.289†	-7135.2	-0.0530	mg/L	0.00174	-0.0530	mg/L	0.00174	3.29%
Na 330.237†	1263.9	2.355	mg/L	0.2367	2.355	mg/L	0.2367	10.05%
Ca 227.546†	8553.3	96.44	mg/L	2.590	96.44	mg/L	2.590	2.69%
Al RADIAL†	152389.5	91.14	mg/L	1.181	91.14	mg/L	1.181	1.30%
Fe RADIAL†	65585.4	148.0	mg/L	1.47	148.0	mg/L	1.47	0.99%
Ca RADIAL†	605025.1	100.3	mg/L	1.56	100.3	mg/L	1.56	1.55%
K RADIAL†	13235.6	9.548	mg/L	0.1928	9.548	mg/L	0.1928	2.02%
Mg RADIAL†	15099.6	36.81	mg/L	0.201	36.81	mg/L	0.201	0.55%
Na RADIAL†	15745.8	2.095	mg/L	0.0145	2.095	mg/L	0.0145	0.69%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 44
Sample ID: 23E0440-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 130
Date Collected: 5/15/2023 12:53:48 PM
Data Type: Reprocessed on 5/16/2023 9:08:35 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18025339.4	4.601	mg/L	0.1405	4.601	mg/L	0.1405	3.05%
Y RADIAL	341944.2	5.131	mg/L	0.0890	5.131	mg/L	0.0890	1.73%
As 188.979†	-6.5	0.0106	mg/L	0.00575	0.0106	mg/L	0.00575	54.28%
Tl 190.801†	-9.4	-0.0022	mg/L	0.00251	-0.0022	mg/L	0.00251	113.21%
Se 196.026†	-27.6	-0.0965	mg/L	0.00935	-0.0965	mg/L	0.00935	9.68%
Zn 206.200†	1055.3	0.0633	mg/L	0.00151	0.0633	mg/L	0.00151	2.38%
Sb 206.836†	-10.9	0.0087	mg/L	0.00450	0.0087	mg/L	0.00450	52.02%
Pb 220.353†	205.7	0.0632	mg/L	0.00136	0.0632	mg/L	0.00136	2.15%
Cd 226.502†	415.5	-0.0002	mg/L	0.00017	-0.0002	mg/L	0.00017	78.56%
Co 228.616†	290.8	0.0117	mg/L	0.00028	0.0117	mg/L	0.00028	2.36%
Ni 232.003†	178.9	0.0260	mg/L	0.01156	0.0260	mg/L	0.01156	44.44%
Ba 233.527†	5404.2	0.0986	mg/L	0.00269	0.0986	mg/L	0.00269	2.73%
Mn 257.610†	139368.4	0.2378	mg/L	0.00773	0.2378	mg/L	0.00773	3.25%
Cr 267.716†	8710.1	0.0716	mg/L	0.00214	0.0716	mg/L	0.00214	2.99%
Fe 273.955†	1049100.1	48.37	mg/L	1.835	48.37	mg/L	1.835	3.79%
Mg 279.077†	43190.3	2.617	mg/L	0.0957	2.617	mg/L	0.0957	3.66%
V 292.402†	22423.5	0.0924	mg/L	0.00332	0.0924	mg/L	0.00332	3.60%
Al 308.215†	1130116.2	50.34	mg/L	1.940	50.34	mg/L	1.940	3.85%
Be 313.107†	141.0	0.00003	mg/L	0.000072	0.00003	mg/L	0.000072	227.94%
Cu 324.752†	6928.4	0.0290	mg/L	0.00165	0.0290	mg/L	0.00165	5.69%
Ag 338.289†	-2745.6	-0.0202	mg/L	0.00055	-0.0202	mg/L	0.00055	2.69%
Na 330.237†	-244.7	-0.0814	mg/L	0.22011	-0.0814	mg/L	0.22011	270.45%
Ca 227.546†	-79.3	-0.8940	mg/L	0.13587	-0.8940	mg/L	0.13587	15.20%
Al RADIAL†	83080.4	49.69	mg/L	0.642	49.69	mg/L	0.642	1.29%
Fe RADIAL†	22026.6	49.71	mg/L	0.870	49.71	mg/L	0.870	1.75%
Ca RADIAL†	6661.8	1.105	mg/L	0.0234	1.105	mg/L	0.0234	2.12%
K RADIAL†	2475.8	1.786	mg/L	0.0408	1.786	mg/L	0.0408	2.29%
Mg RADIAL†	1069.1	2.606	mg/L	0.0537	2.606	mg/L	0.0537	2.06%
Na RADIAL†	-1308.9	-0.1742	mg/L	0.00977	-0.1742	mg/L	0.00977	5.61%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 45
Sample ID: SEQ-CCV4
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 1:04:45 PM
Data Type: Reprocessed on 5/16/2023 9:08:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV4

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17534347.7	4.475	mg/L	0.1042	4.475	mg/L	0.1042	2.33%
Y RADIAL	321453.7	4.823	mg/L	0.0919	4.823	mg/L	0.0919	1.91%
As 188.979†	364.2	0.5211	mg/L	0.01352	0.5211	mg/L	0.01352	2.59%
Tl 190.801†	395.1	0.5323	mg/L	0.01935	0.5323	mg/L	0.01935	3.63%
Se 196.026†	432.0	0.5558	mg/L	0.01411	0.5558	mg/L	0.01411	2.54%
Zn 206.200†	45812.1	2.640	mg/L	0.0930	2.640	mg/L	0.0930	3.52%
Sb 206.836†	324.3	0.2557	mg/L	0.00209	0.2557	mg/L	0.00209	0.82%
Pb 220.353†	3080.8	0.5317	mg/L	0.01611	0.5317	mg/L	0.01611	3.03%
Cd 226.502†	21713.8	0.2613	mg/L	0.01017	0.2613	mg/L	0.01017	3.89%
Co 228.616†	71570.6	2.642	mg/L	0.0962	2.642	mg/L	0.0962	3.64%
Ni 232.003†	32356.3	2.639	mg/L	0.0963	2.639	mg/L	0.0963	3.65%
Ba 233.527†	590265.7	10.77	mg/L	0.462	10.77	mg/L	0.462	4.29%
Mn 257.610†	1589067.8	2.680	mg/L	0.1109	2.680	mg/L	0.1109	4.14%
Cr 267.716†	126308.8	1.045	mg/L	0.0367	1.045	mg/L	0.0367	3.51%
Fe 273.955†	113590.7	5.238	mg/L	0.1727	5.238	mg/L	0.1727	3.30%
Mg 279.077†	439479.2	26.62	mg/L	1.146	26.62	mg/L	1.146	4.30%
V 292.402†	607821.6	2.626	mg/L	0.1100	2.626	mg/L	0.1100	4.19%
Al 308.215†	235492.1	10.49	mg/L	0.543	10.49	mg/L	0.543	5.18%
Be 313.107†	1189034.6	0.26632	mg/L	0.009800	0.26632	mg/L	0.009800	3.68%
Cu 324.752†	377489.9	1.339	mg/L	0.0603	1.339	mg/L	0.0603	4.50%
Ag 338.289†	179507.0	1.258	mg/L	0.0565	1.258	mg/L	0.0565	4.49%
Na 330.237†	18927.5	24.70	mg/L	0.889	24.70	mg/L	0.889	3.60%
Ca 227.546†	2310.5	26.05	mg/L	0.686	26.05	mg/L	0.686	2.63%
Al RADIAL†	17548.3	10.50	mg/L	0.227	10.50	mg/L	0.227	2.16%
Fe RADIAL†	2341.1	5.284	mg/L	0.1130	5.284	mg/L	0.1130	2.14%
Ca RADIAL†	158793.5	26.34	mg/L	0.219	26.34	mg/L	0.219	0.83%
K RADIAL†	7325.3	5.285	mg/L	0.1379	5.285	mg/L	0.1379	2.61%
Mg RADIAL†	10890.1	26.55	mg/L	0.526	26.55	mg/L	0.526	1.98%
Na RADIAL†	195512.0	26.01	mg/L	0.295	26.01	mg/L	0.295	1.13%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 46
Sample ID: SEQ-CCB4
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 1:07:55 PM
Data Type: Reprocessed on 5/16/2023 9:08:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB4

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18417162.7	4.701	mg/L	0.1449	4.701	mg/L	0.1449	3.08%
Y RADIAL	322172.5	4.834	mg/L	0.1410	4.834	mg/L	0.1410	2.92%
As 188.979†	-0.9	-0.0013	mg/L	0.00558	-0.0013	mg/L	0.00558	419.38%
Tl 190.801†	-4.4	-0.0060	mg/L	0.00510	-0.0060	mg/L	0.00510	85.60%
Se 196.026†	-3.5	-0.0045	mg/L	0.00895	-0.0045	mg/L	0.00895	199.09%
Zn 206.200†	26.7	0.0015	mg/L	0.00034	0.0015	mg/L	0.00034	22.35%
Sb 206.836†	15.6	0.0123	mg/L	0.00467	0.0123	mg/L	0.00467	38.00%
Pb 220.353†	-8.0	-0.0014	mg/L	0.00071	-0.0014	mg/L	0.00071	51.90%
Cd 226.502†	2.1	0.0000	mg/L	0.00016	0.0000	mg/L	0.00016	634.37%
Co 228.616†	27.2	0.0010	mg/L	0.00067	0.0010	mg/L	0.00067	67.06%
Ni 232.003†	-20.6	-0.0017	mg/L	0.00088	-0.0017	mg/L	0.00088	52.26%
Ba 233.527†	244.9	0.0045	mg/L	0.00201	0.0045	mg/L	0.00201	45.07%
Mn 257.610†	750.1	0.0013	mg/L	0.00066	0.0013	mg/L	0.00066	52.47%
Cr 267.716†	79.8	0.0007	mg/L	0.00022	0.0007	mg/L	0.00022	33.77%
Fe 273.955†	-3372.3	-0.1555	mg/L	0.00262	-0.1555	mg/L	0.00262	1.68%
Mg 279.077†	-3038.7	-0.1841	mg/L	0.00286	-0.1841	mg/L	0.00286	1.55%
V 292.402†	178.8	0.0008	mg/L	0.00053	0.0008	mg/L	0.00053	68.07%
Al 308.215†	-5948.8	-0.2650	mg/L	0.01038	-0.2650	mg/L	0.01038	3.92%
Be 313.107†	-104.9	-0.00002	mg/L	0.000054	-0.00002	mg/L	0.000054	229.38%
Cu 324.752†	1365.4	0.0048	mg/L	0.00075	0.0048	mg/L	0.00075	15.49%
Ag 338.289†	378.6	0.0027	mg/L	0.00110	0.0027	mg/L	0.00110	41.55%
Na 330.237†	-219.5	-0.2861	mg/L	0.09115	-0.2861	mg/L	0.09115	31.86%
Ca 227.546†	-29.2	-0.3292	mg/L	0.16045	-0.3292	mg/L	0.16045	48.74%
Al RADIAL†	1.6	0.0010	mg/L	0.00213	0.0010	mg/L	0.00213	220.68%
Fe RADIAL†	-0.4	-0.0009	mg/L	0.01149	-0.0009	mg/L	0.01149	>999.9%
Ca RADIAL†	-92.9	-0.0154	mg/L	0.02019	-0.0154	mg/L	0.02019	131.00%
K RADIAL†	-169.7	-0.1224	mg/L	0.11457	-0.1224	mg/L	0.11457	93.56%
Mg RADIAL†	-1.2	-0.0029	mg/L	0.01362	-0.0029	mg/L	0.01362	470.96%
Na RADIAL†	-1793.0	-0.2386	mg/L	0.01813	-0.2386	mg/L	0.01813	7.60%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 47
Sample ID: 23E0440-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 131
Date Collected: 5/15/2023 1:11:03 PM
Data Type: Reprocessed on 5/16/2023 9:08:38 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17427657.1	4.448	mg/L	0.1859	4.448	mg/L	0.1859	4.18%
Y RADIAL	331904.8	4.980	mg/L	0.0812	4.980	mg/L	0.0812	1.63%
As 188.979†	-7.2	0.0230	mg/L	0.00694	0.0230	mg/L	0.00694	30.13%
Tl 190.801†	-8.2	0.0065	mg/L	0.00744	0.0065	mg/L	0.00744	114.61%
Se 196.026†	-19.3	-0.1268	mg/L	0.01386	-0.1268	mg/L	0.01386	10.93%
Zn 206.200†	2578.1	0.1527	mg/L	0.00540	0.1527	mg/L	0.00540	3.53%
Sb 206.836†	-7.1	0.0227	mg/L	0.00502	0.0227	mg/L	0.00502	22.14%
Pb 220.353†	512.8	0.1347	mg/L	0.00189	0.1347	mg/L	0.00189	1.40%
Cd 226.502†	696.3	-0.0004	mg/L	0.00042	-0.0004	mg/L	0.00042	120.11%
Co 228.616†	401.2	0.0165	mg/L	0.00066	0.0165	mg/L	0.00066	3.98%
Ni 232.003†	283.2	0.0422	mg/L	0.00404	0.0422	mg/L	0.00404	9.57%
Ba 233.527†	8280.2	0.1511	mg/L	0.00916	0.1511	mg/L	0.00916	6.06%
Mn 257.610†	175543.7	0.3006	mg/L	0.01767	0.3006	mg/L	0.01767	5.88%
Cr 267.716†	13315.9	0.1093	mg/L	0.00644	0.1093	mg/L	0.00644	5.89%
Fe 273.955†	1821372.6	83.98	mg/L	5.206	83.98	mg/L	5.206	6.20%
Mg 279.077†	104034.1	6.303	mg/L	0.3566	6.303	mg/L	0.3566	5.66%
V 292.402†	33239.2	0.1361	mg/L	0.00790	0.1361	mg/L	0.00790	5.80%
Al 308.215†	1286054.0	57.29	mg/L	2.901	57.29	mg/L	2.901	5.06%
Be 313.107†	2157.1	0.00048	mg/L	0.000105	0.00048	mg/L	0.000105	21.83%
Cu 324.752†	10062.2	0.0432	mg/L	0.00195	0.0432	mg/L	0.00195	4.51%
Ag 338.289†	-3404.0	-0.0255	mg/L	0.00170	-0.0255	mg/L	0.00170	6.68%
Na 330.237†	-97.0	0.2717	mg/L	0.17130	0.2717	mg/L	0.17130	63.04%
Ca 227.546†	554.5	6.252	mg/L	0.0766	6.252	mg/L	0.0766	1.23%
Al RADIAL†	90506.9	54.13	mg/L	0.256	54.13	mg/L	0.256	0.47%
Fe RADIAL†	36908.3	83.30	mg/L	0.571	83.30	mg/L	0.571	0.69%
Ca RADIAL†	56620.2	9.390	mg/L	0.0646	9.390	mg/L	0.0646	0.69%
K RADIAL†	3417.9	2.466	mg/L	0.0667	2.466	mg/L	0.0667	2.70%
Mg RADIAL†	2464.7	6.008	mg/L	0.0817	6.008	mg/L	0.0817	1.36%
Na RADIAL†	2129.0	0.2833	mg/L	0.02063	0.2833	mg/L	0.02063	7.28%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 48
Sample ID: 23E0440-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 132
Date Collected: 5/15/2023 1:14:11 PM
Data Type: Reprocessed on 5/16/2023 9:08:39 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17968187.8	4.586	mg/L	0.1390	4.586	mg/L	0.1390	3.03%
Y RADIAL	337969.5	5.071	mg/L	0.2035	5.071	mg/L	0.2035	4.01%
As 188.979†	-2.9	0.0179	mg/L	0.00519	0.0179	mg/L	0.00519	28.95%
Tl 190.801†	-9.4	-0.0010	mg/L	0.00365	-0.0010	mg/L	0.00365	356.19%
Se 196.026†	-18.0	-0.0907	mg/L	0.01311	-0.0907	mg/L	0.01311	14.46%
Zn 206.200†	1197.4	0.0718	mg/L	0.00193	0.0718	mg/L	0.00193	2.69%
Sb 206.836†	-9.6	0.0116	mg/L	0.00512	0.0116	mg/L	0.00512	44.24%
Pb 220.353†	390.4	0.0979	mg/L	0.00174	0.0979	mg/L	0.00174	1.77%
Cd 226.502†	462.6	-0.0002	mg/L	0.00020	-0.0002	mg/L	0.00020	94.82%
Co 228.616†	202.3	0.0086	mg/L	0.00040	0.0086	mg/L	0.00040	4.65%
Ni 232.003†	146.6	0.0246	mg/L	0.00822	0.0246	mg/L	0.00822	33.39%
Ba 233.527†	4440.9	0.0811	mg/L	0.00237	0.0811	mg/L	0.00237	2.93%
Mn 257.610†	92805.9	0.1595	mg/L	0.00493	0.1595	mg/L	0.00493	3.09%
Cr 267.716†	9901.4	0.0814	mg/L	0.00351	0.0814	mg/L	0.00351	4.32%
Fe 273.955†	1167839.4	53.85	mg/L	1.620	53.85	mg/L	1.620	3.01%
Mg 279.077†	40710.0	2.466	mg/L	0.0916	2.466	mg/L	0.0916	3.71%
V 292.402†	21521.3	0.0880	mg/L	0.00248	0.0880	mg/L	0.00248	2.81%
Al 308.215†	727676.2	32.42	mg/L	1.197	32.42	mg/L	1.197	3.69%
Be 313.107†	791.4	0.00018	mg/L	0.000040	0.00018	mg/L	0.000040	22.47%
Cu 324.752†	5330.3	0.0239	mg/L	0.00065	0.0239	mg/L	0.00065	2.71%
Ag 338.289†	-2787.9	-0.0206	mg/L	0.00074	-0.0206	mg/L	0.00074	3.58%
Na 330.237†	-284.4	-0.1074	mg/L	0.10370	-0.1074	mg/L	0.10370	96.56%
Ca 227.546†	-53.6	-0.6038	mg/L	0.07682	-0.6038	mg/L	0.07682	12.72%
Al RADIAL†	55258.0	33.05	mg/L	0.165	33.05	mg/L	0.165	0.50%
Fe RADIAL†	24418.8	55.11	mg/L	2.250	55.11	mg/L	2.250	4.08%
Ca RADIAL†	10262.2	1.702	mg/L	0.0858	1.702	mg/L	0.0858	5.04%
K RADIAL†	2820.4	2.035	mg/L	0.1087	2.035	mg/L	0.1087	5.34%
Mg RADIAL†	1007.6	2.456	mg/L	0.0901	2.456	mg/L	0.0901	3.67%
Na RADIAL†	-874.7	-0.1164	mg/L	0.00953	-0.1164	mg/L	0.00953	8.19%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 49
Sample ID: 23E0440-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 133
Date Collected: 5/15/2023 1:17:20 PM
Data Type: Reprocessed on 5/16/2023 9:08:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17381118.4	4.436	mg/L	0.1251	4.436	mg/L	0.1251	2.82%
Y RADIAL	314617.8	4.721	mg/L	0.1008	4.721	mg/L	0.1008	2.13%
As 188.979†	-9.0	0.0230	mg/L	0.00811	0.0230	mg/L	0.00811	35.26%
Tl 190.801†	-7.1	0.0092	mg/L	0.00606	0.0092	mg/L	0.00606	65.68%
Se 196.026†	-42.4	-0.1645	mg/L	0.01099	-0.1645	mg/L	0.01099	6.68%
Zn 206.200†	2128.4	0.1271	mg/L	0.00254	0.1271	mg/L	0.00254	2.00%
Sb 206.836†	-18.2	0.0165	mg/L	0.00383	0.0165	mg/L	0.00383	23.26%
Pb 220.353†	684.3	0.1676	mg/L	0.00561	0.1676	mg/L	0.00561	3.35%
Cd 226.502†	732.1	-0.0006	mg/L	0.00043	-0.0006	mg/L	0.00043	73.63%
Co 228.616†	160.7	0.0077	mg/L	0.00039	0.0077	mg/L	0.00039	5.10%
Ni 232.003†	106.8	0.0293	mg/L	0.00575	0.0293	mg/L	0.00575	19.61%
Ba 233.527†	9278.0	0.1693	mg/L	0.00547	0.1693	mg/L	0.00547	3.23%
Mn 257.610†	104966.1	0.1820	mg/L	0.00667	0.1820	mg/L	0.00667	3.66%
Cr 267.716†	13296.0	0.1091	mg/L	0.00359	0.1091	mg/L	0.00359	3.29%
Fe 273.955†	1892500.7	87.26	mg/L	3.237	87.26	mg/L	3.237	3.71%
Mg 279.077†	36697.5	2.223	mg/L	0.1055	2.223	mg/L	0.1055	4.74%
V 292.402†	30730.4	0.1247	mg/L	0.00488	0.1247	mg/L	0.00488	3.92%
Al 308.215†	744288.0	33.16	mg/L	1.502	33.16	mg/L	1.502	4.53%
Be 313.107†	-50.2	-0.00001	mg/L	0.000073	-0.00001	mg/L	0.000073	646.58%
Cu 324.752†	5572.8	0.0278	mg/L	0.00120	0.0278	mg/L	0.00120	4.33%
Ag 338.289†	-2849.3	-0.0218	mg/L	0.00228	-0.0218	mg/L	0.00228	10.46%
Na 330.237†	-309.9	0.0243	mg/L	0.09703	0.0243	mg/L	0.09703	398.98%
Ca 227.546†	138.6	1.562	mg/L	0.1552	1.562	mg/L	0.1552	9.93%
Al RADIAL†	55556.1	33.23	mg/L	1.009	33.23	mg/L	1.009	3.04%
Fe RADIAL†	39706.8	89.62	mg/L	2.458	89.62	mg/L	2.458	2.74%
Ca RADIAL†	32618.0	5.410	mg/L	0.1223	5.410	mg/L	0.1223	2.26%
K RADIAL†	1937.7	1.398	mg/L	0.0304	1.398	mg/L	0.0304	2.17%
Mg RADIAL†	936.0	2.282	mg/L	0.0325	2.282	mg/L	0.0325	1.42%
Na RADIAL†	-924.5	-0.1230	mg/L	0.01890	-0.1230	mg/L	0.01890	15.37%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 50
Sample ID: 23E0440-05
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 134
Date Collected: 5/15/2023 1:20:28 PM
Data Type: Reprocessed on 5/16/2023 9:08:41 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18235940.3	4.655	mg/L	0.1441	4.655	mg/L	0.1441	3.10%
Y RADIAL	329567.6	4.945	mg/L	0.1277	4.945	mg/L	0.1277	2.58%
As 188.979†	2.5	0.0172	mg/L	0.00804	0.0172	mg/L	0.00804	46.83%
Tl 190.801†	-7.3	-0.0027	mg/L	0.00279	-0.0027	mg/L	0.00279	101.97%
Se 196.026†	-15.9	-0.0621	mg/L	0.00409	-0.0621	mg/L	0.00409	6.58%
Zn 206.200†	834.7	0.0498	mg/L	0.00093	0.0498	mg/L	0.00093	1.87%
Sb 206.836†	-5.4	0.0076	mg/L	0.00358	0.0076	mg/L	0.00358	47.32%
Pb 220.353†	176.0	0.0492	mg/L	0.00077	0.0492	mg/L	0.00077	1.57%
Cd 226.502†	286.4	-0.0001	mg/L	0.00022	-0.0001	mg/L	0.00022	187.13%
Co 228.616†	160.1	0.0066	mg/L	0.00030	0.0066	mg/L	0.00030	4.53%
Ni 232.003†	89.8	0.0151	mg/L	0.00087	0.0151	mg/L	0.00087	5.75%
Ba 233.527†	2907.1	0.0531	mg/L	0.00162	0.0531	mg/L	0.00162	3.05%
Mn 257.610†	51448.9	0.0886	mg/L	0.00185	0.0886	mg/L	0.00185	2.09%
Cr 267.716†	8361.4	0.0688	mg/L	0.00242	0.0688	mg/L	0.00242	3.51%
Fe 273.955†	731082.8	33.71	mg/L	1.033	33.71	mg/L	1.033	3.06%
Mg 279.077†	27436.6	1.662	mg/L	0.0303	1.662	mg/L	0.0303	1.82%
V 292.402†	15140.8	0.0624	mg/L	0.00235	0.0624	mg/L	0.00235	3.76%
Al 308.215†	486704.9	21.68	mg/L	0.514	21.68	mg/L	0.514	2.37%
Be 313.107†	695.1	0.00016	mg/L	0.000067	0.00016	mg/L	0.000067	43.22%
Cu 324.752†	7292.2	0.0289	mg/L	0.00124	0.0289	mg/L	0.00124	4.30%
Ag 338.289†	-2593.9	-0.0189	mg/L	0.00302	-0.0189	mg/L	0.00302	16.03%
Na 330.237†	-485.8	-0.4709	mg/L	0.36396	-0.4709	mg/L	0.36396	77.29%
Ca 227.546†	-43.5	-0.4909	mg/L	0.09065	-0.4909	mg/L	0.09065	18.47%
Al RADIAL†	36370.8	21.75	mg/L	0.165	21.75	mg/L	0.165	0.76%
Fe RADIAL†	15060.0	33.99	mg/L	0.399	33.99	mg/L	0.399	1.18%
Ca RADIAL†	6541.2	1.085	mg/L	0.0481	1.085	mg/L	0.0481	4.44%
K RADIAL†	2537.7	1.831	mg/L	0.0835	1.831	mg/L	0.0835	4.56%
Mg RADIAL†	779.0	1.899	mg/L	0.0688	1.899	mg/L	0.0688	3.62%
Na RADIAL†	-1344.4	-0.1789	mg/L	0.01398	-0.1789	mg/L	0.01398	7.81%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 51
Sample ID: 23E0440-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 135
Date Collected: 5/15/2023 1:23:35 PM
Data Type: Reprocessed on 5/16/2023 9:08:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17719536.5	4.523	mg/L	0.1335	4.523	mg/L	0.1335	2.95%
Y RADIAL	322920.1	4.845	mg/L	0.1852	4.845	mg/L	0.1852	3.82%
As 188.979†	-10.5	0.0167	mg/L	0.00297	0.0167	mg/L	0.00297	17.76%
Tl 190.801†	-14.6	-0.0030	mg/L	0.00540	-0.0030	mg/L	0.00540	181.07%
Se 196.026†	-24.3	-0.1283	mg/L	0.01319	-0.1283	mg/L	0.01319	10.29%
Zn 206.200†	1573.8	0.0947	mg/L	0.00286	0.0947	mg/L	0.00286	3.02%
Sb 206.836†	-12.4	0.0178	mg/L	0.00483	0.0178	mg/L	0.00483	27.08%
Pb 220.353†	233.4	0.0844	mg/L	0.00182	0.0844	mg/L	0.00182	2.16%
Cd 226.502†	621.0	-0.0008	mg/L	0.00032	-0.0008	mg/L	0.00032	37.87%
Co 228.616†	340.0	0.0141	mg/L	0.00055	0.0141	mg/L	0.00055	3.90%
Ni 232.003†	280.4	0.0411	mg/L	0.00470	0.0411	mg/L	0.00470	11.45%
Ba 233.527†	8284.3	0.1512	mg/L	0.00500	0.1512	mg/L	0.00500	3.31%
Mn 257.610†	148987.3	0.2556	mg/L	0.00847	0.2556	mg/L	0.00847	3.31%
Cr 267.716†	13473.9	0.1107	mg/L	0.00253	0.1107	mg/L	0.00253	2.29%
Fe 273.955†	1606595.3	74.08	mg/L	2.366	74.08	mg/L	2.366	3.19%
Mg 279.077†	75813.0	4.593	mg/L	0.1504	4.593	mg/L	0.1504	3.27%
V 292.402†	35173.3	0.1448	mg/L	0.00552	0.1448	mg/L	0.00552	3.81%
Al 308.215†	1910121.7	85.09	mg/L	2.798	85.09	mg/L	2.798	3.29%
Be 313.107†	1090.6	0.00024	mg/L	0.000104	0.00024	mg/L	0.000104	42.67%
Cu 324.752†	7652.9	0.0343	mg/L	0.00150	0.0343	mg/L	0.00150	4.38%
Ag 338.289†	-3401.2	-0.0254	mg/L	0.00159	-0.0254	mg/L	0.00159	6.24%
Na 330.237†	-305.7	-0.0196	mg/L	0.17179	-0.0196	mg/L	0.17179	874.73%
Ca 227.546†	-224.1	-2.526	mg/L	0.2608	-2.526	mg/L	0.2608	10.32%
Al RADIAL†	140076.2	83.78	mg/L	1.044	83.78	mg/L	1.044	1.25%
Fe RADIAL†	35121.4	79.27	mg/L	2.653	79.27	mg/L	2.653	3.35%
Ca RADIAL†	3009.2	0.4991	mg/L	0.02884	0.4991	mg/L	0.02884	5.78%
K RADIAL†	3490.2	2.518	mg/L	0.0927	2.518	mg/L	0.0927	3.68%
Mg RADIAL†	1889.5	4.606	mg/L	0.1358	4.606	mg/L	0.1358	2.95%
Na RADIAL†	-1312.3	-0.1746	mg/L	0.03976	-0.1746	mg/L	0.03976	22.77%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 52
Sample ID: 23E0440-07
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 136
Date Collected: 5/15/2023 1:26:42 PM
Data Type: Reprocessed on 5/16/2023 9:08:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	15764639.0	4.024	mg/L	0.4499	4.024	mg/L	0.4499	11.18%
Y RADIAL	322746.2	4.842	mg/L	0.1584	4.842	mg/L	0.1584	3.27%
As 188.979†	-6.1	0.0147	mg/L	0.00583	0.0147	mg/L	0.00583	39.81%
Tl 190.801†	-13.8	-0.0063	mg/L	0.00998	-0.0063	mg/L	0.00998	157.31%
Se 196.026†	-23.1	-0.1012	mg/L	0.01273	-0.1012	mg/L	0.01273	12.58%
Zn 206.200†	1472.2	0.0878	mg/L	0.00982	0.0878	mg/L	0.00982	11.19%
Sb 206.836†	-5.6	0.0159	mg/L	0.00296	0.0159	mg/L	0.00296	18.59%
Pb 220.353†	254.2	0.0763	mg/L	0.00627	0.0763	mg/L	0.00627	8.22%
Cd 226.502†	532.3	0.0003	mg/L	0.00074	0.0003	mg/L	0.00074	249.37%
Co 228.616†	459.6	0.0181	mg/L	0.00139	0.0181	mg/L	0.00139	7.65%
Ni 232.003†	154.3	0.0260	mg/L	0.00990	0.0260	mg/L	0.00990	38.08%
Ba 233.527†	6870.3	0.1254	mg/L	0.01517	0.1254	mg/L	0.01517	12.10%
Mn 257.610†	209890.3	0.3572	mg/L	0.05017	0.3572	mg/L	0.05017	14.05%
Cr 267.716†	13292.2	0.1094	mg/L	0.01586	0.1094	mg/L	0.01586	14.50%
Fe 273.955†	1412717.3	65.14	mg/L	9.400	65.14	mg/L	9.400	14.43%
Mg 279.077†	54494.6	3.301	mg/L	0.4737	3.301	mg/L	0.4737	14.35%
V 292.402†	29848.0	0.1237	mg/L	0.01820	0.1237	mg/L	0.01820	14.71%
Al 308.215†	1313037.4	58.49	mg/L	8.433	58.49	mg/L	8.433	14.42%
Be 313.107†	-338.7	-0.00008	mg/L	0.000210	-0.00008	mg/L	0.000210	276.33%
Cu 324.752†	9577.8	0.0392	mg/L	0.00617	0.0392	mg/L	0.00617	15.73%
Ag 338.289†	-3797.6	-0.0278	mg/L	0.00278	-0.0278	mg/L	0.00278	10.02%
Na 330.237†	-304.3	-0.1180	mg/L	0.15444	-0.1180	mg/L	0.15444	130.89%
Ca 227.546†	-175.1	-1.975	mg/L	0.4287	-1.975	mg/L	0.4287	21.71%
Al RADIAL†	80549.1	48.17	mg/L	0.930	48.17	mg/L	0.930	1.93%
Fe RADIAL†	25840.6	58.32	mg/L	2.259	58.32	mg/L	2.259	3.87%
Ca RADIAL†	5212.5	0.8645	mg/L	0.04021	0.8645	mg/L	0.04021	4.65%
K RADIAL†	2713.2	1.957	mg/L	0.1060	1.957	mg/L	0.1060	5.42%
Mg RADIAL†	1180.7	2.878	mg/L	0.0962	2.878	mg/L	0.0962	3.34%
Na RADIAL†	-1345.5	-0.1790	mg/L	0.01392	-0.1790	mg/L	0.01392	7.77%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 53
Sample ID: 23E0440-08
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 137
Date Collected: 5/15/2023 1:29:51 PM
Data Type: Reprocessed on 5/16/2023 9:08:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-08

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	16851664.2	4.301	mg/L	0.4817	4.301	mg/L	0.4817	11.20%
Y RADIAL	324564.9	4.870	mg/L	0.2972	4.870	mg/L	0.2972	6.10%
As 188.979†	-8.5	0.0130	mg/L	0.01294	0.0130	mg/L	0.01294	99.42%
Tl 190.801†	-9.5	0.0005	mg/L	0.00537	0.0005	mg/L	0.00537	>999.9%
Se 196.026†	-27.3	-0.1121	mg/L	0.01030	-0.1121	mg/L	0.01030	9.19%
Zn 206.200†	1403.0	0.0840	mg/L	0.00944	0.0840	mg/L	0.00944	11.24%
Sb 206.836†	-9.8	0.0141	mg/L	0.00066	0.0141	mg/L	0.00066	4.69%
Pb 220.353†	262.9	0.0802	mg/L	0.00731	0.0802	mg/L	0.00731	9.12%
Cd 226.502†	517.2	-0.0003	mg/L	0.00077	-0.0003	mg/L	0.00077	221.82%
Co 228.616†	331.2	0.0135	mg/L	0.00113	0.0135	mg/L	0.00113	8.41%
Ni 232.003†	191.3	0.0300	mg/L	0.00352	0.0300	mg/L	0.00352	11.73%
Ba 233.527†	7021.3	0.1282	mg/L	0.01629	0.1282	mg/L	0.01629	12.71%
Mn 257.610†	149143.6	0.2550	mg/L	0.03825	0.2550	mg/L	0.03825	15.00%
Cr 267.716†	12943.6	0.1064	mg/L	0.01602	0.1064	mg/L	0.01602	15.05%
Fe 273.955†	1411341.5	65.08	mg/L	10.467	65.08	mg/L	10.467	16.08%
Mg 279.077†	61401.3	3.720	mg/L	0.6019	3.720	mg/L	0.6019	16.18%
V 292.402†	30788.3	0.1274	mg/L	0.02112	0.1274	mg/L	0.02112	16.58%
Al 308.215†	1532701.8	68.28	mg/L	11.372	68.28	mg/L	11.372	16.66%
Be 313.107†	1.4	0.00000	mg/L	0.000122	0.00000	mg/L	0.000122	>999.9%
Cu 324.752†	7726.6	0.0330	mg/L	0.00607	0.0330	mg/L	0.00607	18.37%
Ag 338.289†	-3700.1	-0.0272	mg/L	0.00465	-0.0272	mg/L	0.00465	17.12%
Na 330.237†	-345.8	-0.1510	mg/L	0.10297	-0.1510	mg/L	0.10297	68.18%
Ca 227.546†	-156.0	-1.759	mg/L	0.5401	-1.759	mg/L	0.5401	30.70%
Al RADIAL†	103535.4	61.92	mg/L	1.728	61.92	mg/L	1.728	2.79%
Fe RADIAL†	27788.5	62.72	mg/L	3.896	62.72	mg/L	3.896	6.21%
Ca RADIAL†	5846.5	0.9696	mg/L	0.07781	0.9696	mg/L	0.07781	8.03%
K RADIAL†	2884.3	2.081	mg/L	0.1411	2.081	mg/L	0.1411	6.78%
Mg RADIAL†	1405.0	3.425	mg/L	0.1915	3.425	mg/L	0.1915	5.59%
Na RADIAL†	-1307.8	-0.1740	mg/L	0.03645	-0.1740	mg/L	0.03645	20.95%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 54
Sample ID: 23E0440-09
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 138
Date Collected: 5/15/2023 1:32:59 PM
Data Type: Reprocessed on 5/16/2023 9:08:44 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-09

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18199018.4	4.645	mg/L	0.0663	4.645	mg/L	0.0663	1.43%
Y RADIAL	333390.4	5.002	mg/L	0.1727	5.002	mg/L	0.1727	3.45%
As 188.979†	-3.7	0.0181	mg/L	0.00833	0.0181	mg/L	0.00833	46.05%
Tl 190.801†	-11.4	-0.0031	mg/L	0.00366	-0.0031	mg/L	0.00366	118.41%
Se 196.026†	-20.2	-0.0976	mg/L	0.00536	-0.0976	mg/L	0.00536	5.49%
Zn 206.200†	1488.1	0.0887	mg/L	0.00164	0.0887	mg/L	0.00164	1.85%
Sb 206.836†	-13.3	0.0098	mg/L	0.00582	0.0098	mg/L	0.00582	59.46%
Pb 220.353†	352.9	0.0933	mg/L	0.00216	0.0933	mg/L	0.00216	2.31%
Cd 226.502†	455.8	-0.0006	mg/L	0.00031	-0.0006	mg/L	0.00031	48.54%
Co 228.616†	301.6	0.0123	mg/L	0.00015	0.0123	mg/L	0.00015	1.23%
Ni 232.003†	298.8	0.0378	mg/L	0.00486	0.0378	mg/L	0.00486	12.86%
Ba 233.527†	6199.2	0.1132	mg/L	0.00201	0.1132	mg/L	0.00201	1.77%
Mn 257.610†	122693.0	0.2101	mg/L	0.00510	0.2101	mg/L	0.00510	2.43%
Cr 267.716†	11252.8	0.0925	mg/L	0.00296	0.0925	mg/L	0.00296	3.20%
Fe 273.955†	1230719.0	56.75	mg/L	1.190	56.75	mg/L	1.190	2.10%
Mg 279.077†	51453.0	3.117	mg/L	0.0875	3.117	mg/L	0.0875	2.81%
V 292.402†	25967.9	0.1069	mg/L	0.00311	0.1069	mg/L	0.00311	2.91%
Al 308.215†	1332183.9	59.35	mg/L	1.482	59.35	mg/L	1.482	2.50%
Be 313.107†	308.0	0.00007	mg/L	0.000121	0.00007	mg/L	0.000121	174.79%
Cu 324.752†	7930.7	0.0334	mg/L	0.00134	0.0334	mg/L	0.00134	4.02%
Ag 338.289†	-3138.5	-0.0232	mg/L	0.00151	-0.0232	mg/L	0.00151	6.53%
Na 330.237†	-416.5	-0.2635	mg/L	0.10103	-0.2635	mg/L	0.10103	38.34%
Ca 227.546†	-113.1	-1.275	mg/L	0.0197	-1.275	mg/L	0.0197	1.55%
Al RADIAL†	96570.2	57.76	mg/L	1.943	57.76	mg/L	1.943	3.36%
Fe RADIAL†	25909.1	58.47	mg/L	2.110	58.47	mg/L	2.110	3.61%
Ca RADIAL†	6407.3	1.063	mg/L	0.0508	1.063	mg/L	0.0508	4.78%
K RADIAL†	2880.4	2.078	mg/L	0.0838	2.078	mg/L	0.0838	4.03%
Mg RADIAL†	1300.2	3.169	mg/L	0.1080	3.169	mg/L	0.1080	3.41%
Na RADIAL†	-1277.4	-0.1700	mg/L	0.02566	-0.1700	mg/L	0.02566	15.10%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 55
Sample ID: 23E0440-10
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 139
Date Collected: 5/15/2023 1:36:08 PM
Data Type: Reprocessed on 5/16/2023 9:08:45 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-10

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16886139.0	4.310	mg/L	0.2043	4.310	mg/L	0.2043	4.74%
Y RADIAL	322760.5	4.843	mg/L	0.1168	4.843	mg/L	0.1168	2.41%
As 188.979†	-7.1	0.0177	mg/L	0.00708	0.0177	mg/L	0.00708	40.12%
Tl 190.801†	-13.7	-0.0039	mg/L	0.00595	-0.0039	mg/L	0.00595	153.66%
Se 196.026†	-23.2	-0.1150	mg/L	0.00441	-0.1150	mg/L	0.00441	3.84%
Zn 206.200†	1627.2	0.0972	mg/L	0.00462	0.0972	mg/L	0.00462	4.75%
Sb 206.836†	-9.8	0.0165	mg/L	0.00313	0.0165	mg/L	0.00313	18.99%
Pb 220.353†	285.6	0.0879	mg/L	0.00409	0.0879	mg/L	0.00409	4.65%
Cd 226.502†	565.5	-0.0005	mg/L	0.00064	-0.0005	mg/L	0.00064	134.25%
Co 228.616†	493.9	0.0196	mg/L	0.00115	0.0196	mg/L	0.00115	5.87%
Ni 232.003†	322.7	0.0423	mg/L	0.00254	0.0423	mg/L	0.00254	6.01%
Ba 233.527†	7120.2	0.1300	mg/L	0.00632	0.1300	mg/L	0.00632	4.86%
Mn 257.610†	198980.4	0.3394	mg/L	0.01611	0.3394	mg/L	0.01611	4.75%
Cr 267.716†	12350.8	0.1015	mg/L	0.00517	0.1015	mg/L	0.00517	5.10%
Fe 273.955†	1511413.3	69.69	mg/L	3.552	69.69	mg/L	3.552	5.10%
Mg 279.077†	58061.2	3.517	mg/L	0.1649	3.517	mg/L	0.1649	4.69%
V 292.402†	32695.3	0.1350	mg/L	0.00707	0.1350	mg/L	0.00707	5.23%
Al 308.215†	1726830.4	76.93	mg/L	4.556	76.93	mg/L	4.556	5.92%
Be 313.107†	259.6	0.00006	mg/L	0.000192	0.00006	mg/L	0.000192	330.36%
Cu 324.752†	12684.2	0.0512	mg/L	0.00264	0.0512	mg/L	0.00264	5.16%
Ag 338.289†	-3734.9	-0.0276	mg/L	0.00053	-0.0276	mg/L	0.00053	1.92%
Na 330.237†	-333.1	-0.1022	mg/L	0.05665	-0.1022	mg/L	0.05665	55.41%
Ca 227.546†	-170.9	-1.927	mg/L	0.1573	-1.927	mg/L	0.1573	8.16%
Al RADIAL†	118491.5	70.87	mg/L	0.229	70.87	mg/L	0.229	0.32%
Fe RADIAL†	30779.8	69.47	mg/L	1.717	69.47	mg/L	1.717	2.47%
Ca RADIAL†	5491.1	0.9107	mg/L	0.03279	0.9107	mg/L	0.03279	3.60%
K RADIAL†	3298.7	2.380	mg/L	0.0529	2.380	mg/L	0.0529	2.22%
Mg RADIAL†	1392.2	3.394	mg/L	0.0838	3.394	mg/L	0.0838	2.47%
Na RADIAL†	-1165.8	-0.1551	mg/L	0.02019	-0.1551	mg/L	0.02019	13.02%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 56
Sample ID: 23E0440-11
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 140
Date Collected: 5/15/2023 1:39:18 PM
Data Type: Reprocessed on 5/16/2023 9:08:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-11

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17593201.8	4.490	mg/L	0.1626	4.490	mg/L	0.1626	3.62%
Y RADIAL	320585.7	4.810	mg/L	0.0321	4.810	mg/L	0.0321	0.67%
As 188.979†	-5.5	0.0110	mg/L	0.01084	0.0110	mg/L	0.01084	98.50%
Tl 190.801†	-10.2	-0.0038	mg/L	0.00616	-0.0038	mg/L	0.00616	163.19%
Se 196.026†	-12.9	-0.0744	mg/L	0.01372	-0.0744	mg/L	0.01372	18.44%
Zn 206.200†	1227.2	0.0731	mg/L	0.00186	0.0731	mg/L	0.00186	2.54%
Sb 206.836†	-13.8	0.0055	mg/L	0.00305	0.0055	mg/L	0.00305	55.46%
Pb 220.353†	215.8	0.0635	mg/L	0.00324	0.0635	mg/L	0.00324	5.11%
Cd 226.502†	384.3	-0.0003	mg/L	0.00022	-0.0003	mg/L	0.00022	68.56%
Co 228.616†	211.3	0.0087	mg/L	0.00017	0.0087	mg/L	0.00017	1.93%
Ni 232.003†	136.3	0.0220	mg/L	0.00544	0.0220	mg/L	0.00544	24.75%
Ba 233.527†	5009.9	0.0914	mg/L	0.00293	0.0914	mg/L	0.00293	3.20%
Mn 257.610†	81777.8	0.1405	mg/L	0.00667	0.1405	mg/L	0.00667	4.75%
Cr 267.716†	9619.5	0.0791	mg/L	0.00410	0.0791	mg/L	0.00410	5.18%
Fe 273.955†	997634.6	46.00	mg/L	1.228	46.00	mg/L	1.228	2.67%
Mg 279.077†	35195.7	2.132	mg/L	0.1176	2.132	mg/L	0.1176	5.52%
V 292.402†	22259.4	0.0919	mg/L	0.00445	0.0919	mg/L	0.00445	4.85%
Al 308.215†	1078461.1	48.04	mg/L	1.598	48.04	mg/L	1.598	3.33%
Be 313.107†	-48.3	-0.00001	mg/L	0.000130	-0.00001	mg/L	0.000130	>999.9%
Cu 324.752†	8628.0	0.0348	mg/L	0.00194	0.0348	mg/L	0.00194	5.58%
Ag 338.289†	-2968.4	-0.0218	mg/L	0.00099	-0.0218	mg/L	0.00099	4.54%
Na 330.237†	-290.5	-0.1529	mg/L	0.11073	-0.1529	mg/L	0.11073	72.42%
Ca 227.546†	-110.3	-1.243	mg/L	0.0384	-1.243	mg/L	0.0384	3.09%
Al RADIAL†	80057.3	47.88	mg/L	0.431	47.88	mg/L	0.431	0.90%
Fe RADIAL†	20931.4	47.24	mg/L	0.632	47.24	mg/L	0.632	1.34%
Ca RADIAL†	5712.8	0.9474	mg/L	0.01357	0.9474	mg/L	0.01357	1.43%
K RADIAL†	2143.5	1.546	mg/L	0.0554	1.546	mg/L	0.0554	3.58%
Mg RADIAL†	911.6	2.222	mg/L	0.0302	2.222	mg/L	0.0302	1.36%
Na RADIAL†	-1328.7	-0.1768	mg/L	0.03058	-0.1768	mg/L	0.03058	17.30%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 57
Sample ID: SEQ-CCV5
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 1:42:27 PM
Data Type: Reprocessed on 5/16/2023 9:08:47 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17728223.4	4.525	mg/L	0.0681	4.525	mg/L	0.0681	1.51%
Y RADIAL	329681.3	4.947	mg/L	0.1217	4.947	mg/L	0.1217	2.46%
As 188.979†	362.8	0.5191	mg/L	0.00586	0.5191	mg/L	0.00586	1.13%
Tl 190.801†	392.5	0.5287	mg/L	0.01374	0.5287	mg/L	0.01374	2.60%
Se 196.026†	425.6	0.5476	mg/L	0.00947	0.5476	mg/L	0.00947	1.73%
Zn 206.200†	45206.5	2.605	mg/L	0.0467	2.605	mg/L	0.0467	1.79%
Sb 206.836†	315.8	0.2490	mg/L	0.00786	0.2490	mg/L	0.00786	3.16%
Pb 220.353†	3052.5	0.5268	mg/L	0.00828	0.5268	mg/L	0.00828	1.57%
Cd 226.502†	21568.6	0.2595	mg/L	0.00334	0.2595	mg/L	0.00334	1.29%
Co 228.616†	70603.2	2.606	mg/L	0.0320	2.606	mg/L	0.0320	1.23%
Ni 232.003†	31989.3	2.609	mg/L	0.0187	2.609	mg/L	0.0187	0.72%
Ba 233.527†	587279.6	10.72	mg/L	0.094	10.72	mg/L	0.094	0.87%
Mn 257.610†	1577353.3	2.660	mg/L	0.0260	2.660	mg/L	0.0260	0.98%
Cr 267.716†	125157.2	1.035	mg/L	0.0136	1.035	mg/L	0.0136	1.31%
Fe 273.955†	111423.9	5.138	mg/L	0.0709	5.138	mg/L	0.0709	1.38%
Mg 279.077†	436945.4	26.47	mg/L	0.327	26.47	mg/L	0.327	1.23%
V 292.402†	603896.7	2.609	mg/L	0.0296	2.609	mg/L	0.0296	1.13%
Al 308.215†	231537.3	10.31	mg/L	0.138	10.31	mg/L	0.138	1.33%
Be 313.107†	1181355.4	0.26460	mg/L	0.003600	0.26460	mg/L	0.003600	1.36%
Cu 324.752†	372527.8	1.321	mg/L	0.0130	1.321	mg/L	0.0130	0.98%
Ag 338.289†	176653.2	1.238	mg/L	0.0154	1.238	mg/L	0.0154	1.25%
Na 330.237†	18666.7	24.36	mg/L	0.488	24.36	mg/L	0.488	2.00%
Ca 227.546†	2288.0	25.80	mg/L	0.473	25.80	mg/L	0.473	1.83%
Al RADIAL†	16796.4	10.05	mg/L	0.142	10.05	mg/L	0.142	1.41%
Fe RADIAL†	2282.3	5.151	mg/L	0.1188	5.151	mg/L	0.1188	2.31%
Ca RADIAL†	157849.0	26.18	mg/L	0.212	26.18	mg/L	0.212	0.81%
K RADIAL†	7173.7	5.175	mg/L	0.1146	5.175	mg/L	0.1146	2.21%
Mg RADIAL†	10620.5	25.89	mg/L	0.572	25.89	mg/L	0.572	2.21%
Na RADIAL†	195399.4	26.00	mg/L	0.122	26.00	mg/L	0.122	0.47%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 58
Sample ID: SEQ-CCB5
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 1:45:38 PM
Data Type: Reprocessed on 5/16/2023 9:08:48 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18217066.0	4.650	mg/L	0.0386	4.650	mg/L	0.0386	0.83%
Y RADIAL	327793.5	4.918	mg/L	0.0728	4.918	mg/L	0.0728	1.48%
As 188.979†	1.6	0.0022	mg/L	0.00444	0.0022	mg/L	0.00444	200.92%
Tl 190.801†	-1.7	-0.0023	mg/L	0.00559	-0.0023	mg/L	0.00559	239.73%
Se 196.026†	-3.7	-0.0048	mg/L	0.00788	-0.0048	mg/L	0.00788	165.29%
Zn 206.200†	21.0	0.0012	mg/L	0.00042	0.0012	mg/L	0.00042	34.61%
Sb 206.836†	15.4	0.0122	mg/L	0.00434	0.0122	mg/L	0.00434	35.58%
Pb 220.353†	4.8	0.0008	mg/L	0.00084	0.0008	mg/L	0.00084	103.33%
Cd 226.502†	11.9	0.0001	mg/L	0.00016	0.0001	mg/L	0.00016	108.26%
Co 228.616†	22.6	0.0008	mg/L	0.00036	0.0008	mg/L	0.00036	42.83%
Ni 232.003†	-27.4	-0.0022	mg/L	0.00049	-0.0022	mg/L	0.00049	21.71%
Ba 233.527†	268.2	0.0049	mg/L	0.00155	0.0049	mg/L	0.00155	31.63%
Mn 257.610†	827.3	0.0014	mg/L	0.00053	0.0014	mg/L	0.00053	37.79%
Cr 267.716†	79.6	0.0007	mg/L	0.00019	0.0007	mg/L	0.00019	28.34%
Fe 273.955†	-3371.2	-0.1555	mg/L	0.00127	-0.1555	mg/L	0.00127	0.82%
Mg 279.077†	-3082.0	-0.1867	mg/L	0.00412	-0.1867	mg/L	0.00412	2.21%
V 292.402†	224.2	0.0010	mg/L	0.00044	0.0010	mg/L	0.00044	45.75%
Al 308.215†	-5762.2	-0.2567	mg/L	0.00750	-0.2567	mg/L	0.00750	2.92%
Be 313.107†	-155.5	-0.00003	mg/L	0.000032	-0.00003	mg/L	0.000032	91.08%
Cu 324.752†	996.2	0.0035	mg/L	0.00064	0.0035	mg/L	0.00064	18.25%
Ag 338.289†	143.4	0.0010	mg/L	0.00106	0.0010	mg/L	0.00106	105.37%
Na 330.237†	-280.1	-0.3652	mg/L	0.07726	-0.3652	mg/L	0.07726	21.16%
Ca 227.546†	-37.4	-0.4218	mg/L	0.09466	-0.4218	mg/L	0.09466	22.44%
Al RADIAL†	10.1	0.0061	mg/L	0.00808	0.0061	mg/L	0.00808	133.46%
Fe RADIAL†	-2.2	-0.0049	mg/L	0.00196	-0.0049	mg/L	0.00196	39.74%
Ca RADIAL†	1.8	0.0003	mg/L	0.00745	0.0003	mg/L	0.00745	>999.9%
K RADIAL†	20.2	0.0145	mg/L	0.01542	0.0145	mg/L	0.01542	106.00%
Mg RADIAL†	-3.4	-0.0083	mg/L	0.00557	-0.0083	mg/L	0.00557	66.87%
Na RADIAL†	-1971.5	-0.2623	mg/L	0.02108	-0.2623	mg/L	0.02108	8.04%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 59
Sample ID: 23E0440-12
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 141
Date Collected: 5/15/2023 1:48:47 PM
Data Type: Reprocessed on 5/16/2023 9:08:49 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-12

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17535637.2	4.476	mg/L	0.0281	4.476	mg/L	0.0281	0.63%
Y RADIAL	330332.6	4.956	mg/L	0.1071	4.956	mg/L	0.1071	2.16%
As 188.979†	-4.3	0.0107	mg/L	0.01185	0.0107	mg/L	0.01185	110.95%
Tl 190.801†	-10.3	-0.0050	mg/L	0.00565	-0.0050	mg/L	0.00565	113.05%
Se 196.026†	-16.9	-0.0731	mg/L	0.00678	-0.0731	mg/L	0.00678	9.26%
Zn 206.200†	1213.8	0.0720	mg/L	0.00105	0.0720	mg/L	0.00105	1.46%
Sb 206.836†	-3.4	0.0119	mg/L	0.00788	0.0119	mg/L	0.00788	66.40%
Pb 220.353†	208.4	0.0592	mg/L	0.00239	0.0592	mg/L	0.00239	4.04%
Cd 226.502†	358.8	-0.0001	mg/L	0.00010	-0.0001	mg/L	0.00010	132.11%
Co 228.616†	230.1	0.0093	mg/L	0.00029	0.0093	mg/L	0.00029	3.07%
Ni 232.003†	148.4	0.0217	mg/L	0.00156	0.0217	mg/L	0.00156	7.16%
Ba 233.527†	4551.0	0.0831	mg/L	0.00057	0.0831	mg/L	0.00057	0.68%
Mn 257.610†	95285.5	0.1630	mg/L	0.00402	0.1630	mg/L	0.00402	2.47%
Cr 267.716†	9694.7	0.0798	mg/L	0.00248	0.0798	mg/L	0.00248	3.11%
Fe 273.955†	895916.7	41.31	mg/L	0.440	41.31	mg/L	0.440	1.07%
Mg 279.077†	32377.4	1.961	mg/L	0.0584	1.961	mg/L	0.0584	2.98%
V 292.402†	18840.7	0.0776	mg/L	0.00213	0.0776	mg/L	0.00213	2.74%
Al 308.215†	786422.2	35.03	mg/L	0.810	35.03	mg/L	0.810	2.31%
Be 313.107†	-485.5	-0.00011	mg/L	0.000121	-0.00011	mg/L	0.000121	111.33%
Cu 324.752†	7736.1	0.0312	mg/L	0.00123	0.0312	mg/L	0.00123	3.95%
Ag 338.289†	-2865.0	-0.0209	mg/L	0.00216	-0.0209	mg/L	0.00216	10.31%
Na 330.237†	-337.3	-0.2394	mg/L	0.11406	-0.2394	mg/L	0.11406	47.64%
Ca 227.546†	-111.7	-1.260	mg/L	0.1691	-1.260	mg/L	0.1691	13.42%
Al RADIAL†	57440.8	34.35	mg/L	0.097	34.35	mg/L	0.097	0.28%
Fe RADIAL†	18569.3	41.91	mg/L	0.420	41.91	mg/L	0.420	1.00%
Ca RADIAL†	4041.3	0.6702	mg/L	0.01820	0.6702	mg/L	0.01820	2.71%
K RADIAL†	1843.3	1.330	mg/L	0.0866	1.330	mg/L	0.0866	6.51%
Mg RADIAL†	840.1	2.048	mg/L	0.0290	2.048	mg/L	0.0290	1.42%
Na RADIAL†	-1419.0	-0.1888	mg/L	0.02375	-0.1888	mg/L	0.02375	12.58%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 60
Sample ID: 23E0440-13
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 142
Date Collected: 5/15/2023 1:51:56 PM
Data Type: Reprocessed on 5/16/2023 9:08:50 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-13

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17720767.7	4.523	mg/L	0.0757	4.523	mg/L	0.0757	1.67%
Y RADIAL	328515.4	4.929	mg/L	0.0961	4.929	mg/L	0.0961	1.95%
As 188.979†	-2.2	0.0262	mg/L	0.00185	0.0262	mg/L	0.00185	7.05%
Tl 190.801†	-10.5	0.0012	mg/L	0.00506	0.0012	mg/L	0.00506	417.48%
Se 196.026†	-20.6	-0.1161	mg/L	0.02145	-0.1161	mg/L	0.02145	18.48%
Zn 206.200†	1867.6	0.1113	mg/L	0.00266	0.1113	mg/L	0.00266	2.39%
Sb 206.836†	-20.9	0.0090	mg/L	0.00421	0.0090	mg/L	0.00421	46.93%
Pb 220.353†	270.5	0.0874	mg/L	0.00205	0.0874	mg/L	0.00205	2.34%
Cd 226.502†	591.6	-0.0005	mg/L	0.00045	-0.0005	mg/L	0.00045	82.41%
Co 228.616†	349.4	0.0144	mg/L	0.00022	0.0144	mg/L	0.00022	1.54%
Ni 232.003†	300.4	0.0413	mg/L	0.00283	0.0413	mg/L	0.00283	6.84%
Ba 233.527†	7691.8	0.1404	mg/L	0.00122	0.1404	mg/L	0.00122	0.87%
Mn 257.610†	146156.3	0.2505	mg/L	0.00267	0.2505	mg/L	0.00267	1.06%
Cr 267.716†	13154.9	0.1081	mg/L	0.00128	0.1081	mg/L	0.00128	1.18%
Fe 273.955†	1532542.8	70.67	mg/L	2.481	70.67	mg/L	2.481	3.51%
Mg 279.077†	59964.5	3.633	mg/L	0.0196	3.633	mg/L	0.0196	0.54%
V 292.402†	32500.2	0.1338	mg/L	0.00142	0.1338	mg/L	0.00142	1.06%
Al 308.215†	1693173.9	75.43	mg/L	2.905	75.43	mg/L	2.905	3.85%
Be 313.107†	176.8	0.00004	mg/L	0.000128	0.00004	mg/L	0.000128	322.65%
Cu 324.752†	11172.3	0.0462	mg/L	0.00127	0.0462	mg/L	0.00127	2.75%
Ag 338.289†	-3936.6	-0.0291	mg/L	0.00090	-0.0291	mg/L	0.00090	3.09%
Na 330.237†	-338.9	-0.0922	mg/L	0.08483	-0.0922	mg/L	0.08483	92.01%
Ca 227.546†	-153.5	-1.731	mg/L	0.1332	-1.731	mg/L	0.1332	7.70%
Al RADIAL†	121908.1	72.91	mg/L	0.847	72.91	mg/L	0.847	1.16%
Fe RADIAL†	32407.7	73.14	mg/L	1.664	73.14	mg/L	1.664	2.28%
Ca RADIAL†	6778.8	1.124	mg/L	0.0301	1.124	mg/L	0.0301	2.68%
K RADIAL†	3403.5	2.455	mg/L	0.0801	2.455	mg/L	0.0801	3.26%
Mg RADIAL†	1503.4	3.665	mg/L	0.1037	3.665	mg/L	0.1037	2.83%
Na RADIAL†	-1212.5	-0.1613	mg/L	0.03839	-0.1613	mg/L	0.03839	23.79%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 61
Sample ID: 23E0440-14
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 143
Date Collected: 5/15/2023 1:54:43 PM
Data Type: Reprocessed on 5/16/2023 9:08:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-14

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18379654.8	4.691	mg/L	0.0496	4.691	mg/L	0.0496	1.06%
Y RADIAL	329396.8	4.942	mg/L	0.1701	4.942	mg/L	0.1701	3.44%
As 188.979†	-1.9	0.0162	mg/L	0.01409	0.0162	mg/L	0.01409	87.24%
Tl 190.801†	-6.4	0.0013	mg/L	0.00676	0.0013	mg/L	0.00676	509.68%
Se 196.026†	-16.1	-0.0784	mg/L	0.00872	-0.0784	mg/L	0.00872	11.12%
Zn 206.200†	1229.7	0.0732	mg/L	0.00151	0.0732	mg/L	0.00151	2.06%
Sb 206.836†	-11.0	0.0077	mg/L	0.00139	0.0077	mg/L	0.00139	18.13%
Pb 220.353†	189.5	0.0589	mg/L	0.00289	0.0589	mg/L	0.00289	4.92%
Cd 226.502†	363.0	-0.0006	mg/L	0.00009	-0.0006	mg/L	0.00009	15.75%
Co 228.616†	260.5	0.0106	mg/L	0.00044	0.0106	mg/L	0.00044	4.18%
Ni 232.003†	208.9	0.0278	mg/L	0.00081	0.0278	mg/L	0.00081	2.92%
Ba 233.527†	5127.0	0.0936	mg/L	0.00163	0.0936	mg/L	0.00163	1.74%
Mn 257.610†	110358.5	0.1887	mg/L	0.00246	0.1887	mg/L	0.00246	1.30%
Cr 267.716†	9550.0	0.0785	mg/L	0.00093	0.0785	mg/L	0.00093	1.19%
Fe 273.955†	969438.5	44.70	mg/L	0.743	44.70	mg/L	0.743	1.66%
Mg 279.077†	37254.1	2.257	mg/L	0.0369	2.257	mg/L	0.0369	1.64%
V 292.402†	20008.8	0.0822	mg/L	0.00055	0.0822	mg/L	0.00055	0.66%
Al 308.215†	863947.2	38.49	mg/L	0.948	38.49	mg/L	0.948	2.46%
Be 313.107†	181.2	0.00004	mg/L	0.000073	0.00004	mg/L	0.000073	180.21%
Cu 324.752†	6203.7	0.0262	mg/L	0.00066	0.0262	mg/L	0.00066	2.53%
Ag 338.289†	-2971.3	-0.0218	mg/L	0.00168	-0.0218	mg/L	0.00168	7.74%
Na 330.237†	-342.1	-0.2211	mg/L	0.11965	-0.2211	mg/L	0.11965	54.10%
Ca 227.546†	-111.0	-1.251	mg/L	0.1329	-1.251	mg/L	0.1329	10.62%
Al RADIAL†	64315.3	38.47	mg/L	0.586	38.47	mg/L	0.586	1.52%
Fe RADIAL†	20846.2	47.05	mg/L	1.871	47.05	mg/L	1.871	3.98%
Ca RADIAL†	4247.9	0.7045	mg/L	0.04064	0.7045	mg/L	0.04064	5.77%
K RADIAL†	2398.9	1.731	mg/L	0.0758	1.731	mg/L	0.0758	4.38%
Mg RADIAL†	985.9	2.403	mg/L	0.0779	2.403	mg/L	0.0779	3.24%
Na RADIAL†	-1447.7	-0.1926	mg/L	0.02277	-0.1926	mg/L	0.02277	11.82%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 62
Sample ID: 23E0440-15
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 144
Date Collected: 5/15/2023 1:57:29 PM
Data Type: Reprocessed on 5/16/2023 9:08:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-15

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17423102.4	4.447	mg/L	0.2894	4.447	mg/L	0.2894	6.51%
Y RADIAL	328967.3	4.936	mg/L	0.0272	4.936	mg/L	0.0272	0.55%
As 188.979†	-7.1	0.0079	mg/L	0.00645	0.0079	mg/L	0.00645	81.27%
Tl 190.801†	-10.1	-0.0041	mg/L	0.00429	-0.0041	mg/L	0.00429	103.35%
Se 196.026†	-20.7	-0.0821	mg/L	0.01382	-0.0821	mg/L	0.01382	16.84%
Zn 206.200†	1276.9	0.0758	mg/L	0.00465	0.0758	mg/L	0.00465	6.13%
Sb 206.836†	-13.4	0.0051	mg/L	0.00527	0.0051	mg/L	0.00527	102.72%
Pb 220.353†	244.4	0.0673	mg/L	0.00254	0.0673	mg/L	0.00254	3.77%
Cd 226.502†	373.3	-0.0002	mg/L	0.00030	-0.0002	mg/L	0.00030	121.45%
Co 228.616†	217.3	0.0089	mg/L	0.00038	0.0089	mg/L	0.00038	4.23%
Ni 232.003†	111.6	0.0195	mg/L	0.00798	0.0195	mg/L	0.00798	40.94%
Ba 233.527†	4885.6	0.0892	mg/L	0.00602	0.0892	mg/L	0.00602	6.75%
Mn 257.610†	93925.2	0.1609	mg/L	0.01282	0.1609	mg/L	0.01282	7.97%
Cr 267.716†	10204.7	0.0840	mg/L	0.00665	0.0840	mg/L	0.00665	7.93%
Fe 273.955†	1000762.6	46.15	mg/L	3.688	46.15	mg/L	3.688	7.99%
Mg 279.077†	33429.3	2.025	mg/L	0.1748	2.025	mg/L	0.1748	8.63%
V 292.402†	20940.9	0.0864	mg/L	0.00776	0.0864	mg/L	0.00776	8.98%
Al 308.215†	838831.7	37.37	mg/L	2.713	37.37	mg/L	2.713	7.26%
Be 313.107†	-35.1	-0.00001	mg/L	0.000135	-0.00001	mg/L	0.000135	>999.9%
Cu 324.752†	6497.1	0.0271	mg/L	0.00264	0.0271	mg/L	0.00264	9.75%
Ag 338.289†	-3135.1	-0.0229	mg/L	0.00183	-0.0229	mg/L	0.00183	8.01%
Na 330.237†	-352.9	-0.2441	mg/L	0.09299	-0.2441	mg/L	0.09299	38.10%
Ca 227.546†	-111.1	-1.252	mg/L	0.2197	-1.252	mg/L	0.2197	17.54%
Al RADIAL†	60173.9	35.99	mg/L	0.169	35.99	mg/L	0.169	0.47%
Fe RADIAL†	20030.4	45.21	mg/L	0.220	45.21	mg/L	0.220	0.49%
Ca RADIAL†	5217.2	0.8652	mg/L	0.01090	0.8652	mg/L	0.01090	1.26%
K RADIAL†	1992.8	1.438	mg/L	0.0938	1.438	mg/L	0.0938	6.52%
Mg RADIAL†	855.9	2.086	mg/L	0.0248	2.086	mg/L	0.0248	1.19%
Na RADIAL†	-1590.6	-0.2116	mg/L	0.02032	-0.2116	mg/L	0.02032	9.60%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 63
Sample ID: 23E0440-16
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 145
Date Collected: 5/15/2023 2:00:17 PM
Data Type: Reprocessed on 5/16/2023 9:08:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-16

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18256730.2	4.660	mg/L	0.0801	4.660	mg/L	0.0801	1.72%
Y RADIAL	325830.6	4.889	mg/L	0.3321	4.889	mg/L	0.3321	6.79%
As 188.979†	-4.0	0.0162	mg/L	0.01060	0.0162	mg/L	0.01060	65.59%
Tl 190.801†	-10.6	-0.0028	mg/L	0.00414	-0.0028	mg/L	0.00414	148.66%
Se 196.026†	-16.6	-0.0882	mg/L	0.00916	-0.0882	mg/L	0.00916	10.38%
Zn 206.200†	1285.4	0.0768	mg/L	0.00162	0.0768	mg/L	0.00162	2.11%
Sb 206.836†	-14.0	0.0079	mg/L	0.00252	0.0079	mg/L	0.00252	31.73%
Pb 220.353†	233.9	0.0707	mg/L	0.00092	0.0707	mg/L	0.00092	1.30%
Cd 226.502†	423.6	-0.0006	mg/L	0.00034	-0.0006	mg/L	0.00034	54.38%
Co 228.616†	291.0	0.0118	mg/L	0.00024	0.0118	mg/L	0.00024	2.01%
Ni 232.003†	257.8	0.0336	mg/L	0.00566	0.0336	mg/L	0.00566	16.85%
Ba 233.527†	5945.5	0.1085	mg/L	0.00222	0.1085	mg/L	0.00222	2.04%
Mn 257.610†	122301.8	0.2093	mg/L	0.00543	0.2093	mg/L	0.00543	2.59%
Cr 267.716†	10820.6	0.0890	mg/L	0.00237	0.0890	mg/L	0.00237	2.67%
Fe 273.955†	1096497.3	50.56	mg/L	1.229	50.56	mg/L	1.229	2.43%
Mg 279.077†	43369.6	2.627	mg/L	0.0815	2.627	mg/L	0.0815	3.10%
V 292.402†	23464.3	0.0965	mg/L	0.00223	0.0965	mg/L	0.00223	2.31%
Al 308.215†	1164881.1	51.89	mg/L	1.185	51.89	mg/L	1.185	2.28%
Be 313.107†	-72.9	-0.00002	mg/L	0.000045	-0.00002	mg/L	0.000045	277.43%
Cu 324.752†	7552.1	0.0317	mg/L	0.00148	0.0317	mg/L	0.00148	4.67%
Ag 338.289†	-3632.0	-0.0266	mg/L	0.00144	-0.0266	mg/L	0.00144	5.44%
Na 330.237†	-358.7	-0.2066	mg/L	0.09060	-0.2066	mg/L	0.09060	43.87%
Ca 227.546†	-99.2	-1.118	mg/L	0.0573	-1.118	mg/L	0.0573	5.12%
Al RADIAL†	88342.9	52.84	mg/L	3.397	52.84	mg/L	3.397	6.43%
Fe RADIAL†	24198.6	54.61	mg/L	3.722	54.61	mg/L	3.722	6.81%
Ca RADIAL†	7046.0	1.169	mg/L	0.1022	1.169	mg/L	0.1022	8.75%
K RADIAL†	2983.2	2.152	mg/L	0.1751	2.152	mg/L	0.1751	8.14%
Mg RADIAL†	1160.0	2.828	mg/L	0.2027	2.828	mg/L	0.2027	7.17%
Na RADIAL†	-1302.7	-0.1733	mg/L	0.04563	-0.1733	mg/L	0.04563	26.32%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 64
Sample ID: 23E0440-17
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 146
Date Collected: 5/15/2023 2:03:03 PM
Data Type: Reprocessed on 5/16/2023 9:08:53 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-17

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17652360.9	4.506	mg/L	0.2138	4.506	mg/L	0.2138	4.75%
Y RADIAL	330125.7	4.953	mg/L	0.1852	4.953	mg/L	0.1852	3.74%
As 188.979†	-11.9	0.0048	mg/L	0.00459	0.0048	mg/L	0.00459	96.13%
Tl 190.801†	-12.7	-0.0057	mg/L	0.00564	-0.0057	mg/L	0.00564	99.33%
Se 196.026†	-18.1	-0.0898	mg/L	0.00726	-0.0898	mg/L	0.00726	8.08%
Zn 206.200†	1461.0	0.0869	mg/L	0.00390	0.0869	mg/L	0.00390	4.49%
Sb 206.836†	-10.7	0.0105	mg/L	0.00210	0.0105	mg/L	0.00210	20.04%
Pb 220.353†	239.2	0.0715	mg/L	0.00381	0.0715	mg/L	0.00381	5.33%
Cd 226.502†	444.6	-0.0003	mg/L	0.00058	-0.0003	mg/L	0.00058	169.43%
Co 228.616†	328.8	0.0132	mg/L	0.00053	0.0132	mg/L	0.00053	4.04%
Ni 232.003†	134.7	0.0235	mg/L	0.00628	0.0235	mg/L	0.00628	26.75%
Ba 233.527†	6573.7	0.1200	mg/L	0.00625	0.1200	mg/L	0.00625	5.21%
Mn 257.610†	136901.2	0.2339	mg/L	0.01108	0.2339	mg/L	0.01108	4.74%
Cr 267.716†	11334.4	0.0932	mg/L	0.00507	0.0932	mg/L	0.00507	5.44%
Fe 273.955†	1170694.1	53.98	mg/L	2.554	53.98	mg/L	2.554	4.73%
Mg 279.077†	51189.3	3.101	mg/L	0.1644	3.101	mg/L	0.1644	5.30%
V 292.402†	24559.5	0.1012	mg/L	0.00568	0.1012	mg/L	0.00568	5.61%
Al 308.215†	1152269.7	51.33	mg/L	3.004	51.33	mg/L	3.004	5.85%
Be 313.107†	174.9	0.00004	mg/L	0.000209	0.00004	mg/L	0.000209	533.69%
Cu 324.752†	7263.2	0.0306	mg/L	0.00148	0.0306	mg/L	0.00148	4.85%
Ag 338.289†	-3973.4	-0.0289	mg/L	0.00205	-0.0289	mg/L	0.00205	7.07%
Na 330.237†	-408.1	-0.2724	mg/L	0.11102	-0.2724	mg/L	0.11102	40.75%
Ca 227.546†	-125.5	-1.415	mg/L	0.1791	-1.415	mg/L	0.1791	12.65%
Al RADIAL†	80984.5	48.44	mg/L	0.439	48.44	mg/L	0.439	0.91%
Fe RADIAL†	24064.9	54.31	mg/L	1.940	54.31	mg/L	1.940	3.57%
Ca RADIAL†	5367.2	0.8901	mg/L	0.04201	0.8901	mg/L	0.04201	4.72%
K RADIAL†	3088.0	2.228	mg/L	0.0900	2.228	mg/L	0.0900	4.04%
Mg RADIAL†	1257.7	3.066	mg/L	0.1039	3.066	mg/L	0.1039	3.39%
Na RADIAL†	-1415.9	-0.1884	mg/L	0.01195	-0.1884	mg/L	0.01195	6.34%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 65
Sample ID: 23E0440-18
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 147
Date Collected: 5/15/2023 2:05:49 PM
Data Type: Reprocessed on 5/16/2023 9:08:54 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-18

