DATA VALIDATION

FOR

60 McLEAN AVENUE
YONKERS, NY

ORGANIC AND INORGANIC ANALYSIS DATA

Laboratory Sample Delivery Group (SDG) No. L2123311

Analyses Performed By:

Alpha Analytical
Westborough, Massachusetts

For:

Impact Environmental Inc.
Bohemia, NY

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55102

July 30, 2022

2144-000102
60 McLean Avenue\L2123311.docx

EXECUTIVE SUMMARY

Validation of the organic analyses data prepared by Alpha Analytical Westborough, Massachusetts for five groundwater samples from the 60 McLean Avenue Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Stage 4 validation was performed on the sample data. The data were reported by the laboratory under SDG No. L2123311. The following samples were reported:

WP-11	WP-12	WP-13	WP-14
WP-15			

Based on professional judgment, results for non-detects should be considered to be "U," not detected, at the analyte-specific reporting limit (RL) to represent the lowest concentration at which the laboratory can detect and accurately quantitate sample concentrations based on the documentation provided. The laboratory reported results as not detected at the method detection limit (MDL). The MDL is an estimated value based on a statistical determination, not a quantitative measurement supported by the data provided and should not be used to report non-detect results. It should also be noted by the data user that the laboratory reported non-detect results, RLs, and MDLS to three significant figures. The level of accuracy portrayed at these concentrations and estimated concentrations is not supported by the data and should not be used.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

Data Usability Summary Report	
1. Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2. Have all holding times been met?	Yes
3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See following sections
4. Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5. Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes – See Attachments A, B, and C

Based on the validation effort, the following data qualifiers were applied:

VOCs

- Results for dichlorodifluoromethane and chloromethane in WP-12, WP-13, WP-14, and WP-15 were qualified as estimated (UJ) due to a decrease in sensitivity from the initial calibration.

- Results for tetrachloroethene in WP-12, WP-13, WP-14, and WP-15 were qualified as estimated (J+) due to an increase in sensitivity from the initial calibration.

- Results for methyl tert butyl ether, 1,2,3-trichloropropane, dichlorodifluoromethane, 2-hexanone, 2,2-dichloropropane, naphthalene, 1,2,3-trichlorobenzene, 1,4-dioxane, and trans-1,4-dichloro-2-butene in WP-11 were qualified as estimated (J, UJ) due to laboratory control sample (LCS)/LCS duplicate (LCSD) excursions.

SVOCs
8270D Fullscan

- Results for 2-nitroaniline, 2,6-dinitrotoluene, butyl benzyl phthalate, and di-n-octyl phthalate in WP-12, WP-13, WP-14, and WP-15 were qualified as estimated (UJ) based on high percent differences (%Ds) between the initial calibration (IC) and the IC verification (ICV) standards.

- Results for all target compounds in WP-13 and WP-15 were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in each of the acid and base/neutral extractables fractions.

- Results for benzyl alcohol in WP-11, WP-12, and WP-14 were qualified as estimated (UJ) based on low recovery for one or both of the associated surrogate compounds

- Results for 3,3'-dichlorobenzidine and 4-chloroaniline in WP-11, WP-12, WP-13, WP-14, and WP-15 were qualified as estimated (UJ) based on low recoveries in the LCS and LCSD.

8270D SIM

- Results for hexachloroethane, naphthalene, hexachlorobutadiene, acenaphthylene, 2-methylnaphthalene, 2-chloronaphthalene, and pyrene in WP-12, WP-13, WP-14, and WP-15 were qualified as estimated (J, UJ) based on high variability between the ICV and the IC.

- Results for benzo(ghi)perylene and indeno(1,2,3-cd)pyrene in WP-13 were qualified as not detected (U) at the reporting limit, based on presence of these compounds in the laboratory method blank at similar concentrations.

- Results for all target compounds in WP-13 and WP-15 were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in the base/neutral extractables fraction.

All other results were determined to be valid as reported by the laboratory.

This report should be considered part of the data package for all future distributions of the data.

INTRODUCTION

Analyses for the requested parameters were performed by the laboratory according to the following analytical methods:

Volatile Organic Compounds (VOCs)	SW846 Method 8260C
Semivolatile Organic Compounds (SVOCs)	SW846 Method 8270D SW846 Method 8270DSIM

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used to denote specific information regarding the analytical results.

ddms' validation was performed in conformance with the USEPA "National Functional Guidelines (NFG) for Organic Data Review" (2020), ddms' Standard Operating Procedures (SOPs) for the methods followed, the requirements of the analytical methods followed, and the specifications of the project-specific Quality Assurance Project Plan (QAPP). Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the CLP. This requires that the data package be presented in accordance with the CLP requirements, so that sufficient supporting documentation is available to facilitate the validation effort. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the NFG:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data package, documenting a sample collection date of May 5, 2021. The samples were also received at the laboratory on May 5, 2021

The temperature of the cooler upon receipt at the laboratory (4.3°C) was acceptable (QC <6°C). Appropriate sample preservation was noted on the COC records, sample receipt checklists, and VOC run logs. All samples were prepared and analyzed within method holding times.

II. Documentation

The following documentation issues were observed during the validation effort:

- The report narrative states that LCS/LCSD recoveries for benzidine were unacceptably low; however, benzidine was not a reported analyte for these samples.

The remainder of this report discusses the review effort for each of the parameters. The tables below document the quality control (QC) elements reviewed for each analysis parameter. Where a quality indicator was deemed acceptable after thorough review, no further discussion is included in this report. Detailed findings are included for each quality element that impacted the usability of the reported results. Additional information or explanation is included as needed, to provide support for decisions made, based on the validator's best professional judgment.

Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J with an indeterminate bias.

III. VOCs

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	Y
Surrogates	Y
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field and Laboratory Duplicates	N/A
Matrix Spike (MS)/Matrix Spike Duplicate (MSD)	N/A
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	N/A

N/A – not applicable

A. Calibration

Data for one IC were provided, performed on instrument GONZO on 3/2/21. All of the IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable except for acetone (0.042), acrylonitrile (0.047), and 1,4-dioxane (0.001). A review of other laboratory quality control data supports the laboratory's ability to detect and accurately quantify the compounds. No data were qualified on this basis.

An initial calibration verification (ICV) standard was analyzed after the IC; all percent differences (%Ds) were acceptable in the ICV standard.

Data for two continuing calibration standards were reported. All %Ds were acceptable except as summarized below. Where the excursion represented an increase in sensitivity and the analyte was not detected, no data required qualification. Data were qualified as defined in the table below.

Parameter	%D	Samples Affected	Qualifier Applied
Batch 1496318-2			
Dichlorodifluoromethane	28	WP-12 WP-13 WP-14 WP-15	UJ
Chloromethane	23		
1,4-Dioxane	-22		none
Tetrachloroethene	-25		J+
Bromoform	-21		none
trans-1,4-Dichloro-2-butene	-31		none
1,2-Dibromo-3-chloropropane	-21		none
Naphthalene	-26		none
Batch 1496478-2			
Dichlorodifluoromethane	-36	WP-11	none
Bromomethane	-29		none
Acetone	-79		J+
Methyl tert-butyl ether	-27		none
2,2-Dichloropropane	-37		none
trans-1,3-Dichloropropene	-22		none
trans-1,4-Dichloro-2-butene	-51		none
Naphthalene	-24		J+

B. LCS/LCSD

Two LCS/LCSD pairs were prepared and analyzed with these samples. Recoveries for all spiked compounds assessed (70-130% R) and agreement between paired results (<20 RPD) were acceptable except as summarized below.

Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1496318-3/4					
trans-1,4-Dichloro-2-butene	69	a	a	WP-12 WP-13 WP-14 WP-15	UJ
Batch 1496478-3/4					
Methyl tert butyl ether	a	a	22	WP-11	UJ
1,2,3-Trichloropropane	a	a	21		UJ
Acrylonitrile	a	140	a		none
Dichlorodifluoromethane	64	a	a		UJ
Acetone	180	180	0		none
2-Hexanone	a	a	23		UJ
2,2-Dichloropropane	63	a	16		UJ
Naphthalene	a	a	27		J
1,2,3-Trichlorobenzene	a	a	27		UJ
1,4-Dioxane	a	a	29		UJ
trans-1,4-Dichloro-2-butene	48	57	a		UJ

IV. SVOCs (8270D Fullscan)

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	NA
Matrix Spike (MS)/MS duplicate (MSD)	NA
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	NA

NA = not applicable or not analyzed

A. Calibration

Two initial calibrations were provided in support of the sample results, one performed on 7/12/20 on instrument SV106 and another performed on 3/30/21 on instrument SV124. All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable. An initial calibration verification (ICV) standard was analyzed after the IC; all percent differences (%Ds) were acceptable (≤20%) in the ICV standard, with the exceptions detailed below:

ICV Date	Compound	%D	Samples Affected	Qualifier Applied
7/13/2020 @ 4:27 am SV106	2-Nitroaniline	27.5	WP-14 WP-15 WP-12 WP-13	UJ
	2,6-Dinitrotoluene	21.5		
	Butyl benzyl phthalate	27.9		
	Di-n-octyl phthalate	21.9		

Results for 2-nitroaniline, 2,6-dinitrotoluene, butyl benzyl phthalate, and di-n-octyl phthalate in WP-12, WP-13, WP-14, and WP-15 were qualified as estimated (UJ) based on high %Ds in the ICV.

Continuing calibration (CC) standards were analyzed at the appropriate frequency and %Ds were acceptable (≤20%) with the following exception:

CC Date	Compound	%D	Samples Affected	Qualifier Applied
5/11/2021 @ 14:13 SV124	bis(2-Chloroisopropyl) ether	+33.5	WP-11	None

The high %D for bis(2-chloroisopropyl) ether represents an increase in sensitivity from the IC and this compound was not detected in WP-11; therefore, no action was necessary.

B. Surrogates

Six surrogate compounds (2-fluorophenol [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHd14]), were added before extraction to all QC and field samples. Recoveries for the surrogates were acceptable (70-130%) with the exceptions detailed below:

Sample	2FP	PHL	NBZ	FBP	TBP	$TPHd_{14}$	Qualifier Applied
WP-11	a	61	a	a	a	a	J-, UJ
WP-12	59	52	a	a	67	a	
WP-13	39	40	59	58	60	a	
WP-14	55	55	a	a	56	a	
WP-15	49	46	a	66	59	a	

Results for all target compounds in WP-13 and WP-15 were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in each of the acid and base/neutral extractables fractions.

Only phenol-d_5 and 2-fluorophenol have bearing on the single acid-extractable target compound (benzyl alcohol) reported in the target list for these samples; therefore, based on professional judgement, recoveries for TBP did not impact sample results.

Results for benzyl alcohol in WP-11, WP-12, and WP-14 were qualified as estimated (UJ) based on low recovery for one or both of the associated surrogate compounds, phenol-d_5 and 2-fluorophenol.

C. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

One LCS/LCSD pair was prepared and analyzed with the extraction batch. Recoveries for all spiked compounds assessed (70-130% R) and agreement between paired results (<20 RPD) were acceptable with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1497011-2/3					
3,3'-Dichlorobenzidine	56	56	a	MW-11 MW-12 MW-13 MW-14 MW-15	UJ
bis(2-chloroisopropyl) ether	a	131	a		None
4-Chloroaniline	60	55	a		UJ

Results for 3,3'-dichlorobenzidine and 4-chloroaniline in MW-11, MW-12, MW-13, MW-14, and MW-15 were qualified as estimated (UJ) based on low recoveries in the LCS and LCSD.

There were no detections of bis(2-chloroisopropyl) ether in the field samples; therefore, no action was necessary for this compound.

V. SVOCs (Method 8270D SIM)

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	N
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	Y
Field Duplicates	NA
Matrix Spike (MS)/MS duplicate (MSD)	NA
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	NA

NA = not applicable or not analyzed

A. Calibration

Two initial calibrations were provided in support of the samples results, one performed on 2/24/21 and the other on 5/6/21, both on instrument SV119. All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable. An initial calibration verification (ICV) standard was analyzed after the IC; all percent differences (%Ds) were acceptable (≤20%) in the ICV standard, with the exceptions detailed below:

ICV Date	Compound	%D	Samples Affected	Qualifier Applied
2/24/21 @ 05:28 pm SV119	Hexachloroethane	23.0	WP-12 WP-13 WP-14 WP-15	J, UJ
	Naphthalene	25.3		
	Hexachlorobutadiene	21.6		
	Acenaphthylene	25.0		
	2-Methylnaphthalene	27.2		
	2-Chloronaphthalene	26.0		
	Pyrene	21.8		

Results for hexachloroethane, naphthalene, hexachlorobutadiene, acenaphthylene, 2-methylnaphthalene, 2-chloronaphthalene, and pyrene in WP-12, WP-13, WP-14, and WP-15 were qualified as estimated (J, UJ) based on high variability between the ICV and the IC.

Continuing calibration (CC) standards were analyzed at the appropriate frequency and %Ds were acceptable (≤20%).

B. Blanks

One method blank was prepared with the single analytical batch that included all of the site samples. The following compounds were detected in the method blank.

ICV Date	Compound	%D	Samples Affected	Qualifier Applied
WG1497014-1	Benzo(b)fluoranthene	0.02 µg/L	WP-13	U
	Benzo(ghi)perylene	0.02 µg/L		
	Indeno(1,2,3-cd)pyrene	0.01 µg/L		

Results for benzo(ghi)perylene and indeno(1,2,3-cd)pyrene in WP-13 were qualified as not detected, at the reporting limit based on presence of these compounds in the laboratory method blank at similar concentrations. Benzo(b)fluoranthene was not detected in this sample.

C. Surrogates

Six surrogate compounds (2-fluorophenol [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHd14]) were added before extraction to all QC and field samples. Of these, only the three

base/neutral extractable surrogate compounds (NBZ, FBP, and TPHd14) have bearing on the reported target compounds. Recoveries for these surrogates were acceptable (70-130%) with the exceptions detailed below:

Sample	2FP	PHL	NBZ	FBP	TBP	$TPHd_{14}$	Qualifier Applied
WP-13	NA	NA	53	58	NA	a	J-, UJ
WP-15	NA	NA	62	62	NA	a	

Results for all target compounds in WP-13 and WP-15 were qualified as estimated (J-, UJ) based on low recoveries for two surrogates in the base/neutral extractables fraction.

Attachment A
Volatiles QC Summary Forms - Excursions

Response Factor Report Gonzo

Method Path : I:\VOLATILES\Gonzo\2021\210227A\
Method File : G_210227A_8260.m
Title : VOLATILES BY GC/MS
Last Update : Tue Mar 02 13:15:36 2021
Response Via : Initial Calibration

Calibration Files
L11 =VG210227A04.D L1 =VG210301N03.D L2 =VG210227A08.D L3 =VG210227A09.D L4 =VG210227A10.D
L6 =VG210227A11.D L8 =VG210227A12.D L10 =VG210227A13.D

		Compound	L11	L1	L2	L3	L4	L6	L8	L10	Avg	%RSD
1)	I	Fluorobenzene	----------	ISTD	----------							
2)	TP	Dichlorodifluo...		0.134	0.123	0.137	0.143	0.152	0.146	0.152	0.141	7.47
3)	TP	Chloromethane		0.275	0.229	0.179	0.188	0.184	0.183	0.183	0.203	17.75
4)	TC	Vinyl chloride	0.200	0.154	0.158	0.150	0.162	0.171	0.169	0.176	0.168	9.36
5)	TP	Bromomethane		0.276	0.157	0.099	0.079	0.080	0.086	0.094	*L	0.9943
6)	TP	Chloroethane		0.113	0.111	0.102	0.108	0.095	0.067		0.099#	17.21
7)	TP	Trichlorofluor...		0.195	0.224	0.234	0.246	0.261	0.252	0.262	0.239	10.03
8)	TP	Ethyl ether		0.079	0.072	0.068	0.076	0.079	0.080	0.083	0.077	6.91
10)	TC	1,1-Dichloroet...		0.115	0.132	0.128	0.137	0.145	0.145	0.151	0.136	9.05
11)	TP	Carbon disulfide		0.429	0.394	0.356	0.388	0.415	0.409	0.426	0.402	6.30
12)	TP	Freon-113		0.092	0.113	0.134	0.146	0.155	0.149	0.156	0.135	17.90
14)	TP	Acrolein			0.020	0.017	0.019	0.020	0.021	0.022	0.020#	8.89
15)	TP	Methylene chlo...		0.188	0.149	0.133	0.143	0.148	0.147	0.151	0.151	11.41
17)	TP	Acetone			0.047	0.038	0.039	0.041	0.043	0.045	0.042#	8.14
18)	TP	trans-1,2-Dich...		0.128	0.151	0.134	0.143	0.152	0.151	0.154	0.145	6.98
19)	TP	Methyl acetate		0.113	0.084	0.078	0.092	0.098	0.104	0.108	0.097#	13.10
20)	TP	Methyl tert-bu...		0.318	0.343	0.350	0.398	0.421	0.427	0.442	0.385	12.53
21)	TP	tert-Butyl alc...		0.012	0.014	0.013	0.014	0.015	0.016	0.017	0.014#	13.34
22)	TP	Diisopropyl ether		0.391	0.434	0.424	0.494	0.532	0.542	0.560	0.483	13.73
23)	TP	1,1-Dichloroet...		0.268	0.295	0.275	0.297	0.309	0.308	0.313	0.295	5.94
24)	TP	Halothane		0.097	0.109	0.111	0.124	0.130	0.128	0.132	0.119	11.13
25)	TP	Acrylonitrile		0.039	0.038	0.044	0.048	0.051	0.053	0.055	0.047#	14.00
26)	TP	Ethyl tert-but...		0.374	0.391	0.398	0.472	0.506	0.512	0.531	0.455	14.40
27)	TP	Vinyl acetate		0.271	0.259	0.255	0.305	0.311	0.320	0.325	0.292	10.19
28)	TP	cis-1,2-Dichlo...		0.165	0.174	0.149	0.165	0.175	0.170	0.178	0.168	5.92
29)	TP	2,2-Dichloropr...		0.230	0.225	0.223	0.242	0.247	0.241	0.244	0.236	4.18
30)	TP	Bromochloromet...		0.072	0.080	0.072	0.074	0.073	0.071	0.072	0.073	4.04
31)	TP	Cyclohexane		0.219	0.227	0.258	0.283	0.302	0.292	0.308	0.270	13.25
32)	TC	Chloroform		0.237	0.286	0.254	0.281	0.280	0.289	0.291	0.274	7.46
33)	TP	Ethyl acetate		0.100	0.121	0.120	0.137	0.147	0.154	0.160	0.134	16.08
34)	TP	Carbon tetrach...	0.235	0.198	0.192	0.212	0.236	0.252	0.249	0.253	0.228	10.65

Method Path : I:\VOLATILES\Gonzo\2021\210227A\
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L6 =VG210227A11.D L8 =VG210227A12.D L10 =VG210227A13.D

		Compound	L11	L1	L2	L3	L4	L6	L8	L10	Avg	%RSD
35)	TP	Tetrahydrofuran		0.064	0.047	0.041	0.044	0.045	0.046	0.047	0.048#	15.63
36)	S	Dibromofluorom...	0.270	0.262	0.267	0.260	0.251	0.246	0.246	0.242	0.256	4.13
37)	TP	1,1,1-Trichlor...		0.214	0.247	0.246	0.270	0.281	0.277	0.282	0.259	9.59
39)	TP	2-Butanone		0.084	0.060	0.048	0.060	0.062	0.067	0.069	0.064#	17.38
40)	TP	1,1-Dichloropr...		0.159	0.178	0.187	0.212	0.225	0.222	0.228	0.202	13.39
41)	TP	Benzene	0.556	0.495	0.555	0.531	0.602	0.628	0.630	0.645	0.580	9.29
42)	TP	tert-Amyl meth...		0.317	0.357	0.343	0.396	0.423	0.432	0.450	0.388	12.89
43)	S	1,2-Dichloroet...	0.317	0.323	0.320	0.318	0.296	0.298	0.303	0.306	0.310	3.41
44)	TP	1,2-Dichloroet...		0.220	0.215	0.196	0.215	0.221	0.219	0.224	0.216	4.31
47)	TP	Methyl cyclohe...		0.216	0.199	0.234	0.266	0.287	0.278	0.294	0.254	14.57
48)	TP	Trichloroethene	0.195	0.162	0.161	0.148	0.171	0.179	0.177	0.180	0.172#	8.29
50)	TP	Dibromomethane		0.059	0.087	0.080	0.090	0.093	0.093	0.095	0.085	14.61
51)	TC	1,2-Dichloropr...		0.128	0.146	0.138	0.159	0.165	0.162	0.166	0.152	9.88
53)	TP	2-Chloroethyl ...		0.063	0.060	0.064	0.065	0.061	0.060	0.052	0.061	7.08
54)	TP	Bromodichlorom...		0.184	0.199	0.189	0.214	0.223	0.221	0.228	0.208	8.48
57)	TP	1,4-Dioxane		0.001	0.001	0.002	0.002	0.002	0.002	0.001	0.001#	15.21
58)	TP	cis-1,3-Dichlo...	0.181	0.204	0.215	0.213	0.248	0.262	0.264	0.270	0.232	14.23
59)	I	Chlorobenzene-d5	----------ISTD----------									
60)	S	Toluene-d8	1.170	1.170	1.195	1.186	1.186	1.175	1.171	1.183	1.180	0.80
61)	TC	Toluene	0.520	0.418	0.466	0.436	0.492	0.507	0.508	0.520	0.483	8.09
62)	TP	4-Methyl-2-pen...		0.047	0.057	0.053	0.060	0.064	0.067	0.070	0.060#	13.46
63)	TP	Tetrachloroethene		0.198	0.210	0.204	0.236	0.249	0.246	0.252	0.228	10.10
65)	TP	trans-1,3-Dich...	0.187	0.225	0.234	0.236	0.290	0.309	0.310	0.321	0.264	18.72
67)	TP	Ethyl methacry...		0.186	0.189	0.190	0.226	0.232	0.238	0.243	0.215	11.82
68)	TP	1,1,2-Trichlor...		0.101	0.113	0.110	0.133	0.138	0.138	0.144	0.125	13.29
69)	TP	Chlorodibromom...		0.135	0.161	0.164	0.202	0.214	0.216	0.223	0.188	18.19
70)	TP	1,3-Dichloropr...		0.210	0.234	0.231	0.274	0.282	0.285	0.292	0.258	12.54
71)	TP	1,2-Dibromoethane		0.124	0.146	0.136	0.165	0.172	0.174	0.180	0.157	13.70
72)	TP	2-Hexanone		0.111	0.104	0.095	0.113	0.118	0.123	0.127	0.113	9.69
73)	TP	Chlorobenzene		0.510	0.509	0.494	0.559	0.570	0.576	0.589	0.544	7.04
74)	TC	Ethylbenzene	1.089	0.792	0.896	0.846	0.956	0.993	1.000	1.030	0.950	10.44

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA108\2021\210507N\
Data File : V08210507N01.d
Acq On : 7 May 2021 4:58 pm
Operator : VOA108:TMS
Sample : WG1496318-2
Misc : WG1496318,ICAL17731
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 17:20:22 2021
Quant Method : I:\VOLATILES\VOA108\2021\210507N\V108_210316A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Mar 17 12:46:02 2021
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	170	0.00
2	TP	Dichlorodifluoromethane	0.198	0.142	28.3#	119	0.00
3	TP	Chloromethane	0.354	0.273	22.9#	123	0.00
4	TC	Vinyl chloride	0.283	0.324	-14.5	194	0.00
5	TP	Bromomethane	0.119	0.108	9.2	179	0.00
6	TP	Chloroethane	0.190	0.196	-3.2	173	0.00
7	TP	Trichlorofluoromethane	0.431	0.364	15.5	140	0.00
8	TP	Ethyl ether	0.138	0.127	8.0	157	0.00
10	TC	1,1-Dichloroethene	0.219	0.219	0.0	170	0.00
11	TP	Carbon disulfide	0.692	0.642	7.2	154	0.00
12	TP	Freon-113	0.227	0.213	6.2	153	0.00
14	TP	Acrolein	0.032	0.049#	-53.1#	260#	0.00
15	TP	Methylene chloride	0.245	0.247	-0.8	170	0.00
17	TP	Acetone	* 10.000	8.083	19.2	128	0.00
18	TP	trans-1,2-Dichloroethene	0.232	0.244	-5.2	176	0.00
19	TP	Methyl acetate	0.203	0.169	16.7	148	-0.01
20	TP	Methyl tert-butyl ether	0.710	0.574	19.2	134	-0.01
21	TP	tert-Butyl alcohol	0.027	0.022#	18.5	134	-0.03
22	TP	Diisopropyl ether	1.058	1.062	-0.4	170	-0.01
23	TP	1,1-Dichloroethane	0.572	0.580	-1.4	170	0.00
24	TP	Halothane	0.186	0.186	0.0	170	-0.01
25	TP	Acrylonitrile	0.096	0.104	-8.3	182	0.00
26	TP	Ethyl tert-butyl ether	0.950	0.997	-4.9	189	-0.01
27	TP	Vinyl acetate	0.655	0.641	2.1	177	0.00
28	TP	cis-1,2-Dichloroethene	0.256	0.273	-6.6	175	0.00
29	TP	2,2-Dichloropropane	0.358	0.352	1.7	169	0.00
30	TP	Bromochloromethane	0.119	0.133	-11.8	177	0.00
31	TP	Cyclohexane	0.427	0.566	-32.6#	220#	0.00
32	TC	Chloroform	0.440	0.435	1.1	165	-0.01
33	TP	Ethyl acetate	0.209	0.220	-5.3	185	0.00
34	TP	Carbon tetrachloride	0.314	0.290	7.6	151	-0.01
35	TP	Tetrahydrofuran	0.063	0.060	4.8	159	-0.01
36	S	Dibromofluoromethane	0.278	0.291	-4.7	180	0.00
37	TP	1,1,1-Trichloroethane	0.369	0.377	-2.2	166	0.00
39	TP	2-Butanone	0.092	0.092#	0.0	164	-0.01
40	TP	1,1-Dichloropropene	0.312	0.313	-0.3	168	-0.01
41	TP	Benzene	0.887	0.937	-5.6	176	0.00
42	TP	tert-Amyl methyl ether	0.658	0.563	14.4	143	0.00
43	S	1,2-Dichloroethane-d4	0.333	0.326	2.1	168	0.00