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18177064.5	4.640	mg/L	0.1112	4.640	mg/L	0.1112	2.40%
Y RADIAL	337100.2	5.058	mg/L	0.1844	5.058	mg/L	0.1844	3.65%
As 188.979†	-1.2	0.0138	mg/L	0.00360	0.0138	mg/L	0.00360	26.12%
Tl 190.801†	-8.8	-0.0036	mg/L	0.00418	-0.0036	mg/L	0.00418	115.91%
Se 196.026†	-23.3	-0.0777	mg/L	0.00959	-0.0777	mg/L	0.00959	12.35%
Zn 206.200†	859.0	0.0514	mg/L	0.00134	0.0514	mg/L	0.00134	2.60%
Sb 206.836†	-12.7	0.0035	mg/L	0.00731	0.0035	mg/L	0.00731	206.87%
Pb 220.353†	191.1	0.0546	mg/L	0.00240	0.0546	mg/L	0.00240	4.40%
Cd 226.502†	325.4	-0.0002	mg/L	0.00016	-0.0002	mg/L	0.00016	103.27%
Co 228.616†	296.5	0.0117	mg/L	0.00008	0.0117	mg/L	0.00008	0.65%
Ni 232.003†	127.6	0.0193	mg/L	0.00119	0.0193	mg/L	0.00119	6.14%
Ba 233.527†	3973.8	0.0725	mg/L	0.00157	0.0725	mg/L	0.00157	2.16%
Mn 257.610†	159830.1	0.2717	mg/L	0.00769	0.2717	mg/L	0.00769	2.83%
Cr 267.716†	10479.5	0.0863	mg/L	0.00191	0.0863	mg/L	0.00191	2.22%
Fe 273.955†	817937.0	37.72	mg/L	0.943	37.72	mg/L	0.943	2.50%
Mg 279.077†	25325.6	1.534	mg/L	0.0410	1.534	mg/L	0.0410	2.67%
V 292.402†	18832.8	0.0779	mg/L	0.00200	0.0779	mg/L	0.00200	2.57%
Al 308.215†	763075.0	33.99	mg/L	1.005	33.99	mg/L	1.005	2.96%
Be 313.107†	-906.6	-0.00020	mg/L	0.000072	-0.00020	mg/L	0.000072	35.51%
Cu 324.752†	5411.5	0.0227	mg/L	0.00077	0.0227	mg/L	0.00077	3.39%
Ag 338.289†	-3443.1	-0.0249	mg/L	0.00094	-0.0249	mg/L	0.00094	3.77%
Na 330.237†	-438.7	-0.3861	mg/L	0.24100	-0.3861	mg/L	0.24100	62.42%
Ca 227.546†	-109.6	-1.236	mg/L	0.1467	-1.236	mg/L	0.1467	11.87%
Al RADIAL†	57639.8	34.47	mg/L	0.187	34.47	mg/L	0.187	0.54%
Fe RADIAL†	17228.0	38.88	mg/L	0.289	38.88	mg/L	0.289	0.74%
Ca RADIAL†	3009.4	0.4991	mg/L	0.02994	0.4991	mg/L	0.02994	6.00%
K RADIAL†	1723.9	1.244	mg/L	0.1325	1.244	mg/L	0.1325	10.65%
Mg RADIAL†	667.6	1.627	mg/L	0.0631	1.627	mg/L	0.0631	3.87%
Na RADIAL†	-1498.1	-0.1993	mg/L	0.01837	-0.1993	mg/L	0.01837	9.21%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 66
Sample ID: BE30883-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 148
Date Collected: 5/15/2023 2:08:34 PM
Data Type: Reprocessed on 5/16/2023 9:08:55 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30883-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18316889.7	4.675	mg/L	0.0599	4.675	mg/L	0.0599	1.28%
Y RADIAL	323451.9	4.853	mg/L	0.0796	4.853	mg/L	0.0796	1.64%
As 188.979†	-3.8	0.0097	mg/L	0.00329	0.0097	mg/L	0.00329	34.03%
Tl 190.801†	-13.0	-0.0095	mg/L	0.00718	-0.0095	mg/L	0.00718	75.31%
Se 196.026†	-20.7	-0.0730	mg/L	0.00964	-0.0730	mg/L	0.00964	13.22%
Zn 206.200†	777.9	0.0467	mg/L	0.00064	0.0467	mg/L	0.00064	1.37%
Sb 206.836†	-17.7	-0.0009	mg/L	0.00822	-0.0009	mg/L	0.00822	953.44%
Pb 220.353†	175.9	0.0513	mg/L	0.00210	0.0513	mg/L	0.00210	4.10%
Cd 226.502†	311.5	-0.0002	mg/L	0.00015	-0.0002	mg/L	0.00015	70.07%
Co 228.616†	363.9	0.0142	mg/L	0.00039	0.0142	mg/L	0.00039	2.76%
Ni 232.003†	133.5	0.0196	mg/L	0.00118	0.0196	mg/L	0.00118	6.05%
Ba 233.527†	3664.5	0.0669	mg/L	0.00099	0.0669	mg/L	0.00099	1.48%
Mn 257.610†	150548.5	0.2560	mg/L	0.00494	0.2560	mg/L	0.00494	1.93%
Cr 267.716†	10573.5	0.0871	mg/L	0.00181	0.0871	mg/L	0.00181	2.08%
Fe 273.955†	796389.6	36.72	mg/L	0.848	36.72	mg/L	0.848	2.31%
Mg 279.077†	22855.8	1.385	mg/L	0.0258	1.385	mg/L	0.0258	1.86%
V 292.402†	18214.2	0.0753	mg/L	0.00176	0.0753	mg/L	0.00176	2.34%
Al 308.215†	720446.4	32.09	mg/L	1.050	32.09	mg/L	1.050	3.27%
Be 313.107†	-787.7	-0.00018	mg/L	0.000070	-0.00018	mg/L	0.000070	39.93%
Cu 324.752†	5202.6	0.0218	mg/L	0.00083	0.0218	mg/L	0.00083	3.78%
Ag 338.289†	-3534.4	-0.0255	mg/L	0.00108	-0.0255	mg/L	0.00108	4.23%
Na 330.237†	-383.2	-0.3192	mg/L	0.11557	-0.3192	mg/L	0.11557	36.20%
Ca 227.546†	-116.4	-1.313	mg/L	0.1033	-1.313	mg/L	0.1033	7.87%
Al RADIAL†	54173.3	32.40	mg/L	0.075	32.40	mg/L	0.075	0.23%
Fe RADIAL†	16724.3	37.75	mg/L	0.295	37.75	mg/L	0.295	0.78%
Ca RADIAL†	2586.7	0.4290	mg/L	0.01438	0.4290	mg/L	0.01438	3.35%
K RADIAL†	1595.7	1.151	mg/L	0.0811	1.151	mg/L	0.0811	7.04%
Mg RADIAL†	640.8	1.562	mg/L	0.0428	1.562	mg/L	0.0428	2.74%
Na RADIAL†	-1558.6	-0.2074	mg/L	0.02171	-0.2074	mg/L	0.02171	10.47%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 67
Sample ID: BE30883-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 149
Date Collected: 5/15/2023 2:11:21 PM
Data Type: Reprocessed on 5/16/2023 9:08:56 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30883-MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	18055417.6	4.608	mg/L	0.0637	4.608	mg/L	0.0637	1.38%
Y RADIAL	336431.7	5.048	mg/L	0.0906	5.048	mg/L	0.0906	1.79%
As 188.979†	1189.4	1.711	mg/L	0.0346	1.711	mg/L	0.0346	2.02%
Tl 190.801†	1389.0	1.875	mg/L	0.0234	1.875	mg/L	0.0234	1.25%
Se 196.026†	1102.5	1.386	mg/L	0.0363	1.386	mg/L	0.0363	2.62%
Zn 206.200†	9470.1	0.5477	mg/L	0.00828	0.5477	mg/L	0.00828	1.51%
Sb 206.836†	128.2	0.1151	mg/L	0.00718	0.1151	mg/L	0.00718	6.24%
Pb 220.353†	2997.3	0.5367	mg/L	0.00706	0.5367	mg/L	0.00706	1.31%
Cd 226.502†	4276.0	0.0474	mg/L	0.00070	0.0474	mg/L	0.00070	1.48%
Co 228.616†	14177.9	0.5241	mg/L	0.00891	0.5241	mg/L	0.00891	1.70%
Ni 232.003†	6366.9	0.5281	mg/L	0.00740	0.5281	mg/L	0.00740	1.40%
Ba 233.527†	116923.7	2.134	mg/L	0.0436	2.134	mg/L	0.0436	2.04%
Mn 257.610†	380739.1	0.6443	mg/L	0.01230	0.6443	mg/L	0.01230	1.91%
Cr 267.716†	33642.1	0.2779	mg/L	0.00634	0.2779	mg/L	0.00634	2.28%
Fe 273.955†	828063.4	38.18	mg/L	0.821	38.18	mg/L	0.821	2.15%
Mg 279.077†	37449.8	2.269	mg/L	0.0595	2.269	mg/L	0.0595	2.62%
V 292.402†	130068.5	0.5584	mg/L	0.00836	0.5584	mg/L	0.00836	1.50%
Al 308.215†	728176.9	32.44	mg/L	0.782	32.44	mg/L	0.782	2.41%
Be 313.107†	217525.7	0.04872	mg/L	0.000799	0.04872	mg/L	0.000799	1.64%
Cu 324.752†	80733.0	0.2898	mg/L	0.00525	0.2898	mg/L	0.00525	1.81%
Ag 338.289†	4154.9	0.0283	mg/L	0.00214	0.0283	mg/L	0.00214	7.56%
Na 330.237†	302.2	0.5844	mg/L	0.16372	0.5844	mg/L	0.16372	28.02%
Ca 227.546†	-35.3	-0.3985	mg/L	0.04931	-0.3985	mg/L	0.04931	12.38%
Al RADIAL†	55036.3	32.92	mg/L	0.191	32.92	mg/L	0.191	0.58%
Fe RADIAL†	17650.3	39.84	mg/L	0.700	39.84	mg/L	0.700	1.76%
Ca RADIAL†	8614.6	1.429	mg/L	0.0407	1.429	mg/L	0.0407	2.85%
K RADIAL†	2980.9	2.150	mg/L	0.0595	2.150	mg/L	0.0595	2.77%
Mg RADIAL†	1006.3	2.453	mg/L	0.0545	2.453	mg/L	0.0545	2.22%
Na RADIAL†	5712.2	0.7601	mg/L	0.00777	0.7601	mg/L	0.00777	1.02%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 68
Sample ID: BE30883-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 150
Date Collected: 5/15/2023 2:14:06 PM
Data Type: Reprocessed on 5/16/2023 9:08:57 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30883-PS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17799942.1	4.543	mg/L	0.1602	4.543	mg/L	0.1602	3.53%
Y RADIAL	327921.1	4.920	mg/L	0.1195	4.920	mg/L	0.1195	2.43%
As 188.979†	1777.6	2.550	mg/L	0.0781	2.550	mg/L	0.0781	3.06%
Tl 190.801†	1906.7	2.572	mg/L	0.0798	2.572	mg/L	0.0798	3.10%
Se 196.026†	1628.8	2.070	mg/L	0.0588	2.070	mg/L	0.0588	2.84%
Zn 206.200†	12199.1	0.7051	mg/L	0.02233	0.7051	mg/L	0.02233	3.17%
Sb 206.836†	383.2	0.3169	mg/L	0.01062	0.3169	mg/L	0.01062	3.35%
Pb 220.353†	4019.9	0.7128	mg/L	0.02184	0.7128	mg/L	0.02184	3.06%
Cd 226.502†	5689.7	0.0643	mg/L	0.00199	0.0643	mg/L	0.00199	3.09%
Co 228.616†	18238.1	0.6740	mg/L	0.01500	0.6740	mg/L	0.01500	2.23%
Ni 232.003†	8254.7	0.6822	mg/L	0.01860	0.6822	mg/L	0.01860	2.73%
Ba 233.527†	152960.8	2.792	mg/L	0.0706	2.792	mg/L	0.0706	2.53%
Mn 257.610†	560584.7	0.9477	mg/L	0.01910	0.9477	mg/L	0.01910	2.02%
Cr 267.716†	40933.5	0.3382	mg/L	0.00861	0.3382	mg/L	0.00861	2.55%
Fe 273.955†	859825.9	39.65	mg/L	0.782	39.65	mg/L	0.782	1.97%
Mg 279.077†	47437.2	2.874	mg/L	0.0678	2.874	mg/L	0.0678	2.36%
V 292.402†	168995.3	0.7266	mg/L	0.01828	0.7266	mg/L	0.01828	2.52%
Al 308.215†	890314.1	39.66	mg/L	1.102	39.66	mg/L	1.102	2.78%
Be 313.107†	285798.9	0.06401	mg/L	0.001603	0.06401	mg/L	0.001603	2.50%
Cu 324.752†	107271.7	0.3840	mg/L	0.00995	0.3840	mg/L	0.00995	2.59%
Ag 338.289†	1376.6	0.0088	mg/L	0.00058	0.0088	mg/L	0.00058	6.61%
Na 330.237†	282.1	0.5629	mg/L	0.35002	0.5629	mg/L	0.35002	62.18%
Ca 227.546†	-19.3	-0.2181	mg/L	0.02881	-0.2181	mg/L	0.02881	13.20%
Al RADIAL†	64826.8	38.77	mg/L	0.443	38.77	mg/L	0.443	1.14%
Fe RADIAL†	18085.4	40.82	mg/L	1.051	40.82	mg/L	1.051	2.57%
Ca RADIAL†	11292.6	1.873	mg/L	0.0530	1.873	mg/L	0.0530	2.83%
K RADIAL†	4052.6	2.924	mg/L	0.0984	2.924	mg/L	0.0984	3.37%
Mg RADIAL†	1232.2	3.004	mg/L	0.0769	3.004	mg/L	0.0769	2.56%
Na RADIAL†	8037.7	1.070	mg/L	0.0259	1.070	mg/L	0.0259	2.42%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 69
Sample ID: SEQ-CCV6
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 2:16:51 PM
Data Type: Reprocessed on 5/16/2023 9:08:58 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV6

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17801686.4	4.544	mg/L	0.0735	4.544	mg/L	0.0735	1.62%
Y RADIAL	326227.8	4.895	mg/L	0.1222	4.895	mg/L	0.1222	2.50%
As 188.979†	360.5	0.5158	mg/L	0.01174	0.5158	mg/L	0.01174	2.28%
Tl 190.801†	390.1	0.5254	mg/L	0.02209	0.5254	mg/L	0.02209	4.20%
Se 196.026†	409.1	0.5261	mg/L	0.01809	0.5261	mg/L	0.01809	3.44%
Zn 206.200†	44630.2	2.572	mg/L	0.0609	2.572	mg/L	0.0609	2.37%
Sb 206.836†	303.6	0.2393	mg/L	0.00668	0.2393	mg/L	0.00668	2.79%
Pb 220.353†	3011.2	0.5198	mg/L	0.00850	0.5198	mg/L	0.00850	1.63%
Cd 226.502†	21196.0	0.2550	mg/L	0.00624	0.2550	mg/L	0.00624	2.45%
Co 228.616†	69572.0	2.568	mg/L	0.0570	2.568	mg/L	0.0570	2.22%
Ni 232.003†	31454.4	2.565	mg/L	0.0634	2.565	mg/L	0.0634	2.47%
Ba 233.527†	579426.6	10.58	mg/L	0.206	10.58	mg/L	0.206	1.95%
Mn 257.610†	1561893.5	2.634	mg/L	0.0525	2.634	mg/L	0.0525	1.99%
Cr 267.716†	123234.2	1.019	mg/L	0.0228	1.019	mg/L	0.0228	2.23%
Fe 273.955†	109952.0	5.070	mg/L	0.1151	5.070	mg/L	0.1151	2.27%
Mg 279.077†	429775.9	26.04	mg/L	0.543	26.04	mg/L	0.543	2.09%
V 292.402†	595363.9	2.572	mg/L	0.0567	2.572	mg/L	0.0567	2.20%
Al 308.215†	229113.0	10.21	mg/L	0.304	10.21	mg/L	0.304	2.97%
Be 313.107†	1166647.4	0.26130	mg/L	0.005384	0.26130	mg/L	0.005384	2.06%
Cu 324.752†	371889.9	1.319	mg/L	0.0406	1.319	mg/L	0.0406	3.08%
Ag 338.289†	175737.3	1.232	mg/L	0.0328	1.232	mg/L	0.0328	2.66%
Na 330.237†	18408.3	24.03	mg/L	0.823	24.03	mg/L	0.823	3.42%
Ca 227.546†	2231.3	25.16	mg/L	0.499	25.16	mg/L	0.499	1.98%
Al RADIAL†	17106.4	10.23	mg/L	0.453	10.23	mg/L	0.453	4.42%
Fe RADIAL†	2315.4	5.226	mg/L	0.1967	5.226	mg/L	0.1967	3.76%
Ca RADIAL†	159018.2	26.37	mg/L	1.026	26.37	mg/L	1.026	3.89%
K RADIAL†	7288.6	5.258	mg/L	0.1703	5.258	mg/L	0.1703	3.24%
Mg RADIAL†	10730.3	26.16	mg/L	0.885	26.16	mg/L	0.885	3.38%
Na RADIAL†	197968.1	26.34	mg/L	0.979	26.34	mg/L	0.979	3.72%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 70
Sample ID: SEQ-CCB6
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 2:19:39 PM
Data Type: Reprocessed on 5/16/2023 9:08:59 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB6

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18043157.9	4.605	mg/L	0.0729	4.605	mg/L	0.0729	1.58%
Y RADIAL	337599.8	5.065	mg/L	0.1357	5.065	mg/L	0.1357	2.68%
As 188.979†	-3.5	-0.0050	mg/L	0.00742	-0.0050	mg/L	0.00742	148.72%
Tl 190.801†	-1.6	-0.0021	mg/L	0.00246	-0.0021	mg/L	0.00246	115.90%
Se 196.026†	-5.8	-0.0076	mg/L	0.00550	-0.0076	mg/L	0.00550	72.79%
Zn 206.200†	24.9	0.0014	mg/L	0.00034	0.0014	mg/L	0.00034	23.85%
Sb 206.836†	13.9	0.0110	mg/L	0.00379	0.0110	mg/L	0.00379	34.57%
Pb 220.353†	-6.7	-0.0011	mg/L	0.00081	-0.0011	mg/L	0.00081	71.29%
Cd 226.502†	10.5	0.0001	mg/L	0.00015	0.0001	mg/L	0.00015	115.79%
Co 228.616†	23.6	0.0009	mg/L	0.00054	0.0009	mg/L	0.00054	61.77%
Ni 232.003†	-37.2	-0.0030	mg/L	0.00047	-0.0030	mg/L	0.00047	15.54%
Ba 233.527†	273.2	0.0050	mg/L	0.00090	0.0050	mg/L	0.00090	18.09%
Mn 257.610†	814.0	0.0014	mg/L	0.00036	0.0014	mg/L	0.00036	25.97%
Cr 267.716†	98.9	0.0008	mg/L	0.00023	0.0008	mg/L	0.00023	27.65%
Fe 273.955†	-3388.9	-0.1563	mg/L	0.00146	-0.1563	mg/L	0.00146	0.93%
Mg 279.077†	-3036.8	-0.1840	mg/L	0.00628	-0.1840	mg/L	0.00628	3.41%
V 292.402†	204.9	0.0009	mg/L	0.00023	0.0009	mg/L	0.00023	25.73%
Al 308.215†	-5770.9	-0.2571	mg/L	0.01135	-0.2571	mg/L	0.01135	4.41%
Be 313.107†	-282.2	-0.00006	mg/L	0.000078	-0.00006	mg/L	0.000078	124.11%
Cu 324.752†	942.9	0.0033	mg/L	0.00060	0.0033	mg/L	0.00060	18.04%
Ag 338.289†	65.8	0.0005	mg/L	0.00064	0.0005	mg/L	0.00064	138.53%
Na 330.237†	-155.6	-0.2029	mg/L	0.11557	-0.2029	mg/L	0.11557	56.96%
Ca 227.546†	-40.2	-0.4533	mg/L	0.09348	-0.4533	mg/L	0.09348	20.62%
Al RADIAL†	-7.1	-0.0042	mg/L	0.00269	-0.0042	mg/L	0.00269	63.58%
Fe RADIAL†	-1.0	-0.0021	mg/L	0.00890	-0.0021	mg/L	0.00890	414.59%
Ca RADIAL†	-87.6	-0.0145	mg/L	0.01121	-0.0145	mg/L	0.01121	77.17%
K RADIAL†	-79.5	-0.0573	mg/L	0.09529	-0.0573	mg/L	0.09529	166.24%
Mg RADIAL†	1.6	0.0039	mg/L	0.01425	0.0039	mg/L	0.01425	364.53%
Na RADIAL†	-1974.7	-0.2628	mg/L	0.02648	-0.2628	mg/L	0.02648	10.08%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 71
Sample ID: SEQ-SRD2
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 151
Date Collected: 5/15/2023 2:22:26 PM
Data Type: Reprocessed on 5/16/2023 9:09:00 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD2

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17822921.1	4.549	mg/L	0.1273	4.549	mg/L	0.1273	2.80%
Y RADIAL	318727.8	4.782	mg/L	0.2036	4.782	mg/L	0.2036	4.26%
As 188.979†	-0.3	0.0035	mg/L	0.00369	0.0035	mg/L	0.00369	104.63%
Tl 190.801†	-8.3	-0.0091	mg/L	0.00349	-0.0091	mg/L	0.00349	38.40%
Se 196.026†	-7.8	-0.0223	mg/L	0.00894	-0.0223	mg/L	0.00894	40.12%
Zn 206.200†	325.4	0.0193	mg/L	0.00030	0.0193	mg/L	0.00030	1.56%
Sb 206.836†	2.1	0.0051	mg/L	0.00229	0.0051	mg/L	0.00229	44.50%
Pb 220.353†	53.0	0.0147	mg/L	0.00132	0.0147	mg/L	0.00132	9.01%
Cd 226.502†	78.3	-0.0001	mg/L	0.00012	-0.0001	mg/L	0.00012	116.71%
Co 228.616†	75.6	0.0030	mg/L	0.00011	0.0030	mg/L	0.00011	3.72%
Ni 232.003†	19.2	0.0039	mg/L	0.00163	0.0039	mg/L	0.00163	42.32%
Ba 233.527†	1099.2	0.0201	mg/L	0.00042	0.0201	mg/L	0.00042	2.09%
Mn 257.610†	40733.6	0.0692	mg/L	0.00163	0.0692	mg/L	0.00163	2.35%
Cr 267.716†	2839.0	0.0234	mg/L	0.00056	0.0234	mg/L	0.00056	2.39%
Fe 273.955†	215260.8	9.926	mg/L	0.2125	9.926	mg/L	0.2125	2.14%
Mg 279.077†	4360.0	0.2641	mg/L	0.00469	0.2641	mg/L	0.00469	1.77%
V 292.402†	4960.2	0.0205	mg/L	0.00137	0.0205	mg/L	0.00137	6.68%
Al 308.215†	205714.1	9.164	mg/L	0.3608	9.164	mg/L	0.3608	3.94%
Be 313.107†	-968.4	-0.00022	mg/L	0.000094	-0.00022	mg/L	0.000094	43.32%
Cu 324.752†	1646.9	0.0067	mg/L	0.00122	0.0067	mg/L	0.00122	18.09%
Ag 338.289†	-1656.0	-0.0118	mg/L	0.00237	-0.0118	mg/L	0.00237	20.06%
Na 330.237†	-240.0	-0.2653	mg/L	0.14719	-0.2653	mg/L	0.14719	55.48%
Ca 227.546†	-61.5	-0.6937	mg/L	0.08713	-0.6937	mg/L	0.08713	12.56%
Al RADIAL†	14789.3	8.845	mg/L	0.2665	8.845	mg/L	0.2665	3.01%
Fe RADIAL†	4421.2	9.978	mg/L	0.6019	9.978	mg/L	0.6019	6.03%
Ca RADIAL†	1267.2	0.2102	mg/L	0.02343	0.2102	mg/L	0.02343	11.15%
K RADIAL†	367.9	0.2654	mg/L	0.11107	0.2654	mg/L	0.11107	41.85%
Mg RADIAL†	173.7	0.4233	mg/L	0.02521	0.4233	mg/L	0.02521	5.95%
Na RADIAL†	-1770.8	-0.2356	mg/L	0.02723	-0.2356	mg/L	0.02723	11.56%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 72
Sample ID: BE30885-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 152
Date Collected: 5/15/2023 2:25:11 PM
Data Type: Reprocessed on 5/16/2023 9:09:01 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30885-BLK1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18288157.5	4.668	mg/L	0.1688	4.668	mg/L	0.1688	3.62%
Y RADIAL	312171.0	4.684	mg/L	0.6697	4.684	mg/L	0.6697	14.30%
As 188.979†	1.2	0.0017	mg/L	0.00481	0.0017	mg/L	0.00481	277.63%
Tl 190.801†	-2.2	-0.0030	mg/L	0.00239	-0.0030	mg/L	0.00239	79.16%
Se 196.026†	-3.8	-0.0050	mg/L	0.01007	-0.0050	mg/L	0.01007	202.16%
Zn 206.200†	74.4	0.0043	mg/L	0.00022	0.0043	mg/L	0.00022	5.23%
Sb 206.836†	3.7	0.0029	mg/L	0.00369	0.0029	mg/L	0.00369	126.62%
Pb 220.353†	8.6	0.0015	mg/L	0.00167	0.0015	mg/L	0.00167	112.19%
Cd 226.502†	9.5	0.0001	mg/L	0.00016	0.0001	mg/L	0.00016	139.54%
Co 228.616†	3.3	0.0001	mg/L	0.00008	0.0001	mg/L	0.00008	67.91%
Ni 232.003†	-42.1	-0.0034	mg/L	0.00285	-0.0034	mg/L	0.00285	83.05%
Ba 233.527†	0.0	0.0000	mg/L	0.00016	0.0000	mg/L	0.00016	>999.9%
Mn 257.610†	281.3	0.0005	mg/L	0.00006	0.0005	mg/L	0.00006	13.32%
Cr 267.716†	388.0	0.0032	mg/L	0.00019	0.0032	mg/L	0.00019	5.91%
Fe 273.955†	-2995.8	-0.1381	mg/L	0.00120	-0.1381	mg/L	0.00120	0.87%
Mg 279.077†	-3171.0	-0.1921	mg/L	0.00178	-0.1921	mg/L	0.00178	0.93%
V 292.402†	-24.6	-0.0001	mg/L	0.00036	-0.0001	mg/L	0.00036	339.22%
Al 308.215†	-5651.4	-0.2518	mg/L	0.00628	-0.2518	mg/L	0.00628	2.49%
Be 313.107†	-993.3	-0.00022	mg/L	0.000015	-0.00022	mg/L	0.000015	6.80%
Cu 324.752†	542.4	0.0019	mg/L	0.00022	0.0019	mg/L	0.00022	11.52%
Ag 338.289†	-618.5	-0.0043	mg/L	0.00061	-0.0043	mg/L	0.00061	14.04%
Na 330.237†	-251.0	-0.3272	mg/L	0.19456	-0.3272	mg/L	0.19456	59.46%
Ca 227.546†	-33.2	-0.3744	mg/L	0.11109	-0.3744	mg/L	0.11109	29.67%
Al RADIAL†	14.5	0.0087	mg/L	0.01052	0.0087	mg/L	0.01052	121.17%
Fe RADIAL†	2.9	0.0067	mg/L	0.00594	0.0067	mg/L	0.00594	89.25%
Ca RADIAL†	387.2	0.0642	mg/L	0.06492	0.0642	mg/L	0.06492	101.09%
K RADIAL†	-51.7	-0.0373	mg/L	0.15126	-0.0373	mg/L	0.15126	405.76%
Mg RADIAL†	-4.0	-0.0098	mg/L	0.02963	-0.0098	mg/L	0.02963	300.97%
Na RADIAL†	-1800.9	-0.2396	mg/L	0.03113	-0.2396	mg/L	0.03113	12.99%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 73
Sample ID: BE30885-SRM1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 153
Date Collected: 5/15/2023 2:27:56 PM
Data Type: Reprocessed on 5/16/2023 9:09:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30885-SRM1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17857629.1	4.558	mg/L	0.1070	4.558	mg/L	0.1070	2.35%
Y RADIAL	330104.3	4.953	mg/L	0.1663	4.953	mg/L	0.1663	3.36%
As 188.979†	1675.5	2.461	mg/L	0.0573	2.461	mg/L	0.0573	2.33%
Tl 190.801†	745.0	1.040	mg/L	0.0224	1.040	mg/L	0.0224	2.15%
Se 196.026†	1828.0	2.156	mg/L	0.0844	2.156	mg/L	0.0844	3.91%
Zn 206.200†	48005.1	2.776	mg/L	0.0524	2.776	mg/L	0.0524	1.89%
Sb 206.836†	877.3	0.7517	mg/L	0.01872	0.7517	mg/L	0.01872	2.49%
Pb 220.353†	18784.7	3.326	mg/L	0.0721	3.326	mg/L	0.0721	2.17%
Cd 226.502†	239483.4	2.869	mg/L	0.0729	2.869	mg/L	0.0729	2.54%
Co 228.616†	34846.2	1.290	mg/L	0.0291	1.290	mg/L	0.0291	2.26%
Ni 232.003†	28703.0	2.382	mg/L	0.0521	2.382	mg/L	0.0521	2.19%
Ba 233.527†	218653.3	3.991	mg/L	0.0989	3.991	mg/L	0.0989	2.48%
Mn 257.610†	2969174.3	5.018	mg/L	0.1256	5.018	mg/L	0.1256	2.50%
Cr 267.716†	301390.2	2.491	mg/L	0.0697	2.491	mg/L	0.0697	2.80%
Fe 273.955†	3729112.5	172.0	mg/L	4.23	172.0	mg/L	4.23	2.46%
Mg 279.077†	497345.2	30.13	mg/L	0.795	30.13	mg/L	0.795	2.64%
V 292.402†	601809.4	2.584	mg/L	0.0655	2.584	mg/L	0.0655	2.54%
Al 308.215†	2552490.1	113.7	mg/L	4.11	113.7	mg/L	4.11	3.62%
Be 313.107†	4473961.1	1.0021	mg/L	0.00789	1.0021	mg/L	0.00789	0.79%
Cu 324.752†	536716.6	1.919	mg/L	0.0584	1.919	mg/L	0.0584	3.04%
Ag 338.289†	99802.1	0.6959	mg/L	0.02219	0.6959	mg/L	0.02219	3.19%
Na 330.237†	3389.5	5.293	mg/L	0.1401	5.293	mg/L	0.1401	2.65%
Ca 227.546†	4765.4	53.73	mg/L	1.309	53.73	mg/L	1.309	2.44%
Al RADIAL†	179194.4	107.2	mg/L	0.63	107.2	mg/L	0.63	0.59%
Fe RADIAL†	80979.1	182.8	mg/L	3.93	182.8	mg/L	3.93	2.15%
Ca RADIAL†	365392.0	60.60	mg/L	0.188	60.60	mg/L	0.188	0.31%
K RADIAL†	36136.9	26.07	mg/L	0.639	26.07	mg/L	0.639	2.45%
Mg RADIAL†	12477.1	30.41	mg/L	0.717	30.41	mg/L	0.717	2.36%
Na RADIAL†	40588.1	5.401	mg/L	0.1370	5.401	mg/L	0.1370	2.54%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 74
Sample ID: 23E0440-19
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 154
Date Collected: 5/15/2023 2:30:04 PM
Data Type: Reprocessed on 5/16/2023 9:09:03 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-19

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17060170.3	4.354	mg/L	0.2401	4.354	mg/L	0.2401	5.51%
Y RADIAL	325332.0	4.881	mg/L	0.1551	4.881	mg/L	0.1551	3.18%
As 188.979†	-5.0	0.0117	mg/L	0.00903	0.0117	mg/L	0.00903	77.06%
Tl 190.801†	-7.6	-0.0003	mg/L	0.00537	-0.0003	mg/L	0.00537	>999.9%
Se 196.026†	-8.6	-0.0689	mg/L	0.00622	-0.0689	mg/L	0.00622	9.03%
Zn 206.200†	1354.4	0.0804	mg/L	0.00384	0.0804	mg/L	0.00384	4.78%
Sb 206.836†	-13.6	0.0056	mg/L	0.00569	0.0056	mg/L	0.00569	101.05%
Pb 220.353†	280.0	0.0745	mg/L	0.00206	0.0745	mg/L	0.00206	2.76%
Cd 226.502†	462.4	0.0006	mg/L	0.00087	0.0006	mg/L	0.00087	142.40%
Co 228.616†	313.8	0.0125	mg/L	0.00042	0.0125	mg/L	0.00042	3.36%
Ni 232.003†	147.8	0.0229	mg/L	0.00729	0.0229	mg/L	0.00729	31.81%
Ba 233.527†	5173.1	0.0944	mg/L	0.00482	0.0944	mg/L	0.00482	5.10%
Mn 257.610†	134089.1	0.2287	mg/L	0.01409	0.2287	mg/L	0.01409	6.16%
Cr 267.716†	9978.2	0.0821	mg/L	0.00477	0.0821	mg/L	0.00477	5.82%
Fe 273.955†	1013396.4	46.73	mg/L	3.457	46.73	mg/L	3.457	7.40%
Mg 279.077†	40652.2	2.463	mg/L	0.1843	2.463	mg/L	0.1843	7.48%
V 292.402†	21563.5	0.0889	mg/L	0.00658	0.0889	mg/L	0.00658	7.40%
Al 308.215†	926903.4	41.29	mg/L	3.428	41.29	mg/L	3.428	8.30%
Be 313.107†	-122.5	-0.00003	mg/L	0.000285	-0.00003	mg/L	0.000285	>999.9%
Cu 324.752†	7268.0	0.0300	mg/L	0.00274	0.0300	mg/L	0.00274	9.13%
Ag 338.289†	-3036.5	-0.0222	mg/L	0.00116	-0.0222	mg/L	0.00116	5.24%
Na 330.237†	-404.3	-0.3012	mg/L	0.17684	-0.3012	mg/L	0.17684	58.72%
Ca 227.546†	-85.8	-0.9675	mg/L	0.17461	-0.9675	mg/L	0.17461	18.05%
Al RADIAL†	67121.8	40.14	mg/L	1.177	40.14	mg/L	1.177	2.93%
Fe RADIAL†	20940.8	47.26	mg/L	1.528	47.26	mg/L	1.528	3.23%
Ca RADIAL†	6824.3	1.132	mg/L	0.0435	1.132	mg/L	0.0435	3.84%
K RADIAL†	2152.5	1.553	mg/L	0.0509	1.553	mg/L	0.0509	3.28%
Mg RADIAL†	986.9	2.406	mg/L	0.0772	2.406	mg/L	0.0772	3.21%
Na RADIAL†	-1397.1	-0.1859	mg/L	0.01702	-0.1859	mg/L	0.01702	9.15%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 75
Sample ID: 23E0440-20
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 155
Date Collected: 5/15/2023 2:32:51 PM
Data Type: Reprocessed on 5/16/2023 9:09:04 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-20

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18101809.5	4.620	mg/L	0.0639	4.620	mg/L	0.0639	1.38%
Y RADIAL	328143.6	4.923	mg/L	0.1399	4.923	mg/L	0.1399	2.84%
As 188.979†	-2.4	0.0173	mg/L	0.00478	0.0173	mg/L	0.00478	27.71%
Tl 190.801†	-11.3	-0.0044	mg/L	0.00925	-0.0044	mg/L	0.00925	210.74%
Se 196.026†	-8.0	-0.0735	mg/L	0.00196	-0.0735	mg/L	0.00196	2.67%
Zn 206.200†	1101.1	0.0660	mg/L	0.00067	0.0660	mg/L	0.00067	1.02%
Sb 206.836†	-14.7	0.0064	mg/L	0.00772	0.0064	mg/L	0.00772	120.10%
Pb 220.353†	185.9	0.0609	mg/L	0.00076	0.0609	mg/L	0.00076	1.25%
Cd 226.502†	395.2	-0.0007	mg/L	0.00039	-0.0007	mg/L	0.00039	58.18%
Co 228.616†	265.4	0.0108	mg/L	0.00008	0.0108	mg/L	0.00008	0.70%
Ni 232.003†	202.2	0.0284	mg/L	0.00485	0.0284	mg/L	0.00485	17.09%
Ba 233.527†	5391.2	0.0984	mg/L	0.00120	0.0984	mg/L	0.00120	1.22%
Mn 257.610†	114787.7	0.1964	mg/L	0.00241	0.1964	mg/L	0.00241	1.23%
Cr 267.716†	9318.5	0.0766	mg/L	0.00052	0.0766	mg/L	0.00052	0.68%
Fe 273.955†	1078084.1	49.71	mg/L	1.641	49.71	mg/L	1.641	3.30%
Mg 279.077†	45637.7	2.765	mg/L	0.0360	2.765	mg/L	0.0360	1.30%
V 292.402†	22285.8	0.0916	mg/L	0.00128	0.0916	mg/L	0.00128	1.40%
Al 308.215†	1205987.7	53.72	mg/L	1.939	53.72	mg/L	1.939	3.61%
Be 313.107†	466.4	0.00010	mg/L	0.000088	0.00010	mg/L	0.000088	83.86%
Cu 324.752†	6965.0	0.0293	mg/L	0.00038	0.0293	mg/L	0.00038	1.31%
Ag 338.289†	-3024.3	-0.0222	mg/L	0.00112	-0.0222	mg/L	0.00112	5.06%
Na 330.237†	-356.0	-0.2169	mg/L	0.19173	-0.2169	mg/L	0.19173	88.42%
Ca 227.546†	-111.6	-1.258	mg/L	0.0786	-1.258	mg/L	0.0786	6.24%
Al RADIAL†	85871.8	51.36	mg/L	0.516	51.36	mg/L	0.516	1.00%
Fe RADIAL†	22922.4	51.73	mg/L	1.444	51.73	mg/L	1.444	2.79%
Ca RADIAL†	5300.2	0.8790	mg/L	0.03797	0.8790	mg/L	0.03797	4.32%
K RADIAL†	2589.8	1.868	mg/L	0.0473	1.868	mg/L	0.0473	2.53%
Mg RADIAL†	1166.0	2.842	mg/L	0.0800	2.842	mg/L	0.0800	2.81%
Na RADIAL†	-1584.4	-0.2108	mg/L	0.00632	-0.2108	mg/L	0.00632	3.00%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 76
Sample ID: 23E0440-21
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 156
Date Collected: 5/15/2023 2:35:37 PM
Data Type: Reprocessed on 5/16/2023 9:09:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-21

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17853380.3	4.557	mg/L	0.1050	4.557	mg/L	0.1050	2.30%
Y RADIAL	324282.7	4.866	mg/L	0.0958	4.866	mg/L	0.0958	1.97%
As 188.979†	-5.8	0.0187	mg/L	0.00716	0.0187	mg/L	0.00716	38.24%
Tl 190.801†	-3.3	0.0098	mg/L	0.00596	0.0098	mg/L	0.00596	61.02%
Se 196.026†	-38.2	-0.1321	mg/L	0.00943	-0.1321	mg/L	0.00943	7.14%
Zn 206.200†	907.3	0.0557	mg/L	0.00140	0.0557	mg/L	0.00140	2.52%
Sb 206.836†	-11.5	0.0144	mg/L	0.00392	0.0144	mg/L	0.00392	27.23%
Pb 220.353†	209.2	0.0737	mg/L	0.00109	0.0737	mg/L	0.00109	1.48%
Cd 226.502†	538.0	-0.0006	mg/L	0.00013	-0.0006	mg/L	0.00013	21.55%
Co 228.616†	233.4	0.0100	mg/L	0.00020	0.0100	mg/L	0.00020	1.98%
Ni 232.003†	149.2	0.0277	mg/L	0.00771	0.0277	mg/L	0.00771	27.86%
Ba 233.527†	4289.5	0.0783	mg/L	0.00184	0.0783	mg/L	0.00184	2.35%
Mn 257.610†	101421.5	0.1748	mg/L	0.00621	0.1748	mg/L	0.00621	3.56%
Cr 267.716†	14499.9	0.1193	mg/L	0.00339	0.1193	mg/L	0.00339	2.84%
Fe 273.955†	1423974.3	65.66	mg/L	1.060	65.66	mg/L	1.060	1.61%
Mg 279.077†	29951.2	1.815	mg/L	0.0700	1.815	mg/L	0.0700	3.86%
V 292.402†	21915.8	0.0886	mg/L	0.00333	0.0886	mg/L	0.00333	3.76%
Al 308.215†	682329.8	30.40	mg/L	0.679	30.40	mg/L	0.679	2.23%
Be 313.107†	646.1	0.00014	mg/L	0.000037	0.00014	mg/L	0.000037	25.81%
Cu 324.752†	5387.6	0.0252	mg/L	0.00102	0.0252	mg/L	0.00102	4.04%
Ag 338.289†	-2758.4	-0.0207	mg/L	0.00057	-0.0207	mg/L	0.00057	2.76%
Na 330.237†	-469.3	-0.2891	mg/L	0.07452	-0.2891	mg/L	0.07452	25.78%
Ca 227.546†	-99.2	-1.119	mg/L	0.1673	-1.119	mg/L	0.1673	14.95%
Al RADIAL†	51437.9	30.76	mg/L	0.244	30.76	mg/L	0.244	0.79%
Fe RADIAL†	29916.8	67.52	mg/L	0.391	67.52	mg/L	0.391	0.58%
Ca RADIAL†	9571.6	1.587	mg/L	0.0351	1.587	mg/L	0.0351	2.21%
K RADIAL†	1929.6	1.392	mg/L	0.0505	1.392	mg/L	0.0505	3.63%
Mg RADIAL†	772.9	1.884	mg/L	0.0409	1.884	mg/L	0.0409	2.17%
Na RADIAL†	-1554.5	-0.2068	mg/L	0.02259	-0.2068	mg/L	0.02259	10.92%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 77
Sample ID: 23E0440-22
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 157
Date Collected: 5/15/2023 2:38:23 PM
Data Type: Reprocessed on 5/16/2023 9:09:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0440-22

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17833455.6	4.552	mg/L	0.0863	4.552	mg/L	0.0863	1.90%
Y RADIAL	319829.3	4.799	mg/L	0.2145	4.799	mg/L	0.2145	4.47%
As 188.979†	-4.8	0.0220	mg/L	0.01130	0.0220	mg/L	0.01130	51.33%
Tl 190.801†	-11.6	-0.0004	mg/L	0.00482	-0.0004	mg/L	0.00482	>999.9%
Se 196.026†	-23.0	-0.1180	mg/L	0.01531	-0.1180	mg/L	0.01531	12.97%
Zn 206.200†	1333.2	0.0804	mg/L	0.00142	0.0804	mg/L	0.00142	1.77%
Sb 206.836†	-16.3	0.0123	mg/L	0.00646	0.0123	mg/L	0.00646	52.62%
Pb 220.353†	202.8	0.0753	mg/L	0.00199	0.0753	mg/L	0.00199	2.64%
Cd 226.502†	534.0	-0.0011	mg/L	0.00037	-0.0011	mg/L	0.00037	32.07%
Co 228.616†	320.0	0.0133	mg/L	0.00025	0.0133	mg/L	0.00025	1.85%
Ni 232.003†	338.9	0.0442	mg/L	0.00777	0.0442	mg/L	0.00777	17.56%
Ba 233.527†	7346.1	0.1341	mg/L	0.00190	0.1341	mg/L	0.00190	1.42%
Mn 257.610†	140001.5	0.2401	mg/L	0.00432	0.2401	mg/L	0.00432	1.80%
Cr 267.716†	11660.3	0.0957	mg/L	0.00127	0.0957	mg/L	0.00127	1.33%
Fe 273.955†	1423215.5	65.63	mg/L	0.805	65.63	mg/L	0.805	1.23%
Mg 279.077†	63947.8	3.874	mg/L	0.0587	3.874	mg/L	0.0587	1.52%
V 292.402†	30837.6	0.1267	mg/L	0.00201	0.1267	mg/L	0.00201	1.59%
Al 308.215†	1685368.1	75.08	mg/L	1.280	75.08	mg/L	1.280	1.70%
Be 313.107†	659.3	0.00015	mg/L	0.000043	0.00015	mg/L	0.000043	28.83%
Cu 324.752†	7853.3	0.0343	mg/L	0.00119	0.0343	mg/L	0.00119	3.46%
Ag 338.289†	-3455.3	-0.0257	mg/L	0.00085	-0.0257	mg/L	0.00085	3.29%
Na 330.237†	-405.0	-0.1828	mg/L	0.18189	-0.1828	mg/L	0.18189	99.48%
Ca 227.546†	-201.8	-2.275	mg/L	0.1101	-2.275	mg/L	0.1101	4.84%
Al RADIAL†	129134.9	77.23	mg/L	4.356	77.23	mg/L	4.356	5.64%
Fe RADIAL†	32001.7	72.23	mg/L	3.157	72.23	mg/L	3.157	4.37%
Ca RADIAL†	3412.8	0.5660	mg/L	0.04263	0.5660	mg/L	0.04263	7.53%
K RADIAL†	3581.6	2.584	mg/L	0.1201	2.584	mg/L	0.1201	4.65%
Mg RADIAL†	1642.5	4.004	mg/L	0.1647	4.004	mg/L	0.1647	4.11%
Na RADIAL†	-1393.9	-0.1855	mg/L	0.02726	-0.1855	mg/L	0.02726	14.70%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 78
Sample ID: 23E0444-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 158
Date Collected: 5/15/2023 2:41:09 PM
Data Type: Reprocessed on 5/16/2023 9:09:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16996221.4	4.338	mg/L	0.0758	4.338	mg/L	0.0758	1.75%
Y RADIAL	324362.1	4.867	mg/L	0.0709	4.867	mg/L	0.0709	1.46%
As 188.979†	-6.8	0.0363	mg/L	0.01619	0.0363	mg/L	0.01619	44.63%
Tl 190.801†	-15.5	0.0033	mg/L	0.00259	0.0033	mg/L	0.00259	78.27%
Se 196.026†	89.6	-0.0237	mg/L	0.00669	-0.0237	mg/L	0.00669	28.26%
Zn 206.200†	9911.1	0.5769	mg/L	0.00765	0.5769	mg/L	0.00765	1.33%
Sb 206.836†	-24.4	0.0115	mg/L	0.00313	0.0115	mg/L	0.00313	27.30%
Pb 220.353†	4843.9	0.8958	mg/L	0.01708	0.8958	mg/L	0.01708	1.91%
Cd 226.502†	1092.4	0.0011	mg/L	0.00014	0.0011	mg/L	0.00014	12.82%
Co 228.616†	1976.6	0.0753	mg/L	0.00132	0.0753	mg/L	0.00132	1.75%
Ni 232.003†	4450.1	0.3892	mg/L	0.02703	0.3892	mg/L	0.02703	6.94%
Ba 233.527†	21107.4	0.3853	mg/L	0.00958	0.3853	mg/L	0.00958	2.49%
Mn 257.610†	1976135.3	3.339	mg/L	0.0508	3.339	mg/L	0.0508	1.52%
Cr 267.716†	16944.9	0.1390	mg/L	0.00522	0.1390	mg/L	0.00522	3.76%
Fe 273.955†	2445429.3	112.8	mg/L	1.86	112.8	mg/L	1.86	1.65%
Mg 279.077†	1201110.0	72.77	mg/L	1.200	72.77	mg/L	1.200	1.65%
V 292.402†	48609.5	0.1997	mg/L	0.00708	0.1997	mg/L	0.00708	3.55%
Al 308.215†	1343388.6	59.85	mg/L	1.148	59.85	mg/L	1.148	1.92%
Be 313.107†	9881.2	0.00221	mg/L	0.000059	0.00221	mg/L	0.000059	2.67%
Cu 324.752†	55680.0	0.2077	mg/L	0.00659	0.2077	mg/L	0.00659	3.17%
Ag 338.289†	-4723.2	-0.0354	mg/L	0.00369	-0.0354	mg/L	0.00369	10.42%
Na 330.237†	3140.4	4.644	mg/L	0.1605	4.644	mg/L	0.1605	3.46%
Ca 227.546†	9394.4	105.9	mg/L	5.43	105.9	mg/L	5.43	5.13%
Al RADIAL†	95174.6	56.92	mg/L	0.572	56.92	mg/L	0.572	1.00%
Fe RADIAL†	50964.0	115.0	mg/L	1.47	115.0	mg/L	1.47	1.28%
Ca RADIAL†	636669.3	105.6	mg/L	1.73	105.6	mg/L	1.73	1.64%
K RADIAL†	11062.0	7.980	mg/L	0.1135	7.980	mg/L	0.1135	1.42%
Mg RADIAL†	28916.6	70.49	mg/L	0.813	70.49	mg/L	0.813	1.15%
Na RADIAL†	32720.2	4.354	mg/L	0.0377	4.354	mg/L	0.0377	0.87%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 79
Sample ID: 23E0444-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 159
Date Collected: 5/15/2023 2:43:15 PM
Data Type: Reprocessed on 5/16/2023 9:09:07 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17270777.7	4.408	mg/L	0.1133	4.408	mg/L	0.1133	2.57%
Y RADIAL	320130.2	4.803	mg/L	0.2173	4.803	mg/L	0.2173	4.52%
As 188.979†	25.4	0.0926	mg/L	0.00373	0.0926	mg/L	0.00373	4.03%
Tl 190.801†	-18.1	0.0052	mg/L	0.00734	0.0052	mg/L	0.00734	140.21%
Se 196.026†	4.8	-0.1658	mg/L	0.01780	-0.1658	mg/L	0.01780	10.73%
Zn 206.200†	23622.0	1.368	mg/L	0.0293	1.368	mg/L	0.0293	2.14%
Sb 206.836†	-30.8	0.0209	mg/L	0.00662	0.0209	mg/L	0.00662	31.66%
Pb 220.353†	10873.9	1.945	mg/L	0.0457	1.945	mg/L	0.0457	2.35%
Cd 226.502†	1644.5	0.0050	mg/L	0.00128	0.0050	mg/L	0.00128	25.53%
Co 228.616†	1637.3	0.0633	mg/L	0.00137	0.0633	mg/L	0.00137	2.17%
Ni 232.003†	3556.5	0.3223	mg/L	0.01112	0.3223	mg/L	0.01112	3.45%
Ba 233.527†	44196.7	0.8067	mg/L	0.02495	0.8067	mg/L	0.02495	3.09%
Mn 257.610†	2551602.6	4.311	mg/L	0.0764	4.311	mg/L	0.0764	1.77%
Cr 267.716†	20319.6	0.1667	mg/L	0.00447	0.1667	mg/L	0.00447	2.68%
Fe 273.955†	2845104.3	131.2	mg/L	2.59	131.2	mg/L	2.59	1.97%
Mg 279.077†	467577.2	28.33	mg/L	0.662	28.33	mg/L	0.662	2.34%
V 292.402†	86055.6	0.3592	mg/L	0.01020	0.3592	mg/L	0.01020	2.84%
Al 308.215†	2286787.8	101.9	mg/L	1.17	101.9	mg/L	1.17	1.15%
Be 313.107†	18352.1	0.00411	mg/L	0.000221	0.00411	mg/L	0.000221	5.38%
Cu 324.752†	104630.1	0.3836	mg/L	0.01320	0.3836	mg/L	0.01320	3.44%
Ag 338.289†	-4362.8	-0.0334	mg/L	0.00239	-0.0334	mg/L	0.00239	7.14%
Na 330.237†	707.3	1.596	mg/L	0.2986	1.596	mg/L	0.2986	18.70%
Ca 227.546†	3436.5	38.75	mg/L	0.876	38.75	mg/L	0.876	2.26%
Al RADIAL†	167519.1	100.2	mg/L	6.70	100.2	mg/L	6.70	6.69%
Fe RADIAL†	62482.6	141.0	mg/L	7.22	141.0	mg/L	7.22	5.12%
Ca RADIAL†	273143.6	45.30	mg/L	2.707	45.30	mg/L	2.707	5.98%
K RADIAL†	8770.3	6.327	mg/L	0.3462	6.327	mg/L	0.3462	5.47%
Mg RADIAL†	11912.3	29.04	mg/L	1.453	29.04	mg/L	1.453	5.00%
Na RADIAL†	8125.4	1.081	mg/L	0.0804	1.081	mg/L	0.0804	7.43%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 80
Sample ID: 23E0444-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 160
Date Collected: 5/15/2023 2:45:21 PM
Data Type: Reprocessed on 5/16/2023 9:09:08 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17788272.5	4.540	mg/L	0.0860	4.540	mg/L	0.0860	1.89%
Y RADIAL	331165.9	4.969	mg/L	0.1241	4.969	mg/L	0.1241	2.50%
As 188.979†	24.7	0.1512	mg/L	0.00746	0.1512	mg/L	0.00746	4.94%
Tl 190.801†	-18.2	0.0365	mg/L	0.00709	0.0365	mg/L	0.00709	19.44%
Se 196.026†	-90.6	-0.4716	mg/L	0.03142	-0.4716	mg/L	0.03142	6.66%
Zn 206.200†	46966.5	2.721	mg/L	0.0612	2.721	mg/L	0.0612	2.25%
Sb 206.836†	-37.7	0.0670	mg/L	0.00781	0.0670	mg/L	0.00781	11.65%
Pb 220.353†	33424.3	5.899	mg/L	0.0947	5.899	mg/L	0.0947	1.61%
Cd 226.502†	2728.2	0.0025	mg/L	0.00153	0.0025	mg/L	0.00153	62.13%
Co 228.616†	1932.5	0.0771	mg/L	0.00095	0.0771	mg/L	0.00095	1.23%
Ni 232.003†	2522.5	0.2723	mg/L	0.01439	0.2723	mg/L	0.01439	5.29%
Ba 233.527†	90423.5	1.650	mg/L	0.0370	1.650	mg/L	0.0370	2.24%
Mn 257.610†	1996919.6	3.384	mg/L	0.0586	3.384	mg/L	0.0586	1.73%
Cr 267.716†	30592.7	0.2502	mg/L	0.00525	0.2502	mg/L	0.00525	2.10%
Fe 273.955†	5737074.6	264.5	mg/L	4.44	264.5	mg/L	4.44	1.68%
Mg 279.077†	356320.1	21.59	mg/L	0.505	21.59	mg/L	0.505	2.34%
V 292.402†	89399.4	0.3602	mg/L	0.00999	0.3602	mg/L	0.00999	2.77%
Al 308.215†	1755447.2	78.20	mg/L	2.211	78.20	mg/L	2.211	2.83%
Be 313.107†	20422.2	0.00457	mg/L	0.000126	0.00457	mg/L	0.000126	2.75%
Cu 324.752†	648975.8	2.327	mg/L	0.0525	2.327	mg/L	0.0525	2.26%
Ag 338.289†	-4028.3	-0.0340	mg/L	0.00088	-0.0340	mg/L	0.00088	2.57%
Na 330.237†	1261.1	3.030	mg/L	0.2475	3.030	mg/L	0.2475	8.17%
Ca 227.546†	3719.0	41.93	mg/L	1.006	41.93	mg/L	1.006	2.40%
Al RADIAL†	127416.2	76.20	mg/L	0.242	76.20	mg/L	0.242	0.32%
Fe RADIAL†	128456.5	289.9	mg/L	8.04	289.9	mg/L	8.04	2.77%
Ca RADIAL†	311411.0	51.65	mg/L	0.400	51.65	mg/L	0.400	0.78%
K RADIAL†	12945.1	9.339	mg/L	0.3085	9.339	mg/L	0.3085	3.30%
Mg RADIAL†	8675.8	21.15	mg/L	0.506	21.15	mg/L	0.506	2.39%
Na RADIAL†	15413.4	2.051	mg/L	0.0695	2.051	mg/L	0.0695	3.39%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 81
Sample ID: SEQ-CCV7
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 2:47:29 PM
Data Type: Reprocessed on 5/16/2023 9:09:09 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV7

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17567152.5	4.484	mg/L	0.1348	4.484	mg/L	0.1348	3.01%
Y RADIAL	320240.8	4.805	mg/L	0.1621	4.805	mg/L	0.1621	3.37%
As 188.979†	365.5	0.5231	mg/L	0.01765	0.5231	mg/L	0.01765	3.37%
Tl 190.801†	397.0	0.5349	mg/L	0.01898	0.5349	mg/L	0.01898	3.55%
Se 196.026†	429.9	0.5529	mg/L	0.02492	0.5529	mg/L	0.02492	4.51%
Zn 206.200†	45795.2	2.639	mg/L	0.0845	2.639	mg/L	0.0845	3.20%
Sb 206.836†	319.1	0.2516	mg/L	0.01158	0.2516	mg/L	0.01158	4.60%
Pb 220.353†	3099.3	0.5350	mg/L	0.01317	0.5350	mg/L	0.01317	2.46%
Cd 226.502†	21716.0	0.2613	mg/L	0.00723	0.2613	mg/L	0.00723	2.77%
Co 228.616†	71359.1	2.634	mg/L	0.0753	2.634	mg/L	0.0753	2.86%
Ni 232.003†	32391.8	2.642	mg/L	0.0812	2.642	mg/L	0.0812	3.07%
Ba 233.527†	587757.4	10.73	mg/L	0.287	10.73	mg/L	0.287	2.67%
Mn 257.610†	1580409.4	2.666	mg/L	0.0767	2.666	mg/L	0.0767	2.88%
Cr 267.716†	126073.5	1.043	mg/L	0.0307	1.043	mg/L	0.0307	2.95%
Fe 273.955†	113327.9	5.226	mg/L	0.1696	5.226	mg/L	0.1696	3.25%
Mg 279.077†	435879.9	26.41	mg/L	0.710	26.41	mg/L	0.710	2.69%
V 292.402†	603730.6	2.608	mg/L	0.0728	2.608	mg/L	0.0728	2.79%
Al 308.215†	231069.6	10.29	mg/L	0.354	10.29	mg/L	0.354	3.44%
Be 313.107†	1185688.2	0.26557	mg/L	0.008007	0.26557	mg/L	0.008007	3.01%
Cu 324.752†	374501.4	1.328	mg/L	0.0450	1.328	mg/L	0.0450	3.39%
Ag 338.289†	177189.4	1.242	mg/L	0.0394	1.242	mg/L	0.0394	3.17%
Na 330.237†	18787.9	24.52	mg/L	0.574	24.52	mg/L	0.574	2.34%
Ca 227.546†	2284.5	25.76	mg/L	0.492	25.76	mg/L	0.492	1.91%
Al RADIAL†	17605.0	10.53	mg/L	0.122	10.53	mg/L	0.122	1.16%
Fe RADIAL†	2409.2	5.437	mg/L	0.1928	5.437	mg/L	0.1928	3.55%
Ca RADIAL†	163538.1	27.12	mg/L	0.405	27.12	mg/L	0.405	1.49%
K RADIAL†	7559.4	5.453	mg/L	0.1947	5.453	mg/L	0.1947	3.57%
Mg RADIAL†	11170.5	27.23	mg/L	1.005	27.23	mg/L	1.005	3.69%
Na RADIAL†	202860.1	26.99	mg/L	0.242	26.99	mg/L	0.242	0.90%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 82
Sample ID: SEQ-CCB7
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 2:50:16 PM
Data Type: Reprocessed on 5/16/2023 9:09:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB7

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18171141.7	4.638	mg/L	0.2627	4.638	mg/L	0.2627	5.66%
Y RADIAL	330039.8	4.952	mg/L	0.1659	4.952	mg/L	0.1659	3.35%
As 188.979†	2.3	0.0033	mg/L	0.00887	0.0033	mg/L	0.00887	272.13%
Tl 190.801†	-5.5	-0.0073	mg/L	0.00412	-0.0073	mg/L	0.00412	56.21%
Se 196.026†	-1.7	-0.0022	mg/L	0.01071	-0.0022	mg/L	0.01071	484.07%
Zn 206.200†	27.3	0.0016	mg/L	0.00035	0.0016	mg/L	0.00035	22.35%
Sb 206.836†	13.4	0.0106	mg/L	0.00621	0.0106	mg/L	0.00621	58.65%
Pb 220.353†	8.8	0.0015	mg/L	0.00079	0.0015	mg/L	0.00079	52.19%
Cd 226.502†	13.5	0.0002	mg/L	0.00019	0.0002	mg/L	0.00019	120.05%
Co 228.616†	28.8	0.0011	mg/L	0.00036	0.0011	mg/L	0.00036	34.20%
Ni 232.003†	-32.3	-0.0026	mg/L	0.00297	-0.0026	mg/L	0.00297	112.78%
Ba 233.527†	282.3	0.0052	mg/L	0.00052	0.0052	mg/L	0.00052	10.06%
Mn 257.610†	846.9	0.0014	mg/L	0.00017	0.0014	mg/L	0.00017	11.75%
Cr 267.716†	76.0	0.0006	mg/L	0.00024	0.0006	mg/L	0.00024	37.61%
Fe 273.955†	-3294.3	-0.1519	mg/L	0.00185	-0.1519	mg/L	0.00185	1.22%
Mg 279.077†	-3030.4	-0.1836	mg/L	0.00514	-0.1836	mg/L	0.00514	2.80%
V 292.402†	262.0	0.0011	mg/L	0.00059	0.0011	mg/L	0.00059	52.09%
Al 308.215†	-5787.1	-0.2578	mg/L	0.01322	-0.2578	mg/L	0.01322	5.13%
Be 313.107†	-210.1	-0.00005	mg/L	0.000160	-0.00005	mg/L	0.000160	339.67%
Cu 324.752†	1375.2	0.0049	mg/L	0.00118	0.0049	mg/L	0.00118	24.19%
Ag 338.289†	236.9	0.0017	mg/L	0.00091	0.0017	mg/L	0.00091	54.59%
Na 330.237†	-120.0	-0.1564	mg/L	0.13466	-0.1564	mg/L	0.13466	86.09%
Ca 227.546†	-40.9	-0.4616	mg/L	0.12030	-0.4616	mg/L	0.12030	26.06%
Al RADIAL†	-8.7	-0.0052	mg/L	0.00606	-0.0052	mg/L	0.00606	115.73%
Fe RADIAL†	-0.3	-0.0006	mg/L	0.00720	-0.0006	mg/L	0.00720	>999.9%
Ca RADIAL†	3.1	0.0005	mg/L	0.00932	0.0005	mg/L	0.00932	>999.9%
K RADIAL†	-73.8	-0.0532	mg/L	0.17013	-0.0532	mg/L	0.17013	319.72%
Mg RADIAL†	8.3	0.0203	mg/L	0.01519	0.0203	mg/L	0.01519	74.83%
Na RADIAL†	-1850.9	-0.2463	mg/L	0.02175	-0.2463	mg/L	0.02175	8.83%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 83
Sample ID: 23E0444-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 201
Date Collected: 5/15/2023 2:53:02 PM
Data Type: Reprocessed on 5/16/2023 9:09:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16706191.3	4.264	mg/L	0.1072	4.264	mg/L	0.1072	2.51%
Y RADIAL	319839.5	4.799	mg/L	0.1308	4.799	mg/L	0.1308	2.73%
As 188.979†	32.7	0.1073	mg/L	0.01599	0.1073	mg/L	0.01599	14.91%
Tl 190.801†	-9.5	0.0190	mg/L	0.00977	0.0190	mg/L	0.00977	51.35%
Se 196.026†	111.2	-0.0403	mg/L	0.01115	-0.0403	mg/L	0.01115	27.67%
Zn 206.200†	23377.0	1.355	mg/L	0.0328	1.355	mg/L	0.0328	2.42%
Sb 206.836†	-34.4	0.0085	mg/L	0.00821	0.0085	mg/L	0.00821	96.61%
Pb 220.353†	10398.5	1.870	mg/L	0.0404	1.870	mg/L	0.0404	2.16%
Cd 226.502†	1814.6	0.0060	mg/L	0.00045	0.0060	mg/L	0.00045	7.63%
Co 228.616†	1711.8	0.0662	mg/L	0.00153	0.0662	mg/L	0.00153	2.31%
Ni 232.003†	3951.8	0.3570	mg/L	0.01156	0.3570	mg/L	0.01156	3.24%
Ba 233.527†	33932.5	0.6193	mg/L	0.01225	0.6193	mg/L	0.01225	1.98%
Mn 257.610†	1784689.1	3.018	mg/L	0.0522	3.018	mg/L	0.0522	1.73%
Cr 267.716†	23674.5	0.1943	mg/L	0.00405	0.1943	mg/L	0.00405	2.08%
Fe 273.955†	3249470.1	149.8	mg/L	2.50	149.8	mg/L	2.50	1.67%
Mg 279.077†	2203464.8	133.5	mg/L	2.28	133.5	mg/L	2.28	1.71%
V 292.402†	78036.8	0.3235	mg/L	0.00444	0.3235	mg/L	0.00444	1.37%
Al 308.215†	2279772.4	101.6	mg/L	1.29	101.6	mg/L	1.29	1.27%
Be 313.107†	12487.4	0.00280	mg/L	0.000176	0.00280	mg/L	0.000176	6.28%
Cu 324.752†	107777.7	0.3957	mg/L	0.00891	0.3957	mg/L	0.00891	2.25%
Ag 338.289†	-5509.6	-0.0417	mg/L	0.00222	-0.0417	mg/L	0.00222	5.32%
Na 330.237†	3937.5	5.859	mg/L	0.1581	5.859	mg/L	0.1581	2.70%
Ca 227.546†	17700.6	199.6	mg/L	6.00	199.6	mg/L	6.00	3.01%
Al RADIAL†	153803.7	91.99	mg/L	0.434	91.99	mg/L	0.434	0.47%
Fe RADIAL†	67211.0	151.7	mg/L	1.11	151.7	mg/L	1.11	0.73%
Ca RADIAL†	1162221.8	192.7	mg/L	6.06	192.7	mg/L	6.06	3.14%
K RADIAL†	10828.5	7.812	mg/L	0.1058	7.812	mg/L	0.1058	1.35%
Mg RADIAL†	51620.0	125.8	mg/L	0.79	125.8	mg/L	0.79	0.63%
Na RADIAL†	39580.3	5.267	mg/L	0.0229	5.267	mg/L	0.0229	0.44%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 84
Sample ID: 23E0444-05
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 202
Date Collected: 5/15/2023 2:55:08 PM
Data Type: Reprocessed on 5/16/2023 9:09:12 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17346956.7	4.428	mg/L	0.0590	4.428	mg/L	0.0590	1.33%
Y RADIAL	322280.8	4.836	mg/L	0.0779	4.836	mg/L	0.0779	1.61%
As 188.979†	-1.7	0.0384	mg/L	0.00943	0.0384	mg/L	0.00943	24.58%
Tl 190.801†	-12.3	0.0048	mg/L	0.00608	0.0048	mg/L	0.00608	125.76%
Se 196.026†	53.7	-0.0543	mg/L	0.00901	-0.0543	mg/L	0.00901	16.59%
Zn 206.200†	11692.6	0.6789	mg/L	0.00518	0.6789	mg/L	0.00518	0.76%
Sb 206.836†	-21.6	0.0130	mg/L	0.00509	0.0130	mg/L	0.00509	39.31%
Pb 220.353†	5313.6	0.9690	mg/L	0.01333	0.9690	mg/L	0.01333	1.38%
Cd 226.502†	1036.0	0.0018	mg/L	0.00033	0.0018	mg/L	0.00033	18.36%
Co 228.616†	1434.8	0.0550	mg/L	0.00081	0.0550	mg/L	0.00081	1.47%
Ni 232.003†	3171.2	0.2819	mg/L	0.00675	0.2819	mg/L	0.00675	2.39%
Ba 233.527†	19022.8	0.3472	mg/L	0.00319	0.3472	mg/L	0.00319	0.92%
Mn 257.610†	1118907.9	1.893	mg/L	0.0315	1.893	mg/L	0.0315	1.67%
Cr 267.716†	15932.9	0.1308	mg/L	0.00035	0.1308	mg/L	0.00035	0.27%
Fe 273.955†	2147173.8	99.01	mg/L	1.625	99.01	mg/L	1.625	1.64%
Mg 279.077†	768270.4	46.54	mg/L	0.899	46.54	mg/L	0.899	1.93%
V 292.402†	44153.6	0.1816	mg/L	0.00122	0.1816	mg/L	0.00122	0.67%
Al 308.215†	1289541.8	57.45	mg/L	1.072	57.45	mg/L	1.072	1.87%
Be 313.107†	7525.4	0.00169	mg/L	0.000182	0.00169	mg/L	0.000182	10.82%
Cu 324.752†	53629.2	0.1993	mg/L	0.00090	0.1993	mg/L	0.00090	0.45%
Ag 338.289†	-4692.8	-0.0349	mg/L	0.00171	-0.0349	mg/L	0.00171	4.89%
Na 330.237†	408.1	1.019	mg/L	0.1062	1.019	mg/L	0.1062	10.42%
Ca 227.546†	5042.4	56.86	mg/L	1.004	56.86	mg/L	1.004	1.77%
Al RADIAL†	91190.0	54.54	mg/L	0.294	54.54	mg/L	0.294	0.54%
Fe RADIAL†	45126.4	101.8	mg/L	0.38	101.8	mg/L	0.38	0.37%
Ca RADIAL†	375081.0	62.21	mg/L	0.217	62.21	mg/L	0.217	0.35%
K RADIAL†	8501.6	6.133	mg/L	0.1047	6.133	mg/L	0.1047	1.71%
Mg RADIAL†	18636.8	45.43	mg/L	0.143	45.43	mg/L	0.143	0.32%
Na RADIAL†	4595.5	0.6115	mg/L	0.01834	0.6115	mg/L	0.01834	3.00%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 85
Sample ID: 23E0444-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 203
Date Collected: 5/15/2023 2:57:16 PM
Data Type: Reprocessed on 5/16/2023 9:09:13 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17546384.1	4.479	mg/L	0.0797	4.479	mg/L	0.0797	1.78%
Y RADIAL	304270.4	4.565	mg/L	0.2512	4.565	mg/L	0.2512	5.50%
As 188.979†	60.8	0.1433	mg/L	0.00509	0.1433	mg/L	0.00509	3.55%
Tl 190.801†	-16.9	0.0070	mg/L	0.00742	0.0070	mg/L	0.00742	105.40%
Se 196.026†	39.5	-0.1215	mg/L	0.01702	-0.1215	mg/L	0.01702	14.02%
Zn 206.200†	28130.1	1.628	mg/L	0.0290	1.628	mg/L	0.0290	1.78%
Sb 206.836†	-20.4	0.0263	mg/L	0.00801	0.0263	mg/L	0.00801	30.42%
Pb 220.353†	12262.5	2.184	mg/L	0.0365	2.184	mg/L	0.0365	1.67%
Cd 226.502†	1402.4	0.0020	mg/L	0.00125	0.0020	mg/L	0.00125	61.62%
Co 228.616†	1289.5	0.0504	mg/L	0.00036	0.0504	mg/L	0.00036	0.72%
Ni 232.003†	2290.4	0.2193	mg/L	0.01659	0.2193	mg/L	0.01659	7.57%
Ba 233.527†	18253.7	0.3332	mg/L	0.00664	0.3332	mg/L	0.00664	1.99%
Mn 257.610†	1285362.1	2.176	mg/L	0.0331	2.176	mg/L	0.0331	1.52%
Cr 267.716†	42655.4	0.3514	mg/L	0.03003	0.3514	mg/L	0.03003	8.55%
Fe 273.955†	2695141.5	124.3	mg/L	1.95	124.3	mg/L	1.95	1.57%
Mg 279.077†	693451.4	42.01	mg/L	0.709	42.01	mg/L	0.709	1.69%
V 292.402†	76417.2	0.3174	mg/L	0.00524	0.3174	mg/L	0.00524	1.65%
Al 308.215†	1662000.1	74.04	mg/L	2.147	74.04	mg/L	2.147	2.90%
Be 313.107†	11583.0	0.00259	mg/L	0.000097	0.00259	mg/L	0.000097	3.76%
Cu 324.752†	105326.3	0.3861	mg/L	0.00527	0.3861	mg/L	0.00527	1.37%
Ag 338.289†	-3513.5	-0.0275	mg/L	0.00178	-0.0275	mg/L	0.00178	6.46%
Na 330.237†	782.9	1.698	mg/L	0.0872	1.698	mg/L	0.0872	5.14%
Ca 227.546†	6042.5	68.13	mg/L	0.885	68.13	mg/L	0.885	1.30%
Al RADIAL†	132490.6	79.24	mg/L	5.506	79.24	mg/L	5.506	6.95%
Fe RADIAL†	62796.8	141.7	mg/L	9.82	141.7	mg/L	9.82	6.93%
Ca RADIAL†	475456.7	78.85	mg/L	6.909	78.85	mg/L	6.909	8.76%
K RADIAL†	9419.2	6.795	mg/L	0.5273	6.795	mg/L	0.5273	7.76%
Mg RADIAL†	18762.4	45.74	mg/L	2.922	45.74	mg/L	2.922	6.39%
Na RADIAL†	9915.7	1.319	mg/L	0.1226	1.319	mg/L	0.1226	9.29%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 86
Sample ID: 23E0452-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 204
Date Collected: 5/15/2023 2:59:21 PM
Data Type: Reprocessed on 5/16/2023 9:09:14 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0452-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16344479.3	4.172	mg/L	0.5790	4.172	mg/L	0.5790	13.88%
Y RADIAL	328203.6	4.924	mg/L	0.1321	4.924	mg/L	0.1321	2.68%
As 188.979†	-21.9	0.0211	mg/L	0.00383	0.0211	mg/L	0.00383	18.16%
Tl 190.801†	-16.6	0.0052	mg/L	0.00883	0.0052	mg/L	0.00883	170.64%
Se 196.026†	-11.3	-0.1742	mg/L	0.01256	-0.1742	mg/L	0.01256	7.21%
Zn 206.200†	7401.1	0.4331	mg/L	0.06888	0.4331	mg/L	0.06888	15.91%
Sb 206.836†	-36.7	0.0121	mg/L	0.01219	0.0121	mg/L	0.01219	100.57%
Pb 220.353†	1589.5	0.3460	mg/L	0.04290	0.3460	mg/L	0.04290	12.40%
Cd 226.502†	1242.1	0.0012	mg/L	0.00275	0.0012	mg/L	0.00275	220.42%
Co 228.616†	1491.5	0.0577	mg/L	0.00808	0.0577	mg/L	0.00808	14.02%
Ni 232.003†	1102.9	0.1200	mg/L	0.01436	0.1200	mg/L	0.01436	11.97%
Ba 233.527†	23913.3	0.4365	mg/L	0.08613	0.4365	mg/L	0.08613	19.73%
Mn 257.610†	1522900.7	2.576	mg/L	0.5669	2.576	mg/L	0.5669	22.01%
Cr 267.716†	18935.1	0.1553	mg/L	0.03071	0.1553	mg/L	0.03071	19.77%
Fe 273.955†	3055876.3	140.9	mg/L	30.92	140.9	mg/L	30.92	21.94%
Mg 279.077†	390372.8	23.65	mg/L	5.214	23.65	mg/L	5.214	22.05%
V 292.402†	54766.4	0.2249	mg/L	0.04723	0.2249	mg/L	0.04723	21.00%
Al 308.215†	1717725.5	76.52	mg/L	17.732	76.52	mg/L	17.732	23.17%
Be 313.107†	4912.3	0.00110	mg/L	0.000155	0.00110	mg/L	0.000155	14.05%
Cu 324.752†	50159.1	0.1896	mg/L	0.03530	0.1896	mg/L	0.03530	18.62%
Ag 338.289†	-6771.4	-0.0501	mg/L	0.00717	-0.0501	mg/L	0.00717	14.31%
Na 330.237†	3328.6	4.965	mg/L	0.9702	4.965	mg/L	0.9702	19.54%
Ca 227.546†	4421.5	49.85	mg/L	9.217	49.85	mg/L	9.217	18.49%
Al RADIAL†	109425.4	65.44	mg/L	0.171	65.44	mg/L	0.171	0.26%
Fe RADIAL†	57940.8	130.8	mg/L	5.05	130.8	mg/L	5.05	3.86%
Ca RADIAL†	308789.6	51.21	mg/L	0.208	51.21	mg/L	0.208	0.41%
K RADIAL†	12064.8	8.704	mg/L	0.3187	8.704	mg/L	0.3187	3.66%
Mg RADIAL†	8546.1	20.83	mg/L	0.762	20.83	mg/L	0.762	3.66%
Na RADIAL†	35906.5	4.778	mg/L	0.1910	4.778	mg/L	0.1910	4.00%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 87
Sample ID: 23E0661-09
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 205
Date Collected: 5/15/2023 3:01:30 PM
Data Type: Reprocessed on 5/16/2023 9:09:15 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0661-09

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16953446.7	4.327	mg/L	0.0427	4.327	mg/L	0.0427	0.99%
Y RADIAL	326373.8	4.897	mg/L	0.0922	4.897	mg/L	0.0922	1.88%
As 188.979†	109.9	0.2622	mg/L	0.01023	0.2622	mg/L	0.01023	3.90%
Tl 190.801†	-26.6	0.0196	mg/L	0.00690	0.0196	mg/L	0.00690	35.16%
Se 196.026†	-2.2	-0.3248	mg/L	0.01863	-0.3248	mg/L	0.01863	5.74%
Zn 206.200†	45244.3	2.621	mg/L	0.0271	2.621	mg/L	0.0271	1.03%
Sb 206.836†	-72.1	0.0245	mg/L	0.00741	0.0245	mg/L	0.00741	30.25%
Pb 220.353†	7086.7	1.364	mg/L	0.0119	1.364	mg/L	0.0119	0.87%
Cd 226.502†	2379.3	0.0010	mg/L	0.00055	0.0010	mg/L	0.00055	55.90%
Co 228.616†	3265.8	0.1258	mg/L	0.00111	0.1258	mg/L	0.00111	0.88%
Ni 232.003†	3045.5	0.3089	mg/L	0.01122	0.3089	mg/L	0.01122	3.63%
Ba 233.527†	45515.4	0.8308	mg/L	0.01285	0.8308	mg/L	0.01285	1.55%
Mn 257.610†	2510280.0	4.248	mg/L	0.0772	4.248	mg/L	0.0772	1.82%
Cr 267.716†	16894.7	0.1371	mg/L	0.00054	0.1371	mg/L	0.00054	0.39%
Fe 273.955†	5337777.0	246.1	mg/L	4.40	246.1	mg/L	4.40	1.79%
Mg 279.077†	1043395.7	63.21	mg/L	1.188	63.21	mg/L	1.188	1.88%
V 292.402†	137041.8	0.5684	mg/L	0.00745	0.5684	mg/L	0.00745	1.31%
Al 308.215†	2591223.6	115.4	mg/L	0.98	115.4	mg/L	0.98	0.85%
Be 313.107†	4536.7	0.00102	mg/L	0.000419	0.00102	mg/L	0.000419	41.27%
Cu 324.752†	345406.7	1.248	mg/L	0.0318	1.248	mg/L	0.0318	2.55%
Ag 338.289†	-10039.9	-0.0757	mg/L	0.00173	-0.0757	mg/L	0.00173	2.28%
Na 330.237†	4672.7	7.354	mg/L	0.2625	7.354	mg/L	0.2625	3.57%
Ca 227.546†	9943.7	112.1	mg/L	5.84	112.1	mg/L	5.84	5.21%
Al RADIAL†	181643.7	108.6	mg/L	0.87	108.6	mg/L	0.87	0.80%
Fe RADIAL†	116921.8	263.9	mg/L	1.96	263.9	mg/L	1.96	0.74%
Ca RADIAL†	728856.2	120.9	mg/L	3.92	120.9	mg/L	3.92	3.25%
K RADIAL†	18444.8	13.31	mg/L	0.171	13.31	mg/L	0.171	1.29%
Mg RADIAL†	25926.6	63.20	mg/L	0.924	63.20	mg/L	0.924	1.46%
Na RADIAL†	53450.5	7.112	mg/L	0.0339	7.112	mg/L	0.0339	0.48%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 88
Sample ID: 23E0663-09
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 206
Date Collected: 5/15/2023 3:03:36 PM
Data Type: Reprocessed on 5/16/2023 9:09:16 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0663-09