Data Path : I:\VOLATILES\VOA108\2021\210507N\
Data File : V08210507N01.d
Acq On : 7 May 2021 4:58 pm
Operator : VOA108:TMS
Sample : WG1496318-2
Misc : WG1496318,ICAL17731
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 17:20:22 2021
Quant Method : I:\VOLATILES\VOA108\2021\210507N\V108_210316A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Mar 17 12:46:02 2021
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
44	TP	1,2-Dichloroethane	0.362	0.380	-5.0	170	0.00
47	TP	Methyl cyclohexane	0.359	0.354	1.4	161	0.00
48	TP	Trichloroethene	0.234	0.252	-7.7	178	0.00
50	TP	Dibromomethane	0.147	0.147	0.0	163	0.00
51	TC	1,2-Dichloropropane	0.271	0.320	-18.1	198	0.00
54	TP	Bromodichloromethane	0.332	0.292	12.0	147	0.00
57	TP	1,4-Dioxane	0.00161	0.00126#	21.7#	129	0.00
58	TP	cis-1,3-Dichloropropene	0.391	0.346	11.5	153	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	161	0.00
60	S	Toluene-d8	1.175	1.301	-10.7	178	0.00
61	TC	Toluene	0.685	0.793	-15.8	182	0.00
62	TP	4-Methyl-2-pentanone	0.099	0.118	-19.2	186	0.00
63	TP	Tetrachloroethene	0.315	0.395	-25.4#	194	0.00
65	TP	trans-1,3-Dichloropropene	0.451	0.397	12.0	140	0.00
67	TP	Ethyl methacrylate	0.355	0.315	11.3	139	0.00
68	TP	1,1,2-Trichloroethane	0.209	0.224	-7.2	171	0.00
69	TP	Chlorodibromomethane	0.293	0.278	5.1	156	0.00
70	TP	1,3-Dichloropropane	0.439	0.461	-5.0	164	0.00
71	TP	1,2-Dibromoethane	0.262	0.261	0.4	156	0.00
72	TP	2-Hexanone	0.170	0.162	4.7	154	0.00
73	TP	Chlorobenzene	0.833	0.982	-17.9	184	0.00
74	TC	Ethylbenzene	1.327	1.510	-13.8	177	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.302	0.312	-3.3	162	0.00
76	TP	p/m Xylene	0.548	0.580	-5.8	166	0.00
77	TP	o Xylene	0.531	0.566	-6.6	167	0.00
78	TP	Styrene	0.887	0.955	-7.7	173	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	188	0.00
80	TP	Bromoform	0.373	0.293	21.4#	151	0.00
82	TP	Isopropylbenzene	2.616	2.368	9.5	168	0.00
83	S	4-Bromofluorobenzene	0.887	0.766	13.6	166	0.00
84	TP	Bromobenzene	0.641	0.670	-4.5	184	0.00
85	TP	n-Propylbenzene	3.068	3.094	-0.8	185	0.00
86	TP	1,4-Dichlorobutane	0.996	1.028	-3.2	191	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.571	0.490	14.2	155	0.00
88	TP	4-Ethyltoluene	2.537	2.331	8.1	169	0.00
89	TP	2-Chlorotoluene	2.153	2.075	3.6	178	0.00
90	TP	1,3,5-Trimethylbenzene	2.299	2.115	8.0	168	0.00

Data Path : I:\VOLATILES\VOA108\2021\210507N\
Data File : V08210507N01.d
Acq On : 7 May 2021 4:58 pm
Operator : VOA108:TMS
Sample : WG1496318-2
Misc : WG1496318,ICAL17731
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 17:20:22 2021
Quant Method : I:\VOLATILES\VOA108\2021\210507N\V108_210316A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Mar 17 12:46:02 2021
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
91 TP	1,2,3-Trichloropropane	0.488	0.403	17.4	156	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.197	0.136	31.0#	126	0.00
93 TP	4-Chlorotoluene	1.984	1.876	5.4	175	0.00
94 TP	tert-Butylbenzene	1.866	1.771	5.1	175	0.00
97 TP	1,2,4-Trimethylbenzene	2.255	2.059	8.7	170	0.00
98 TP	sec-Butylbenzene	2.568	2.429	5.4	175	0.00
99 TP	p-Isopropyltoluene	2.336	2.263	3.1	180	0.00
100 TP	1,3-Dichlorobenzene	1.266	1.284	-1.4	185	0.00
101 TP	1,4-Dichlorobenzene	1.298	1.320	-1.7	189	0.00
102 TP	p-Diethylbenzene	1.388	1.302	6.2	175	0.00
103 TP	n-Butylbenzene	2.151	2.177	-1.2	185	0.00
104 TP	1,2-Dichlorobenzene	1.201	1.204	-0.2	183	0.00
105 TP	1,2,4,5-Tetramethylbenzene	2.332	2.026	13.1	162	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.086	0.068	20.9#	144	0.00
107 TP	1,3,5-Trichlorobenzene	0.954	1.034	-8.4	198	0.00
108 TP	Hexachlorobutadiene	0.437	0.495	-13.3	213#	0.00
109 TP	1,2,4-Trichlorobenzene	0.882	0.915	-3.7	197	0.00
110 TP	Naphthalene	1.818	1.351	25.7#	137	0.00
111 TP	1,2,3-Trichlorobenzene	0.832	0.791	4.9	174	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 4 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2021\210508A\
Data File : VG210508A01.D
Acq On : 8 May 2021 10:33 am
Operator : GONZO:LAC
Sample : WG1496478-2
Misc : WG1496478,ICAL17686
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 08 10:57:36 2021
Quant Method : I:\VOLATILES\Gonzo\2021\210508A\G_210227A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Mar 02 13:15:36 2021
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	73	0.00
2	TP	Dichlorodifluoromethane	0.141	0.091	35.5#	48#	0.00
3	TP	Chloromethane	0.203	0.193	4.9	78	0.00
4	TC	Vinyl chloride	0.168	0.153	8.9	74	0.00
5	TP	Bromomethane	* 10.000	7.099	29.0#	53	0.00
6	TP	Chloroethane	0.099	0.086#	13.1	61	0.00
7	TP	Trichlorofluoromethane	0.239	0.241	-0.8	75	0.00
8	TP	Ethyl ether	0.077	0.069	10.4	74	0.00
10	TC	1,1-Dichloroethene	0.136	0.142	-4.4	80	0.00
11	TP	Carbon disulfide	0.402	0.425	-5.7	87	0.00
12	TP	Freon-113	0.135	0.146	-8.1	79	0.00
14	TP	Acrolein	0.020	0.026#	-30.0#	111	0.00
15	TP	Methylene chloride	0.151	0.159	-5.3	87	0.00
17	TP	Acetone	0.042	0.075#	-78.6#	145	-0.02
18	TP	trans-1,2-Dichloroethene	0.145	0.151	-4.1	82	0.00
19	TP	Methyl acetate	0.097	0.106	-9.3	98	0.00
20	TP	Methyl tert-butyl ether	0.385	0.280	27.3#	58	0.00
21	TP	tert-Butyl alcohol	0.014	0.016#	-14.3	89	0.00
22	TP	Diisopropyl ether	0.483	0.535	-10.8	92	-0.02
23	TP	1,1-Dichloroethane	0.295	0.334	-13.2	88	0.00
24	TP	Halothane	0.119	0.127	-6.7	83	0.00
25	TP	Acrylonitrile	0.047	0.055	-17.0	91	-0.02
26	TP	Ethyl tert-butyl ether	0.455	0.329	27.7#	60	0.00
27	TP	Vinyl acetate	0.292	0.327	-12.0	93	0.00
28	TP	cis-1,2-Dichloroethene	0.168	0.183	-8.9	89	0.00
29	TP	2,2-Dichloropropane	0.236	0.149	36.9#	49#	0.00
30	TP	Bromochloromethane	0.073	0.084	-15.1	85	0.00
31	TP	Cyclohexane	0.270	0.316	-17.0	89	0.00
32	TC	Chloroform	0.274	0.296	-8.0	85	0.00
33	TP	Ethyl acetate	0.134	0.145	-8.2	88	0.00
34	TP	Carbon tetrachloride	0.228	0.207	9.2	71	0.00
35	TP	Tetrahydrofuran	0.048	0.052	-8.3	92	0.00
36	S	Dibromofluoromethane	0.256	0.267	-4.3	75	0.00
37	TP	1,1,1-Trichloroethane	0.259	0.268	-3.5	79	0.00
39	TP	2-Butanone	0.064	0.058#	9.4	88	-0.02
40	TP	1,1-Dichloropropene	0.202	0.211	-4.5	82	0.00
41	TP	Benzene	0.580	0.605	-4.3	83	0.00
42	TP	tert-Amyl methyl ether	0.388	0.234	39.7#	50#	0.00
43	S	1,2-Dichloroethane-d4	0.310	0.323	-4.2	74	0.00

Data Path : I:\VOLATILES\Gonzo\2021\210508A\
Data File : VG210508A01.D
Acq On : 8 May 2021 10:33 am
Operator : GONZO:LAC
Sample : WG1496478-2
Misc : WG1496478,ICAL17686
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 08 10:57:36 2021
Quant Method : I:\VOLATILES\Gonzo\2021\210508A\G_210227A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Mar 02 13:15:36 2021
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
44	TP	1,2-Dichloroethane	0.216	0.223	-3.2	83	0.00
47	TP	Methyl cyclohexane	0.254	0.255	-0.4	79	0.00
48	TP	Trichloroethene	0.172	0.170#	1.2	83	0.00
50	TP	Dibromomethane	0.085	0.090	-5.9	81	0.00
51	TC	1,2-Dichloropropane	0.152	0.171	-12.5	90	0.00
54	TP	Bromodichloromethane	0.208	0.210	-1.0	80	0.00
57	TP	1,4-Dioxane	0.00146	0.00140#	4.1	64	0.00
58	TP	cis-1,3-Dichloropropene	0.232	0.212	8.6	72	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	73	0.00
60	S	Toluene-d8	1.180	1.191	-0.9	73	0.00
61	TC	Toluene	0.483	0.496	-2.7	83	0.00
62	TP	4-Methyl-2-pentanone	0.060	0.059#	1.7	82	0.00
63	TP	Tetrachloroethene	0.228	0.237	-3.9	85	0.00
65	TP	trans-1,3-Dichloropropene	0.264	0.206	22.0#	64	0.00
67	TP	Ethyl methacrylate	0.215	0.188	12.6	72	0.00
68	TP	1,1,2-Trichloroethane	0.125	0.128	-2.4	85	0.00
69	TP	Chlorodibromomethane	0.188	0.176	6.4	78	0.00
70	TP	1,3-Dichloropropane	0.258	0.255	1.2	80	0.00
71	TP	1,2-Dibromoethane	0.157	0.152	3.2	81	0.00
72	TP	2-Hexanone	0.113	0.108	4.4	83	0.00
73	TP	Chlorobenzene	0.544	0.572	-5.1	85	0.00
74	TC	Ethylbenzene	0.950	0.971	-2.2	84	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.192	0.190	1.0	80	0.00
76	TP	p/m Xylene	0.378	0.394	-4.2	83	0.00
77	TP	o Xylene	0.357	0.372	-4.2	84	0.00
78	TP	Styrene	0.582	0.612	-5.2	83	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	76	0.00
80	TP	Bromoform	* 10.000	8.112	18.9	73	0.00
82	TP	Isopropylbenzene	1.637	1.643	-0.4	84	0.00
83	S	4-Bromofluorobenzene	0.805	0.804	0.1	76	0.00
84	TP	Bromobenzene	0.412	0.412	0.0	85	0.00
85	TP	n-Propylbenzene	1.984	2.011	-1.4	86	0.00
86	TP	1,4-Dichlorobutane	0.520	0.518	0.4	89	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.313	0.290#	7.3	81	0.00
88	TP	4-Ethyltoluene	1.617	1.646	-1.8	86	0.00
89	TP	2-Chlorotoluene	1.173	1.169	0.3	83	0.00
90	TP	1,3,5-Trimethylbenzene	1.447	1.496	-3.4	86	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2021\210508A\
Data File : VG210508A01.D
Acq On : 8 May 2021 10:33 am
Operator : GONZO:LAC
Sample : WG1496478-2
Misc : WG1496478,ICAL17686
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 08 10:57:36 2021
Quant Method : I:\VOLATILES\Gonzo\2021\210508A\G_210227A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Mar 02 13:15:36 2021
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
91 TP	1,2,3-Trichloropropane	0.291	0.259	11.0	79	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.107	0.052	51.4#	41#	0.00
93 TP	4-Chlorotoluene	1.209	1.237	-2.3	87	0.00
94 TP	tert-Butylbenzene	1.218	1.256	-3.1	86	0.00
97 TP	1,2,4-Trimethylbenzene	1.400	1.455	-3.9	87	0.00
98 TP	sec-Butylbenzene	1.619	1.667	-3.0	87	0.00
99 TP	p-Isopropyltoluene	1.526	1.592	-4.3	86	0.00
100 TP	1,3-Dichlorobenzene	0.801	0.835	-4.2	88	0.00
101 TP	1,4-Dichlorobenzene	0.814	0.846	-3.9	87	0.00
102 TP	p-Diethylbenzene	0.886	0.915	-3.3	88	0.00
103 TP	n-Butylbenzene	1.379	1.400	-1.5	85	0.00
104 TP	1,2-Dichlorobenzene	0.736	0.749	-1.8	87	0.00
105 TP	1,2,4,5-Tetramethylbenzene	1.266	1.302	-2.8	90	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.061	0.049#	19.7	73	0.00
107 TP	1,3,5-Trichlorobenzene	0.547	0.610	-11.5	95	0.00
108 TP	Hexachlorobutadiene	0.266	0.303	-13.9	99	0.00
109 TP	1,2,4-Trichlorobenzene	0.477	0.482	-1.0	89	0.00
110 TP	Naphthalene	0.983	0.746	24.1#	72	0.00
111 TP	1,2,3-Trichlorobenzene	0.418	0.352	15.8	78	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 10 CCC's out = 0

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2123311
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1496318-3	**Analysis Date** : 05/07/21 16:58	**File ID** : V08210507N01
LCSD Sample ID	: WG1496318-4	**Analysis Date** : 05/07/21 17:19	**File ID** : V08210507N02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	10	100	10	9.8	98	2	70-130	20
1,1-Dichloroethane	10	10	100	10	10	100	0	70-130	20
Chloroform	10	9.9	99	10	10	100	1	70-130	20
Carbon tetrachloride	10	9.2	92	10	9.0	90	2	63-132	20
1,2-Dichloropropane	10	12	120	10	12	120	0	70-130	20
Dibromochloromethane	10	9.5	95	10	10	100	5	63-130	20
1,1,2-Trichloroethane	10	11	110	10	11	110	0	70-130	20
Tetrachloroethene	10	12	120	10	12	120	0	70-130	20
Chlorobenzene	10	12	120	10	11	110	9	75-130	20
Trichlorofluoromethane	10	8.4	84	10	8.0	80	5	62-150	20
1,2-Dichloroethane	10	10	100	10	10	100	0	70-130	20
1,1,1-Trichloroethane	10	10	100	10	10	100	0	67-130	20
Bromodichloromethane	10	8.8	88	10	9.1	91	3	67-130	20
trans-1,3-Dichloropropene	10	8.8	88	10	9.1	91	3	70-130	20
cis-1,3-Dichloropropene	10	8.8	88	10	9.2	92	4	70-130	20
1,1-Dichloropropene	10	10	100	10	9.8	98	2	70-130	20
Bromoform	10	7.8	78	10	9.2	92	16	54-136	20
1,1,2,2-Tetrachloroethane	10	8.6	86	10	9.8	98	13	67-130	20
Benzene	10	10	100	10	10	100	0	70-130	20
Toluene	10	12	120	10	11	110	9	70-130	20
Ethylbenzene	10	11	110	10	11	110	0	70-130	20
Chloromethane	10	7.7	77	10	7.4	74	4	64-130	20
Bromomethane	10	9.1	91	10	9.4	94	3	39-139	20
Vinyl chloride	10	11	110	10	11	110	0	55-140	20
Chloroethane	10	10	100	10	10	100	0	55-138	20
1,1-Dichloroethene	10	10	100	10	9.6	96	4	61-145	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2123311
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1496318-3	**Analysis Date**	: 05/07/21 16:58
File ID	: V08210507N01		
LCSD Sample ID	: WG1496318-4	**Analysis Date**	: 05/07/21 17:19
File ID	: V08210507N02		

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
trans-1,2-Dichloroethene	10	10	100	10	10	100	0	70-130	20
Trichloroethene	10	11	110	10	11	110	0	70-130	20
1,2-Dichlorobenzene	10	10	100	10	11	110	10	70-130	20
1,3-Dichlorobenzene	10	10	100	10	11	110	10	70-130	20
1,4-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
Methyl tert butyl ether	10	8.1	81	10	8.7	87	7	63-130	20
p/m-Xylene	20	21	105	20	21	105	0	70-130	20
o-Xylene	20	21	105	20	21	105	0	70-130	20
cis-1,2-Dichloroethene	10	11	110	10	11	110	0	70-130	20
Dibromomethane	10	10	100	10	10	100	0	70-130	20
1,2,3-Trichloropropane	10	8.2	82	10	9.2	92	11	64-130	20
Acrylonitrile	10	11	110	10	12	120	9	70-130	20
Styrene	20	22	110	20	21	105	5	70-130	20
Dichlorodifluoromethane	10	7.1	71	10	6.8	68	4	36-147	20
Acetone	10	8.1	81	10	8.2	82	1	58-148	20
Carbon disulfide	10	9.3	93	10	9.1	91	2	51-130	20
2-Butanone	10	10	100	10	11	110	10	63-138	20
Vinyl acetate	10	9.8	98	10	10	100	2	70-130	20
4-Methyl-2-pentanone	10	12	120	10	13	130	8	59-130	20
2-Hexanone	10	9.6	96	10	11	110	14	57-130	20
Bromochloromethane	10	11	110	10	11	110	0	70-130	20
2,2-Dichloropropane	10	9.8	98	10	9.9	99	1	63-133	20
1,2-Dibromoethane	10	10	100	10	10	100	0	70-130	20
1,3-Dichloropropane	10	10	100	10	11	110	10	70-130	20
1,1,1,2-Tetrachloroethane	10	10	100	10	10	100	0	64-130	20
Bromobenzene	10	10	100	10	11	110	10	70-130	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client : Impact Environmental **Lab Number** : L2123311
Project Name : 60 MCLEAN AVE **Project Number** : 15514
Matrix : WATER
LCS Sample ID : WG1496318-3 **Analysis Date** : 05/07/21 16:58 **File ID** : V08210507N01
LCSD Sample ID : WG1496318-4 **Analysis Date** : 05/07/21 17:19 **File ID** : V08210507N02

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R		True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
n-Butylbenzene	10	10	100		10	10	100	0	53-136	20
sec-Butylbenzene	10	9.4	94		10	9.6	96	2	70-130	20
tert-Butylbenzene	10	9.5	95		10	9.6	96	1	70-130	20
o-Chlorotoluene	10	9.6	96		10	9.8	98	2	70-130	20
p-Chlorotoluene	10	9.4	94		10	9.6	96	2	70-130	20
1,2-Dibromo-3-chloropropane	10	7.9	79		10	8.5	85	7	41-144	20
Hexachlorobutadiene	10	11	110		10	12	120	9	63-130	20
Isopropylbenzene	10	9.0	90		10	9.3	93	3	70-130	20
p-Isopropyltoluene	10	9.7	97		10	9.8	98	1	70-130	20
Naphthalene	10	7.4	74		10	8.3	83	11	70-130	20
n-Propylbenzene	10	10	100		10	10	100	0	69-130	20
1,2,3-Trichlorobenzene	10	9.5	95		10	10	100	5	70-130	20
1,2,4-Trichlorobenzene	10	10	100		10	11	110	10	70-130	20
1,3,5-Trimethylbenzene	10	9.2	92		10	9.2	92	0	64-130	20
1,2,4-Trimethylbenzene	10	9.1	91		10	9.5	95	4	70-130	20
1,4-Dioxane	500	390	78		500	420	84	7	56-162	20
p-Diethylbenzene	10	9.4	94		10	9.5	95	1	70-130	20
p-Ethyltoluene	10	9.2	92		10	9.5	95	3	70-130	20
1,2,4,5-Tetramethylbenzene	10	8.7	87		10	9.0	90	3	70-130	20
Ethyl ether	10	9.2	92		10	9.5	95	3	59-134	20
trans-1,4-Dichloro-2-butene	10	6.9	69	Q	10	7.9	79	14	70-130	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2123311
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1496478-3	**Analysis Date** : 05/08/21 10:33	**File ID** : VG210508A01
LCSD Sample ID	: WG1496478-4	**Analysis Date** : 05/08/21 11:00	**File ID** : VG210508A02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	10	100	10	12	120	18	70-130	20
1,1-Dichloroethane	10	11	110	10	13	130	17	70-130	20
Chloroform	10	11	110	10	12	120	9	70-130	20
Carbon tetrachloride	10	9.1	91	10	9.8	98	7	63-132	20
1,2-Dichloropropane	10	11	110	10	13	130	17	70-130	20
Dibromochloromethane	10	9.3	93	10	10	100	7	63-130	20
1,1,2-Trichloroethane	10	10	100	10	11	110	10	70-130	20
Tetrachloroethene	10	10	100	10	11	110	10	70-130	20
Chlorobenzene	10	10	100	10	11	110	10	75-130	20
Trichlorofluoromethane	10	10	100	10	11	110	10	62-150	20
1,2-Dichloroethane	10	10	100	10	12	120	18	70-130	20
1,1,1-Trichloroethane	10	10	100	10	12	120	18	67-130	20
Bromodichloromethane	10	10	100	10	11	110	10	67-130	20
trans-1,3-Dichloropropene	10	7.8	78	10	8.4	84	7	70-130	20
cis-1,3-Dichloropropene	10	9.1	91	10	9.9	99	8	70-130	20
1,1-Dichloropropene	10	10	100	10	11	110	10	70-130	20
Bromoform	10	8.1	81	10	9.1	91	12	54-136	20
1,1,2,2-Tetrachloroethane	10	9.3	93	10	11	110	17	67-130	20
Benzene	10	10	100	10	11	110	10	70-130	20
Toluene	10	10	100	10	11	110	10	70-130	20
Ethylbenzene	10	10	100	10	11	110	10	70-130	20
Chloromethane	10	9.5	95	10	10	100	5	64-130	20
Bromomethane	10	7.1	71	10	7.2	72	1	39-139	20
Vinyl chloride	10	9.1	91	10	9.8	98	7	55-140	20
Chloroethane	10	8.6	86	10	9.2	92	7	55-138	20
1,1-Dichloroethene	10	10	100	10	12	120	18	61-145	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2123311
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1496478-3	**Analysis Date** : 05/08/21 10:33	**File ID** : VG210508A01
LCSD Sample ID	: WG1496478-4	**Analysis Date** : 05/08/21 11:00	**File ID** : VG210508A02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
trans-1,2-Dichloroethene	10	10	100	10	12	120	18	70-130	20
Trichloroethene	10	9.9	99	10	11	110	11	70-130	20
1,2-Dichlorobenzene	10	10	100	10	11	110	10	70-130	20
1,3-Dichlorobenzene	10	10	100	10	11	110	10	70-130	20
1,4-Dichlorobenzene	10	10	100	10	11	110	10	70-130	20
Methyl tert butyl ether	10	7.2	72	10	9.0	90	22 Q	63-130	20
p/m-Xylene	20	21	105	20	22	110	5	70-130	20
o-Xylene	20	21	105	20	22	110	5	70-130	20
cis-1,2-Dichloroethene	10	11	110	10	12	120	9	70-130	20
Dibromomethane	10	10	100	10	12	120	18	70-130	20
1,2,3-Trichloropropane	10	8.9	89	10	11	110	21 Q	64-130	20
Acrylonitrile	10	12	120	10	14	140 Q	15	70-130	20
Styrene	20	21	105	20	23	115	9	70-130	20
Dichlorodifluoromethane	10	6.4	64	10	7.0	70	9	36-147	20
Acetone	10	18	180 Q	10	18	180 Q	0	58-148	20
Carbon disulfide	10	10	100	10	12	120	18	51-130	20
2-Butanone	10	9.0	90	10	10	100	11	63-138	20
Vinyl acetate	10	11	110	10	12	120	9	70-130	20
4-Methyl-2-pentanone	10	10	100	10	12	120	18	59-130	20
2-Hexanone	10	9.5	95	10	12	120	23 Q	57-130	20
Bromochloromethane	10	11	110	10	13	130	17	70-130	20
2,2-Dichloropropane	10	6.3	63	10	7.4	74	16	63-133	20
1,2-Dibromoethane	10	9.7	97	10	11	110	13	70-130	20
1,3-Dichloropropane	10	9.8	98	10	11	110	12	70-130	20
1,1,1,2-Tetrachloroethane	10	9.9	99	10	10	100	1	64-130	20
Bromobenzene	10	10	100	10	11	110	10	70-130	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2123311
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1496478-3	**Analysis Date** : 05/08/21 10:33	**File ID** : VG210508A01
LCSD Sample ID	: WG1496478-4	**Analysis Date** : 05/08/21 11:00	**File ID** : VG210508A02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
n-Butylbenzene	10	10	100	10	10	100	0	53-136	20
sec-Butylbenzene	10	10	100	10	11	110	10	70-130	20
tert-Butylbenzene	10	10	100	10	11	110	10	70-130	20
o-Chlorotoluene	10	10	100	10	11	110	10	70-130	20
p-Chlorotoluene	10	10	100	10	11	110	10	70-130	20
1,2-Dibromo-3-chloropropane	10	8.0	80	10	9.7	97	19	41-144	20
Hexachlorobutadiene	10	11	110	10	12	120	9	63-130	20
Isopropylbenzene	10	10	100	10	10	100	0	70-130	20
p-Isopropyltoluene	10	10	100	10	11	110	10	70-130	20
Naphthalene	10	7.6	76	10	10	100	27 Q	70-130	20
n-Propylbenzene	10	10	100	10	11	110	10	69-130	20
1,2,3-Trichlorobenzene	10	8.4	84	10	11	110	27 Q	70-130	20
1,2,4-Trichlorobenzene	10	10	100	10	12	120	18	70-130	20
1,3,5-Trimethylbenzene	10	10	100	10	11	110	10	64-130	20
1,2,4-Trimethylbenzene	10	10	100	10	11	110	10	70-130	20
1,4-Dioxane	500	480	96	500	640	128	29 Q	56-162	20
p-Diethylbenzene	10	10	100	10	11	110	10	70-130	20
p-Ethyltoluene	10	10	100	10	11	110	10	70-130	20
1,2,4,5-Tetramethylbenzene	10	10	100	10	11	110	10	70-130	20
Ethyl ether	10	9.0	90	10	11	110	20	59-134	20
trans-1,4-Dichloro-2-butene	10	4.8	48 Q	10	5.7	57 Q	17	70-130	20

Attachment A
Semi-volatiles QC Summary Forms – Excursions
(Full Scan)

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV106\200712lviICAL\
Data File : ABNICV.D
Acq On : 13 Jul 2020 4:27 am
Operator : SV106:cb
Sample : CQICV1,32,,ABNICV Lot# 8836
Misc : wg1397168,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 04 13:37:14 2020
Quant Method : I:\8270\SV106\200712lviICAL\FS200712LVISV106.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Jul 20 11:54:23 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	IS1_1,4-Dichlorobenzene-d4		1.000	1.000	0.0	99	0.00
2	t	n-Nitrosodimethylamine		0.399	0.358	10.3	89	0.00
3	t	Pyridine		0.720	0.757	-5.1	97	0.00
4	S	2-Fluorophenol		0.609	0.554	9.0	87	0.00
5	T	Aniline		1.073	1.038	3.3	94	0.00
6	t	2-Chlorophenol		0.771	0.712	7.7	87	0.00
7	S	Phenol-d6		0.780	0.735	5.8	91	0.00
8	T	Phenol		0.845	0.803	5.0	90	0.00
9	T	Bis(2-chloroethyl)ether		0.699	0.692	1.0	93	0.00
10	T	1,3-Dichlorobenzene		0.975	0.912	6.5	93	0.00
11	T	1,4-Dichlorobenzene		0.986	0.912	7.5	91	0.00
12	T	1,2-Dichlorobenzene		0.961	0.868	9.7	89	0.00
13	t	Benzyl alcohol		0.565	0.506	10.4	86	0.00
14	T	Bis(2-chloroisopropyl)ether		1.243	1.212	2.5	94	0.00
15	T	2-Methylphenol		0.663	0.607	8.4	88	0.00
16	T	Hexachloroethane		0.381	0.357	6.3	91	0.00
17	T	n-Nitrosodi-n-propylamine		0.534	0.509	4.7	89	0.00
18	T	3-Methylphenol/4-Methylphen		0.708	0.658	7.1	88	0.00
19	S	Nitrobenzene-d5		0.721	0.646	10.4	84	0.00
20	T	Nitrobenzene		0.730	0.673	7.8	86	0.00
21	T	Isophorone		1.439	1.367	5.0	90	0.00
22	T	2-Nitrophenol	*	5.000	3.811	23.8#	73	0.00
23	T	2,4-Dimethylphenol		0.728	0.702	3.6	90	0.00
24	T	Bis(2-chloroethoxy)methane		0.974	0.946	2.9	93	0.00