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17379841.2	4.436	mg/L	0.0446	4.436	mg/L	0.0446	1.00%
Y RADIAL	328100.8	4.923	mg/L	0.0603	4.923	mg/L	0.0603	1.23%
As 188.979†	298.5	0.4662	mg/L	0.00703	0.4662	mg/L	0.00703	1.51%
Tl 190.801†	-16.5	-0.0008	mg/L	0.00542	-0.0008	mg/L	0.00542	706.09%
Se 196.026†	29.2	-0.0863	mg/L	0.00952	-0.0863	mg/L	0.00952	11.04%
Zn 206.200†	18311.1	1.060	mg/L	0.0088	1.060	mg/L	0.0088	0.83%
Sb 206.836†	-18.1	0.0139	mg/L	0.00734	0.0139	mg/L	0.00734	52.80%
Pb 220.353†	4496.1	0.8287	mg/L	0.00792	0.8287	mg/L	0.00792	0.96%
Cd 226.502†	957.8	0.0009	mg/L	0.00032	0.0009	mg/L	0.00032	37.05%
Co 228.616†	1139.3	0.0441	mg/L	0.00042	0.0441	mg/L	0.00042	0.96%
Ni 232.003†	1460.9	0.1425	mg/L	0.00891	0.1425	mg/L	0.00891	6.25%
Ba 233.527†	24854.6	0.4537	mg/L	0.00267	0.4537	mg/L	0.00267	0.59%
Mn 257.610†	1119595.6	1.894	mg/L	0.0281	1.894	mg/L	0.0281	1.48%
Cr 267.716†	11882.7	0.0973	mg/L	0.00121	0.0973	mg/L	0.00121	1.25%
Fe 273.955†	2158943.1	99.55	mg/L	1.391	99.55	mg/L	1.391	1.40%
Mg 279.077†	561653.8	34.03	mg/L	0.410	34.03	mg/L	0.410	1.20%
V 292.402†	41510.4	0.1702	mg/L	0.00194	0.1702	mg/L	0.00194	1.14%
Al 308.215†	1042355.0	46.43	mg/L	0.985	46.43	mg/L	0.985	2.12%
Be 313.107†	6683.1	0.00150	mg/L	0.000185	0.00150	mg/L	0.000185	12.34%
Cu 324.752†	70357.4	0.2586	mg/L	0.00059	0.2586	mg/L	0.00059	0.23%
Ag 338.289†	-4650.3	-0.0346	mg/L	0.00096	-0.0346	mg/L	0.00096	2.76%
Na 330.237†	165.5	0.7027	mg/L	0.13688	0.7027	mg/L	0.13688	19.48%
Ca 227.546†	6970.3	78.59	mg/L	0.651	78.59	mg/L	0.651	0.83%
Al RADIAL†	73232.3	43.80	mg/L	0.146	43.80	mg/L	0.146	0.33%
Fe RADIAL†	45128.6	101.9	mg/L	1.74	101.9	mg/L	1.74	1.71%
Ca RADIAL†	497035.5	82.43	mg/L	0.468	82.43	mg/L	0.468	0.57%
K RADIAL†	9296.0	6.706	mg/L	0.0832	6.706	mg/L	0.0832	1.24%
Mg RADIAL†	13601.5	33.16	mg/L	0.597	33.16	mg/L	0.597	1.80%
Na RADIAL†	4558.2	0.6065	mg/L	0.01841	0.6065	mg/L	0.01841	3.04%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 89
Sample ID: BE30885-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 207
Date Collected: 5/15/2023 3:05:42 PM
Data Type: Reprocessed on 5/16/2023 9:09:17 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30885-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17603505.1	4.493	mg/L	0.0254	4.493	mg/L	0.0254	0.56%
Y RADIAL	321177.9	4.819	mg/L	0.0652	4.819	mg/L	0.0652	1.35%
As 188.979†	350.6	0.5596	mg/L	0.00281	0.5596	mg/L	0.00281	0.50%
Tl 190.801†	-18.2	0.0069	mg/L	0.00860	0.0069	mg/L	0.00860	123.81%
Se 196.026†	-0.4	-0.1831	mg/L	0.00684	-0.1831	mg/L	0.00684	3.74%
Zn 206.200†	106373.2	6.138	mg/L	0.1568	6.138	mg/L	0.1568	2.55%
Sb 206.836†	213.6	0.2142	mg/L	0.00379	0.2142	mg/L	0.00379	1.77%
Pb 220.353†	59893.8	10.36	mg/L	0.335	10.36	mg/L	0.335	3.24%
Cd 226.502†	1448.8	0.0018	mg/L	0.00027	0.0018	mg/L	0.00027	15.28%
Co 228.616†	4580.2	0.1721	mg/L	0.00092	0.1721	mg/L	0.00092	0.54%
Ni 232.003†	1806.9	0.1817	mg/L	0.00492	0.1817	mg/L	0.00492	2.71%
Ba 233.527†	44150.5	0.8058	mg/L	0.03004	0.8058	mg/L	0.03004	3.73%
Mn 257.610†	1572666.9	2.661	mg/L	0.0568	2.661	mg/L	0.0568	2.14%
Cr 267.716†	36280.6	0.2986	mg/L	0.01086	0.2986	mg/L	0.01086	3.64%
Fe 273.955†	3019654.2	139.2	mg/L	2.97	139.2	mg/L	2.97	2.13%
Mg 279.077†	524215.9	31.76	mg/L	0.652	31.76	mg/L	0.652	2.05%
V 292.402†	49032.9	0.1984	mg/L	0.00661	0.1984	mg/L	0.00661	3.33%
Al 308.215†	1243956.9	55.42	mg/L	0.795	55.42	mg/L	0.795	1.43%
Be 313.107†	3513.6	0.00079	mg/L	0.000173	0.00079	mg/L	0.000173	22.00%
Cu 324.752†	156598.8	0.5686	mg/L	0.02265	0.5686	mg/L	0.02265	3.98%
Ag 338.289†	-6912.3	-0.0514	mg/L	0.00064	-0.0514	mg/L	0.00064	1.25%
Na 330.237†	2302.6	3.717	mg/L	0.2475	3.717	mg/L	0.2475	6.66%
Ca 227.546†	6372.2	71.85	mg/L	0.678	71.85	mg/L	0.678	0.94%
Al RADIAL†	91256.1	54.58	mg/L	0.449	54.58	mg/L	0.449	0.82%
Fe RADIAL†	66304.1	149.6	mg/L	1.61	149.6	mg/L	1.61	1.08%
Ca RADIAL†	466538.8	77.37	mg/L	0.619	77.37	mg/L	0.619	0.80%
K RADIAL†	12003.1	8.659	mg/L	0.1383	8.659	mg/L	0.1383	1.60%
Mg RADIAL†	13287.3	32.39	mg/L	0.436	32.39	mg/L	0.436	1.35%
Na RADIAL†	30836.1	4.103	mg/L	0.0673	4.103	mg/L	0.0673	1.64%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 90
Sample ID: BE30885-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 208
Date Collected: 5/15/2023 3:07:49 PM
Data Type: Reprocessed on 5/16/2023 9:09:18 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30885-MS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17415445.7	4.445	mg/L	0.0616	4.445	mg/L	0.0616	1.38%
Y RADIAL	313922.6	4.710	mg/L	0.0909	4.710	mg/L	0.0909	1.93%
As 188.979†	1737.3	2.531	mg/L	0.0324	2.531	mg/L	0.0324	1.28%
Tl 190.801†	1330.7	1.818	mg/L	0.0169	1.818	mg/L	0.0169	0.93%
Se 196.026†	1226.5	1.428	mg/L	0.0198	1.428	mg/L	0.0198	1.39%
Zn 206.200†	23699.7	1.373	mg/L	0.0253	1.373	mg/L	0.0253	1.84%
Sb 206.836†	78.0	0.1028	mg/L	0.00346	0.1028	mg/L	0.00346	3.36%
Pb 220.353†	7685.8	1.396	mg/L	0.0174	1.396	mg/L	0.0174	1.24%
Cd 226.502†	5015.9	0.0460	mg/L	0.00110	0.0460	mg/L	0.00110	2.38%
Co 228.616†	14811.4	0.5495	mg/L	0.00819	0.5495	mg/L	0.00819	1.49%
Ni 232.003†	7667.7	0.6567	mg/L	0.01141	0.6567	mg/L	0.01141	1.74%
Ba 233.527†	143318.5	2.616	mg/L	0.0504	2.616	mg/L	0.0504	1.93%
Mn 257.610†	1612438.9	2.727	mg/L	0.0328	2.727	mg/L	0.0328	1.20%
Cr 267.716†	39572.2	0.3260	mg/L	0.00790	0.3260	mg/L	0.00790	2.42%
Fe 273.955†	2753022.8	126.9	mg/L	1.76	126.9	mg/L	1.76	1.39%
Mg 279.077†	604613.8	36.63	mg/L	0.472	36.63	mg/L	0.472	1.29%
V 292.402†	159822.6	0.6782	mg/L	0.01596	0.6782	mg/L	0.01596	2.35%
Al 308.215†	1288388.6	57.40	mg/L	1.051	57.40	mg/L	1.051	1.83%
Be 313.107†	227618.6	0.05098	mg/L	0.000811	0.05098	mg/L	0.000811	1.59%
Cu 324.752†	500384.3	1.786	mg/L	0.0270	1.786	mg/L	0.0270	1.51%
Ag 338.289†	1328.0	0.0066	mg/L	0.00175	0.0066	mg/L	0.00175	26.67%
Na 330.237†	1110.7	2.106	mg/L	0.1647	2.106	mg/L	0.1647	7.82%
Ca 227.546†	6209.6	70.02	mg/L	0.856	70.02	mg/L	0.856	1.22%
Al RADIAL†	92103.1	55.08	mg/L	0.748	55.08	mg/L	0.748	1.36%
Fe RADIAL†	60951.9	137.6	mg/L	3.86	137.6	mg/L	3.86	2.81%
Ca RADIAL†	462481.4	76.70	mg/L	0.615	76.70	mg/L	0.615	0.80%
K RADIAL†	15169.8	10.94	mg/L	0.355	10.94	mg/L	0.355	3.24%
Mg RADIAL†	15524.9	37.84	mg/L	1.186	37.84	mg/L	1.186	3.13%
Na RADIAL†	15520.0	2.065	mg/L	0.0765	2.065	mg/L	0.0765	3.71%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 91
Sample ID: BE30885-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 209
Date Collected: 5/15/2023 3:09:54 PM
Data Type: Reprocessed on 5/16/2023 9:09:19 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30885-PS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17375596.5	4.435	mg/L	0.0370	4.435	mg/L	0.0370	0.83%
Y RADIAL	318512.8	4.779	mg/L	0.1001	4.779	mg/L	0.1001	2.10%
As 188.979†	2038.3	2.946	mg/L	0.0318	2.946	mg/L	0.0318	1.08%
Tl 190.801†	1802.1	2.444	mg/L	0.0070	2.444	mg/L	0.0070	0.29%
Se 196.026†	1664.8	2.041	mg/L	0.0082	2.041	mg/L	0.0082	0.40%
Zn 206.200†	27587.7	1.595	mg/L	0.0351	1.595	mg/L	0.0351	2.20%
Sb 206.836†	365.8	0.3178	mg/L	0.00909	0.3178	mg/L	0.00909	2.86%
Pb 220.353†	8090.3	1.446	mg/L	0.0103	1.446	mg/L	0.0103	0.71%
Cd 226.502†	6055.9	0.0622	mg/L	0.00043	0.0622	mg/L	0.00043	0.69%
Co 228.616†	17505.0	0.6482	mg/L	0.01663	0.6482	mg/L	0.01663	2.57%
Ni 232.003†	8945.2	0.7529	mg/L	0.01855	0.7529	mg/L	0.01855	2.46%
Ba 233.527†	166316.2	3.036	mg/L	0.0624	3.036	mg/L	0.0624	2.05%
Mn 257.610†	1451990.4	2.454	mg/L	0.0474	2.454	mg/L	0.0474	1.93%
Cr 267.716†	40509.7	0.3341	mg/L	0.00733	0.3341	mg/L	0.00733	2.19%
Fe 273.955†	2107502.7	97.18	mg/L	1.790	97.18	mg/L	1.790	1.84%
Mg 279.077†	562522.2	34.08	mg/L	0.580	34.08	mg/L	0.580	1.70%
V 292.402†	186568.5	0.7969	mg/L	0.01453	0.7969	mg/L	0.01453	1.82%
Al 308.215†	1068960.8	47.62	mg/L	1.059	47.62	mg/L	1.059	2.22%
Be 313.107†	276950.6	0.06203	mg/L	0.001140	0.06203	mg/L	0.001140	1.84%
Cu 324.752†	164973.2	0.5941	mg/L	0.01156	0.5941	mg/L	0.01156	1.94%
Ag 338.289†	-3182.4	-0.0244	mg/L	0.00195	-0.0244	mg/L	0.00195	7.99%
Na 330.237†	1067.6	1.886	mg/L	0.1316	1.886	mg/L	0.1316	6.98%
Ca 227.546†	7036.2	79.34	mg/L	0.891	79.34	mg/L	0.891	1.12%
Al RADIAL†	77824.6	46.55	mg/L	0.353	46.55	mg/L	0.353	0.76%
Fe RADIAL†	45789.1	103.3	mg/L	3.00	103.3	mg/L	3.00	2.90%
Ca RADIAL†	498386.5	82.65	mg/L	0.557	82.65	mg/L	0.557	0.67%
K RADIAL†	11096.3	8.005	mg/L	0.2819	8.005	mg/L	0.2819	3.52%
Mg RADIAL†	14179.4	34.56	mg/L	1.001	34.56	mg/L	1.001	2.90%
Na RADIAL†	14588.5	1.941	mg/L	0.0841	1.941	mg/L	0.0841	4.33%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 92
Sample ID: SEQ-SRD3
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 210
Date Collected: 5/15/2023 3:12:00 PM
Data Type: Reprocessed on 5/16/2023 9:09:19 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD3

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17496136.6	4.466	mg/L	0.2972	4.466	mg/L	0.2972	6.65%
Y RADIAL	324538.9	4.869	mg/L	0.1829	4.869	mg/L	0.1829	3.76%
As 188.979†	74.2	0.1155	mg/L	0.00561	0.1155	mg/L	0.00561	4.86%
Tl 190.801†	-8.9	-0.0068	mg/L	0.00505	-0.0068	mg/L	0.00505	74.66%
Se 196.026†	5.6	-0.0227	mg/L	0.00981	-0.0227	mg/L	0.00981	43.21%
Zn 206.200†	4678.3	0.2708	mg/L	0.01878	0.2708	mg/L	0.01878	6.93%
Sb 206.836†	-1.9	0.0054	mg/L	0.00592	0.0054	mg/L	0.00592	110.52%
Pb 220.353†	1155.5	0.2121	mg/L	0.01187	0.2121	mg/L	0.01187	5.60%
Cd 226.502†	222.8	0.0001	mg/L	0.00018	0.0001	mg/L	0.00018	176.42%
Co 228.616†	283.4	0.0110	mg/L	0.00065	0.0110	mg/L	0.00065	5.97%
Ni 232.003†	343.3	0.0336	mg/L	0.00337	0.0336	mg/L	0.00337	10.01%
Ba 233.527†	6350.5	0.1159	mg/L	0.00824	0.1159	mg/L	0.00824	7.11%
Mn 257.610†	275478.4	0.4659	mg/L	0.04404	0.4659	mg/L	0.04404	9.45%
Cr 267.716†	2758.4	0.0226	mg/L	0.00309	0.0226	mg/L	0.00309	13.70%
Fe 273.955†	534845.3	24.66	mg/L	2.370	24.66	mg/L	2.370	9.61%
Mg 279.077†	136054.4	8.242	mg/L	0.8046	8.242	mg/L	0.8046	9.76%
V 292.402†	9991.2	0.0410	mg/L	0.00499	0.0410	mg/L	0.00499	12.17%
Al 308.215†	239034.5	10.65	mg/L	1.043	10.65	mg/L	1.043	9.80%
Be 313.107†	1015.3	0.00023	mg/L	0.000127	0.00023	mg/L	0.000127	55.82%
Cu 324.752†	16301.9	0.0600	mg/L	0.00620	0.0600	mg/L	0.00620	10.33%
Ag 338.289†	-1929.9	-0.0140	mg/L	0.00168	-0.0140	mg/L	0.00168	11.96%
Na 330.237†	-188.8	-0.1285	mg/L	0.32567	-0.1285	mg/L	0.32567	253.45%
Ca 227.546†	1629.1	18.37	mg/L	1.243	18.37	mg/L	1.243	6.77%
Al RADIAL†	17259.4	10.32	mg/L	0.415	10.32	mg/L	0.415	4.02%
Fe RADIAL†	10907.8	24.62	mg/L	0.848	24.62	mg/L	0.848	3.45%
Ca RADIAL†	116308.3	19.29	mg/L	0.748	19.29	mg/L	0.748	3.88%
K RADIAL†	2243.9	1.619	mg/L	0.0477	1.619	mg/L	0.0477	2.94%
Mg RADIAL†	3269.5	7.970	mg/L	0.2798	7.970	mg/L	0.2798	3.51%
Na RADIAL†	-613.3	-0.0816	mg/L	0.02708	-0.0816	mg/L	0.02708	33.18%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 93
Sample ID: SEQ-CCV8
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 3:14:45 PM
Data Type: Reprocessed on 5/16/2023 9:09:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV8

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17220566.2	4.395	mg/L	0.0037	4.395	mg/L	0.0037	0.08%
Y RADIAL	321360.4	4.822	mg/L	0.1980	4.822	mg/L	0.1980	4.11%
As 188.979†	374.9	0.5364	mg/L	0.01381	0.5364	mg/L	0.01381	2.58%
Tl 190.801†	408.4	0.5500	mg/L	0.00385	0.5500	mg/L	0.00385	0.70%
Se 196.026†	422.7	0.5436	mg/L	0.01488	0.5436	mg/L	0.01488	2.74%
Zn 206.200†	46751.9	2.694	mg/L	0.0334	2.694	mg/L	0.0334	1.24%
Sb 206.836†	325.3	0.2565	mg/L	0.00382	0.2565	mg/L	0.00382	1.49%
Pb 220.353†	3141.0	0.5421	mg/L	0.00315	0.5421	mg/L	0.00315	0.58%
Cd 226.502†	22128.7	0.2663	mg/L	0.00285	0.2663	mg/L	0.00285	1.07%
Co 228.616†	72689.0	2.683	mg/L	0.0323	2.683	mg/L	0.0323	1.20%
Ni 232.003†	32811.8	2.676	mg/L	0.0270	2.676	mg/L	0.0270	1.01%
Ba 233.527†	597509.0	10.91	mg/L	0.205	10.91	mg/L	0.205	1.88%
Mn 257.610†	1603908.3	2.705	mg/L	0.0607	2.705	mg/L	0.0607	2.24%
Cr 267.716†	128715.6	1.065	mg/L	0.0094	1.065	mg/L	0.0094	0.88%
Fe 273.955†	115318.8	5.317	mg/L	0.0476	5.317	mg/L	0.0476	0.89%
Mg 279.077†	443076.2	26.84	mg/L	0.594	26.84	mg/L	0.594	2.21%
V 292.402†	612276.2	2.645	mg/L	0.0596	2.645	mg/L	0.0596	2.25%
Al 308.215†	234905.8	10.46	mg/L	0.221	10.46	mg/L	0.221	2.11%
Be 313.107†	1197620.0	0.26824	mg/L	0.006969	0.26824	mg/L	0.006969	2.60%
Cu 324.752†	377949.0	1.340	mg/L	0.0287	1.340	mg/L	0.0287	2.14%
Ag 338.289†	177256.9	1.242	mg/L	0.0260	1.242	mg/L	0.0260	2.09%
Na 330.237†	19049.4	24.86	mg/L	0.416	24.86	mg/L	0.416	1.67%
Ca 227.546†	2335.3	26.33	mg/L	0.247	26.33	mg/L	0.247	0.94%
Al RADIAL†	17355.6	10.38	mg/L	0.193	10.38	mg/L	0.193	1.86%
Fe RADIAL†	2374.9	5.360	mg/L	0.2131	5.360	mg/L	0.2131	3.98%
Ca RADIAL†	161708.3	26.82	mg/L	0.303	26.82	mg/L	0.303	1.13%
K RADIAL†	7415.4	5.350	mg/L	0.2413	5.350	mg/L	0.2413	4.51%
Mg RADIAL†	11003.4	26.82	mg/L	1.102	26.82	mg/L	1.102	4.11%
Na RADIAL†	200529.9	26.68	mg/L	0.360	26.68	mg/L	0.360	1.35%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 94
Sample ID: SEQ-CCB8
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 3:17:33 PM
Data Type: Reprocessed on 5/16/2023 9:09:21 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB8

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18407248.8	4.698	mg/L	0.0982	4.698	mg/L	0.0982	2.09%
Y RADIAL	333201.2	4.999	mg/L	0.2384	4.999	mg/L	0.2384	4.77%
As 188.979†	-0.8	-0.0012	mg/L	0.01217	-0.0012	mg/L	0.01217	>999.9%
Tl 190.801†	-1.4	-0.0019	mg/L	0.00215	-0.0019	mg/L	0.00215	114.45%
Se 196.026†	-4.5	-0.0058	mg/L	0.00965	-0.0058	mg/L	0.00965	166.19%
Zn 206.200†	28.2	0.0016	mg/L	0.00015	0.0016	mg/L	0.00015	9.55%
Sb 206.836†	12.3	0.0097	mg/L	0.00262	0.0097	mg/L	0.00262	26.96%
Pb 220.353†	6.5	0.0011	mg/L	0.00165	0.0011	mg/L	0.00165	148.12%
Cd 226.502†	3.4	0.0000	mg/L	0.00009	0.0000	mg/L	0.00009	223.82%
Co 228.616†	28.1	0.0010	mg/L	0.00041	0.0010	mg/L	0.00041	39.78%
Ni 232.003†	-12.9	-0.0011	mg/L	0.00099	-0.0011	mg/L	0.00099	94.17%
Ba 233.527†	296.1	0.0054	mg/L	0.00088	0.0054	mg/L	0.00088	16.28%
Mn 257.610†	864.9	0.0015	mg/L	0.00032	0.0015	mg/L	0.00032	21.66%
Cr 267.716†	82.3	0.0007	mg/L	0.00026	0.0007	mg/L	0.00026	37.53%
Fe 273.955†	-3333.7	-0.1537	mg/L	0.00468	-0.1537	mg/L	0.00468	3.05%
Mg 279.077†	-3046.5	-0.1846	mg/L	0.00446	-0.1846	mg/L	0.00446	2.42%
V 292.402†	300.3	0.0013	mg/L	0.00063	0.0013	mg/L	0.00063	48.62%
Al 308.215†	-5804.1	-0.2586	mg/L	0.00506	-0.2586	mg/L	0.00506	1.96%
Be 313.107†	-149.7	-0.00003	mg/L	0.000067	-0.00003	mg/L	0.000067	199.22%
Cu 324.752†	1136.1	0.0040	mg/L	0.00090	0.0040	mg/L	0.00090	22.43%
Ag 338.289†	496.7	0.0035	mg/L	0.00203	0.0035	mg/L	0.00203	58.19%
Na 330.237†	-189.9	-0.2476	mg/L	0.06774	-0.2476	mg/L	0.06774	27.35%
Ca 227.546†	-35.2	-0.3972	mg/L	0.11170	-0.3972	mg/L	0.11170	28.12%
Al RADIAL†	-2.1	-0.0013	mg/L	0.00259	-0.0013	mg/L	0.00259	205.85%
Fe RADIAL†	1.0	0.0022	mg/L	0.00665	0.0022	mg/L	0.00665	296.28%
Ca RADIAL†	-1.1	-0.0002	mg/L	0.01714	-0.0002	mg/L	0.01714	>999.9%
K RADIAL†	-108.4	-0.0782	mg/L	0.14781	-0.0782	mg/L	0.14781	189.09%
Mg RADIAL†	7.0	0.0171	mg/L	0.02105	0.0171	mg/L	0.02105	122.88%
Na RADIAL†	-1727.1	-0.2298	mg/L	0.01388	-0.2298	mg/L	0.01388	6.04%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 95
Sample ID: BE30951-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 211
Date Collected: 5/15/2023 3:20:20 PM
Data Type: Reprocessed on 5/16/2023 9:09:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30951-BLK1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	18399601.4	4.696	mg/L	0.0601	4.696	mg/L	0.0601	1.28%
Y RADIAL	325466.0	4.883	mg/L	0.1284	4.883	mg/L	0.1284	2.63%
As 188.979†	2.4	0.0035	mg/L	0.00439	0.0035	mg/L	0.00439	126.16%
Tl 190.801†	-3.1	-0.0042	mg/L	0.00289	-0.0042	mg/L	0.00289	68.91%
Se 196.026†	-4.5	-0.0059	mg/L	0.00582	-0.0059	mg/L	0.00582	98.50%
Zn 206.200†	146.8	0.0085	mg/L	0.00054	0.0085	mg/L	0.00054	6.40%
Sb 206.836†	9.0	0.0071	mg/L	0.00024	0.0071	mg/L	0.00024	3.46%
Pb 220.353†	17.9	0.0031	mg/L	0.00196	0.0031	mg/L	0.00196	63.98%
Cd 226.502†	2.9	0.0000	mg/L	0.00015	0.0000	mg/L	0.00015	438.47%
Co 228.616†	-3.7	-0.0001	mg/L	0.00021	-0.0001	mg/L	0.00021	156.06%
Ni 232.003†	-25.0	-0.0020	mg/L	0.00118	-0.0020	mg/L	0.00118	58.03%
Ba 233.527†	10.3	0.0002	mg/L	0.00011	0.0002	mg/L	0.00011	56.59%
Mn 257.610†	296.7	0.0005	mg/L	0.00003	0.0005	mg/L	0.00003	6.96%
Cr 267.716†	384.4	0.0032	mg/L	0.00017	0.0032	mg/L	0.00017	5.26%
Fe 273.955†	-3254.5	-0.1501	mg/L	0.00071	-0.1501	mg/L	0.00071	0.47%
Mg 279.077†	-3060.8	-0.1854	mg/L	0.00140	-0.1854	mg/L	0.00140	0.76%
V 292.402†	-12.5	-0.0001	mg/L	0.00024	-0.0001	mg/L	0.00024	435.63%
Al 308.215†	-5441.3	-0.2424	mg/L	0.00628	-0.2424	mg/L	0.00628	2.59%
Be 313.107†	-1038.9	-0.00023	mg/L	0.000072	-0.00023	mg/L	0.000072	30.84%
Cu 324.752†	946.6	0.0034	mg/L	0.00072	0.0034	mg/L	0.00072	21.40%
Ag 338.289†	-593.6	-0.0042	mg/L	0.00104	-0.0042	mg/L	0.00104	24.92%
Na 330.237†	-233.2	-0.3040	mg/L	0.07521	-0.3040	mg/L	0.07521	24.74%
Ca 227.546†	-25.3	-0.2857	mg/L	0.05425	-0.2857	mg/L	0.05425	18.99%
Al RADIAL†	17.9	0.0107	mg/L	0.00738	0.0107	mg/L	0.00738	69.00%
Fe RADIAL†	0.6	0.0014	mg/L	0.00694	0.0014	mg/L	0.00694	482.21%
Ca RADIAL†	1073.5	0.1780	mg/L	0.01439	0.1780	mg/L	0.01439	8.08%
K RADIAL†	-8.8	-0.0064	mg/L	0.07274	-0.0064	mg/L	0.07274	>999.9%
Mg RADIAL†	-1.3	-0.0032	mg/L	0.01344	-0.0032	mg/L	0.01344	425.26%
Na RADIAL†	-1598.9	-0.2127	mg/L	0.01838	-0.2127	mg/L	0.01838	8.64%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 96
Sample ID: BE30951-SRM1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 212
Date Collected: 5/15/2023 3:23:06 PM
Data Type: Reprocessed on 5/16/2023 9:09:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30951-SRM1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17583150.5	4.488	mg/L	0.0444	4.488	mg/L	0.0444	0.99%
Y RADIAL	332980.5	4.996	mg/L	0.1904	4.996	mg/L	0.1904	3.81%
As 188.979†	1668.4	2.445	mg/L	0.0381	2.445	mg/L	0.0381	1.56%
Tl 190.801†	740.4	1.031	mg/L	0.0176	1.031	mg/L	0.0176	1.71%
Se 196.026†	1830.3	2.177	mg/L	0.0402	2.177	mg/L	0.0402	1.84%
Zn 206.200†	47700.8	2.757	mg/L	0.0214	2.757	mg/L	0.0214	0.77%
Sb 206.836†	997.3	0.8414	mg/L	0.01666	0.8414	mg/L	0.01666	1.98%
Pb 220.353†	18618.5	3.290	mg/L	0.0378	3.290	mg/L	0.0378	1.15%
Cd 226.502†	231964.7	2.780	mg/L	0.0106	2.780	mg/L	0.0106	0.38%
Co 228.616†	34668.6	1.283	mg/L	0.0141	1.283	mg/L	0.0141	1.10%
Ni 232.003†	28609.8	2.371	mg/L	0.0250	2.371	mg/L	0.0250	1.05%
Ba 233.527†	216902.7	3.959	mg/L	0.0217	3.959	mg/L	0.0217	0.55%
Mn 257.610†	2968273.0	5.015	mg/L	0.0196	5.015	mg/L	0.0196	0.39%
Cr 267.716†	301154.9	2.489	mg/L	0.0110	2.489	mg/L	0.0110	0.44%
Fe 273.955†	3530089.0	162.8	mg/L	0.76	162.8	mg/L	0.76	0.47%
Mg 279.077†	480045.9	29.08	mg/L	0.088	29.08	mg/L	0.088	0.30%
V 292.402†	593854.7	2.551	mg/L	0.0141	2.551	mg/L	0.0141	0.55%
Al 308.215†	2399743.5	106.9	mg/L	0.66	106.9	mg/L	0.66	0.61%
Be 313.107†	4455334.0	0.99790	mg/L	0.008123	0.99790	mg/L	0.008123	0.81%
Cu 324.752†	525587.0	1.878	mg/L	0.0083	1.878	mg/L	0.0083	0.44%
Ag 338.289†	111035.3	0.7749	mg/L	0.00286	0.7749	mg/L	0.00286	0.37%
Na 330.237†	3392.5	5.225	mg/L	0.0305	5.225	mg/L	0.0305	0.58%
Ca 227.546†	4748.5	53.54	mg/L	0.532	53.54	mg/L	0.532	0.99%
Al RADIAL†	166898.8	99.82	mg/L	0.554	99.82	mg/L	0.554	0.56%
Fe RADIAL†	74360.6	167.8	mg/L	8.25	167.8	mg/L	8.25	4.92%
Ca RADIAL†	358388.4	59.44	mg/L	0.132	59.44	mg/L	0.132	0.22%
K RADIAL†	33834.4	24.41	mg/L	1.341	24.41	mg/L	1.341	5.49%
Mg RADIAL†	11655.8	28.41	mg/L	1.254	28.41	mg/L	1.254	4.41%
Na RADIAL†	38849.3	5.169	mg/L	0.2716	5.169	mg/L	0.2716	5.25%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 97
Sample ID: 23D1644-50
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 213
Date Collected: 5/15/2023 3:25:14 PM
Data Type: Reprocessed on 5/16/2023 9:09:24 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23D1644-50

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14658716.5	3.741	mg/L	0.0580	3.741	mg/L	0.0580	1.55%
Y RADIAL	289876.5	4.349	mg/L	0.2195	4.349	mg/L	0.2195	5.05%
As 188.979†	58.9	0.1176	mg/L	0.02012	0.1176	mg/L	0.02012	17.11%
Tl 190.801†	-13.4	-0.0003	mg/L	0.00938	-0.0003	mg/L	0.00938	>999.9%
Se 196.026†	63.2	-0.0202	mg/L	0.02605	-0.0202	mg/L	0.02605	128.69%
Zn 206.200†	40938.1	2.363	mg/L	0.0392	2.363	mg/L	0.0392	1.66%
Sb 206.836†	-18.4	-0.1678	mg/L	0.01373	-0.1678	mg/L	0.01373	8.18%
Pb 220.353†	2254.1	0.4339	mg/L	0.00569	0.4339	mg/L	0.00569	1.31%
Cd 226.502†	1224.4	0.0059	mg/L	0.00019	0.0059	mg/L	0.00019	3.25%
Co 228.616†	534.2	0.0214	mg/L	0.00049	0.0214	mg/L	0.00049	2.29%
Ni 232.003†	344.7	0.0474	mg/L	0.00102	0.0474	mg/L	0.00102	2.16%
Ba 233.527†	29538.6	0.5391	mg/L	0.00976	0.5391	mg/L	0.00976	1.81%
Mn 257.610†	1553808.0	2.625	mg/L	0.0254	2.625	mg/L	0.0254	0.97%
Cr 267.716†	6187.5	0.0503	mg/L	0.00074	0.0503	mg/L	0.00074	1.48%
Fe 273.955†	1772436.3	81.73	mg/L	0.630	81.73	mg/L	0.630	0.77%
Mg 279.077†	1014715.9	61.47	mg/L	0.597	61.47	mg/L	0.597	0.97%
V 292.402†	18873.2	0.0740	mg/L	0.00120	0.0740	mg/L	0.00120	1.63%
Al 308.215†	810275.0	36.10	mg/L	0.496	36.10	mg/L	0.496	1.37%
Be 313.107†	5665.8	0.00127	mg/L	0.000045	0.00127	mg/L	0.000045	3.55%
Cu 324.752†	46408.8	0.1721	mg/L	0.00292	0.1721	mg/L	0.00292	1.70%
Ag 338.289†	-226.3	-0.0033	mg/L	0.00024	-0.0033	mg/L	0.00024	7.38%
Na 330.237†	5154.5	7.122	mg/L	0.2231	7.122	mg/L	0.2231	3.13%
Ca 227.546†	202633.7	2285	mg/L	37.61	2285	mg/L	37.61	1.65%
Al RADIAL†	54084.3	32.35	mg/L	0.140	32.35	mg/L	0.140	0.43%
Fe RADIAL†	37237.0	84.04	mg/L	0.291	84.04	mg/L	0.291	0.35%
Ca RADIAL†	12242000.0	2030	mg/L	54.88	2030	mg/L	54.88	2.70%
K RADIAL†	3626.2	2.616	mg/L	0.0877	2.616	mg/L	0.0877	3.35%
Mg RADIAL†	24245.4	59.10	mg/L	0.538	59.10	mg/L	0.538	0.91%
Na RADIAL†	46990.7	6.253	mg/L	0.0229	6.253	mg/L	0.0229	0.37%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 98
Sample ID: 23D1644-51
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 214
Date Collected: 5/15/2023 3:27:20 PM
Data Type: Reprocessed on 5/16/2023 9:09:25 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23D1644-51

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17404383.1	4.442	mg/L	0.0555	4.442	mg/L	0.0555	1.25%
Y RADIAL	320827.4	4.814	mg/L	0.1190	4.814	mg/L	0.1190	2.47%
As 188.979†	1285.8	1.908	mg/L	0.0403	1.908	mg/L	0.0403	2.11%
Tl 190.801†	5.0	0.0464	mg/L	0.00498	0.0464	mg/L	0.00498	10.74%
Se 196.026†	-61.8	-0.3108	mg/L	0.02902	-0.3108	mg/L	0.02902	9.34%
Zn 206.200†	65022.1	3.757	mg/L	0.0976	3.757	mg/L	0.0976	2.60%
Sb 206.836†	-2.8	0.0593	mg/L	0.00610	0.0593	mg/L	0.00610	10.28%
Pb 220.353†	28035.2	4.918	mg/L	0.0808	4.918	mg/L	0.0808	1.64%
Cd 226.502†	2290.9	0.0078	mg/L	0.00063	0.0078	mg/L	0.00063	8.08%
Co 228.616†	2461.0	0.0946	mg/L	0.00155	0.0946	mg/L	0.00155	1.63%
Ni 232.003†	2889.1	0.2789	mg/L	0.00249	0.2789	mg/L	0.00249	0.89%
Ba 233.527†	116326.2	2.123	mg/L	0.0484	2.123	mg/L	0.0484	2.28%
Mn 257.610†	363397.3	0.6232	mg/L	0.01493	0.6232	mg/L	0.01493	2.40%
Cr 267.716†	17050.7	0.1392	mg/L	0.00235	0.1392	mg/L	0.00235	1.69%
Fe 273.955†	3879978.5	178.9	mg/L	4.33	178.9	mg/L	4.33	2.42%
Mg 279.077†	70928.8	4.297	mg/L	0.0956	4.297	mg/L	0.0956	2.22%
V 292.402†	65422.9	0.2657	mg/L	0.00703	0.2657	mg/L	0.00703	2.65%
Al 308.215†	1077799.4	48.01	mg/L	1.625	48.01	mg/L	1.625	3.38%
Be 313.107†	53699.6	0.01203	mg/L	0.000251	0.01203	mg/L	0.000251	2.08%
Cu 324.752†	4061578.2	14.42	mg/L	0.428	14.42	mg/L	0.428	2.97%
Ag 338.289†	-3865.7	-0.0309	mg/L	0.00070	-0.0309	mg/L	0.00070	2.25%
Na 330.237†	1874.8	3.347	mg/L	0.0382	3.347	mg/L	0.0382	1.14%
Ca 227.546†	3874.4	43.69	mg/L	0.421	43.69	mg/L	0.421	0.96%
Al RADIAL†	79911.6	47.79	mg/L	0.751	47.79	mg/L	0.751	1.57%
Fe RADIAL†	83660.0	188.8	mg/L	1.69	188.8	mg/L	1.69	0.89%
Ca RADIAL†	306352.6	50.81	mg/L	0.628	50.81	mg/L	0.628	1.24%
K RADIAL†	7280.6	5.252	mg/L	0.1472	5.252	mg/L	0.1472	2.80%
Mg RADIAL†	1825.5	4.450	mg/L	0.1216	4.450	mg/L	0.1216	2.73%
Na RADIAL†	22767.8	3.030	mg/L	0.0346	3.030	mg/L	0.0346	1.14%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 99
Sample ID: BE30951-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 215
Date Collected: 5/15/2023 3:30:05 PM
Data Type: Reprocessed on 5/16/2023 9:09:26 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30951-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17490715.5	4.464	mg/L	0.1188	4.464	mg/L	0.1188	2.66%
Y RADIAL	326689.9	4.902	mg/L	0.0354	4.902	mg/L	0.0354	0.72%
As 188.979†	983.2	1.466	mg/L	0.0353	1.466	mg/L	0.0353	2.41%
Tl 190.801†	0.1	0.0343	mg/L	0.00887	0.0343	mg/L	0.00887	25.82%
Se 196.026†	-41.7	-0.2533	mg/L	0.00828	-0.2533	mg/L	0.00828	3.27%
Zn 206.200†	54922.3	3.173	mg/L	0.0792	3.173	mg/L	0.0792	2.50%
Sb 206.836†	11.2	0.0625	mg/L	0.00672	0.0625	mg/L	0.00672	10.75%
Pb 220.353†	17148.2	3.035	mg/L	0.0857	3.035	mg/L	0.0857	2.82%
Cd 226.502†	2152.9	0.0088	mg/L	0.00061	0.0088	mg/L	0.00061	6.89%
Co 228.616†	2291.3	0.0878	mg/L	0.00233	0.0878	mg/L	0.00233	2.65%
Ni 232.003†	3012.7	0.2831	mg/L	0.01218	0.2831	mg/L	0.01218	4.30%
Ba 233.527†	121414.0	2.216	mg/L	0.0737	2.216	mg/L	0.0737	3.33%
Mn 257.610†	449791.0	0.7675	mg/L	0.02368	0.7675	mg/L	0.02368	3.08%
Cr 267.716†	21510.3	0.1763	mg/L	0.00426	0.1763	mg/L	0.00426	2.42%
Fe 273.955†	3358724.8	154.9	mg/L	3.39	154.9	mg/L	3.39	2.19%
Mg 279.077†	68374.5	4.142	mg/L	0.1159	4.142	mg/L	0.1159	2.80%
V 292.402†	76458.9	0.3157	mg/L	0.01054	0.3157	mg/L	0.01054	3.34%
Al 308.215†	1030573.0	45.91	mg/L	1.590	45.91	mg/L	1.590	3.46%
Be 313.107†	61878.2	0.01386	mg/L	0.000273	0.01386	mg/L	0.000273	1.97%
Cu 324.752†	1873905.7	6.658	mg/L	0.1802	6.658	mg/L	0.1802	2.71%
Ag 338.289†	-3687.7	-0.0291	mg/L	0.00267	-0.0291	mg/L	0.00267	9.18%
Na 330.237†	2052.0	3.455	mg/L	0.1520	3.455	mg/L	0.1520	4.40%
Ca 227.546†	2720.3	30.67	mg/L	0.659	30.67	mg/L	0.659	2.15%
Al RADIAL†	77341.3	46.26	mg/L	1.106	46.26	mg/L	1.106	2.39%
Fe RADIAL†	72290.6	163.2	mg/L	3.10	163.2	mg/L	3.10	1.90%
Ca RADIAL†	229010.3	37.98	mg/L	0.936	37.98	mg/L	0.936	2.46%
K RADIAL†	8280.2	5.973	mg/L	0.0346	5.973	mg/L	0.0346	0.58%
Mg RADIAL†	1675.0	4.083	mg/L	0.0321	4.083	mg/L	0.0321	0.79%
Na RADIAL†	25936.6	3.451	mg/L	0.0973	3.451	mg/L	0.0973	2.82%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 100
Sample ID: BE30951-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 216
Date Collected: 5/15/2023 3:32:51 PM
Data Type: Reprocessed on 5/16/2023 9:09:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30951-MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	17811632.0	4.546	mg/L	0.0558	4.546	mg/L	0.0558	1.23%
Y RADIAL	326213.0	4.895	mg/L	0.0480	4.895	mg/L	0.0480	0.98%
As 188.979†	2375.2	3.437	mg/L	0.0536	3.437	mg/L	0.0536	1.56%
Tl 190.801†	1387.0	1.892	mg/L	0.0250	1.892	mg/L	0.0250	1.32%
Se 196.026†	1066.5	1.229	mg/L	0.0238	1.229	mg/L	0.0238	1.93%
Zn 206.200†	63853.8	3.686	mg/L	0.0876	3.686	mg/L	0.0876	2.38%
Sb 206.836†	155.7	0.1646	mg/L	0.00980	0.1646	mg/L	0.00980	5.96%
Pb 220.353†	31169.0	5.423	mg/L	0.0858	5.423	mg/L	0.0858	1.58%
Cd 226.502†	5892.4	0.0574	mg/L	0.00122	0.0574	mg/L	0.00122	2.13%
Co 228.616†	15625.3	0.5794	mg/L	0.01030	0.5794	mg/L	0.01030	1.78%
Ni 232.003†	8581.0	0.7294	mg/L	0.01544	0.7294	mg/L	0.01544	2.12%
Ba 233.527†	217943.6	3.978	mg/L	0.0442	3.978	mg/L	0.0442	1.11%
Mn 257.610†	586949.6	0.9970	mg/L	0.01220	0.9970	mg/L	0.01220	1.22%
Cr 267.716†	37482.5	0.3087	mg/L	0.00506	0.3087	mg/L	0.00506	1.64%
Fe 273.955†	2715457.9	125.2	mg/L	3.08	125.2	mg/L	3.08	2.46%
Mg 279.077†	73955.6	4.480	mg/L	0.0828	4.480	mg/L	0.0828	1.85%
V 292.402†	176341.4	0.7503	mg/L	0.01065	0.7503	mg/L	0.01065	1.42%
Al 308.215†	883353.6	39.35	mg/L	1.143	39.35	mg/L	1.143	2.90%
Be 313.107†	271288.7	0.06076	mg/L	0.001536	0.06076	mg/L	0.001536	2.53%
Cu 324.752†	1657146.4	5.886	mg/L	0.1919	5.886	mg/L	0.1919	3.26%
Ag 338.289†	4020.4	0.0256	mg/L	0.00319	0.0256	mg/L	0.00319	12.46%
Na 330.237†	2365.0	3.705	mg/L	0.3222	3.705	mg/L	0.3222	8.70%
Ca 227.546†	3409.6	38.44	mg/L	0.499	38.44	mg/L	0.499	1.30%
Al RADIAL†	64160.0	38.37	mg/L	0.350	38.37	mg/L	0.350	0.91%
Fe RADIAL†	57655.7	130.1	mg/L	1.37	130.1	mg/L	1.37	1.05%
Ca RADIAL†	268642.4	44.55	mg/L	0.231	44.55	mg/L	0.231	0.52%
K RADIAL†	6890.6	4.971	mg/L	0.0547	4.971	mg/L	0.0547	1.10%
Mg RADIAL†	1876.4	4.574	mg/L	0.0603	4.574	mg/L	0.0603	1.32%
Na RADIAL†	28784.1	3.830	mg/L	0.0497	3.830	mg/L	0.0497	1.30%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 101
Sample ID: BE30951-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 217
Date Collected: 5/15/2023 3:35:31 PM
Data Type: Reprocessed on 5/16/2023 9:09:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30951-PS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17188278.6	4.387	mg/L	0.3079	4.387	mg/L	0.3079	7.02%
Y RADIAL	339601.1	5.095	mg/L	0.0290	5.095	mg/L	0.0290	0.57%
As 188.979†	2941.7	4.264	mg/L	0.3173	4.264	mg/L	0.3173	7.44%
Tl 190.801†	1753.0	2.394	mg/L	0.1708	2.394	mg/L	0.1708	7.13%
Se 196.026†	1519.9	1.760	mg/L	0.1207	1.760	mg/L	0.1207	6.86%
Zn 206.200†	75069.5	4.335	mg/L	0.3388	4.335	mg/L	0.3388	7.82%
Sb 206.836†	370.8	0.3512	mg/L	0.02200	0.3512	mg/L	0.02200	6.26%
Pb 220.353†	31448.3	5.498	mg/L	0.4068	5.498	mg/L	0.4068	7.40%
Cd 226.502†	7297.2	0.0692	mg/L	0.00716	0.0692	mg/L	0.00716	10.35%
Co 228.616†	19238.1	0.7137	mg/L	0.05207	0.7137	mg/L	0.05207	7.30%
Ni 232.003†	10618.9	0.9067	mg/L	0.05757	0.9067	mg/L	0.05757	6.35%
Ba 233.527†	253380.1	4.625	mg/L	0.3744	4.625	mg/L	0.3744	8.10%
Mn 257.610†	739603.0	1.257	mg/L	0.0993	1.257	mg/L	0.0993	7.90%
Cr 267.716†	43943.9	0.3617	mg/L	0.03183	0.3617	mg/L	0.03183	8.80%
Fe 273.955†	3916430.7	180.6	mg/L	14.11	180.6	mg/L	14.11	7.81%
Mg 279.077†	91007.3	5.513	mg/L	0.4403	5.513	mg/L	0.4403	7.99%
V 292.402†	204706.9	0.8684	mg/L	0.07659	0.8684	mg/L	0.07659	8.82%
Al 308.215†	1152508.3	51.34	mg/L	4.706	51.34	mg/L	4.706	9.17%
Be 313.107†	320947.8	0.07189	mg/L	0.006076	0.07189	mg/L	0.006076	8.45%
Cu 324.752†	4237614.5	15.04	mg/L	1.306	15.04	mg/L	1.306	8.68%
Ag 338.289†	-3203.4	-0.0260	mg/L	0.00140	-0.0260	mg/L	0.00140	5.40%
Na 330.237†	2733.5	4.420	mg/L	0.2916	4.420	mg/L	0.2916	6.60%
Ca 227.546†	3899.0	43.96	mg/L	3.007	43.96	mg/L	3.007	6.84%
Al RADIAL†	79349.5	47.46	mg/L	0.940	47.46	mg/L	0.940	1.98%
Fe RADIAL†	79321.1	179.0	mg/L	3.53	179.0	mg/L	3.53	1.97%
Ca RADIAL†	297402.4	49.32	mg/L	0.826	49.32	mg/L	0.826	1.67%
K RADIAL†	8375.8	6.042	mg/L	0.0474	6.042	mg/L	0.0474	0.78%
Mg RADIAL†	2146.3	5.232	mg/L	0.0451	5.232	mg/L	0.0451	0.86%
Na RADIAL†	30306.2	4.033	mg/L	0.0639	4.033	mg/L	0.0639	1.58%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 102
Sample ID: SEQ-SRD4
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 218
Date Collected: 5/15/2023 3:38:10 PM
Data Type: Reprocessed on 5/16/2023 9:09:28 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD4

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17970201.8	4.587	mg/L	0.1441	4.587	mg/L	0.1441	3.14%
Y RADIAL	324716.5	4.872	mg/L	0.1186	4.872	mg/L	0.1186	2.43%
As 188.979†	333.1	0.4934	mg/L	0.01615	0.4934	mg/L	0.01615	3.27%
Tl 190.801†	1.4	0.0118	mg/L	0.00395	0.0118	mg/L	0.00395	33.54%
Se 196.026†	-14.1	-0.0757	mg/L	0.00791	-0.0757	mg/L	0.00791	10.45%
Zn 206.200†	17449.5	1.008	mg/L	0.0331	1.008	mg/L	0.0331	3.29%
Sb 206.836†	1.6	0.0165	mg/L	0.00199	0.0165	mg/L	0.00199	12.03%
Pb 220.353†	7230.8	1.267	mg/L	0.0503	1.267	mg/L	0.0503	3.97%
Cd 226.502†	598.6	0.0023	mg/L	0.00030	0.0023	mg/L	0.00030	13.32%
Co 228.616†	646.9	0.0248	mg/L	0.00041	0.0248	mg/L	0.00041	1.66%
Ni 232.003†	734.1	0.0706	mg/L	0.00451	0.0706	mg/L	0.00451	6.38%
Ba 233.527†	30673.1	0.5599	mg/L	0.02123	0.5599	mg/L	0.02123	3.79%
Mn 257.610†	98349.4	0.1684	mg/L	0.00488	0.1684	mg/L	0.00488	2.90%
Cr 267.716†	4267.2	0.0348	mg/L	0.00217	0.0348	mg/L	0.00217	6.22%
Fe 273.955†	1036447.4	47.79	mg/L	1.566	47.79	mg/L	1.566	3.28%
Mg 279.077†	17046.3	1.033	mg/L	0.0373	1.033	mg/L	0.0373	3.61%
V 292.402†	17179.8	0.0700	mg/L	0.00267	0.0700	mg/L	0.00267	3.81%
Al 308.215†	268687.9	11.97	mg/L	0.575	11.97	mg/L	0.575	4.80%
Be 313.107†	13626.5	0.00305	mg/L	0.000043	0.00305	mg/L	0.000043	1.41%
Cu 324.752†	1044664.5	3.708	mg/L	0.1479	3.708	mg/L	0.1479	3.99%
Ag 338.289†	-1424.1	-0.0109	mg/L	0.00053	-0.0109	mg/L	0.00053	4.88%
Na 330.237†	289.1	0.6013	mg/L	0.11861	0.6013	mg/L	0.11861	19.73%
Ca 227.546†	947.7	10.69	mg/L	0.208	10.69	mg/L	0.208	1.94%
Al RADIAL†	19849.7	11.87	mg/L	0.204	11.87	mg/L	0.204	1.72%
Fe RADIAL†	20796.0	46.93	mg/L	0.469	46.93	mg/L	0.469	1.00%
Ca RADIAL†	76203.2	12.64	mg/L	0.204	12.64	mg/L	0.204	1.62%
K RADIAL†	1624.1	1.172	mg/L	0.0363	1.172	mg/L	0.0363	3.10%
Mg RADIAL†	455.9	1.111	mg/L	0.0328	1.111	mg/L	0.0328	2.95%
Na RADIAL†	4059.1	0.5401	mg/L	0.01964	0.5401	mg/L	0.01964	3.64%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 103
Sample ID: BE30955-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 219
Date Collected: 5/15/2023 3:40:51 PM
Data Type: Reprocessed on 5/16/2023 9:09:29 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30955-BLK1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18134312.2	4.629	mg/L	0.0760	4.629	mg/L	0.0760	1.64%
Y RADIAL	319649.3	4.796	mg/L	0.0785	4.796	mg/L	0.0785	1.64%
As 188.979†	3.6	0.0051	mg/L	0.00168	0.0051	mg/L	0.00168	32.54%
Tl 190.801†	-7.1	-0.0096	mg/L	0.00636	-0.0096	mg/L	0.00636	66.31%
Se 196.026†	-2.4	-0.0031	mg/L	0.01220	-0.0031	mg/L	0.01220	394.83%
Zn 206.200†	47.9	0.0028	mg/L	0.00029	0.0028	mg/L	0.00029	10.39%
Sb 206.836†	3.1	0.0024	mg/L	0.00555	0.0024	mg/L	0.00555	226.95%
Pb 220.353†	22.8	0.0039	mg/L	0.00267	0.0039	mg/L	0.00267	67.94%
Cd 226.502†	-6.4	-0.0001	mg/L	0.00017	-0.0001	mg/L	0.00017	211.78%
Co 228.616†	-3.2	-0.0001	mg/L	0.00029	-0.0001	mg/L	0.00029	240.33%
Ni 232.003†	-61.6	-0.0050	mg/L	0.00128	-0.0050	mg/L	0.00128	25.52%
Ba 233.527†	10.1	0.0002	mg/L	0.00019	0.0002	mg/L	0.00019	101.59%
Mn 257.610†	135.6	0.0002	mg/L	0.00007	0.0002	mg/L	0.00007	31.92%
Cr 267.716†	272.2	0.0023	mg/L	0.00012	0.0023	mg/L	0.00012	5.38%
Fe 273.955†	-2751.0	-0.1268	mg/L	0.02419	-0.1268	mg/L	0.02419	19.07%
Mg 279.077†	-3212.2	-0.1946	mg/L	0.00258	-0.1946	mg/L	0.00258	1.33%
V 292.402†	12.8	0.0001	mg/L	0.00043	0.0001	mg/L	0.00043	793.70%
Al 308.215†	-5633.8	-0.2510	mg/L	0.00520	-0.2510	mg/L	0.00520	2.07%
Be 313.107†	-771.9	-0.00017	mg/L	0.000068	-0.00017	mg/L	0.000068	39.51%
Cu 324.752†	2135.1	0.0076	mg/L	0.00011	0.0076	mg/L	0.00011	1.39%
Ag 338.289†	-585.9	-0.0041	mg/L	0.00130	-0.0041	mg/L	0.00130	31.73%
Na 330.237†	-173.0	-0.2255	mg/L	0.12959	-0.2255	mg/L	0.12959	57.46%
Ca 227.546†	-38.3	-0.4319	mg/L	0.06661	-0.4319	mg/L	0.06661	15.42%
Al RADIAL†	22.2	0.0133	mg/L	0.00326	0.0133	mg/L	0.00326	24.56%
Fe RADIAL†	3.3	0.0075	mg/L	0.00308	0.0075	mg/L	0.00308	41.28%
Ca RADIAL†	23.7	0.0039	mg/L	0.00483	0.0039	mg/L	0.00483	122.70%
K RADIAL†	-59.5	-0.0429	mg/L	0.14834	-0.0429	mg/L	0.14834	345.60%
Mg RADIAL†	-1.2	-0.0028	mg/L	0.00971	-0.0028	mg/L	0.00971	344.57%
Na RADIAL†	-2009.5	-0.2674	mg/L	0.02226	-0.2674	mg/L	0.02226	8.32%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 104
Sample ID: BE30955-LBK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 220
Date Collected: 5/15/2023 3:43:31 PM
Data Type: Reprocessed on 5/16/2023 9:09:30 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30955-LBK1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17720953.2	4.523	mg/L	0.0573	4.523	mg/L	0.0573	1.27%
Y RADIAL	318312.5	4.776	mg/L	0.1403	4.776	mg/L	0.1403	2.94%
As 188.979†	-2.2	-0.0031	mg/L	0.00749	-0.0031	mg/L	0.00749	242.58%
Tl 190.801†	-3.4	-0.0046	mg/L	0.00644	-0.0046	mg/L	0.00644	139.86%
Se 196.026†	-1.7	-0.0023	mg/L	0.00560	-0.0023	mg/L	0.00560	247.13%
Zn 206.200†	50.8	0.0029	mg/L	0.00039	0.0029	mg/L	0.00039	13.23%
Sb 206.836†	2.2	0.0018	mg/L	0.00609	0.0018	mg/L	0.00609	342.89%
Pb 220.353†	1.2	0.0002	mg/L	0.00211	0.0002	mg/L	0.00211	867.86%
Cd 226.502†	5.3	0.0001	mg/L	0.00011	0.0001	mg/L	0.00011	189.83%
Co 228.616†	-11.8	-0.0004	mg/L	0.00032	-0.0004	mg/L	0.00032	73.90%
Ni 232.003†	-60.7	-0.0049	mg/L	0.00178	-0.0049	mg/L	0.00178	36.16%
Ba 233.527†	-0.9	-0.0000	mg/L	0.00008	-0.0000	mg/L	0.00008	460.91%
Mn 257.610†	419.8	0.0007	mg/L	0.00003	0.0007	mg/L	0.00003	3.78%
Cr 267.716†	295.3	0.0024	mg/L	0.00010	0.0024	mg/L	0.00010	4.26%
Fe 273.955†	-2244.6	-0.1035	mg/L	0.00074	-0.1035	mg/L	0.00074	0.71%
Mg 279.077†	-3203.3	-0.1941	mg/L	0.00665	-0.1941	mg/L	0.00665	3.43%
V 292.402†	-88.7	-0.0004	mg/L	0.00075	-0.0004	mg/L	0.00075	192.52%
Al 308.215†	-5397.5	-0.2404	mg/L	0.00291	-0.2404	mg/L	0.00291	1.21%
Be 313.107†	-1001.4	-0.00022	mg/L	0.000083	-0.00022	mg/L	0.000083	36.83%
Cu 324.752†	1065.6	0.0038	mg/L	0.00018	0.0038	mg/L	0.00018	4.70%
Ag 338.289†	-684.4	-0.0048	mg/L	0.00142	-0.0048	mg/L	0.00142	29.68%
Na 330.237†	45255.2	59.00	mg/L	0.658	59.00	mg/L	0.658	1.11%
Ca 227.546†	-47.8	-0.5391	mg/L	0.13077	-0.5391	mg/L	0.13077	24.26%
Al RADIAL†	15.7	0.0094	mg/L	0.00325	0.0094	mg/L	0.00325	34.54%
Fe RADIAL†	23.2	0.0524	mg/L	0.00603	0.0524	mg/L	0.00603	11.51%
Ca RADIAL†	4.2	0.0007	mg/L	0.01407	0.0007	mg/L	0.01407	>999.9%
K RADIAL†	68.5	0.0494	mg/L	0.10421	0.0494	mg/L	0.10421	210.92%
Mg RADIAL†	-7.6	-0.0186	mg/L	0.01980	-0.0186	mg/L	0.01980	106.19%
Na RADIAL†	509830.3	67.84	mg/L	1.012	67.84	mg/L	1.012	1.49%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 105
Sample ID: SEQ-CCV9
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 9
Date Collected: 5/15/2023 3:46:19 PM
Data Type: Reprocessed on 5/16/2023 9:09:31 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV9

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17815489.5	4.547	mg/L	0.1234	4.547	mg/L	0.1234	2.71%
Y RADIAL	322398.3	4.837	mg/L	0.0928	4.837	mg/L	0.0928	1.92%
As 188.979†	360.6	0.5161	mg/L	0.01742	0.5161	mg/L	0.01742	3.38%
Tl 190.801†	394.9	0.5320	mg/L	0.01282	0.5320	mg/L	0.01282	2.41%
Se 196.026†	411.2	0.5287	mg/L	0.01659	0.5287	mg/L	0.01659	3.14%
Zn 206.200†	44782.4	2.581	mg/L	0.0991	2.581	mg/L	0.0991	3.84%
Sb 206.836†	303.1	0.2390	mg/L	0.01340	0.2390	mg/L	0.01340	5.60%
Pb 220.353†	3025.6	0.5223	mg/L	0.01405	0.5223	mg/L	0.01405	2.69%
Cd 226.502†	21288.8	0.2562	mg/L	0.01256	0.2562	mg/L	0.01256	4.90%
Co 228.616†	70040.6	2.585	mg/L	0.1066	2.585	mg/L	0.1066	4.12%
Ni 232.003†	31587.7	2.576	mg/L	0.1136	2.576	mg/L	0.1136	4.41%
Ba 233.527†	578600.4	10.56	mg/L	0.170	10.56	mg/L	0.170	1.61%
Mn 257.610†	1555630.3	2.624	mg/L	0.0427	2.624	mg/L	0.0427	1.63%
Cr 267.716†	123948.1	1.025	mg/L	0.0424	1.025	mg/L	0.0424	4.13%
Fe 273.955†	110533.9	5.097	mg/L	0.2180	5.097	mg/L	0.2180	4.28%
Mg 279.077†	428646.8	25.97	mg/L	0.408	25.97	mg/L	0.408	1.57%
V 292.402†	592865.4	2.561	mg/L	0.0319	2.561	mg/L	0.0319	1.24%
Al 308.215†	227844.0	10.15	mg/L	0.133	10.15	mg/L	0.133	1.31%
Be 313.107†	1159674.2	0.25974	mg/L	0.002680	0.25974	mg/L	0.002680	1.03%
Cu 324.752†	367385.1	1.303	mg/L	0.0226	1.303	mg/L	0.0226	1.74%
Ag 338.289†	171430.8	1.202	mg/L	0.0200	1.202	mg/L	0.0200	1.67%
Na 330.237†	18444.8	24.07	mg/L	1.295	24.07	mg/L	1.295	5.38%
Ca 227.546†	2221.1	25.04	mg/L	0.555	25.04	mg/L	0.555	2.21%
Al RADIAL†	17604.6	10.53	mg/L	0.213	10.53	mg/L	0.213	2.02%
Fe RADIAL†	2343.2	5.288	mg/L	0.1037	5.288	mg/L	0.1037	1.96%
Ca RADIAL†	157982.2	26.20	mg/L	0.147	26.20	mg/L	0.147	0.56%
K RADIAL†	7379.2	5.323	mg/L	0.1184	5.323	mg/L	0.1184	2.22%
Mg RADIAL†	10854.6	26.46	mg/L	0.509	26.46	mg/L	0.509	1.92%
Na RADIAL†	196886.3	26.20	mg/L	0.189	26.20	mg/L	0.189	0.72%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 106
Sample ID: SEQ-CCB9
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 4
Date Collected: 5/15/2023 3:49:06 PM
Data Type: Reprocessed on 5/16/2023 9:09:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB9