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV106\200712lviICAL\
Data File : ABNICV.D
Acq On : 13 Jul 2020 4:27 am
Operator : SV106:cb
Sample : CQICV1,32,,ABNICV Lot# 8836
Misc : wg1397168,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 04 13:37:14 2020
Quant Method : I:\8270\SV106\200712lviICAL\FS200712LVISV106.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Jul 20 11:54:23 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
25	T	2,4-Dichlorophenol		0.686	0.623	9.2	83	0.00
26	T	1,2,4-Trichlorobenzene		0.869	0.779	10.4	88	0.00
34	I	IS1_Naphthalene-d8		1.000	1.000	0.0	100	0.00
35	T	Naphthalene		1.042	0.980	6.0	92	0.00
36	T	Benzoic Acid	*	5.000	3.962	20.8#	66	-0.04
37	T	4-Chloroaniline		0.122	0.117	4.1	89	0.00
38	T	Hexachlorobutadiene		0.195	0.174	10.8	89	0.00
39	T	p-Chloro-m-cresol		0.264	0.227	14.0	85	0.00
40	T	2-Methylnaphthalene		0.706	0.658	6.8	89	0.00
41	T	1-Methylnaphthalene		0.256	0.237	7.4	92	0.00
42	T	Hexachlorocyclopentadiene		0.225	0.183	18.7	79	0.00
43	T	2,4,6-Trichlorophenol		0.204	0.163	20.1#	80	0.00
44	T	2,4,5-Trichlorophenol		0.228	0.185	18.9	79	0.00
45	S	2-Fluorobiphenyl		0.762	0.725	4.9	92	0.00
46	T	2-Chloronaphthalene		0.705	0.649	7.9	89	0.00
47	T	2-Nitroaniline	*	5.000	3.625	27.5#	75	0.00
48	T	1,4-Dinitrobenzene		0.092	0.062	32.6#	77	0.00
49	T	1,3-Dinitrobenzene		0.104	0.077	26.0#	78	0.00
50	T	Dimethyl phthalate		0.813	0.730	10.2	84	0.00
51	T	Acenaphthylene		1.039	0.972	6.4	89	0.00
52	T	2,6-Dinitrotoluene	*	5.000	3.924	21.5#	80	0.00
53	T	1,2-Dinitrobenzene		0.065	0.051	21.5#	75	0.00

Data Path : I:\8270\SV106\200712lviICAL\
Data File : ABNICV.D
Acq On : 13 Jul 2020 4:27 am
Operator : SV106:cb
Sample : CQICV1,32,,ABNICV Lot# 8836
Misc : wg1397168,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 04 13:37:14 2020
Quant Method : I:\8270\SV106\200712lviICAL\FS200712LVISV106.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Jul 20 11:54:23 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
62	I	IS1_Acenaphthene-d10		1.000	1.000	0.0	95	0.00
63	T	3-Nitroaniline		0.337	0.281	16.6	80	0.00
64	T	Acenaphthene		1.203	1.138	5.4	90	0.00
65	T	2,4-Dinitrophenol	*	5.000	3.961	20.8#	68	0.00
66	T	Dibenzofuran		1.862	1.711	8.1	88	0.00
67	T	2,4-Dinitrotoluene	*	5.000	4.092	18.2	80	0.00
68	T	4-Nitrophenol		0.287	0.228	20.6#	80	0.00
69	T	2,3,5,6-Tetrachlorophenol		0.345	0.268	22.3#	74	0.00
70	T	2,3,4,6-Tetrachlorophenol		0.356	0.284	20.2#	78	0.00
71	T	Diethyl phthalate		1.556	1.460	6.2	85	0.00
72	T	Fluorene		1.473	1.402	4.8	89	0.00
73	T	4-Chlorophenyl phenyl ether		0.706	0.648	8.2	87	0.00
74	T	4-Nitroaniline	*	5.000	4.067	18.7	81	0.00
75	T	4,6-Dinitro-o-cresol	*	5.000	3.859	22.8#	72	0.00
76	T	NDPA/DPA		1.226	1.185	3.3	87	0.00
77	T	Azobenzene		1.445	1.593	-10.2	101	0.00
78	S	2,4,6-Tribromophenol	*	5.000	4.174	16.5	80	0.00
79	T	4-Bromophenyl phenyl ether		0.421	0.383	9.0	85	0.00
80	T	Hexachlorobenzene		0.479	0.419	12.5	85	0.00
81	T	Pentachlorophenol	*	5.000	3.924	21.5#	74	0.00
87	I	IS1_Phenanthrene-d10		1.000	1.000	0.0	96	0.00
88	T	Phenanthrene		1.138	1.049	7.8	88	0.00
89	T	Anthracene		1.124	1.068	5.0	89	0.00

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV106\200712lviICAL\
Data File : ABNICV.D
Acq On : 13 Jul 2020 4:27 am
Operator : SV106:cb
Sample : CQICV1,32,,ABNICV Lot# 8836
Misc : wg1397168,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 04 13:37:14 2020
Quant Method : I:\8270\SV106\200712lviICAL\FS200712LVISV106.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Jul 20 11:54:23 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
90	T	Carbazole		1.015	0.958	5.6	86	0.00
91	T	Di-n-butylphthalate		1.279	1.090	14.8	81	0.00
92	T	Fluoranthene		1.226	1.133	7.6	85	0.00
93	T	Benzidine		0.795	0.600	24.5#	77	0.00
94	T	Pyrene		1.303	1.213	6.9	86	0.00
95	S	4-Terphenyl-d14		0.899	0.801	10.9	82	0.00
96	T	Butyl benzyl phthalate	*	5.000	3.607	27.9#	73	0.00
103	I	IS1_Chrysene-d12		1.000	1.000	0.0	97	0.00
104	T	Benzo(a)anthracene		1.194	1.132	5.2	87	0.00
105	T	3,3'-Dichlorobenzidine		0.434	0.374	13.8	82	0.00
106	T	Chrysene		1.275	1.141	10.5	86	0.00
107	T	Bis(2-ethylhexyl)phthalate	*	5.000	4.040	19.2	78	0.00
108	T	Di-n-octylphthalate	*	5.000	3.907	21.9#	77	0.00
109	T	Benzo(b)fluoranthene		1.180	1.130	4.2	86	0.00
110	T	Benzo(k)fluoranthene		1.109	1.053	5.0	86	0.00
111	T	Benzo(a)pyrene		1.006	0.931	7.5	85	0.00
112	I	IS1_Perylene-d12		1.000	1.000	0.0	97	0.00
113	T	Indeno(1,2,3-cd)pyrene	*	5.000	4.201	16.0	82	0.00
114	T	Dibenzo(a,h)anthracene		1.127	1.027	8.9	83	0.00
115	T	Benzo(ghi)perylene		1.146	1.047	8.6	86	0.00

* Evaluation of CC level amount vs concentration.

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV106\200712lviICAL\
Data File : ABNICV.D
Acq On : 13 Jul 2020 4:27 am
Operator : SV106:cb
Sample : CQICV1,32,,ABNICV Lot# 8836
Misc : wg1397168,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 04 13:37:14 2020
Quant Method : I:\8270\SV106\200712lviICAL\FS200712LVISV106.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Jul 20 11:54:23 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2123311
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1497011-2	**Analysis Date** : 05/11/21 19:55	**File ID** : 497011-2
LCSD Sample ID	: WG1497011-3	**Analysis Date** : 05/11/21 20:18	**File ID** : 497011-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
1,2,4-Trichlorobenzene	18	14.	75	18	14.	79	5	39-98	30
Bis(2-chloroethyl)ether	18	15.	81	18	16.	91	12	40-140	30
1,2-Dichlorobenzene	18	13.	74	18	15.	82	10	40-140	30
1,3-Dichlorobenzene	18	13.	70	18	14.	77	10	40-140	30
1,4-Dichlorobenzene	18	13.	71	18	14.	76	7	36-97	30
3,3'-Dichlorobenzidine	18	10.	56	18	10.	56	0	40-140	30
2,4-Dinitrotoluene	18	18.	97	18	17.	94	3	48-143	30
2,6-Dinitrotoluene	18	19.	102	18	18.	98	4	40-140	30
4-Chlorophenyl phenyl ether	18	14.	77	18	14.	78	1	40-140	30
4-Bromophenyl phenyl ether	18	15.	82	18	14.	78	5	40-140	30
Bis(2-chloroisopropyl)ether	18	23.	126	18	24.	131	4	40-140	30
Bis(2-chloroethoxy)methane	18	16.	87	18	16.	88	1	40-140	30
Hexachlorocyclopentadiene	18	13.	74	18	14.	76	3	40-140	30
Isophorone	18	17.	92	18	17.	93	1	40-140	30
Nitrobenzene	18	18.	100	18	19.	107	7	40-140	30
NDPA/DPA	18	16.	88	18	16.	86	2	40-140	30
n-Nitrosodi-n-propylamine	18	18.	101	18	18.	102	1	29-132	30
Bis(2-ethylhexyl)phthalate	18	20.	110	18	18.	102	8	40-140	30
Butyl benzyl phthalate	18	20.	110	18	18.	101	9	40-140	30
Di-n-butylphthalate	18	17.	96	18	16.	91	5	40-140	30
Di-n-octylphthalate	18	20.	110	18	19.	106	4	40-140	30
Diethyl phthalate	18	17.	92	18	16.	88	4	40-140	30
Dimethyl phthalate	18	16.	88	18	15.	83	6	40-140	30
Biphenyl	18	14.	78	18	14.	79	1	40-140	30
4-Chloroaniline	18	11.	60	18	10.	55	9	40-140	30
2-Nitroaniline	18	18.	99	18	18.	98	1	52-143	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2123311
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1497011-2	**Analysis Date** : 05/11/21 19:55	**File ID** : 497011-2
LCSD Sample ID	: WG1497011-3	**Analysis Date** : 05/11/21 20:18	**File ID** : 497011-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
3-Nitroaniline	18	13.	73	18	13.	72	1	25-145	30
4-Nitroaniline	18	15.	82	18	14.	76	8	51-143	30
Dibenzofuran	18	14.	78	18	15.	82	5	40-140	30
1,2,4,5-Tetrachlorobenzene	18	13.	71	18	13.	73	3	2-134	30
Acetophenone	18	15.	85	18	16.	89	5	39-129	30
Benzyl Alcohol	18	16.	88	18	17.	93	6	26-116	30
Carbazole	18	16.	86	18	16.	85	1	55-144	30

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2123311
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
WP-11 (L2123311-01)	71	61	92	70	83	90	0
WP-12 (L2123311-02)	59	52	80	71	67	82	0
WP-13 (L2123311-03)	39	40	59	58	60	79	0
WP-14 (L2123311-04)	55	55	84	80	56	87	0
WP-15 (L2123311-05)	49	46	70	66	59	85	0
WG1497011-1BLANK	81	64	101	83	87	93	0
WG1497011-2LCS	78	70	110	78	103	87	0
WG1497011-3LCSD	87	72	115	78	103	83	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

FORM II NYTCL-8270-LVI

Attachment A
Semi-volatiles QC Summary Forms – Excursions
SIM

Evaluate Continuing Calibration Report

Data Path : I:\8270SIM\sv119\210224LVIical\
Data File : ICVa.D
Acq On : 24 Feb 2021 05:28 pm
Operator : sv119:dv
Sample : CQICV,32,,1.0
Misc : wg1467822,,ical
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 25 11:20:23 2021
Quant Method : i:\8270SIM\SV119\210224LVIical\SIM-LVI_210224_sv119.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Wed Feb 24 16:30:50 2021
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.00
2	T	1,4-Dioxane	0.000	0.000#	0.0	0#	-1.21#
3	s	2-Fluorophenol	1.130	1.429	-26.5	122	0.00
4	s	Phenol-d6	1.326	1.631	-23.0	120	0.00
5	T	Bis(2-chloroethyl)ether	1.267	1.617	-27.6	126	0.00
6	T	n-nitrosodi-n-propylamine	0.823	1.005	-22.1	122	0.00
7	t	Hexachloroethane	0.591	0.727	-23.0	126	0.00
8	s	Nitrobenzene-d5	1.230	1.506	-22.4	119	0.00
9	i	Naphthalene-d8	1.000	1.000	0.0	100	0.00
10	t	Naphthalene	1.170	1.466	-25.3	126	0.00
11	t	Hexachlorobutadiene	0.204	0.248	-21.6	129	0.00
12	t	2-Methylnaphthalene	0.762	0.969	-27.2	126	0.00
13	t	1-Methylnaphthalene	0.707	0.890	-25.9	126	0.00
14	s	2-Fluorobiphenyl	0.895	1.113	-24.4	126	0.00
15	t	2-Chloronaphthalene	0.736	0.927	-26.0	128	0.00
16	t	2,6-Dinitrotoluene	0.138	0.160	-15.9	125	0.00
17	t	Acenaphthylene	1.174	1.467	-25.0	128	0.00
18	i	Acenaphthene-d10	1.000	1.000	0.0	107	0.00
19	t	Acenaphthene	1.496	1.758	-17.5	128	0.00
20	t	2,4-Dinitrotoluene	0.313	0.374	-19.5	126	0.00
21	t	Fluorene	1.579	1.851	-17.2	128	0.00
22	s	2,4,6-Tribromophenol	0.160	0.194	-21.3	126	0.00
23	i	Phenanthrene-d10	1.000	1.000	0.0	113	0.00
24	T	4,6-Dinitro-o-cresol	*1000.000	988.464	1.2	127	0.00
25	t	Hexachlorobenzene	0.273	0.295	-8.1	131	0.00
26	t	Pentachlorophenol	0.103	0.120	-16.5	127	0.00
27	t	Phenanthrene	1.347	1.468	-9.0	129	0.00
28	t	Anthracene	1.224	1.431	-16.9	130	0.00
29	t	Fluoranthene	1.290	1.519	-17.8	132	0.00
30	t	Pyrene	1.319	1.607	-21.8	133	0.00
31	s	4-Terphenyl-d14	0.898	1.045	-16.4	132	0.00
32	i	Chrysene-d12	1.000	1.000	0.0	120	0.00
33	t	Benzo[a]anthracene	*1000.000	1094.499	-9.4	134	0.00
34	t	3,3'-Dichlorobenzene	0.426	0.444	-4.2	132	0.00
35	t	Chrysene	1.565	1.756	-12.2	135	0.00

Evaluate Continuing Calibration Report

Data Path : I:\8270SIM\sv119\210224LVIical\
Data File : ICVa.D
Acq On : 24 Feb 2021 05:28 pm
Operator : sv119:dv
Sample : CQICV,32,,1.0
Misc : wg1467822,,ical
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 25 11:20:23 2021
Quant Method : i:\8270SIM\SV119\210224LVIical\SIM-LVI_210224_sv119.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Wed Feb 24 16:30:50 2021
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
36	T	Bis(2-ethylhexyl)phthalate	0.703	0.695	1.1	132	0.00
37	i	Perylene-d12	1.000	1.000	0.0	122	0.00
38	t	Benzo[b]fluoranthene	1.504	1.608	-6.9	135	0.00
39	t	Benzo[k]fluoranthene	1.497	1.777	-18.7	137	0.00
40	t	Benzo[a]pyrene	1.309	1.452	-10.9	137	0.00
41	t	Indeno[1,2,3-cd]pyrene	1.132	1.177	-4.0	138	0.00
42	t	Dibenzo[a,h]anthracene	1.161	1.331	-14.6	142	0.00
43	t	Benzo[g,h,i]perylene	1.308	1.425	-8.9	142	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2123311
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: WG1497012-1	Date Collected	: NA
Client ID	: WG1497012-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/11/21 15:08
Sample Matrix	: WATER	Date Extracted	: 05/11/21
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 497012-1	Analyst	: ALS
Sample Amount	: 275 ml	Instrument ID	: SV119
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	0.10	0.01	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	ND	0.10	0.05	U
56-55-3	Benzo(a)anthracene	ND	0.10	0.02	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	0.02	0.10	0.01	J
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.01	U
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	0.02	0.10	0.01	J
86-73-7	Fluorene	ND	0.10	0.01	U
85-01-8	Phenanthrene	ND	0.10	0.02	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.01	0.10	0.01	J
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	ND	0.10	0.02	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2123311
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
WP-11 (L2123311-01)	59	51	84	81	90	88	0
WP-12 (L2123311-02)	58	53	78	77	81	92	0
WP-13 (L2123311-03)	38	37	53	58	70	88	0
WP-14 (L2123311-04)	52	51	77	77	62	90	0
WP-15 (L2123311-05)	41	40	62	62	57	86	0
WG1497012-1BLANK	59	49	80	95	84	88	0
WG1497012-2LCS	62	51	78	87	102	91	0
WG1497012-3LCSD	55	43	69	80	95	88	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

DATA VALIDATION

FOR

60 McCLEAN AVENUE
YONKERS, NY

ORGANIC AND INORGANIC ANALYSIS DATA

Laboratory Sample Delivery Group (SDG) No. L2223093

Analyses Performed By:

Alpha Analytical
Westborough, Massachusetts

For:

Impact Environmental Inc.
Bohemia, NY

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55102

August 9, 2022

2144-000102
60 McLean Avenue\L2223093.docx

EXECUTIVE SUMMARY

Validation of the organic and inorganic analyses data prepared by Alpha Analytical Westborough, Massachusetts for 24 soil samples, two field blank (FB) samples, and two trip blank (TB) samples from the 60 McLean Avenue Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Stage 4 validation was performed on the samples. The data were reported by the laboratory under SDG No. L2223093. The following samples were reported:

SB-7 (0-2)	SB-7 (7-9)	SB-6 (0-2)	SB-6 (7-9)
SB-9 (0-4)	SB-8b (0-3)	SB-12 (0-4)	SB-10a (0-3)
SB-10b (0-3)	SB-16 (0-4)	SB-17 (2-4)	SB-17 (0-2)
SB-19 (0-2)	SB-19 (7-9)	SB-18 (0-2)	SB-18 (7-9)
SB-11 (0-4)	SB-DUP-2	SB-1 (0-2)	SB-2 (0-2)
FIELD BLANK-1	FIELD BLANK-2	TRIP BLANK 1	SB-3 (0-2)
SB-4 (0-2)	SB-5 (0-2)	TRIP BLANK 2	

Sample SB-DUP-1 (Included in L2223458. See documentation section) was collected and submitted as a field duplicate of field sample SB-19 (7-9), included with this data package. Both samples of the field duplicate pair SB-DUP-2 and SB-1 (0-2) were submitted together with this SDG.

Based on professional judgment, results for non-detects should be considered to be “U,” not detected, at the analyte-specific reporting limit (RL) to represent the lowest concentration at which the laboratory can detect and accurately quantitate sample concentrations based on the documentation provided. The laboratory reported results as not detected at the method detection limit (MDL). The MDL is an estimated value based on a statistical determination, not a quantitative measurement supported by the data provided and should not be used to report non-detect results. It should also be noted by the data user that the laboratory reported non-detect results, RLs, and MDLS to three significant figures. The level of accuracy portrayed at these concentrations and estimated concentrations is not supported by the data and should not be used.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

Data Usability Summary Report	
1. Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2. Have all holding times been met?	Yes

Data Usability Summary Report	
3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4. Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5. Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes See Attachments A through J

Based on the validation effort, the following data qualifiers were applied:

<u>VOCs</u>

- Results for acetone and 2-butanone in FIELD BLANK-1, FIELD BLANK-2, TRIP BLANK 1, and TRIP BLANK 2 were qualified as estimated (UJ) due to high variability from the IC to the second source standard.

- Results qualified estimated (UJ) due to a loss in sensitivity from the initial calibration are summarized in the table in Section A.

- Results for vinyl chloride in SB-19 (0-2') and acetone in FIELD BLANK-1, FIELD BLANK-2, TRIP BLANK-1, and TRIP BLANK-2 were qualified as estimated (UJ) based on low recoveries in the laboratory control sample.

- Results for 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2-butanone, and n-butylbenzene in SB-4 (0-2) and for all compounds *except acetone and toluene* in SB-5 (0-2) were qualified as estimated (UJ) due to unacceptable matrix spike, matrix spike duplicate, and/or relative percent difference values.

- Results for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-butanone, acetone, and o-xylene in this data set were qualified as estimated (J, UJ) due to poor precision between paired field samples.

- All results for SB-19 (0-2) were qualified estimated (J, UJ) because the sample analyzed was prepared in the laboratory from an unpreserved container.

SVOCs
8270D Fullscan

- Results for phenol, 2-nitrophenol, 4-nitrophenol, 2-chlorophenol, 2-methylphenol, 3&4-methylphenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, benzoic acid, and benzyl alcohol in FIELD BLANK-1, SB-DUP-2 and SB-10a (0-3) were qualified as estimated (J-, UJ) based on low recovery for the associated surrogate compound.

- Results for phenol, 2-methylphenol, and 3&4-methylphenol in SB-8b (0-3) and SB-8b (0-3) RE were rejected (R) as unusable, based on recoveries less than 10% for associated surrogate compounds.

- The result for pentachlorophenol in SB-3 (0-2) was qualified as estimated (UJ) based on low recovery for the associated surrogate compound.

- Results for acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, hexachlorobenzene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene in SB-8b (0-3), SB-8b (0-3) RE, SB-6 (0-2), SB-10a (0-3), SB-17 (0-2), SB-18 (0-2), and SB-4 (0-2) were qualified as estimated (J-, UJ) based on low recoveries for the associated surrogate compounds.

- Results for all target compounds in FIELD BLANK-2, SB-7 (0-2), SB-17 (2-4), SB-19 (0-2), SB-19 (7-9), SB-18 (7-9), and SB-1 (0-2) were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in each of the acid and base/neutral extractables fractions.

- Results for naphthalene and hexachlorobenzene in SB-7 (7-9), SB-10a (0-3), and SB-11 (0-4) were qualified as estimated (J-, UJ) based on low recovery for the surrogate compound associated with these target analytes.

- Results for anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene in SB-6 (7-9), SB-9 (0-4), SB-10b (0-3), SB-16 (0-4), SB-3 (0-2), and SB-5 (0-2) were qualified as estimated (J-, UJ) based on low recovery for the associated surrogate.

- Results for all target analytes in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) based on low recoveries in the LCS and/or LCSD.

- Results for all compounds except 2-methylphenol, 3&4-methylphenol, phenol, and indeno(1,2,3-cd)pyrene, in SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J-, UJ) based on low recoveries in the LCS and/or LCSD.

- Results for 4-chloroaniline in FIELD BLANK-1 and FIELD BLANK-2 were rejected (R) as unusable, based on recoveries less than 10% for the LCS and LCSD.

- Results for all target analytes in SB-12 (0-4), SB-19 (0-2), SB-11 (0-4), SB-18 (7-9), SB-19 (7-9), SB-6 (7-9), SB-17 (2-4), SB-6 (0-2), SB-16 (0-4), SB-7 (7-9), SB-7 (0-2), SB-10a (0-3), SB-1 (0-2), SB-2 (0-2), SB-9 (0-4), SB-17 (0-2), SB-18 (0-2), SB-DUP-2, SB-8b (0-3), SB-8b (0-3) RE, and SB-10b (0-3) were qualified as estimated (J-, UJ) based on low recoveries in the LCS and/or LCSD. Results for phenol, 2-methylphenol, and 3&4-methylphenol in SB-8b (0-3) and SB-8b (0-3) RE were previously rejected based on surrogate recovery <10%. The "R" qualifier takes precedence.

- Results for 4-chloroaniline in FIELD BLANK-1 and FIELD BLANK-2 were rejected (R) as unusable, based on recoveries less than 10% for the LCS and LCSD.

- Results for all target analytes except phenol and 3&4-methylphenol in SB-4 (0-2) and SB-5 (0-2) were qualified as estimated (J-, UJ) based on low recoveries in the MS and/or MSD.

<u>8270D SIM</u>

- The result for 2-methylnaphthalene in FIELD BLANK-1 was qualified as not detected (U) at the reporting limit, based on the presence of this compound in the associated method blank at a higher concentration.

- Results for acenaphthylene and pentachlorophenol in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) based on low recoveries in the LCS and/or LCSD.

<u>Pesticides</u>

- Results for all target analytes in FIELD BLANK-1, FIELD BLANK-2, SB-7 (0-2), SB-6 (0-2), SB-6 (7-9), SB-12 (0-4), SB-10a (0-3), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (7-9), SB-11 (0-4), SB-1 (0-2), and SB-2 (0-2) were qualified as estimated (UJ) due to low surrogate recoveries.

- Results for 4,4'-DDT and cis-chlordane in SB-10b (0-3) were qualified as estimated with potential low bias (J-) due to a low surrogate recovery on the column from which these results were reported.

- Results for all target analytes in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries. Results for all target analytes except delta-BHC and endosulfan sulfate in FIELD BLANK-1 and FIELD BLANK-2 were also qualified as estimated (UJ) due to LCS/LCSD imprecision.

- Results for delta-BHC, lindane, alpha-BHC, beta-BHC, aldrin, endrin, dieldrin, 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, endosulfan I, endosulfan II, endosulfan sulfate, and cis-chlordane in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-

3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), SB-2 (0-2), and SB-3 (0-2) were qualified as estimated (J-, UJ) due to low LCS and/or LCSD recoveries.

- Results for heptachlor, endosulfan I, endosulfan sulfate, and cis-chlordane in SB-18 (0-2) and SB-4 (0-2) were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

- The result for cis-chlordane in SB-5 (0-2) was qualified as estimated (UJ) due to a low LCS recovery.

- The result for cis-chlordane in SB-6 (0-2) was qualified as estimated (J) due to lack of agreement between the two column measurements.

PCBs

- The result for Aroclor 1260 in SB-10b (0-3) was qualified as estimated (UJ) due to high %Ds for selected Aroclor 1260 peaks on both columns in the associated ICV standard.

- Results for Aroclor 1260 in SB-18 (0-2) and SB-4 (0-2) were qualified as not detected (U) at the RL due to associated method blank contamination.

- Results for all target Aroclors in SB-7 (7-9), SB-6 (7-9), SB-8b (0-3), SB-12 (0-4), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-18 (7-9), SB-DUP-2, SB-2 (0-2), SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J-, UJ) due to low surrogate recoveries on both columns.

- Results for all target Aroclors in SB-5 (0-2) and SB-10b (0-3) were qualified as estimated (UJ) due to low LCS/LCSD recoveries and, for SB-5 (0-2), due to LCS/LCSD imprecision.

- Results for all target Aroclors in SB-5 (0-2) were qualified as estimated (UJ) due to low MS/MSD recoveries.

- Results for Aroclor 1254 and 1260 in SB-8b (0-3) were qualified as estimated (J) due to the potential for contribution from the other Aroclor. The result for Aroclor 1254 in this sample was also qualified as presumed present (N) due to the lack of characteristic chromatographic pattern for this Aroclor.

Metals(ICP and ICP-MS)

- Results for selenium in SB-9 (0-4) and SB-17 (2-4) were qualified as not detected (U), at the reporting limit, due to method blank contamination.

- Results for lead in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (7-9), SB-DUP-2, SB-1 (0-2), and SB-2 (0-2) were qualified as

estimated and biased high (J+) due to elevated response in the interference check sample solution A (ICSA) standard.