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18250019.8	4.658	mg/L	0.1039	4.658	mg/L	0.1039	2.23%
Y RADIAL	328234.0	4.925	mg/L	0.2113	4.925	mg/L	0.2113	4.29%
As 188.979†	-2.4	-0.0034	mg/L	0.00484	-0.0034	mg/L	0.00484	140.92%
Tl 190.801†	-1.5	-0.0021	mg/L	0.00292	-0.0021	mg/L	0.00292	141.45%
Se 196.026†	-0.3	-0.0003	mg/L	0.01330	-0.0003	mg/L	0.01330	>999.9%
Zn 206.200†	32.0	0.0018	mg/L	0.00035	0.0018	mg/L	0.00035	18.98%
Sb 206.836†	13.4	0.0106	mg/L	0.00619	0.0106	mg/L	0.00619	58.27%
Pb 220.353†	7.9	0.0013	mg/L	0.00206	0.0013	mg/L	0.00206	153.17%
Cd 226.502†	4.2	0.0001	mg/L	0.00006	0.0001	mg/L	0.00006	116.43%
Co 228.616†	32.8	0.0012	mg/L	0.00045	0.0012	mg/L	0.00045	37.51%
Ni 232.003†	-15.5	-0.0013	mg/L	0.00151	-0.0013	mg/L	0.00151	119.35%
Ba 233.527†	331.6	0.0061	mg/L	0.00152	0.0061	mg/L	0.00152	25.05%
Mn 257.610†	965.4	0.0016	mg/L	0.00050	0.0016	mg/L	0.00050	30.92%
Cr 267.716†	98.1	0.0008	mg/L	0.00037	0.0008	mg/L	0.00037	45.91%
Fe 273.955†	-3376.8	-0.1557	mg/L	0.00248	-0.1557	mg/L	0.00248	1.60%
Mg 279.077†	-3053.3	-0.1850	mg/L	0.00697	-0.1850	mg/L	0.00697	3.77%
V 292.402†	266.0	0.0011	mg/L	0.00053	0.0011	mg/L	0.00053	46.03%
Al 308.215†	-5714.8	-0.2546	mg/L	0.00876	-0.2546	mg/L	0.00876	3.44%
Be 313.107†	-198.4	-0.00004	mg/L	0.000035	-0.00004	mg/L	0.000035	78.48%
Cu 324.752†	1329.7	0.0047	mg/L	0.00081	0.0047	mg/L	0.00081	17.11%
Ag 338.289†	344.7	0.0024	mg/L	0.00094	0.0024	mg/L	0.00094	38.78%
Na 330.237†	-198.8	-0.2592	mg/L	0.09191	-0.2592	mg/L	0.09191	35.46%
Ca 227.546†	-38.7	-0.4364	mg/L	0.13026	-0.4364	mg/L	0.13026	29.85%
Al RADIAL†	0.3	0.0002	mg/L	0.00609	0.0002	mg/L	0.00609	>999.9%
Fe RADIAL†	-1.3	-0.0030	mg/L	0.00587	-0.0030	mg/L	0.00587	197.42%
Ca RADIAL†	32.5	0.0054	mg/L	0.01869	0.0054	mg/L	0.01869	347.04%
K RADIAL†	-115.0	-0.0830	mg/L	0.05783	-0.0830	mg/L	0.05783	69.69%
Mg RADIAL†	1.9	0.0046	mg/L	0.02193	0.0046	mg/L	0.02193	481.35%
Na RADIAL†	-1720.4	-0.2289	mg/L	0.01347	-0.2289	mg/L	0.01347	5.89%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 107
Sample ID: BE30955-BS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 221
Date Collected: 5/15/2023 3:51:53 PM
Data Type: Reprocessed on 5/16/2023 9:09:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30955-BS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18095244.4	4.619	mg/L	0.0528	4.619	mg/L	0.0528	1.14%
Y RADIAL	331777.6	4.978	mg/L	0.0817	4.978	mg/L	0.0817	1.64%
As 188.979†	1257.4	1.792	mg/L	0.0102	1.792	mg/L	0.0102	0.57%
Tl 190.801†	1320.0	1.775	mg/L	0.0203	1.775	mg/L	0.0203	1.15%
Se 196.026†	1105.4	1.438	mg/L	0.0170	1.438	mg/L	0.0170	1.18%
Zn 206.200†	8106.4	0.4672	mg/L	0.00336	0.4672	mg/L	0.00336	0.72%
Sb 206.836†	297.5	0.2353	mg/L	0.00227	0.2353	mg/L	0.00227	0.96%
Pb 220.353†	2671.2	0.4590	mg/L	0.00356	0.4590	mg/L	0.00356	0.78%
Cd 226.502†	3678.8	0.0443	mg/L	0.00046	0.0443	mg/L	0.00046	1.03%
Co 228.616†	12647.8	0.4669	mg/L	0.00907	0.4669	mg/L	0.00907	1.94%
Ni 232.003†	5623.5	0.4586	mg/L	0.01268	0.4586	mg/L	0.01268	2.77%
Ba 233.527†	107474.0	1.962	mg/L	0.0288	1.962	mg/L	0.0288	1.47%
Mn 257.610†	288981.6	0.4874	mg/L	0.00767	0.4874	mg/L	0.00767	1.57%
Cr 267.716†	21991.0	0.1819	mg/L	0.00272	0.1819	mg/L	0.00272	1.49%
Fe 273.955†	16927.5	0.7805	mg/L	0.02178	0.7805	mg/L	0.02178	2.79%
Mg 279.077†	12248.8	0.7421	mg/L	0.01767	0.7421	mg/L	0.01767	2.38%
V 292.402†	107960.7	0.4664	mg/L	0.00625	0.4664	mg/L	0.00625	1.34%
Al 308.215†	32884.3	1.465	mg/L	0.0408	1.465	mg/L	0.0408	2.78%
Be 313.107†	205060.2	0.04593	mg/L	0.000670	0.04593	mg/L	0.000670	1.46%
Cu 324.752†	71786.6	0.2546	mg/L	0.00396	0.2546	mg/L	0.00396	1.56%
Ag 338.289†	5528.0	0.0387	mg/L	0.00319	0.0387	mg/L	0.00319	8.24%
Na 330.237†	296.4	0.3910	mg/L	0.26595	0.3910	mg/L	0.26595	68.02%
Ca 227.546†	31.8	0.3586	mg/L	0.06316	0.3586	mg/L	0.06316	17.61%
Al RADIAL†	2926.1	1.750	mg/L	0.0256	1.750	mg/L	0.0256	1.46%
Fe RADIAL†	417.6	0.9426	mg/L	0.02051	0.9426	mg/L	0.02051	2.18%
Ca RADIAL†	5861.0	0.9720	mg/L	0.02105	0.9720	mg/L	0.02105	2.17%
K RADIAL†	1234.8	0.8908	mg/L	0.03047	0.8908	mg/L	0.03047	3.42%
Mg RADIAL†	387.3	0.9441	mg/L	0.00464	0.9441	mg/L	0.00464	0.49%
Na RADIAL†	5017.5	0.6676	mg/L	0.00894	0.6676	mg/L	0.00894	1.34%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 108
Sample ID: 23E0444-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 222
Date Collected: 5/15/2023 3:54:37 PM
Data Type: Reprocessed on 5/16/2023 9:09:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17655391.1	4.506	mg/L	0.1019	4.506	mg/L	0.1019	2.26%
Y RADIAL	327018.0	4.907	mg/L	0.1053	4.907	mg/L	0.1053	2.15%
As 188.979†	-7.7	-0.0109	mg/L	0.00784	-0.0109	mg/L	0.00784	71.63%
Tl 190.801†	-2.5	-0.0034	mg/L	0.00393	-0.0034	mg/L	0.00393	115.41%
Se 196.026†	-5.1	-0.0066	mg/L	0.01291	-0.0066	mg/L	0.01291	194.92%
Zn 206.200†	202.0	0.0116	mg/L	0.00056	0.0116	mg/L	0.00056	4.80%
Sb 206.836†	7.2	0.0054	mg/L	0.00318	0.0054	mg/L	0.00318	58.31%
Pb 220.353†	15.5	0.0027	mg/L	0.00252	0.0027	mg/L	0.00252	94.10%
Cd 226.502†	3.6	0.0000	mg/L	0.00009	0.0000	mg/L	0.00009	229.94%
Co 228.616†	-0.9	-0.0000	mg/L	0.00034	-0.0000	mg/L	0.00034	>999.9%
Ni 232.003†	-48.0	-0.0039	mg/L	0.00120	-0.0039	mg/L	0.00120	30.75%
Ba 233.527†	896.7	0.0164	mg/L	0.00045	0.0164	mg/L	0.00045	2.73%
Mn 257.610†	5640.1	0.0095	mg/L	0.00026	0.0095	mg/L	0.00026	2.73%
Cr 267.716†	303.5	0.0025	mg/L	0.00015	0.0025	mg/L	0.00015	6.01%
Fe 273.955†	-2672.9	-0.1232	mg/L	0.00115	-0.1232	mg/L	0.00115	0.94%
Mg 279.077†	7523.0	0.4558	mg/L	0.02119	0.4558	mg/L	0.02119	4.65%
V 292.402†	104.6	0.0004	mg/L	0.00028	0.0004	mg/L	0.00028	61.43%
Al 308.215†	-4120.8	-0.1836	mg/L	0.00415	-0.1836	mg/L	0.00415	2.26%
Be 313.107†	-1163.5	-0.00026	mg/L	0.000098	-0.00026	mg/L	0.000098	37.46%
Cu 324.752†	1492.5	0.0053	mg/L	0.00035	0.0053	mg/L	0.00035	6.56%
Ag 338.289†	-630.8	-0.0044	mg/L	0.00086	-0.0044	mg/L	0.00086	19.46%
Na 330.237†	43576.4	56.82	mg/L	1.710	56.82	mg/L	1.710	3.01%
Ca 227.546†	160.5	1.810	mg/L	0.1120	1.810	mg/L	0.1120	6.19%
Al RADIAL†	134.2	0.0803	mg/L	0.00393	0.0803	mg/L	0.00393	4.89%
Fe RADIAL†	16.8	0.0380	mg/L	0.00965	0.0380	mg/L	0.00965	25.42%
Ca RADIAL†	14619.5	2.425	mg/L	0.0301	2.425	mg/L	0.0301	1.24%
K RADIAL†	312.3	0.2253	mg/L	0.17863	0.2253	mg/L	0.17863	79.28%
Mg RADIAL†	273.4	0.6666	mg/L	0.02524	0.6666	mg/L	0.02524	3.79%
Na RADIAL†	472453.1	62.86	mg/L	0.543	62.86	mg/L	0.543	0.86%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 109
Sample ID: 23E0444-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 223
Date Collected: 5/15/2023 3:57:22 PM
Data Type: Reprocessed on 5/16/2023 9:09:35 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17433362.1	4.450	mg/L	0.0429	4.450	mg/L	0.0429	0.96%
Y RADIAL	312070.5	4.682	mg/L	0.0808	4.682	mg/L	0.0808	1.73%
As 188.979†	-0.9	-0.0013	mg/L	0.00503	-0.0013	mg/L	0.00503	375.38%
Tl 190.801†	-5.3	-0.0071	mg/L	0.00239	-0.0071	mg/L	0.00239	33.41%
Se 196.026†	5.6	0.0073	mg/L	0.00760	0.0073	mg/L	0.00760	104.49%
Zn 206.200†	185.1	0.0107	mg/L	0.00019	0.0107	mg/L	0.00019	1.82%
Sb 206.836†	8.0	0.0057	mg/L	0.00501	0.0057	mg/L	0.00501	88.13%
Pb 220.353†	12.4	0.0021	mg/L	0.00134	0.0021	mg/L	0.00134	62.75%
Cd 226.502†	16.0	0.0002	mg/L	0.00010	0.0002	mg/L	0.00010	51.09%
Co 228.616†	-9.0	-0.0003	mg/L	0.00016	-0.0003	mg/L	0.00016	49.50%
Ni 232.003†	-64.6	-0.0053	mg/L	0.00110	-0.0053	mg/L	0.00110	20.91%
Ba 233.527†	1165.0	0.0213	mg/L	0.00037	0.0213	mg/L	0.00037	1.74%
Mn 257.610†	11820.6	0.0199	mg/L	0.00026	0.0199	mg/L	0.00026	1.30%
Cr 267.716†	317.6	0.0026	mg/L	0.00010	0.0026	mg/L	0.00010	3.82%
Fe 273.955†	-2605.7	-0.1202	mg/L	0.00150	-0.1202	mg/L	0.00150	1.25%
Mg 279.077†	52635.8	3.189	mg/L	0.0485	3.189	mg/L	0.0485	1.52%
V 292.402†	-8.5	-0.0000	mg/L	0.00047	-0.0000	mg/L	0.00047	>999.9%
Al 308.215†	-3595.6	-0.1602	mg/L	0.01095	-0.1602	mg/L	0.01095	6.83%
Be 313.107†	-1279.9	-0.00029	mg/L	0.000069	-0.00029	mg/L	0.000069	23.92%
Cu 324.752†	695.6	0.0025	mg/L	0.00043	0.0025	mg/L	0.00043	17.53%
Ag 338.289†	-571.6	-0.0040	mg/L	0.00085	-0.0040	mg/L	0.00085	21.16%
Na 330.237†	44767.1	58.37	mg/L	0.760	58.37	mg/L	0.760	1.30%
Ca 227.546†	499.6	5.633	mg/L	0.0796	5.633	mg/L	0.0796	1.41%
Al RADIAL†	151.0	0.0903	mg/L	0.00638	0.0903	mg/L	0.00638	7.06%
Fe RADIAL†	14.7	0.0331	mg/L	0.01577	0.0331	mg/L	0.01577	47.59%
Ca RADIAL†	41291.5	6.848	mg/L	0.1988	6.848	mg/L	0.1988	2.90%
K RADIAL†	57.5	0.0415	mg/L	0.03949	0.0415	mg/L	0.03949	95.20%
Mg RADIAL†	1438.4	3.506	mg/L	0.0732	3.506	mg/L	0.0732	2.09%
Na RADIAL†	496529.6	66.07	mg/L	0.314	66.07	mg/L	0.314	0.48%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 110
Sample ID: BE30955-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 224
Date Collected: 5/15/2023 4:00:10 PM
Data Type: Reprocessed on 5/16/2023 9:09:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30955-DUP1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16449558.0	4.199	mg/L	0.1313	4.199	mg/L	0.1313	3.13%
Y RADIAL	309856.1	4.649	mg/L	0.1809	4.649	mg/L	0.1809	3.89%
As 188.979†	-2.9	-0.0041	mg/L	0.00940	-0.0041	mg/L	0.00940	231.39%
Tl 190.801†	-6.9	-0.0092	mg/L	0.00614	-0.0092	mg/L	0.00614	66.61%
Se 196.026†	3.2	0.0041	mg/L	0.00541	0.0041	mg/L	0.00541	132.25%
Zn 206.200†	191.7	0.0110	mg/L	0.00062	0.0110	mg/L	0.00062	5.57%
Sb 206.836†	5.7	0.0039	mg/L	0.00466	0.0039	mg/L	0.00466	119.91%
Pb 220.353†	16.3	0.0028	mg/L	0.00070	0.0028	mg/L	0.00070	25.02%
Cd 226.502†	19.0	0.0002	mg/L	0.00010	0.0002	mg/L	0.00010	44.03%
Co 228.616†	-10.2	-0.0004	mg/L	0.00031	-0.0004	mg/L	0.00031	82.71%
Ni 232.003†	-92.7	-0.0076	mg/L	0.00287	-0.0076	mg/L	0.00287	38.02%
Ba 233.527†	1230.3	0.0225	mg/L	0.00070	0.0225	mg/L	0.00070	3.14%
Mn 257.610†	12656.4	0.0213	mg/L	0.00083	0.0213	mg/L	0.00083	3.87%
Cr 267.716†	527.9	0.0044	mg/L	0.00022	0.0044	mg/L	0.00022	5.14%
Fe 273.955†	-3024.6	-0.1395	mg/L	0.00147	-0.1395	mg/L	0.00147	1.05%
Mg 279.077†	56785.6	3.440	mg/L	0.1617	3.440	mg/L	0.1617	4.70%
V 292.402†	101.3	0.0004	mg/L	0.00016	0.0004	mg/L	0.00016	36.44%
Al 308.215†	-4778.9	-0.2129	mg/L	0.01403	-0.2129	mg/L	0.01403	6.59%
Be 313.107†	-1697.2	-0.00038	mg/L	0.000072	-0.00038	mg/L	0.000072	18.84%
Cu 324.752†	1018.1	0.0036	mg/L	0.00084	0.0036	mg/L	0.00084	23.20%
Ag 338.289†	-464.9	-0.0033	mg/L	0.00094	-0.0033	mg/L	0.00094	28.76%
Na 330.237†	48609.4	63.38	mg/L	2.819	63.38	mg/L	2.819	4.45%
Ca 227.546†	517.9	5.840	mg/L	0.1098	5.840	mg/L	0.1098	1.88%
Al RADIAL†	36.5	0.0219	mg/L	0.00373	0.0219	mg/L	0.00373	17.06%
Fe RADIAL†	6.4	0.0145	mg/L	0.00925	0.0145	mg/L	0.00925	63.68%
Ca RADIAL†	40463.3	6.711	mg/L	0.0530	6.711	mg/L	0.0530	0.79%
K RADIAL†	-34.3	-0.0247	mg/L	0.06032	-0.0247	mg/L	0.06032	243.71%
Mg RADIAL†	1451.9	3.539	mg/L	0.1436	3.539	mg/L	0.1436	4.06%
Na RADIAL†	517263.2	68.83	mg/L	0.266	68.83	mg/L	0.266	0.39%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 111
Sample ID: BE30955-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 225
Date Collected: 5/15/2023 4:02:53 PM
Data Type: Reprocessed on 5/16/2023 9:09:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30955-MS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17583593.0	4.488	mg/L	0.0686	4.488	mg/L	0.0686	1.53%
Y RADIAL	314382.7	4.717	mg/L	0.1540	4.717	mg/L	0.1540	3.27%
As 188.979†	1293.5	1.844	mg/L	0.0299	1.844	mg/L	0.0299	1.62%
Tl 190.801†	1292.4	1.738	mg/L	0.0221	1.738	mg/L	0.0221	1.27%
Se 196.026†	1166.8	1.517	mg/L	0.0312	1.517	mg/L	0.0312	2.06%
Zn 206.200†	8387.7	0.4834	mg/L	0.00666	0.4834	mg/L	0.00666	1.38%
Sb 206.836†	301.4	0.2378	mg/L	0.00373	0.2378	mg/L	0.00373	1.57%
Pb 220.353†	2637.7	0.4533	mg/L	0.00656	0.4533	mg/L	0.00656	1.45%
Cd 226.502†	3710.1	0.0446	mg/L	0.00056	0.0446	mg/L	0.00056	1.26%
Co 228.616†	12528.4	0.4625	mg/L	0.00646	0.4625	mg/L	0.00646	1.40%
Ni 232.003†	5620.9	0.4584	mg/L	0.01207	0.4584	mg/L	0.01207	2.63%
Ba 233.527†	108616.1	1.982	mg/L	0.0240	1.982	mg/L	0.0240	1.21%
Mn 257.610†	298039.8	0.5027	mg/L	0.00586	0.5027	mg/L	0.00586	1.17%
Cr 267.716†	21969.7	0.1817	mg/L	0.00207	0.1817	mg/L	0.00207	1.14%
Fe 273.955†	17344.7	0.7998	mg/L	0.01617	0.7998	mg/L	0.01617	2.02%
Mg 279.077†	69092.2	4.186	mg/L	0.0233	4.186	mg/L	0.0233	0.56%
V 292.402†	110414.3	0.4770	mg/L	0.00625	0.4770	mg/L	0.00625	1.31%
Al 308.215†	37254.5	1.660	mg/L	0.0488	1.660	mg/L	0.0488	2.94%
Be 313.107†	211443.1	0.04736	mg/L	0.000465	0.04736	mg/L	0.000465	0.98%
Cu 324.752†	71620.0	0.2540	mg/L	0.00410	0.2540	mg/L	0.00410	1.61%
Ag 338.289†	5648.4	0.0396	mg/L	0.00255	0.0396	mg/L	0.00255	6.44%
Na 330.237†	45395.5	59.19	mg/L	1.633	59.19	mg/L	1.633	2.76%
Ca 227.546†	581.2	6.554	mg/L	0.1446	6.554	mg/L	0.1446	2.21%
Al RADIAL†	3205.6	1.917	mg/L	0.0503	1.917	mg/L	0.0503	2.63%
Fe RADIAL†	453.7	1.024	mg/L	0.0390	1.024	mg/L	0.0390	3.81%
Ca RADIAL†	47410.5	7.863	mg/L	0.1863	7.863	mg/L	0.1863	2.37%
K RADIAL†	1355.1	0.9776	mg/L	0.05443	0.9776	mg/L	0.05443	5.57%
Mg RADIAL†	1880.8	4.585	mg/L	0.1764	4.585	mg/L	0.1764	3.85%
Na RADIAL†	509824.7	67.84	mg/L	0.619	67.84	mg/L	0.619	0.91%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 112
Sample ID: BE30955-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 226
Date Collected: 5/15/2023 4:05:41 PM
Data Type: Reprocessed on 5/16/2023 9:09:38 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30955-PS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17300685.4	4.416	mg/L	0.1263	4.416	mg/L	0.1263	2.86%
Y RADIAL	318706.7	4.782	mg/L	0.1532	4.782	mg/L	0.1532	3.20%
As 188.979†	1738.9	2.479	mg/L	0.0856	2.479	mg/L	0.0856	3.45%
Tl 190.801†	1824.6	2.453	mg/L	0.0846	2.453	mg/L	0.0846	3.45%
Se 196.026†	1607.4	2.090	mg/L	0.0609	2.090	mg/L	0.0609	2.91%
Zn 206.200†	11200.5	0.6455	mg/L	0.01973	0.6455	mg/L	0.01973	3.06%
Sb 206.836†	380.9	0.3008	mg/L	0.01409	0.3008	mg/L	0.01409	4.68%
Pb 220.353†	3667.1	0.6301	mg/L	0.01972	0.6301	mg/L	0.01972	3.13%
Cd 226.502†	5165.4	0.0621	mg/L	0.00198	0.0621	mg/L	0.00198	3.18%
Co 228.616†	17149.1	0.6330	mg/L	0.00822	0.6330	mg/L	0.00822	1.30%
Ni 232.003†	7697.3	0.6277	mg/L	0.01668	0.6277	mg/L	0.01668	2.66%
Ba 233.527†	145316.6	2.652	mg/L	0.0701	2.652	mg/L	0.0701	2.64%
Mn 257.610†	398481.6	0.6721	mg/L	0.01741	0.6721	mg/L	0.01741	2.59%
Cr 267.716†	29837.6	0.2468	mg/L	0.00631	0.2468	mg/L	0.00631	2.56%
Fe 273.955†	24582.2	1.134	mg/L	0.0354	1.134	mg/L	0.0354	3.12%
Mg 279.077†	73672.8	4.463	mg/L	0.1143	4.463	mg/L	0.1143	2.56%
V 292.402†	148312.2	0.6407	mg/L	0.01575	0.6407	mg/L	0.01575	2.46%
Al 308.215†	53374.7	2.378	mg/L	0.0963	2.378	mg/L	0.0963	4.05%
Be 313.107†	282643.5	0.06331	mg/L	0.001654	0.06331	mg/L	0.001654	2.61%
Cu 324.752†	98357.6	0.3488	mg/L	0.01012	0.3488	mg/L	0.01012	2.90%
Ag 338.289†	137.8	0.0009	mg/L	0.00188	0.0009	mg/L	0.00188	199.92%
Na 330.237†	46937.9	61.20	mg/L	1.763	61.20	mg/L	1.763	2.88%
Ca 227.546†	604.1	6.811	mg/L	0.2730	6.811	mg/L	0.2730	4.01%
Al RADIAL†	4380.3	2.620	mg/L	0.0886	2.620	mg/L	0.0886	3.38%
Fe RADIAL†	582.7	1.315	mg/L	0.0432	1.315	mg/L	0.0432	3.29%
Ca RADIAL†	46509.6	7.713	mg/L	0.0445	7.713	mg/L	0.0445	0.58%
K RADIAL†	1589.4	1.147	mg/L	0.0701	1.147	mg/L	0.0701	6.11%
Mg RADIAL†	1926.5	4.696	mg/L	0.1389	4.696	mg/L	0.1389	2.96%
Na RADIAL†	501245.7	66.70	mg/L	0.355	66.70	mg/L	0.355	0.53%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 113
Sample ID: SEQ-SRD5
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 227
Date Collected: 5/15/2023 4:08:27 PM
Data Type: Reprocessed on 5/16/2023 9:09:39 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	17671088.8	4.510	mg/L	0.0357	4.510	mg/L	0.0357	0.79%
Y RADIAL	317140.2	4.758	mg/L	0.1374	4.758	mg/L	0.1374	2.89%
As 188.979†	-4.0	-0.0057	mg/L	0.00629	-0.0057	mg/L	0.00629	109.73%
Tl 190.801†	-2.4	-0.0033	mg/L	0.00114	-0.0033	mg/L	0.00114	34.94%
Se 196.026†	6.3	0.0082	mg/L	0.01082	0.0082	mg/L	0.01082	132.46%
Zn 206.200†	123.0	0.0071	mg/L	0.00037	0.0071	mg/L	0.00037	5.27%
Sb 206.836†	5.6	0.0043	mg/L	0.00358	0.0043	mg/L	0.00358	83.11%
Pb 220.353†	4.2	0.0007	mg/L	0.00024	0.0007	mg/L	0.00024	33.41%
Cd 226.502†	1.5	0.0000	mg/L	0.00017	0.0000	mg/L	0.00017	932.06%
Co 228.616†	-1.4	-0.0001	mg/L	0.00023	-0.0001	mg/L	0.00023	431.37%
Ni 232.003†	-32.7	-0.0027	mg/L	0.00036	-0.0027	mg/L	0.00036	13.63%
Ba 233.527†	298.2	0.0054	mg/L	0.00029	0.0054	mg/L	0.00029	5.29%
Mn 257.610†	3330.1	0.0056	mg/L	0.00007	0.0056	mg/L	0.00007	1.16%
Cr 267.716†	89.3	0.0007	mg/L	0.00013	0.0007	mg/L	0.00013	18.04%
Fe 273.955†	-3240.0	-0.1494	mg/L	0.00112	-0.1494	mg/L	0.00112	0.75%
Mg 279.077†	10568.5	0.6403	mg/L	0.01475	0.6403	mg/L	0.01475	2.30%
V 292.402†	20.7	0.0001	mg/L	0.00084	0.0001	mg/L	0.00084	940.41%
Al 308.215†	-5063.2	-0.2256	mg/L	0.00321	-0.2256	mg/L	0.00321	1.42%
Be 313.107†	-1246.8	-0.00028	mg/L	0.000039	-0.00028	mg/L	0.000039	14.05%
Cu 324.752†	146.1	0.0005	mg/L	0.00047	0.0005	mg/L	0.00047	89.88%
Ag 338.289†	-693.1	-0.0049	mg/L	0.00059	-0.0049	mg/L	0.00059	12.22%
Na 330.237†	10000.5	13.04	mg/L	0.158	13.04	mg/L	0.158	1.21%
Ca 227.546†	95.3	1.074	mg/L	0.0726	1.074	mg/L	0.0726	6.76%
Al RADIAL†	36.9	0.0220	mg/L	0.00199	0.0220	mg/L	0.00199	9.04%
Fe RADIAL†	-2.1	-0.0048	mg/L	0.00593	-0.0048	mg/L	0.00593	123.50%
Ca RADIAL†	9665.3	1.603	mg/L	0.0269	1.603	mg/L	0.0269	1.68%
K RADIAL†	62.4	0.0450	mg/L	0.09304	0.0450	mg/L	0.09304	206.83%
Mg RADIAL†	335.2	0.8171	mg/L	0.01860	0.8171	mg/L	0.01860	2.28%
Na RADIAL†	118276.9	15.74	mg/L	0.158	15.74	mg/L	0.158	1.01%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 114
Sample ID: 23E0444-05
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 228
Date Collected: 5/15/2023 4:11:06 PM
Data Type: Reprocessed on 5/16/2023 9:09:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17781466.7	4.539	mg/L	0.1242	4.539	mg/L	0.1242	2.74%
Y RADIAL	313897.4	4.710	mg/L	0.1940	4.710	mg/L	0.1940	4.12%
As 188.979†	-2.9	-0.0041	mg/L	0.00080	-0.0041	mg/L	0.00080	19.43%
Tl 190.801†	-4.1	-0.0055	mg/L	0.00433	-0.0055	mg/L	0.00433	78.72%
Se 196.026†	4.0	0.0052	mg/L	0.00328	0.0052	mg/L	0.00328	63.24%
Zn 206.200†	109.5	0.0063	mg/L	0.00039	0.0063	mg/L	0.00039	6.22%
Sb 206.836†	8.8	0.0065	mg/L	0.00650	0.0065	mg/L	0.00650	100.03%
Pb 220.353†	36.2	0.0062	mg/L	0.00197	0.0062	mg/L	0.00197	31.67%
Cd 226.502†	-0.3	-0.0000	mg/L	0.00008	-0.0000	mg/L	0.00008	>999.9%
Co 228.616†	-3.7	-0.0001	mg/L	0.00010	-0.0001	mg/L	0.00010	76.30%
Ni 232.003†	-58.4	-0.0048	mg/L	0.00167	-0.0048	mg/L	0.00167	35.17%
Ba 233.527†	633.0	0.0116	mg/L	0.00037	0.0116	mg/L	0.00037	3.19%
Mn 257.610†	10805.6	0.0182	mg/L	0.00042	0.0182	mg/L	0.00042	2.29%
Cr 267.716†	283.3	0.0023	mg/L	0.00019	0.0023	mg/L	0.00019	8.26%
Fe 273.955†	-3142.0	-0.1449	mg/L	0.00081	-0.1449	mg/L	0.00081	0.56%
Mg 279.077†	30371.4	1.840	mg/L	0.0407	1.840	mg/L	0.0407	2.21%
V 292.402†	5.3	0.0000	mg/L	0.00015	0.0000	mg/L	0.00015	669.44%
Al 308.215†	-4697.5	-0.2093	mg/L	0.00469	-0.2093	mg/L	0.00469	2.24%
Be 313.107†	-1181.3	-0.00026	mg/L	0.000088	-0.00026	mg/L	0.000088	33.33%
Cu 324.752†	276.3	0.0010	mg/L	0.00074	0.0010	mg/L	0.00074	75.13%
Ag 338.289†	-657.2	-0.0046	mg/L	0.00087	-0.0046	mg/L	0.00087	18.94%
Na 330.237†	47254.9	61.61	mg/L	1.655	61.61	mg/L	1.655	2.69%
Ca 227.546†	391.6	4.416	mg/L	0.0690	4.416	mg/L	0.0690	1.56%
Al RADIAL†	74.6	0.0446	mg/L	0.00781	0.0446	mg/L	0.00781	17.52%
Fe RADIAL†	-1.6	-0.0036	mg/L	0.01183	-0.0036	mg/L	0.01183	330.72%
Ca RADIAL†	32194.2	5.339	mg/L	0.2046	5.339	mg/L	0.2046	3.83%
K RADIAL†	64.9	0.0468	mg/L	0.07202	0.0468	mg/L	0.07202	153.87%
Mg RADIAL†	864.2	2.107	mg/L	0.0774	2.107	mg/L	0.0774	3.68%
Na RADIAL†	518804.3	69.03	mg/L	0.284	69.03	mg/L	0.284	0.41%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 115
Sample ID: 23E0444-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 229
Date Collected: 5/15/2023 4:13:48 PM
Data Type: Reprocessed on 5/16/2023 9:09:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0444-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17352789.4	4.429	mg/L	0.1804	4.429	mg/L	0.1804	4.07%
Y RADIAL	304488.0	4.569	mg/L	0.3217	4.569	mg/L	0.3217	7.04%
As 188.979†	-8.2	-0.0116	mg/L	0.00740	-0.0116	mg/L	0.00740	63.74%
Tl 190.801†	-6.4	-0.0087	mg/L	0.00241	-0.0087	mg/L	0.00241	27.83%
Se 196.026†	5.3	0.0069	mg/L	0.01158	0.0069	mg/L	0.01158	167.33%
Zn 206.200†	280.8	0.0162	mg/L	0.00086	0.0162	mg/L	0.00086	5.31%
Sb 206.836†	4.5	0.0031	mg/L	0.00363	0.0031	mg/L	0.00363	118.90%
Pb 220.353†	27.6	0.0047	mg/L	0.00194	0.0047	mg/L	0.00194	40.82%
Cd 226.502†	15.0	0.0002	mg/L	0.00021	0.0002	mg/L	0.00021	114.35%
Co 228.616†	-10.5	-0.0004	mg/L	0.00020	-0.0004	mg/L	0.00020	50.54%
Ni 232.003†	-83.9	-0.0068	mg/L	0.00334	-0.0068	mg/L	0.00334	48.80%
Ba 233.527†	468.0	0.0085	mg/L	0.00045	0.0085	mg/L	0.00045	5.31%
Mn 257.610†	5636.5	0.0095	mg/L	0.00046	0.0095	mg/L	0.00046	4.81%
Cr 267.716†	310.4	0.0026	mg/L	0.00030	0.0026	mg/L	0.00030	11.51%
Fe 273.955†	-3235.6	-0.1492	mg/L	0.00075	-0.1492	mg/L	0.00075	0.50%
Mg 279.077†	37206.3	2.254	mg/L	0.0896	2.254	mg/L	0.0896	3.98%
V 292.402†	6.7	0.0000	mg/L	0.00041	0.0000	mg/L	0.00041	>999.9%
Al 308.215†	-5140.5	-0.2290	mg/L	0.00981	-0.2290	mg/L	0.00981	4.28%
Be 313.107†	-1261.2	-0.00028	mg/L	0.000079	-0.00028	mg/L	0.000079	28.08%
Cu 324.752†	485.3	0.0017	mg/L	0.00059	0.0017	mg/L	0.00059	33.99%
Ag 338.289†	-666.5	-0.0047	mg/L	0.00065	-0.0047	mg/L	0.00065	13.94%
Na 330.237†	46536.1	60.67	mg/L	2.238	60.67	mg/L	2.238	3.69%
Ca 227.546†	397.8	4.485	mg/L	0.1113	4.485	mg/L	0.1113	2.48%
Al RADIAL†	15.6	0.0093	mg/L	0.00461	0.0093	mg/L	0.00461	49.47%
Fe RADIAL†	3.0	0.0067	mg/L	0.00339	0.0067	mg/L	0.00339	50.65%
Ca RADIAL†	33748.4	5.597	mg/L	0.4856	5.597	mg/L	0.4856	8.68%
K RADIAL†	263.0	0.1898	mg/L	0.12415	0.1898	mg/L	0.12415	65.43%
Mg RADIAL†	1031.8	2.515	mg/L	0.1800	2.515	mg/L	0.1800	7.16%
Na RADIAL†	527546.4	70.20	mg/L	6.750	70.20	mg/L	6.750	9.62%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 116
Sample ID: 23E0661-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 230
Date Collected: 5/15/2023 4:16:34 PM
Data Type: Reprocessed on 5/16/2023 9:09:41 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0661-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17545307.9	4.478	mg/L	0.0628	4.478	mg/L	0.0628	1.40%
Y RADIAL	323956.9	4.861	mg/L	0.0533	4.861	mg/L	0.0533	1.10%
As 188.979†	-7.1	-0.0101	mg/L	0.01153	-0.0101	mg/L	0.01153	114.55%
Tl 190.801†	-5.0	-0.0068	mg/L	0.00474	-0.0068	mg/L	0.00474	70.14%
Se 196.026†	2.4	0.0031	mg/L	0.00841	0.0031	mg/L	0.00841	267.27%
Zn 206.200†	977.5	0.0563	mg/L	0.00095	0.0563	mg/L	0.00095	1.69%
Sb 206.836†	6.1	0.0040	mg/L	0.00499	0.0040	mg/L	0.00499	125.20%
Pb 220.353†	25.5	0.0044	mg/L	0.00113	0.0044	mg/L	0.00113	25.79%
Cd 226.502†	17.7	0.0002	mg/L	0.00013	0.0002	mg/L	0.00013	60.98%
Co 228.616†	9.1	0.0003	mg/L	0.00054	0.0003	mg/L	0.00054	160.91%
Ni 232.003†	-64.0	-0.0052	mg/L	0.00103	-0.0052	mg/L	0.00103	19.77%
Ba 233.527†	1400.9	0.0256	mg/L	0.00035	0.0256	mg/L	0.00035	1.37%
Mn 257.610†	61717.2	0.1041	mg/L	0.00115	0.1041	mg/L	0.00115	1.11%
Cr 267.716†	291.3	0.0024	mg/L	0.00019	0.0024	mg/L	0.00019	7.80%
Fe 273.955†	-3221.4	-0.1485	mg/L	0.00060	-0.1485	mg/L	0.00060	0.41%
Mg 279.077†	16964.1	1.028	mg/L	0.0095	1.028	mg/L	0.0095	0.93%
V 292.402†	120.9	0.0005	mg/L	0.00041	0.0005	mg/L	0.00041	78.91%
Al 308.215†	-4821.8	-0.2148	mg/L	0.00854	-0.2148	mg/L	0.00854	3.98%
Be 313.107†	-1309.8	-0.00029	mg/L	0.000037	-0.00029	mg/L	0.000037	12.58%
Cu 324.752†	1330.6	0.0047	mg/L	0.00057	0.0047	mg/L	0.00057	12.08%
Ag 338.289†	-568.8	-0.0040	mg/L	0.00073	-0.0040	mg/L	0.00073	18.20%
Na 330.237†	47849.3	62.39	mg/L	0.638	62.39	mg/L	0.638	1.02%
Ca 227.546†	762.2	8.594	mg/L	0.1442	8.594	mg/L	0.1442	1.68%
Al RADIAL†	56.3	0.0337	mg/L	0.00359	0.0337	mg/L	0.00359	10.65%
Fe RADIAL†	0.8	0.0017	mg/L	0.00416	0.0017	mg/L	0.00416	242.14%
Ca RADIAL†	58072.4	9.631	mg/L	0.1896	9.631	mg/L	0.1896	1.97%
K RADIAL†	178.8	0.1290	mg/L	0.06342	0.1290	mg/L	0.06342	49.17%
Mg RADIAL†	491.5	1.198	mg/L	0.0347	1.198	mg/L	0.0347	2.89%
Na RADIAL†	509506.6	67.80	mg/L	0.716	67.80	mg/L	0.716	1.06%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 117
Sample ID: SEQ-CCVA
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 4:19:22 PM
Data Type: Reprocessed on 5/16/2023 9:09:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17674513.4	4.511	mg/L	0.0859	4.511	mg/L	0.0859	1.90%
Y RADIAL	322281.2	4.836	mg/L	0.1220	4.836	mg/L	0.1220	2.52%
As 188.979†	359.4	0.5144	mg/L	0.01538	0.5144	mg/L	0.01538	2.99%
Tl 190.801†	394.4	0.5313	mg/L	0.01163	0.5313	mg/L	0.01163	2.19%
Se 196.026†	411.5	0.5291	mg/L	0.02002	0.5291	mg/L	0.02002	3.78%
Zn 206.200†	45545.6	2.625	mg/L	0.0785	2.625	mg/L	0.0785	2.99%
Sb 206.836†	302.2	0.2382	mg/L	0.00879	0.2382	mg/L	0.00879	3.69%
Pb 220.353†	3055.2	0.5273	mg/L	0.01273	0.5273	mg/L	0.01273	2.41%
Cd 226.502†	21441.5	0.2580	mg/L	0.00806	0.2580	mg/L	0.00806	3.13%
Co 228.616†	70814.9	2.614	mg/L	0.0658	2.614	mg/L	0.0658	2.52%
Ni 232.003†	31918.3	2.603	mg/L	0.0628	2.603	mg/L	0.0628	2.41%
Ba 233.527†	595039.5	10.86	mg/L	0.250	10.86	mg/L	0.250	2.31%
Mn 257.610†	1601165.4	2.701	mg/L	0.0631	2.701	mg/L	0.0631	2.34%
Cr 267.716†	125334.4	1.037	mg/L	0.0287	1.037	mg/L	0.0287	2.77%
Fe 273.955†	111774.2	5.154	mg/L	0.1329	5.154	mg/L	0.1329	2.58%
Mg 279.077†	442761.2	26.82	mg/L	0.672	26.82	mg/L	0.672	2.51%
V 292.402†	611723.9	2.643	mg/L	0.0669	2.643	mg/L	0.0669	2.53%
Al 308.215†	233564.8	10.40	mg/L	0.263	10.40	mg/L	0.263	2.53%
Be 313.107†	1199440.3	0.26865	mg/L	0.006819	0.26865	mg/L	0.006819	2.54%
Cu 324.752†	377233.6	1.338	mg/L	0.0288	1.338	mg/L	0.0288	2.15%
Ag 338.289†	179842.0	1.260	mg/L	0.0313	1.260	mg/L	0.0313	2.48%
Na 330.237†	18375.8	23.98	mg/L	0.724	23.98	mg/L	0.724	3.02%
Ca 227.546†	2217.8	25.01	mg/L	0.600	25.01	mg/L	0.600	2.40%
Al RADIAL†	17262.0	10.32	mg/L	0.215	10.32	mg/L	0.215	2.08%
Fe RADIAL†	2340.8	5.283	mg/L	0.1288	5.283	mg/L	0.1288	2.44%
Ca RADIAL†	160664.3	26.65	mg/L	0.371	26.65	mg/L	0.371	1.39%
K RADIAL†	7423.4	5.355	mg/L	0.1224	5.355	mg/L	0.1224	2.29%
Mg RADIAL†	10904.7	26.58	mg/L	0.558	26.58	mg/L	0.558	2.10%
Na RADIAL†	200538.3	26.68	mg/L	0.207	26.68	mg/L	0.207	0.78%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 118
Sample ID: SEQ-CCBA
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 4:22:09 PM
Data Type: Reprocessed on 5/16/2023 9:09:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18528675.9	4.729	mg/L	0.0211	4.729	mg/L	0.0211	0.45%
Y RADIAL	325888.0	4.890	mg/L	0.0950	4.890	mg/L	0.0950	1.94%
As 188.979†	5.5	0.0078	mg/L	0.00491	0.0078	mg/L	0.00491	62.81%
Tl 190.801†	-1.1	-0.0015	mg/L	0.00435	-0.0015	mg/L	0.00435	298.90%
Se 196.026†	-1.2	-0.0016	mg/L	0.00711	-0.0016	mg/L	0.00711	449.78%
Zn 206.200†	6.4	0.0004	mg/L	0.00027	0.0004	mg/L	0.00027	73.48%
Sb 206.836†	15.0	0.0118	mg/L	0.00465	0.0118	mg/L	0.00465	39.34%
Pb 220.353†	-2.6	-0.0004	mg/L	0.00230	-0.0004	mg/L	0.00230	512.95%
Cd 226.502†	6.4	0.0001	mg/L	0.00008	0.0001	mg/L	0.00008	107.10%
Co 228.616†	5.5	0.0002	mg/L	0.00042	0.0002	mg/L	0.00042	206.53%
Ni 232.003†	-14.8	-0.0012	mg/L	0.00124	-0.0012	mg/L	0.00124	102.72%
Ba 233.527†	43.7	0.0008	mg/L	0.00059	0.0008	mg/L	0.00059	73.85%
Mn 257.610†	173.0	0.0003	mg/L	0.00017	0.0003	mg/L	0.00017	57.27%
Cr 267.716†	9.9	0.0001	mg/L	0.00012	0.0001	mg/L	0.00012	151.91%
Fe 273.955†	-3471.9	-0.1601	mg/L	0.00054	-0.1601	mg/L	0.00054	0.34%
Mg 279.077†	-3180.2	-0.1927	mg/L	0.00666	-0.1927	mg/L	0.00666	3.46%
V 292.402†	91.0	0.0004	mg/L	0.00049	0.0004	mg/L	0.00049	124.38%
Al 308.215†	-5854.7	-0.2608	mg/L	0.00483	-0.2608	mg/L	0.00483	1.85%
Be 313.107†	-618.3	-0.00014	mg/L	0.000037	-0.00014	mg/L	0.000037	26.40%
Cu 324.752†	816.9	0.0029	mg/L	0.00082	0.0029	mg/L	0.00082	28.19%
Ag 338.289†	-376.6	-0.0026	mg/L	0.00056	-0.0026	mg/L	0.00056	21.30%
Na 330.237†	-245.4	-0.3200	mg/L	0.01093	-0.3200	mg/L	0.01093	3.42%
Ca 227.546†	-35.0	-0.3950	mg/L	0.09453	-0.3950	mg/L	0.09453	23.93%
Al RADIAL†	-1.5	-0.0009	mg/L	0.00762	-0.0009	mg/L	0.00762	867.09%
Fe RADIAL†	-2.5	-0.0057	mg/L	0.00217	-0.0057	mg/L	0.00217	38.17%
Ca RADIAL†	-92.9	-0.0154	mg/L	0.01041	-0.0154	mg/L	0.01041	67.52%
K RADIAL†	-32.2	-0.0233	mg/L	0.07931	-0.0233	mg/L	0.07931	341.09%
Mg RADIAL†	3.3	0.0080	mg/L	0.01565	0.0080	mg/L	0.01565	194.66%
Na RADIAL†	-2019.2	-0.2687	mg/L	0.02060	-0.2687	mg/L	0.02060	7.67%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 119
Sample ID: 23E0663-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 231
Date Collected: 5/15/2023 4:24:56 PM
Data Type: Reprocessed on 5/16/2023 9:09:44 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0663-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16992042.1	4.337	mg/L	0.0737	4.337	mg/L	0.0737	1.70%
Y RADIAL	304944.3	4.575	mg/L	0.1315	4.575	mg/L	0.1315	2.87%
As 188.979†	-0.2	-0.0003	mg/L	0.00705	-0.0003	mg/L	0.00705	>999.9%
Tl 190.801†	-6.5	-0.0087	mg/L	0.00419	-0.0087	mg/L	0.00419	48.31%
Se 196.026†	4.2	0.0055	mg/L	0.00242	0.0055	mg/L	0.00242	44.19%
Zn 206.200†	289.3	0.0167	mg/L	0.00044	0.0167	mg/L	0.00044	2.67%
Sb 206.836†	7.8	0.0053	mg/L	0.00655	0.0053	mg/L	0.00655	124.51%
Pb 220.353†	23.4	0.0040	mg/L	0.00086	0.0040	mg/L	0.00086	21.31%
Cd 226.502†	11.5	0.0001	mg/L	0.00012	0.0001	mg/L	0.00012	88.83%
Co 228.616†	-8.0	-0.0003	mg/L	0.00032	-0.0003	mg/L	0.00032	108.52%
Ni 232.003†	-68.3	-0.0056	mg/L	0.00100	-0.0056	mg/L	0.00100	17.96%
Ba 233.527†	1377.3	0.0251	mg/L	0.00042	0.0251	mg/L	0.00042	1.67%
Mn 257.610†	22620.5	0.0381	mg/L	0.00077	0.0381	mg/L	0.00077	2.02%
Cr 267.716†	355.8	0.0029	mg/L	0.00012	0.0029	mg/L	0.00012	4.19%
Fe 273.955†	-3081.1	-0.1421	mg/L	0.00038	-0.1421	mg/L	0.00038	0.27%
Mg 279.077†	10023.7	0.6073	mg/L	0.01619	0.6073	mg/L	0.01619	2.67%
V 292.402†	61.9	0.0003	mg/L	0.00077	0.0003	mg/L	0.00077	289.47%
Al 308.215†	-4474.2	-0.1993	mg/L	0.01418	-0.1993	mg/L	0.01418	7.11%
Be 313.107†	-1537.3	-0.00034	mg/L	0.000074	-0.00034	mg/L	0.000074	21.60%
Cu 324.752†	1237.2	0.0044	mg/L	0.00025	0.0044	mg/L	0.00025	5.78%
Ag 338.289†	-478.1	-0.0034	mg/L	0.00061	-0.0034	mg/L	0.00061	18.15%
Na 330.237†	47409.2	61.81	mg/L	1.522	61.81	mg/L	1.522	2.46%
Ca 227.546†	783.4	8.834	mg/L	0.0875	8.834	mg/L	0.0875	0.99%
Al RADIAL†	64.1	0.0383	mg/L	0.00260	0.0383	mg/L	0.00260	6.79%
Fe RADIAL†	5.8	0.0130	mg/L	0.00430	0.0130	mg/L	0.00430	33.00%
Ca RADIAL†	62508.1	10.37	mg/L	0.315	10.37	mg/L	0.315	3.04%
K RADIAL†	50.7	0.0366	mg/L	0.04903	0.0366	mg/L	0.04903	134.11%
Mg RADIAL†	333.9	0.8140	mg/L	0.01246	0.8140	mg/L	0.01246	1.53%
Na RADIAL†	514135.7	68.41	mg/L	0.762	68.41	mg/L	0.762	1.11%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 120
Sample ID: 23E0666-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 232
Date Collected: 5/15/2023 4:27:43 PM
Data Type: Reprocessed on 5/16/2023 9:09:45 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0666-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17357061.3	4.430	mg/L	0.0899	4.430	mg/L	0.0899	2.03%
Y RADIAL	314256.8	4.715	mg/L	0.2016	4.715	mg/L	0.2016	4.28%
As 188.979†	-6.1	-0.0088	mg/L	0.00909	-0.0088	mg/L	0.00909	103.80%
Tl 190.801†	-8.6	-0.0115	mg/L	0.00269	-0.0115	mg/L	0.00269	23.39%
Se 196.026†	-14.9	-0.0194	mg/L	0.01188	-0.0194	mg/L	0.01188	61.25%
Zn 206.200†	80.6	0.0046	mg/L	0.00035	0.0046	mg/L	0.00035	7.51%
Sb 206.836†	3.0	-0.0003	mg/L	0.00572	-0.0003	mg/L	0.00572	>999.9%
Pb 220.353†	-13.5	-0.0023	mg/L	0.00120	-0.0023	mg/L	0.00120	51.73%
Cd 226.502†	0.7	0.0000	mg/L	0.00011	0.0000	mg/L	0.00011	>999.9%
Co 228.616†	-11.9	-0.0004	mg/L	0.00010	-0.0004	mg/L	0.00010	23.62%
Ni 232.003†	-56.6	-0.0046	mg/L	0.00231	-0.0046	mg/L	0.00231	49.98%
Ba 233.527†	216.6	0.0040	mg/L	0.00017	0.0040	mg/L	0.00017	4.20%
Mn 257.610†	2050.6	0.0035	mg/L	0.00012	0.0035	mg/L	0.00012	3.39%
Cr 267.716†	290.7	0.0024	mg/L	0.00023	0.0024	mg/L	0.00023	9.56%
Fe 273.955†	-3443.7	-0.1588	mg/L	0.00087	-0.1588	mg/L	0.00087	0.54%
Mg 279.077†	5596.8	0.3391	mg/L	0.01480	0.3391	mg/L	0.01480	4.37%
V 292.402†	238.1	0.0010	mg/L	0.00017	0.0010	mg/L	0.00017	16.51%
Al 308.215†	-5293.4	-0.2358	mg/L	0.00601	-0.2358	mg/L	0.00601	2.55%
Be 313.107†	-1541.7	-0.00035	mg/L	0.000099	-0.00035	mg/L	0.000099	28.72%
Cu 324.752†	927.9	0.0033	mg/L	0.00063	0.0033	mg/L	0.00063	19.22%
Ag 338.289†	-452.8	-0.0032	mg/L	0.00103	-0.0032	mg/L	0.00103	32.30%
Na 330.237†	49018.3	63.91	mg/L	2.011	63.91	mg/L	2.011	3.15%
Ca 227.546†	2396.9	27.03	mg/L	0.535	27.03	mg/L	0.535	1.98%
Al RADIAL†	5.5	0.0033	mg/L	0.00637	0.0033	mg/L	0.00637	194.12%
Fe RADIAL†	-4.4	-0.0100	mg/L	0.00479	-0.0100	mg/L	0.00479	47.80%
Ca RADIAL†	177420.9	29.42	mg/L	0.355	29.42	mg/L	0.355	1.21%
K RADIAL†	45.6	0.0329	mg/L	0.26903	0.0329	mg/L	0.26903	818.20%
Mg RADIAL†	218.5	0.5326	mg/L	0.01703	0.5326	mg/L	0.01703	3.20%
Na RADIAL†	527669.2	70.21	mg/L	0.568	70.21	mg/L	0.568	0.81%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 121
Sample ID: BE30962-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 233
Date Collected: 5/15/2023 4:30:29 PM
Data Type: Reprocessed on 5/16/2023 9:09:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30962-BLK1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17870517.1	4.561	mg/L	0.0472	4.561	mg/L	0.0472	1.03%
Y RADIAL	317385.9	4.762	mg/L	0.0984	4.762	mg/L	0.0984	2.07%
As 188.979†	-0.8	-0.0012	mg/L	0.00603	-0.0012	mg/L	0.00603	500.14%
Tl 190.801†	-2.2	-0.0029	mg/L	0.00217	-0.0029	mg/L	0.00217	74.91%
Se 196.026†	-1.1	-0.0015	mg/L	0.00405	-0.0015	mg/L	0.00405	276.25%
Zn 206.200†	44.9	0.0026	mg/L	0.00043	0.0026	mg/L	0.00043	16.63%
Sb 206.836†	2.8	0.0022	mg/L	0.00319	0.0022	mg/L	0.00319	143.17%
Pb 220.353†	-9.8	-0.0017	mg/L	0.00228	-0.0017	mg/L	0.00228	135.18%
Cd 226.502†	10.6	0.0001	mg/L	0.00006	0.0001	mg/L	0.00006	48.00%
Co 228.616†	-8.5	-0.0003	mg/L	0.00010	-0.0003	mg/L	0.00010	32.54%
Ni 232.003†	-40.3	-0.0033	mg/L	0.00120	-0.0033	mg/L	0.00120	36.44%
Ba 233.527†	-5.8	-0.0001	mg/L	0.00008	-0.0001	mg/L	0.00008	76.69%
Mn 257.610†	71.9	0.0001	mg/L	0.00002	0.0001	mg/L	0.00002	16.57%
Cr 267.716†	287.2	0.0024	mg/L	0.00007	0.0024	mg/L	0.00007	2.90%
Fe 273.955†	-3407.7	-0.1571	mg/L	0.00050	-0.1571	mg/L	0.00050	0.32%
Mg 279.077†	-3264.4	-0.1978	mg/L	0.00779	-0.1978	mg/L	0.00779	3.94%
V 292.402†	-37.5	-0.0002	mg/L	0.00007	-0.0002	mg/L	0.00007	41.67%
Al 308.215†	-5854.8	-0.2608	mg/L	0.00483	-0.2608	mg/L	0.00483	1.85%
Be 313.107†	-928.9	-0.00021	mg/L	0.000023	-0.00021	mg/L	0.000023	10.88%
Cu 324.752†	320.9	0.0011	mg/L	0.00054	0.0011	mg/L	0.00054	47.32%
Ag 338.289†	-582.7	-0.0041	mg/L	0.00064	-0.0041	mg/L	0.00064	15.75%
Na 330.237†	-267.9	-0.3494	mg/L	0.07430	-0.3494	mg/L	0.07430	21.27%
Ca 227.546†	-43.0	-0.4844	mg/L	0.06503	-0.4844	mg/L	0.06503	13.43%
Al RADIAL†	-0.6	-0.0003	mg/L	0.00725	-0.0003	mg/L	0.00725	>999.9%
Fe RADIAL†	-3.4	-0.0078	mg/L	0.01055	-0.0078	mg/L	0.01055	135.63%
Ca RADIAL†	75.7	0.0126	mg/L	0.00804	0.0126	mg/L	0.00804	64.00%
K RADIAL†	-20.6	-0.0148	mg/L	0.09020	-0.0148	mg/L	0.09020	608.30%
Mg RADIAL†	-7.6	-0.0185	mg/L	0.01616	-0.0185	mg/L	0.01616	87.47%
Na RADIAL†	-1698.6	-0.2260	mg/L	0.02511	-0.2260	mg/L	0.02511	11.11%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 122
Sample ID: BE30962-BS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 234
Date Collected: 5/15/2023 4:33:14 PM
Data Type: Reprocessed on 5/16/2023 9:09:47 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30962-BS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	18117474.9	4.624	mg/L	0.0693	4.624	mg/L	0.0693	1.50%
Y RADIAL	321961.3	4.831	mg/L	0.0397	4.831	mg/L	0.0397	0.82%
As 188.979†	1270.6	1.811	mg/L	0.0378	1.811	mg/L	0.0378	2.09%
Tl 190.801†	1341.4	1.803	mg/L	0.0287	1.803	mg/L	0.0287	1.59%
Se 196.026†	1117.3	1.453	mg/L	0.0223	1.453	mg/L	0.0223	1.53%
Zn 206.200†	8203.8	0.4728	mg/L	0.00645	0.4728	mg/L	0.00645	1.36%
Sb 206.836†	300.7	0.2379	mg/L	0.00261	0.2379	mg/L	0.00261	1.10%
Pb 220.353†	2700.3	0.4640	mg/L	0.00702	0.4640	mg/L	0.00702	1.51%
Cd 226.502†	3728.0	0.0448	mg/L	0.00056	0.0448	mg/L	0.00056	1.25%
Co 228.616†	13265.5	0.4897	mg/L	0.01216	0.4897	mg/L	0.01216	2.48%
Ni 232.003†	5820.3	0.4747	mg/L	0.00718	0.4747	mg/L	0.00718	1.51%
Ba 233.527†	111225.9	2.030	mg/L	0.0281	2.030	mg/L	0.0281	1.38%
Mn 257.610†	298509.9	0.5035	mg/L	0.00586	0.5035	mg/L	0.00586	1.16%
Cr 267.716†	22901.6	0.1894	mg/L	0.00176	0.1894	mg/L	0.00176	0.93%
Fe 273.955†	17490.8	0.8065	mg/L	0.01293	0.8065	mg/L	0.01293	1.60%
Mg 279.077†	12770.6	0.7737	mg/L	0.02661	0.7737	mg/L	0.02661	3.44%
V 292.402†	111135.3	0.4801	mg/L	0.00471	0.4801	mg/L	0.00471	0.98%
Al 308.215†	34559.1	1.540	mg/L	0.0148	1.540	mg/L	0.0148	0.96%
Be 313.107†	210359.9	0.04712	mg/L	0.000737	0.04712	mg/L	0.000737	1.56%
Cu 324.752†	73286.4	0.2599	mg/L	0.00293	0.2599	mg/L	0.00293	1.13%
Ag 338.289†	5735.4	0.0402	mg/L	0.00233	0.0402	mg/L	0.00233	5.79%
Na 330.237†	279.9	0.3697	mg/L	0.30641	0.3697	mg/L	0.30641	82.88%
Ca 227.546†	30.7	0.3465	mg/L	0.06012	0.3465	mg/L	0.06012	17.35%
Al RADIAL†	3187.2	1.906	mg/L	0.0644	1.906	mg/L	0.0644	3.38%
Fe RADIAL†	439.7	0.9923	mg/L	0.00873	0.9923	mg/L	0.00873	0.88%
Ca RADIAL†	5890.9	0.9770	mg/L	0.02681	0.9770	mg/L	0.02681	2.74%
K RADIAL†	1251.4	0.9028	mg/L	0.07441	0.9028	mg/L	0.07441	8.24%
Mg RADIAL†	402.3	0.9806	mg/L	0.01043	0.9806	mg/L	0.01043	1.06%
Na RADIAL†	5371.0	0.7147	mg/L	0.01450	0.7147	mg/L	0.01450	2.03%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 123
Sample ID: 23E0606-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 235
Date Collected: 5/15/2023 4:35:58 PM
Data Type: Reprocessed on 5/16/2023 9:09:48 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0606-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14484402.4	3.697	mg/L	0.0663	3.697	mg/L	0.0663	1.79%
Y RADIAL	289458.4	4.343	mg/L	0.0991	4.343	mg/L	0.0991	2.28%
As 188.979†	-10.8	-0.0113	mg/L	0.00600	-0.0113	mg/L	0.00600	53.10%
Tl 190.801†	-8.1	-0.0087	mg/L	0.00745	-0.0087	mg/L	0.00745	85.13%
Se 196.026†	266.2	0.3340	mg/L	0.01950	0.3340	mg/L	0.01950	5.84%
Zn 206.200†	89394.3	5.152	mg/L	0.1206	5.152	mg/L	0.1206	2.34%
Sb 206.836†	8.4	0.0015	mg/L	0.00225	0.0015	mg/L	0.00225	148.60%
Pb 220.353†	35.6	0.0118	mg/L	0.00237	0.0118	mg/L	0.00237	20.13%
Cd 226.502†	324.9	0.0029	mg/L	0.00026	0.0029	mg/L	0.00026	9.28%
Co 228.616†	151.3	0.0058	mg/L	0.00053	0.0058	mg/L	0.00053	9.18%
Ni 232.003†	559.5	0.0479	mg/L	0.00085	0.0479	mg/L	0.00085	1.77%
Ba 233.527†	2418.3	0.0441	mg/L	0.00080	0.0441	mg/L	0.00080	1.80%
Mn 257.610†	1992848.1	3.361	mg/L	0.1524	3.361	mg/L	0.1524	4.54%
Cr 267.716†	1178.1	0.0096	mg/L	0.00133	0.0096	mg/L	0.00133	13.84%
Fe 273.955†	206041.5	9.501	mg/L	0.4755	9.501	mg/L	0.4755	5.00%
Mg 279.077†	3911087.9	236.9	mg/L	10.82	236.9	mg/L	10.82	4.57%
V 292.402†	625.2	0.0018	mg/L	0.00108	0.0018	mg/L	0.00108	60.62%
Al 308.215†	12809.0	0.5706	mg/L	0.01549	0.5706	mg/L	0.01549	2.72%
Be 313.107†	-3662.7	-0.00082	mg/L	0.000066	-0.00082	mg/L	0.000066	7.99%
Cu 324.752†	545619.1	1.935	mg/L	0.1057	1.935	mg/L	0.1057	5.46%
Ag 338.289†	-551.7	-0.0041	mg/L	0.00179	-0.0041	mg/L	0.00179	43.89%
Na 330.237†	2185876.6	2850	mg/L	145.54	2850	mg/L	145.54	5.11%
Ca 227.546†	8563.3	96.56	mg/L	1.433	96.56	mg/L	1.433	1.48%
Al RADIAL†	1148.1	0.6867	mg/L	0.05397	0.6867	mg/L	0.05397	7.86%
Fe RADIAL†	4492.1	10.14	mg/L	0.397	10.14	mg/L	0.397	3.92%
Ca RADIAL†	580628.4	96.29	mg/L	2.996	96.29	mg/L	2.996	3.11%
K RADIAL†	131526.4	94.88	mg/L	2.613	94.88	mg/L	2.613	2.75%
Mg RADIAL†	96112.2	234.3	mg/L	6.07	234.3	mg/L	6.07	2.59%
Na RADIAL†	13943223.8	1855	mg/L	69.62	1855	mg/L	69.62	3.75%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 124
Sample ID: 23E0662-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 236
Date Collected: 5/15/2023 4:38:08 PM
Data Type: Reprocessed on 5/16/2023 9:09:49 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0662-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17008838.7	4.341	mg/L	0.0570	4.341	mg/L	0.0570	1.31%
Y RADIAL	303668.4	4.556	mg/L	0.2149	4.556	mg/L	0.2149	4.72%
As 188.979†	-0.0	-0.0000	mg/L	0.00876	-0.0000	mg/L	0.00876	>999.9%
Tl 190.801†	-4.1	-0.0055	mg/L	0.00465	-0.0055	mg/L	0.00465	84.77%
Se 196.026†	-4.9	-0.0064	mg/L	0.01504	-0.0064	mg/L	0.01504	233.50%
Zn 206.200†	511.1	0.0295	mg/L	0.00015	0.0295	mg/L	0.00015	0.51%
Sb 206.836†	2.1	-0.0005	mg/L	0.00087	-0.0005	mg/L	0.00087	179.57%
Pb 220.353†	-13.3	-0.0023	mg/L	0.00214	-0.0023	mg/L	0.00214	94.31%
Cd 226.502†	9.7	0.0001	mg/L	0.00011	0.0001	mg/L	0.00011	98.04%
Co 228.616†	-12.3	-0.0005	mg/L	0.00035	-0.0005	mg/L	0.00035	77.84%
Ni 232.003†	-85.2	-0.0069	mg/L	0.00079	-0.0069	mg/L	0.00079	11.34%
Ba 233.527†	1317.5	0.0240	mg/L	0.00044	0.0240	mg/L	0.00044	1.83%
Mn 257.610†	7542.6	0.0127	mg/L	0.00011	0.0127	mg/L	0.00011	0.86%
Cr 267.716†	335.8	0.0028	mg/L	0.00014	0.0028	mg/L	0.00014	4.98%
Fe 273.955†	-3010.3	-0.1388	mg/L	0.00133	-0.1388	mg/L	0.00133	0.95%
Mg 279.077†	58425.4	3.540	mg/L	0.0400	3.540	mg/L	0.0400	1.13%
V 292.402†	-19.3	-0.0001	mg/L	0.00012	-0.0001	mg/L	0.00012	136.61%
Al 308.215†	-5312.4	-0.2367	mg/L	0.00693	-0.2367	mg/L	0.00693	2.93%
Be 313.107†	-1456.3	-0.00033	mg/L	0.000062	-0.00033	mg/L	0.000062	18.94%
Cu 324.752†	916.1	0.0032	mg/L	0.00015	0.0032	mg/L	0.00015	4.67%
Ag 338.289†	-477.8	-0.0033	mg/L	0.00114	-0.0033	mg/L	0.00114	34.07%
Na 330.237†	43979.0	57.34	mg/L	0.888	57.34	mg/L	0.888	1.55%
Ca 227.546†	1899.1	21.41	mg/L	0.260	21.41	mg/L	0.260	1.21%
Al RADIAL†	11.8	0.0070	mg/L	0.00567	0.0070	mg/L	0.00567	80.50%
Fe RADIAL†	6.8	0.0154	mg/L	0.00729	0.0154	mg/L	0.00729	47.42%
Ca RADIAL†	143388.5	23.78	mg/L	0.921	23.78	mg/L	0.921	3.87%
K RADIAL†	4964.4	3.581	mg/L	0.1761	3.581	mg/L	0.1761	4.92%
Mg RADIAL†	1569.2	3.825	mg/L	0.1854	3.825	mg/L	0.1854	4.85%
Na RADIAL†	493390.0	65.65	mg/L	2.666	65.65	mg/L	2.666	4.06%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 125
Sample ID: 23E0662-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 237
Date Collected: 5/15/2023 4:40:53 PM
Data Type: Reprocessed on 5/16/2023 9:09:50 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0662-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17194264.8	4.389	mg/L	0.0184	4.389	mg/L	0.0184	0.42%
Y RADIAL	308448.2	4.628	mg/L	0.0705	4.628	mg/L	0.0705	1.52%
As 188.979†	-2.2	-0.0031	mg/L	0.00134	-0.0031	mg/L	0.00134	42.74%
Tl 190.801†	-8.9	-0.0120	mg/L	0.00474	-0.0120	mg/L	0.00474	39.63%
Se 196.026†	5.0	0.0066	mg/L	0.01112	0.0066	mg/L	0.01112	169.56%
Zn 206.200†	575.7	0.0332	mg/L	0.00032	0.0332	mg/L	0.00032	0.97%
Sb 206.836†	4.9	0.0018	mg/L	0.00123	0.0018	mg/L	0.00123	67.77%
Pb 220.353†	-12.5	-0.0021	mg/L	0.00220	-0.0021	mg/L	0.00220	102.74%
Cd 226.502†	9.6	0.0001	mg/L	0.00013	0.0001	mg/L	0.00013	115.65%
Co 228.616†	-3.7	-0.0001	mg/L	0.00026	-0.0001	mg/L	0.00026	191.53%
Ni 232.003†	-72.0	-0.0059	mg/L	0.00037	-0.0059	mg/L	0.00037	6.37%
Ba 233.527†	1362.7	0.0249	mg/L	0.00014	0.0249	mg/L	0.00014	0.55%
Mn 257.610†	9208.1	0.0155	mg/L	0.00012	0.0155	mg/L	0.00012	0.79%
Cr 267.716†	306.9	0.0025	mg/L	0.00009	0.0025	mg/L	0.00009	3.39%
Fe 273.955†	-2971.6	-0.1370	mg/L	0.00033	-0.1370	mg/L	0.00033	0.24%
Mg 279.077†	58214.9	3.527	mg/L	0.0415	3.527	mg/L	0.0415	1.18%
V 292.402†	139.1	0.0006	mg/L	0.00040	0.0006	mg/L	0.00040	67.04%
Al 308.215†	-4823.3	-0.2149	mg/L	0.00191	-0.2149	mg/L	0.00191	0.89%
Be 313.107†	-1212.4	-0.00027	mg/L	0.000047	-0.00027	mg/L	0.000047	17.49%
Cu 324.752†	742.8	0.0026	mg/L	0.00013	0.0026	mg/L	0.00013	4.91%
Ag 338.289†	-580.8	-0.0041	mg/L	0.00155	-0.0041	mg/L	0.00155	38.02%
Na 330.237†	43788.8	57.09	mg/L	0.797	57.09	mg/L	0.797	1.40%
Ca 227.546†	1858.5	20.96	mg/L	0.102	20.96	mg/L	0.102	0.49%
Al RADIAL†	56.8	0.0340	mg/L	0.00941	0.0340	mg/L	0.00941	27.73%
Fe RADIAL†	4.6	0.0104	mg/L	0.00739	0.0104	mg/L	0.00739	70.75%
Ca RADIAL†	139146.9	23.08	mg/L	0.116	23.08	mg/L	0.116	0.50%
K RADIAL†	4680.6	3.377	mg/L	0.2496	3.377	mg/L	0.2496	7.39%
Mg RADIAL†	1543.5	3.763	mg/L	0.0446	3.763	mg/L	0.0446	1.19%
Na RADIAL†	474391.9	63.12	mg/L	0.441	63.12	mg/L	0.441	0.70%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 126
Sample ID: 23E0662-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 238
Date Collected: 5/15/2023 4:43:39 PM
Data Type: Reprocessed on 5/16/2023 9:09:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0662-03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16611165.6	4.240	mg/L	0.0463	4.240	mg/L	0.0463	1.09%
Y RADIAL	307591.0	4.615	mg/L	0.1235	4.615	mg/L	0.1235	2.67%
As 188.979†	-7.1	-0.0100	mg/L	0.00667	-0.0100	mg/L	0.00667	66.40%
Tl 190.801†	-7.3	-0.0098	mg/L	0.00598	-0.0098	mg/L	0.00598	61.00%
Se 196.026†	8.2	0.0107	mg/L	0.00756	0.0107	mg/L	0.00756	70.63%
Zn 206.200†	401.1	0.0231	mg/L	0.00060	0.0231	mg/L	0.00060	2.58%
Sb 206.836†	5.1	0.0019	mg/L	0.00150	0.0019	mg/L	0.00150	78.88%
Pb 220.353†	-6.1	-0.0010	mg/L	0.00148	-0.0010	mg/L	0.00148	141.30%
Cd 226.502†	17.5	0.0002	mg/L	0.00011	0.0002	mg/L	0.00011	51.00%
Co 228.616†	-10.4	-0.0004	mg/L	0.00030	-0.0004	mg/L	0.00030	76.77%
Ni 232.003†	-93.3	-0.0076	mg/L	0.00076	-0.0076	mg/L	0.00076	10.03%
Ba 233.527†	1451.0	0.0265	mg/L	0.00013	0.0265	mg/L	0.00013	0.50%
Mn 257.610†	11311.0	0.0191	mg/L	0.00026	0.0191	mg/L	0.00026	1.37%
Cr 267.716†	335.0	0.0028	mg/L	0.00028	0.0028	mg/L	0.00028	10.16%
Fe 273.955†	-3170.5	-0.1462	mg/L	0.00061	-0.1462	mg/L	0.00061	0.41%
Mg 279.077†	61010.0	3.696	mg/L	0.0467	3.696	mg/L	0.0467	1.26%
V 292.402†	73.9	0.0003	mg/L	0.00072	0.0003	mg/L	0.00072	225.30%
Al 308.215†	-4846.5	-0.2159	mg/L	0.00901	-0.2159	mg/L	0.00901	4.17%
Be 313.107†	-1620.7	-0.00036	mg/L	0.000034	-0.00036	mg/L	0.000034	9.46%
Cu 324.752†	689.8	0.0024	mg/L	0.00025	0.0024	mg/L	0.00025	10.11%
Ag 338.289†	-718.1	-0.0050	mg/L	0.00172	-0.0050	mg/L	0.00172	34.22%
Na 330.237†	46078.7	60.08	mg/L	1.145	60.08	mg/L	1.145	1.91%
Ca 227.546†	1943.7	21.92	mg/L	0.186	21.92	mg/L	0.186	0.85%
Al RADIAL†	34.5	0.0206	mg/L	0.00175	0.0206	mg/L	0.00175	8.46%
Fe RADIAL†	4.3	0.0097	mg/L	0.01285	0.0097	mg/L	0.01285	132.21%
Ca RADIAL†	143457.8	23.79	mg/L	0.232	23.79	mg/L	0.232	0.97%
K RADIAL†	4846.3	3.496	mg/L	0.1087	3.496	mg/L	0.1087	3.11%
Mg RADIAL†	1573.6	3.836	mg/L	0.1302	3.836	mg/L	0.1302	3.40%
Na RADIAL†	486052.6	64.67	mg/L	0.330	64.67	mg/L	0.330	0.51%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 127
Sample ID: BE30962-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 239
Date Collected: 5/15/2023 4:46:24 PM
Data Type: Reprocessed on 5/16/2023 9:09:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30962-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16693020.6	4.261	mg/L	0.0868	4.261	mg/L	0.0868	2.04%
Y RADIAL	312228.6	4.685	mg/L	0.0791	4.685	mg/L	0.0791	1.69%
As 188.979†	-9.4	-0.0134	mg/L	0.00691	-0.0134	mg/L	0.00691	51.70%
Tl 190.801†	-6.8	-0.0092	mg/L	0.00123	-0.0092	mg/L	0.00123	13.39%
Se 196.026†	4.0	0.0052	mg/L	0.00802	0.0052	mg/L	0.00802	154.38%
Zn 206.200†	355.0	0.0205	mg/L	0.00069	0.0205	mg/L	0.00069	3.37%
Sb 206.836†	3.4	0.0006	mg/L	0.00178	0.0006	mg/L	0.00178	299.81%
Pb 220.353†	-11.7	-0.0020	mg/L	0.00154	-0.0020	mg/L	0.00154	76.60%
Cd 226.502†	4.1	0.0000	mg/L	0.00009	0.0000	mg/L	0.00009	177.94%
Co 228.616†	-12.1	-0.0004	mg/L	0.00028	-0.0004	mg/L	0.00028	63.09%
Ni 232.003†	-78.6	-0.0064	mg/L	0.00113	-0.0064	mg/L	0.00113	17.57%
Ba 233.527†	1442.4	0.0263	mg/L	0.00045	0.0263	mg/L	0.00045	1.73%
Mn 257.610†	11089.4	0.0187	mg/L	0.00067	0.0187	mg/L	0.00067	3.57%
Cr 267.716†	326.0	0.0027	mg/L	0.00010	0.0027	mg/L	0.00010	3.85%
Fe 273.955†	-3281.6	-0.1513	mg/L	0.00057	-0.1513	mg/L	0.00057	0.38%
Mg 279.077†	59948.2	3.632	mg/L	0.1081	3.632	mg/L	0.1081	2.98%
V 292.402†	156.3	0.0007	mg/L	0.00065	0.0007	mg/L	0.00065	95.61%
Al 308.215†	-5109.6	-0.2276	mg/L	0.01346	-0.2276	mg/L	0.01346	5.91%
Be 313.107†	-1586.0	-0.00036	mg/L	0.000090	-0.00036	mg/L	0.000090	25.23%
Cu 324.752†	610.1	0.0022	mg/L	0.00060	0.0022	mg/L	0.00060	27.77%
Ag 338.289†	-632.5	-0.0044	mg/L	0.00114	-0.0044	mg/L	0.00114	25.61%
Na 330.237†	45133.4	58.84	mg/L	2.058	58.84	mg/L	2.058	3.50%
Ca 227.546†	1921.0	21.66	mg/L	0.407	21.66	mg/L	0.407	1.88%
Al RADIAL†	24.2	0.0145	mg/L	0.00581	0.0145	mg/L	0.00581	40.16%
Fe RADIAL†	-1.0	-0.0022	mg/L	0.01055	-0.0022	mg/L	0.01055	470.37%
Ca RADIAL†	138616.7	22.99	mg/L	0.225	22.99	mg/L	0.225	0.98%
K RADIAL†	4668.0	3.368	mg/L	0.1773	3.368	mg/L	0.1773	5.26%
Mg RADIAL†	1535.5	3.743	mg/L	0.1012	3.743	mg/L	0.1012	2.70%
Na RADIAL†	476405.8	63.39	mg/L	0.512	63.39	mg/L	0.512	0.81%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 128
Sample ID: BE30962-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 240
Date Collected: 5/15/2023 4:49:11 PM
Data Type: Reprocessed on 5/16/2023 9:09:53 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30962-MS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16876991.1	4.308	mg/L	0.0859	4.308	mg/L	0.0859	1.99%
Y RADIAL	301518.3	4.524	mg/L	0.0455	4.524	mg/L	0.0455	1.01%
As 188.979†	1374.8	1.960	mg/L	0.0421	1.960	mg/L	0.0421	2.15%
Tl 190.801†	1336.9	1.797	mg/L	0.0274	1.797	mg/L	0.0274	1.52%
Se 196.026†	1203.1	1.565	mg/L	0.0388	1.565	mg/L	0.0388	2.48%
Zn 206.200†	8938.2	0.5151	mg/L	0.00798	0.5151	mg/L	0.00798	1.55%
Sb 206.836†	323.1	0.2534	mg/L	0.00408	0.2534	mg/L	0.00408	1.61%
Pb 220.353†	2691.7	0.4626	mg/L	0.00694	0.4626	mg/L	0.00694	1.50%
Cd 226.502†	3826.4	0.0460	mg/L	0.00082	0.0460	mg/L	0.00082	1.78%
Co 228.616†	13656.9	0.5041	mg/L	0.00837	0.5041	mg/L	0.00837	1.66%
Ni 232.003†	6034.0	0.4921	mg/L	0.00872	0.4921	mg/L	0.00872	1.77%
Ba 233.527†	114149.8	2.083	mg/L	0.0460	2.083	mg/L	0.0460	2.21%
Mn 257.610†	314790.4	0.5309	mg/L	0.01242	0.5309	mg/L	0.01242	2.34%
Cr 267.716†	23359.3	0.1932	mg/L	0.00507	0.1932	mg/L	0.00507	2.63%
Fe 273.955†	17971.7	0.8287	mg/L	0.01283	0.8287	mg/L	0.01283	1.55%
Mg 279.077†	75392.9	4.567	mg/L	0.1062	4.567	mg/L	0.1062	2.33%
V 292.402†	115329.6	0.4982	mg/L	0.00906	0.4982	mg/L	0.00906	1.82%
Al 308.215†	38548.3	1.717	mg/L	0.0610	1.717	mg/L	0.0610	3.55%
Be 313.107†	221907.8	0.04970	mg/L	0.000954	0.04970	mg/L	0.000954	1.92%
Cu 324.752†	75641.6	0.2682	mg/L	0.00640	0.2682	mg/L	0.00640	2.39%
Ag 338.289†	5751.5	0.0403	mg/L	0.00218	0.0403	mg/L	0.00218	5.42%
Na 330.237†	45763.1	59.67	mg/L	1.858	59.67	mg/L	1.858	3.11%
Ca 227.546†	2042.3	23.03	mg/L	0.482	23.03	mg/L	0.482	2.10%
Al RADIAL†	3373.9	2.018	mg/L	0.1248	2.018	mg/L	0.1248	6.19%
Fe RADIAL†	449.5	1.015	mg/L	0.0092	1.015	mg/L	0.0092	0.91%
Ca RADIAL†	149033.3	24.72	mg/L	0.278	24.72	mg/L	0.278	1.13%
K RADIAL†	6307.0	4.550	mg/L	0.3837	4.550	mg/L	0.3837	8.43%
Mg RADIAL†	1974.5	4.813	mg/L	0.0541	4.813	mg/L	0.0541	1.12%
Na RADIAL†	503174.8	66.95	mg/L	0.558	66.95	mg/L	0.558	0.83%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 129
Sample ID: SEQ-CCVB
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 4:55:34 PM
Data Type: Reprocessed on 5/16/2023 9:09:54 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16268083.8	4.152	mg/L	0.2878	4.152	mg/L	0.2878	6.93%
Y RADIAL	323814.9	4.859	mg/L	0.1303	4.859	mg/L	0.1303	2.68%
As 188.979†	379.9	0.5435	mg/L	0.04876	0.5435	mg/L	0.04876	8.97%
Tl 190.801†	415.8	0.5600	mg/L	0.03331	0.5600	mg/L	0.03331	5.95%
Se 196.026†	429.8	0.5531	mg/L	0.04473	0.5531	mg/L	0.04473	8.09%
Zn 206.200†	47276.7	2.725	mg/L	0.1853	2.725	mg/L	0.1853	6.80%
Sb 206.836†	328.3	0.2589	mg/L	0.01606	0.2589	mg/L	0.01606	6.20%
Pb 220.353†	3194.2	0.5511	mg/L	0.04032	0.5511	mg/L	0.04032	7.31%
Cd 226.502†	22321.3	0.2686	mg/L	0.01741	0.2686	mg/L	0.01741	6.48%
Co 228.616†	73514.1	2.714	mg/L	0.1874	2.714	mg/L	0.1874	6.91%
Ni 232.003†	33139.2	2.702	mg/L	0.1910	2.702	mg/L	0.1910	7.07%
Ba 233.527†	612493.4	11.18	mg/L	1.088	11.18	mg/L	1.088	9.73%
Mn 257.610†	1649392.8	2.782	mg/L	0.2699	2.782	mg/L	0.2699	9.70%
Cr 267.716†	130287.7	1.078	mg/L	0.0767	1.078	mg/L	0.0767	7.12%
Fe 273.955†	116196.6	5.358	mg/L	0.3956	5.358	mg/L	0.3956	7.38%
Mg 279.077†	453452.4	27.47	mg/L	2.755	27.47	mg/L	2.755	10.03%
V 292.402†	626951.2	2.709	mg/L	0.2619	2.709	mg/L	0.2619	9.67%
Al 308.215†	238840.4	10.64	mg/L	1.148	10.64	mg/L	1.148	10.79%
Be 313.107†	1224822.9	0.27433	mg/L	0.026131	0.27433	mg/L	0.026131	9.53%
Cu 324.752†	386547.2	1.371	mg/L	0.1453	1.371	mg/L	0.1453	10.60%
Ag 338.289†	184319.6	1.292	mg/L	0.1327	1.292	mg/L	0.1327	10.27%
Na 330.237†	19471.9	25.41	mg/L	1.925	25.41	mg/L	1.925	7.58%
Ca 227.546†	2306.0	26.00	mg/L	1.704	26.00	mg/L	1.704	6.55%
Al RADIAL†	17242.6	10.31	mg/L	0.277	10.31	mg/L	0.277	2.69%
Fe RADIAL†	2291.0	5.171	mg/L	0.1401	5.171	mg/L	0.1401	2.71%
Ca RADIAL†	159141.3	26.39	mg/L	0.364	26.39	mg/L	0.364	1.38%
K RADIAL†	7259.8	5.237	mg/L	0.1499	5.237	mg/L	0.1499	2.86%
Mg RADIAL†	10637.6	25.93	mg/L	0.678	25.93	mg/L	0.678	2.61%
Na RADIAL†	199356.8	26.53	mg/L	0.327	26.53	mg/L	0.327	1.23%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 130
Sample ID: SEQ-CCBB
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 4:58:22 PM
Data Type: Reprocessed on 5/16/2023 9:09:54 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17503900.4	4.468	mg/L	0.0842	4.468	mg/L	0.0842	1.88%
Y RADIAL	317406.0	4.762	mg/L	0.1207	4.762	mg/L	0.1207	2.54%
As 188.979†	-0.3	-0.0005	mg/L	0.00654	-0.0005	mg/L	0.00654	>999.9%
Tl 190.801†	-5.0	-0.0068	mg/L	0.00570	-0.0068	mg/L	0.00570	84.15%
Se 196.026†	0.9	0.0012	mg/L	0.00940	0.0012	mg/L	0.00940	775.67%
Zn 206.200†	4.4	0.0003	mg/L	0.00049	0.0003	mg/L	0.00049	190.43%
Sb 206.836†	17.3	0.0137	mg/L	0.00317	0.0137	mg/L	0.00317	23.18%
Pb 220.353†	-3.1	-0.0005	mg/L	0.00061	-0.0005	mg/L	0.00061	112.91%
Cd 226.502†	1.4	0.0000	mg/L	0.00016	0.0000	mg/L	0.00016	829.40%
Co 228.616†	2.2	0.0001	mg/L	0.00037	0.0001	mg/L	0.00037	461.79%
Ni 232.003†	-49.8	-0.0041	mg/L	0.00085	-0.0041	mg/L	0.00085	20.83%
Ba 233.527†	59.4	0.0011	mg/L	0.00048	0.0011	mg/L	0.00048	44.12%
Mn 257.610†	223.6	0.0004	mg/L	0.00018	0.0004	mg/L	0.00018	46.74%
Cr 267.716†	56.4	0.0005	mg/L	0.00032	0.0005	mg/L	0.00032	69.28%
Fe 273.955†	-3459.7	-0.1595	mg/L	0.00074	-0.1595	mg/L	0.00074	0.46%
Mg 279.077†	-3135.8	-0.1900	mg/L	0.01024	-0.1900	mg/L	0.01024	5.39%
V 292.402†	2.5	0.0000	mg/L	0.00022	0.0000	mg/L	0.00022	>999.9%
Al 308.215†	-5687.5	-0.2534	mg/L	0.00442	-0.2534	mg/L	0.00442	1.75%
Be 313.107†	-761.6	-0.00017	mg/L	0.000043	-0.00017	mg/L	0.000043	25.17%
Cu 324.752†	1212.2	0.0043	mg/L	0.00059	0.0043	mg/L	0.00059	13.65%
Ag 338.289†	-466.3	-0.0033	mg/L	0.00126	-0.0033	mg/L	0.00126	38.41%
Na 330.237†	-66.8	-0.0872	mg/L	0.08498	-0.0872	mg/L	0.08498	97.45%
Ca 227.546†	-45.4	-0.5121	mg/L	0.06127	-0.5121	mg/L	0.06127	11.96%
Al RADIAL†	-1.6	-0.0010	mg/L	0.00258	-0.0010	mg/L	0.00258	263.21%
Fe RADIAL†	-5.8	-0.0130	mg/L	0.00756	-0.0130	mg/L	0.00756	58.25%
Ca RADIAL†	-88.2	-0.0146	mg/L	0.01150	-0.0146	mg/L	0.01150	78.60%
K RADIAL†	75.9	0.0547	mg/L	0.08297	0.0547	mg/L	0.08297	151.55%
Mg RADIAL†	-2.0	-0.0048	mg/L	0.01544	-0.0048	mg/L	0.01544	319.91%
Na RADIAL†	-1134.1	-0.1509	mg/L	0.02342	-0.1509	mg/L	0.02342	15.52%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 131
Sample ID: BE30962-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 241
Date Collected: 5/15/2023 5:01:09 PM
Data Type: Reprocessed on 5/16/2023 9:09:55 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30962-PS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16030555.1	4.092	mg/L	0.0433	4.092	mg/L	0.0433	1.06%
Y RADIAL	299061.0	4.487	mg/L	0.1714	4.487	mg/L	0.1714	3.82%
As 188.979†	1866.3	2.660	mg/L	0.0328	2.660	mg/L	0.0328	1.23%
Tl 190.801†	1904.6	2.561	mg/L	0.0212	2.561	mg/L	0.0212	0.83%
Se 196.026†	1687.6	2.195	mg/L	0.0257	2.195	mg/L	0.0257	1.17%
Zn 206.200†	12145.7	0.7000	mg/L	0.00782	0.7000	mg/L	0.00782	1.12%
Sb 206.836†	421.2	0.3311	mg/L	0.00570	0.3311	mg/L	0.00570	1.72%
Pb 220.353†	3815.3	0.6556	mg/L	0.00726	0.6556	mg/L	0.00726	1.11%
Cd 226.502†	5433.2	0.0654	mg/L	0.00087	0.0654	mg/L	0.00087	1.33%
Co 228.616†	18459.1	0.6814	mg/L	0.00761	0.6814	mg/L	0.00761	1.12%
Ni 232.003†	8171.1	0.6664	mg/L	0.00871	0.6664	mg/L	0.00871	1.31%
Ba 233.527†	151242.1	2.761	mg/L	0.0512	2.761	mg/L	0.0512	1.86%
Mn 257.610†	416342.0	0.7022	mg/L	0.01353	0.7022	mg/L	0.01353	1.93%
Cr 267.716†	30957.7	0.2561	mg/L	0.00383	0.2561	mg/L	0.00383	1.50%
Fe 273.955†	25296.1	1.166	mg/L	0.0248	1.166	mg/L	0.0248	2.12%
Mg 279.077†	80191.1	4.858	mg/L	0.1001	4.858	mg/L	0.1001	2.06%
V 292.402†	153391.4	0.6627	mg/L	0.01184	0.6627	mg/L	0.01184	1.79%
Al 308.215†	53745.2	2.394	mg/L	0.0737	2.394	mg/L	0.0737	3.08%
Be 313.107†	296271.3	0.06636	mg/L	0.001458	0.06636	mg/L	0.001458	2.20%
Cu 324.752†	103606.0	0.3674	mg/L	0.00964	0.3674	mg/L	0.00964	2.62%
Ag 338.289†	244.7	0.0017	mg/L	0.00179	0.0017	mg/L	0.00179	106.28%
Na 330.237†	45204.6	58.94	mg/L	1.660	58.94	mg/L	1.660	2.82%
Ca 227.546†	2033.1	22.92	mg/L	0.350	22.92	mg/L	0.350	1.53%
Al RADIAL†	4443.0	2.657	mg/L	0.0953	2.657	mg/L	0.0953	3.59%
Fe RADIAL†	593.7	1.340	mg/L	0.0518	1.340	mg/L	0.0518	3.87%
Ca RADIAL†	150005.9	24.88	mg/L	0.111	24.88	mg/L	0.111	0.45%
K RADIAL†	6733.0	4.857	mg/L	0.1438	4.857	mg/L	0.1438	2.96%
Mg RADIAL†	2060.3	5.022	mg/L	0.1686	5.022	mg/L	0.1686	3.36%
Na RADIAL†	494088.6	65.74	mg/L	0.824	65.74	mg/L	0.824	1.25%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 132
Sample ID: SEQ-SRD6
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 242
Date Collected: 5/15/2023 5:03:53 PM
Data Type: Reprocessed on 5/16/2023 9:09:56 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD6