- Results for cadmium in SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated and biased high (J+), because the associated ICSA standard was above the MDL.

- Results for cadmium in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (0-2), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), and SB-2 (0-2), and selenium in SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2), were qualified as estimated and biased low (UJ) because the absolute value of the negative concentrations reported in the associated ICSA standard were above the MDL.

- Results for nickel in SB-7 (0-2), SB-8b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (0-2), and SB-18 (7-9) were qualified as estimated and biased low (J-) because the absolute value of the negative concentrations reported in the associated ICSA standard were above the MDL.

- Results for arsenic in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-DUP-2, SB-18 (0-2), SB-18 (7-9), SB-11 (0-4),SB-1 (0-2), SB-2 (0-2), SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J, UJ) due to lack of confirmation in the field duplicate pair.

- Results for cadmium in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (0-2), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), SB-2 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J, UJ) due to lack of confirmation in the field duplicate pair.

- Results for barium, chromium, manganese, and nickel in all soil samples were qualified as estimated (J) due to elevated RPD between the field duplicate pair.

- Results for beryllium, cadmium, chromium, lead, nickel and zinc in SB-7 (0-2) were qualified as estimated (J-, UJ), biased low, due to low MS and PDS recoveries.

- Results for all ICP metals in SB-4 (0-2) were qualified as estimated (J-, UJ), biased low, due to low MS/MSD and PDS recoveries.

- Results for arsenic, barium, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, and zinc in SB-5 (0-2) were qualified as estimated (J-, UJ), biased low, due to low MS and/or MSD and PDS recoveries.

- Results for all barium, chromium and manganese in all soil samples were qualified as estimated (J) due to elevated percent differences in the serial dilution sample.

- Results for copper in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (0-2), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), SB-2 (0-2), SB-3 (0-2), and SB-4 (0-2) were qualified as estimated (J) due to elevated percent difference in the serial dilution sample.

- Results for cadmium, beryllium and silver in FIELD BLANK-1 and FIELD BLANK-2 were less than the calibration supported RL (0.001 mg/L) and were qualified as estimated (UJ) due to elevated %D in the low-level calibration standard.

- Results for chromium in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) due to the low recovery demonstrated in the low-level continuing calibration verification (LLCCV) standard.

- The result for barium in FIELD BLANK-2 was qualified as estimated and biased high (J+) due to elevated response in the ICSA standard.

Mercury (CVAA)

- Results for mercury in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-12 (0-4), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-8b (0-3), SB-10a (0-3), SB-19 (7-9), SB-18 (7-9), SB-DUP-2, SB-1 (0-2), SB-2 (0-2), SB-18 (0-2), and SB-11 (0-4) were qualified as estimated (J-, UJ) due to negative continuing calibration blank associations.

- Results for mercury in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-DUP-1, SB-18 (0-2), SB-18 (7-9), SB-11 (0-4), SB-1 (0-2), SB-2 (0-2), SB-3 (0-2), and SB-4 (0-2) were qualified as estimated (J, UJ) due to lack of confirmation in the field duplicate pair.

- The result for mercury in SB-4 (0-2) was qualified as estimated and biased high (J+), based on the elevated MSD recovery.

PFAS

- Results for NEtFOSAA and NMeFOSAA in SB-10b (0-3), SB-19 (7-9), SB-DUP-2, SB-3 (0-2), and SB-5 (0-2) were qualified as estimated (UJ) due to low recoveries in associated IC and CC standards.

- Results for NMeFOSSA and NEtFOSAA in SB-19 (7-9), SB-DUP-2, and SB-5 (0-2) and for FOSA in SB-3 (0-2) were qualified as estimated (UJ) due to low labeled analog recoveries.

Cyanide

- The results for cyanide in SB-9 (0-4), SB-8b (0-3), SB-10a (0-3), SB-12 (0-4), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18

(0-2), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), SB-2 (0-2), SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J, UJ) due to low LCS/LCSD recoveries and elevated RPD between the LCS/LCSD.

Total Solids

- Results for total solids in SB-10a (0-3), SB-11 (0-4), and SB-1 (0-2) were qualified as estimated (J) due to holding time exceedance.

Hexavalent Chromium

- Results for hexavalent chromium in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-10a (0-3), SB-12 (0-4), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (0-2), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), and SB-4 (0-2) were qualified as estimated with potential low bias (J-, UJ) due to low LCS recoveries.

- Results for hexavalent chromium in all soil samples except SB-4 (0-2) and SB-7 (0-2) were qualified as estimated (J, UJ) due to low level imprecision in the field and laboratory duplicate pairs.

Trivalent Chromium

- Results for trivalent chromium in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-10a (0-3), SB-12 (0-4), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (0-2), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), and SB-4 (0-2) were qualified as estimated with potential low bias (J-, UJ) due to low LCS recoveries seen in the hexavalent chromium analysis.

- Results for trivalent chromium in all soil samples except SB-4 (0-2) and SB-7 (0-2) were qualified as estimated (J) because of the low-level imprecision seen in the hexavalent chromium field and laboratory duplicate pairs.

- Result for trivalent chromium in all soil samples were qualified as estimated (J), because the field duplicate RPD was elevated, as well as the serial dilution percent difference in the total chromium analysis.

All other results were determined to be valid as reported by the laboratory.

This report should be considered part of the data package for all future distributions of the data.

INTRODUCTION

Analyses for the requested parameters were performed by the laboratory according to the following analytical methods:

Volatile Organic Compounds (VOCs)	SW846 Method 8260C
Semivolatile Organic Compounds (SVOCs)	SW846 Method 8270D SW846 Method 8270DSIM
Organochlorine Pesticides	SW846 Method 8081B
Polychlorinated Biphenyls	SW846 Method 8082A
Total Metals	SW846 Method 6010C SW846 Method 6020B SW846 Method 7471B
Polyfluorinated Alkyl Substances (PFAS)	EPA Method 537 (M)
Total Cyanide	SW846 9012B
Hexavalent Chromium	SW846 7196A
Total Solids	SM2540G
Trivalent Chromium	CALC

Results of sample analyses are reported by the laboratory as either qualified or unoneualified; various qualifier codes are used to denote specific information regarding the analytical results.

ddms' validation was performed in conformance with the USEPA "National Functional Guidelines (NFG) for Organic Data Review" (2020), the USEPA "National Functional Guidelines for Inorganic Data Review" (2004), ddms' Standard Operating Procedures (SOPs) for the methods followed, the requirements of the analytical methods followed, and the specifications of the project-specific Quality Assurance Project Plan (QAPP). Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the CLP. This requires that the data package be presented in accordance with the CLP requirements, so that sufficient supporting documentation is available to facilitate the validation effort. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the NFG:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data package, documenting sample collection dates of May 2 and 3, 2022. The samples were received at the laboratory on May 3, 2022.

The temperatures of the coolers upon receipt at the laboratory (3.4°C to 4.7°C) were acceptable (QC <6°C). Sample SB-19 (0-2) was received in appropriate containers (vials) for the Volatile Organics by EPA Method 5035/8260 Low-Level analysis; however, the initial analysis failed with low internal standards and the second Low-Level vial was disposed of due to laboratory error. With the client's authorization, a sample aliquot was taken from an unpreserved container (jar) and preserved appropriately. All results for SB-19 (0-2) were qualified estimated (J, UJ) on this basis. All other samples were prepared and analyzed within method holding times.

The total solids analysis was performed 2 days after the 7-day holding time for SB-10A (0-3), SB-11 (0-4), and SB-1 (0-2). Results for total solids in SB-10A (0-3), SB-11 (0-4), and SB-1 (0-2) were qualified as estimated (J). The user is cautioned that total solids is used in all dry weight calculation adjustments and affects may have bearing on all associated analysis for those samples.

II. Documentation

The following documentation issues were observed during the validation effort:

- Sample SB-DUP-1 was included on the COC for this data set but was missing from the cooler. It was included in the cooler with SDG L2223458 and was also included on the COC for that SDG.

- Dates and times of collection recorded on the COC records did not match the dates and times of collection listed on the sample containers for SB-18 (0-2), SB-18 (7-9), SB-3 (0-2), and SB-4 (0-2). The client requested that the COC recorded dates and times of collection be used for all of these samples.

- PFAS analyses were not requested on the COC records for SB-DUP-2, FIELD BLANK-1, or SB-5 (0-2), but sample containers for this analysis parameter were received. The PFAS analyses of these samples were performed at the client's request.

- Raw data for a method blank, LCS, and LCSD from PCBs extraction batch WG1638462-1 were included in the data package. This extraction batch is not associated with any of the site samples; therefore, the data were not reviewed as a part of the validation effort.

- Raw data for the 1.0 ng/mL standard of the PFAS initial calibration run on April 27, 2022, on instrument LCMS01 were not included in the data package. Instead, two sets of raw data for the 0.50 ng/mL standard were provided. On request, the

laboratory provided the raw data for the 1.0 ng/mL standard, which were reviewed and verified by the validator. At the discretion of the data user, the laboratory should be requested to revise the data package to include this documentation so that complete and accurate documentation is available for future reference.

- The internal standard used to calculate concentrations of PFTrDA in the calibration standards and laboratory QC samples could not be determined from the information in the data package as received. On request, the laboratory explained that the area used for this calculation is the average of the areas of internal standards M2PFTeDA and MPFDOA. This was confirmed by the validator. At the discretion of the data user, the laboratory should be requested to provide this information in the data package so that complete information is available for future reference.

The remainder of this report discusses the review effort for each of the parameters. The tables below document the quality control (QC) elements reviewed for each analysis parameter. Where a quality indicator was deemed acceptable after thorough review, no further discussion is included in this report. Detailed findings are included for each quality element that impacted the usability of the reported results. Additional information or explanation is included as needed, to provide support for decisions made, based on the validator's best professional judgment.

Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J with an indeterminate bias.

III. VOCs

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	Y
Surrogates	Y
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	N
MS/MSD	N
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	N/A

A. Calibration

Data for two ICs were provided, one instrument VOA127 and one on instrument VOA129 supporting the soil sample analyses and one IC on GONZO supporting the aqueous sample analyses. All of the IC relative response factors (RRFs) and percent relative

standard deviations (%RSDs) were acceptable except for 1,4-dioxane (0.003 on instruments VOA127 and VOA 129 and 0.002 on GONZO). A review of other laboratory quality control data supports the laboratory's ability to detect and accurately quantify the compounds. No data were qualified on this basis.

Initial calibration verification (ICV) standards were analyzed after each of the ICs; all percent differences (%Ds) were acceptable in the associated ICV standard with the exception of acetone (24.6%D) and 2-butanone (20.2%D) in the GONZO ICV. Results for acetone and 2-butanone in FIELD BLANK-1, FIELD BLANK-2, TRIP BLANK 1, and TRIP BLANK 2 were qualified as estimated (UJ) due to high variability from the IC to the second source standard.

Four CC standards were analyzed in support of the samples in this data set. All RRFs an %Ds were acceptable with the exceptions summarized below.

Parameter	%D	Samples Affected	Qualifier Applied
Batch 1636811-2			
2-Butanone	-21.9	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (7-9) SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-DUP-2 SB-1 (0-2)	UJ
Batch 1637092-2			
n-Propylbenzene	+25.7	SB-2 (0-2) SB-3 (0-2) SB-4 (0-2) SB-5 (0-2)	none
1,3,5-Trimethylbenzene	+24.1		
1,2,4-Trimethylbenzene	+23.9		
sec-Butylbenzene	+24.9		
n-Butylbenzene	+35.7		
Batch 1638217-2			
Vinyl chloride	-30.4	SB-19 (0-2)	UJ
1,1-Dichloroethene	-24.3		
Acetone	-24.3		
trans-1,2-Dichloroethene	-20.4		

Parameter	%D	Samples Affected	Qualifier Applied
Carbon tetrachloride	-24.3		
1,1,1-Trichloroethane	-21.0		
Batch 1638761-2			
Vinyl chloride	+26.7	FIELD BLANK-1 FIELD BLANK-2 TRIP BLANK 1 TRIP BLANK 2	none
Acetone	-21.9		UJ
2-Butanone	-25.0		UJ

The excursions in Batch 1637092 CC all represent an increase in sensitivity. Since none of the compounds were detected in any of the samples in that analytical batch, no data required qualification on this basis. Results were qualified as detailed in the table above.

B. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

Four LCS/LCSD pairs were prepared and analyzed with the field samples. Recoveries for all spiked compounds assessed were acceptable, with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch1637092-3/4					
n-Butylbenzene	136	a	a	SB-2 (0-2) SB-3 (0-2) SB-4 (0-2) SB-5 (0-2)	none
Batch 1638217-3/4					
Vinyl chloride	a	57	a	SB-19 (0-2)	UJ
Batch 1638761-3/4					
Acetone	a	64	a	FIELD BLANK-1 FIELD BLANK-2 TRIP BLANK-1 TRIP BLANK-2	UJ

Results for vinyl chloride in SB-19 (0-2) and acetone in FIELD BLANK-1, FIELD BLANK-2, TRIP BLANK-1, and TRIP BLANK-2 were qualified as estimated (UJ) based on low recoveries in the LCSD.

There were no detections of n-butylbenzene in the field samples; therefore, no action was necessary for this compound.