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17127419.7	4.372	mg/L	0.0610	4.372	mg/L	0.0610	1.40%
Y RADIAL	311298.0	4.671	mg/L	0.1368	4.671	mg/L	0.1368	2.93%
As 188.979†	-6.4	-0.0091	mg/L	0.00812	-0.0091	mg/L	0.00812	89.69%
Tl 190.801†	-4.2	-0.0057	mg/L	0.00254	-0.0057	mg/L	0.00254	44.50%
Se 196.026†	5.1	0.0066	mg/L	0.00727	0.0066	mg/L	0.00727	110.13%
Zn 206.200†	179.4	0.0103	mg/L	0.00043	0.0103	mg/L	0.00043	4.16%
Sb 206.836†	0.3	-0.0002	mg/L	0.00205	-0.0002	mg/L	0.00205	948.90%
Pb 220.353†	5.3	0.0009	mg/L	0.00046	0.0009	mg/L	0.00046	51.38%
Cd 226.502†	-13.9	-0.0002	mg/L	0.00009	-0.0002	mg/L	0.00009	56.55%
Co 228.616†	-6.0	-0.0002	mg/L	0.00024	-0.0002	mg/L	0.00024	111.23%
Ni 232.003†	-44.3	-0.0036	mg/L	0.00132	-0.0036	mg/L	0.00132	36.43%
Ba 233.527†	331.2	0.0060	mg/L	0.00022	0.0060	mg/L	0.00022	3.69%
Mn 257.610†	2799.2	0.0047	mg/L	0.00011	0.0047	mg/L	0.00011	2.23%
Cr 267.716†	96.8	0.0008	mg/L	0.00008	0.0008	mg/L	0.00008	10.09%
Fe 273.955†	-3382.8	-0.1560	mg/L	0.00051	-0.1560	mg/L	0.00051	0.33%
Mg 279.077†	10444.8	0.6328	mg/L	0.01732	0.6328	mg/L	0.01732	2.74%
V 292.402†	144.1	0.0006	mg/L	0.00042	0.0006	mg/L	0.00042	66.65%
Al 308.215†	-5393.5	-0.2403	mg/L	0.00441	-0.2403	mg/L	0.00441	1.84%
Be 313.107†	-934.8	-0.00021	mg/L	0.000036	-0.00021	mg/L	0.000036	17.31%
Cu 324.752†	342.4	0.0012	mg/L	0.00057	0.0012	mg/L	0.00057	47.25%
Ag 338.289†	-655.0	-0.0046	mg/L	0.00159	-0.0046	mg/L	0.00159	34.60%
Na 330.237†	8660.9	11.29	mg/L	0.429	11.29	mg/L	0.429	3.80%
Ca 227.546†	389.3	4.389	mg/L	0.0978	4.389	mg/L	0.0978	2.23%
Al RADIAL†	5.5	0.0033	mg/L	0.00380	0.0033	mg/L	0.00380	115.44%
Fe RADIAL†	-1.2	-0.0026	mg/L	0.00574	-0.0026	mg/L	0.00574	219.71%
Ca RADIAL†	30121.9	4.996	mg/L	0.1444	4.996	mg/L	0.1444	2.89%
K RADIAL†	1042.6	0.7522	mg/L	0.08426	0.7522	mg/L	0.08426	11.20%
Mg RADIAL†	313.4	0.7639	mg/L	0.04768	0.7639	mg/L	0.04768	6.24%
Na RADIAL†	101652.2	13.53	mg/L	0.278	13.53	mg/L	0.278	2.06%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 133
Sample ID: BE30963-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 243
Date Collected: 5/15/2023 5:06:39 PM
Data Type: Reprocessed on 5/16/2023 9:09:57 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30963-BLK1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	16825329.2	4.294	mg/L	0.0491	4.294	mg/L	0.0491	1.14%
Y RADIAL	302798.0	4.543	mg/L	0.0386	4.543	mg/L	0.0386	0.85%
As 188.979†	-4.1	-0.0059	mg/L	0.00397	-0.0059	mg/L	0.00397	67.13%
Tl 190.801†	-2.4	-0.0032	mg/L	0.00465	-0.0032	mg/L	0.00465	143.79%
Se 196.026†	-7.2	-0.0094	mg/L	0.01879	-0.0094	mg/L	0.01879	200.70%
Zn 206.200†	55.9	0.0032	mg/L	0.00037	0.0032	mg/L	0.00037	11.41%
Sb 206.836†	6.1	0.0048	mg/L	0.00348	0.0048	mg/L	0.00348	72.49%
Pb 220.353†	2.4	0.0004	mg/L	0.00127	0.0004	mg/L	0.00127	313.15%
Cd 226.502†	9.9	0.0001	mg/L	0.00017	0.0001	mg/L	0.00017	139.22%
Co 228.616†	-7.0	-0.0003	mg/L	0.00025	-0.0003	mg/L	0.00025	96.45%
Ni 232.003†	-76.4	-0.0062	mg/L	0.00158	-0.0062	mg/L	0.00158	25.35%
Ba 233.527†	-1.1	-0.0000	mg/L	0.00007	-0.0000	mg/L	0.00007	346.46%
Mn 257.610†	113.7	0.0002	mg/L	0.00003	0.0002	mg/L	0.00003	13.25%
Cr 267.716†	286.1	0.0024	mg/L	0.00011	0.0024	mg/L	0.00011	4.49%
Fe 273.955†	-3379.6	-0.1558	mg/L	0.00038	-0.1558	mg/L	0.00038	0.25%
Mg 279.077†	-3210.3	-0.1945	mg/L	0.00687	-0.1945	mg/L	0.00687	3.53%
V 292.402†	70.8	0.0003	mg/L	0.00056	0.0003	mg/L	0.00056	184.47%
Al 308.215†	-5381.9	-0.2398	mg/L	0.00358	-0.2398	mg/L	0.00358	1.49%
Be 313.107†	-1406.9	-0.00032	mg/L	0.000049	-0.00032	mg/L	0.000049	15.63%
Cu 324.752†	927.0	0.0033	mg/L	0.00038	0.0033	mg/L	0.00038	11.61%
Ag 338.289†	-643.2	-0.0045	mg/L	0.00140	-0.0045	mg/L	0.00140	30.94%
Na 330.237†	-120.4	-0.1569	mg/L	0.13497	-0.1569	mg/L	0.13497	86.00%
Ca 227.546†	-60.2	-0.6783	mg/L	0.14461	-0.6783	mg/L	0.14461	21.32%
Al RADIAL†	2.8	0.0017	mg/L	0.00722	0.0017	mg/L	0.00722	436.99%
Fe RADIAL†	0.0	0.0001	mg/L	0.01054	0.0001	mg/L	0.01054	>999.9%
Ca RADIAL†	75.0	0.0124	mg/L	0.00400	0.0124	mg/L	0.00400	32.16%
K RADIAL†	-67.1	-0.0484	mg/L	0.16759	-0.0484	mg/L	0.16759	346.20%
Mg RADIAL†	-1.6	-0.0039	mg/L	0.02048	-0.0039	mg/L	0.02048	523.49%
Na RADIAL†	-1106.5	-0.1472	mg/L	0.01613	-0.1472	mg/L	0.01613	10.96%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 134
Sample ID: BE30963-BS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 244
Date Collected: 5/15/2023 5:09:25 PM
Data Type: Reprocessed on 5/16/2023 9:09:58 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30963-BS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17430160.9	4.449	mg/L	0.0161	4.449	mg/L	0.0161	0.36%
Y RADIAL	304207.5	4.564	mg/L	0.2515	4.564	mg/L	0.2515	5.51%
As 188.979†	1189.2	1.695	mg/L	0.0147	1.695	mg/L	0.0147	0.87%
Tl 190.801†	1255.7	1.688	mg/L	0.0173	1.688	mg/L	0.0173	1.02%
Se 196.026†	1038.0	1.350	mg/L	0.0179	1.350	mg/L	0.0179	1.32%
Zn 206.200†	7757.2	0.4471	mg/L	0.00277	0.4471	mg/L	0.00277	0.62%
Sb 206.836†	286.7	0.2268	mg/L	0.00099	0.2268	mg/L	0.00099	0.44%
Pb 220.353†	2534.2	0.4355	mg/L	0.00139	0.4355	mg/L	0.00139	0.32%
Cd 226.502†	3509.3	0.0422	mg/L	0.00038	0.0422	mg/L	0.00038	0.89%
Co 228.616†	12281.9	0.4534	mg/L	0.00442	0.4534	mg/L	0.00442	0.97%
Ni 232.003†	5401.6	0.4405	mg/L	0.00813	0.4405	mg/L	0.00813	1.84%
Ba 233.527†	104810.8	1.913	mg/L	0.0125	1.913	mg/L	0.0125	0.66%
Mn 257.610†	280571.6	0.4732	mg/L	0.00242	0.4732	mg/L	0.00242	0.51%
Cr 267.716†	21354.2	0.1766	mg/L	0.00110	0.1766	mg/L	0.00110	0.62%
Fe 273.955†	16255.5	0.7496	mg/L	0.01180	0.7496	mg/L	0.01180	1.57%
Mg 279.077†	11748.2	0.7117	mg/L	0.01193	0.7117	mg/L	0.01193	1.68%
V 292.402†	105048.0	0.4538	mg/L	0.00258	0.4538	mg/L	0.00258	0.57%
Al 308.215†	32153.4	1.432	mg/L	0.0117	1.432	mg/L	0.0117	0.82%
Be 313.107†	198948.6	0.04456	mg/L	0.000127	0.04456	mg/L	0.000127	0.29%
Cu 324.752†	69553.1	0.2467	mg/L	0.00247	0.2467	mg/L	0.00247	1.00%
Ag 338.289†	5253.5	0.0368	mg/L	0.00078	0.0368	mg/L	0.00078	2.13%
Na 330.237†	387.8	0.5102	mg/L	0.09874	0.5102	mg/L	0.09874	19.35%
Ca 227.546†	24.8	0.2795	mg/L	0.10472	0.2795	mg/L	0.10472	37.47%
Al RADIAL†	2888.9	1.728	mg/L	0.0641	1.728	mg/L	0.0641	3.71%
Fe RADIAL†	422.6	0.9537	mg/L	0.05986	0.9537	mg/L	0.05986	6.28%
Ca RADIAL†	6265.5	1.039	mg/L	0.0796	1.039	mg/L	0.0796	7.66%
K RADIAL†	1192.8	0.8605	mg/L	0.14073	0.8605	mg/L	0.14073	16.35%
Mg RADIAL†	383.9	0.9357	mg/L	0.05866	0.9357	mg/L	0.05866	6.27%
Na RADIAL†	5318.0	0.7076	mg/L	0.04256	0.7076	mg/L	0.04256	6.01%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 135
Sample ID: 23E0606-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 245
Date Collected: 5/15/2023 5:12:09 PM
Data Type: Reprocessed on 5/16/2023 9:09:59 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0606-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	14201800.5	3.625	mg/L	0.0794	3.625	mg/L	0.0794	2.19%
Y RADIAL	286775.4	4.303	mg/L	0.0835	4.303	mg/L	0.0835	1.94%
As 188.979†	-8.4	-0.0118	mg/L	0.01825	-0.0118	mg/L	0.01825	154.50%
Tl 190.801†	-6.0	-0.0079	mg/L	0.00828	-0.0079	mg/L	0.00828	104.51%
Se 196.026†	280.0	0.3640	mg/L	0.01986	0.3640	mg/L	0.01986	5.46%
Zn 206.200†	80070.5	4.614	mg/L	0.1472	4.614	mg/L	0.1472	3.19%
Sb 206.836†	4.5	-0.0046	mg/L	0.00127	-0.0046	mg/L	0.00127	27.40%
Pb 220.353†	-44.3	-0.0074	mg/L	0.00063	-0.0074	mg/L	0.00063	8.56%
Cd 226.502†	230.9	0.0027	mg/L	0.00006	0.0027	mg/L	0.00006	2.35%
Co 228.616†	141.3	0.0052	mg/L	0.00035	0.0052	mg/L	0.00035	6.64%
Ni 232.003†	402.7	0.0329	mg/L	0.00080	0.0329	mg/L	0.00080	2.43%
Ba 233.527†	2057.7	0.0376	mg/L	0.00074	0.0376	mg/L	0.00074	1.96%
Mn 257.610†	1959386.2	3.304	mg/L	0.0464	3.304	mg/L	0.0464	1.40%
Cr 267.716†	578.9	0.0048	mg/L	0.00084	0.0048	mg/L	0.00084	17.56%
Fe 273.955†	4188.7	0.1931	mg/L	0.01135	0.1931	mg/L	0.01135	5.88%
Mg 279.077†	3846966.1	233.1	mg/L	3.20	233.1	mg/L	3.20	1.37%
V 292.402†	-162.5	-0.0007	mg/L	0.00058	-0.0007	mg/L	0.00058	78.36%
Al 308.215†	-3757.5	-0.1674	mg/L	0.01397	-0.1674	mg/L	0.01397	8.34%
Be 313.107†	-3588.4	-0.00080	mg/L	0.000100	-0.00080	mg/L	0.000100	12.48%
Cu 324.752†	312913.7	1.109	mg/L	0.0163	1.109	mg/L	0.0163	1.47%
Ag 338.289†	-513.9	-0.0036	mg/L	0.00075	-0.0036	mg/L	0.00075	20.72%
Na 330.237†	2192673.5	2859	mg/L	53.25	2859	mg/L	53.25	1.86%
Ca 227.546†	8407.7	94.80	mg/L	1.978	94.80	mg/L	1.978	2.09%
Al RADIAL†	17.5	0.0105	mg/L	0.00524	0.0105	mg/L	0.00524	49.96%
Fe RADIAL†	160.8	0.3630	mg/L	0.01172	0.3630	mg/L	0.01172	3.23%
Ca RADIAL†	556209.8	92.24	mg/L	0.487	92.24	mg/L	0.487	0.53%
K RADIAL†	123048.5	88.77	mg/L	1.052	88.77	mg/L	1.052	1.18%
Mg RADIAL†	90869.6	221.5	mg/L	0.71	221.5	mg/L	0.71	0.32%
Na RADIAL†	13578982.1	1807	mg/L	32.85	1807	mg/L	32.85	1.82%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 136
Sample ID: 23E0414-10
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 246
Date Collected: 5/15/2023 5:14:57 PM
Data Type: Reprocessed on 5/16/2023 9:10:00 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0414-10

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16208860.3	4.137	mg/L	0.1304	4.137	mg/L	0.1304	3.15%
Y RADIAL	295026.9	4.427	mg/L	0.1398	4.427	mg/L	0.1398	3.16%
As 188.979†	-4.0	-0.0054	mg/L	0.00976	-0.0054	mg/L	0.00976	180.77%
Tl 190.801†	-7.6	-0.0100	mg/L	0.00672	-0.0100	mg/L	0.00672	67.24%
Se 196.026†	-11.0	-0.0154	mg/L	0.01449	-0.0154	mg/L	0.01449	94.28%
Zn 206.200†	15890.3	0.9158	mg/L	0.03104	0.9158	mg/L	0.03104	3.39%
Sb 206.836†	5.5	0.0039	mg/L	0.00722	0.0039	mg/L	0.00722	182.88%
Pb 220.353†	10.8	0.0024	mg/L	0.00199	0.0024	mg/L	0.00199	84.37%
Cd 226.502†	12.0	0.0001	mg/L	0.00017	0.0001	mg/L	0.00017	343.16%
Co 228.616†	-13.3	-0.0005	mg/L	0.00007	-0.0005	mg/L	0.00007	15.39%
Ni 232.003†	42.5	0.0037	mg/L	0.00069	0.0037	mg/L	0.00069	18.77%
Ba 233.527†	3594.4	0.0656	mg/L	0.00191	0.0656	mg/L	0.00191	2.91%
Mn 257.610†	13752.9	0.0232	mg/L	0.00040	0.0232	mg/L	0.00040	1.71%
Cr 267.716†	436.0	0.0036	mg/L	0.00025	0.0036	mg/L	0.00025	6.85%
Fe 273.955†	15823.4	0.7296	mg/L	0.02352	0.7296	mg/L	0.02352	3.22%
Mg 279.077†	14715.9	0.8915	mg/L	0.03057	0.8915	mg/L	0.03057	3.43%
V 292.402†	193.0	0.0008	mg/L	0.00062	0.0008	mg/L	0.00062	81.98%
Al 308.215†	-4025.0	-0.1793	mg/L	0.00956	-0.1793	mg/L	0.00956	5.33%
Be 313.107†	-1535.0	-0.00034	mg/L	0.000068	-0.00034	mg/L	0.000068	19.91%
Cu 324.752†	223778.3	0.7934	mg/L	0.01989	0.7934	mg/L	0.01989	2.51%
Ag 338.289†	-669.7	-0.0047	mg/L	0.00204	-0.0047	mg/L	0.00204	43.28%
Na 330.237†	11561.1	15.08	mg/L	0.756	15.08	mg/L	0.756	5.01%
Ca 227.546†	611.7	6.898	mg/L	0.0649	6.898	mg/L	0.0649	0.94%
Al RADIAL†	74.7	0.0447	mg/L	0.00476	0.0447	mg/L	0.00476	10.65%
Fe RADIAL†	397.0	0.8959	mg/L	0.02614	0.8959	mg/L	0.02614	2.92%
Ca RADIAL†	48684.8	8.074	mg/L	0.0442	8.074	mg/L	0.0442	0.55%
K RADIAL†	1835.0	1.324	mg/L	0.1064	1.324	mg/L	0.1064	8.04%
Mg RADIAL†	431.0	1.051	mg/L	0.0313	1.051	mg/L	0.0313	2.98%
Na RADIAL†	135984.7	18.09	mg/L	0.286	18.09	mg/L	0.286	1.58%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 137
Sample ID: 23E0442-12
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 247
Date Collected: 5/15/2023 5:17:42 PM
Data Type: Reprocessed on 5/16/2023 9:10:01 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-12

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17327455.3	4.423	mg/L	0.1001	4.423	mg/L	0.1001	2.26%
Y RADIAL	330642.2	4.961	mg/L	0.1770	4.961	mg/L	0.1770	3.57%
As 188.979†	-3.7	-0.0053	mg/L	0.00123	-0.0053	mg/L	0.00123	23.43%
Tl 190.801†	-10.6	-0.0142	mg/L	0.00324	-0.0142	mg/L	0.00324	22.79%
Se 196.026†	0.7	0.0009	mg/L	0.01280	0.0009	mg/L	0.01280	>999.9%
Zn 206.200†	1187.6	0.0684	mg/L	0.00159	0.0684	mg/L	0.00159	2.32%
Sb 206.836†	-0.1	-0.0001	mg/L	0.00249	-0.0001	mg/L	0.00249	>999.9%
Pb 220.353†	10.8	0.0019	mg/L	0.00202	0.0019	mg/L	0.00202	108.19%
Cd 226.502†	0.1	0.0000	mg/L	0.00014	0.0000	mg/L	0.00014	>999.9%
Co 228.616†	-5.7	-0.0002	mg/L	0.00028	-0.0002	mg/L	0.00028	131.70%
Ni 232.003†	-43.4	-0.0035	mg/L	0.00258	-0.0035	mg/L	0.00258	72.91%
Ba 233.527†	8.6	0.0002	mg/L	0.00020	0.0002	mg/L	0.00020	126.43%
Mn 257.610†	386.4	0.0007	mg/L	0.00002	0.0007	mg/L	0.00002	2.45%
Cr 267.716†	128.4	0.0011	mg/L	0.00018	0.0011	mg/L	0.00018	17.32%
Fe 273.955†	-3075.0	-0.1418	mg/L	0.00123	-0.1418	mg/L	0.00123	0.86%
Mg 279.077†	267.6	0.0162	mg/L	0.00889	0.0162	mg/L	0.00889	54.84%
V 292.402†	-89.8	-0.0004	mg/L	0.00027	-0.0004	mg/L	0.00027	68.88%
Al 308.215†	-5282.4	-0.2353	mg/L	0.00728	-0.2353	mg/L	0.00728	3.09%
Be 313.107†	-1609.3	-0.00036	mg/L	0.000031	-0.00036	mg/L	0.000031	8.66%
Cu 324.752†	26830.2	0.0951	mg/L	0.00400	0.0951	mg/L	0.00400	4.21%
Ag 338.289†	-251.0	-0.0018	mg/L	0.00078	-0.0018	mg/L	0.00078	44.46%
Na 330.237†	9823.8	12.81	mg/L	0.506	12.81	mg/L	0.506	3.95%
Ca 227.546†	-9.6	-0.1080	mg/L	0.11193	-0.1080	mg/L	0.11193	103.66%
Al RADIAL†	7.5	0.0045	mg/L	0.00780	0.0045	mg/L	0.00780	174.14%
Fe RADIAL†	2.9	0.0065	mg/L	0.01252	0.0065	mg/L	0.01252	194.00%
Ca RADIAL†	3317.4	0.5502	mg/L	0.03606	0.5502	mg/L	0.03606	6.55%
K RADIAL†	21.8	0.0157	mg/L	0.06826	0.0157	mg/L	0.06826	434.93%
Mg RADIAL†	82.5	0.2011	mg/L	0.01573	0.2011	mg/L	0.01573	7.82%
Na RADIAL†	113231.9	15.07	mg/L	0.231	15.07	mg/L	0.231	1.54%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 138
Sample ID: 23E0421-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 248
Date Collected: 5/15/2023 5:20:27 PM
Data Type: Reprocessed on 5/16/2023 9:10:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0421-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15993695.6	4.082	mg/L	0.0529	4.082	mg/L	0.0529	1.30%
Y RADIAL	295767.7	4.438	mg/L	0.1198	4.438	mg/L	0.1198	2.70%
As 188.979†	-5.7	-0.0081	mg/L	0.00936	-0.0081	mg/L	0.00936	115.00%
Tl 190.801†	-6.3	-0.0085	mg/L	0.00703	-0.0085	mg/L	0.00703	82.75%
Se 196.026†	8.1	0.0105	mg/L	0.01074	0.0105	mg/L	0.01074	102.23%
Zn 206.200†	784.3	0.0452	mg/L	0.00067	0.0452	mg/L	0.00067	1.48%
Sb 206.836†	6.7	0.0029	mg/L	0.00683	0.0029	mg/L	0.00683	231.93%
Pb 220.353†	-4.8	-0.0008	mg/L	0.00168	-0.0008	mg/L	0.00168	207.20%
Cd 226.502†	11.4	0.0001	mg/L	0.00012	0.0001	mg/L	0.00012	90.10%
Co 228.616†	-17.0	-0.0006	mg/L	0.00031	-0.0006	mg/L	0.00031	48.83%
Ni 232.003†	-110.9	-0.0090	mg/L	0.00084	-0.0090	mg/L	0.00084	9.33%
Ba 233.527†	4351.4	0.0794	mg/L	0.00147	0.0794	mg/L	0.00147	1.85%
Mn 257.610†	52603.5	0.0887	mg/L	0.00106	0.0887	mg/L	0.00106	1.20%
Cr 267.716†	341.3	0.0028	mg/L	0.00007	0.0028	mg/L	0.00007	2.44%
Fe 273.955†	-3026.3	-0.1395	mg/L	0.00130	-0.1395	mg/L	0.00130	0.93%
Mg 279.077†	81703.4	4.950	mg/L	0.0743	4.950	mg/L	0.0743	1.50%
V 292.402†	70.9	0.0003	mg/L	0.00037	0.0003	mg/L	0.00037	121.50%
Al 308.215†	-4942.6	-0.2202	mg/L	0.01062	-0.2202	mg/L	0.01062	4.82%
Be 313.107†	-2293.6	-0.00051	mg/L	0.000095	-0.00051	mg/L	0.000095	18.56%
Cu 324.752†	1699.7	0.0060	mg/L	0.00063	0.0060	mg/L	0.00063	10.39%
Ag 338.289†	-644.8	-0.0045	mg/L	0.00165	-0.0045	mg/L	0.00165	36.60%
Na 330.237†	38873.3	50.68	mg/L	0.925	50.68	mg/L	0.925	1.82%
Ca 227.546†	2148.1	24.22	mg/L	0.249	24.22	mg/L	0.249	1.03%
Al RADIAL†	10.4	0.0062	mg/L	0.00437	0.0062	mg/L	0.00437	70.63%
Fe RADIAL†	8.3	0.0188	mg/L	0.00846	0.0188	mg/L	0.00846	45.08%
Ca RADIAL†	156647.7	25.98	mg/L	0.242	25.98	mg/L	0.242	0.93%
K RADIAL†	7853.3	5.665	mg/L	0.0997	5.665	mg/L	0.0997	1.76%
Mg RADIAL†	2089.7	5.094	mg/L	0.1550	5.094	mg/L	0.1550	3.04%
Na RADIAL†	414876.5	55.20	mg/L	0.587	55.20	mg/L	0.587	1.06%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 139
Sample ID: BE30963-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 249
Date Collected: 5/15/2023 5:23:13 PM
Data Type: Reprocessed on 5/16/2023 9:10:03 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30963-DUP1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	16217533.5	4.139	mg/L	0.2049	4.139	mg/L	0.2049	4.95%
Y RADIAL	297853.7	4.469	mg/L	0.1282	4.469	mg/L	0.1282	2.87%
As 188.979†	-11.9	-0.0170	mg/L	0.00563	-0.0170	mg/L	0.00563	33.19%
Tl 190.801†	-3.4	-0.0046	mg/L	0.00631	-0.0046	mg/L	0.00631	136.26%
Se 196.026†	5.2	0.0067	mg/L	0.00271	0.0067	mg/L	0.00271	40.49%
Zn 206.200†	703.8	0.0406	mg/L	0.00174	0.0406	mg/L	0.00174	4.28%
Sb 206.836†	8.3	0.0042	mg/L	0.00750	0.0042	mg/L	0.00750	177.77%
Pb 220.353†	-23.4	-0.0040	mg/L	0.00248	-0.0040	mg/L	0.00248	61.78%
Cd 226.502†	12.0	0.0001	mg/L	0.00009	0.0001	mg/L	0.00009	59.12%
Co 228.616†	-14.7	-0.0005	mg/L	0.00041	-0.0005	mg/L	0.00041	75.12%
Ni 232.003†	-98.3	-0.0080	mg/L	0.00407	-0.0080	mg/L	0.00407	50.83%
Ba 233.527†	4341.7	0.0792	mg/L	0.00369	0.0792	mg/L	0.00369	4.65%
Mn 257.610†	51834.3	0.0874	mg/L	0.00600	0.0874	mg/L	0.00600	6.87%
Cr 267.716†	316.8	0.0026	mg/L	0.00014	0.0026	mg/L	0.00014	5.49%
Fe 273.955†	-3066.7	-0.1414	mg/L	0.00103	-0.1414	mg/L	0.00103	0.73%
Mg 279.077†	80719.8	4.890	mg/L	0.3297	4.890	mg/L	0.3297	6.74%
V 292.402†	-27.7	-0.0001	mg/L	0.00040	-0.0001	mg/L	0.00040	331.76%
Al 308.215†	-5015.3	-0.2234	mg/L	0.01308	-0.2234	mg/L	0.01308	5.85%
Be 313.107†	-2045.0	-0.00046	mg/L	0.000214	-0.00046	mg/L	0.000214	46.70%
Cu 324.752†	1578.5	0.0056	mg/L	0.00155	0.0056	mg/L	0.00155	27.73%
Ag 338.289†	-591.8	-0.0041	mg/L	0.00127	-0.0041	mg/L	0.00127	30.64%
Na 330.237†	38295.2	49.93	mg/L	4.098	49.93	mg/L	4.098	8.21%
Ca 227.546†	2142.5	24.16	mg/L	1.101	24.16	mg/L	1.101	4.56%
Al RADIAL†	-4.0	-0.0024	mg/L	0.00788	-0.0024	mg/L	0.00788	331.64%
Fe RADIAL†	3.6	0.0081	mg/L	0.00542	0.0081	mg/L	0.00542	66.95%
Ca RADIAL†	154232.9	25.58	mg/L	0.641	25.58	mg/L	0.641	2.51%
K RADIAL†	7764.5	5.601	mg/L	0.1782	5.601	mg/L	0.1782	3.18%
Mg RADIAL†	2064.6	5.033	mg/L	0.1486	5.033	mg/L	0.1486	2.95%
Na RADIAL†	410122.5	54.57	mg/L	1.472	54.57	mg/L	1.472	2.70%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 140
Sample ID: BE30963-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 250
Date Collected: 5/15/2023 5:25:59 PM
Data Type: Reprocessed on 5/16/2023 9:10:03 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30963-MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16169053.1	4.127	mg/L	0.0943	4.127	mg/L	0.0943	2.28%
Y RADIAL	305975.0	4.591	mg/L	0.1440	4.591	mg/L	0.1440	3.14%
As 188.979†	1208.4	1.723	mg/L	0.0447	1.723	mg/L	0.0447	2.59%
Tl 190.801†	1181.5	1.588	mg/L	0.0285	1.588	mg/L	0.0285	1.79%
Se 196.026†	1071.7	1.394	mg/L	0.0289	1.394	mg/L	0.0289	2.07%
Zn 206.200†	8283.8	0.4774	mg/L	0.00829	0.4774	mg/L	0.00829	1.74%
Sb 206.836†	285.8	0.2237	mg/L	0.00747	0.2237	mg/L	0.00747	3.34%
Pb 220.353†	2398.6	0.4122	mg/L	0.00737	0.4122	mg/L	0.00737	1.79%
Cd 226.502†	3410.6	0.0410	mg/L	0.00078	0.0410	mg/L	0.00078	1.90%
Co 228.616†	11349.7	0.4190	mg/L	0.00961	0.4190	mg/L	0.00961	2.29%
Ni 232.003†	5302.3	0.4324	mg/L	0.00568	0.4324	mg/L	0.00568	1.31%
Ba 233.527†	102276.3	1.867	mg/L	0.0534	1.867	mg/L	0.0534	2.86%
Mn 257.610†	316071.6	0.5331	mg/L	0.01672	0.5331	mg/L	0.01672	3.14%
Cr 267.716†	20118.8	0.1664	mg/L	0.00520	0.1664	mg/L	0.00520	3.13%
Fe 273.955†	15405.4	0.7104	mg/L	0.01787	0.7104	mg/L	0.01787	2.51%
Mg 279.077†	93386.2	5.658	mg/L	0.1752	5.658	mg/L	0.1752	3.10%
V 292.402†	100519.0	0.4343	mg/L	0.01441	0.4343	mg/L	0.01441	3.32%
Al 308.215†	33254.6	1.481	mg/L	0.0709	1.481	mg/L	0.0709	4.78%
Be 313.107†	193369.3	0.04331	mg/L	0.001356	0.04331	mg/L	0.001356	3.13%
Cu 324.752†	67604.7	0.2397	mg/L	0.01040	0.2397	mg/L	0.01040	4.34%
Ag 338.289†	4892.5	0.0343	mg/L	0.00290	0.0343	mg/L	0.00290	8.47%
Na 330.237†	38744.2	50.52	mg/L	2.104	50.52	mg/L	2.104	4.17%
Ca 227.546†	2235.0	25.20	mg/L	0.410	25.20	mg/L	0.410	1.63%
Al RADIAL†	2828.7	1.692	mg/L	0.0439	1.692	mg/L	0.0439	2.59%
Fe RADIAL†	388.3	0.8763	mg/L	0.03461	0.8763	mg/L	0.03461	3.95%
Ca RADIAL†	158711.6	26.32	mg/L	0.191	26.32	mg/L	0.191	0.73%
K RADIAL†	8602.8	6.206	mg/L	0.1183	6.206	mg/L	0.1183	1.91%
Mg RADIAL†	2379.4	5.800	mg/L	0.2002	5.800	mg/L	0.2002	3.45%
Na RADIAL†	414621.9	55.17	mg/L	0.396	55.17	mg/L	0.396	0.72%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 141
Sample ID: SEQ-CCVC
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 5:28:45 PM
Data Type: Reprocessed on 5/16/2023 9:10:04 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	16126664.3	4.116	mg/L	0.0729	4.116	mg/L	0.0729	1.77%
Y RADIAL	305369.4	4.582	mg/L	0.1192	4.582	mg/L	0.1192	2.60%
As 188.979†	386.6	0.5532	mg/L	0.01320	0.5532	mg/L	0.01320	2.39%
Tl 190.801†	419.3	0.5647	mg/L	0.00567	0.5647	mg/L	0.00567	1.00%
Se 196.026†	427.0	0.5492	mg/L	0.02476	0.5492	mg/L	0.02476	4.51%
Zn 206.200†	47465.0	2.736	mg/L	0.0306	2.736	mg/L	0.0306	1.12%
Sb 206.836†	323.7	0.2552	mg/L	0.00542	0.2552	mg/L	0.00542	2.12%
Pb 220.353†	3220.6	0.5558	mg/L	0.00844	0.5558	mg/L	0.00844	1.52%
Cd 226.502†	22478.7	0.2705	mg/L	0.00302	0.2705	mg/L	0.00302	1.12%
Co 228.616†	73907.6	2.728	mg/L	0.0342	2.728	mg/L	0.0342	1.25%
Ni 232.003†	33452.1	2.728	mg/L	0.0278	2.728	mg/L	0.0278	1.02%
Ba 233.527†	623483.3	11.38	mg/L	0.615	11.38	mg/L	0.615	5.41%
Mn 257.610†	1678551.8	2.831	mg/L	0.1488	2.831	mg/L	0.1488	5.26%
Cr 267.716†	131378.2	1.087	mg/L	0.0084	1.087	mg/L	0.0084	0.77%
Fe 273.955†	116901.1	5.390	mg/L	0.0695	5.390	mg/L	0.0695	1.29%
Mg 279.077†	460726.4	27.91	mg/L	1.553	27.91	mg/L	1.553	5.57%
V 292.402†	638912.8	2.760	mg/L	0.1498	2.760	mg/L	0.1498	5.43%
Al 308.215†	245475.4	10.94	mg/L	0.713	10.94	mg/L	0.713	6.52%
Be 313.107†	1248571.8	0.27965	mg/L	0.014502	0.27965	mg/L	0.014502	5.19%
Cu 324.752†	395783.0	1.404	mg/L	0.0857	1.404	mg/L	0.0857	6.10%
Ag 338.289†	188732.8	1.323	mg/L	0.0757	1.323	mg/L	0.0757	5.72%
Na 330.237†	19609.6	25.59	mg/L	0.429	25.59	mg/L	0.429	1.68%
Ca 227.546†	2319.9	26.16	mg/L	0.214	26.16	mg/L	0.214	0.82%
Al RADIAL†	17976.8	10.75	mg/L	0.283	10.75	mg/L	0.283	2.64%
Fe RADIAL†	2365.0	5.338	mg/L	0.1401	5.338	mg/L	0.1401	2.62%
Ca RADIAL†	161772.4	26.83	mg/L	0.221	26.83	mg/L	0.221	0.82%
K RADIAL†	7591.5	5.477	mg/L	0.1344	5.477	mg/L	0.1344	2.45%
Mg RADIAL†	10986.7	26.78	mg/L	0.703	26.78	mg/L	0.703	2.63%
Na RADIAL†	206023.9	27.41	mg/L	0.308	27.41	mg/L	0.308	1.12%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 142
Sample ID: SEQ-CCBC
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 5:31:32 PM
Data Type: Reprocessed on 5/16/2023 9:10:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17601553.1	4.493	mg/L	0.1036	4.493	mg/L	0.1036	2.31%
Y RADIAL	311430.9	4.673	mg/L	0.1240	4.673	mg/L	0.1240	2.65%
As 188.979†	-1.2	-0.0018	mg/L	0.01105	-0.0018	mg/L	0.01105	623.06%
Tl 190.801†	-3.8	-0.0051	mg/L	0.00542	-0.0051	mg/L	0.00542	106.53%
Se 196.026†	-2.8	-0.0036	mg/L	0.00664	-0.0036	mg/L	0.00664	183.94%
Zn 206.200†	17.7	0.0010	mg/L	0.00067	0.0010	mg/L	0.00067	65.17%
Sb 206.836†	12.9	0.0102	mg/L	0.00229	0.0102	mg/L	0.00229	22.43%
Pb 220.353†	5.0	0.0008	mg/L	0.00153	0.0008	mg/L	0.00153	180.15%
Cd 226.502†	-4.6	-0.0001	mg/L	0.00016	-0.0001	mg/L	0.00016	294.58%
Co 228.616†	7.4	0.0003	mg/L	0.00046	0.0003	mg/L	0.00046	166.09%
Ni 232.003†	-38.0	-0.0031	mg/L	0.00094	-0.0031	mg/L	0.00094	30.19%
Ba 233.527†	93.7	0.0017	mg/L	0.00190	0.0017	mg/L	0.00190	110.90%
Mn 257.610†	345.0	0.0006	mg/L	0.00059	0.0006	mg/L	0.00059	101.41%
Cr 267.716†	56.4	0.0005	mg/L	0.00032	0.0005	mg/L	0.00032	68.21%
Fe 273.955†	-3431.2	-0.1582	mg/L	0.00128	-0.1582	mg/L	0.00128	0.81%
Mg 279.077†	-3196.3	-0.1936	mg/L	0.00471	-0.1936	mg/L	0.00471	2.43%
V 292.402†	128.9	0.0006	mg/L	0.00033	0.0006	mg/L	0.00033	59.42%
Al 308.215†	-5711.3	-0.2544	mg/L	0.01073	-0.2544	mg/L	0.01073	4.22%
Be 313.107†	-954.2	-0.00021	mg/L	0.000090	-0.00021	mg/L	0.000090	42.07%
Cu 324.752†	706.5	0.0025	mg/L	0.00078	0.0025	mg/L	0.00078	31.23%
Ag 338.289†	-507.5	-0.0036	mg/L	0.00044	-0.0036	mg/L	0.00044	12.48%
Na 330.237†	-189.6	-0.2473	mg/L	0.21026	-0.2473	mg/L	0.21026	85.04%
Ca 227.546†	-39.0	-0.4392	mg/L	0.05911	-0.4392	mg/L	0.05911	13.46%
Al RADIAL†	3.7	0.0022	mg/L	0.00509	0.0022	mg/L	0.00509	228.19%
Fe RADIAL†	-1.9	-0.0044	mg/L	0.01237	-0.0044	mg/L	0.01237	283.60%
Ca RADIAL†	-128.6	-0.0213	mg/L	0.01036	-0.0213	mg/L	0.01036	48.54%
K RADIAL†	-15.6	-0.0112	mg/L	0.07583	-0.0112	mg/L	0.07583	675.43%
Mg RADIAL†	-6.2	-0.0152	mg/L	0.01691	-0.0152	mg/L	0.01691	111.36%
Na RADIAL†	-723.8	-0.0963	mg/L	0.03232	-0.0963	mg/L	0.03232	33.56%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 143
Sample ID: BE30963-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 251
Date Collected: 5/15/2023 5:34:13 PM
Data Type: Reprocessed on 5/16/2023 9:10:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30963-PS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	16121259.9	4.115	mg/L	0.0921	4.115	mg/L	0.0921	2.24%
Y RADIAL	304095.1	4.563	mg/L	0.0758	4.563	mg/L	0.0758	1.66%
As 188.979†	1848.9	2.636	mg/L	0.0696	2.636	mg/L	0.0696	2.64%
Tl 190.801†	1938.1	2.606	mg/L	0.0783	2.606	mg/L	0.0783	3.01%
Se 196.026†	1700.7	2.212	mg/L	0.0519	2.212	mg/L	0.0519	2.35%
Zn 206.200†	12399.4	0.7146	mg/L	0.01728	0.7146	mg/L	0.01728	2.42%
Sb 206.836†	418.6	0.3288	mg/L	0.01195	0.3288	mg/L	0.01195	3.63%
Pb 220.353†	3844.1	0.6605	mg/L	0.01466	0.6605	mg/L	0.01466	2.22%
Cd 226.502†	5451.7	0.0656	mg/L	0.00154	0.0656	mg/L	0.00154	2.34%
Co 228.616†	17950.2	0.6626	mg/L	0.01721	0.6626	mg/L	0.01721	2.60%
Ni 232.003†	8190.7	0.6679	mg/L	0.01259	0.6679	mg/L	0.01259	1.88%
Ba 233.527†	155274.2	2.834	mg/L	0.0422	2.834	mg/L	0.0422	1.49%
Mn 257.610†	460665.8	0.7770	mg/L	0.01220	0.7770	mg/L	0.01220	1.57%
Cr 267.716†	30931.2	0.2558	mg/L	0.00332	0.2558	mg/L	0.00332	1.30%
Fe 273.955†	25769.0	1.188	mg/L	0.0304	1.188	mg/L	0.0304	2.56%
Mg 279.077†	101368.0	6.141	mg/L	0.1105	6.141	mg/L	0.1105	1.80%
V 292.402†	155230.3	0.6706	mg/L	0.01115	0.6706	mg/L	0.01115	1.66%
Al 308.215†	53996.6	2.405	mg/L	0.0794	2.405	mg/L	0.0794	3.30%
Be 313.107†	296947.1	0.06651	mg/L	0.000780	0.06651	mg/L	0.000780	1.17%
Cu 324.752†	104744.5	0.3714	mg/L	0.01010	0.3714	mg/L	0.01010	2.72%
Ag 338.289†	661.8	0.0046	mg/L	0.00284	0.0046	mg/L	0.00284	61.59%
Na 330.237†	39432.1	51.42	mg/L	1.506	51.42	mg/L	1.506	2.93%
Ca 227.546†	2264.2	25.53	mg/L	0.439	25.53	mg/L	0.439	1.72%
Al RADIAL†	4412.8	2.639	mg/L	0.0474	2.639	mg/L	0.0474	1.80%
Fe RADIAL†	588.1	1.327	mg/L	0.0312	1.327	mg/L	0.0312	2.35%
Ca RADIAL†	163037.7	27.04	mg/L	0.176	27.04	mg/L	0.176	0.65%
K RADIAL†	9590.8	6.919	mg/L	0.2557	6.919	mg/L	0.2557	3.70%
Mg RADIAL†	2568.5	6.261	mg/L	0.1452	6.261	mg/L	0.1452	2.32%
Na RADIAL†	421239.2	56.05	mg/L	0.114	56.05	mg/L	0.114	0.20%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 144
Sample ID: SEQ-SRD7
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 252
Date Collected: 5/15/2023 5:36:51 PM
Data Type: Reprocessed on 5/16/2023 9:10:07 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD7

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16622567.3	4.243	mg/L	0.0980	4.243	mg/L	0.0980	2.31%
Y RADIAL	307916.0	4.620	mg/L	0.0681	4.620	mg/L	0.0681	1.47%
As 188.979†	-4.7	-0.0067	mg/L	0.01128	-0.0067	mg/L	0.01128	167.33%
Tl 190.801†	-4.2	-0.0057	mg/L	0.00721	-0.0057	mg/L	0.00721	126.83%
Se 196.026†	-2.6	-0.0034	mg/L	0.01396	-0.0034	mg/L	0.01396	413.53%
Zn 206.200†	280.2	0.0161	mg/L	0.00084	0.0161	mg/L	0.00084	5.22%
Sb 206.836†	8.3	0.0060	mg/L	0.00524	0.0060	mg/L	0.00524	87.10%
Pb 220.353†	6.5	0.0011	mg/L	0.00171	0.0011	mg/L	0.00171	153.61%
Cd 226.502†	-3.0	-0.0000	mg/L	0.00013	-0.0000	mg/L	0.00013	350.34%
Co 228.616†	-19.0	-0.0007	mg/L	0.00035	-0.0007	mg/L	0.00035	50.35%
Ni 232.003†	-61.6	-0.0050	mg/L	0.00206	-0.0050	mg/L	0.00206	40.96%
Ba 233.527†	1149.2	0.0210	mg/L	0.00057	0.0210	mg/L	0.00057	2.72%
Mn 257.610†	13512.6	0.0228	mg/L	0.00047	0.0228	mg/L	0.00047	2.05%
Cr 267.716†	129.7	0.0011	mg/L	0.00020	0.0011	mg/L	0.00020	18.25%
Fe 273.955†	-3331.1	-0.1536	mg/L	0.00077	-0.1536	mg/L	0.00077	0.50%
Mg 279.077†	18406.8	1.115	mg/L	0.0177	1.115	mg/L	0.0177	1.59%
V 292.402†	-6.4	-0.0000	mg/L	0.00018	-0.0000	mg/L	0.00018	674.33%
Al 308.215†	-5193.4	-0.2314	mg/L	0.00998	-0.2314	mg/L	0.00998	4.31%
Be 313.107†	-1584.5	-0.00035	mg/L	0.000031	-0.00035	mg/L	0.000031	8.65%
Cu 324.752†	649.9	0.0023	mg/L	0.00069	0.0023	mg/L	0.00069	30.15%
Ag 338.289†	-640.3	-0.0045	mg/L	0.00128	-0.0045	mg/L	0.00128	28.54%
Na 330.237†	8986.9	11.72	mg/L	0.435	11.72	mg/L	0.435	3.71%
Ca 227.546†	502.6	5.667	mg/L	0.0514	5.667	mg/L	0.0514	0.91%
Al RADIAL†	12.6	0.0075	mg/L	0.00285	0.0075	mg/L	0.00285	37.81%
Fe RADIAL†	-1.0	-0.0023	mg/L	0.00518	-0.0023	mg/L	0.00518	223.46%
Ca RADIAL†	38189.9	6.334	mg/L	0.0768	6.334	mg/L	0.0768	1.21%
K RADIAL†	1944.3	1.403	mg/L	0.1492	1.403	mg/L	0.1492	10.63%
Mg RADIAL†	499.2	1.217	mg/L	0.0372	1.217	mg/L	0.0372	3.05%
Na RADIAL†	101617.3	13.52	mg/L	0.215	13.52	mg/L	0.215	1.59%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 145
Sample ID: 23E0722-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 253
Date Collected: 5/15/2023 5:39:31 PM
Data Type: Reprocessed on 5/16/2023 9:10:08 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0722-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15968731.2	4.076	mg/L	0.0286	4.076	mg/L	0.0286	0.70%
Y RADIAL	289311.3	4.341	mg/L	0.0936	4.341	mg/L	0.0936	2.16%
As 188.979†	-6.2	-0.0089	mg/L	0.00446	-0.0089	mg/L	0.00446	50.14%
Tl 190.801†	-1.4	-0.0019	mg/L	0.00552	-0.0019	mg/L	0.00552	291.07%
Se 196.026†	-4.4	-0.0058	mg/L	0.00889	-0.0058	mg/L	0.00889	154.01%
Zn 206.200†	15095.1	0.8699	mg/L	0.01216	0.8699	mg/L	0.01216	1.40%
Sb 206.836†	6.9	0.0038	mg/L	0.00284	0.0038	mg/L	0.00284	74.33%
Pb 220.353†	490.7	0.0842	mg/L	0.00211	0.0842	mg/L	0.00211	2.51%
Cd 226.502†	969.3	0.0117	mg/L	0.00016	0.0117	mg/L	0.00016	1.39%
Co 228.616†	42.6	0.0016	mg/L	0.00020	0.0016	mg/L	0.00020	12.93%
Ni 232.003†	-82.9	-0.0068	mg/L	0.00083	-0.0068	mg/L	0.00083	12.26%
Ba 233.527†	155.0	0.0028	mg/L	0.00017	0.0028	mg/L	0.00017	5.99%
Mn 257.610†	20018.5	0.0338	mg/L	0.00110	0.0338	mg/L	0.00110	3.27%
Cr 267.716†	377.2	0.0031	mg/L	0.00020	0.0031	mg/L	0.00020	6.34%
Fe 273.955†	-2837.3	-0.1308	mg/L	0.00130	-0.1308	mg/L	0.00130	0.99%
Mg 279.077†	5591.3	0.3387	mg/L	0.02548	0.3387	mg/L	0.02548	7.52%
V 292.402†	182.5	0.0008	mg/L	0.00023	0.0008	mg/L	0.00023	28.97%
Al 308.215†	-4567.5	-0.2035	mg/L	0.00393	-0.2035	mg/L	0.00393	1.93%
Be 313.107†	-2167.3	-0.00049	mg/L	0.000038	-0.00049	mg/L	0.000038	7.81%
Cu 324.752†	4965.9	0.0176	mg/L	0.00093	0.0176	mg/L	0.00093	5.28%
Ag 338.289†	-431.0	-0.0030	mg/L	0.00062	-0.0030	mg/L	0.00062	20.53%
Na 330.237†	49101.7	64.02	mg/L	0.922	64.02	mg/L	0.922	1.44%
Ca 227.546†	1445.0	16.29	mg/L	0.185	16.29	mg/L	0.185	1.13%
Al RADIAL†	42.8	0.0256	mg/L	0.00558	0.0256	mg/L	0.00558	21.78%
Fe RADIAL†	6.8	0.0154	mg/L	0.00712	0.0154	mg/L	0.00712	46.18%
Ca RADIAL†	111559.1	18.50	mg/L	0.673	18.50	mg/L	0.673	3.64%
K RADIAL†	447.8	0.3230	mg/L	0.02652	0.3230	mg/L	0.02652	8.21%
Mg RADIAL†	206.9	0.5043	mg/L	0.02420	0.5043	mg/L	0.02420	4.80%
Na RADIAL†	524424.4	69.78	mg/L	0.257	69.78	mg/L	0.257	0.37%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 146
Sample ID: 23E0722-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 254
Date Collected: 5/15/2023 5:42:13 PM
Data Type: Reprocessed on 5/16/2023 9:10:09 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0722-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	16422157.1	4.192	mg/L	0.1091	4.192	mg/L	0.1091	2.60%
Y RADIAL	289005.0	4.336	mg/L	0.1158	4.336	mg/L	0.1158	2.67%
As 188.979†	-7.9	-0.0113	mg/L	0.00706	-0.0113	mg/L	0.00706	62.61%
Tl 190.801†	-4.6	-0.0062	mg/L	0.00116	-0.0062	mg/L	0.00116	18.79%
Se 196.026†	-4.1	-0.0053	mg/L	0.01406	-0.0053	mg/L	0.01406	263.98%
Zn 206.200†	17525.9	1.010	mg/L	0.0196	1.010	mg/L	0.0196	1.94%
Sb 206.836†	4.9	0.0028	mg/L	0.00424	0.0028	mg/L	0.00424	149.86%
Pb 220.353†	94.7	0.0163	mg/L	0.00218	0.0163	mg/L	0.00218	13.40%
Cd 226.502†	1014.8	0.0122	mg/L	0.00029	0.0122	mg/L	0.00029	2.37%
Co 228.616†	263.6	0.0097	mg/L	0.00036	0.0097	mg/L	0.00036	3.74%
Ni 232.003†	12.3	0.0010	mg/L	0.00105	0.0010	mg/L	0.00105	104.26%
Ba 233.527†	519.4	0.0095	mg/L	0.00037	0.0095	mg/L	0.00037	3.93%
Mn 257.610†	20247.4	0.0341	mg/L	0.00111	0.0341	mg/L	0.00111	3.25%
Cr 267.716†	370.5	0.0031	mg/L	0.00020	0.0031	mg/L	0.00020	6.62%
Fe 273.955†	-3124.4	-0.1441	mg/L	0.00026	-0.1441	mg/L	0.00026	0.18%
Mg 279.077†	-250.9	-0.0152	mg/L	0.01371	-0.0152	mg/L	0.01371	90.19%
V 292.402†	181.8	0.0008	mg/L	0.00059	0.0008	mg/L	0.00059	74.97%
Al 308.215†	-4386.7	-0.1954	mg/L	0.01350	-0.1954	mg/L	0.01350	6.91%
Be 313.107†	-1673.8	-0.00037	mg/L	0.000077	-0.00037	mg/L	0.000077	20.44%
Cu 324.752†	201602.0	0.7147	mg/L	0.01477	0.7147	mg/L	0.01477	2.07%
Ag 338.289†	-604.3	-0.0042	mg/L	0.00263	-0.0042	mg/L	0.00263	62.19%
Na 330.237†	47480.9	61.91	mg/L	1.844	61.91	mg/L	1.844	2.98%
Ca 227.546†	872.0	9.832	mg/L	0.1614	9.832	mg/L	0.1614	1.64%
Al RADIAL†	74.7	0.0447	mg/L	0.00717	0.0447	mg/L	0.00717	16.04%
Fe RADIAL†	3.1	0.0071	mg/L	0.00983	0.0071	mg/L	0.00983	138.99%
Ca RADIAL†	67268.9	11.16	mg/L	0.060	11.16	mg/L	0.060	0.54%
K RADIAL†	455.5	0.3286	mg/L	0.19816	0.3286	mg/L	0.19816	60.30%
Mg RADIAL†	69.5	0.1695	mg/L	0.01645	0.1695	mg/L	0.01645	9.70%
Na RADIAL†	534198.8	71.08	mg/L	0.240	71.08	mg/L	0.240	0.34%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 147
Sample ID: 23E0722-05
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 255
Date Collected: 5/15/2023 5:44:55 PM
Data Type: Reprocessed on 5/16/2023 9:10:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0722-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16303274.2	4.161	mg/L	0.0825	4.161	mg/L	0.0825	1.98%
Y RADIAL	276666.4	4.151	mg/L	0.1880	4.151	mg/L	0.1880	4.53%
As 188.979†	-7.5	-0.0106	mg/L	0.00518	-0.0106	mg/L	0.00518	48.71%
Tl 190.801†	-3.9	-0.0052	mg/L	0.00380	-0.0052	mg/L	0.00380	72.99%
Se 196.026†	-9.6	-0.0126	mg/L	0.00941	-0.0126	mg/L	0.00941	74.64%
Zn 206.200†	1518.8	0.0875	mg/L	0.00179	0.0875	mg/L	0.00179	2.05%
Sb 206.836†	5.8	0.0044	mg/L	0.00820	0.0044	mg/L	0.00820	186.96%
Pb 220.353†	59.4	0.0102	mg/L	0.00160	0.0102	mg/L	0.00160	15.64%
Cd 226.502†	73.8	0.0009	mg/L	0.00021	0.0009	mg/L	0.00021	24.14%
Co 228.616†	4.0	0.0001	mg/L	0.00025	0.0001	mg/L	0.00025	167.62%
Ni 232.003†	-77.2	-0.0063	mg/L	0.00088	-0.0063	mg/L	0.00088	14.02%
Ba 233.527†	2235.1	0.0408	mg/L	0.00087	0.0408	mg/L	0.00087	2.13%
Mn 257.610†	3430.6	0.0058	mg/L	0.00012	0.0058	mg/L	0.00012	2.05%
Cr 267.716†	332.8	0.0028	mg/L	0.00024	0.0028	mg/L	0.00024	8.56%
Fe 273.955†	-1739.5	-0.0802	mg/L	0.00176	-0.0802	mg/L	0.00176	2.20%
Mg 279.077†	-2077.8	-0.1259	mg/L	0.00200	-0.1259	mg/L	0.00200	1.59%
V 292.402†	70.9	0.0003	mg/L	0.00033	0.0003	mg/L	0.00033	110.39%
Al 308.215†	-4688.2	-0.2089	mg/L	0.00670	-0.2089	mg/L	0.00670	3.21%
Be 313.107†	-1549.7	-0.00035	mg/L	0.000044	-0.00035	mg/L	0.000044	12.57%
Cu 324.752†	3670.5	0.0130	mg/L	0.00055	0.0130	mg/L	0.00055	4.25%
Ag 338.289†	-609.5	-0.0043	mg/L	0.00124	-0.0043	mg/L	0.00124	29.02%
Na 330.237†	45287.0	59.05	mg/L	1.748	59.05	mg/L	1.748	2.96%
Ca 227.546†	144.1	1.624	mg/L	0.1288	1.624	mg/L	0.1288	7.93%
Al RADIAL†	37.7	0.0226	mg/L	0.00165	0.0226	mg/L	0.00165	7.30%
Fe RADIAL†	32.5	0.0733	mg/L	0.01744	0.0733	mg/L	0.01744	23.80%
Ca RADIAL†	15808.7	2.622	mg/L	0.1818	2.622	mg/L	0.1818	6.93%
K RADIAL†	504.4	0.3639	mg/L	0.11498	0.3639	mg/L	0.11498	31.60%
Mg RADIAL†	12.1	0.0295	mg/L	0.01716	0.0295	mg/L	0.01716	58.10%
Na RADIAL†	532118.5	70.80	mg/L	4.674	70.80	mg/L	4.674	6.60%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 148
Sample ID: 23E0722-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 256
Date Collected: 5/15/2023 5:47:38 PM
Data Type: Reprocessed on 5/16/2023 9:10:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0722-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16457023.4	4.200	mg/L	0.0892	4.200	mg/L	0.0892	2.12%
Y RADIAL	291309.6	4.371	mg/L	0.1003	4.371	mg/L	0.1003	2.29%
As 188.979†	-5.3	-0.0075	mg/L	0.00335	-0.0075	mg/L	0.00335	44.55%
Tl 190.801†	-3.4	-0.0045	mg/L	0.00482	-0.0045	mg/L	0.00482	106.46%
Se 196.026†	-1.7	-0.0023	mg/L	0.01373	-0.0023	mg/L	0.01373	588.60%
Zn 206.200†	1216.9	0.0701	mg/L	0.00092	0.0701	mg/L	0.00092	1.31%
Sb 206.836†	3.6	0.0025	mg/L	0.00451	0.0025	mg/L	0.00451	181.81%
Pb 220.353†	33.0	0.0057	mg/L	0.00206	0.0057	mg/L	0.00206	36.20%
Cd 226.502†	85.6	0.0010	mg/L	0.00008	0.0010	mg/L	0.00008	8.05%
Co 228.616†	1.3	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	120.76%
Ni 232.003†	-87.1	-0.0071	mg/L	0.00120	-0.0071	mg/L	0.00120	16.98%
Ba 233.527†	2348.7	0.0429	mg/L	0.00054	0.0429	mg/L	0.00054	1.25%
Mn 257.610†	3812.6	0.0064	mg/L	0.00015	0.0064	mg/L	0.00015	2.29%
Cr 267.716†	318.5	0.0026	mg/L	0.00016	0.0026	mg/L	0.00016	6.01%
Fe 273.955†	-2084.7	-0.0961	mg/L	0.00096	-0.0961	mg/L	0.00096	1.00%
Mg 279.077†	-1291.0	-0.0782	mg/L	0.00846	-0.0782	mg/L	0.00846	10.81%
V 292.402†	117.9	0.0005	mg/L	0.00049	0.0005	mg/L	0.00049	96.89%
Al 308.215†	-4529.2	-0.2018	mg/L	0.00797	-0.2018	mg/L	0.00797	3.95%
Be 313.107†	-1896.8	-0.00042	mg/L	0.000056	-0.00042	mg/L	0.000056	13.23%
Cu 324.752†	1136.1	0.0040	mg/L	0.00021	0.0040	mg/L	0.00021	5.14%
Ag 338.289†	-659.8	-0.0046	mg/L	0.00094	-0.0046	mg/L	0.00094	20.32%
Na 330.237†	48196.3	62.84	mg/L	1.422	62.84	mg/L	1.422	2.26%
Ca 227.546†	307.3	3.464	mg/L	0.0835	3.464	mg/L	0.0835	2.41%
Al RADIAL†	60.5	0.0362	mg/L	0.00610	0.0362	mg/L	0.00610	16.86%
Fe RADIAL†	26.5	0.0598	mg/L	0.00297	0.0598	mg/L	0.00297	4.97%
Ca RADIAL†	26926.3	4.466	mg/L	0.1281	4.466	mg/L	0.1281	2.87%
K RADIAL†	148.4	0.1071	mg/L	0.05623	0.1071	mg/L	0.05623	52.52%
Mg RADIAL†	50.4	0.1229	mg/L	0.01207	0.1229	mg/L	0.01207	9.83%
Na RADIAL†	521864.5	69.44	mg/L	0.435	69.44	mg/L	0.435	0.63%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 149
Sample ID: 23E0722-07
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 257
Date Collected: 5/15/2023 5:50:24 PM
Data Type: Reprocessed on 5/16/2023 9:10:12 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0722-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16352638.4	4.174	mg/L	0.1004	4.174	mg/L	0.1004	2.41%
Y RADIAL	292654.7	4.391	mg/L	0.1292	4.391	mg/L	0.1292	2.94%
As 188.979†	-3.6	-0.0051	mg/L	0.00754	-0.0051	mg/L	0.00754	147.14%
Tl 190.801†	-3.5	-0.0047	mg/L	0.00933	-0.0047	mg/L	0.00933	197.72%
Se 196.026†	-3.1	-0.0041	mg/L	0.00652	-0.0041	mg/L	0.00652	158.28%
Zn 206.200†	4001.7	0.2306	mg/L	0.00463	0.2306	mg/L	0.00463	2.01%
Sb 206.836†	6.6	0.0050	mg/L	0.00115	0.0050	mg/L	0.00115	23.03%
Pb 220.353†	200.2	0.0344	mg/L	0.00251	0.0344	mg/L	0.00251	7.28%
Cd 226.502†	42.8	0.0005	mg/L	0.00020	0.0005	mg/L	0.00020	39.46%
Co 228.616†	295.1	0.0109	mg/L	0.00051	0.0109	mg/L	0.00051	4.64%
Ni 232.003†	-50.7	-0.0041	mg/L	0.00235	-0.0041	mg/L	0.00235	57.12%
Ba 233.527†	513.8	0.0094	mg/L	0.00024	0.0094	mg/L	0.00024	2.53%
Mn 257.610†	8796.9	0.0148	mg/L	0.00011	0.0148	mg/L	0.00011	0.73%
Cr 267.716†	452.5	0.0037	mg/L	0.00019	0.0037	mg/L	0.00019	5.21%
Fe 273.955†	-2101.5	-0.0969	mg/L	0.00178	-0.0969	mg/L	0.00178	1.84%
Mg 279.077†	-250.3	-0.0152	mg/L	0.00551	-0.0152	mg/L	0.00551	36.36%
V 292.402†	1091.9	0.0047	mg/L	0.00043	0.0047	mg/L	0.00043	9.07%
Al 308.215†	-4484.9	-0.1998	mg/L	0.00798	-0.1998	mg/L	0.00798	4.00%
Be 313.107†	-1840.2	-0.00041	mg/L	0.000034	-0.00041	mg/L	0.000034	8.28%
Cu 324.752†	6503.9	0.0231	mg/L	0.00059	0.0231	mg/L	0.00059	2.56%
Ag 338.289†	-650.8	-0.0046	mg/L	0.00039	-0.0046	mg/L	0.00039	8.57%
Na 330.237†	46669.5	60.85	mg/L	0.608	60.85	mg/L	0.608	1.00%
Ca 227.546†	202.1	2.279	mg/L	0.0804	2.279	mg/L	0.0804	3.53%
Al RADIAL†	49.9	0.0298	mg/L	0.00947	0.0298	mg/L	0.00947	31.73%
Fe RADIAL†	27.2	0.0613	mg/L	0.00696	0.0613	mg/L	0.00696	11.35%
Ca RADIAL†	18832.1	3.123	mg/L	0.1135	3.123	mg/L	0.1135	3.64%
K RADIAL†	199.8	0.1441	mg/L	0.08724	0.1441	mg/L	0.08724	60.53%
Mg RADIAL†	65.7	0.1601	mg/L	0.01244	0.1601	mg/L	0.01244	7.77%
Na RADIAL†	514539.2	68.46	mg/L	1.854	68.46	mg/L	1.854	2.71%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 150
Sample ID: BE30840-BLK1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 258
Date Collected: 5/15/2023 5:53:08 PM
Data Type: Reprocessed on 5/16/2023 9:10:13 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30840-BLK1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15907623.9	4.060	mg/L	0.1578	4.060	mg/L	0.1578	3.89%
Y RADIAL	295605.4	4.435	mg/L	0.0760	4.435	mg/L	0.0760	1.71%
As 188.979†	-5.3	-0.0075	mg/L	0.01386	-0.0075	mg/L	0.01386	184.27%
Tl 190.801†	-8.2	-0.0110	mg/L	0.00689	-0.0110	mg/L	0.00689	62.66%
Se 196.026†	-2.4	-0.0031	mg/L	0.01201	-0.0031	mg/L	0.01201	388.40%
Zn 206.200†	108.7	0.0063	mg/L	0.00048	0.0063	mg/L	0.00048	7.63%
Sb 206.836†	6.4	0.0051	mg/L	0.00440	0.0051	mg/L	0.00440	87.11%
Pb 220.353†	-4.6	-0.0008	mg/L	0.00188	-0.0008	mg/L	0.00188	238.67%
Cd 226.502†	-2.0	-0.0000	mg/L	0.00015	-0.0000	mg/L	0.00015	582.68%
Co 228.616†	-23.6	-0.0009	mg/L	0.00024	-0.0009	mg/L	0.00024	27.83%
Ni 232.003†	-106.0	-0.0086	mg/L	0.00317	-0.0086	mg/L	0.00317	36.63%
Ba 233.527†	34.6	0.0006	mg/L	0.00021	0.0006	mg/L	0.00021	33.68%
Mn 257.610†	179.3	0.0003	mg/L	0.00006	0.0003	mg/L	0.00006	18.17%
Cr 267.716†	354.6	0.0029	mg/L	0.00021	0.0029	mg/L	0.00021	7.24%
Fe 273.955†	-3238.6	-0.1493	mg/L	0.00115	-0.1493	mg/L	0.00115	0.77%
Mg 279.077†	-3225.8	-0.1954	mg/L	0.00287	-0.1954	mg/L	0.00287	1.47%
V 292.402†	-10.8	-0.0000	mg/L	0.00033	-0.0000	mg/L	0.00033	698.36%
Al 308.215†	-4611.3	-0.2054	mg/L	0.01486	-0.2054	mg/L	0.01486	7.23%
Be 313.107†	-2026.6	-0.00045	mg/L	0.000125	-0.00045	mg/L	0.000125	27.45%
Cu 324.752†	683.5	0.0024	mg/L	0.00088	0.0024	mg/L	0.00088	36.22%
Ag 338.289†	-776.6	-0.0054	mg/L	0.00185	-0.0054	mg/L	0.00185	33.90%
Na 330.237†	-158.7	-0.2068	mg/L	0.10991	-0.2068	mg/L	0.10991	53.14%
Ca 227.546†	-59.6	-0.6719	mg/L	0.17242	-0.6719	mg/L	0.17242	25.66%
Al RADIAL†	23.9	0.0143	mg/L	0.00596	0.0143	mg/L	0.00596	41.77%
Fe RADIAL†	5.5	0.0123	mg/L	0.00835	0.0123	mg/L	0.00835	67.83%
Ca RADIAL†	688.4	0.1142	mg/L	0.00904	0.1142	mg/L	0.00904	7.92%
K RADIAL†	-63.0	-0.0455	mg/L	0.14874	-0.0455	mg/L	0.14874	327.08%
Mg RADIAL†	-6.9	-0.0168	mg/L	0.02103	-0.0168	mg/L	0.02103	124.89%
Na RADIAL†	-1359.6	-0.1809	mg/L	0.01944	-0.1809	mg/L	0.01944	10.75%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 151
Sample ID: BE30840-BS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 259
Date Collected: 5/15/2023 5:55:52 PM
Data Type: Reprocessed on 5/16/2023 9:10:14 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30840-BS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17129917.0	4.372	mg/L	0.2047	4.372	mg/L	0.2047	4.68%
Y RADIAL	302622.2	4.541	mg/L	0.1514	4.541	mg/L	0.1514	3.33%
As 188.979†	1306.6	1.863	mg/L	0.0874	1.863	mg/L	0.0874	4.69%
Tl 190.801†	1383.5	1.860	mg/L	0.0951	1.860	mg/L	0.0951	5.11%
Se 196.026†	1136.8	1.478	mg/L	0.0764	1.478	mg/L	0.0764	5.17%
Zn 206.200†	8380.9	0.4830	mg/L	0.02196	0.4830	mg/L	0.02196	4.55%
Sb 206.836†	305.7	0.2418	mg/L	0.01016	0.2418	mg/L	0.01016	4.20%
Pb 220.353†	2777.4	0.4773	mg/L	0.01895	0.4773	mg/L	0.01895	3.97%
Cd 226.502†	3831.2	0.0461	mg/L	0.00217	0.0461	mg/L	0.00217	4.70%
Co 228.616†	13628.6	0.5031	mg/L	0.03405	0.5031	mg/L	0.03405	6.77%
Ni 232.003†	5844.4	0.4766	mg/L	0.02381	0.4766	mg/L	0.02381	5.00%
Ba 233.527†	115393.3	2.106	mg/L	0.1322	2.106	mg/L	0.1322	6.27%
Mn 257.610†	310349.9	0.5235	mg/L	0.03210	0.5235	mg/L	0.03210	6.13%
Cr 267.716†	23769.1	0.1966	mg/L	0.01455	0.1966	mg/L	0.01455	7.40%
Fe 273.955†	18215.1	0.8399	mg/L	0.07450	0.8399	mg/L	0.07450	8.87%
Mg 279.077†	13124.3	0.7951	mg/L	0.04555	0.7951	mg/L	0.04555	5.73%
V 292.402†	116332.9	0.5026	mg/L	0.03138	0.5026	mg/L	0.03138	6.24%
Al 308.215†	36379.0	1.621	mg/L	0.1296	1.621	mg/L	0.1296	8.00%
Be 313.107†	220348.5	0.04935	mg/L	0.002873	0.04935	mg/L	0.002873	5.82%
Cu 324.752†	76853.9	0.2725	mg/L	0.02013	0.2725	mg/L	0.02013	7.39%
Ag 338.289†	6168.0	0.0432	mg/L	0.00180	0.0432	mg/L	0.00180	4.17%
Na 330.237†	298.3	0.3938	mg/L	0.21468	0.3938	mg/L	0.21468	54.52%
Ca 227.546†	22.0	0.2482	mg/L	0.12457	0.2482	mg/L	0.12457	50.20%
Al RADIAL†	3309.3	1.979	mg/L	0.1166	1.979	mg/L	0.1166	5.89%
Fe RADIAL†	450.7	1.017	mg/L	0.0423	1.017	mg/L	0.0423	4.16%
Ca RADIAL†	6518.9	1.081	mg/L	0.0532	1.081	mg/L	0.0532	4.92%
K RADIAL†	1418.0	1.023	mg/L	0.1981	1.023	mg/L	0.1981	19.37%
Mg RADIAL†	401.4	0.9784	mg/L	0.03451	0.9784	mg/L	0.03451	3.53%
Na RADIAL†	6120.7	0.8144	mg/L	0.03562	0.8144	mg/L	0.03562	4.37%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 152
Sample ID: 23E0392-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 260
Date Collected: 5/15/2023 5:58:34 PM
Data Type: Reprocessed on 5/16/2023 9:10:14 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0392-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14236517.0	3.634	mg/L	0.1077	3.634	mg/L	0.1077	2.96%
Y RADIAL	280388.2	4.207	mg/L	0.1435	4.207	mg/L	0.1435	3.41%
As 188.979†	-20.4	-0.0291	mg/L	0.01033	-0.0291	mg/L	0.01033	35.47%
Tl 190.801†	-10.2	-0.0137	mg/L	0.00571	-0.0137	mg/L	0.00571	41.57%
Se 196.026†	174.7	0.2274	mg/L	0.02629	0.2274	mg/L	0.02629	11.56%
Zn 206.200†	282.5	0.0163	mg/L	0.00030	0.0163	mg/L	0.00030	1.86%
Sb 206.836†	12.5	-0.0089	mg/L	0.00906	-0.0089	mg/L	0.00906	101.50%
Pb 220.353†	-80.6	-0.0138	mg/L	0.00321	-0.0138	mg/L	0.00321	23.20%
Cd 226.502†	42.6	0.0005	mg/L	0.00022	0.0005	mg/L	0.00022	43.82%
Co 228.616†	-5.9	-0.0002	mg/L	0.00031	-0.0002	mg/L	0.00031	144.21%
Ni 232.003†	-178.2	-0.0145	mg/L	0.00225	-0.0145	mg/L	0.00225	15.53%
Ba 233.527†	24112.3	0.4401	mg/L	0.01379	0.4401	mg/L	0.01379	3.13%
Mn 257.610†	732119.8	1.235	mg/L	0.0522	1.235	mg/L	0.0522	4.22%
Cr 267.716†	567.3	0.0047	mg/L	0.00023	0.0047	mg/L	0.00023	4.89%
Fe 273.955†	-3071.7	-0.1416	mg/L	0.00139	-0.1416	mg/L	0.00139	0.98%
Mg 279.077†	1542714.6	93.46	mg/L	3.905	93.46	mg/L	3.905	4.18%
V 292.402†	328.1	0.0014	mg/L	0.00034	0.0014	mg/L	0.00034	24.04%
Al 308.215†	-2900.1	-0.1292	mg/L	0.00824	-0.1292	mg/L	0.00824	6.38%
Be 313.107†	-3460.0	-0.00077	mg/L	0.000124	-0.00077	mg/L	0.000124	16.05%
Cu 324.752†	2321.7	0.0082	mg/L	0.00068	0.0082	mg/L	0.00068	8.21%
Ag 338.289†	-504.7	-0.0035	mg/L	0.00155	-0.0035	mg/L	0.00155	43.92%
Na 330.237†	960853.9	1253	mg/L	50.69	1253	mg/L	50.69	4.05%
Ca 227.546†	19425.1	219.0	mg/L	4.75	219.0	mg/L	4.75	2.17%
Al RADIAL†	102.6	0.0614	mg/L	0.00633	0.0614	mg/L	0.00633	10.31%
Fe RADIAL†	2.4	0.0054	mg/L	0.00535	0.0054	mg/L	0.00535	99.09%
Ca RADIAL†	1260668.6	209.1	mg/L	1.64	209.1	mg/L	1.64	0.78%
K RADIAL†	15029.7	10.84	mg/L	0.298	10.84	mg/L	0.298	2.75%
Mg RADIAL†	37767.9	92.06	mg/L	2.935	92.06	mg/L	2.935	3.19%
Na RADIAL†	6663779.1	886.7	mg/L	31.79	886.7	mg/L	31.79	3.59%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 153
Sample ID: SEQ-CCVD
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 6:01:20 PM
Data Type: Reprocessed on 5/16/2023 9:10:15 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	16934731.2	4.322	mg/L	0.0685	4.322	mg/L	0.0685	1.58%
Y RADIAL	315000.2	4.726	mg/L	0.0671	4.726	mg/L	0.0671	1.42%
As 188.979†	360.4	0.5158	mg/L	0.01099	0.5158	mg/L	0.01099	2.13%
Tl 190.801†	397.9	0.5360	mg/L	0.01030	0.5360	mg/L	0.01030	1.92%
Se 196.026†	412.5	0.5305	mg/L	0.01272	0.5305	mg/L	0.01272	2.40%
Zn 206.200†	44902.8	2.588	mg/L	0.0407	2.588	mg/L	0.0407	1.57%
Sb 206.836†	310.2	0.2446	mg/L	0.00696	0.2446	mg/L	0.00696	2.85%
Pb 220.353†	3041.8	0.5250	mg/L	0.00770	0.5250	mg/L	0.00770	1.47%
Cd 226.502†	21402.6	0.2575	mg/L	0.00456	0.2575	mg/L	0.00456	1.77%
Co 228.616†	70253.7	2.593	mg/L	0.0363	2.593	mg/L	0.0363	1.40%
Ni 232.003†	31763.9	2.590	mg/L	0.0389	2.590	mg/L	0.0389	1.50%
Ba 233.527†	589011.7	10.75	mg/L	0.233	10.75	mg/L	0.233	2.17%
Mn 257.610†	1587636.5	2.678	mg/L	0.0550	2.678	mg/L	0.0550	2.05%
Cr 267.716†	124432.6	1.029	mg/L	0.0148	1.029	mg/L	0.0148	1.44%
Fe 273.955†	110939.0	5.115	mg/L	0.0733	5.115	mg/L	0.0733	1.43%
Mg 279.077†	435459.7	26.38	mg/L	0.619	26.38	mg/L	0.619	2.35%
V 292.402†	606786.8	2.621	mg/L	0.0471	2.621	mg/L	0.0471	1.80%
Al 308.215†	232284.1	10.35	mg/L	0.307	10.35	mg/L	0.307	2.96%
Be 313.107†	1186902.2	0.26584	mg/L	0.004617	0.26584	mg/L	0.004617	1.74%
Cu 324.752†	376715.9	1.336	mg/L	0.0309	1.336	mg/L	0.0309	2.31%
Ag 338.289†	179212.9	1.256	mg/L	0.0241	1.256	mg/L	0.0241	1.92%
Na 330.237†	18767.4	24.49	mg/L	0.568	24.49	mg/L	0.568	2.32%
Ca 227.546†	2221.6	25.05	mg/L	0.601	25.05	mg/L	0.601	2.40%
Al RADIAL†	17502.5	10.47	mg/L	0.167	10.47	mg/L	0.167	1.60%
Fe RADIAL†	2295.1	5.180	mg/L	0.0758	5.180	mg/L	0.0758	1.46%
Ca RADIAL†	158955.7	26.36	mg/L	0.342	26.36	mg/L	0.342	1.30%
K RADIAL†	7419.9	5.353	mg/L	0.0903	5.353	mg/L	0.0903	1.69%
Mg RADIAL†	10635.7	25.93	mg/L	0.331	25.93	mg/L	0.331	1.28%
Na RADIAL†	204241.7	27.18	mg/L	0.188	27.18	mg/L	0.188	0.69%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 154
Sample ID: SEQ-CCBD
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 6:04:06 PM
Data Type: Reprocessed on 5/16/2023 9:10:16 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16888572.3	4.311	mg/L	0.0331	4.311	mg/L	0.0331	0.77%
Y RADIAL	304801.8	4.573	mg/L	0.0433	4.573	mg/L	0.0433	0.95%
As 188.979†	-3.9	-0.0056	mg/L	0.01154	-0.0056	mg/L	0.01154	207.05%
Tl 190.801†	-6.0	-0.0080	mg/L	0.00444	-0.0080	mg/L	0.00444	55.37%
Se 196.026†	-8.1	-0.0105	mg/L	0.00559	-0.0105	mg/L	0.00559	53.32%
Zn 206.200†	12.2	0.0007	mg/L	0.00130	0.0007	mg/L	0.00130	184.75%
Sb 206.836†	17.9	0.0141	mg/L	0.00628	0.0141	mg/L	0.00628	44.53%
Pb 220.353†	6.9	0.0012	mg/L	0.00151	0.0012	mg/L	0.00151	127.84%
Cd 226.502†	5.7	0.0001	mg/L	0.00018	0.0001	mg/L	0.00018	260.35%
Co 228.616†	6.2	0.0002	mg/L	0.00077	0.0002	mg/L	0.00077	339.29%
Ni 232.003†	-59.9	-0.0049	mg/L	0.00198	-0.0049	mg/L	0.00198	40.64%
Ba 233.527†	134.4	0.0025	mg/L	0.00233	0.0025	mg/L	0.00233	95.14%
Mn 257.610†	475.1	0.0008	mg/L	0.00071	0.0008	mg/L	0.00071	88.71%
Cr 267.716†	77.9	0.0006	mg/L	0.00046	0.0006	mg/L	0.00046	71.19%
Fe 273.955†	-3450.0	-0.1591	mg/L	0.00273	-0.1591	mg/L	0.00273	1.72%
Mg 279.077†	-3069.2	-0.1859	mg/L	0.00511	-0.1859	mg/L	0.00511	2.75%
V 292.402†	73.3	0.0003	mg/L	0.00068	0.0003	mg/L	0.00068	214.30%
Al 308.215†	-5288.6	-0.2356	mg/L	0.00596	-0.2356	mg/L	0.00596	2.53%
Be 313.107†	-1171.0	-0.00026	mg/L	0.000051	-0.00026	mg/L	0.000051	19.57%
Cu 324.752†	863.4	0.0031	mg/L	0.00057	0.0031	mg/L	0.00057	18.72%
Ag 338.289†	-202.7	-0.0014	mg/L	0.00156	-0.0014	mg/L	0.00156	109.82%
Na 330.237†	-51.1	-0.0667	mg/L	0.14936	-0.0667	mg/L	0.14936	223.98%
Ca 227.546†	-56.0	-0.6312	mg/L	0.04061	-0.6312	mg/L	0.04061	6.43%
Al RADIAL†	8.2	0.0049	mg/L	0.00775	0.0049	mg/L	0.00775	158.07%
Fe RADIAL†	-4.5	-0.0101	mg/L	0.00206	-0.0101	mg/L	0.00206	20.45%
Ca RADIAL†	-66.1	-0.0110	mg/L	0.00677	-0.0110	mg/L	0.00677	61.81%
K RADIAL†	-93.3	-0.0673	mg/L	0.13721	-0.0673	mg/L	0.13721	203.91%
Mg RADIAL†	-12.4	-0.0302	mg/L	0.02529	-0.0302	mg/L	0.02529	83.63%
Na RADIAL†	-490.6	-0.0653	mg/L	0.01719	-0.0653	mg/L	0.01719	26.34%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 155
Sample ID: BE30840-MS2
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 301
Date Collected: 5/15/2023 6:07:09 PM
Data Type: Reprocessed on 5/16/2023 9:10:17 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30840-MS2

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	14116249.5	3.603	mg/L	0.3196	3.603	mg/L	0.3196	8.87%
Y RADIAL	277690.1	4.166	mg/L	0.1083	4.166	mg/L	0.1083	2.60%
As 188.979†	1492.8	2.128	mg/L	0.2116	2.128	mg/L	0.2116	9.94%
Tl 190.801†	1307.8	1.758	mg/L	0.1763	1.758	mg/L	0.1763	10.03%
Se 196.026†	1499.5	1.950	mg/L	0.2069	1.950	mg/L	0.2069	10.61%
Zn 206.200†	9128.4	0.5261	mg/L	0.05423	0.5261	mg/L	0.05423	10.31%
Sb 206.836†	357.2	0.2633	mg/L	0.03615	0.2633	mg/L	0.03615	13.73%
Pb 220.353†	2691.0	0.4625	mg/L	0.04524	0.4625	mg/L	0.04524	9.78%
Cd 226.502†	4009.7	0.0482	mg/L	0.00480	0.0482	mg/L	0.00480	9.95%
Co 228.616†	13659.6	0.5042	mg/L	0.05107	0.5042	mg/L	0.05107	10.13%
Ni 232.003†	6297.1	0.5135	mg/L	0.04956	0.5135	mg/L	0.04956	9.65%
Ba 233.527†	139079.9	2.539	mg/L	0.2939	2.539	mg/L	0.2939	11.58%
Mn 257.610†	1057909.5	1.784	mg/L	0.2079	1.784	mg/L	0.2079	11.65%
Cr 267.716†	24197.9	0.2001	mg/L	0.02310	0.2001	mg/L	0.02310	11.54%
Fe 273.955†	17797.3	0.8206	mg/L	0.11131	0.8206	mg/L	0.11131	13.56%
Mg 279.077†	1602909.9	97.11	mg/L	11.740	97.11	mg/L	11.740	12.09%
V 292.402†	121121.3	0.5233	mg/L	0.06194	0.5233	mg/L	0.06194	11.84%
Al 308.215†	46503.4	2.072	mg/L	0.2715	2.072	mg/L	0.2715	13.11%
Be 313.107†	225079.6	0.05041	mg/L	0.006328	0.05041	mg/L	0.006328	12.55%
Cu 324.752†	81517.1	0.2891	mg/L	0.03220	0.2891	mg/L	0.03220	11.14%
Ag 338.289†	6996.4	0.0490	mg/L	0.00616	0.0490	mg/L	0.00616	12.57%
Na 330.237†	960817.2	1253	mg/L	127.36	1253	mg/L	127.36	10.17%
Ca 227.546†	19489.4	219.8	mg/L	26.02	219.8	mg/L	26.02	11.84%
Al RADIAL†	3405.4	2.037	mg/L	0.0689	2.037	mg/L	0.0689	3.38%
Fe RADIAL†	454.8	1.026	mg/L	0.0187	1.026	mg/L	0.0187	1.82%
Ca RADIAL†	1295712.8	214.9	mg/L	2.90	214.9	mg/L	2.90	1.35%
K RADIAL†	16855.9	12.16	mg/L	0.388	12.16	mg/L	0.388	3.19%
Mg RADIAL†	38743.6	94.44	mg/L	0.965	94.44	mg/L	0.965	1.02%
Na RADIAL†	6890324.7	916.8	mg/L	20.38	916.8	mg/L	20.38	2.22%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 156
Sample ID: 23E0406-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 302
Date Collected: 5/15/2023 6:10:19 PM
Data Type: Reprocessed on 5/16/2023 9:10:18 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0406-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15735306.9	4.016	mg/L	0.0444	4.016	mg/L	0.0444	1.11%
Y RADIAL	293486.7	4.403	mg/L	0.0948	4.403	mg/L	0.0948	2.15%
As 188.979†	-15.4	-0.0219	mg/L	0.00830	-0.0219	mg/L	0.00830	37.92%
Tl 190.801†	-7.4	-0.0099	mg/L	0.00862	-0.0099	mg/L	0.00862	86.99%
Se 196.026†	42.0	0.0547	mg/L	0.01760	0.0547	mg/L	0.01760	32.16%
Zn 206.200†	131.5	0.0076	mg/L	0.00039	0.0076	mg/L	0.00039	5.19%
Sb 206.836†	11.0	-0.0043	mg/L	0.00587	-0.0043	mg/L	0.00587	136.57%
Pb 220.353†	-49.9	-0.0086	mg/L	0.00109	-0.0086	mg/L	0.00109	12.75%
Cd 226.502†	6.2	0.0001	mg/L	0.00005	0.0001	mg/L	0.00005	69.27%
Co 228.616†	-1.0	-0.0000	mg/L	0.00036	-0.0000	mg/L	0.00036	947.63%
Ni 232.003†	399.1	0.0325	mg/L	0.00208	0.0325	mg/L	0.00208	6.39%
Ba 233.527†	11579.8	0.2114	mg/L	0.00157	0.2114	mg/L	0.00157	0.74%
Mn 257.610†	29835.2	0.0503	mg/L	0.00034	0.0503	mg/L	0.00034	0.67%
Cr 267.716†	372.5	0.0031	mg/L	0.00022	0.0031	mg/L	0.00022	7.27%
Fe 273.955†	-3189.1	-0.1471	mg/L	0.00111	-0.1471	mg/L	0.00111	0.75%
Mg 279.077†	294392.3	17.83	mg/L	0.170	17.83	mg/L	0.170	0.95%
V 292.402†	149.6	0.0006	mg/L	0.00105	0.0006	mg/L	0.00105	162.27%
Al 308.215†	-2558.4	-0.1140	mg/L	0.00467	-0.1140	mg/L	0.00467	4.09%
Be 313.107†	-2325.9	-0.00052	mg/L	0.000076	-0.00052	mg/L	0.000076	14.58%
Cu 324.752†	5565.0	0.0197	mg/L	0.00083	0.0197	mg/L	0.00083	4.20%
Ag 338.289†	-87.1	-0.0006	mg/L	0.00191	-0.0006	mg/L	0.00191	312.85%
Na 330.237†	253647.4	330.7	mg/L	11.12	330.7	mg/L	11.12	3.36%
Ca 227.546†	12388.5	139.7	mg/L	3.35	139.7	mg/L	3.35	2.40%
Al RADIAL†	192.5	0.1151	mg/L	0.00517	0.1151	mg/L	0.00517	4.49%
Fe RADIAL†	5.4	0.0123	mg/L	0.01041	0.0123	mg/L	0.01041	84.79%
Ca RADIAL†	871179.0	144.5	mg/L	1.63	144.5	mg/L	1.63	1.13%
K RADIAL†	8787.2	6.339	mg/L	0.1493	6.339	mg/L	0.1493	2.36%
Mg RADIAL†	7586.1	18.49	mg/L	0.332	18.49	mg/L	0.332	1.79%
Na RADIAL†	2188733.4	291.2	mg/L	2.57	291.2	mg/L	2.57	0.88%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 157
Sample ID: 23E0406-08
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 303
Date Collected: 5/15/2023 6:13:27 PM
Data Type: Reprocessed on 5/16/2023 9:10:19 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0406-08

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15363659.5	3.921	mg/L	0.0221	3.921	mg/L	0.0221	0.56%
Y RADIAL	287704.5	4.317	mg/L	0.1724	4.317	mg/L	0.1724	3.99%
As 188.979†	-19.5	-0.0277	mg/L	0.00833	-0.0277	mg/L	0.00833	30.07%
Tl 190.801†	-5.6	-0.0075	mg/L	0.00567	-0.0075	mg/L	0.00567	75.78%
Se 196.026†	43.5	0.0561	mg/L	0.01468	0.0561	mg/L	0.01468	26.15%
Zn 206.200†	738.7	0.0426	mg/L	0.00074	0.0426	mg/L	0.00074	1.75%
Sb 206.836†	9.8	-0.0053	mg/L	0.00455	-0.0053	mg/L	0.00455	86.46%
Pb 220.353†	-39.1	-0.0065	mg/L	0.00152	-0.0065	mg/L	0.00152	23.28%
Cd 226.502†	5.1	0.0000	mg/L	0.00024	0.0000	mg/L	0.00024	>999.9%
Co 228.616†	0.2	0.0000	mg/L	0.00038	0.0000	mg/L	0.00038	>999.9%
Ni 232.003†	1280.2	0.1044	mg/L	0.00167	0.1044	mg/L	0.00167	1.60%
Ba 233.527†	17083.2	0.3118	mg/L	0.00568	0.3118	mg/L	0.00568	1.82%
Mn 257.610†	224486.0	0.3786	mg/L	0.00647	0.3786	mg/L	0.00647	1.71%
Cr 267.716†	581.8	0.0048	mg/L	0.00027	0.0048	mg/L	0.00027	5.68%
Fe 273.955†	4110.1	0.1895	mg/L	0.00759	0.1895	mg/L	0.00759	4.01%
Mg 279.077†	301537.0	18.27	mg/L	0.342	18.27	mg/L	0.342	1.87%
V 292.402†	61.3	0.0002	mg/L	0.00126	0.0002	mg/L	0.00126	543.38%
Al 308.215†	8318.4	0.3706	mg/L	0.01757	0.3706	mg/L	0.01757	4.74%
Be 313.107†	-2374.7	-0.00053	mg/L	0.000156	-0.00053	mg/L	0.000156	29.35%
Cu 324.752†	56673.0	0.2009	mg/L	0.00286	0.2009	mg/L	0.00286	1.42%
Ag 338.289†	-479.2	-0.0034	mg/L	0.00139	-0.0034	mg/L	0.00139	41.16%
Na 330.237†	256465.2	334.4	mg/L	6.89	334.4	mg/L	6.89	2.06%
Ca 227.546†	12484.9	140.8	mg/L	2.75	140.8	mg/L	2.75	1.96%
Al RADIAL†	995.4	0.5953	mg/L	0.02024	0.5953	mg/L	0.02024	3.40%
Fe RADIAL†	159.9	0.3609	mg/L	0.01898	0.3609	mg/L	0.01898	5.26%
Ca RADIAL†	878503.0	145.7	mg/L	1.21	145.7	mg/L	1.21	0.83%
K RADIAL†	9397.7	6.780	mg/L	0.3328	6.780	mg/L	0.3328	4.91%
Mg RADIAL†	7897.2	19.25	mg/L	0.702	19.25	mg/L	0.702	3.65%
Na RADIAL†	2209445.2	294.0	mg/L	4.35	294.0	mg/L	4.35	1.48%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 158
Sample ID: 23E0409-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 304
Date Collected: 5/15/2023 6:16:35 PM
Data Type: Reprocessed on 5/16/2023 9:10:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0409-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15795994.6	4.032	mg/L	0.0406	4.032	mg/L	0.0406	1.01%
Y RADIAL	294713.8	4.422	mg/L	0.1315	4.422	mg/L	0.1315	2.97%
As 188.979†	-1.4	-0.0019	mg/L	0.00328	-0.0019	mg/L	0.00328	176.11%
Tl 190.801†	-7.4	-0.0098	mg/L	0.00450	-0.0098	mg/L	0.00450	45.76%
Se 196.026†	1.0	0.0008	mg/L	0.01177	0.0008	mg/L	0.01177	>999.9%
Zn 206.200†	449.6	0.0259	mg/L	0.00035	0.0259	mg/L	0.00035	1.37%
Sb 206.836†	5.7	0.0028	mg/L	0.00650	0.0028	mg/L	0.00650	228.28%
Pb 220.353†	-15.1	-0.0024	mg/L	0.00119	-0.0024	mg/L	0.00119	50.28%
Cd 226.502†	9.4	0.0001	mg/L	0.00027	0.0001	mg/L	0.00027	380.32%
Co 228.616†	-18.9	-0.0007	mg/L	0.00020	-0.0007	mg/L	0.00020	29.08%
Ni 232.003†	-100.8	-0.0081	mg/L	0.00142	-0.0081	mg/L	0.00142	17.54%
Ba 233.527†	6071.8	0.1108	mg/L	0.00111	0.1108	mg/L	0.00111	1.00%
Mn 257.610†	182814.8	0.3083	mg/L	0.00278	0.3083	mg/L	0.00278	0.90%
Cr 267.716†	396.8	0.0033	mg/L	0.00021	0.0033	mg/L	0.00021	6.55%
Fe 273.955†	4330.5	0.1997	mg/L	0.00414	0.1997	mg/L	0.00414	2.08%
Mg 279.077†	38426.2	2.328	mg/L	0.0237	2.328	mg/L	0.0237	1.02%
V 292.402†	95.1	0.0004	mg/L	0.00026	0.0004	mg/L	0.00026	68.51%
Al 308.215†	20392.6	0.9085	mg/L	0.01216	0.9085	mg/L	0.01216	1.34%
Be 313.107†	-2383.1	-0.00053	mg/L	0.000038	-0.00053	mg/L	0.000038	7.11%
Cu 324.752†	7645.1	0.0271	mg/L	0.00031	0.0271	mg/L	0.00031	1.14%
Ag 338.289†	-750.2	-0.0053	mg/L	0.00049	-0.0053	mg/L	0.00049	9.28%
Na 330.237†	184432.9	240.5	mg/L	3.47	240.5	mg/L	3.47	1.44%
Ca 227.546†	1593.2	17.96	mg/L	0.131	17.96	mg/L	0.131	0.73%
Al RADIAL†	1779.4	1.064	mg/L	0.0648	1.064	mg/L	0.0648	6.09%
Fe RADIAL†	172.4	0.3891	mg/L	0.02250	0.3891	mg/L	0.02250	5.78%
Ca RADIAL†	121401.4	20.13	mg/L	0.346	20.13	mg/L	0.346	1.72%
K RADIAL†	7654.2	5.522	mg/L	0.1622	5.522	mg/L	0.1622	2.94%
Mg RADIAL†	1048.3	2.555	mg/L	0.1031	2.555	mg/L	0.1031	4.04%
Na RADIAL†	1663924.9	221.4	mg/L	0.87	221.4	mg/L	0.87	0.39%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 159
Sample ID: 23E0409-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 305
Date Collected: 5/15/2023 6:19:43 PM
Data Type: Reprocessed on 5/16/2023 9:10:21 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0409-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15891135.6	4.056	mg/L	0.0921	4.056	mg/L	0.0921	2.27%
Y RADIAL	289261.5	4.340	mg/L	0.0393	4.340	mg/L	0.0393	0.91%
As 188.979†	-6.4	-0.0091	mg/L	0.01135	-0.0091	mg/L	0.01135	124.55%
Tl 190.801†	-9.8	-0.0132	mg/L	0.00402	-0.0132	mg/L	0.00402	30.38%
Se 196.026†	-2.1	-0.0028	mg/L	0.00805	-0.0028	mg/L	0.00805	286.67%
Zn 206.200†	159.1	0.0092	mg/L	0.00029	0.0092	mg/L	0.00029	3.15%
Sb 206.836†	0.8	-0.0014	mg/L	0.00266	-0.0014	mg/L	0.00266	187.13%
Pb 220.353†	-18.1	-0.0031	mg/L	0.00175	-0.0031	mg/L	0.00175	56.52%
Cd 226.502†	7.8	0.0001	mg/L	0.00009	0.0001	mg/L	0.00009	92.58%
Co 228.616†	-14.9	-0.0005	mg/L	0.00046	-0.0005	mg/L	0.00046	84.05%
Ni 232.003†	-112.1	-0.0091	mg/L	0.00318	-0.0091	mg/L	0.00318	34.80%
Ba 233.527†	4002.1	0.0730	mg/L	0.00251	0.0730	mg/L	0.00251	3.43%
Mn 257.610†	2713.7	0.0046	mg/L	0.00010	0.0046	mg/L	0.00010	2.21%
Cr 267.716†	346.5	0.0029	mg/L	0.00039	0.0029	mg/L	0.00039	13.46%
Fe 273.955†	-3021.8	-0.1393	mg/L	0.00130	-0.1393	mg/L	0.00130	0.93%
Mg 279.077†	42389.2	2.568	mg/L	0.1269	2.568	mg/L	0.1269	4.94%
V 292.402†	-21.8	-0.0001	mg/L	0.00064	-0.0001	mg/L	0.00064	667.67%
Al 308.215†	-2384.1	-0.1062	mg/L	0.01951	-0.1062	mg/L	0.01951	18.37%
Be 313.107†	-1715.2	-0.00038	mg/L	0.000153	-0.00038	mg/L	0.000153	39.82%
Cu 324.752†	2429.7	0.0086	mg/L	0.00153	0.0086	mg/L	0.00153	17.71%
Ag 338.289†	-640.9	-0.0045	mg/L	0.00190	-0.0045	mg/L	0.00190	42.30%
Na 330.237†	232621.3	303.3	mg/L	15.40	303.3	mg/L	15.40	5.08%
Ca 227.546†	1845.8	20.81	mg/L	0.572	20.81	mg/L	0.572	2.75%
Al RADIAL†	198.4	0.1186	mg/L	0.00654	0.1186	mg/L	0.00654	5.51%
Fe RADIAL†	8.2	0.0186	mg/L	0.00944	0.0186	mg/L	0.00944	50.73%
Ca RADIAL†	139774.2	23.18	mg/L	0.396	23.18	mg/L	0.396	1.71%
K RADIAL†	8904.1	6.424	mg/L	0.1296	6.424	mg/L	0.1296	2.02%
Mg RADIAL†	1176.6	2.868	mg/L	0.0314	2.868	mg/L	0.0314	1.10%
Na RADIAL†	2062125.8	274.4	mg/L	6.90	274.4	mg/L	6.90	2.52%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 160
Sample ID: 23E0411-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 306
Date Collected: 5/15/2023 6:22:52 PM
Data Type: Reprocessed on 5/16/2023 9:10:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0411-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16634869.9	4.246	mg/L	0.1079	4.246	mg/L	0.1079	2.54%
Y RADIAL	302077.6	4.532	mg/L	0.1205	4.532	mg/L	0.1205	2.66%
As 188.979†	-8.5	-0.0119	mg/L	0.00999	-0.0119	mg/L	0.00999	84.15%
Tl 190.801†	-6.1	-0.0081	mg/L	0.00465	-0.0081	mg/L	0.00465	57.22%
Se 196.026†	-6.0	-0.0084	mg/L	0.00880	-0.0084	mg/L	0.00880	105.22%
Zn 206.200†	474.2	0.0273	mg/L	0.00089	0.0273	mg/L	0.00089	3.26%
Sb 206.836†	7.8	0.0043	mg/L	0.00659	0.0043	mg/L	0.00659	152.04%
Pb 220.353†	-13.8	-0.0021	mg/L	0.00221	-0.0021	mg/L	0.00221	104.65%
Cd 226.502†	-0.3	-0.0001	mg/L	0.00011	-0.0001	mg/L	0.00011	215.09%
Co 228.616†	-8.6	-0.0003	mg/L	0.00025	-0.0003	mg/L	0.00025	80.98%
Ni 232.003†	-65.6	-0.0052	mg/L	0.00121	-0.0052	mg/L	0.00121	23.10%
Ba 233.527†	4189.3	0.0765	mg/L	0.00114	0.0765	mg/L	0.00114	1.50%
Mn 257.610†	90822.7	0.1532	mg/L	0.00401	0.1532	mg/L	0.00401	2.62%
Cr 267.716†	394.6	0.0033	mg/L	0.00022	0.0033	mg/L	0.00022	6.67%
Fe 273.955†	6333.4	0.2920	mg/L	0.01263	0.2920	mg/L	0.01263	4.32%
Mg 279.077†	52021.1	3.152	mg/L	0.0858	3.152	mg/L	0.0858	2.72%
V 292.402†	90.2	0.0003	mg/L	0.00069	0.0003	mg/L	0.00069	197.26%
Al 308.215†	-4014.3	-0.1788	mg/L	0.00757	-0.1788	mg/L	0.00757	4.23%
Be 313.107†	-1792.1	-0.00040	mg/L	0.000078	-0.00040	mg/L	0.000078	19.41%
Cu 324.752†	7743.1	0.0275	mg/L	0.00142	0.0275	mg/L	0.00142	5.15%
Ag 338.289†	-552.5	-0.0039	mg/L	0.00125	-0.0039	mg/L	0.00125	32.26%
Na 330.237†	49731.2	64.84	mg/L	2.557	64.84	mg/L	2.557	3.94%
Ca 227.546†	1754.5	19.78	mg/L	0.200	19.78	mg/L	0.200	1.01%
Al RADIAL†	97.8	0.0585	mg/L	0.00521	0.0585	mg/L	0.00521	8.91%
Fe RADIAL†	205.2	0.4632	mg/L	0.02063	0.4632	mg/L	0.02063	4.45%
Ca RADIAL†	130999.5	21.73	mg/L	0.364	21.73	mg/L	0.364	1.68%
K RADIAL†	12511.1	9.026	mg/L	0.1891	9.026	mg/L	0.1891	2.10%
Mg RADIAL†	1359.9	3.315	mg/L	0.0823	3.315	mg/L	0.0823	2.48%
Na RADIAL†	526624.9	70.07	mg/L	0.298	70.07	mg/L	0.298	0.43%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 161
Sample ID: 23E0414-09
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 307
Date Collected: 5/15/2023 6:26:02 PM
Data Type: Reprocessed on 5/16/2023 9:10:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0414-09

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17084003.7	4.361	mg/L	0.0628	4.361	mg/L	0.0628	1.44%
Y RADIAL	312235.2	4.685	mg/L	0.1024	4.685	mg/L	0.1024	2.19%
As 188.979†	-0.0	0.0002	mg/L	0.00843	0.0002	mg/L	0.00843	>999.9%
Tl 190.801†	-2.5	-0.0032	mg/L	0.00375	-0.0032	mg/L	0.00375	115.45%
Se 196.026†	-8.8	-0.0122	mg/L	0.01589	-0.0122	mg/L	0.01589	129.84%
Zn 206.200†	9646.5	0.5559	mg/L	0.01169	0.5559	mg/L	0.01169	2.10%
Sb 206.836†	4.3	0.0029	mg/L	0.00668	0.0029	mg/L	0.00668	234.05%
Pb 220.353†	2.4	0.0008	mg/L	0.00119	0.0008	mg/L	0.00119	148.51%
Cd 226.502†	9.1	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	65.30%
Co 228.616†	-5.3	-0.0002	mg/L	0.00029	-0.0002	mg/L	0.00029	161.53%
Ni 232.003†	24.6	0.0022	mg/L	0.00168	0.0022	mg/L	0.00168	77.79%
Ba 233.527†	3684.1	0.0672	mg/L	0.00151	0.0672	mg/L	0.00151	2.25%
Mn 257.610†	12501.8	0.0211	mg/L	0.00038	0.0211	mg/L	0.00038	1.80%
Cr 267.716†	451.7	0.0037	mg/L	0.00011	0.0037	mg/L	0.00011	2.89%
Fe 273.955†	11072.8	0.5106	mg/L	0.01449	0.5106	mg/L	0.01449	2.84%
Mg 279.077†	14685.8	0.8897	mg/L	0.02186	0.8897	mg/L	0.02186	2.46%
V 292.402†	40.2	0.0001	mg/L	0.00081	0.0001	mg/L	0.00081	722.54%
Al 308.215†	-2519.7	-0.1122	mg/L	0.00716	-0.1122	mg/L	0.00716	6.38%
Be 313.107†	-953.9	-0.00021	mg/L	0.000048	-0.00021	mg/L	0.000048	22.34%
Cu 324.752†	136606.8	0.4843	mg/L	0.00981	0.4843	mg/L	0.00981	2.02%
Ag 338.289†	-676.1	-0.0048	mg/L	0.00095	-0.0048	mg/L	0.00095	20.07%
Na 330.237†	11580.5	15.10	mg/L	0.353	15.10	mg/L	0.353	2.33%
Ca 227.546†	665.3	7.502	mg/L	0.1909	7.502	mg/L	0.1909	2.54%
Al RADIAL†	235.2	0.1407	mg/L	0.01123	0.1407	mg/L	0.01123	7.98%
Fe RADIAL†	304.7	0.6877	mg/L	0.02395	0.6877	mg/L	0.02395	3.48%
Ca RADIAL†	51752.1	8.583	mg/L	0.0505	8.583	mg/L	0.0505	0.59%
K RADIAL†	1718.8	1.240	mg/L	0.0262	1.240	mg/L	0.0262	2.12%
Mg RADIAL†	444.6	1.084	mg/L	0.0139	1.084	mg/L	0.0139	1.28%
Na RADIAL†	142533.6	18.97	mg/L	0.123	18.97	mg/L	0.123	0.65%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 162
Sample ID: 23E0421-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 308
Date Collected: 5/15/2023 6:29:10 PM
Data Type: Reprocessed on 5/16/2023 9:10:24 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0421-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	16736609.4	4.272	mg/L	0.1007	4.272	mg/L	0.1007	2.36%
Y RADIAL	312286.5	4.686	mg/L	0.0812	4.686	mg/L	0.0812	1.73%
As 188.979†	-8.7	-0.0114	mg/L	0.00689	-0.0114	mg/L	0.00689	60.59%
Tl 190.801†	-3.1	-0.0036	mg/L	0.00328	-0.0036	mg/L	0.00328	91.58%
Se 196.026†	1.2	-0.0018	mg/L	0.00518	-0.0018	mg/L	0.00518	290.58%
Zn 206.200†	1162.0	0.0671	mg/L	0.00140	0.0671	mg/L	0.00140	2.08%
Sb 206.836†	3.9	0.0017	mg/L	0.00393	0.0017	mg/L	0.00393	228.65%
Pb 220.353†	-8.2	0.0001	mg/L	0.00277	0.0001	mg/L	0.00277	>999.9%
Cd 226.502†	20.2	-0.0000	mg/L	0.00015	-0.0000	mg/L	0.00015	343.27%
Co 228.616†	-10.8	-0.0003	mg/L	0.00040	-0.0003	mg/L	0.00040	116.19%
Ni 232.003†	-87.6	-0.0065	mg/L	0.00185	-0.0065	mg/L	0.00185	28.43%
Ba 233.527†	4607.2	0.0841	mg/L	0.00216	0.0841	mg/L	0.00216	2.56%
Mn 257.610†	89243.8	0.1507	mg/L	0.00544	0.1507	mg/L	0.00544	3.61%
Cr 267.716†	361.4	0.0030	mg/L	0.00018	0.0030	mg/L	0.00018	6.15%
Fe 273.955†	55809.6	2.573	mg/L	0.1001	2.573	mg/L	0.1001	3.89%
Mg 279.077†	82013.2	4.969	mg/L	0.1797	4.969	mg/L	0.1797	3.62%
V 292.402†	178.0	0.0005	mg/L	0.00038	0.0005	mg/L	0.00038	73.04%
Al 308.215†	-3987.7	-0.1776	mg/L	0.01029	-0.1776	mg/L	0.01029	5.79%
Be 313.107†	-1616.0	-0.00036	mg/L	0.000080	-0.00036	mg/L	0.000080	22.03%
Cu 324.752†	2149.9	0.0079	mg/L	0.00101	0.0079	mg/L	0.00101	12.84%
Ag 338.289†	-683.3	-0.0048	mg/L	0.00198	-0.0048	mg/L	0.00198	40.92%
Na 330.237†	38870.4	50.69	mg/L	1.773	50.69	mg/L	1.773	3.50%
Ca 227.546†	2176.7	24.54	mg/L	0.760	24.54	mg/L	0.760	3.10%
Al RADIAL†	92.0	0.0550	mg/L	0.00469	0.0550	mg/L	0.00469	8.52%
Fe RADIAL†	1213.6	2.739	mg/L	0.0395	2.739	mg/L	0.0395	1.44%
Ca RADIAL†	156932.7	26.03	mg/L	0.293	26.03	mg/L	0.293	1.13%
K RADIAL†	7257.1	5.235	mg/L	0.2201	5.235	mg/L	0.2201	4.20%
Mg RADIAL†	2045.7	4.987	mg/L	0.0484	4.987	mg/L	0.0484	0.97%
Na RADIAL†	414061.6	55.10	mg/L	0.333	55.10	mg/L	0.333	0.60%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 163
Sample ID: 23E0442-01
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 309
Date Collected: 5/15/2023 6:32:18 PM
Data Type: Reprocessed on 5/16/2023 9:10:25 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17295485.4	4.414	mg/L	0.1034	4.414	mg/L	0.1034	2.34%
Y RADIAL	313652.2	4.706	mg/L	0.0714	4.706	mg/L	0.0714	1.52%
As 188.979†	-8.2	-0.0090	mg/L	0.01128	-0.0090	mg/L	0.01128	125.08%
Tl 190.801†	-9.9	-0.0119	mg/L	0.00430	-0.0119	mg/L	0.00430	36.04%
Se 196.026†	-10.4	-0.0216	mg/L	0.01480	-0.0216	mg/L	0.01480	68.45%
Zn 206.200†	43016.2	2.479	mg/L	0.0689	2.479	mg/L	0.0689	2.78%
Sb 206.836†	-3.0	-0.0007	mg/L	0.00544	-0.0007	mg/L	0.00544	802.51%
Pb 220.353†	30.4	0.0089	mg/L	0.00161	0.0089	mg/L	0.00161	18.03%
Cd 226.502†	78.5	0.0002	mg/L	0.00011	0.0002	mg/L	0.00011	43.68%
Co 228.616†	51.3	0.0020	mg/L	0.00022	0.0020	mg/L	0.00022	10.83%
Ni 232.003†	192.7	0.0172	mg/L	0.00085	0.0172	mg/L	0.00085	4.93%
Ba 233.527†	889.0	0.0162	mg/L	0.00051	0.0162	mg/L	0.00051	3.15%
Mn 257.610†	21659.3	0.0369	mg/L	0.00074	0.0369	mg/L	0.00074	2.01%
Cr 267.716†	354.9	0.0029	mg/L	0.00024	0.0029	mg/L	0.00024	8.46%
Fe 273.955†	136246.7	6.282	mg/L	0.1691	6.282	mg/L	0.1691	2.69%
Mg 279.077†	22601.0	1.369	mg/L	0.0356	1.369	mg/L	0.0356	2.60%
V 292.402†	11296.1	0.0482	mg/L	0.00130	0.0482	mg/L	0.00130	2.70%
Al 308.215†	5866.5	0.2613	mg/L	0.01309	0.2613	mg/L	0.01309	5.01%
Be 313.107†	-3355.9	-0.00075	mg/L	0.000052	-0.00075	mg/L	0.000052	6.89%
Cu 324.752†	95806.5	0.3402	mg/L	0.00787	0.3402	mg/L	0.00787	2.31%
Ag 338.289†	-2521.1	-0.0178	mg/L	0.00195	-0.0178	mg/L	0.00195	10.97%
Na 330.237†	7164.4	9.373	mg/L	0.1071	9.373	mg/L	0.1071	1.14%
Ca 227.546†	493.2	5.561	mg/L	0.1319	5.561	mg/L	0.1319	2.37%
Al RADIAL†	902.0	0.5395	mg/L	0.00812	0.5395	mg/L	0.00812	1.50%
Fe RADIAL†	2946.4	6.650	mg/L	0.1106	6.650	mg/L	0.1106	1.66%
Ca RADIAL†	40690.0	6.748	mg/L	0.0835	6.748	mg/L	0.0835	1.24%
K RADIAL†	1100.1	0.7936	mg/L	0.11608	0.7936	mg/L	0.11608	14.63%
Mg RADIAL†	641.8	1.565	mg/L	0.0285	1.565	mg/L	0.0285	1.82%
Na RADIAL†	88669.6	11.80	mg/L	0.109	11.80	mg/L	0.109	0.92%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 164
Sample ID: 23E0442-02
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 310
Date Collected: 5/15/2023 6:35:25 PM
Data Type: Reprocessed on 5/16/2023 9:10:26 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17140440.6	4.375	mg/L	0.0554	4.375	mg/L	0.0554	1.27%
Y RADIAL	314322.3	4.716	mg/L	0.0856	4.716	mg/L	0.0856	1.82%
As 188.979†	-7.8	-0.0105	mg/L	0.01148	-0.0105	mg/L	0.01148	109.03%
Tl 190.801†	-7.4	-0.0096	mg/L	0.00251	-0.0096	mg/L	0.00251	26.21%
Se 196.026†	-2.2	-0.0046	mg/L	0.01079	-0.0046	mg/L	0.01079	233.52%
Zn 206.200†	23366.6	1.347	mg/L	0.0330	1.347	mg/L	0.0330	2.45%
Sb 206.836†	3.6	0.0028	mg/L	0.00267	0.0028	mg/L	0.00267	95.07%
Pb 220.353†	-1.1	0.0006	mg/L	0.00108	0.0006	mg/L	0.00108	175.89%
Cd 226.502†	20.8	0.0001	mg/L	0.00018	0.0001	mg/L	0.00018	182.36%
Co 228.616†	20.8	0.0008	mg/L	0.00049	0.0008	mg/L	0.00049	60.97%
Ni 232.003†	102.5	0.0087	mg/L	0.00060	0.0087	mg/L	0.00060	6.88%
Ba 233.527†	769.3	0.0140	mg/L	0.00024	0.0140	mg/L	0.00024	1.74%
Mn 257.610†	19513.9	0.0330	mg/L	0.00093	0.0330	mg/L	0.00093	2.82%
Cr 267.716†	340.0	0.0028	mg/L	0.00017	0.0028	mg/L	0.00017	5.90%
Fe 273.955†	27601.8	1.273	mg/L	0.0308	1.273	mg/L	0.0308	2.42%
Mg 279.077†	20743.7	1.257	mg/L	0.0265	1.257	mg/L	0.0265	2.11%
V 292.402†	4227.4	0.0181	mg/L	0.00058	0.0181	mg/L	0.00058	3.18%
Al 308.215†	-3140.1	-0.1399	mg/L	0.00968	-0.1399	mg/L	0.00968	6.92%
Be 313.107†	-2311.9	-0.00052	mg/L	0.000020	-0.00052	mg/L	0.000020	3.81%
Cu 324.752†	47685.7	0.1692	mg/L	0.00422	0.1692	mg/L	0.00422	2.49%
Ag 338.289†	-1417.6	-0.0100	mg/L	0.00119	-0.0100	mg/L	0.00119	11.97%
Na 330.237†	8127.1	10.60	mg/L	0.189	10.60	mg/L	0.189	1.78%
Ca 227.546†	468.4	5.282	mg/L	0.0316	5.282	mg/L	0.0316	0.60%
Al RADIAL†	171.7	0.1027	mg/L	0.00167	0.1027	mg/L	0.00167	1.63%
Fe RADIAL†	637.9	1.440	mg/L	0.0220	1.440	mg/L	0.0220	1.53%
Ca RADIAL†	37541.0	6.226	mg/L	0.0565	6.226	mg/L	0.0565	0.91%
K RADIAL†	670.3	0.4836	mg/L	0.11995	0.4836	mg/L	0.11995	24.81%
Mg RADIAL†	583.5	1.422	mg/L	0.0163	1.422	mg/L	0.0163	1.15%
Na RADIAL†	97537.7	12.98	mg/L	0.104	12.98	mg/L	0.104	0.80%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 165
Sample ID: SEQ-CCVE
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 6:38:32 PM
Data Type: Reprocessed on 5/16/2023 9:10:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVE

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16747200.3	4.275	mg/L	0.1527	4.275	mg/L	0.1527	3.57%
Y RADIAL	307997.2	4.621	mg/L	0.0869	4.621	mg/L	0.0869	1.88%
As 188.979†	367.1	0.5254	mg/L	0.02306	0.5254	mg/L	0.02306	4.39%
Tl 190.801†	408.8	0.5507	mg/L	0.01634	0.5507	mg/L	0.01634	2.97%
Se 196.026†	420.6	0.5406	mg/L	0.02135	0.5406	mg/L	0.02135	3.95%
Zn 206.200†	47120.7	2.716	mg/L	0.0929	2.716	mg/L	0.0929	3.42%
Sb 206.836†	320.3	0.2526	mg/L	0.01325	0.2526	mg/L	0.01325	5.24%
Pb 220.353†	3152.3	0.5441	mg/L	0.01547	0.5441	mg/L	0.01547	2.84%
Cd 226.502†	22335.8	0.2688	mg/L	0.01051	0.2688	mg/L	0.01051	3.91%
Co 228.616†	73630.0	2.718	mg/L	0.0812	2.718	mg/L	0.0812	2.99%
Ni 232.003†	33408.9	2.724	mg/L	0.0766	2.724	mg/L	0.0766	2.81%
Ba 233.527†	611432.4	11.16	mg/L	0.358	11.16	mg/L	0.358	3.20%
Mn 257.610†	1648775.0	2.781	mg/L	0.0925	2.781	mg/L	0.0925	3.33%
Cr 267.716†	130522.5	1.080	mg/L	0.0335	1.080	mg/L	0.0335	3.10%
Fe 273.955†	116991.9	5.395	mg/L	0.1746	5.395	mg/L	0.1746	3.24%
Mg 279.077†	451907.7	27.38	mg/L	0.821	27.38	mg/L	0.821	3.00%
V 292.402†	629116.4	2.718	mg/L	0.0907	2.718	mg/L	0.0907	3.34%
Al 308.215†	241531.3	10.76	mg/L	0.244	10.76	mg/L	0.244	2.27%
Be 313.107†	1236299.7	0.27691	mg/L	0.009154	0.27691	mg/L	0.009154	3.31%
Cu 324.752†	390484.2	1.385	mg/L	0.0480	1.385	mg/L	0.0480	3.47%
Ag 338.289†	178475.7	1.251	mg/L	0.0469	1.251	mg/L	0.0469	3.75%
Na 330.237†	19689.4	25.70	mg/L	1.015	25.70	mg/L	1.015	3.95%
Ca 227.546†	2298.5	25.92	mg/L	0.640	25.92	mg/L	0.640	2.47%
Al RADIAL†	17527.1	10.48	mg/L	0.151	10.48	mg/L	0.151	1.45%
Fe RADIAL†	2437.8	5.502	mg/L	0.1064	5.502	mg/L	0.1064	1.93%
Ca RADIAL†	161738.1	26.82	mg/L	0.277	26.82	mg/L	0.277	1.03%
K RADIAL†	7803.5	5.630	mg/L	0.1107	5.630	mg/L	0.1107	1.97%
Mg RADIAL†	11244.1	27.41	mg/L	0.561	27.41	mg/L	0.561	2.05%
Na RADIAL†	205945.0	27.40	mg/L	0.479	27.40	mg/L	0.479	1.75%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 166
Sample ID: SEQ-CCBE
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 6:41:42 PM
Data Type: Reprocessed on 5/16/2023 9:10:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBE

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17583355.6	4.488	mg/L	0.1105	4.488	mg/L	0.1105	2.46%
Y RADIAL	316647.5	4.751	mg/L	0.1545	4.751	mg/L	0.1545	3.25%
As 188.979†	-1.3	-0.0019	mg/L	0.00778	-0.0019	mg/L	0.00778	412.32%
Tl 190.801†	-2.6	-0.0036	mg/L	0.00835	-0.0036	mg/L	0.00835	234.24%
Se 196.026†	-3.4	-0.0045	mg/L	0.01068	-0.0045	mg/L	0.01068	239.15%
Zn 206.200†	5.2	0.0003	mg/L	0.00029	0.0003	mg/L	0.00029	97.73%
Sb 206.836†	14.7	0.0116	mg/L	0.00399	0.0116	mg/L	0.00399	34.35%
Pb 220.353†	0.8	0.0001	mg/L	0.00086	0.0001	mg/L	0.00086	632.88%
Cd 226.502†	0.9	0.0000	mg/L	0.00010	0.0000	mg/L	0.00010	807.79%
Co 228.616†	-0.2	-0.0000	mg/L	0.00045	-0.0000	mg/L	0.00045	>999.9%
Ni 232.003†	-36.7	-0.0030	mg/L	0.00216	-0.0030	mg/L	0.00216	72.02%
Ba 233.527†	81.7	0.0015	mg/L	0.00134	0.0015	mg/L	0.00134	90.00%
Mn 257.610†	316.6	0.0005	mg/L	0.00045	0.0005	mg/L	0.00045	83.61%
Cr 267.716†	73.5	0.0006	mg/L	0.00023	0.0006	mg/L	0.00023	37.01%
Fe 273.955†	-3448.0	-0.1590	mg/L	0.00130	-0.1590	mg/L	0.00130	0.82%
Mg 279.077†	-3274.5	-0.1984	mg/L	0.00704	-0.1984	mg/L	0.00704	3.55%
V 292.402†	120.6	0.0005	mg/L	0.00046	0.0005	mg/L	0.00046	88.62%
Al 308.215†	-5596.4	-0.2493	mg/L	0.00314	-0.2493	mg/L	0.00314	1.26%
Be 313.107†	-1068.3	-0.00024	mg/L	0.000049	-0.00024	mg/L	0.000049	20.32%
Cu 324.752†	642.2	0.0023	mg/L	0.00034	0.0023	mg/L	0.00034	14.80%
Ag 338.289†	-342.4	-0.0024	mg/L	0.00042	-0.0024	mg/L	0.00042	17.46%
Na 330.237†	-69.5	-0.0907	mg/L	0.10928	-0.0907	mg/L	0.10928	120.43%
Ca 227.546†	-48.8	-0.5501	mg/L	0.21092	-0.5501	mg/L	0.21092	38.34%
Al RADIAL†	3.9	0.0023	mg/L	0.00136	0.0023	mg/L	0.00136	58.56%
Fe RADIAL†	-6.5	-0.0147	mg/L	0.00225	-0.0147	mg/L	0.00225	15.35%
Ca RADIAL†	-50.2	-0.0083	mg/L	0.01304	-0.0083	mg/L	0.01304	156.67%
K RADIAL†	-47.8	-0.0345	mg/L	0.09826	-0.0345	mg/L	0.09826	285.19%
Mg RADIAL†	-11.3	-0.0275	mg/L	0.01296	-0.0275	mg/L	0.01296	47.19%
Na RADIAL†	-441.3	-0.0587	mg/L	0.01860	-0.0587	mg/L	0.01860	31.67%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 167
Sample ID: 23E0442-03
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 311
Date Collected: 5/15/2023 6:44:52 PM
Data Type: Reprocessed on 5/16/2023 9:10:28 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17155862.8	4.379	mg/L	0.0571	4.379	mg/L	0.0571	1.30%
Y RADIAL	320710.5	4.812	mg/L	0.1103	4.812	mg/L	0.1103	2.29%
As 188.979†	-3.0	-0.0034	mg/L	0.00928	-0.0034	mg/L	0.00928	276.69%
Tl 190.801†	-7.1	-0.0091	mg/L	0.00357	-0.0091	mg/L	0.00357	39.16%
Se 196.026†	-2.2	-0.0056	mg/L	0.00694	-0.0056	mg/L	0.00694	123.84%
Zn 206.200†	32063.3	1.848	mg/L	0.0080	1.848	mg/L	0.0080	0.43%
Sb 206.836†	6.3	0.0051	mg/L	0.00235	0.0051	mg/L	0.00235	45.65%
Pb 220.353†	28.8	0.0062	mg/L	0.00185	0.0062	mg/L	0.00185	29.97%
Cd 226.502†	37.3	0.0002	mg/L	0.00013	0.0002	mg/L	0.00013	61.47%
Co 228.616†	13.1	0.0005	mg/L	0.00011	0.0005	mg/L	0.00011	21.41%
Ni 232.003†	167.9	0.0142	mg/L	0.00086	0.0142	mg/L	0.00086	6.07%
Ba 233.527†	763.2	0.0139	mg/L	0.00032	0.0139	mg/L	0.00032	2.31%
Mn 257.610†	20947.4	0.0355	mg/L	0.00025	0.0355	mg/L	0.00025	0.72%
Cr 267.716†	342.2	0.0028	mg/L	0.00014	0.0028	mg/L	0.00014	5.14%
Fe 273.955†	45900.8	2.117	mg/L	0.0104	2.117	mg/L	0.0104	0.49%
Mg 279.077†	22640.3	1.372	mg/L	0.0095	1.372	mg/L	0.0095	0.69%
V 292.402†	1482.1	0.0062	mg/L	0.00045	0.0062	mg/L	0.00045	7.23%
Al 308.215†	6748.5	0.3006	mg/L	0.00475	0.3006	mg/L	0.00475	1.58%
Be 313.107†	-1704.2	-0.00038	mg/L	0.000048	-0.00038	mg/L	0.000048	12.53%
Cu 324.752†	112297.6	0.3983	mg/L	0.00158	0.3983	mg/L	0.00158	0.40%
Ag 338.289†	-870.0	-0.0061	mg/L	0.00114	-0.0061	mg/L	0.00114	18.53%
Na 330.237†	8839.9	11.54	mg/L	0.075	11.54	mg/L	0.075	0.65%
Ca 227.546†	475.8	5.365	mg/L	0.0830	5.365	mg/L	0.0830	1.55%
Al RADIAL†	930.7	0.5566	mg/L	0.02362	0.5566	mg/L	0.02362	4.24%
Fe RADIAL†	988.4	2.231	mg/L	0.0448	2.231	mg/L	0.0448	2.01%
Ca RADIAL†	38812.7	6.437	mg/L	0.0233	6.437	mg/L	0.0233	0.36%
K RADIAL†	1050.6	0.7579	mg/L	0.15274	0.7579	mg/L	0.15274	20.15%
Mg RADIAL†	613.9	1.497	mg/L	0.0316	1.497	mg/L	0.0316	2.11%
Na RADIAL†	108196.9	14.40	mg/L	0.089	14.40	mg/L	0.089	0.62%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 168
Sample ID: 23E0442-04
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 312
Date Collected: 5/15/2023 6:48:00 PM
Data Type: Reprocessed on 5/16/2023 9:10:29 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15888945.5	4.055	mg/L	0.0531	4.055	mg/L	0.0531	1.31%
Y RADIAL	301570.3	4.525	mg/L	0.1907	4.525	mg/L	0.1907	4.22%
As 188.979†	-4.2	-0.0054	mg/L	0.01323	-0.0054	mg/L	0.01323	245.35%
Tl 190.801†	-5.2	-0.0067	mg/L	0.00317	-0.0067	mg/L	0.00317	47.69%
Se 196.026†	0.5	-0.0011	mg/L	0.01370	-0.0011	mg/L	0.01370	>999.9%
Zn 206.200†	11050.0	0.6369	mg/L	0.00968	0.6369	mg/L	0.00968	1.52%
Sb 206.836†	11.2	0.0088	mg/L	0.00678	0.0088	mg/L	0.00678	77.12%
Pb 220.353†	16.5	0.0036	mg/L	0.00114	0.0036	mg/L	0.00114	31.54%
Cd 226.502†	16.2	0.0000	mg/L	0.00014	0.0000	mg/L	0.00014	278.72%
Co 228.616†	-14.9	-0.0005	mg/L	0.00053	-0.0005	mg/L	0.00053	102.62%
Ni 232.003†	39.5	0.0035	mg/L	0.00122	0.0035	mg/L	0.00122	34.61%
Ba 233.527†	919.2	0.0168	mg/L	0.00022	0.0168	mg/L	0.00022	1.33%
Mn 257.610†	13863.0	0.0235	mg/L	0.00044	0.0235	mg/L	0.00044	1.89%
Cr 267.716†	384.7	0.0032	mg/L	0.00007	0.0032	mg/L	0.00007	2.20%
Fe 273.955†	26467.8	1.220	mg/L	0.0237	1.220	mg/L	0.0237	1.94%
Mg 279.077†	21406.9	1.297	mg/L	0.0351	1.297	mg/L	0.0351	2.71%
V 292.402†	2245.3	0.0096	mg/L	0.00024	0.0096	mg/L	0.00024	2.54%
Al 308.215†	-2497.2	-0.1112	mg/L	0.00766	-0.1112	mg/L	0.00766	6.89%
Be 313.107†	-2384.5	-0.00053	mg/L	0.000022	-0.00053	mg/L	0.000022	4.15%
Cu 324.752†	101684.4	0.3606	mg/L	0.00608	0.3606	mg/L	0.00608	1.69%
Ag 338.289†	-1128.5	-0.0079	mg/L	0.00102	-0.0079	mg/L	0.00102	12.87%
Na 330.237†	7138.2	9.313	mg/L	0.2352	9.313	mg/L	0.2352	2.53%
Ca 227.546†	447.9	5.050	mg/L	0.1237	5.050	mg/L	0.1237	2.45%
Al RADIAL†	200.0	0.1196	mg/L	0.01434	0.1196	mg/L	0.01434	11.98%
Fe RADIAL†	614.2	1.386	mg/L	0.0625	1.386	mg/L	0.0625	4.51%
Ca RADIAL†	35944.7	5.961	mg/L	0.0462	5.961	mg/L	0.0462	0.78%
K RADIAL†	785.6	0.5667	mg/L	0.08652	0.5667	mg/L	0.08652	15.27%
Mg RADIAL†	592.1	1.443	mg/L	0.0558	1.443	mg/L	0.0558	3.86%
Na RADIAL†	84849.5	11.29	mg/L	0.144	11.29	mg/L	0.144	1.28%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 169
Sample ID: 23E0442-05
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 313
Date Collected: 5/15/2023 6:51:08 PM
Data Type: Reprocessed on 5/16/2023 9:10:30 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17158969.5	4.380	mg/L	0.1005	4.380	mg/L	0.1005	2.29%
Y RADIAL	304849.9	4.574	mg/L	0.1519	4.574	mg/L	0.1519	3.32%
As 188.979†	-6.7	-0.0095	mg/L	0.00265	-0.0095	mg/L	0.00265	27.94%
Tl 190.801†	-6.0	-0.0080	mg/L	0.00325	-0.0080	mg/L	0.00325	40.40%
Se 196.026†	2.2	0.0028	mg/L	0.00871	0.0028	mg/L	0.00871	309.01%
Zn 206.200†	1422.4	0.0820	mg/L	0.00130	0.0820	mg/L	0.00130	1.59%
Sb 206.836†	1.1	0.0004	mg/L	0.00601	0.0004	mg/L	0.00601	>999.9%
Pb 220.353†	6.7	0.0012	mg/L	0.00161	0.0012	mg/L	0.00161	137.02%
Cd 226.502†	2.0	0.0000	mg/L	0.00014	0.0000	mg/L	0.00014	710.67%
Co 228.616†	-5.8	-0.0002	mg/L	0.00031	-0.0002	mg/L	0.00031	145.17%
Ni 232.003†	0.7	0.0001	mg/L	0.00129	0.0001	mg/L	0.00129	>999.9%
Ba 233.527†	805.2	0.0147	mg/L	0.00042	0.0147	mg/L	0.00042	2.89%
Mn 257.610†	10500.5	0.0177	mg/L	0.00057	0.0177	mg/L	0.00057	3.19%
Cr 267.716†	323.3	0.0027	mg/L	0.00018	0.0027	mg/L	0.00018	6.60%
Fe 273.955†	-2626.6	-0.1211	mg/L	0.00070	-0.1211	mg/L	0.00070	0.58%
Mg 279.077†	20952.8	1.269	mg/L	0.0390	1.269	mg/L	0.0390	3.07%
V 292.402†	-67.9	-0.0003	mg/L	0.00068	-0.0003	mg/L	0.00068	230.13%
Al 308.215†	4789.0	0.2133	mg/L	0.02077	0.2133	mg/L	0.02077	9.74%
Be 313.107†	-1459.9	-0.00033	mg/L	0.000101	-0.00033	mg/L	0.000101	30.81%
Cu 324.752†	57031.5	0.2022	mg/L	0.00647	0.2022	mg/L	0.00647	3.20%
Ag 338.289†	-649.2	-0.0046	mg/L	0.00097	-0.0046	mg/L	0.00097	21.35%
Na 330.237†	6150.7	8.019	mg/L	0.3672	8.019	mg/L	0.3672	4.58%
Ca 227.546†	421.0	4.747	mg/L	0.0787	4.747	mg/L	0.0787	1.66%
Al RADIAL†	841.4	0.5032	mg/L	0.01607	0.5032	mg/L	0.01607	3.19%
Fe RADIAL†	15.5	0.0350	mg/L	0.00200	0.0350	mg/L	0.00200	5.70%
Ca RADIAL†	34053.6	5.648	mg/L	0.1218	5.648	mg/L	0.1218	2.16%
K RADIAL†	609.6	0.4398	mg/L	0.13853	0.4398	mg/L	0.13853	31.50%
Mg RADIAL†	595.8	1.452	mg/L	0.0370	1.452	mg/L	0.0370	2.54%
Na RADIAL†	76301.5	10.15	mg/L	0.129	10.15	mg/L	0.129	1.27%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 170
Sample ID: 23E0442-06
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 314
Date Collected: 5/15/2023 6:54:17 PM
Data Type: Reprocessed on 5/16/2023 9:10:31 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16901956.8	4.314	mg/L	0.0697	4.314	mg/L	0.0697	1.62%
Y RADIAL	308124.1	4.623	mg/L	0.0721	4.623	mg/L	0.0721	1.56%
As 188.979†	-2.4	-0.0035	mg/L	0.00658	-0.0035	mg/L	0.00658	190.06%
Tl 190.801†	-7.5	-0.0101	mg/L	0.00362	-0.0101	mg/L	0.00362	35.90%
Se 196.026†	1.0	0.0012	mg/L	0.01038	0.0012	mg/L	0.01038	843.17%
Zn 206.200†	1885.6	0.1087	mg/L	0.00189	0.1087	mg/L	0.00189	1.74%
Sb 206.836†	4.4	0.0030	mg/L	0.00499	0.0030	mg/L	0.00499	166.26%
Pb 220.353†	-2.4	-0.0004	mg/L	0.00132	-0.0004	mg/L	0.00132	342.46%
Cd 226.502†	4.6	0.0001	mg/L	0.00012	0.0001	mg/L	0.00012	232.04%
Co 228.616†	-10.7	-0.0004	mg/L	0.00039	-0.0004	mg/L	0.00039	99.31%
Ni 232.003†	-16.6	-0.0013	mg/L	0.00125	-0.0013	mg/L	0.00125	92.55%
Ba 233.527†	815.0	0.0149	mg/L	0.00022	0.0149	mg/L	0.00022	1.49%
Mn 257.610†	13303.2	0.0224	mg/L	0.00036	0.0224	mg/L	0.00036	1.61%
Cr 267.716†	333.9	0.0028	mg/L	0.00011	0.0028	mg/L	0.00011	4.00%
Fe 273.955†	-2270.7	-0.1047	mg/L	0.00132	-0.1047	mg/L	0.00132	1.26%
Mg 279.077†	21869.6	1.325	mg/L	0.0119	1.325	mg/L	0.0119	0.90%
V 292.402†	-24.9	-0.0001	mg/L	0.00047	-0.0001	mg/L	0.00047	418.40%
Al 308.215†	15033.6	0.6697	mg/L	0.01922	0.6697	mg/L	0.01922	2.87%
Be 313.107†	-1420.9	-0.00032	mg/L	0.000084	-0.00032	mg/L	0.000084	26.27%
Cu 324.752†	88717.3	0.3145	mg/L	0.00264	0.3145	mg/L	0.00264	0.84%
Ag 338.289†	-742.1	-0.0052	mg/L	0.00086	-0.0052	mg/L	0.00086	16.47%
Na 330.237†	6261.4	8.164	mg/L	0.1737	8.164	mg/L	0.1737	2.13%
Ca 227.546†	416.9	4.701	mg/L	0.1372	4.701	mg/L	0.1372	2.92%
Al RADIAL†	1592.5	0.9524	mg/L	0.01759	0.9524	mg/L	0.01759	1.85%
Fe RADIAL†	21.2	0.0480	mg/L	0.00480	0.0480	mg/L	0.00480	10.01%
Ca RADIAL†	33364.8	5.533	mg/L	0.0758	5.533	mg/L	0.0758	1.37%
K RADIAL†	602.5	0.4347	mg/L	0.06754	0.4347	mg/L	0.06754	15.54%
Mg RADIAL†	613.4	1.495	mg/L	0.0274	1.495	mg/L	0.0274	1.83%
Na RADIAL†	74614.1	9.928	mg/L	0.0852	9.928	mg/L	0.0852	0.86%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 171
Sample ID: 23E0442-07
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 315
Date Collected: 5/15/2023 6:57:24 PM
Data Type: Reprocessed on 5/16/2023 9:10:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	16643668.7	4.248	mg/L	0.0485	4.248	mg/L	0.0485	1.14%
Y RADIAL	310697.9	4.662	mg/L	0.1215	4.662	mg/L	0.1215	2.61%
As 188.979†	-0.6	-0.0009	mg/L	0.01076	-0.0009	mg/L	0.01076	>999.9%
Tl 190.801†	-1.2	-0.0016	mg/L	0.00604	-0.0016	mg/L	0.00604	373.43%
Se 196.026†	-0.1	-0.0002	mg/L	0.01741	-0.0002	mg/L	0.01741	>999.9%
Zn 206.200†	2056.4	0.1185	mg/L	0.00137	0.1185	mg/L	0.00137	1.15%
Sb 206.836†	3.0	0.0019	mg/L	0.00192	0.0019	mg/L	0.00192	102.26%
Pb 220.353†	-1.1	-0.0002	mg/L	0.00295	-0.0002	mg/L	0.00295	>999.9%
Cd 226.502†	1.6	0.0000	mg/L	0.00010	0.0000	mg/L	0.00010	630.85%
Co 228.616†	-15.0	-0.0006	mg/L	0.00032	-0.0006	mg/L	0.00032	57.43%
Ni 232.003†	-18.5	-0.0015	mg/L	0.00092	-0.0015	mg/L	0.00092	61.62%
Ba 233.527†	870.5	0.0159	mg/L	0.00019	0.0159	mg/L	0.00019	1.18%
Mn 257.610†	16335.4	0.0276	mg/L	0.00068	0.0276	mg/L	0.00068	2.46%
Cr 267.716†	329.9	0.0027	mg/L	0.00013	0.0027	mg/L	0.00013	4.69%
Fe 273.955†	-2479.7	-0.1143	mg/L	0.00111	-0.1143	mg/L	0.00111	0.97%
Mg 279.077†	22334.4	1.353	mg/L	0.0486	1.353	mg/L	0.0486	3.59%
V 292.402†	-5.3	-0.0000	mg/L	0.00044	-0.0000	mg/L	0.00044	>999.9%
Al 308.215†	12478.2	0.5559	mg/L	0.02898	0.5559	mg/L	0.02898	5.21%
Be 313.107†	-1455.3	-0.00033	mg/L	0.000055	-0.00033	mg/L	0.000055	16.90%
Cu 324.752†	88809.0	0.3148	mg/L	0.00924	0.3148	mg/L	0.00924	2.93%
Ag 338.289†	-689.2	-0.0048	mg/L	0.00127	-0.0048	mg/L	0.00127	26.22%
Na 330.237†	6313.5	8.232	mg/L	0.3409	8.232	mg/L	0.3409	4.14%
Ca 227.546†	433.7	4.890	mg/L	0.1652	4.890	mg/L	0.1652	3.38%
Al RADIAL†	1367.2	0.8177	mg/L	0.02483	0.8177	mg/L	0.02483	3.04%
Fe RADIAL†	15.8	0.0356	mg/L	0.00508	0.0356	mg/L	0.00508	14.27%
Ca RADIAL†	34081.4	5.652	mg/L	0.0405	5.652	mg/L	0.0405	0.72%
K RADIAL†	553.5	0.3993	mg/L	0.14945	0.3993	mg/L	0.14945	37.43%
Mg RADIAL†	623.3	1.519	mg/L	0.0454	1.519	mg/L	0.0454	2.99%
Na RADIAL†	76405.0	10.17	mg/L	0.063	10.17	mg/L	0.063	0.62%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 172
Sample ID: 23E0442-08
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 316
Date Collected: 5/15/2023 7:00:33 PM
Data Type: Reprocessed on 5/16/2023 9:10:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-08

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16469166.0	4.204	mg/L	0.2050	4.204	mg/L	0.2050	4.88%
Y RADIAL	304219.8	4.565	mg/L	0.2037	4.565	mg/L	0.2037	4.46%
As 188.979†	-4.4	-0.0063	mg/L	0.00838	-0.0063	mg/L	0.00838	133.86%
Tl 190.801†	-4.7	-0.0063	mg/L	0.00438	-0.0063	mg/L	0.00438	69.26%
Se 196.026†	6.2	0.0080	mg/L	0.01205	0.0080	mg/L	0.01205	150.56%
Zn 206.200†	3024.8	0.1743	mg/L	0.00905	0.1743	mg/L	0.00905	5.19%
Sb 206.836†	10.8	0.0080	mg/L	0.00181	0.0080	mg/L	0.00181	22.49%
Pb 220.353†	-16.1	-0.0027	mg/L	0.00349	-0.0027	mg/L	0.00349	127.81%
Cd 226.502†	-1.0	-0.0000	mg/L	0.00002	-0.0000	mg/L	0.00002	144.23%
Co 228.616†	-16.4	-0.0006	mg/L	0.00032	-0.0006	mg/L	0.00032	52.15%
Ni 232.003†	3.3	0.0003	mg/L	0.00247	0.0003	mg/L	0.00247	887.42%
Ba 233.527†	867.8	0.0158	mg/L	0.00086	0.0158	mg/L	0.00086	5.45%
Mn 257.610†	10841.4	0.0183	mg/L	0.00118	0.0183	mg/L	0.00118	6.47%
Cr 267.716†	355.6	0.0029	mg/L	0.00030	0.0029	mg/L	0.00030	10.17%
Fe 273.955†	-2218.0	-0.1023	mg/L	0.00307	-0.1023	mg/L	0.00307	3.00%
Mg 279.077†	24461.2	1.482	mg/L	0.1126	1.482	mg/L	0.1126	7.60%
V 292.402†	56.0	0.0002	mg/L	0.00020	0.0002	mg/L	0.00020	86.23%
Al 308.215†	17627.2	0.7853	mg/L	0.08788	0.7853	mg/L	0.08788	11.19%
Be 313.107†	-1819.0	-0.00041	mg/L	0.000163	-0.00041	mg/L	0.000163	39.93%
Cu 324.752†	91285.6	0.3236	mg/L	0.02391	0.3236	mg/L	0.02391	7.39%
Ag 338.289†	-808.4	-0.0057	mg/L	0.00087	-0.0057	mg/L	0.00087	15.42%
Na 330.237†	6601.8	8.608	mg/L	0.6954	8.608	mg/L	0.6954	8.08%
Ca 227.546†	419.0	4.724	mg/L	0.0902	4.724	mg/L	0.0902	1.91%
Al RADIAL†	1749.6	1.046	mg/L	0.0544	1.046	mg/L	0.0544	5.20%
Fe RADIAL†	22.2	0.0501	mg/L	0.01082	0.0501	mg/L	0.01082	21.60%
Ca RADIAL†	35422.7	5.875	mg/L	0.2052	5.875	mg/L	0.2052	3.49%
K RADIAL†	783.3	0.5650	mg/L	0.08461	0.5650	mg/L	0.08461	14.97%
Mg RADIAL†	669.9	1.633	mg/L	0.0622	1.633	mg/L	0.0622	3.81%
Na RADIAL†	79752.6	10.61	mg/L	0.398	10.61	mg/L	0.398	3.75%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 173
Sample ID: 23E0442-09
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 317
Date Collected: 5/15/2023 7:03:41 PM
Data Type: Reprocessed on 5/16/2023 9:10:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-09

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17208995.5	4.392	mg/L	0.0943	4.392	mg/L	0.0943	2.15%
Y RADIAL	314149.5	4.714	mg/L	0.0785	4.714	mg/L	0.0785	1.66%
As 188.979†	-3.0	-0.0043	mg/L	0.00965	-0.0043	mg/L	0.00965	224.86%
Tl 190.801†	-7.2	-0.0097	mg/L	0.00348	-0.0097	mg/L	0.00348	35.74%
Se 196.026†	-5.9	-0.0077	mg/L	0.00605	-0.0077	mg/L	0.00605	78.61%
Zn 206.200†	306.4	0.0177	mg/L	0.00031	0.0177	mg/L	0.00031	1.77%
Sb 206.836†	-1.2	-0.0010	mg/L	0.00387	-0.0010	mg/L	0.00387	385.92%
Pb 220.353†	0.6	0.0001	mg/L	0.00251	0.0001	mg/L	0.00251	>999.9%
Cd 226.502†	4.5	0.0001	mg/L	0.00012	0.0001	mg/L	0.00012	223.23%
Co 228.616†	-4.7	-0.0002	mg/L	0.00026	-0.0002	mg/L	0.00026	150.97%
Ni 232.003†	-34.2	-0.0028	mg/L	0.00230	-0.0028	mg/L	0.00230	82.44%
Ba 233.527†	8.3	0.0002	mg/L	0.00012	0.0002	mg/L	0.00012	81.62%
Mn 257.610†	347.1	0.0006	mg/L	0.00004	0.0006	mg/L	0.00004	7.11%
Cr 267.716†	103.6	0.0009	mg/L	0.00012	0.0009	mg/L	0.00012	13.97%
Fe 273.955†	-3068.9	-0.1415	mg/L	0.00102	-0.1415	mg/L	0.00102	0.72%
Mg 279.077†	683.4	0.0414	mg/L	0.00522	0.0414	mg/L	0.00522	12.60%
V 292.402†	-42.5	-0.0002	mg/L	0.00008	-0.0002	mg/L	0.00008	43.95%
Al 308.215†	-5307.8	-0.2365	mg/L	0.00745	-0.2365	mg/L	0.00745	3.15%
Be 313.107†	-1836.0	-0.00041	mg/L	0.000041	-0.00041	mg/L	0.000041	9.92%
Cu 324.752†	4890.5	0.0173	mg/L	0.00136	0.0173	mg/L	0.00136	7.82%
Ag 338.289†	-556.3	-0.0039	mg/L	0.00054	-0.0039	mg/L	0.00054	13.94%
Na 330.237†	10159.4	13.25	mg/L	0.433	13.25	mg/L	0.433	3.27%
Ca 227.546†	12.2	0.1373	mg/L	0.16168	0.1373	mg/L	0.16168	117.78%
Al RADIAL†	7.4	0.0044	mg/L	0.00263	0.0044	mg/L	0.00263	59.60%
Fe RADIAL†	5.6	0.0128	mg/L	0.00572	0.0128	mg/L	0.00572	44.84%
Ca RADIAL†	3877.8	0.6431	mg/L	0.02407	0.6431	mg/L	0.02407	3.74%
K RADIAL†	-125.4	-0.0905	mg/L	0.10139	-0.0905	mg/L	0.10139	112.04%
Mg RADIAL†	90.0	0.2195	mg/L	0.01952	0.2195	mg/L	0.01952	8.89%
Na RADIAL†	115684.5	15.39	mg/L	0.205	15.39	mg/L	0.205	1.33%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 174
Sample ID: 23E0442-10
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 318
Date Collected: 5/15/2023 7:06:51 PM
Data Type: Reprocessed on 5/16/2023 9:10:35 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-10

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15246714.4	3.892	mg/L	0.5188	3.892	mg/L	0.5188	13.33%
Y RADIAL	308468.7	4.628	mg/L	0.0946	4.628	mg/L	0.0946	2.04%
As 188.979†	-3.7	-0.0053	mg/L	0.00836	-0.0053	mg/L	0.00836	157.21%
Tl 190.801†	-7.4	-0.0099	mg/L	0.00448	-0.0099	mg/L	0.00448	45.35%
Se 196.026†	1.3	0.0017	mg/L	0.00614	0.0017	mg/L	0.00614	353.14%
Zn 206.200†	711.8	0.0410	mg/L	0.00606	0.0410	mg/L	0.00606	14.78%
Sb 206.836†	3.3	0.0026	mg/L	0.00410	0.0026	mg/L	0.00410	157.74%
Pb 220.353†	5.7	0.0010	mg/L	0.00113	0.0010	mg/L	0.00113	113.93%
Cd 226.502†	17.3	0.0002	mg/L	0.00024	0.0002	mg/L	0.00024	114.75%
Co 228.616†	-15.0	-0.0006	mg/L	0.00045	-0.0006	mg/L	0.00045	80.62%
Ni 232.003†	-125.0	-0.0102	mg/L	0.01089	-0.0102	mg/L	0.01089	106.88%
Ba 233.527†	13.7	0.0003	mg/L	0.00032	0.0003	mg/L	0.00032	126.65%
Mn 257.610†	481.5	0.0008	mg/L	0.00022	0.0008	mg/L	0.00022	26.84%
Cr 267.716†	151.3	0.0013	mg/L	0.00048	0.0013	mg/L	0.00048	38.29%
Fe 273.955†	-3039.6	-0.1402	mg/L	0.00324	-0.1402	mg/L	0.00324	2.31%
Mg 279.077†	450.4	0.0273	mg/L	0.04304	0.0273	mg/L	0.04304	157.72%
V 292.402†	71.1	0.0003	mg/L	0.00024	0.0003	mg/L	0.00024	80.02%
Al 308.215†	-4270.1	-0.1902	mg/L	0.05531	-0.1902	mg/L	0.05531	29.07%
Be 313.107†	-3069.3	-0.00069	mg/L	0.000301	-0.00069	mg/L	0.000301	43.82%
Cu 324.752†	15303.4	0.0543	mg/L	0.01161	0.0543	mg/L	0.01161	21.40%
Ag 338.289†	-499.5	-0.0035	mg/L	0.00139	-0.0035	mg/L	0.00139	39.56%
Na 330.237†	10451.3	13.63	mg/L	2.664	13.63	mg/L	2.664	19.55%
Ca 227.546†	-20.9	-0.2356	mg/L	0.19137	-0.2356	mg/L	0.19137	81.23%
Al RADIAL†	2.4	0.0015	mg/L	0.00998	0.0015	mg/L	0.00998	683.80%
Fe RADIAL†	5.1	0.0116	mg/L	0.00890	0.0116	mg/L	0.00890	76.70%
Ca RADIAL†	3384.2	0.5613	mg/L	0.01583	0.5613	mg/L	0.01583	2.82%
K RADIAL†	-130.7	-0.0943	mg/L	0.08442	-0.0943	mg/L	0.08442	89.54%
Mg RADIAL†	82.2	0.2003	mg/L	0.00661	0.2003	mg/L	0.00661	3.30%
Na RADIAL†	107061.8	14.25	mg/L	0.254	14.25	mg/L	0.254	1.78%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 175
Sample ID: 23E0442-11
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 319
Date Collected: 5/15/2023 7:09:59 PM
Data Type: Reprocessed on 5/16/2023 9:10:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 23E0442-11

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16810099.9	4.291	mg/L	0.1672	4.291	mg/L	0.1672	3.90%
Y RADIAL	304886.2	4.575	mg/L	0.0845	4.575	mg/L	0.0845	1.85%
As 188.979†	1.5	0.0021	mg/L	0.00355	0.0021	mg/L	0.00355	171.15%
Tl 190.801†	-2.6	-0.0035	mg/L	0.00346	-0.0035	mg/L	0.00346	99.81%
Se 196.026†	2.4	0.0032	mg/L	0.01004	0.0032	mg/L	0.01004	317.98%
Zn 206.200†	1340.8	0.0773	mg/L	0.00276	0.0773	mg/L	0.00276	3.57%
Sb 206.836†	1.6	0.0012	mg/L	0.00170	0.0012	mg/L	0.00170	139.62%
Pb 220.353†	11.8	0.0020	mg/L	0.00099	0.0020	mg/L	0.00099	48.83%
Cd 226.502†	-14.1	-0.0002	mg/L	0.00026	-0.0002	mg/L	0.00026	149.80%
Co 228.616†	-15.2	-0.0006	mg/L	0.00017	-0.0006	mg/L	0.00017	30.60%
Ni 232.003†	-50.3	-0.0041	mg/L	0.00159	-0.0041	mg/L	0.00159	38.85%
Ba 233.527†	7.4	0.0001	mg/L	0.00010	0.0001	mg/L	0.00010	74.60%
Mn 257.610†	385.6	0.0007	mg/L	0.00002	0.0007	mg/L	0.00002	3.62%
Cr 267.716†	114.6	0.0009	mg/L	0.00029	0.0009	mg/L	0.00029	30.92%
Fe 273.955†	-3043.2	-0.1403	mg/L	0.00131	-0.1403	mg/L	0.00131	0.94%
Mg 279.077†	503.7	0.0305	mg/L	0.00864	0.0305	mg/L	0.00864	28.32%
V 292.402†	-21.9	-0.0001	mg/L	0.00035	-0.0001	mg/L	0.00035	364.03%
Al 308.215†	-5166.8	-0.2302	mg/L	0.00602	-0.2302	mg/L	0.00602	2.61%
Be 313.107†	-1832.6	-0.00041	mg/L	0.000083	-0.00041	mg/L	0.000083	20.23%
Cu 324.752†	33031.4	0.1171	mg/L	0.00414	0.1171	mg/L	0.00414	3.53%
Ag 338.289†	-401.5	-0.0028	mg/L	0.00063	-0.0028	mg/L	0.00063	22.40%
Na 330.237†	10899.9	14.21	mg/L	0.493	14.21	mg/L	0.493	3.47%
Ca 227.546†	-1.9	-0.0213	mg/L	0.03974	-0.0213	mg/L	0.03974	186.50%
Al RADIAL†	6.3	0.0038	mg/L	0.00438	0.0038	mg/L	0.00438	116.05%
Fe RADIAL†	4.2	0.0094	mg/L	0.00465	0.0094	mg/L	0.00465	49.34%
Ca RADIAL†	3708.1	0.6150	mg/L	0.02361	0.6150	mg/L	0.02361	3.84%
K RADIAL†	42.6	0.0307	mg/L	0.19940	0.0307	mg/L	0.19940	648.89%
Mg RADIAL†	89.1	0.2171	mg/L	0.00740	0.2171	mg/L	0.00740	3.41%
Na RADIAL†	122885.4	16.35	mg/L	0.255	16.35	mg/L	0.255	1.56%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 176
Sample ID: BE30840-DUP1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 320
Date Collected: 5/15/2023 7:13:08 PM
Data Type: Reprocessed on 5/16/2023 9:10:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30840-DUP1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17526904.1	4.474	mg/L	0.1492	4.474	mg/L	0.1492	3.33%
Y RADIAL	306330.8	4.596	mg/L	0.1407	4.596	mg/L	0.1407	3.06%
As 188.979†	-5.0	-0.0071	mg/L	0.00351	-0.0071	mg/L	0.00351	49.41%
Tl 190.801†	-8.8	-0.0118	mg/L	0.00272	-0.0118	mg/L	0.00272	23.00%
Se 196.026†	-7.8	-0.0102	mg/L	0.00727	-0.0102	mg/L	0.00727	71.61%
Zn 206.200†	1034.0	0.0596	mg/L	0.00224	0.0596	mg/L	0.00224	3.77%
Sb 206.836†	-1.1	-0.0009	mg/L	0.00401	-0.0009	mg/L	0.00401	423.85%
Pb 220.353†	13.8	0.0024	mg/L	0.00083	0.0024	mg/L	0.00083	35.07%
Cd 226.502†	-3.8	-0.0000	mg/L	0.00008	-0.0000	mg/L	0.00008	171.18%
Co 228.616†	-11.1	-0.0004	mg/L	0.00025	-0.0004	mg/L	0.00025	60.22%
Ni 232.003†	-13.8	-0.0011	mg/L	0.00207	-0.0011	mg/L	0.00207	184.33%
Ba 233.527†	11.1	0.0002	mg/L	0.00009	0.0002	mg/L	0.00009	46.74%
Mn 257.610†	360.8	0.0006	mg/L	0.00005	0.0006	mg/L	0.00005	8.11%
Cr 267.716†	103.1	0.0009	mg/L	0.00025	0.0009	mg/L	0.00025	28.88%
Fe 273.955†	-3145.1	-0.1450	mg/L	0.00095	-0.1450	mg/L	0.00095	0.66%
Mg 279.077†	-448.2	-0.0272	mg/L	0.00594	-0.0272	mg/L	0.00594	21.89%
V 292.402†	1.4	0.0000	mg/L	0.00055	0.0000	mg/L	0.00055	>999.9%
Al 308.215†	-5254.4	-0.2341	mg/L	0.00794	-0.2341	mg/L	0.00794	3.39%
Be 313.107†	-1557.9	-0.00035	mg/L	0.000120	-0.00035	mg/L	0.000120	34.30%
Cu 324.752†	24445.7	0.0867	mg/L	0.00370	0.0867	mg/L	0.00370	4.27%
Ag 338.289†	-324.8	-0.0023	mg/L	0.00121	-0.0023	mg/L	0.00121	53.07%
Na 330.237†	7825.5	10.20	mg/L	0.382	10.20	mg/L	0.382	3.74%
Ca 227.546†	2.3	0.0259	mg/L	0.17727	0.0259	mg/L	0.17727	683.40%
Al RADIAL†	5.7	0.0034	mg/L	0.00623	0.0034	mg/L	0.00623	181.59%
Fe RADIAL†	4.9	0.0110	mg/L	0.00513	0.0110	mg/L	0.00513	46.59%
Ca RADIAL†	3026.1	0.5019	mg/L	0.01786	0.5019	mg/L	0.01786	3.56%
K RADIAL†	3.8	0.0027	mg/L	0.13620	0.0027	mg/L	0.13620	>999.9%
Mg RADIAL†	63.8	0.1556	mg/L	0.01804	0.1556	mg/L	0.01804	11.60%
Na RADIAL†	94748.9	12.61	mg/L	0.154	12.61	mg/L	0.154	1.22%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 177
Sample ID: SEQ-CCVF
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 7:16:16 PM
Data Type: Reprocessed on 5/16/2023 9:10:38 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVF

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16197275.9	4.134	mg/L	0.0181	4.134	mg/L	0.0181	0.44%
Y RADIAL	307847.2	4.619	mg/L	0.0475	4.619	mg/L	0.0475	1.03%
As 188.979†	368.1	0.5268	mg/L	0.01042	0.5268	mg/L	0.01042	1.98%
Tl 190.801†	416.0	0.5603	mg/L	0.00669	0.5603	mg/L	0.00669	1.19%
Se 196.026†	435.1	0.5599	mg/L	0.01679	0.5599	mg/L	0.01679	3.00%
Zn 206.200†	47286.5	2.725	mg/L	0.0194	2.725	mg/L	0.0194	0.71%
Sb 206.836†	325.6	0.2567	mg/L	0.00981	0.2567	mg/L	0.00981	3.82%
Pb 220.353†	3169.8	0.5470	mg/L	0.00343	0.5470	mg/L	0.00343	0.63%
Cd 226.502†	22413.8	0.2697	mg/L	0.00235	0.2697	mg/L	0.00235	0.87%
Co 228.616†	73593.0	2.717	mg/L	0.0253	2.717	mg/L	0.0253	0.93%
Ni 232.003†	33349.0	2.720	mg/L	0.0156	2.720	mg/L	0.0156	0.57%
Ba 233.527†	618294.8	11.29	mg/L	0.196	11.29	mg/L	0.196	1.73%
Mn 257.610†	1665803.9	2.810	mg/L	0.0469	2.810	mg/L	0.0469	1.67%
Cr 267.716†	130653.3	1.081	mg/L	0.0096	1.081	mg/L	0.0096	0.89%
Fe 273.955†	116469.7	5.371	mg/L	0.0453	5.371	mg/L	0.0453	0.84%
Mg 279.077†	455012.7	27.57	mg/L	0.538	27.57	mg/L	0.538	1.95%
V 292.402†	636111.5	2.748	mg/L	0.0446	2.748	mg/L	0.0446	1.62%
Al 308.215†	248683.5	11.08	mg/L	0.267	11.08	mg/L	0.267	2.41%
Be 313.107†	1243938.9	0.27862	mg/L	0.003175	0.27862	mg/L	0.003175	1.14%
Cu 324.752†	395366.2	1.402	mg/L	0.0409	1.402	mg/L	0.0409	2.92%
Ag 338.289†	181246.3	1.270	mg/L	0.0275	1.270	mg/L	0.0275	2.17%
Na 330.237†	19710.5	25.72	mg/L	0.309	25.72	mg/L	0.309	1.20%
Ca 227.546†	2359.9	26.61	mg/L	0.055	26.61	mg/L	0.055	0.21%
Al RADIAL†	17392.7	10.40	mg/L	0.201	10.40	mg/L	0.201	1.93%
Fe RADIAL†	2345.1	5.293	mg/L	0.0605	5.293	mg/L	0.0605	1.14%
Ca RADIAL†	159744.9	26.49	mg/L	0.240	26.49	mg/L	0.240	0.91%
K RADIAL†	7623.0	5.499	mg/L	0.0379	5.499	mg/L	0.0379	0.69%
Mg RADIAL†	10888.6	26.54	mg/L	0.276	26.54	mg/L	0.276	1.04%
Na RADIAL†	203009.1	27.01	mg/L	0.346	27.01	mg/L	0.346	1.28%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 178
Sample ID: SEQ-CCBF
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 7:19:25 PM
Data Type: Reprocessed on 5/16/2023 9:10:39 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBF

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16794826.2	4.287	mg/L	0.0220	4.287	mg/L	0.0220	0.51%
Y RADIAL	303303.6	4.551	mg/L	0.0975	4.551	mg/L	0.0975	2.14%
As 188.979†	-4.9	-0.0070	mg/L	0.00418	-0.0070	mg/L	0.00418	59.47%
Tl 190.801†	-3.2	-0.0043	mg/L	0.00230	-0.0043	mg/L	0.00230	54.04%
Se 196.026†	-4.4	-0.0057	mg/L	0.00940	-0.0057	mg/L	0.00940	164.96%
Zn 206.200†	4.5	0.0003	mg/L	0.00023	0.0003	mg/L	0.00023	89.61%
Sb 206.836†	17.2	0.0136	mg/L	0.00663	0.0136	mg/L	0.00663	48.77%
Pb 220.353†	4.9	0.0008	mg/L	0.00144	0.0008	mg/L	0.00144	171.73%
Cd 226.502†	7.7	0.0001	mg/L	0.00006	0.0001	mg/L	0.00006	69.07%
Co 228.616†	0.8	0.0000	mg/L	0.00042	0.0000	mg/L	0.00042	>999.9%
Ni 232.003†	-68.1	-0.0055	mg/L	0.00162	-0.0055	mg/L	0.00162	29.13%
Ba 233.527†	66.1	0.0012	mg/L	0.00064	0.0012	mg/L	0.00064	52.85%
Mn 257.610†	278.5	0.0005	mg/L	0.00028	0.0005	mg/L	0.00028	59.85%
Cr 267.716†	61.4	0.0005	mg/L	0.00021	0.0005	mg/L	0.00021	41.79%
Fe 273.955†	-3340.8	-0.1540	mg/L	0.00137	-0.1540	mg/L	0.00137	0.89%
Mg 279.077†	-3193.3	-0.1935	mg/L	0.00251	-0.1935	mg/L	0.00251	1.30%
V 292.402†	12.9	0.0001	mg/L	0.00047	0.0001	mg/L	0.00047	843.67%
Al 308.215†	-5394.9	-0.2403	mg/L	0.00521	-0.2403	mg/L	0.00521	2.17%
Be 313.107†	-1201.8	-0.00027	mg/L	0.000038	-0.00027	mg/L	0.000038	14.06%
Cu 324.752†	701.5	0.0025	mg/L	0.00029	0.0025	mg/L	0.00029	11.49%
Ag 338.289†	-300.9	-0.0021	mg/L	0.00068	-0.0021	mg/L	0.00068	32.23%
Na 330.237†	-81.4	-0.1061	mg/L	0.12867	-0.1061	mg/L	0.12867	121.27%
Ca 227.546†	-52.5	-0.5916	mg/L	0.06484	-0.5916	mg/L	0.06484	10.96%
Al RADIAL†	6.5	0.0039	mg/L	0.00392	0.0039	mg/L	0.00392	100.50%
Fe RADIAL†	-0.3	-0.0006	mg/L	0.00961	-0.0006	mg/L	0.00961	>999.9%
Ca RADIAL†	-53.2	-0.0088	mg/L	0.00638	-0.0088	mg/L	0.00638	72.28%
K RADIAL†	-135.9	-0.0981	mg/L	0.11147	-0.0981	mg/L	0.11147	113.67%
Mg RADIAL†	-6.7	-0.0162	mg/L	0.01798	-0.0162	mg/L	0.01798	110.80%
Na RADIAL†	-622.3	-0.0828	mg/L	0.03164	-0.0828	mg/L	0.03164	38.21%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 179
Sample ID: BE30840-MS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 321
Date Collected: 5/15/2023 7:22:35 PM
Data Type: Reprocessed on 5/16/2023 9:10:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30840-MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16694048.6	4.261	mg/L	0.1268	4.261	mg/L	0.1268	2.98%
Y RADIAL	309829.1	4.649	mg/L	0.0985	4.649	mg/L	0.0985	2.12%
As 188.979†	149.4	0.2129	mg/L	0.01470	0.2129	mg/L	0.01470	6.91%
Tl 190.801†	148.0	0.1989	mg/L	0.01076	0.1989	mg/L	0.01076	5.41%
Se 196.026†	136.5	0.1775	mg/L	0.01320	0.1775	mg/L	0.01320	7.43%
Zn 206.200†	2212.6	0.1275	mg/L	0.00395	0.1275	mg/L	0.00395	3.10%
Sb 206.836†	38.3	0.0302	mg/L	0.00157	0.0302	mg/L	0.00157	5.20%
Pb 220.353†	334.1	0.0574	mg/L	0.00160	0.0574	mg/L	0.00160	2.79%
Cd 226.502†	456.8	0.0055	mg/L	0.00025	0.0055	mg/L	0.00025	4.52%
Co 228.616†	1558.7	0.0575	mg/L	0.00154	0.0575	mg/L	0.00154	2.68%
Ni 232.003†	657.7	0.0536	mg/L	0.00041	0.0536	mg/L	0.00041	0.76%
Ba 233.527†	12709.4	0.2320	mg/L	0.00742	0.2320	mg/L	0.00742	3.20%
Mn 257.610†	35139.5	0.0593	mg/L	0.00180	0.0593	mg/L	0.00180	3.04%
Cr 267.716†	2842.4	0.0235	mg/L	0.00066	0.0235	mg/L	0.00066	2.79%
Fe 273.955†	-1287.3	-0.0594	mg/L	0.00313	-0.0594	mg/L	0.00313	5.28%
Mg 279.077†	2086.9	0.1264	mg/L	0.00557	0.1264	mg/L	0.00557	4.41%
V 292.402†	12879.0	0.0556	mg/L	0.00160	0.0556	mg/L	0.00160	2.87%
Al 308.215†	-446.3	-0.0199	mg/L	0.01772	-0.0199	mg/L	0.01772	89.13%
Be 313.107†	23375.3	0.00524	mg/L	0.000223	0.00524	mg/L	0.000223	4.26%
Cu 324.752†	37526.8	0.1330	mg/L	0.00302	0.1330	mg/L	0.00302	2.27%
Ag 338.289†	503.6	0.0035	mg/L	0.00144	0.0035	mg/L	0.00144	40.70%
Na 330.237†	9359.5	12.20	mg/L	0.312	12.20	mg/L	0.312	2.56%
Ca 227.546†	0.4	0.0049	mg/L	0.12806	0.0049	mg/L	0.12806	>999.9%
Al RADIAL†	375.1	0.2243	mg/L	0.00512	0.2243	mg/L	0.00512	2.28%
Fe RADIAL†	40.8	0.0920	mg/L	0.01116	0.0920	mg/L	0.01116	12.12%
Ca RADIAL†	4127.8	0.6846	mg/L	0.01591	0.6846	mg/L	0.01591	2.32%
K RADIAL†	105.2	0.0759	mg/L	0.07444	0.0759	mg/L	0.07444	98.06%
Mg RADIAL†	115.4	0.2814	mg/L	0.02213	0.2814	mg/L	0.02213	7.86%
Na RADIAL†	107278.2	14.27	mg/L	0.138	14.27	mg/L	0.138	0.96%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 180
Sample ID: BE30840-PS1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 322
Date Collected: 5/15/2023 7:25:42 PM
Data Type: Reprocessed on 5/16/2023 9:10:41 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BE30840-PS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16093983.4	4.108	mg/L	0.0414	4.108	mg/L	0.0414	1.01%
Y RADIAL	299300.4	4.491	mg/L	0.1192	4.491	mg/L	0.1192	2.65%
As 188.979†	2371.6	3.381	mg/L	0.0250	3.381	mg/L	0.0250	0.74%
Tl 190.801†	2592.5	3.485	mg/L	0.0084	3.485	mg/L	0.0084	0.24%
Se 196.026†	2251.1	2.928	mg/L	0.0450	2.928	mg/L	0.0450	1.54%
Zn 206.200†	16654.2	0.9598	mg/L	0.01216	0.9598	mg/L	0.01216	1.27%
Sb 206.836†	522.9	0.4136	mg/L	0.00635	0.4136	mg/L	0.00635	1.53%
Pb 220.353†	5130.0	0.8814	mg/L	0.01051	0.8814	mg/L	0.01051	1.19%
Cd 226.502†	7249.7	0.0872	mg/L	0.00112	0.0872	mg/L	0.00112	1.28%
Co 228.616†	24016.2	0.8865	mg/L	0.01940	0.8865	mg/L	0.01940	2.19%
Ni 232.003†	11103.3	0.9054	mg/L	0.01306	0.9054	mg/L	0.01306	1.44%
Ba 233.527†	199477.2	3.641	mg/L	0.1030	3.641	mg/L	0.1030	2.83%
Mn 257.610†	544341.1	0.9181	mg/L	0.02477	0.9181	mg/L	0.02477	2.70%
Cr 267.716†	40821.8	0.3376	mg/L	0.00862	0.3376	mg/L	0.00862	2.55%
Fe 273.955†	33347.9	1.538	mg/L	0.0428	1.538	mg/L	0.0428	2.78%
Mg 279.077†	29492.3	1.787	mg/L	0.0681	1.787	mg/L	0.0681	3.81%
V 292.402†	202361.7	0.8743	mg/L	0.02343	0.8743	mg/L	0.02343	2.68%
Al 308.215†	71634.4	3.191	mg/L	0.1263	3.191	mg/L	0.1263	3.96%
Be 313.107†	391953.9	0.08779	mg/L	0.001710	0.08779	mg/L	0.001710	1.95%
Cu 324.752†	172205.6	0.6106	mg/L	0.02195	0.6106	mg/L	0.02195	3.60%
Ag 338.289†	353.8	0.0024	mg/L	0.00045	0.0024	mg/L	0.00045	18.33%
Na 330.237†	11559.6	15.08	mg/L	0.993	15.08	mg/L	0.993	6.58%
Ca 227.546†	127.0	1.432	mg/L	0.0791	1.432	mg/L	0.0791	5.52%
Al RADIAL†	5672.6	3.393	mg/L	0.0894	3.393	mg/L	0.0894	2.63%
Fe RADIAL†	728.7	1.645	mg/L	0.0388	1.645	mg/L	0.0388	2.36%
Ca RADIAL†	14352.9	2.380	mg/L	0.0735	2.380	mg/L	0.0735	3.09%
K RADIAL†	2356.2	1.700	mg/L	0.1539	1.700	mg/L	0.1539	9.05%
Mg RADIAL†	771.0	1.879	mg/L	0.0566	1.879	mg/L	0.0566	3.01%
Na RADIAL†	134038.6	17.84	mg/L	0.341	17.84	mg/L	0.341	1.91%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 181
Sample ID: SEQ-SRD8
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 323
Date Collected: 5/15/2023 7:28:49 PM
Data Type: Reprocessed on 5/16/2023 9:10:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD8

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16674702.8	4.256	mg/L	0.0541	4.256	mg/L	0.0541	1.27%
Y RADIAL	300567.2	4.510	mg/L	0.0867	4.510	mg/L	0.0867	1.92%
As 188.979†	-2.5	-0.0035	mg/L	0.00725	-0.0035	mg/L	0.00725	206.60%
Tl 190.801†	-0.4	-0.0006	mg/L	0.00434	-0.0006	mg/L	0.00434	745.44%
Se 196.026†	1.6	0.0021	mg/L	0.00980	0.0021	mg/L	0.00980	470.29%
Zn 206.200†	345.9	0.0199	mg/L	0.00016	0.0199	mg/L	0.00016	0.79%
Sb 206.836†	2.8	0.0022	mg/L	0.00176	0.0022	mg/L	0.00176	80.71%
Pb 220.353†	3.2	0.0005	mg/L	0.00081	0.0005	mg/L	0.00081	149.08%
Cd 226.502†	-4.6	-0.0001	mg/L	0.00008	-0.0001	mg/L	0.00008	149.41%
Co 228.616†	-11.1	-0.0004	mg/L	0.00021	-0.0004	mg/L	0.00021	50.99%
Ni 232.003†	-49.3	-0.0040	mg/L	0.00100	-0.0040	mg/L	0.00100	24.91%
Ba 233.527†	17.6	0.0003	mg/L	0.00035	0.0003	mg/L	0.00035	108.98%
Mn 257.610†	409.4	0.0007	mg/L	0.00013	0.0007	mg/L	0.00013	18.85%
Cr 267.716†	52.9	0.0004	mg/L	0.00015	0.0004	mg/L	0.00015	33.29%
Fe 273.955†	-3323.6	-0.1533	mg/L	0.00125	-0.1533	mg/L	0.00125	0.81%
Mg 279.077†	-2476.5	-0.1500	mg/L	0.00146	-0.1500	mg/L	0.00146	0.97%
V 292.402†	11.5	0.0000	mg/L	0.00014	0.0000	mg/L	0.00014	291.04%
Al 308.215†	-5082.5	-0.2264	mg/L	0.01213	-0.2264	mg/L	0.01213	5.36%
Be 313.107†	-2020.3	-0.00045	mg/L	0.000084	-0.00045	mg/L	0.000084	18.65%
Cu 324.752†	6397.8	0.0227	mg/L	0.00132	0.0227	mg/L	0.00132	5.83%
Ag 338.289†	-548.3	-0.0038	mg/L	0.00031	-0.0038	mg/L	0.00031	8.03%
Na 330.237†	1673.1	2.181	mg/L	0.2728	2.181	mg/L	0.2728	12.50%
Ca 227.546†	-34.7	-0.3909	mg/L	0.12552	-0.3909	mg/L	0.12552	32.11%
Al RADIAL†	11.1	0.0067	mg/L	0.00660	0.0067	mg/L	0.00660	99.23%
Fe RADIAL†	0.5	0.0011	mg/L	0.00967	0.0011	mg/L	0.00967	913.75%
Ca RADIAL†	1250.8	0.2074	mg/L	0.01269	0.2074	mg/L	0.01269	6.12%
K RADIAL†	-96.9	-0.0699	mg/L	0.10837	-0.0699	mg/L	0.10837	155.04%
Mg RADIAL†	13.4	0.0326	mg/L	0.00976	0.0326	mg/L	0.00976	29.93%
Na RADIAL†	22141.6	2.946	mg/L	0.0351	2.946	mg/L	0.0351	1.19%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 182
Sample ID: SEQ-CCVG
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 7:31:57 PM
Data Type: Reprocessed on 5/16/2023 9:10:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVG

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	16062790.0	4.100	mg/L	0.0376	4.100	mg/L	0.0376	0.92%
Y RADIAL	295968.4	4.441	mg/L	0.3799	4.441	mg/L	0.3799	8.56%
As 188.979†	376.4	0.5387	mg/L	0.00912	0.5387	mg/L	0.00912	1.69%
Tl 190.801†	414.6	0.5585	mg/L	0.00498	0.5585	mg/L	0.00498	0.89%
Se 196.026†	428.1	0.5505	mg/L	0.01344	0.5505	mg/L	0.01344	2.44%
Zn 206.200†	47414.5	2.733	mg/L	0.0422	2.733	mg/L	0.0422	1.54%
Sb 206.836†	327.1	0.2578	mg/L	0.00565	0.2578	mg/L	0.00565	2.19%
Pb 220.353†	3170.8	0.5473	mg/L	0.01094	0.5473	mg/L	0.01094	2.00%
Cd 226.502†	22414.5	0.2697	mg/L	0.00534	0.2697	mg/L	0.00534	1.98%
Co 228.616†	73933.0	2.729	mg/L	0.0456	2.729	mg/L	0.0456	1.67%
Ni 232.003†	33672.7	2.746	mg/L	0.0208	2.746	mg/L	0.0208	0.76%
Ba 233.527†	618993.1	11.30	mg/L	0.115	11.30	mg/L	0.115	1.01%
Mn 257.610†	1669889.4	2.817	mg/L	0.0320	2.817	mg/L	0.0320	1.14%
Cr 267.716†	130887.0	1.083	mg/L	0.0139	1.083	mg/L	0.0139	1.28%
Fe 273.955†	116761.7	5.384	mg/L	0.0761	5.384	mg/L	0.0761	1.41%
Mg 279.077†	456218.3	27.64	mg/L	0.395	27.64	mg/L	0.395	1.43%
V 292.402†	636803.2	2.751	mg/L	0.0325	2.751	mg/L	0.0325	1.18%
Al 308.215†	251098.8	11.19	mg/L	0.153	11.19	mg/L	0.153	1.37%
Be 313.107†	1242279.8	0.27824	mg/L	0.004846	0.27824	mg/L	0.004846	1.74%
Cu 324.752†	400645.7	1.421	mg/L	0.0225	1.421	mg/L	0.0225	1.58%
Ag 338.289†	182658.9	1.280	mg/L	0.0163	1.280	mg/L	0.0163	1.27%
Na 330.237†	20127.5	26.27	mg/L	0.363	26.27	mg/L	0.363	1.38%
Ca 227.546†	2338.6	26.37	mg/L	0.354	26.37	mg/L	0.354	1.34%
Al RADIAL†	18424.7	11.02	mg/L	0.495	11.02	mg/L	0.495	4.49%
Fe RADIAL†	2424.2	5.471	mg/L	0.4864	5.471	mg/L	0.4864	8.89%
Ca RADIAL†	169082.1	28.04	mg/L	1.182	28.04	mg/L	1.182	4.21%
K RADIAL†	7918.4	5.712	mg/L	0.5280	5.712	mg/L	0.5280	9.24%
Mg RADIAL†	11205.5	27.31	mg/L	2.424	27.31	mg/L	2.424	8.87%
Na RADIAL†	215584.2	28.69	mg/L	1.377	28.69	mg/L	1.377	4.80%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 183
Sample ID: SEQ-CCBG
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 7:35:07 PM
Data Type: Reprocessed on 5/16/2023 9:10:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBG

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15873034.7	4.051	mg/L	0.1849	4.051	mg/L	0.1849	4.56%
Y RADIAL	287106.6	4.308	mg/L	0.2418	4.308	mg/L	0.2418	5.61%
As 188.979†	-1.0	-0.0014	mg/L	0.00746	-0.0014	mg/L	0.00746	547.09%
Tl 190.801†	-5.2	-0.0070	mg/L	0.00581	-0.0070	mg/L	0.00581	83.07%
Se 196.026†	-10.0	-0.0131	mg/L	0.01041	-0.0131	mg/L	0.01041	79.79%
Zn 206.200†	0.6	0.0000	mg/L	0.00044	0.0000	mg/L	0.00044	>999.9%
Sb 206.836†	23.9	0.0189	mg/L	0.00456	0.0189	mg/L	0.00456	24.17%
Pb 220.353†	-0.5	-0.0001	mg/L	0.00295	-0.0001	mg/L	0.00295	>999.9%
Cd 226.502†	0.6	0.0000	mg/L	0.00020	0.0000	mg/L	0.00020	>999.9%
Co 228.616†	-12.9	-0.0005	mg/L	0.00048	-0.0005	mg/L	0.00048	101.24%
Ni 232.003†	-95.5	-0.0078	mg/L	0.00276	-0.0078	mg/L	0.00276	35.48%
Ba 233.527†	74.9	0.0014	mg/L	0.00060	0.0014	mg/L	0.00060	44.10%
Mn 257.610†	293.7	0.0005	mg/L	0.00017	0.0005	mg/L	0.00017	34.95%
Cr 267.716†	65.7	0.0005	mg/L	0.00015	0.0005	mg/L	0.00015	27.76%
Fe 273.955†	-3342.8	-0.1541	mg/L	0.00175	-0.1541	mg/L	0.00175	1.14%
Mg 279.077†	-3229.7	-0.1957	mg/L	0.00511	-0.1957	mg/L	0.00511	2.61%
V 292.402†	55.3	0.0002	mg/L	0.00057	0.0002	mg/L	0.00057	239.16%
Al 308.215†	-5056.5	-0.2253	mg/L	0.01512	-0.2253	mg/L	0.01512	6.71%
Be 313.107†	-1877.1	-0.00042	mg/L	0.000114	-0.00042	mg/L	0.000114	27.12%
Cu 324.752†	1211.0	0.0043	mg/L	0.00125	0.0043	mg/L	0.00125	29.19%
Ag 338.289†	-270.1	-0.0019	mg/L	0.00099	-0.0019	mg/L	0.00099	52.07%
Na 330.237†	-73.1	-0.0953	mg/L	0.19830	-0.0953	mg/L	0.19830	208.18%
Ca 227.546†	-69.2	-0.7806	mg/L	0.09545	-0.7806	mg/L	0.09545	12.23%
Al RADIAL†	17.1	0.0102	mg/L	0.00687	0.0102	mg/L	0.00687	67.13%
Fe RADIAL†	2.1	0.0047	mg/L	0.00762	0.0047	mg/L	0.00762	163.60%
Ca RADIAL†	0.3	0.0000	mg/L	0.01181	0.0000	mg/L	0.01181	>999.9%
K RADIAL†	167.6	0.1209	mg/L	0.02664	0.1209	mg/L	0.02664	22.04%
Mg RADIAL†	-5.4	-0.0132	mg/L	0.00821	-0.0132	mg/L	0.00821	62.28%
Na RADIAL†	-475.4	-0.0633	mg/L	0.01904	-0.0633	mg/L	0.01904	30.10%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 184
Sample ID: SEQ-CRL3
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 5
Date Collected: 5/15/2023 7:38:15 PM
Data Type: Reprocessed on 5/16/2023 9:10:44 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CRL3

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17043629.9	4.350	mg/L	0.1311	4.350	mg/L	0.1311	3.01%
Y RADIAL	309142.4	4.638	mg/L	0.0989	4.638	mg/L	0.0989	2.13%
As 188.979†	10.6	0.0154	mg/L	0.00499	0.0154	mg/L	0.00499	32.47%
Tl 190.801†	18.0	0.0243	mg/L	0.00363	0.0243	mg/L	0.00363	14.94%
Se 196.026†	16.9	0.0214	mg/L	0.00938	0.0214	mg/L	0.00938	43.89%
Zn 206.200†	540.3	0.0312	mg/L	0.00108	0.0312	mg/L	0.00108	3.46%
Sb 206.836†	34.3	0.0272	mg/L	0.00251	0.0272	mg/L	0.00251	9.22%
Pb 220.353†	25.5	0.0047	mg/L	0.00300	0.0047	mg/L	0.00300	64.01%
Cd 226.502†	268.6	0.0032	mg/L	0.00021	0.0032	mg/L	0.00021	6.64%
Co 228.616†	130.2	0.0048	mg/L	0.00044	0.0048	mg/L	0.00044	9.09%
Ni 232.003†	86.3	0.0072	mg/L	0.00191	0.0072	mg/L	0.00191	26.70%
Ba 233.527†	1844.8	0.0337	mg/L	0.00111	0.0337	mg/L	0.00111	3.30%
Mn 257.610†	7260.2	0.0123	mg/L	0.00037	0.0123	mg/L	0.00037	3.02%
Cr 267.716†	748.9	0.0062	mg/L	0.00024	0.0062	mg/L	0.00024	3.95%
Fe 273.955†	8625.4	0.3977	mg/L	0.01763	0.3977	mg/L	0.01763	4.43%
Mg 279.077†	6094.6	0.3692	mg/L	0.01955	0.3692	mg/L	0.01955	5.30%
V 292.402†	2696.5	0.0116	mg/L	0.00028	0.0116	mg/L	0.00028	2.42%
Al 308.215†	6168.8	0.2748	mg/L	0.02505	0.2748	mg/L	0.02505	9.12%
Be 313.107†	1681.9	0.00038	mg/L	0.000074	0.00038	mg/L	0.000074	19.69%
Cu 324.752†	13041.1	0.0463	mg/L	0.00177	0.0463	mg/L	0.00177	3.82%
Ag 338.289†	941.2	0.0066	mg/L	0.00120	0.0066	mg/L	0.00120	18.19%
Na 330.237†	238.6	0.3138	mg/L	0.13357	0.3138	mg/L	0.13357	42.57%
Ca 227.546†	-0.7	-0.0078	mg/L	0.06567	-0.0078	mg/L	0.06567	840.69%
Al RADIAL†	949.1	0.5676	mg/L	0.01806	0.5676	mg/L	0.01806	3.18%
Fe RADIAL†	247.8	0.5592	mg/L	0.00979	0.5592	mg/L	0.00979	1.75%
Ca RADIAL†	3700.7	0.6137	mg/L	0.02382	0.6137	mg/L	0.02382	3.88%
K RADIAL†	629.8	0.4543	mg/L	0.06101	0.4543	mg/L	0.06101	13.43%
Mg RADIAL†	224.4	0.5471	mg/L	0.01260	0.5471	mg/L	0.01260	2.30%
Na RADIAL†	3601.9	0.4793	mg/L	0.03282	0.4793	mg/L	0.03282	6.85%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 185
Sample ID: SEQ-CRL4
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 6
Date Collected: 5/15/2023 7:41:24 PM
Data Type: Reprocessed on 5/16/2023 9:10:45 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CRL4

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17542866.4	4.478	mg/L	0.0156	4.478	mg/L	0.0156	0.35%
Y RADIAL	318825.5	4.784	mg/L	0.0974	4.784	mg/L	0.0974	2.04%
As 188.979†	4.9	0.0071	mg/L	0.00659	0.0071	mg/L	0.00659	93.34%
Tl 190.801†	8.0	0.0108	mg/L	0.00439	0.0108	mg/L	0.00439	40.50%
Se 196.026†	2.1	0.0024	mg/L	0.01383	0.0024	mg/L	0.01383	583.55%
Zn 206.200†	297.2	0.0171	mg/L	0.00057	0.0171	mg/L	0.00057	3.30%
Sb 206.836†	26.4	0.0210	mg/L	0.00376	0.0210	mg/L	0.00376	17.94%
Pb 220.353†	14.4	0.0026	mg/L	0.00089	0.0026	mg/L	0.00089	33.84%
Cd 226.502†	134.5	0.0016	mg/L	0.00008	0.0016	mg/L	0.00008	4.88%
Co 228.616†	59.6	0.0022	mg/L	0.00015	0.0022	mg/L	0.00015	6.93%
Ni 232.003†	42.6	0.0035	mg/L	0.00151	0.0035	mg/L	0.00151	42.65%
Ba 233.527†	903.5	0.0165	mg/L	0.00022	0.0165	mg/L	0.00022	1.34%
Mn 257.610†	3748.4	0.0063	mg/L	0.00005	0.0063	mg/L	0.00005	0.77%
Cr 267.716†	376.6	0.0031	mg/L	0.00011	0.0031	mg/L	0.00011	3.59%
Fe 273.955†	2573.9	0.1187	mg/L	0.00591	0.1187	mg/L	0.00591	4.98%
Mg 279.077†	1427.9	0.0865	mg/L	0.00696	0.0865	mg/L	0.00696	8.05%
V 292.402†	1274.9	0.0055	mg/L	0.00031	0.0055	mg/L	0.00031	5.67%
Al 308.215†	211.0	0.0094	mg/L	0.00260	0.0094	mg/L	0.00260	27.69%
Be 313.107†	96.9	0.00002	mg/L	0.000018	0.00002	mg/L	0.000018	80.73%
Cu 324.752†	6669.5	0.0237	mg/L	0.00087	0.0237	mg/L	0.00087	3.66%
Ag 338.289†	122.3	0.0009	mg/L	0.00099	0.0009	mg/L	0.00099	115.88%
Na 330.237†	-38.2	-0.0485	mg/L	0.10623	-0.0485	mg/L	0.10623	218.88%
Ca 227.546†	-17.5	-0.1976	mg/L	0.08741	-0.1976	mg/L	0.08741	44.23%
Al RADIAL†	464.6	0.2778	mg/L	0.00824	0.2778	mg/L	0.00824	2.97%
Fe RADIAL†	120.5	0.2719	mg/L	0.00984	0.2719	mg/L	0.00984	3.62%
Ca RADIAL†	1968.4	0.3264	mg/L	0.01660	0.3264	mg/L	0.01660	5.09%
K RADIAL†	359.5	0.2594	mg/L	0.05485	0.2594	mg/L	0.05485	21.15%
Mg RADIAL†	105.9	0.2580	mg/L	0.01081	0.2580	mg/L	0.01081	4.19%
Na RADIAL†	1599.0	0.2128	mg/L	0.10072	0.2128	mg/L	0.10072	47.34%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 186
Sample ID: SEQ-IFA2
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 7
Date Collected: 5/15/2023 7:44:33 PM
Data Type: Reprocessed on 5/16/2023 9:10:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFA2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15030748.0	3.836	mg/L	0.0701	3.836	mg/L	0.0701	1.83%
Y RADIAL	292649.8	4.391	mg/L	0.1123	4.391	mg/L	0.1123	2.56%
As 188.979†	-75.2	-0.0256	mg/L	0.01275	-0.0256	mg/L	0.01275	49.70%
Tl 190.801†	-33.8	-0.0026	mg/L	0.01028	-0.0026	mg/L	0.01028	401.32%
Se 196.026†	203.2	0.0157	mg/L	0.02400	0.0157	mg/L	0.02400	153.28%
Zn 206.200†	-185.8	-0.0005	mg/L	0.00076	-0.0005	mg/L	0.00076	148.13%
Sb 206.836†	-47.2	-0.0130	mg/L	0.01126	-0.0130	mg/L	0.01126	86.60%
Pb 220.353†	-616.3	0.0084	mg/L	0.00203	0.0084	mg/L	0.00203	24.20%
Cd 226.502†	1736.9	-0.0005	mg/L	0.00071	-0.0005	mg/L	0.00071	152.57%
Co 228.616†	-124.9	-0.0005	mg/L	0.00044	-0.0005	mg/L	0.00044	82.64%
Ni 232.003†	-517.0	0.0048	mg/L	0.01082	0.0048	mg/L	0.01082	227.37%
Ba 233.527†	254.2	0.0046	mg/L	0.00018	0.0046	mg/L	0.00018	3.88%
Mn 257.610†	-6164.3	0.0008	mg/L	0.00065	0.0008	mg/L	0.00065	79.18%
Cr 267.716†	209.2	-0.0003	mg/L	0.00028	-0.0003	mg/L	0.00028	89.41%
Fe 273.955†	4231055.8	195.1	mg/L	3.30	195.1	mg/L	3.30	1.69%
Mg 279.077†	8767130.0	531.1	mg/L	5.91	531.1	mg/L	5.91	1.11%
V 292.402†	4600.3	0.0015	mg/L	0.00222	0.0015	mg/L	0.00222	145.37%
Al 308.215†	13106656.5	583.9	mg/L	8.96	583.9	mg/L	8.96	1.53%
Be 313.107†	-2932.6	-0.00066	mg/L	0.000086	-0.00066	mg/L	0.000086	13.15%
Cu 324.752†	-4869.8	0.0011	mg/L	0.00072	0.0011	mg/L	0.00072	66.44%
Ag 338.289†	-187.0	-0.0054	mg/L	0.00215	-0.0054	mg/L	0.00215	39.95%
Na 330.237†	5.5	0.9818	mg/L	0.47563	0.9818	mg/L	0.47563	48.44%
Ca 227.546†	50594.7	570.5	mg/L	15.80	570.5	mg/L	15.80	2.77%
Al RADIAL†	921465.8	551.1	mg/L	12.62	551.1	mg/L	12.62	2.29%
Fe RADIAL†	90352.6	203.9	mg/L	2.65	203.9	mg/L	2.65	1.30%
Ca RADIAL†	3132626.3	519.5	mg/L	12.04	519.5	mg/L	12.04	2.32%
K RADIAL†	-192.3	-0.1387	mg/L	0.07738	-0.1387	mg/L	0.07738	55.78%
Mg RADIAL†	213804.8	521.2	mg/L	8.41	521.2	mg/L	8.41	1.61%
Na RADIAL†	68.5	0.0091	mg/L	0.02684	0.0091	mg/L	0.02684	294.62%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 187
Sample ID: SEQ-IFB2
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 8
Date Collected: 5/15/2023 7:47:02 PM
Data Type: Reprocessed on 5/16/2023 9:10:47 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFB2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14735232.6	3.761	mg/L	0.1463	3.761	mg/L	0.1463	3.89%
Y RADIAL	296841.4	4.454	mg/L	0.0858	4.454	mg/L	0.0858	1.93%
As 188.979†	324.0	0.5438	mg/L	0.01630	0.5438	mg/L	0.01630	3.00%
Tl 190.801†	316.7	0.4687	mg/L	0.01733	0.4687	mg/L	0.01733	3.70%
Se 196.026†	564.6	0.4846	mg/L	0.02106	0.4846	mg/L	0.02106	4.35%
Zn 206.200†	16847.9	0.9812	mg/L	0.03479	0.9812	mg/L	0.03479	3.55%
Sb 206.836†	601.4	0.5011	mg/L	0.02824	0.5011	mg/L	0.02824	5.64%
Pb 220.353†	5162.8	1.001	mg/L	0.0340	1.001	mg/L	0.0340	3.39%
Cd 226.502†	84922.5	1.003	mg/L	0.0397	1.003	mg/L	0.0397	3.96%
Co 228.616†	13296.3	0.4949	mg/L	0.01771	0.4949	mg/L	0.01771	3.58%
Ni 232.003†	12543.3	1.070	mg/L	0.0411	1.070	mg/L	0.0411	3.85%
Ba 233.527†	30876.6	0.5636	mg/L	0.01827	0.5636	mg/L	0.01827	3.24%
Mn 257.610†	319001.2	0.5493	mg/L	0.02155	0.5493	mg/L	0.02155	3.92%
Cr 267.716†	62068.8	0.5114	mg/L	0.02138	0.5114	mg/L	0.02138	4.18%
Fe 273.955†	4293398.1	198.0	mg/L	3.82	198.0	mg/L	3.82	1.93%
Mg 279.077†	8988394.3	544.5	mg/L	7.08	544.5	mg/L	7.08	1.30%
V 292.402†	130160.5	0.5440	mg/L	0.02481	0.5440	mg/L	0.02481	4.56%
Al 308.215†	13376686.6	595.9	mg/L	3.38	595.9	mg/L	3.38	0.57%
Be 313.107†	2381387.7	0.53338	mg/L	0.011380	0.53338	mg/L	0.011380	2.13%
Cu 324.752†	163559.9	0.5983	mg/L	0.02683	0.5983	mg/L	0.02683	4.48%
Ag 338.289†	165554.5	1.156	mg/L	0.0506	1.156	mg/L	0.0506	4.37%
Na 330.237†	184.5	1.221	mg/L	0.3053	1.221	mg/L	0.3053	25.01%
Ca 227.546†	52214.5	588.7	mg/L	26.24	588.7	mg/L	26.24	4.46%
Al RADIAL†	892515.1	533.8	mg/L	17.76	533.8	mg/L	17.76	3.33%
Fe RADIAL†	90866.6	205.1	mg/L	2.03	205.1	mg/L	2.03	0.99%
Ca RADIAL†	3060076.7	507.5	mg/L	15.93	507.5	mg/L	15.93	3.14%
K RADIAL†	-246.1	-0.1775	mg/L	0.11893	-0.1775	mg/L	0.11893	66.99%
Mg RADIAL†	214624.6	523.2	mg/L	3.86	523.2	mg/L	3.86	0.74%
Na RADIAL†	373.5	0.0497	mg/L	0.04089	0.0497	mg/L	0.04089	82.28%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 188
Sample ID: SEQ-HCV1
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 405
Date Collected: 5/15/2023 7:49:30 PM
Data Type: Reprocessed on 5/16/2023 9:10:48 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-HCV1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	10392679.3	2.653	mg/L	0.0215	2.653	mg/L	0.0215	0.81%
Y RADIAL	236056.3	3.542	mg/L	0.0689	3.542	mg/L	0.0689	1.95%
As 188.979†	241863.7	345.2	mg/L	7.31	345.2	mg/L	7.31	2.12%
Tl 190.801†	92649.0	124.8	mg/L	2.13	124.8	mg/L	2.13	1.71%
Se 196.026†	240148.3	311.1	mg/L	7.47	311.1	mg/L	7.47	2.40%
Zn 206.200†	1269127.2	73.20	mg/L	1.350	73.20	mg/L	1.350	1.84%
Sb 206.836†	195010.3	154.3	mg/L	3.63	154.3	mg/L	3.63	2.35%
Pb 220.353†	928641.2	160.1	mg/L	3.05	160.1	mg/L	3.05	1.91%
Cd 226.502†	6286098.9	75.68	mg/L	0.915	75.68	mg/L	0.915	1.21%
Co 228.616†	3594491.9	132.7	mg/L	1.39	132.7	mg/L	1.39	1.05%
Ni 232.003†	2356395.0	192.3	mg/L	3.03	192.3	mg/L	3.03	1.58%
Ba 233.527†	7239314.8	132.1	mg/L	1.52	132.1	mg/L	1.52	1.15%
Mn 257.610†	45405623.8	76.64	mg/L	0.565	76.64	mg/L	0.565	0.74%
Cr 267.716†	7191504.7	59.47	mg/L	0.650	59.47	mg/L	0.650	1.09%
Fe 273.955†	21686864.2	1000.0	mg/L	7.86	1000.0	mg/L	7.86	0.79%
Mg 279.077†	49362935.9	2991	mg/L	26.93	2991	mg/L	26.93	0.90%
V 292.402†	36734313.9	158.6	mg/L	0.81	158.6	mg/L	0.81	0.51%
Al 308.215†	78394905.9	3492	mg/L	17.47	3492	mg/L	17.47	0.50%
Be 313.107†	70146144.1	15.711	mg/L	0.0929	15.711	mg/L	0.0929	0.59%
Cu 324.752†	30389939.4	107.8	mg/L	0.59	107.8	mg/L	0.59	0.55%
Ag 338.289†	14939582.3	104.7	mg/L	0.46	104.7	mg/L	0.46	0.44%
Na 330.237†	2370071.3	3096	mg/L	61.92	3096	mg/L	61.92	2.00%
Ca 227.546†	417316.2	4705	mg/L	140.75	4705	mg/L	140.75	2.99%
Al RADIAL†	6253705.7	3740	mg/L	85.35	3740	mg/L	85.35	2.28%
Fe RADIAL†	528274.1	1192	mg/L	6.66	1192	mg/L	6.66	0.56%
Ca RADIAL†	17444689.8	2893	mg/L	71.47	2893	mg/L	71.47	2.47%
K RADIAL†	564378.2	407.1	mg/L	4.14	407.1	mg/L	4.14	1.02%
Mg RADIAL†	1283233.4	3128	mg/L	22.81	3128	mg/L	22.81	0.73%
Na RADIAL†	13954302.6	1857	mg/L	47.57	1857	mg/L	47.57	2.56%

Method Loaded
Method Name: TAL METH_092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 189
Sample ID: RINSE
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 401
Date Collected: 5/15/2023 7:51:19 PM
Data Type: Reprocessed on 5/16/2023 9:10:49 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: RINSE

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	29060289.0	7.417	mg/L	1.8259	7.417	mg/L	1.8259	24.62%
Y RADIAL	7536.3	0.113	mg/L	0.0438	0.113	mg/L	0.0438	38.77%
Saturated within auto integration window (code 4)								
As 188.979†	2771.8	3.955	mg/L	2.4303	3.955	mg/L	2.4303	61.45%
Saturated within auto integration window (code 4)								
Tl 190.801†	1451.7	1.954	mg/L	1.3441	1.954	mg/L	1.3441	68.80%
Se 196.026†	2490.2	3.228	mg/L	2.2335	3.228	mg/L	2.2335	69.20%
Zn 206.200†	7036.9	0.4061	mg/L	0.12471	0.4061	mg/L	0.12471	30.71%
Saturated within auto integration window (code 4)								
Sb 206.836†	1706.0	1.347	mg/L	0.8973	1.347	mg/L	0.8973	66.63%
Pb 220.353†	6187.1	1.068	mg/L	0.3365	1.068	mg/L	0.3365	31.51%
Saturated within auto integration window (code 4)								
Cd 226.502†	95118.4	1.146	mg/L	0.9763	1.146	mg/L	0.9763	85.20%
Co 228.616†	53134.2	1.962	mg/L	1.6501	1.962	mg/L	1.6501	84.12%
Ni 232.003†	6201.1	0.5080	mg/L	0.21983	0.5080	mg/L	0.21983	43.28%
Saturated within auto integration window (code 4)								
Ba 233.527†	113972.8	2.080	mg/L	1.6985	2.080	mg/L	1.6985	81.65%
Mn 257.610†	354887.6	0.5991	mg/L	0.30154	0.5991	mg/L	0.30154	50.33%
Saturated within auto integration window (code 4)								
Cr 267.716†	103429.2	0.8554	mg/L	0.70713	0.8554	mg/L	0.70713	82.66%
Fe 273.955†	257407.9	11.87	mg/L	6.740	11.87	mg/L	6.740	56.79%
Saturated within auto integration window (code 4)								
Mg 279.077†	315243.8	19.10	mg/L	10.031	19.10	mg/L	10.031	52.52%
Saturated within auto integration window (code 4)								
V 292.402†	311756.6	1.346	mg/L	0.7326	1.346	mg/L	0.7326	54.42%
Saturated within auto integration window (code 4)								
Al 308.215†	375298.8	16.72	mg/L	8.010	16.72	mg/L	8.010	47.91%
Saturated within auto integration window (code 4)								
Be 313.107†	362311.8	0.08115	mg/L	0.040150	0.08115	mg/L	0.040150	49.48%
Saturated within auto integration window (code 4)								
Cu 324.752†	237822.7	0.8441	mg/L	0.47299	0.8441	mg/L	0.47299	56.04%
Saturated within auto integration window (code 4)								
Ag 338.289†	116274.8	0.8148	mg/L	0.67879	0.8148	mg/L	0.67879	83.31%
Saturated within auto integration window (code 4)								
Na 330.237†	16369.6	21.39	mg/L	22.735	21.39	mg/L	22.735	106.26%
Ca 227.546†	2572.3	29.00	mg/L	11.634	29.00	mg/L	11.634	40.11%
Saturated within auto integration window (code 4)								
Al RADIAL†	36364.4	21.75	mg/L	23.703	21.75	mg/L	23.703	108.99%
Saturated within auto integration window (code 4)								
Fe RADIAL†	4855.3	10.96	mg/L	9.822	10.96	mg/L	9.822	89.63%
Ca RADIAL†	357026.2	59.21	mg/L	29.541	59.21	mg/L	29.541	49.89%
Saturated within auto integration window (code 4)								
K RADIAL†	17737.5	12.80	mg/L	6.867	12.80	mg/L	6.867	53.67%
Mg RADIAL†	2749.9	6.703	mg/L	24.0026	6.703	mg/L	24.0026	358.07%
Na RADIAL†	113791.3	15.14	mg/L	5.014	15.14	mg/L	5.014	33.12%

Batch ID: 051523A
Sequence No.: 190
Sample ID: RINSE
Analyst: CW

Autosampler Location: 401
Date Collected: 5/15/2023 7:55:06 PM
Data Type: Reprocessed on 5/16/2023 9:10:50 AM

Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Initial Sample Vol:
Sample Prep Vol:

Mean Data: RINSE

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	38171025.7	9.743	mg/L	0.6301	9.743	mg/L	0.6301	6.47%
Y RADIAL	576512.3	8.650	mg/L	1.5870	8.650	mg/L	1.5870	18.35%
Saturated within auto integration window (code 4)								
As 188.979†	390.5	0.5566	mg/L	0.52929	0.5566	mg/L	0.52929	95.09%
Tl 190.801†	193.0	0.2595	mg/L	0.26159	0.2595	mg/L	0.26159	100.81%
Se 196.026†	317.4	0.4131	mg/L	0.42378	0.4131	mg/L	0.42378	102.58%
Zn 206.200†	2413.5	0.1391	mg/L	0.10953	0.1391	mg/L	0.10953	78.75%
Sb 206.836†	258.6	0.2044	mg/L	0.14492	0.2044	mg/L	0.14492	70.91%
Pb 220.353†	1903.9	0.3268	mg/L	0.30360	0.3268	mg/L	0.30360	92.90%
Cd 226.502†	5290.3	0.0638	mg/L	0.01978	0.0638	mg/L	0.01978	31.00%
Saturated within auto integration window (code 4)								
Co 228.616†	4652.0	0.1717	mg/L	0.08217	0.1717	mg/L	0.08217	47.85%
Saturated within auto integration window (code 4)								
Ni 232.003†	2931.7	0.2390	mg/L	0.13683	0.2390	mg/L	0.13683	57.26%
Saturated within auto integration window (code 4)								
Ba 233.527†	5906.6	0.1078	mg/L	0.03274	0.1078	mg/L	0.03274	30.37%
Saturated within auto integration window (code 4)								
Mn 257.610†	4981.5	0.0084	mg/L	0.00149	0.0084	mg/L	0.00149	17.73%
Saturated within auto integration window (code 4)								
Cr 267.716†	3561.7	0.0295	mg/L	0.00496	0.0295	mg/L	0.00496	16.85%
Saturated within auto integration window (code 4)								
Fe 273.955†	2422.6	0.1117	mg/L	0.02621	0.1117	mg/L	0.02621	23.47%
Saturated within auto integration window (code 4)								
Mg 279.077†	65779.8	3.985	mg/L	7.2718	3.985	mg/L	7.2718	182.48%
V 292.402†	56351.6	0.2435	mg/L	0.42917	0.2435	mg/L	0.42917	176.26%
Al 308.215†	77725.6	3.463	mg/L	6.6580	3.463	mg/L	6.6580	192.29%
Saturated within auto integration window (code 4)								
Be 313.107†	91855.1	0.02057	mg/L	0.033200	0.02057	mg/L	0.033200	161.37%
Saturated within auto integration window (code 4)								
Cu 324.752†	34586.8	0.1226	mg/L	0.22434	0.1226	mg/L	0.22434	182.96%
Ag 338.289†	12095.3	0.0848	mg/L	0.15484	0.0848	mg/L	0.15484	182.63%
Na 330.237†	981.6	1.280	mg/L	3.2138	1.280	mg/L	3.2138	251.11%
Ca 227.546†	610.8	6.887	mg/L	5.8673	6.887	mg/L	5.8673	85.19%
Al RADIAL†	-0.3	-0.0002	mg/L	0.01520	-0.0002	mg/L	0.01520	>999.9%
Fe RADIAL†	8.1	0.0184	mg/L	0.02347	0.0184	mg/L	0.02347	127.76%
Ca RADIAL†	1219.6	0.2023	mg/L	0.01650	0.2023	mg/L	0.01650	8.16%
Saturated within auto integration window (code 4)								
K RADIAL†	-180.8	-0.1304	mg/L	0.07485	-0.1304	mg/L	0.07485	57.40%
Mg RADIAL†	41.0	0.1000	mg/L	0.01176	0.1000	mg/L	0.01176	11.76%
Na RADIAL†	-1939.5	-0.2581	mg/L	0.01047	-0.2581	mg/L	0.01047	4.06%

Batch ID: 051523A
Sequence No.: 191
Sample ID: RINSE
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 401
Date Collected: 5/15/2023 7:58:22 PM
Data Type: Reprocessed on 5/16/2023 9:10:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: RINSE

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	37826940.0	9.655	mg/L	1.0599	9.655	mg/L	1.0599	10.98%
Y RADIAL	579291.0	8.692	mg/L	1.5021	8.692	mg/L	1.5021	17.28%
Saturated within auto integration window (code 4)								
As 188.979†	227.9	0.3248	mg/L	0.28457	0.3248	mg/L	0.28457	87.61%
Tl 190.801†	114.5	0.1539	mg/L	0.13472	0.1539	mg/L	0.13472	87.52%
Se 196.026†	182.4	0.2374	mg/L	0.22662	0.2374	mg/L	0.22662	95.47%
Zn 206.200†	1647.3	0.0949	mg/L	0.08404	0.0949	mg/L	0.08404	88.53%
Sb 206.836†	166.9	0.1318	mg/L	0.07850	0.1318	mg/L	0.07850	59.54%

Pb 220.353†	1141.6	0.1959 mg/L	0.17029	0.1959 mg/L	0.17029	86.91%
Cd 226.502†	4362.7	0.0526 mg/L	0.02941	0.0526 mg/L	0.02941	55.91%
Saturated within auto integration window (code 4)						
Co 228.616†	3581.3	0.1322 mg/L	0.08663	0.1322 mg/L	0.08663	65.53%
Saturated within auto integration window (code 4)						
Ni 232.003†	2189.7	0.1785 mg/L	0.12636	0.1785 mg/L	0.12636	70.80%
Saturated within auto integration window (code 4)						
Ba 233.527†	4950.6	0.0904 mg/L	0.04798	0.0904 mg/L	0.04798	53.10%
Saturated within auto integration window (code 4)						
Mn 257.610†	14087.8	0.0238 mg/L	0.01153	0.0238 mg/L	0.01153	48.54%
Cr 267.716†	3186.0	0.0264 mg/L	0.01294	0.0264 mg/L	0.01294	49.08%
Saturated within auto integration window (code 4)						
Fe 273.955†	3624.6	0.1671 mg/L	0.14920	0.1671 mg/L	0.14920	89.27%
Mg 279.077†	9035.1	0.5474 mg/L	0.32844	0.5474 mg/L	0.32844	60.00%
V 292.402†	9140.9	0.0395 mg/L	0.01943	0.0395 mg/L	0.01943	49.19%
Al 308.215†	7310.0	0.3256 mg/L	0.35172	0.3256 mg/L	0.35172	108.01%
Be 313.107†	22162.0	0.00496 mg/L	0.001859	0.00496 mg/L	0.001859	37.46%
Cu 324.752†	4544.1	0.0161 mg/L	0.00953	0.0161 mg/L	0.00953	59.13%
Ag 338.289†	1666.8	0.0117 mg/L	0.00708	0.0117 mg/L	0.00708	60.63%
Na 330.237†	-215.6	-0.2811 mg/L	0.19271	-0.2811 mg/L	0.19271	68.56%
Ca 227.546†	377.4	4.256 mg/L	2.9691	4.256 mg/L	2.9691	69.76%
Al RADIAL†	-17.8	-0.0106 mg/L	0.01399	-0.0106 mg/L	0.01399	131.45%
Fe RADIAL†	1.1	0.0026 mg/L	0.01257	0.0026 mg/L	0.01257	491.58%
Ca RADIAL†	1211.3	0.2009 mg/L	0.01820	0.2009 mg/L	0.01820	9.06%
Saturated within auto integration window (code 4)						
K RADIAL†	-190.9	-0.1377 mg/L	0.04362	-0.1377 mg/L	0.04362	31.68%
Mg RADIAL†	36.9	0.0899 mg/L	0.00227	0.0899 mg/L	0.00227	2.52%
Na RADIAL†	-2087.0	-0.2777 mg/L	0.00914	-0.2777 mg/L	0.00914	3.29%

Batch ID: 051523A
Sequence No.: 192
Sample ID: RINSE
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 401
Date Collected: 5/15/2023 8:01:29 PM
Data Type: Reprocessed on 5/16/2023 9:10:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: RINSE

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	38853683.4	9.917	mg/L	1.5045	9.917	mg/L	1.5045	15.17%
Y RADIAL	587430.8	8.814	mg/L	1.4367	8.814	mg/L	1.4367	16.30%
Saturated within auto integration window (code 4)								
As 188.979†	152.1	0.2168	mg/L	0.16435	0.2168	mg/L	0.16435	75.80%
Tl 190.801†	75.9	0.1020	mg/L	0.08008	0.1020	mg/L	0.08008	78.54%
Se 196.026†	115.6	0.1505	mg/L	0.13952	0.1505	mg/L	0.13952	92.73%
Zn 206.200†	1088.8	0.0627	mg/L	0.05078	0.0627	mg/L	0.05078	80.93%
Sb 206.836†	115.2	0.0910	mg/L	0.04911	0.0910	mg/L	0.04911	53.96%
Pb 220.353†	761.8	0.1307	mg/L	0.10373	0.1307	mg/L	0.10373	79.34%
Cd 226.502†	3742.8	0.0451	mg/L	0.02830	0.0451	mg/L	0.02830	62.71%
Saturated within auto integration window (code 4)								
Co 228.616†	2866.2	0.1058	mg/L	0.08204	0.1058	mg/L	0.08204	77.55%
Saturated within auto integration window (code 4)								
Ni 232.003†	1626.0	0.1325	mg/L	0.08746	0.1325	mg/L	0.08746	65.99%
Ba 233.527†	4190.0	0.0765	mg/L	0.04453	0.0765	mg/L	0.04453	58.23%
Saturated within auto integration window (code 4)								
Mn 257.610†	5173.8	0.0087	mg/L	0.00187	0.0087	mg/L	0.00187	21.49%
Saturated within auto integration window (code 4)								
Cr 267.716†	2671.0	0.0221	mg/L	0.01261	0.0221	mg/L	0.01261	57.09%
Saturated within auto integration window (code 4)								
Fe 273.955†	1712.0	0.0789	mg/L	0.08576	0.0789	mg/L	0.08576	108.63%
Saturated within auto integration window (code 4)								
Mg 279.077†	14668.8	0.8887	mg/L	1.51246	0.8887	mg/L	1.51246	170.19%
V 292.402†	12823.5	0.0554	mg/L	0.07831	0.0554	mg/L	0.07831	141.32%
Al 308.215†	14429.1	0.6428	mg/L	1.51420	0.6428	mg/L	1.51420	235.57%
Be 313.107†	29299.0	0.00656	mg/L	0.007714	0.00656	mg/L	0.007714	117.55%
Cu 324.752†	6690.6	0.0237	mg/L	0.04007	0.0237	mg/L	0.04007	168.95%
Ag 338.289†	2986.4	0.0209	mg/L	0.03606	0.0209	mg/L	0.03606	172.24%
Na 330.237†	-23.5	-0.0307	mg/L	0.56018	-0.0307	mg/L	0.56018	>999.9%

Ca 227.546†	273.0	3.078	mg/L	1.7070	3.078	mg/L	1.7070 55.45%
Al RADIAL†	-23.4	-0.0140	mg/L	0.01166	-0.0140	mg/L	0.01166 83.45%
Fe RADIAL†	-0.6	-0.0014	mg/L	0.01713	-0.0014	mg/L	0.01713 >999.9%
Ca RADIAL†	1176.4	0.1951	mg/L	0.01597	0.1951	mg/L	0.01597 8.18%
Saturated within auto integration window (code 4)							
K RADIAL†	-181.6	-0.1310	mg/L	0.02059	-0.1310	mg/L	0.02059 15.71%
Mg RADIAL†	36.4	0.0887	mg/L	0.00497	0.0887	mg/L	0.00497 5.60%
Na RADIAL†	-1905.2	-0.2535	mg/L	0.01572	-0.2535	mg/L	0.01572 6.20%

Batch ID: 051523A
Sequence No.: 193
Sample ID: RINSE
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 401
Date Collected: 5/15/2023 8:04:36 PM
Data Type: Reprocessed on 5/16/2023 9:10:53 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: RINSE

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	38075873.7	9.718	mg/L	0.9828	9.718	mg/L	0.9828	10.11%
Y RADIAL	593719.5	8.908	mg/L	1.3514	8.908	mg/L	1.3514	15.17%
Saturated within auto integration window (code 4)								
As 188.979†	62.4	0.0889	mg/L	0.05169	0.0889	mg/L	0.05169	58.12%
Tl 190.801†	29.3	0.0394	mg/L	0.02587	0.0394	mg/L	0.02587	65.61%
Se 196.026†	37.5	0.0488	mg/L	0.04511	0.0488	mg/L	0.04511	92.35%
Zn 206.200†	401.0	0.0231	mg/L	0.01627	0.0231	mg/L	0.01627	70.41%
Sb 206.836†	58.9	0.0465	mg/L	0.02144	0.0465	mg/L	0.02144	46.07%
Pb 220.353†	292.4	0.0502	mg/L	0.03368	0.0502	mg/L	0.03368	67.11%
Cd 226.502†	1869.7	0.0225	mg/L	0.01720	0.0225	mg/L	0.01720	76.28%
Co 228.616†	1085.5	0.0401	mg/L	0.02935	0.0401	mg/L	0.02935	73.26%
Ni 232.003†	784.9	0.0640	mg/L	0.02813	0.0640	mg/L	0.02813	43.97%
Ba 233.527†	2217.9	0.0405	mg/L	0.02949	0.0405	mg/L	0.02949	72.84%
Mn 257.610†	4391.7	0.0074	mg/L	0.00318	0.0074	mg/L	0.00318	42.95%
Saturated within auto integration window (code 4)								
Cr 267.716†	1638.1	0.0136	mg/L	0.00930	0.0136	mg/L	0.00930	68.66%
Saturated within auto integration window (code 4)								
Fe 273.955†	451.7	0.0208	mg/L	0.09121	0.0208	mg/L	0.09121	437.96%
Saturated within auto integration window (code 4)								
Mg 279.077†	6935.6	0.4202	mg/L	0.94560	0.4202	mg/L	0.94560	225.05%
V 292.402†	7179.2	0.0310	mg/L	0.04984	0.0310	mg/L	0.04984	160.67%
Al 308.215†	4135.4	0.1842	mg/L	0.97852	0.1842	mg/L	0.97852	531.16%
Be 313.107†	18438.2	0.00413	mg/L	0.004823	0.00413	mg/L	0.004823	116.79%
Cu 324.752†	2990.1	0.0106	mg/L	0.02512	0.0106	mg/L	0.02512	236.95%
Ag 338.289†	1109.9	0.0078	mg/L	0.01752	0.0078	mg/L	0.01752	225.23%
Na 330.237†	-235.7	-0.3073	mg/L	0.41440	-0.3073	mg/L	0.41440	134.86%
Ca 227.546†	150.3	1.695	mg/L	0.5118	1.695	mg/L	0.5118	30.19%
Al RADIAL†	-28.4	-0.0170	mg/L	0.01182	-0.0170	mg/L	0.01182	69.51%
Fe RADIAL†	-2.2	-0.0049	mg/L	0.00720	-0.0049	mg/L	0.00720	147.61%
Ca RADIAL†	1123.9	0.1864	mg/L	0.01736	0.1864	mg/L	0.01736	9.31%
Saturated within auto integration window (code 4)								
K RADIAL†	-258.3	-0.1863	mg/L	0.06845	-0.1863	mg/L	0.06845	36.74%
Mg RADIAL†	36.8	0.0896	mg/L	0.01191	0.0896	mg/L	0.01191	13.29%
Na RADIAL†	-2018.7	-0.2686	mg/L	0.01211	-0.2686	mg/L	0.01211	4.51%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 194
Sample ID: SEQ-CCVH
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 10
Date Collected: 5/15/2023 8:07:44 PM
Data Type: Reprocessed on 5/16/2023 9:10:54 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCVH

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17096766.0	4.364	mg/L	0.0605	4.364	mg/L	0.0605	1.39%
Y RADIAL	315849.0	4.739	mg/L	0.2488	4.739	mg/L	0.2488	5.25%
As 188.979†	385.2	0.5512	mg/L	0.01134	0.5512	mg/L	0.01134	2.06%
Tl 190.801†	413.7	0.5572	mg/L	0.01428	0.5572	mg/L	0.01428	2.56%
Se 196.026†	441.7	0.5680	mg/L	0.02240	0.5680	mg/L	0.02240	3.94%
Zn 206.200†	47888.7	2.760	mg/L	0.0293	2.760	mg/L	0.0293	1.06%
Sb 206.836†	379.3	0.2991	mg/L	0.01058	0.2991	mg/L	0.01058	3.54%
Pb 220.353†	3238.8	0.5590	mg/L	0.00627	0.5590	mg/L	0.00627	1.12%
Cd 226.502†	22698.0	0.2731	mg/L	0.00439	0.2731	mg/L	0.00439	1.61%
Co 228.616†	73704.6	2.721	mg/L	0.0316	2.721	mg/L	0.0316	1.16%
Ni 232.003†	33499.6	2.732	mg/L	0.0276	2.732	mg/L	0.0276	1.01%
Ba 233.527†	615365.1	11.23	mg/L	0.333	11.23	mg/L	0.333	2.97%
Mn 257.610†	1661901.2	2.803	mg/L	0.0879	2.803	mg/L	0.0879	3.14%
Cr 267.716†	130686.4	1.081	mg/L	0.0108	1.081	mg/L	0.0108	1.00%
Fe 273.955†	117074.7	5.398	mg/L	0.0608	5.398	mg/L	0.0608	1.13%
Mg 279.077†	458423.6	27.77	mg/L	0.841	27.77	mg/L	0.841	3.03%
V 292.402†	632440.1	2.732	mg/L	0.0815	2.732	mg/L	0.0815	2.98%
Al 308.215†	243827.5	10.86	mg/L	0.496	10.86	mg/L	0.496	4.57%
Be 313.107†	1240184.4	0.27778	mg/L	0.007205	0.27778	mg/L	0.007205	2.59%
Cu 324.752†	394772.7	1.400	mg/L	0.0649	1.400	mg/L	0.0649	4.64%
Ag 338.289†	177549.1	1.244	mg/L	0.0459	1.244	mg/L	0.0459	3.69%
Na 330.237†	19591.3	25.57	mg/L	0.427	25.57	mg/L	0.427	1.67%
Ca 227.546†	2306.6	26.01	mg/L	0.514	26.01	mg/L	0.514	1.97%
Al RADIAL†	18333.1	10.96	mg/L	0.525	10.96	mg/L	0.525	4.79%
Fe RADIAL†	2463.0	5.559	mg/L	0.2966	5.559	mg/L	0.2966	5.34%
Ca RADIAL†	169927.5	28.18	mg/L	1.254	28.18	mg/L	1.254	4.45%
K RADIAL†	7939.2	5.727	mg/L	0.3163	5.727	mg/L	0.3163	5.52%
Mg RADIAL†	11441.9	27.89	mg/L	1.497	27.89	mg/L	1.497	5.37%
Na RADIAL†	212779.4	28.31	mg/L	1.236	28.31	mg/L	1.236	4.37%

Method Loaded
Method Name: TAL METH 092222FAS
IEC File: IEC 010521A.iec
Method Description: TAL METALS

Method Last Saved: 2/13/2023 8:32:56 AM
MSF File:

Batch ID: 051523A
Sequence No.: 195
Sample ID: SEQ-CCBH
Analyst: CW
Originator (Original): 7300
Initial Sample Wt:
Dilution:
Wash Time (before sample): 25

Autosampler Location: 1
Date Collected: 5/15/2023 8:10:52 PM
Data Type: Reprocessed on 5/16/2023 9:10:55 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCBH

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	17608207.1	4.494	mg/L	0.1187	4.494	mg/L	0.1187	2.64%
Y RADIAL	313500.6	4.704	mg/L	0.0810	4.704	mg/L	0.0810	1.72%
As 188.979†	3.6	0.0051	mg/L	0.00756	0.0051	mg/L	0.00756	147.17%
Tl 190.801†	-4.1	-0.0056	mg/L	0.00650	-0.0056	mg/L	0.00650	116.49%
Se 196.026†	0.2	0.0002	mg/L	0.00806	0.0002	mg/L	0.00806	>999.9%
Zn 206.200†	8.2	0.0005	mg/L	0.00034	0.0005	mg/L	0.00034	71.16%
Sb 206.836†	27.6	0.0218	mg/L	0.00672	0.0218	mg/L	0.00672	30.78%
Pb 220.353†	10.5	0.0018	mg/L	0.00162	0.0018	mg/L	0.00162	89.95%
Cd 226.502†	30.6	0.0004	mg/L	0.00018	0.0004	mg/L	0.00018	47.89%
Co 228.616†	-1.4	-0.0001	mg/L	0.00012	-0.0001	mg/L	0.00012	223.91%
Ni 232.003†	-32.7	-0.0027	mg/L	0.00132	-0.0027	mg/L	0.00132	49.56%
Ba 233.527†	87.6	0.0016	mg/L	0.00038	0.0016	mg/L	0.00038	23.52%
Mn 257.610†	303.3	0.0005	mg/L	0.00014	0.0005	mg/L	0.00014	27.08%
Cr 267.716†	77.6	0.0006	mg/L	0.00023	0.0006	mg/L	0.00023	36.10%
Fe 273.955†	-3366.4	-0.1552	mg/L	0.00069	-0.1552	mg/L	0.00069	0.45%
Mg 279.077†	-3190.3	-0.1933	mg/L	0.00443	-0.1933	mg/L	0.00443	2.29%
V 292.402†	102.2	0.0004	mg/L	0.00055	0.0004	mg/L	0.00055	124.16%
Al 308.215†	-5490.2	-0.2446	mg/L	0.00564	-0.2446	mg/L	0.00564	2.31%
Be 313.107†	-1212.9	-0.00027	mg/L	0.000093	-0.00027	mg/L	0.000093	34.32%
Cu 324.752†	5457.9	0.0193	mg/L	0.00168	0.0193	mg/L	0.00168	8.70%
Ag 338.289†	48.4	0.0003	mg/L	0.00153	0.0003	mg/L	0.00153	449.48%
Na 330.237†	-51.7	-0.0674	mg/L	0.06419	-0.0674	mg/L	0.06419	95.25%
Ca 227.546†	-49.7	-0.5602	mg/L	0.07581	-0.5602	mg/L	0.07581	13.53%
Al RADIAL†	24.9	0.0149	mg/L	0.01027	0.0149	mg/L	0.01027	68.83%
Fe RADIAL†	-3.8	-0.0086	mg/L	0.00813	-0.0086	mg/L	0.00813	94.54%
Ca RADIAL†	-24.5	-0.0041	mg/L	0.00576	-0.0041	mg/L	0.00576	141.70%
K RADIAL†	-55.6	-0.0401	mg/L	0.10890	-0.0401	mg/L	0.10890	271.30%
Mg RADIAL†	-3.5	-0.0087	mg/L	0.00700	-0.0087	mg/L	0.00700	80.92%
Na RADIAL†	-908.6	-0.1209	mg/L	0.00897	-0.1209	mg/L	0.00897	7.42%

BENCHSHEETS

SDG: 23E0419

CLASS: METALS

METHOD: EPA 6010D

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30803

Preparation Date: 05/11/2023 15:46

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:20:35AM**

Matrix: Soil **Preparation: EPA 3050B** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0375-07 E	Metals, Suffolk Co. App. B	0.6	50				
23E0383-03 E	Metals, Target Analyte	0.6	50				
23E0383-04 E	Metals, Target Analyte	0.6	50				
23E0390-01 B	Metals, Suffolk Co. App. B	0.6	50				
23E0390-02 B	Metals, Suffolk Co. App. B	0.6	50				
23E0390-03 B	Metals, Suffolk Co. App. B	0.6	50				
23E0390-04 B	Metals, Suffolk Co. App. B	0.6	50				
23E0390-05 B	Metals, Suffolk Co. App. B	0.6	50				
23E0390-06 B	Metals, Suffolk Co. App. B	0.6	50				
23E0419-11 A	Metals, Target Analyte	0.6	50				
23E0419-12 A	Metals, Target Analyte	0.6	50				
23E0428-01 D	Metals, Target Analyte	0.6	50				
23E0428-02 D	Metals, Target Analyte	0.6	50				
23E0428-03 D	Metals, Target Analyte	0.6	50				
23E0430-01 A	Metals, Target Analyte	0.6	50				
23E0430-02 A	Metals, Target Analyte	0.6	50				
23E0433-01 E	Metals, Priority Pollutant	0.6	50				Added for BatchQC in: BE3(
23E0433-01 E	Metals, Suffolk Co. App. B	0.6	50				Added for BatchQC in: BE3(
23E0433-01 E	Metals, Target Analyte	0.6	50				
23E0433-02 E	Metals, Target Analyte	0.6	50				
23E0433-03 E	Metals, Target Analyte	0.6	50				
BE30803-BLK1	QC	0.6	50				
BE30803-DUP1	QC	0.6	50		23E0433-01		
BE30803-MS1	QC	0.6	50	S23E042	23E0433-01	500	
BE30803-PS1	QC	0.12	10	S23C553	23E0433-01	100	[Spk] 0.6g->50mL; 50mL->5
BE30803-SRM1	QC	0.6	50	S23B128		600	

Reagents:

ID Number	Description	Lot Number
Y21I032	Hydrochloric Acid, ACS Grade 3	230222
Y22D122	Nitric Acid, ACS Grade 68-70%	330127

ID Number	Description	Lot Number
Y21I092	Hydrogen Peroxide, ACS grade	820803

Preparations Performed by **KMQ** **Date:** **05/11/2023 15:46**

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: HG

METHOD: EPA 7473

DATA PACKAGE COVER PAGE

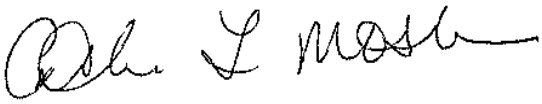
EPA 7473

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-11 File ID: QBHg-DMA80-02 051123a-023

Sampled: 05/05/23 13:00 Prepared: 05/11/23 13:56 Analyzed: 05/11/23 19:19

Solids: 90.64 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BE30780 Sequence: S3E1166 Calibration: 05/11/23 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.0331	1	U	EPA 7473

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-12 File ID: QBHg-DMA80-02 051123a-024

Sampled: 05/05/23 13:15 Prepared: 05/11/23 13:56 Analyzed: 05/11/23 19:28

Solids: 91.31 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BE30780 Sequence: S3E1166 Calibration: 05/11/23 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.0329	1	U	EPA 7473

FORM I

METHOD BLANK DATA SHEET

EPA 7473

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30780-BLK1	File ID:	QBHg-DMA80-02 051123a-003
Prepared:	05/11/23 13:56	Preparation:	EPA 7473 soil	Initial/Final:	0.2 g / 0.2 g
Analyzed:	05/11/23 15:17	Instrument:	DMA 80-02		
Batch:	BE30780	Sequence:	S3E1166	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
7439-97-6	Mercury	0.0300	U

STANDARD REFERENCE MATERIAL RECOVERY

EPA 7473

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Soil
Batch: BE30780
Laboratory ID: BE30780-SRM1
Preparation: EPA 7473 soil
Initial/Final: 0.2 g / 0.2 g

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Mercury	27.2	34.144	126	59.9 - 140.1

* Values outside of QC limits

METHOD DETECTION AND REPORTING LIMITS

EPA 7473

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:** DMA 80-02

Analyte	LOD	LOQ	Units
Mercury	0.0300	0.0300	mg/kg

FORM IV **PREPARATION BATCH SUMMARY**

EPA 7473

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30780 Batch Matrix: Soil Preparation: EPA 7473 soil

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11	Hg-DMA80-02 051123a-	05/11/23 13:56	
EHQ_ITEM304_COMP02_230505	23E0419-12	Hg-DMA80-02 051123a-	05/11/23 13:56	
Blank	BE30780-BLK1	Hg-DMA80-02 051123a-	05/11/23 13:56	
Reference	BE30780-SRM1	Hg-DMA80-02 051123a-	05/11/23 13:56	

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7473

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Sequence:	S3E1166	Instrument:	DMA 80-02
		Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Low Cal Check	S3E1166-LCV1	QBHg-DMA80-02 051123a-001	05/11/23 14:58
High Cal Check	S3E1166-HCV1	QBHg-DMA80-02 051123a-002	05/11/23 15:05
Blank	BE30780-BLK1	QBHg-DMA80-02 051123a-003	05/11/23 15:17
Reference	BE30780-SRM1	QBHg-DMA80-02 051123a-004	05/11/23 15:26
Calibration Check	S3E1166-CCV1	QBHg-DMA80-02 051123a-017	05/11/23 18:21
Calibration Blank	S3E1166-CCB1	QBHg-DMA80-02 051123a-018	05/11/23 18:32
EHQ_ITEM304_COMP01_230505	23E0419-11	QBHg-DMA80-02 051123a-023	05/11/23 19:19
EHQ_ITEM304_COMP02_230505	23E0419-12	QBHg-DMA80-02 051123a-024	05/11/23 19:28
Calibration Check	S3E1166-CCV2	QBHg-DMA80-02 051123a-029	05/11/23 20:15
Calibration Blank	S3E1166-CCB2	QBHg-DMA80-02 051123a-030	05/11/23 20:27

CONTINUING CALIBRATION CHECK

EPA 7473

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Instrument ID: DMA 80-02
Calibration: 05/11/23
Control Limt: +/- 20.00%
Sequence: S3E1166

Lab Sample ID	Analyte	True	Found	%R	Units	Method
S3E1166-CCV1	Mercury	1.00	1.0802	108	mg/kg	EPA 7473
S3E1166-CCV2	Mercury	1.00	1.0130	101	mg/kg	EPA 7473

* Values outside of QC limits

FORM I **BLANKS**

EPA 7473

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: DMA 80-02 Project: 170446801

Sequence: S3E1166 Calibration: 05/11/23 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
BE30780-BLK1	Mercury	0.00	0.0300	mg/kg wet		EPA 7473
S3E1166-CCB1	Mercury	0.00	0.0300	mg/kg		EPA 7473
S3E1166-CCB2	Mercury	0.00	0.0300	mg/kg		EPA 7473

BENCHSHEETS

SDG: 23E0419

CLASS: HG

METHOD: EPA 7473

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30780

Preparation Date: 05/11/2023 13:56

York Analytical Laboratories, Inc. - Stratford **Printed: 5/11/2023 8:18:13PM**

Matrix: Soil **Preparation: EPA 7473 soil** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	Comments
23E0172-01 B	Mercury by 7473	0.2	0.2				
23E0311-02 E	Mercury by 7473	0.2	0.2				
23E0311-03 E	Mercury by 7473	0.2	0.2				
23E0311-04 E	Mercury by 7473	0.2	0.2				
23E0311-05 E	Mercury by 7473	0.2	0.2				
23E0311-06 E	Mercury by 7473	0.2	0.2				
23E0311-07 E	Mercury by 7473	0.2	0.2				
23E0311-08 E	Mercury by 7473	0.2	0.2				
23E0311-09 E	Mercury by 7473	0.2	0.2				
23E0311-10 E	Mercury by 7473	0.2	0.2				
23E0330-01 E	Mercury by 7473	0.2	0.2				
23E0330-02 E	Mercury by 7473	0.2	0.2				
23E0330-03 E	Mercury by 7473	0.2	0.2				
23E0330-04 E	Mercury by 7473	0.2	0.2				
23E0419-11 B	Mercury by 7473	0.2	0.2				
23E0419-12 B	Mercury by 7473	0.2	0.2				
23E0428-01 D	Mercury by 7473	0.2	0.2				
23E0428-02 D	Mercury by 7473	0.2	0.2				
23E0428-03 D	Mercury by 7473	0.2	0.2				
23E0452-02 A	Mercury by 7473	0.2	0.2				
BE30780-BLK1	QC	0.2	0.2				
BE30780-DUP1	QC	0.2	0.2		23E0172-01		
BE30780-MS1	QC	0.2	0.2	S23E034	23E0172-01	100	
BE30780-SRM1	QC	0.2	0.2	Y20J364		0.01	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by **AGNR** **Date:** **05/11/2023 13:56**

Pos Nr	Samplename Remak	Weight	U	Creation Date	State	Height	Hg [ng]	Concentr. [mg/kg]	Cal-Factor	Calibration file Date	Method file Date
1 8	SEQ-LCV1	0.2000	g	11.05.2023 16:33:40	✔	0.4776	9.2786	0.0464	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
2 9	SEQ-HCV1	0.4000	g	11.05.2023 16:34:22	✔	0.2957	414.9062	1.0373	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
3 10	BE30780-BLK1	0.2022	g	11.05.2023 16:48:30	✔	0.0557	0.0000	0.0000	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
4 11	BE30780-SRM1	0.0100	g	11.05.2023 16:48:45	✔	0.2470	341.4442	34.1444	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
5 12	23E0172-01	0.2003	g	11.05.2023 17:17:43	✔	0.4507	8.5668	0.0428	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
6 13	BE30780-DUP1	0.2050	g	11.05.2023 17:18:01	✔	0.4536	8.6423	0.0422	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
7 14	BE30780-MS1	0.2113	g	11.05.2023 17:18:14	✔	0.0871	113.7755	0.5385	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
8 15	23E0311-02	0.2060	g	11.05.2023 17:45:42	✔	0.7630	19.2871	0.0936	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
9 16	23E0311-03	0.2027	g	11.05.2023 17:46:00	✔	0.7201	17.3065	0.0854	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
10 17	23E0311-04	0.2024	g	11.05.2023 17:46:01	✔	0.5813	12.2814	0.0607	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
11 18	23E0311-05	0.2090	g	11.05.2023 17:46:02	✔	0.6271	13.7746	0.0659	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
12 19	23E0311-06	0.2040	g	11.05.2023 17:46:30	✔	0.5709	11.9583	0.0586	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
13 21	23E0311-08	0.2074	g	11.05.2023 17:46:46	✔	0.7982	21.2170	0.1023	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
14 22	23E0311-09	0.2057	g	11.05.2023 17:46:59	✔	0.7080	16.7970	0.0817	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
15 23	23E0311-10	0.2079	g	11.05.2023 17:47:06	✔	0.0186	21.7276	0.1045	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
16 27	23E0311-07	0.2057	g	11.05.2023 19:23:12	✔	0.6806	15.7072	0.0764	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
17 24	SEQ-CCV1	0.2000	g	11.05.2023 19:59:52	✔	0.1606	216.0367	1.0802	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
18 25	SEQ-CCB1	0.2000	g	11.05.2023 20:11:56	✔	0.0147	0.0000	0.0000	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
19 26	23E0330-01	0.2043	g	11.05.2023 20:21:24	✔	0.0224	26.7569	0.1310	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
20 27	23E0330-02	0.2056	g	11.05.2023 20:21:42	✔	0.1566	1.8904	0.0092	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
21 28	23E0330-03	0.2035	g	11.05.2023 20:21:48	✔	0.0430	0.0000	0.0000	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
22 29	23E0330-04	0.2120	g	11.05.2023 20:21:54	✔	0.0565	0.0000	0.0000	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021

Pos Nr	Samplename Remak	Weight	U	Creation Date	State	Height	Hg [ng]	Concentr. [mg/kg]	Cal-Factor	Calibration file Date	Method file Date
23 30	23E0419-11	0.2032	g	11.05.2023 20:22:07	✓	0.0770	0.3339	0.0016	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
24 31	23E0419-12	0.2084	g	11.05.2023 20:22:22	✓	0.0713	0.2251	0.0011	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
25 32	23E0428-01	0.2118	g	11.05.2023 20:22:34	✓	0.0862	0.5098	0.0024	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
26 33	23E0428-02	0.2098	g	11.05.2023 20:22:51	✓	0.0612	0.0342	0.0002	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
27 34	23E0428-03	0.2030	g	11.05.2023 20:22:58	✓	0.0882	0.5483	0.0027	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
28 35	23E0452-02	0.2090	g	11.05.2023 20:23:11	✓	0.2782	4.4446	0.0213	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
29 38	SEQ-CCV2	0.2000	g	11.05.2023 21:51:29	✓	0.1511	202.6019	1.0130	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021
30 39	SEQ-CCB2	0.2000	g	11.05.2023 22:06:11	✓	0.0165	0.0000	0.0000	1.0000	QBHg-DMA80-02_ICAL 041223a.c80 12.04.2023 15:07:17	Soilsamples07122021.m80 12.07.2021

Sample listing "QBHg-DMA80-02 041223a ICAL.d80"

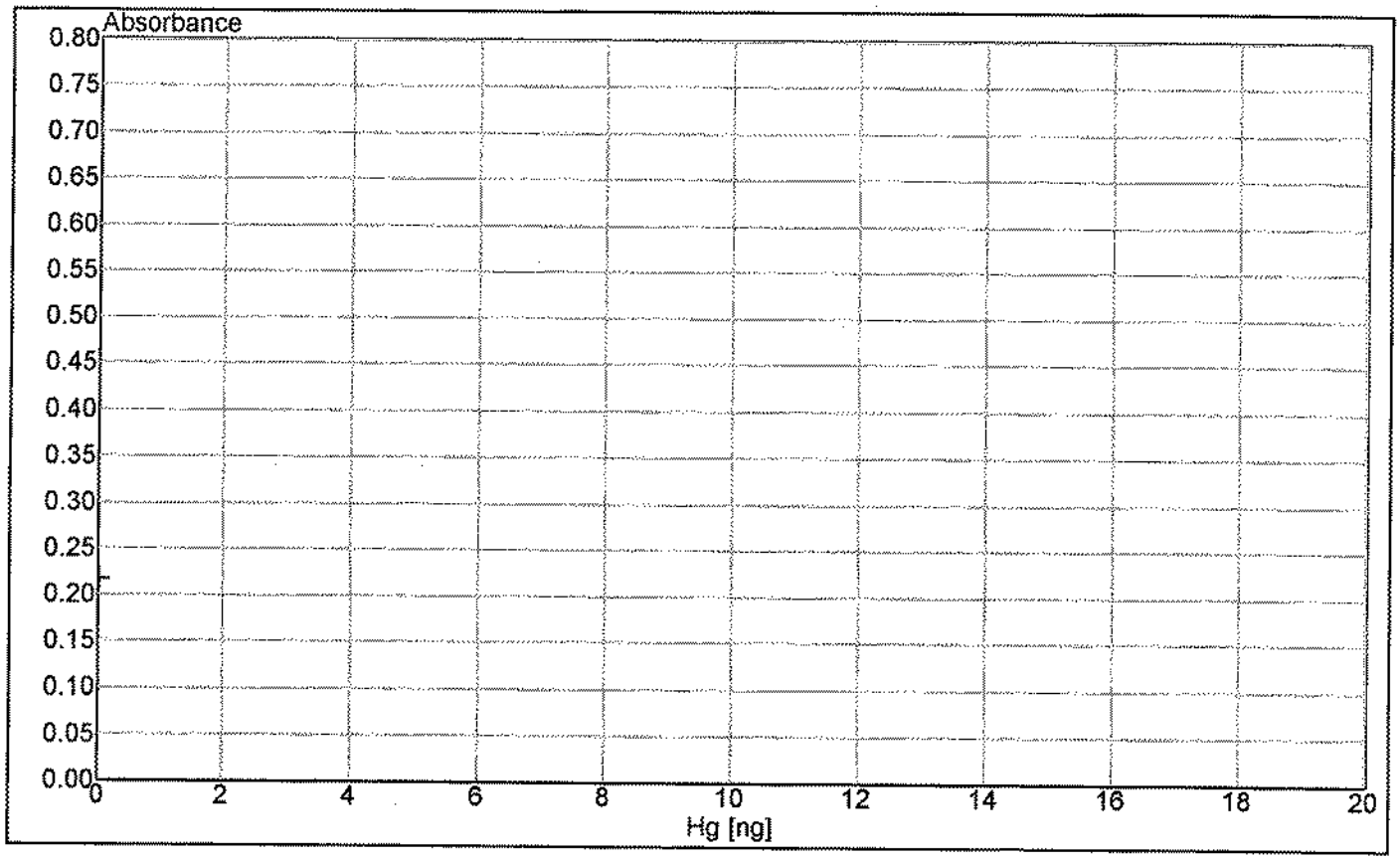
Created by "Service"
4/13/2023 09:15:37

Pos Nr.	Samplename Remark	Amount Date	State Date	Height	Hg [ng]	Concentr. [µg/kg]	Σ	Cal- Factor
1 (1)	0.0 ng	0.0001 g 9/21/22 11:17am	✔ C 4/12/23 12:16am	0.2171	0.0000	0.0001		1.0000
2 (2)	5 ng	0.1000 g 9/21/22 11:19am	✔ C 4/12/23 12:23am	3.2216	5.0000	50.0000		1.0000
3 (3)	7.5 ng	0.1500 g 9/21/22 11:19am	✔ C 4/12/23 12:33am	3.2218	7.5000	50.0000		1.0000
4 (4)	10 ng	0.2000 g 9/21/22 11:20am	✔ C 4/12/23 12:42am	3.2217	10.0000	50.0000		1.0000
5 (5)	12.5 ng	0.2500 g 9/21/22 11:20am	✔ C 4/12/23 12:52am	3.2217	12.5000	50.0000		1.0000
6 (6)	15 ng	0.3000 g 9/21/22 11:20am	✔ C 4/12/23 01:01pm	3.2217	15.0000	50.0000		1.0000
7 (7)	20 ng	0.4000 g 9/21/22 11:20am	✔ C 4/12/23 01:11pm	3.2218	20.0000	50.0000		1.0000
8 (8)	50 ng	0.5000 g 9/21/22 11:20am	✔ C 4/12/23 01:20pm	0.0422	50.0000	100.0000		1.0000
9 (9)	100 ng	0.1000 g 9/21/22 11:21am	✔ C 4/12/23 01:30pm	0.0753	100.0000	1000.000		1.0000
10 (10)	200 ng	0.2000 g 9/21/22 11:21am	✔ C 4/12/23 01:40pm	0.1487	200.0000	1000.000		1.0000
11 (11)	300 ng	0.3000 g 9/21/22 11:21am	✔ C 4/12/23 01:49pm	0.2124	300.0000	1000.000		1.0000
13 (12)	500 ng	0.5000 g 9/21/22 11:21am	✔ C 4/12/23 02:54pm	0.3458	500.0000	1000.000		1.0000
12 (13)	400 ng	0.4000 g 4/12/23 02:45pm	✔ C 4/12/23 02:38pm	0.2969	400.0000	1000.000		1.0000
18 (14)	SEQ-SICV1	0.2000 g 4/12/23 03:15pm	✔ 4/12/23 03:08pm	0.1599	215.0444	1075.222		1.0000
19 (15)	SEQ-HCV1	0.4000 g 4/12/23 03:24pm	✔ 4/12/23 03:20pm	0.2962	415.6717	1039.179		1.0000
22 (16)	SEQ-LCV1	0.2000 g 4/12/23 04:25pm	✔ 4/12/23 04:19pm	0.5249	10.5950	52.9750		1.0000

Calibration data "QBHg-DMA80-02_ICAL 041223a.c80"

Created by "Service" at 4/12/2023 15:07:17

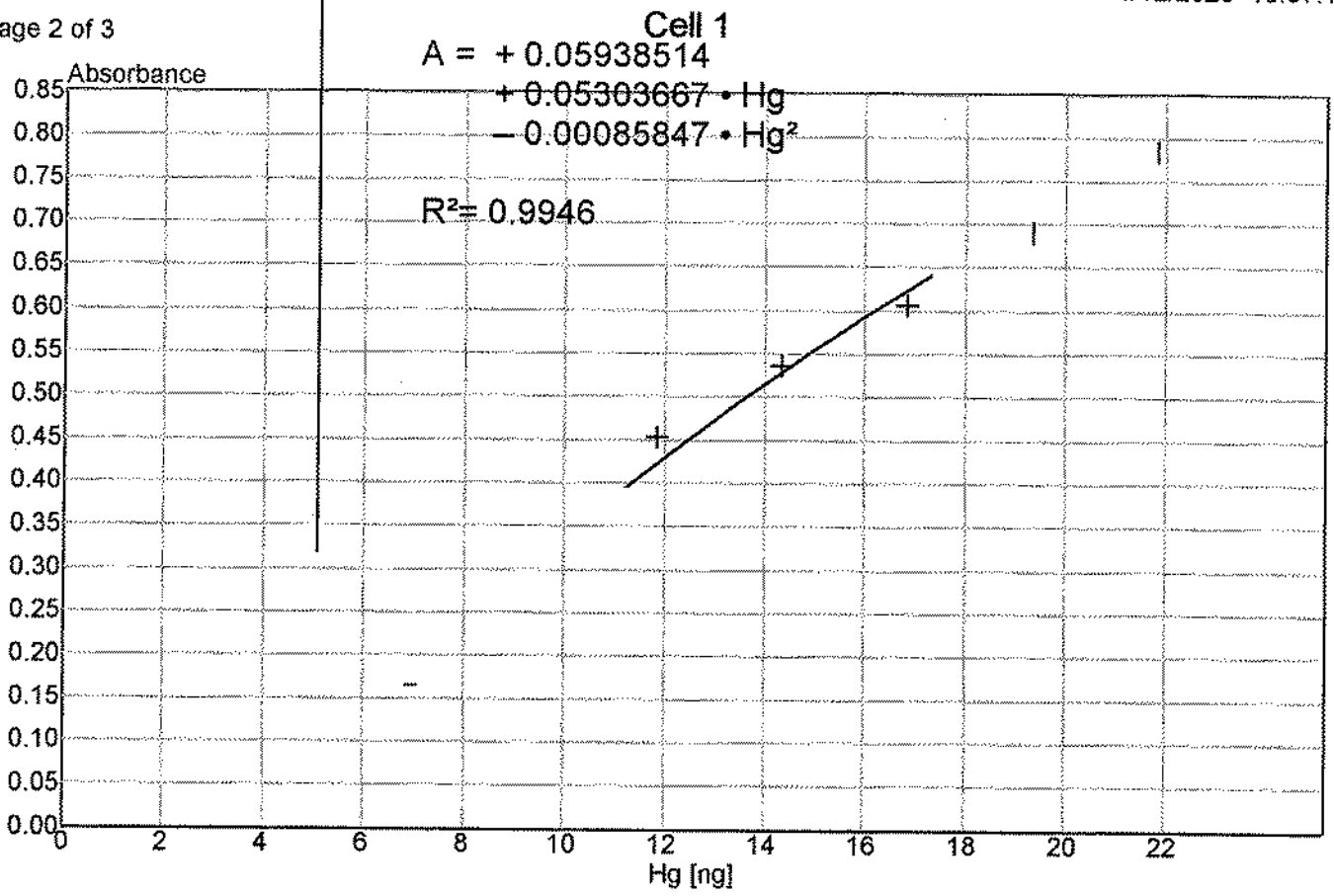
Cell 0



Nr.		Hg [ng]	Height ^	Error ⊿E [%]	Date	Remarks
1	✔	0.0000	0.2171	-2.5754	4/12/2023 12:31:29	
2	✔	5.0000	3.2216	0.4291	4/12/2023 12:40:43	
3	✔	7.5000	3.2218	0.4293	4/12/2023 12:50:17	
4	✔	10.0000	3.2217	0.4293	4/12/2023 12:59:49	
5	✔	12.5000	3.2217	0.4293	4/12/2023 13:09:24	
6	✔	15.0000	3.2217	0.4292	4/12/2023 13:18:56	
7	✔	20.0000	3.2218	0.4293	4/12/2023 13:28:31	

Calibration data "QBHg-DMA80-02_ICAL 041223a.c80"

Created by "Service" at 4/12/2023 15:07:17

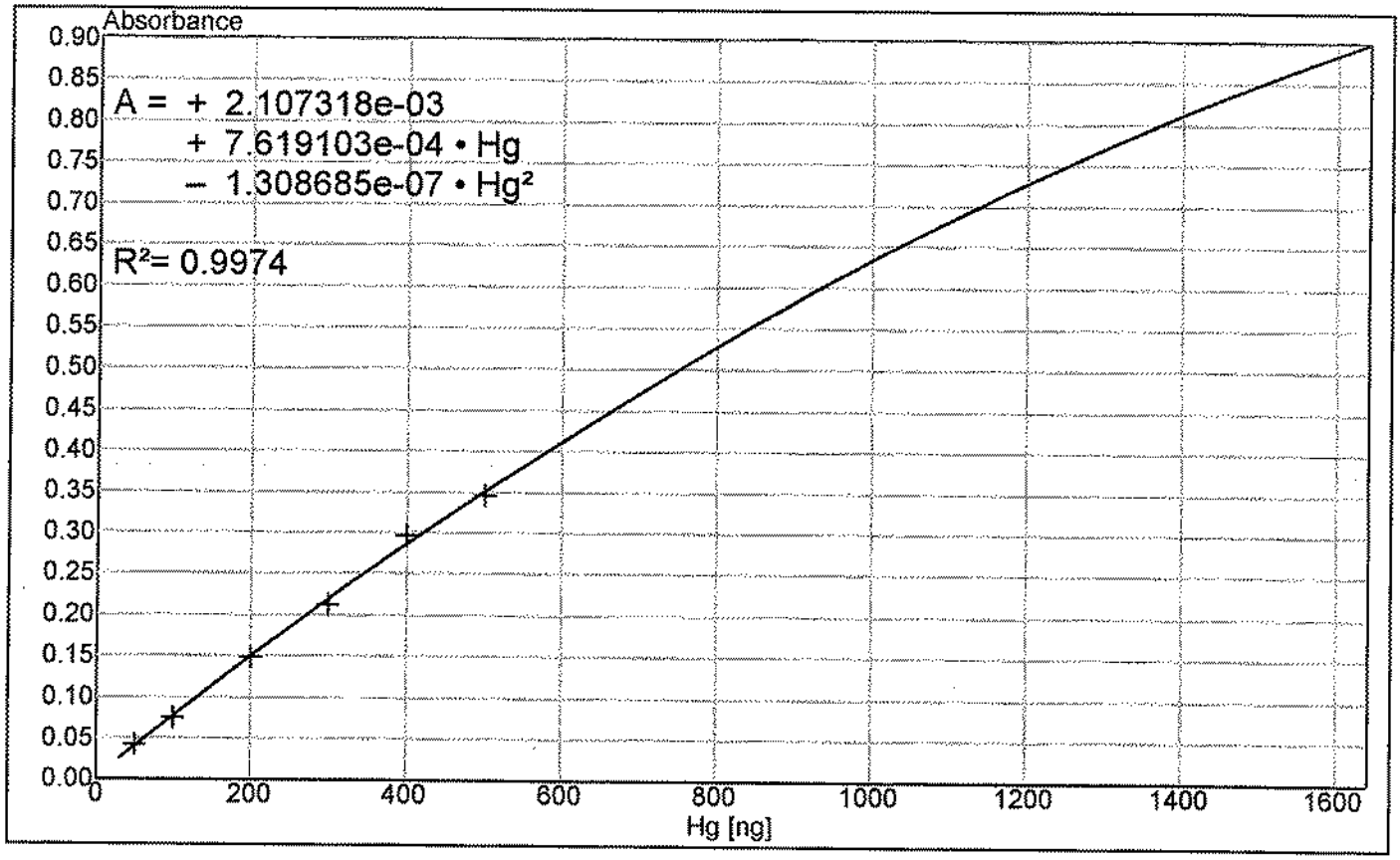


Nr.		Hg [ng]	Height ^	Error ΔE [%]	Date	Remarks
1	✔	0.0000	0.0453	-0.0141	4/12/2023 12:31:29	
2	✔	5.0000	0.3339	0.0308	4/12/2023 12:40:43	
3	✔	7.5000	0.4171	0.0082	4/12/2023 12:50:17	
4	✔	10.0000	0.4871	-0.0168	4/12/2023 12:59:49	
5	✔	12.5000	0.5704	-0.0178	4/12/2023 13:09:24	
6	✔	15.0000	0.6653	0.0035	4/12/2023 13:18:56	
7	✔	20.0000	0.7828	0.0061	4/12/2023 13:28:31	

Calibration data "QBHg-DMA80-02_ICAL 041223a.c80"

Created by "Service" at 4/12/2023 15:07:17

Cell 2



Nr.		Hg [ng]	Height ^	Error ΔE [%]	Date	Remarks
1	✔	50.0000	0.0422	0.0023	4/12/2023 13:38:04	
2	✔	100.0000	0.0753	-0.0017	4/12/2023 13:47:37	
3	✔	200.0000	0.1487	-0.0006	4/12/2023 13:57:10	
4	✔	300.0000	0.2124	-0.0065	4/12/2023 14:06:42	
5	✔	400.0000	0.2969	0.0110	4/12/2023 14:53:46	
6	✔	500.0000	0.3458	-0.0045	4/12/2023 15:09:08	

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: WET

METHOD: Calculation

DATA PACKAGE COVER PAGE

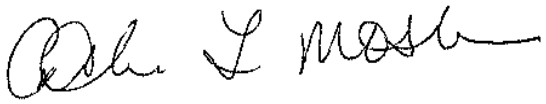
Calculation

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-11 File ID:

Sampled: 05/05/23 13:00 Prepared: 05/15/23 07:10 Analyzed: 05/15/23 17:35

Solids: 90.64 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BE30924 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	136	1		Calculation

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-12 File ID:

Sampled: 05/05/23 13:15 Prepared: 05/15/23 07:10 Analyzed: 05/15/23 17:35

Solids: 91.31 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BE30924 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	134	1		Calculation

FORM IV **PREPARATION BATCH SUMMARY**

Calculation

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30924 Batch Matrix: Soil Preparation: Analysis Preparation

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11		05/15/23 07:10	
EHQ_ITEM304_COMP02_230505	23E0419-12		05/15/23 07:10	

BENCHSHEETS

SDG: 23E0419
CLASS: WET
METHOD: Calculation

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30924

Preparation Date: 05/15/2023 07:10

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:23:39AM**

Matrix: Soil **Preparation: Analysis Preparatio** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
23E0419-11 A	Chromium, Trivalent	2.5	100				
23E0419-12 A	Chromium, Trivalent	2.5	100				
23E0433-01 E	Chromium, Trivalent	2.5	100				
23E0433-02 E	Chromium, Trivalent	2.5	100				
23E0433-03 E	Chromium, Trivalent	2.5	100				
23E0433-04 E	Chromium, Trivalent	2.5	100				

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by VR **Date:** 05/15/2023 07:10

HOLDING TIME SUMMARY

Calculation

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/15/23 07:10	9.76	30.00	05/15/23 17:35	10.19	30.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/15/23 07:10	9.75	30.00	05/15/23 17:35	10.18	30.00	

METHOD DETECTION AND REPORTING LIMITS

Calculation

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
Chromium, Trivalent	0.250	0.500	mg/kg

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: WET

METHOD: EPA 7196A

DATA PACKAGE COVER PAGE

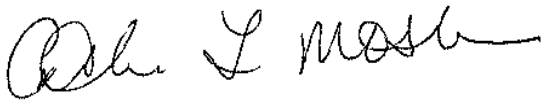
EPA 7196A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-11 File ID:

Sampled: 05/05/23 13:00 Prepared: 05/10/23 14:22 Analyzed: 05/10/23 21:18

Solids: 90.64 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BE30689 Sequence: Calibration: 05/10/23 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.552	1	U	EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-12 File ID:

Sampled: 05/05/23 13:15 Prepared: 05/10/23 14:22 Analyzed: 05/10/23 21:18

Solids: 91.31 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BE30689 Sequence: Calibration: 05/10/23 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.548	1	U	EPA 7196A

STANDARD REFERENCE MATERIAL RECOVERY

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Soil
Batch: BE30689
Laboratory ID: BE30689-SRM1
Preparation: EPA SW846-3060
Initial/Final: 0.1 g / 100 mL

ANALYTE	TRUE (mg/L)	FOUND (mg/L)	SRM % REC.	QC LIMITS REC.
Chromium, Hexavalent	227	356	157	42.3 - 157.7

* Values outside of QC limits

FORM I

METHOD BLANK DATA SHEET

EPA 7196A

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Soil	Laboratory ID:	BE30689-BLK1	File ID:	
Prepared:	05/10/23 14:22	Preparation:	EPA SW846-3060	Initial/Final:	2.5 g / 100 mL
Analyzed:	05/10/23 21:18	Instrument:	Inst		
Batch:	BE30689	Sequence:		Calibration:	

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
18540-29-9	Chromium, Hexavalent	0.500	U

FORM IV **PREPARATION BATCH SUMMARY**

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30689 Batch Matrix: Soil Preparation: EPA SW846-3060

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11		05/10/23 14:22	
EHQ_ITEM304_COMP02_230505	23E0419-12		05/10/23 14:22	
Blank	BE30689-BLK1		05/10/23 14:22	
Reference	BE30689-SRM1		05/10/23 14:22	

BENCHSHEETS

SDG: 23E0419

CLASS: WET

METHOD: EPA 7196A

PREPARATION BENCH SHEET-AQUEOUS: BE30689

Prepared: **05/10/2023 14:22**

York Analytical Laboratories, Inc. - Stratford

Printed: 5/10/2023 9:19:25PM

Matrix: Soil **Preparation EPA SW846-3060** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike 1 ID	ul Spike 1	Spike 2 ID	ul Spike 2	Source ID	pH Data Initial	pH Data Acid	pH Data Basic	Decanted Y/N	Comments
23D0936-73 A	Chromium, Hexava	2.5	100										
23D0936-74 A	Chromium, Hexava	2.5	100										
23D0936-75 A	Chromium, Hexava	2.5	100										
23D0936-76 A	Chromium, Hexava	2.5	100										
23E0331-03 A	Chromium, Hexava	2.5	100										
23E0337-06 A	Chromium, Hexava	2.5	100										
23E0337-07 A	Chromium, Hexava	2.5	100										
23E0419-11 A	Chromium, Hexava	2.5	100										
23E0419-12 A	Chromium, Hexava	2.5	100										
23E0428-01 D	Chromium, Hexava	2.5	100										
23E0428-02 D	Chromium, Hexava	2.5	100										
23E0428-03 D	Chromium, Hexava	2.5	100										
23E0430-01 A	Chromium, Hexava	2.5	100										
23E0430-02 A	Chromium, Hexava	2.5	100										
23E0433-01 F	Chromium, Hexava	2.5	100										
23E0433-02 F	Chromium, Hexava	2.5	100										
23E0433-03 F	Chromium, Hexava	2.5	100										
23E0433-04 F	Chromium, Hexava	2.5	100										
23E0452-02 A	Chromium, Hexava	2.5	100										
23E0455-06 A	Chromium, Hexava	2.5	100										
BE30689-BLK1	QC	2.5	100										
BE30689-DUP1	QC	2.5	100					23E0433-01					
BE30689-MS1	QC	2.5	100	S23D381	1000			23E0433-01					
BE30689-MSD1	QC	2.5	100	S23D381	1000			23E0433-01					
BE30689-SRM1	QC	0.1	100	S22L118	1								

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparation Performed by SMK **Date:** 05/10/2023 14:22

Calibration Curve Data

CALIBRATION CURVE

Hexavalent Chromium

METHOD: Colorimetric SPEC A

DATE: 4/25/2023

ppm	µg/100 ml	Absorbance
0.01	1	0.009
0.05	5	0.035
0.1	10	0.069
0.25	25	0.159
0.5	50	0.299
0.75	75	0.426

WAVELENGTH: 540 nm

LIGHT PATH: 1 cm

FILTER: NO

SLOPE	1.769617
INTERCEPT	-0.017385
CORRELATION	0.998367

ICV Concentration (ppm)	0.5
ICV Absorbance	0.293
ICV Calculated Conc. (ppm)	0.501
ICV Percent Recovery	100.22

ANALYST: Sarah Kotsay

HEXAVALENT CHROMIUM (CR^{6+})

Date: 5/10/23		
Analyst: SMK / WJD		
Batch: BE30689	Matrix: Soil	Spectrophotometer ID: A
Calibration Date: 4/25/23	Slope: 1.7697	y-intercept: -0.017385

SAMPLE I.D.	DIL	ABS	mg/L from Curve	mg/kg	QA/QC
Method Blank (<0.1mg/L)		.000			
CCV (90-110%)		.315	.540		108 %
LCS (80-120%)		.211	.356	356.004	156.83%
1 23D0936-73		.000			
2 -74		.000			
3 -75		.000			
4 -76		.000			
5 23E0331-03		.000			
6 -06		.000			
7 -07		.000			
8 23E0419-11		.000			
9 -12		.000			
10 23E0428-01		.000			
11 -02		.000			
12 -03		.000			
13 23E0430-01		.00			
14 -02		.019	.016		
15 23E0433-01		.000			
16 -02		.000			
17 -03		.000			
18 -04		.000			
19 23E0452-02		.000			
20 23E0455-06		.000			
DUP (≤35% RPD) 23E0433-01		.000			
MS (75-125%)		.291	.498		%
MSD (75-125%)		.295	.505		%
CCV (90-110%)		.308	.528		108.5 %

STANDARD/REAGENT	DATE PREPARED	EXPIRATION DATE	TRACEABILITY
CCV @ 0.5 mg/L	4/24/23	10/24/23	Page A
SPK @ 0.5 mg/L	↓	↓	Page A
LCS @ 221 mg/kg	—	7/12/25	Page B
Diphenylcarbazide Solution	4/27/23	10/27/23	Page C
Sulfuric Acid (Conc)	—	—	Page C
Filter Paper	—	—	Page C
Digestion Solution	5/9/23	11/9/23	Page D
Magnesium Chloride	5/3/23	11/3/23	Page D
Antifoam	—	—	Page D
Phosphate Buffer	5/5/23	11/5/23	Page E
5M Nitric Acid	5/8/23	5-11/8/23	Page E
Ottawa Sand -For Soil Method Blanks Only	[redacted]		Page E

HOLDING TIME SUMMARY

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/10/23 14:22	5.06	30.00	05/10/23 21:18	0.29	7.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/10/23 14:22	5.05	30.00	05/10/23 21:18	0.29	7.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
Chromium, Hexavalent	0.350	0.500	mg/kg

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: WET

METHOD: EPA 9014/9010C

DATA PACKAGE COVER PAGE

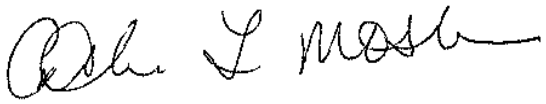
EPA 9014/9010C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 9014/9010C

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-11 File ID:

Sampled: 05/05/23 13:00 Prepared: 05/10/23 14:24 Analyzed: 05/10/23 22:18

Solids: 90.64 Preparation: Analysis Preparation Soil Initial/Final: 1 g / 50 mL

Batch: BE30690 Sequence: Calibration: 05/10/23 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
57-12-5	Cyanide, total	0.500	1	U	EPA 9014/9010C

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 9014/9010C

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-12 File ID:

Sampled: 05/05/23 13:15 Prepared: 05/10/23 14:24 Analyzed: 05/10/23 22:18

Solids: 91.31 Preparation: Analysis Preparation Soil Initial/Final: 1 g / 50 mL

Batch: BE30690 Sequence: Calibration: 05/10/23 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
57-12-5	Cyanide, total	0.500	1	U	EPA 9014/9010C

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 9014/9010C

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Oil		
Batch:	BE30690	Laboratory ID:	BE30690-BS1
Preparation:	Analysis Preparation Soil	Initial/Final:	0.1 g / 50 mL

COMPOUND	SPIKE ADDED (ug/mL)	LCS CONCENTRATION (ug/mL)	LCS % REC. #	QC LIMITS REC.
Cyanide, total	131	133	102	72.9 - 112

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 9014/9010C

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Oil		
Batch:	BE30690	Laboratory ID:	BE30690-MS1
Preparation:	Analysis Preparation Soil	Initial/Final:	1 g / 50 mL

Source Sample Name: EHQ_ITEM304_COMP02_230505

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	MS CONCENTRATION (mg/kg)	MS % REC. #	QC LIMITS REC.
Cyanide, total	10.0	ND	9.95	99.5	79.6 - 107

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 9014/9010C

EHQ_ITEM304_COMP02_230505

Laboratory:	York Analytical Laboratories, Inc. - Stratford	SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170446801
Matrix:	Oil		
Batch:	BE30690	Laboratory ID:	BE30690-MSD1
Preparation:	Analysis Preparation Soil	Initial/Final:	1 g / 50 mL

Source Sample Name: EHQ_ITEM304_COMP02_230505

COMPOUND	SPIKE ADDED (mg/kg)	MSD CONCENTRATION (mg/kg)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Cyanide, total	10.0	9.30	93.0	6.75	200	79.6 - 107

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

EPA 9014/9010C

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Oil
Laboratory ID: BE30690-DUP1
Batch: BE30690
Lab Source ID: 23E0419-12
Preparation: Analysis Preparation Soil
Initial/Final: 1 g / 50 mL
Source Sample Name: EHQ_ITEM304_COMP02_230505
% Solids: 91.31

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg)	C	DUPLICATE CONCENTRATION (mg/kg)	C	RPD %	Q	METHOD
Cyanide, total	15	ND		ND				EPA 9014/9010C

* Values outside of QC limits

FORM I

METHOD BLANK DATA SHEET

EPA 9014/9010C

Laboratory:	York Analytical Laboratories, Inc. - Stratford			SDG:	23E0419
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170446801
Matrix:	Oil	Laboratory ID:	BE30690-BLK1	File ID:	
Prepared:	05/10/23 14:24	Preparation:	Analysis Preparation Soil	Initial/Final:	1 g / 50 mL
Analyzed:	05/10/23 22:18	Instrument:	Inst		
Batch:	BE30690	Sequence:		Calibration:	

CAS NO.	COMPOUND	CONC. (mg/kg)	Q
57-12-5	Cyanide, total	0.500	U

FORM IV **PREPARATION BATCH SUMMARY**

EPA 9014/9010C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30690 Batch Matrix: Oil Preparation: Analysis Preparation Soil

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11		05/10/23 14:24	
EHQ_ITEM304_COMP02_230505	23E0419-12		05/10/23 14:24	
Blank	BE30690-BLK1		05/10/23 14:24	
LCS	BE30690-BS1		05/10/23 14:24	
EHQ_ITEM304_COMP02_230505	BE30690-DUP1		05/10/23 14:24	
EHQ_ITEM304_COMP02_230505	BE30690-MS1		05/10/23 14:24	
EHQ_ITEM304_COMP02_230505	BE30690-MSD1		05/10/23 14:24	

BENCHSHEETS

SDG: 23E0419

CLASS: WET

METHOD: EPA 9014/9010C

PREPARATION BENCH SHEET-AQUEOUS: BE30690

Prepared: **05/10/2023 14:24**

York Analytical Laboratories, Inc. - Stratford

Printed: 5/10/2023 10:18:40PM

Matrix: Oil **Preparation** **Analysis Preparation Soil** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike 1 ID	ul Spike 1	Spike 2 ID	ul Spike 2	Source ID	pH Data Initial	pH Data Acid	pH Data Basic	Decanted Y/N	Comments
23E0288-01 A	Cyanide, Total	1	50										
23E0298-01 E	Cyanide, Total	1	50										
23E0305-01 A	Cyanide, Total	1	50										
23E0305-04 A	Cyanide, Total	1	50										
23E0305-05 A	Cyanide, Total	1	50										
23E0305-07 A	Cyanide, Total	1	50										
23E0311-01 E	Cyanide, Total	1	50										
23E0311-02 E	Cyanide, Total	1	50										
23E0359-01 E	Cyanide, Total	1	50										
23E0359-02 E	Cyanide, Total	1	50										
23E0359-03 E	Cyanide, Total	1	50										
23E0359-04 E	Cyanide, Total	1	50										
23E0359-05 E	Cyanide, Total	1	50										
23E0359-06 E	Cyanide, Total	1	50										
23E0359-07 E	Cyanide, Total	1	50										
23E0359-08 E	Cyanide, Total	1	50										
23E0359-09 E	Cyanide, Total	1	50										
23E0419-11 A	Cyanide, Total	1	50										
23E0419-12 A	Cyanide, Total	1	50										
BE30690-BLK1	QC	1	50										
BE30690-BS1	QC	0.1	50	S22K351	1								
BE30690-DUP1	QC	1	50					23E0419-12					
BE30690-MS1	QC	1	50	S23B193	100			23E0419-12					
BE30690-MSD1	QC	1	50	S23B193	100			23E0419-12					

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparation Performed by NJO **Date:** 05/10/2023 14:24

Calibration Curve Data

CALIBRATION CURVE

ANALYSIS: Cyanide

METHOD: Distill / colormetric Spec A

DATE: 7/26/2022

STD PPM	Absorbance
0.01	0.026
0.025	0.073
0.05	0.144
0.1	0.291
0.2	0.52

WAVELENGTH: 578 nm

LIGHT PATH: 1 cm

FILTER:NO

SLOPE	0.383535
INTERCEPT	-0.003849
CORRELATION	0.997934

ICV Concentration (ppm)		0.1
ICV Absorbance		0.271
ICV Calculated Conc. (ppm)		0.100
ICV Percent Recovery		100.1

ANALYST: Anthony DeCarlo

Total or Amenable Cyanide

Date: 5/10/23	Total Batch: BE 30690	Cal Date: 7/26/2022
Analyst: ZTS/MSD	Amenable Batch:	Slope: 0.383535
Matrix: Soil	Reactive CN- Batch:	Intercept: -0.003549
	Reactive S- Batch:	Cal ID: A

SAMPLE ID	Dilution	Abs.	CN^- mg/l	CN^- mg/kg	S^- check result (pos/neg)	Reactive (Y/N)	QA/QC	Run/Position 1	Run/Position 2
Blank (<50% low std abs)		.000							12
CCV (85-115%)		.273	.101		neg		100.6%		
LCS		.766	.267	133.463			101.8%		11
1) 23E0288-01		.000						1	
2) 23E0298-01		.000						2	
3) 23E0305-01		.000						3	
4) -04		.000						4	
5) -05		.000						5	
6) -07		.000						6	
7) 23E0311-01		.000						7	
8) -02		.000						8	
9) 23E0359-01		.000						9	
10) -02		.000						10	
11) -03		.000						11	
12) -04		.000						12	
13) -05		.000							1
14) -06		.000							2
15) -07		.000							3
16) -08		.000							4
17) -09		.000							5
18) 23E0419-11		.000							6
19) -12		.000							7
20) MSD 23E0419-12		.494	.186						8
DUP		.000					RPD		9
SPK		.530	.199				%		10
CCV (85-115%)		.274	.101				101.4%		

Standard/Reagent	Prep Date	Expiration Date	Traceability
CCV @ 0.5 ppm	5/8/23	5/15/23	Pages A, B
SPK @ 0.1 ppm	↓	↓	Pages A, B
LCS @ 13 (mg/kg) ppm	–	10/19/23	Pages C, D
0.1 N NaOH	5/3/23	11/3/23	Page E
Sulfamic acid	5/8/23	11/8/23	Page F
1:1 H_2SO_4	↓	↓	Page G
Magnesium chloride			Page H
Sodium phosphate buffer	5/2/23	11/2/23	Page I
Chloramine T	daily	daily	Page J
Pyridine barbituric acid	5/2/23	11/2/23	Pages J, K
Sulfide Check Buffer	11/30/23	7/30/23	Page L

HOLDING TIME SUMMARY

EPA 9014/9010C

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/10/23 14:24	5.06	14.00	05/10/23 22:18	5.39	14.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/10/23 14:24	5.05	14.00	05/10/23 22:18	5.38	14.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 9014/9010C

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Oil **Instrument:**

Analyte	LOD	LOQ	Units
Cyanide, total	0.500	0.500	mg/kg

York Analytical Laboratories, Inc. - Stratford

SDG: 23E0419

CLASS: WET

METHOD: SM 2540G

DATA PACKAGE COVER PAGE

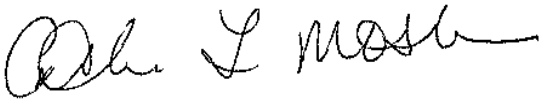
SM 2540G

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Client Sample Id:	Lab Sample Id:
EHQ_ITEM304_COMP01_230505 PFAS	23E0419-01
EHQ_ITEM304_COMP02_230505 PFAS	23E0419-02
EHQ_ITEM304_GRAB01_230505	23E0419-04
EHQ_ITEM304_GRAB02_230505	23E0419-05
EHQ_ITEM304_GRAB03_230505	23E0419-06
EHQ_ITEM304_GRAB04_230505	23E0419-07
EHQ_ITEM304_GRAB05_230505	23E0419-08
EHQ_ITEM304_GRAB06_230505	23E0419-09
EHQ_ITEM304_GRAB07_230505	23E0419-10
EHQ_ITEM304_COMP01_230505	23E0419-11
EHQ_ITEM304_COMP02_230505	23E0419-12

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Cassie L. Mosher

Date: 5/18/2023 Title: Laboratory Manager

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_COMP01_230505 PFAS

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-01 File ID:

Sampled: 05/05/23 13:00 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 93.38 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	93.4	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_COMP02_230505 PFAS

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-02 File ID:

Sampled: 05/05/23 13:15 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 91.96 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	92.0	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_GRAB01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-04 File ID:

Sampled: 05/05/23 12:10 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 88.82 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	88.8	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_GRAB02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-05 File ID:

Sampled: 05/05/23 12:15 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 88.44 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	88.4	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_GRAB03_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-06 File ID:

Sampled: 05/05/23 12:20 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 91.26 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.3	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_GRAB04_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-07 File ID:

Sampled: 05/05/23 12:25 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 94.61 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	94.6	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_GRAB05_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-08 File ID:

Sampled: 05/05/23 12:30 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 90.14 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	90.1	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_GRAB06_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-09 File ID:

Sampled: 05/05/23 12:35 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 91.55 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.5	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_GRAB07_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-10 File ID:

Sampled: 05/05/23 12:40 Prepared: 05/15/23 17:10 Analyzed: 05/15/23 17:12

Solids: 91.80 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE31042 Sequence: Calibration: 05/15/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.8	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_COMP01_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-11 File ID:

Sampled: 05/05/23 13:00 Prepared: 05/12/23 09:27 Analyzed: 05/12/23 13:12

Solids: 90.64 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE30854 Sequence: Calibration: 05/12/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	90.6	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

EHQ_ITEM304_COMP02_230505

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Matrix: Soil Laboratory ID: 23E0419-12 File ID:

Sampled: 05/05/23 13:15 Prepared: 05/12/23 09:27 Analyzed: 05/12/23 13:12

Solids: 91.31 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BE30854 Sequence: Calibration: 05/12/23 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.3	1		SM 2540G

DUPLICATES

EHQ_ITEM304_COMP01_230505 PFAS

SM 2540G

Laboratory: York Analytical Laboratories, Inc. - Stratford
SDG: 23E0419
Client: Langan Engineering & Environmental Services (NYC)
Project: 170446801
Matrix: Soil
Laboratory ID: BE31042-DUP1
Batch: BE31042
Lab Source ID: 23E0419-01
Preparation: % Solids Prep
Initial/Final: 5 g / 5 g
Source Sample Name: EHQ_ITEM304_COMP01_230505 PFAS
% Solids: 93.38

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (%)	C	DUPLICATE CONCENTRATION (%)	C	RPD %	Q	METHOD
% Solids	20	93.4		92.1		1.39		SM 2540G

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

SM 2540G

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE30854 Batch Matrix: Soil Preparation: % Solids Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-11		05/12/23 09:27	
EHQ_ITEM304_COMP02_230505	23E0419-12		05/12/23 09:27	

FORM IV **PREPARATION BATCH SUMMARY**

SM 2540G

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Batch: BE31042 Batch Matrix: Soil Preparation: % Solids Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
EHQ_ITEM304_COMP01_230505	23E0419-01		05/15/23 17:10	
EHQ_ITEM304_COMP02_230505	23E0419-02		05/15/23 17:10	
EHQ_ITEM304_GRAB01_230505	23E0419-04		05/15/23 17:10	
EHQ_ITEM304_GRAB02_230505	23E0419-05		05/15/23 17:10	
EHQ_ITEM304_GRAB03_230505	23E0419-06		05/15/23 17:10	
EHQ_ITEM304_GRAB04_230505	23E0419-07		05/15/23 17:10	
EHQ_ITEM304_GRAB05_230505	23E0419-08		05/15/23 17:10	
EHQ_ITEM304_GRAB06_230505	23E0419-09		05/15/23 17:10	
EHQ_ITEM304_GRAB07_230505	23E0419-10		05/15/23 17:10	
EHQ_ITEM304_COMP01_230505	BE31042-DUP1		05/15/23 17:10	

BENCHSHEETS

SDG: 23E0419

CLASS: WET

METHOD: SM 2540G

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE30854

Preparation Date: 05/12/2023 09:27

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:23:51AM**

Matrix: Soil **Preparation: % Solids Prep** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	Comments
23E0352-02 A	Total Solids	5	5				
23E0415-08 A	Total Solids	5	5				
23E0415-09 A	Total Solids	5	5				
23E0419-11 A	Total Solids	5	5				
23E0419-12 A	Total Solids	5	5				
23E0428-01 D	Total Solids	5	5				
23E0428-02 D	Total Solids	5	5				
23E0428-03 D	Total Solids	5	5				
23E0430-01 A	Total Solids	5	5				
23E0430-02 A	Total Solids	5	5				
23E0430-03 A	Total Solids	5	5				
23E0430-04 A	Total Solids	5	5				
23E0433-01 E	Total Solids	5	5				
23E0433-02 E	Total Solids	5	5				
23E0433-03 E	Total Solids	5	5				
23E0433-04 E	Total Solids	5	5				
23E0435-01 E	Total Solids	5	5				
23E0435-02 E	Total Solids	5	5				
23E0435-03 E	Total Solids	5	5				
23E0435-04 E	Total Solids	5	5				
BE30854-DUP1	QC	5	5		23E0433-01		

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by **sgs** **Date:** **05/12/2023 09:27**

BENCHSHEETS

SDG: 23E0419
CLASS: WET
METHOD: SM 2540G

PREPARATION BENCH SHEET-SOILS/SOLIDS: BE31042

Preparation Date: 05/15/2023 17:10

York Analytical Laboratories, Inc. - Stratford **Printed: 5/18/2023 6:23:29AM**

Matrix: Soil **Preparation: % Solids Prep** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	Comments
23E0419-01 A	Total Solids	5	5				
23E0419-02 A	Total Solids	5	5				
23E0419-04 A	Total Solids	5	5				
23E0419-05 A	Total Solids	5	5				
23E0419-06 A	Total Solids	5	5				
23E0419-07 A	Total Solids	5	5				
23E0419-08 A	Total Solids	5	5				
23E0419-09 A	Total Solids	5	5				
23E0419-10 A	Total Solids	5	5				
BE31042-DUP1	QC	5	5		23E0419-01		

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by AC **Date:** 05/15/2023 17:10

TOTAL SOLIDS ELECTRONIC LOG

Sample No.	Analyte	Analysis Date	Analyst	Batch ID	Init. Result	Final Result	Units	Prep. Units
23E0419-01	% Solids	5/15/2023 5:12:40PM	AC	BE31042	93.38	93.4	%	g
23E0419-01	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	6.62	6.62	%	g
23E0419-01	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	7.00	7.00	%	g
23E0419-01	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.26	1.26	%	g
23E0419-02	% Solids	5/15/2023 5:12:40PM	AC	BE31042	91.96	92.0	%	g
23E0419-02	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	7.60	7.60	%	g
23E0419-02	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	8.15	8.15	%	g
23E0419-02	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.31	1.31	%	g
23E0419-04	% Solids	5/15/2023 5:12:40PM	AC	BE31042	88.82	88.8	%	g
23E0419-04	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.83	5.83	%	g
23E0419-04	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	6.41	6.41	%	g
23E0419-04	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.22	1.22	%	g
23E0419-05	% Solids	5/15/2023 5:12:40PM	AC	BE31042	88.44	88.4	%	g
23E0419-05	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	4.54	4.54	%	g
23E0419-05	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	4.97	4.97	%	g
23E0419-05	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.25	1.25	%	g
23E0419-06	% Solids	5/15/2023 5:12:40PM	AC	BE31042	91.26	91.3	%	g
23E0419-06	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.27	5.27	%	g
23E0419-06	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.65	5.65	%	g
23E0419-06	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.30	1.30	%	g
23E0419-07	% Solids	5/15/2023 5:12:40PM	AC	BE31042	94.61	94.6	%	g
23E0419-07	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	4.44	4.44	%	g
23E0419-07	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	4.62	4.62	%	g
23E0419-07	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.28	1.28	%	g
23E0419-08	% Solids	5/15/2023 5:12:40PM	AC	BE31042	90.14	90.1	%	g
23E0419-08	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.07	5.07	%	g
23E0419-08	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.48	5.48	%	g
23E0419-08	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.32	1.32	%	g
23E0419-09	% Solids	5/15/2023 5:12:40PM	AC	BE31042	91.55	91.5	%	g
23E0419-09	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.06	5.06	%	g
23E0419-09	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.41	5.41	%	g
23E0419-09	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.27	1.27	%	g
23E0419-10	% Solids	5/15/2023 5:12:40PM	AC	BE31042	91.80	91.8	%	g
23E0419-10	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	4.71	4.71	%	g
23E0419-10	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.02	5.02	%	g
23E0419-10	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.24	1.24	%	g
23E0419-11	% Solids	5/12/2023 1:12:02PM	sgs	BE30854	90.64	90.6	%	g
23E0419-11	Final Wt.	5/12/2023 1:12:02PM	sgs	BE30854	8.70	8.70	%	g
23E0419-11	Initial Wt.	5/12/2023 1:12:02PM	sgs	BE30854	9.46	9.46	%	g
23E0419-11	Tare Wt.	5/12/2023 1:12:02PM	sgs	BE30854	1.29	1.29	%	g
23E0419-12	% Solids	5/12/2023 1:12:02PM	sgs	BE30854	91.31	91.3	%	g
23E0419-12	Final Wt.	5/12/2023 1:12:02PM	sgs	BE30854	7.43	7.43	%	g
23E0419-12	Initial Wt.	5/12/2023 1:12:02PM	sgs	BE30854	8.01	8.01	%	g

Note: Units for Tare, Initial and Final Wts. are in grams

TOTAL SOLIDS ELECTRONIC LOG

Sample No.	Analyte	Analysis Date	Analyst	Batch ID	Init. Result	Final Result	Units	Prep. Units
23E0419-12	Tare Wt.	5/12/2023 1:12:02PM	sgs	BE30854	1.28	1.28	%	g
23E0433-01	% Solids	5/12/2023 1:12:02PM	sgs	BE30854	88.25	88.2	%	g
23E0433-01	Final Wt.	5/12/2023 1:12:02PM	sgs	BE30854	7.45	7.45	%	g
23E0433-01	Initial Wt.	5/12/2023 1:12:02PM	sgs	BE30854	8.27	8.27	%	g
23E0433-01	Tare Wt.	5/12/2023 1:12:02PM	sgs	BE30854	1.28	1.28	%	g
BE30854-DUP1	% Solids	5/12/2023 1:12:02PM	sgs	BE30854	88.71	88.7	%	g
BE30854-DUP1	Final Wt.	5/12/2023 1:12:02PM	sgs	BE30854	6.89	6.89	%	g
BE30854-DUP1	Initial Wt.	5/12/2023 1:12:02PM	sgs	BE30854	7.60	7.60	%	g
BE30854-DUP1	Tare Wt.	5/12/2023 1:12:02PM	sgs	BE30854	1.29	1.29	%	g
BE31042-DUP1	% Solids	5/15/2023 5:12:40PM	AC	BE31042	92.09	92.1	%	g
BE31042-DUP1	Final Wt.	5/15/2023 5:12:40PM	AC	BE31042	5.84	5.84	%	g
BE31042-DUP1	Initial Wt.	5/15/2023 5:12:40PM	AC	BE31042	6.23	6.23	%	g
BE31042-DUP1	Tare Wt.	5/15/2023 5:12:40PM	AC	BE31042	1.30	1.30	%	g

Note: Units for Tare, Initial and Final Wts. are in grams

HOLDING TIME SUMMARY

SM 2540G

Laboratory: York Analytical Laboratories, Inc. - Stratford SDG: 23E0419

Client: Langan Engineering & Environmental Services (NYC) Project: 170446801

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
EHQ_ITEM304_COMP01_230505 P	05/05/23 13:00	05/05/23 17:07	05/15/23 17:10	10.17	28.00	05/15/23 17:12	10.18	28.00	
EHQ_ITEM304_COMP02_230505 P	05/05/23 13:15	05/05/23 17:07	05/15/23 17:10	10.16	28.00	05/15/23 17:12	10.17	28.00	
EHQ_ITEM304_GRAB01_230505	05/05/23 12:10	05/05/23 17:07	05/15/23 17:10	10.21	28.00	05/15/23 17:12	10.21	28.00	
EHQ_ITEM304_GRAB02_230505	05/05/23 12:15	05/05/23 17:07	05/15/23 17:10	10.20	28.00	05/15/23 17:12	10.21	28.00	
EHQ_ITEM304_GRAB03_230505	05/05/23 12:20	05/05/23 17:07	05/15/23 17:10	10.20	28.00	05/15/23 17:12	10.20	28.00	
EHQ_ITEM304_GRAB04_230505	05/05/23 12:25	05/05/23 17:07	05/15/23 17:10	10.20	28.00	05/15/23 17:12	10.20	28.00	
EHQ_ITEM304_GRAB05_230505	05/05/23 12:30	05/05/23 17:07	05/15/23 17:10	10.19	28.00	05/15/23 17:12	10.20	28.00	
EHQ_ITEM304_GRAB06_230505	05/05/23 12:35	05/05/23 17:07	05/15/23 17:10	10.19	28.00	05/15/23 17:12	10.19	28.00	
EHQ_ITEM304_GRAB07_230505	05/05/23 12:40	05/05/23 17:07	05/15/23 17:10	10.19	28.00	05/15/23 17:12	10.19	28.00	
EHQ_ITEM304_COMP01_230505	05/05/23 13:00	05/05/23 17:07	05/12/23 09:27	6.85	28.00	05/12/23 13:12	7.01	28.00	
EHQ_ITEM304_COMP02_230505	05/05/23 13:15	05/05/23 17:07	05/12/23 09:27	6.84	28.00	05/12/23 13:12	7.00	28.00	

METHOD DETECTION AND REPORTING LIMITS

SM 2540G

Laboratory: York Analytical Laboratories, Inc. - Stratford **SDG:** 23E0419

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170446801

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
% Solids	0.100	0.100	%

Tyler Goodnough

From: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Sent: Thursday, May 25, 2023 2:32 PM
To: Tyler Goodnough
Cc: Quandt, Sarah M (DEC); Greg Wyka
Subject: [External] Re: C231013 - Waterside - Import Material Request - East Haven Trap Rock Quarry

Tyler,

The NYSDEC has reviewed the request dated 5/25/23 to import up to 1,000 cubic yards of manufactured fill from the East Haven Trap Rock Quarry located at 400 Totoket Road, North Branford, CT 06471. Based on the information provided, the request is hereby approved. This approval is based on the following factors:

1. The analytical samples results met the lower of the groundwater protection soil cleanup objectives (SCOs) and the restricted residential SCOs for volatile organic compounds, semi-volatile organic compounds, pesticides/PCBs and metals.

2. PFOA and PFOS did not exceed their Restricted Residential Guidance Values of 33 ppb and 44 ppb, respectively. In addition, PFOA and PFOS did not exceed their Protection of Groundwater Guidance Values of 0.8 ppb and 1.0 ppb, respectively.

3. 1,4-Dioxane did not exceed the Allowable Constituent Level for Impacted Soil or Fill of 0.1 ppm as per Appendix 5 of DER-10.

Based on above, this material may be imported to the site for use as landscaping material. Testing in accordance with DER-10 and and approval by the NYSDEC is required for any additional material imported from this source.

Best regards,
Ronnie

Ronnie E. Lee, P.E.
Professional Engineer 1
Division of Environmental Remediation

New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7016
P: 518-402-9615 | F: 518-402-9773 | ronnie.lee@dec.ny.gov
C: 518-708-3418

www.dec.ny.gov | | |

NEW YORK STATE | Department of Environmental Conservation

From: Tyler Goodnough <tgoodnough@langan.com>
Sent: Thursday, May 25, 2023 12:11 PM
To: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Cc: Quandt, Sarah M (DEC) <Sarah.Quandt@dec.ny.gov>; Greg Wyka <gwyka@langan.com>
Subject: RE: C231013 - Waterside - Import Material Request - East Haven Trap Rock Quarry

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Ronnie,

At the download link below, please find the import request package for the proposed import material from the East Haven Trap Rock Quarry in East Haven, CT. FYI the landscaping contractor on the project would like to start bringing material in as soon as possible. Would you be able to let us know by EOD tomorrow if the DEC takes any exception?

https://clients.langan.com/Sharing/filesharing/ViewPosted?transactionHash=-975087615

Name	Type	Size
2023-05-25 - DEC Import Request_East Haven Quarry.pdf	.pdf	58.74 MB

Thanks,

Tyler Goodnough
Senior Staff Scientist

LANGAN

Direct: 212.479.5499 x5712
Mobile: 917.922.1697
File Sharing Link
www.langan.com

NEW YORK NEW JERSEY CONNECTICUT MASSACHUSETTS PENNSYLVANIA VIRGINIA WASHINGTON, DC OHIO ILLINOIS NORTH CAROLINA TENNESSEE FLORIDA TEXAS ARIZONA COLORADO UTAH CALIFORNIA ATHENS CALGARY DUBAI LONDON PANAMA



From: Greg Wyka <gwyka@langan.com>
Sent: Thursday, April 27, 2023 2:19 PM
To: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Cc: Tyler Goodnough <tgoodnough@langan.com>; Quandt, Sarah M (DEC) <Sarah.Quandt@dec.ny.gov>
Subject: RE: C231013 - Waterside - Site Improvements

Ok great, thanks Ronnie.

Greg

Gregory C. Wyka, P.G., LEED AP ND
Senior Project Geologist

LANGAN

Direct: 212.479.5476
Mobile: 347.267.2679
File Sharing Link
www.langan.com

NEW YORK NEW JERSEY CONNECTICUT MASSACHUSETTS PENNSYLVANIA WASHINGTON, DC VIRGINIA OHIO ILLINOIS FLORIDA TEXAS ARIZONA COLORADO WASHINGTON CALIFORNIA ATHENS CALGARY DUBAI LONDON PANAMA

A Carbon-Neutral Firm | Langan's goal is to be SAFE (Stay Accident Free Everyday)

Build your career with a premier firm. Join Langan.

From: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Sent: Thursday, April 27, 2023 11:39 AM
To: Greg Wyka <gwyka@langan.com>
Cc: Tyler Goodnough <tgoodnough@langan.com>; Quandt, Sarah M (DEC) <Sarah.Quandt@dec.ny.gov>
Subject: [External] Re: C231013 - Waterside - Site Improvements

Hi Greg,

I have no objection to this virgin source.

Ronnie

Ronnie E. Lee, P.E.
Professional Engineer 1
Division of Environmental Remediation

New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7016
P: 518-402-9615 | F: 518-402-9773 | ronnie.lee@dec.ny.gov
C: 518-708-3418
www.dec.ny.gov | | |

From: Greg Wyka <gwyka@langan.com>
Sent: Thursday, April 27, 2023 7:42 AM
To: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Cc: Tyler Goodnough <tgoodnough@langan.com>; Quandt, Sarah M (DEC) <Sarah.Quandt@dec.ny.gov>
Subject: RE: C231013 - Waterside - Site Improvements

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Ronnie,

Our client through their landscaping contractor, Steven Dubner Landscaping, would like to import a virgin fill material from the East Have Trap Rock Quarry in CT. See attached files for review. Langan will likely be doing the compliance sampling for imports. Please let me know if you have any objections to this facility before we embark on the sampling program for full suite parameters. This source looks good based on the documents received. Note: This quarry has been in operation for decades and predates local zoning regulations so there is no local or state permit.

Thanks so much,
Greg

Gregory C. Wyka, P.G., LEED AP ND
Senior Project Geologist

LANGAN

Direct: 212.479.5476
Mobile: 347.267.2679
File Sharing Link
www.langan.com

NEW YORK NEW JERSEY CONNECTICUT MASSACHUSETTS PENNSYLVANIA WASHINGTON, DC VIRGINIA OHIO ILLINOIS FLORIDA TEXAS ARIZONA COLORADO WASHINGTON CALIFORNIA ATHENS CALGARY DUBAI LONDON PANAMA

A Carbon-Neutral Firm | Langan's goal is to be SAFE (Stay Accident Free Everyday)

Build your career with a premier firm. Join Langan.

From: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Sent: Monday, April 17, 2023 1:39 PM
To: Greg Wyka <gwyka@langan.com>
Cc: Ryan Manderbach <rmanderbach@Langan.com>; Tyler Goodnough <tgoodnough@langan.com>; Gregory Biesiadecki <gbiesiadecki@Langan.com>; Quandt, Sarah M (DEC) <Sarah.Quandt@dec.ny.gov>
Subject: [External] RE: C231013 - Waterside - Site Improvements

Hi Greg,

1. Prior to importing any Item 4 material to the site, please complete and submit the attached *Request to Import/Reuse Fill or Soil* Form. Please note that if the material contains more than 10% material passing a size 10 sieve, the material must be sampled in accordance with Table 5.4(e)10, including sampling for PFAS.
2. Based on discussions with my supervisor, please complete and submit the attached Change of Use Notification Form to my attention to document the proposed site improvement activities.

If you have any questions, please let me know.

Best regards,
Ronnie

Ronnie E. Lee, P.E
Environmental Engineer 2
Division of Environmental Remediation

New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7016
P: (518) 402-9615 | F: (518) 402-9773 | ronnie.lee@dec.ny.gov
C: (518) 708-3418
www.dec.ny.gov | | |

NEW YORK STATE | Department of Environmental Conservation

From: Greg Wyka <gwyka@langan.com>
Sent: Monday, April 17, 2023 12:21 PM
To: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Cc: rmanderbach@Langan.com; Tyler Goodnough <tgoodnough@langan.com>; Gregory Biesiadecki <gbiesiadecki@Langan.com>
Subject: RE: Waterside - Site Improvements

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Ronnie,

Nice speaking with you earlier. As discussed, the owner will be making some minor site improvements to support the UN General Assembly session from September to December later this year. Mobile construction office trailers may be placed for a short duration. The owner will be hiring a landscaping contractor to lightly re-grade two areas (see red cross-hatched areas) and import about 700 yards of fill material (Item 4). See attached site plan for reference. I will relay sampling/testing requirements to the contractor and send you the import package for review once it is ready. Let me know if you need me to send you a formal COU notice.

Thanks so much,
Greg

Gregory C. Wyka, P.G., LEED AP ND
Senior Project Geologist

LANGAN

Direct: 212.479.5476
Mobile: 347.267.2679
File Sharing Link
www.langan.com

NEW YORK NEW JERSEY CONNECTICUT MASSACHUSETTS PENNSYLVANIA WASHINGTON, DC VIRGINIA OHIO ILLINOIS FLORIDA TEXAS ARIZONA COLORADO WASHINGTON CALIFORNIA ATHENS CALGARY DUBAI LONDON PANAMA

A Carbon-Neutral Firm | Langan's goal is to be SAFE (Stay Accident Free Everyday)

Build your career with a premier firm. Join Langan.

From: Lee, Ronnie (DEC) <ronnie.lee@dec.ny.gov>
Sent: Monday, April 17, 2023 9:42 AM
To: Greg Wyka <gwyka@langan.com>
Subject: [External] RE: Waterside

Yes, I am.

Ronnie E. Lee, P.E
Environmental Engineer 2
Division of Environmental Remediation

New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7016
P: (518) 402-9615 | F: (518) 402-9773 | ronnie.lee@dec.ny.gov
C: (518) 708-3418
www.dec.ny.gov |



Total Loads	Daily Total	DATE	TRUCKING COMPANY	TRUCK LICENSE PLATE NUMBER	TRUCK No.	TICKET NUMBER	AMOUNT IMPORTED (tons)	AMOUNT IMPORTED (Cubic Yards)
1	1	6/2/2023	Rock Tech Inc.	30252PC	62	16512	40.68	29.06
2	2	6/2/2023	Rock Tech Inc.	21641PF	70	16514	38.3	27.36
3	3	6/2/2023	Rock Tech Inc.	77587PC	59	16519	40.62	29.01
4	4	6/2/2023	Rock Tech Inc.	21640PF	63	16520	35.92	25.66
5	1	6/5/2023	Rock Tech Inc.	30252PC	62	16551	40.43	28.88
6	2	6/5/2023	Rock Tech Inc.	AU38667	75	16552	28.33	20.24
7	3	6/5/2023	Rock Tech Inc.	CB42248	61	16554	42.38	30.27
8	4	6/5/2023	Rock Tech Inc.	77587PC	59	16556	37.5	26.79
9	5	6/5/2023	Rock Tech Inc.	21641PF	70	16557	34.76	24.83
10	6	6/5/2023	Rock Tech Inc.	14422PF	74	16559	39.42	28.16
11	7	6/5/2023	Rock Tech Inc.	21640PF	63	16560	34.15	24.39
12	8	6/5/2023	Rock Tech Inc.	30252PC	62	16568	22.23	15.88
13	9	6/5/2023	Rock Tech Inc.	77587PC	59	16569	20.44	14.60
14	10	6/5/2023	Rock Tech Inc.	21641PF	70	16570	20.01	14.29
15	11	6/5/2023	Rock Tech Inc.	14422PF	74	16572	18.03	12.88
16	12	6/5/2023	Rock Tech Inc.	21640PF	63	16577	20.53	14.66
17	1	6/6/2023	Rock Tech Inc.	30252PC	62	16590	39.98	28.56
18	2	6/6/2023	Rock Tech Inc.	74506PC	64	16591	32.48	23.20
19	3	6/6/2023	Rock Tech Inc.	21641PF	70	16592	36.09	25.78
20	4	6/6/2023	Rock Tech Inc.	AU38667	75	16593	28.78	20.56
21	5	6/6/2023	Rock Tech Inc.	21640PF	63	16595	31.4	22.43
22	6	6/6/2023	Rock Tech Inc.	74506PC	64	16604	24.78	17.70
23	7	6/6/2023	Rock Tech Inc.	30252PC	62	16605	26.18	18.70
24	8	6/6/2023	Rock Tech Inc.	21641PF	70	16607	19.8	14.14
25	9	6/6/2023	Rock Tech Inc.	21640PF	63	16609	20.09	14.35
26	1	6/7/2023	Rock Tech Inc.	77587PC	59	16618	47.58	33.99
27	2	6/7/2023	Rock Tech Inc.	21641PF	70	16619	45.64	32.60
28	3	6/7/2023	Rock Tech Inc.	74506PC	64	16620	36.73	26.24
29	4	6/7/2023	Rock Tech Inc.	30252PC	62	16621	51.46	36.76
30	5	6/7/2023	Rock Tech Inc.	14422PF	74	16622	47.71	34.08
31	6	6/7/2023	Rock Tech Inc.	AU38667	75	16623	27.81	19.86
32	7	6/7/2023	Rock Tech Inc.	21640PF	63	16624	36.88	26.34
33	8	6/7/2023	Rock Tech Inc.	77587PC	59	16631	26.07	18.62
34	9	6/7/2023	Rock Tech Inc.	74506PC	64	16632	25.65	18.32
35	10	6/7/2023	Rock Tech Inc.	30252PC	62	16633	25.32	18.09
36	11	6/7/2023	Rock Tech Inc.	AU38667	75	16636	23.99	17.14
37	12	6/7/2023	Rock Tech Inc.	21641PF	70	16637	25.2	18.00
38	13	6/7/2023	Rock Tech Inc.	21640PF	63	16639	25.97	18.55

Total Cubic Yards: **870.94**

Total Tons: **1219.32**

Signature:

Ticket #: 16514

Date: 6/2/2023 4:13 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI70 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	38.3 tn	
Gross:	115800 Lbs	4:13 AM
Tare:	39200 Lbs	4:13 AM
Net:	76600 Lbs	

Signature:

Ticket #: 16512

Date: 6/2/2023 4:07 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside

Weigh Master: *BILL -- Bill Murdocca*

Truck: RTI62 --

Remarks: Thanks

Material	Quantity	Line Total $	Line
DENSE GRADE AGG	40.68 tn		
Gross:	120060 Lbs	4:07 AM	
Tare:	38700 Lbs	4:07 AM	
Net:	81360 Lbs		

Signature:

Ticket #: 16519

Date: 6/2/2023 4:41 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 3

New York State

Weigh Master: BILL -- Bill Murdocca

Truck: RTI59 --

Remarks: Thanks Steve

Material	Quantity	Line Total $
1-1/4" STONE	40.62 tn	
Gross:	113200 Lbs	4:41 AM
Tare:	31960 Lbs	4:41 AM
Net:	81240 Lbs	

Signature:

Ticket #: 16520

Date: 6/2/2023 4:47 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 3

New York State

Weigh Master: BILL -- Bill Murdocca

Truck: RTI63 --

Remarks: Thanks Steve

Material	Quantity	Line Total $
1-1/4" STONE	35.92 tn	
Gross:	110240 Lbs	4:47 AM
Tare:	38400 Lbs	4:47 AM
Net:	71840 Lbs	

Ticket #: 18654

Date: 6/5/2023 5:54 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT.

Customer: ROCKTECH

Rock Tech Inc

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI61

Remarks: Thanks Steve Dubner

Material	Quantity	Line Total $
DENSE GRADE AGG	42.38 tn	
Gross:	122980 Lbs	5:54 AM
Tare:	38220 Lbs	5:52 AM
Net:	84760 Lbs	

Signature


63
Ticket #: 16560
Date: 6/5/2023 6:16 AM
East Haven Trap Rock Quarry LLC
1 Barberry Road
East Haven CT.
Customer: ROCKTECH
Rock Tech Inc
Order #: 4
SDL Lower Eastside Item 4
Weigh Master: BILL -- Bill Murdocca
Truck: RT63 --
Remarks: Thanks Steve Dubner
Material
Quantity
Line Total $
DENSE GRADE AGG 34.15 tn
Gross: 106700 Lbs 6:16 AM
Tare: 38400 Lbs 6:16 AM
Net: 68300 Lbs
Signature:


63
Ticket #: 16577
Date: 6/5/2023 11:54 AM
East Haven Trap Rock Quarry LLC
1 Barberry Road
East Haven CT.
CusMmer: ROCKTECH
Rock Tech Inc
Driver # 4
SCL Lower Eastside Item 4
Weigh Master: BILL – Bill Muriscoce
Truck: RT163
Remarks Thanks
Material
Quantity
Line Total $
DENSE GRADE AGG
20.53 tn
Gross:
79460 Lbs
11:54 AM
Tare:
38400 Lbs
11:54 AM
Net:
41060 Lbs

Ticket #: 16552

Date: 6/5/2023 4:13 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI75 --NO NUMBER DEFAULT RTI

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	28.33 tn	
Gross:	86700 Lbs	4:13 AM
Tare:	30040 Lbs	4:13 AM
Net:	56660 Lbs	

Ticket #: 16551

Date: 6/5/2023 4:07 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI62 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	40.43 tn	
Gross:	119560 Lbs	4:07 AM
Tare:	38700 Lbs	4:07 AM
Net:	80860 Lbs	

ket #: 16568

te: 6/5/2023 9:43 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI62 --

Remarks: Thanks Steve Duber

Material	Quantity	Line Total $
DENSE GRADE AGG	22.23 tn	
Gross:	83160 Lbs	9:43 AM
Tare:	38700 Lbs	9:43 AM
Net:	44460 Lbs	

Signature:

Ticket #: 16556

Date: 6/5/2023 6:01 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI59 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	37.5 tn	
Gross:	106960 Lbs	
Tare:	31960 Lbs	6:01 AM
Net:	75000 Lbs	6:01 AM

Signature:

Ticket #: 16569

Date: 6/5/2023 9:46 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RT159 --

Remarks: Thanks Steve Dubner

Material	Quantity	Line Total $
DENSE GRADE AGG	20.44 tn	
Gross:	72840 Lbs	9:46 AM
Tare:	31960 Lbs	
Net:	40880 Lbs	9:45 AM

Signature:

Ticket #: 16557

Date: 6/5/2023 6:02 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI70 --

Remarks: Thanks Steve Dubner

Material	Quantity	Line Total $	
DENSE GRADE AGG	34.76 tn		
Gross:	108720 Lbs		6:02 AM
Tare:	39200 Lbs		6:02 AM
Net:	69520 Lbs		

Ticket #: 16570

Date: 6/5/2023 9:56 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI70 --

Remarks: Thanks

Material	Quantity	Line Total $	
DENSE GRADE AGG	20.01 tn		
Gross:	79220 Lbs		9:56 AM
Tare:	39200 Lbs		9:56 AM
Net:	40020 Lbs		

Signature:

Ticket #: 16559

Date: 6/5/2023 6:12 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI74 --

Remarks: Thanks Steve Dubner

Material	Quantity	Line Total $
DENSE GRADE AGG	39.42 tn	
Gross:	123840 Lbs	6:12 AM
Tare:	45000 Lbs	6:11 AM
Net:	78840 Lbs	

Ticket #: 16572

Date: 6/5/2023 10:16 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI74 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	18.03 tn	
Gross:	81060 Lbs	10:16 AM
Tare:	45000 Lbs	10:16 AM
Net:	36060 Lbs	

Signature:
Signature:

Ticket #: 16590

Date: 6/6/2023 4:12 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI62 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	39.98 tn	
Gross:	118660 Lbs	4:12 AM
Tare:	38700 Lbs	4:12 AM
Net:	79960 Lbs	

Signature:

Signature

Ticket #: 16591

Date: 6/6/2023 4:19 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI64 --

Remarks: *Thanks*

Material	Quantity	Line Total $
DENSE GRADE AGG	32.48 tn	
Gross:	110720 Lbs	4:19 AM
Tare:	45760 Lbs	4:19 AM
Net:	64960 Lbs	

Signature

Ticket #: 16592

Date: 6/6/2023 4:22 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: *RTI70* --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	36.09 tn	
Gross:	111380 Lbs	4:22 AM
Tare:	39200 Lbs	4:22 AM
Net:	72180 Lbs	

Signature:

Signature:

Signature:

Ticket #: 16593

Date: 6/6/2023 4:26 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI75 --NO NUMBER DEFAULT RTI

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	28.78 tn	
Gross:	87600 Lbs	4:26 AM
Tare:	30040 Lbs	4:26 AM
Net:	57560 Lbs	

Signature:

Ticket #: 16595

Date: 6/6/2023 4:50 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI63 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	31.4 tn	
Gross:	101200 Lbs	4:50 AM
Tare:	38400 Lbs	4:49 AM
Net:	62800 Lbs	

Ticket #: 16605

Date: 6/6/2023 9:33 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI62 --

Remarks: Thanks

Material	**Quantity**	**Line Total $**
DENSE GRADE AGG	26.18 tn	
Gross:	91060 Lbs	9:32 AM
Tare:	38700 Lbs	9:32 AM
Net:	52360 Lbs	

Signature:

Ticket #: 16604

Date: 6/6/2023 9:27 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI62 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	24.78 tn	
Gross:	88250 Lbs	9:26 AM
Tare:	38700 Lbs	9:26 AM
Net:	49550 Lbs	

Signature:

Ticket #: 16607

Date: 6/6/2023 9:57 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI70 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	19.8 tn	
Gross:	78800 Lbs	9:57 AM
Tare:	39200 Lbs	9:57 AM
Net:	39600 Lbs	

Ticket #: 16609

Date: 6/6/2023 10:21 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI63 --

Remarks: *Thanks*

Material	Quantity	Line Total $
DENSE GRADE AGG	20.09 tn	
Gross:	78580 Lbs	10:21 AM
Tare:	38400 Lbs	10:21 AM
Net:	40180 Lbs	

Signature:

Ticket #: 16618

Date: 6/7/2023 4:08 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI59 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	47.58 tn	
Gross:	127120 Lbs	4:08 AM
Tare:	31960 Lbs	4:07 AM
Net:	95160 Lbs	

Signature:

Signature

Signature:

Ticket #: 16619

Date: 6/7/2023 4:14 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI70 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	45.64 tn	
Gross:	130486 Lbs	4:14 AM
Tare:	39200 Lbs	4:14 AM
Net:	91286 Lbs	

ure:

Signature

Signatu

Ticket #:

Signature:

Ticket #: 16620

Date: 6/7/2023 4:18 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI64 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	36.73 tn	
Gross:	119220 Lbs	4:18 AM
Tare:	45760 Lbs	4:18 AM
Net:	73460 Lbs	

Signature:

Signature

Ticket #: 16621

Date: 6/7/2023 4:23 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI62 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	51.46 tn	
Gross:	141620 Lbs	4:23 AM
Tare:	38700 Lbs	4:22 AM
Net:	102920 Lbs	

Signature

Ticket #: 16624

Ticket #: 16622

Date: 6/7/2023 4:29 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI74 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	47.71 tn	
Gross:	140420 Lbs	4:29 AM
Tare:	45000 Lbs	4:29 AM
Net:	95420 Lbs	

Ticket #: 16624

Ticket #: 16623

Date: 6/7/2023 4:32 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI75 --NO NUMBER DEFAULT RTI

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	27.81 tn	
Gross:	85660 Lbs	4:32 AM
Tare:	30040 Lbs	4:31 AM
Net:	55620 Lbs	

Ticket #: 16624

Date: 6/7/2023 4:55 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI63 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	36.88 tn	
Gross:	112160 Lbs	4:55 AM
Tare:	38400 Lbs	4:55 AM
Net:	73760 Lbs	

Ticket #: 16632

Date: 6/7/2023 9:14 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI64 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	25.65 tn	
Gross:	97060 Lbs	9:14 AM
Tare:	45760 Lbs	9:14 AM
Net:	51300 Lbs	

ature:

ure

icket #: 16631

Date: 6/7/2023 9:13 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI59 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	26.07 tn	
Gross:	84100 Lbs	9:12 AM
Tare:	31960 Lbs	9:12 AM
Net:	52140 Lbs	

Signat

Signa

Signature:

Ticket #: 16636

Date: 6/7/2023 9:29 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI75 --NO NUMBER DEFAULT RTI

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	23.99 tn	
Gross:	78020 Lbs	9:29 AM
Tare:	30040 Lbs	9:29 AM
Net:	47980 Lbs	

Signature:

Ticket #: 16633

Date: 6/7/2023 9:15 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI62 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	25.32 tn	
Gross:	89340 Lbs	9:15 AM
Tare:	38700 Lbs	9:15 AM
Net:	50640 Lbs	

Ticket #: 16637

Date: 6/7/2023 9:32 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI70 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	25.2 tn	
Gross:	89600 Lbs	*9:32 AM*
Tare:	39200 Lbs	*9:32 AM*
Net:	50400 Lbs	

Signature:

Ticket #: 16639

Date: 6/7/2023 10:14 AM

East Haven Trap Rock Quarry LLC

1 Barberry Road

East Haven CT,

Customer: ROCKTECH

Rock Tech Inc.

Order #: 4

SDL Lower Eastside Item 4

Weigh Master: BILL -- Bill Murdocca

Truck: RTI63 --

Remarks: Thanks

Material	Quantity	Line Total $
DENSE GRADE AGG	25.97 tn	
Gross:	90340 Lbs	10:14 AM
Tare:	38400 Lbs	10:14 AM
Net:	51940 Lbs	