C. Matrix Spike (MS)/MS Duplicate (MSD)

Samples SB-4 (0-2) and SB-5 (0-2) were prepared as MS/MSD pairs. Recoveries and precision between paired recoveries were acceptable (70-130% R and <50% RPD), with the following exceptions:

Compound	MS %R	MSD %R	RPD	Samples Affected	Qualifier Applied
SB-4 (0-2)					
1,2-Dichlorobenzene	63	a	a	SB-4 (0-2)	UJ
1,3-Dichlorobenzene	61	a	a		
1,4-Dichlorobenzene	59	68	a		
2-Butanone	68	a	a		
n-Butylbenzene	62	68	a		
SB-5 (0-2)					
Methylene chloride	a	a	39	SB-5 (0-2)	UJ
1,1-Dichloroethane	a	a	36		
Chloroform	a	a	35		
Carbon tetrachloride	a	a	32		
Tetrachloroethene	a	67	a		
Chlorobenzene	a	64	a		
1,2-Dichloroethane	a	a	35		
1,1,1-Trichloroethane	a	a	34		
Benzene	a	a	31		
Ethylbenzene	a	64	a		
Vinyl chloride	a	a	37		
1,1-Dichloroethene	a	a	37		
trans-1,2-Dichloroethene	a	a	41		
Trichloroethene	a	a	31		
1,2-Dichlorobenzene	a	54	a		
1,3-Dichlorobenzene	a	50	a		
1,4-Dichlorobenzene	69	48	a		
Methyl tert butyl ether	a	a	31		
p/m-Xylene	a	59	a		
o-Xylene	a	62	a		
cis-1,2-Dichloroethene	a	a	40		
2-Butanone	a	67	31		
n-Butylbenzene	a	45	a		
sec-Butylbenzene	a	53	a		
tert-Butylbenzene	a	57	a		
n-Propylbenzene	a	55	a		
1,3,5-Trimethylbenzene	a	57	a		
1,2,4-Trimethylbenzene	a	56	a		
1,4-Dioxane	a	a	40		

Results for 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2-butanone, and n-butylbenzene in SB-4 (0-2) and for all compounds *except acetone and toluene* in SB-5 (0-2) were qualified as estimated (UJ) due to unacceptable MS, MSD, and/or RPD results.

D. Field Duplicates

Based on documentation from the client, SB-DUP-1 (SDG L2223458) was submitted as a field duplicate of SB-19 (7-9).

Compound	SB-19 (7-9)	SB-19 (7-9) RL	SB-DUP-1	SB-DUP-1 RL
1,2,4-Trimethylbenzene	ND	2.2	0.4 J	2.3
1,3,5-Trimethylbenzene	ND	2.2	0.45 J	2.3
2-Butanone	ND	11	4.4 J	11
Acetone	ND	11	31	11
o-Xylene	ND	1.1	0.53 J	1.1

SB-DUP-2 was submitted as a field duplicate of SB-1 (0-.2).

Compound	SB-1 (0.2)	SB-1 (0.2) RL	SB-DUP-2	SB-DUP-2RL
1,2,4-Trimethylbenzene	1.0 J	2.7	0.51 J	2.9
1,3,5-Trimethylbenzene	0.32 J	2.7	ND	2.9

Results for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-butanone, acetone, and o-xylene in all samples except SB-1 (0-2) and SB-DUP-2 were qualified as estimated (J, UJ) on this basis.

IV. SVOCs (8270D Fullscan)

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	N
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	Y
MS/MSD	N
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	NA

NA = not applicable or not analyzed

A. Calibration

Three initial calibrations were provided in support of the samples results, one performed on 1/22/22 on instrument GCMS5, one on 4/20-21/22 on instrument DAKOTA, and one on 5/10-11/22 on instrument SV112. All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable. An initial calibration verification (ICV) standard was analyzed after each IC; all percent differences (%Ds) were acceptable (≤20%) in the ICV standards, for the target compounds reported for the associated samples.

Continuing calibration (CC) standards were analyzed at the appropriate frequency and %Ds were acceptable (≤20%) with the following exceptions:

CC Date	Compound	%D	Samples Affected	Qualifier Applied
5/7/2022 @ 11:12 am DAKOTA	2,4-Dinitrophenol	+36.0	QC samples only	none
5/8/22 @ 9:29 DAKOTA	2,4-Dinitrophenol	+49.9	FIELD BLANK-1 FIELD BLANK-2	none
	4,6-Dinitro-o-creson	+32.4		
5/11/22 @ 11:43 pm SV112	2,4-Dinitrophenol	-20.6	No target compounds for the associated samples	none
	Pentachlorophenol	-25.5		
	Chrysene	-21.1		
	bis(2-Ethylhexyl)phthalate	-24.8		

The high %Ds for 2,4-dinitrophenol and 4,6-dinitro-o-cresol represent increases in sensitivity and these compounds were not detected in FIELDBLANK-1 and FIELDBLANK-2; therefore, no action was necessary. The compounds exhibiting excursions in the 5/11/22 CC listed above were only reported in FIELDBLANK-1 and FIELDBLANK-2, none of the soil samples; therefore, no action was warranted for these excursions.

B. Blanks

Laboratory blanks were prepared and analyzed for each of the extraction batches. Two field blanks were submitted with the field samples. None of the target compounds reported in the field samples were detected in any of the laboratory method blanks.

2-Methylnaphthalene was detected in FIELD BLANK-1 at a concentration of 0.04 J µg/L. This compound was reported only in the two field blanks; therefore, no action was necessary with respect to the field samples.

C. Surrogates

Six surrogate compounds were added before extraction to all QC and field samples. Recoveries for the surrogates were acceptable (70-130%) with the exceptions detailed below:

Sample	2FP	PHL	NBZ	FBP	TBP	TPHd14	Qualifier Applied
FIELD BLANK-1	a	59	a	a	a	a	J-, UJ
FIELD BLANK-2	57	47	63	67	66	63	
SB-7 (0-2)	66	66	58	65	62	62	
SB-7 (7-9)	a	a	67	a	a	a	
SB-6 (0-2)	a	a	62	a	a	65	
SB-6 (7-9)	a	a	a	a	a	69	
SB-9 (0-4)	a	a	a	a	a	62	
SB-8b (0-3)	4	24	62	61	1	54	
SB-8b (0-3) RE	7	34	62	59	1	51	
SB-10a (0-3)	69	a	69	a	65	a	
SB-10b (0-3)	a	a	a	a	a	69	
SB-16 (0-4)	a	a	a	a	a	69	
SB-17 (2-4)	63	62	54	61	62	60	
SB-17 (0-2)	a	a	69	a	a	63	
SB-19 (0-2)	64	65	57	62	69	55	
SB-19 (7-9)	69	a	62	68	69	63	
SB-18 (0-2)	a	a	64	63	a	51	
SB-18 (7-9)	68	68	62	65	66	53	
SB-11 (0-4)	a	a	67	a	a	a	
SB-DUP-2	52	a	a	a	42	a	
SB-1 (0-2)	25	53	58	62	17	54	
SB-3 (0-2)	a	a	a	a	66	56	
SB-4 (0-2)	a	a	69	57	a	46	
SB-5 (0-2)	a	a	a	a	a	63	

Results for phenol, 2-nitrophenol, 4-nitrophenol, 2-chlorophenol, 2-methylphenol, 3&4-methylphenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, benzoic acid, and benzyl alcohol in FIELD BLANK-1, SB-DUP-2 and SB-10a (0-3) were qualified as estimated (J-, UJ) based on low recovery for the associated surrogate compound.

Results for phenol, 2-methylphenol, and 3&4-methylphenol in SB-8b (0-3) and SB-8b (0-3) RE were rejected (R) as unusable, based on recoveries less than 10% for associated surrogate compounds.

The result for pentachlorophenol in SB-3 (0-2) was qualified as estimated (UJ) based on low recovery for the associated surrogate compound.

Results for acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, hexachlorobenzene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene in SB-8b (0-3), SB-8b (0-3) RE, SB-6 (0-2), SB-10a (0-3), SB-17 (0-2), SB-18 (0-2), and SB-

4 (0-2) were qualified as estimated (J-, UJ) based on low recoveries for the associated surrogate compounds.

Results for all target compounds in FIELD BLANK-2, SB-7 (0-2), SB-17 (2-4), SB-19 (0-2), SB-19 (7-9), SB-18 (7-9), and SB-1 (0-2) were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in each of the acid and base/neutral extractables fractions.

Results for naphthalene and hexachlorobenzene in SB-7 (7-9), SB-10a (0-3), and SB-11 (0-4) were qualified as estimated (J-, UJ) based on low recovery for the surrogate compound associated with these target analytes.

Results for anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene in SB-6 (7-9), SB-9 (0-4), SB-10b (0-3), SB-16 (0-4), SB-3 (0-2), and SB-5 (0-2) were qualified as estimated (J-, UJ) based on low recovery for the associated surrogate.

D. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

Four LCS/LCSD pairs were prepared and analyzed with the field samples. Recoveries for spiked compounds assessed (data validation limits 70-130% R) and agreement between paired results (<20 RPD) were acceptable, with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1635274-2/3					
Acenaphthene	65	62	a	FIELD BLANK-1 FIELD BLANK-2	J-, UJ
1,2,4-Trichlorobenzene	59	58	a		
Hexachlorobenzene	63	59	a		
bis(2-Chloroethyl)ether	62	58	a		
2-Chloronaphthalene	58	59	a		
1,2-Dichlorobenzene	59	56	a		
1,3-Dichlorobenzene	58	56	a		
1,4-Dichlorobenzene	58	56	a		
3,3'-Dichlorobenzidine	56	53	a		
2,6-Dinitrotoluene	a	68	a		
Fluoranthene	66	66	a		
4-Chlorophenyl phenyl ether	66	61	a		
4-Bromophenyl phenyl ether	61	59	a		
bis(2-Chloroisopropyl)ether	59	56	a		
bis(2-Chloroethoxy)methane	61	58	a		
Hexachlorobutadiene	58	59	a		

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Hexachlorocyclopentadiene	46	46	a		
Hexachloroethane	57	57	a		
Isophorone	55	53	a		
Naphthalene	61	62	a		
Nitrobenzene	67	63	a		
n-Nitrosodiphenylamine	65	62	a		
n-Nitrosodi-n-propylamine	59	58	a		
bis(2-Ethylhexyl)phthalate	65	66	a		
Butyl benzyl phthalate	63	61	a		
Di-n-butylphthalate	62	64	a		
Di-n-octylphthalate	65	64	a		
Diethyl phthalate	65	62	a		
Dimethyl phthalate	60	60	a		
Benzo(a)anthracene	67	69	a		
Benzo(a)pyrene	a	69	a		
Acenaphthylene	58	58	a		
Anthracene	65	64	a		
Anthracene	65	64	a		
Fluorene	67	63	a		
Phenanthrene	68	66	a		
Pyrene	67	65	a		
Biphenyl	63	60	a		
4-Chloroaniline	7	7	a		
2-Nitroaniline	a	69	a		
3-Nitroaniline	20	19	a		
4-Nitroaniline	54	54	a		
Dibenzofuran	67	64	a		
2-Methylnaphthalene	60	60	a		
1,2,4,5-Tetrachlorobenzene	59	57	a		
Acetophenone	60	60	a		
2,4,6-Trichlorophenol	61	60	a		
4-Chloro-3-methylphenol	64	62	a		
2-Chlorophenol	62	60	a		
2,4-Dichlorophenol	64	63	a		
2,4-Dimethylphenol	63	56	a		
2-Nitrophenol	69	67	a		
4-Nitrophenol	64	61	a		
2,4-Dinitrophenol	66	61	a		
Pentachlorophenol	55	62	a		
Phenol	45	42	a		
2-Methylphenol	61	58	a		
3&4-Methylphenol	61	55	a		

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
2,4,5-Trichlorophenol	61	62	a		
Benzoic acid	40	45	a		
Benzyl alcohol	55	54	a		
Carbazole	a	69	a		
Batch 1635635-2/3					
Acenaphthene	64	63	a	SB-12 (0-4) SB-19 (0-2) SB-11 (0-4) SB-18 (7-9) SB-19 (7-9) SB-6 (7-9) SB-17 (2-4) SB-6 (0-2) SB-16 (0-4) SB-7 (7-9) SB-7 (0-2) SB-10a (0-3) SB-1 (0-2) SB-2 (0-2) SB-9 (0-4) SB-17 (0-2) SB-18 (0-2) SB-DUP-2 SB-8b (0-3) SB-10b (0-3)	
Hexachlorobenzene	67	69	a		
Fluoranthene	67	66	a		
Naphthalene	59	60	a		
Benzo(a)anthracene	68	68	a		
Benzo(a)pyrene	a	66	a		
Benzo(b)fluoranthene	69	64	a		
Benzo(k)fluoranthene	66	64	a		
Chrysene	65	64	a		
Acenaphthylene	66	a	a		
Anthracene	65	65	a		
Benzo(ghi)perylene	67	64	a		
Fluorene	66	67	a		
Phenanthrene	64	63	a		
Dibenz(a,h)anthracene	67	66	a		
Indeno(1,2,3-cd)pyrene	a	67	a		
Pyrene	65	63	a		
Dibenzofuran	66	65	a		
Pentachlorophenol	54	58	a		
Phenol	62	65	a		
2-Methylphenol	63	67	a		
3&4-Methylphenol	64	a	a		
Batch 1635905-2/3					
Acenaphthene	65	a	a	SB-3 (0-2) SB-4 (0-2) SB-5 (0-2)	J-, UJ
Hexachlorobenzene	61	68	a		
Fluoranthene	67	a	a		
Naphthalene	66	a	a		
Benzo(a)anthracene	63	69	a		
Benzo(a)pyrene	58	63	a		
Benzo(b)fluoranthene	58	63	a		
Benzo(k)fluoranthene	60	65	a		
Chrysene	61	67	a		
Acenaphthylene	68	a	a		
Anthracene	64	a	a		
Benzo(ghi)perylene	66	a	a		
Fluorene	67	a	a		
Phenanthrene	67	a	a		

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Dibenz(a,h)anthracene	64	a	a		
Pyrene	66	a	a		
Dibenzofuran	67	a	a		
Pentachlorophenol	61	68	a		
Batch 1639053-2/3					
Acenaphthene	57	a	38	SB-8b (0-3) RE	J-, UJ
Hexachlorobenzene	57	a	35		
Fluoranthene	61	a	35		
Naphthalene	56	a	39		
Benzo(a)anthracene	60	a	36		
Benzo(a)pyrene	55	a	33		
Benzo(b)fluoranthene	55	a	33		
Benzo(k)fluoranthene	53	a	38		
Chrysene	57	a	36		
Acenaphthylene	60	a	39		
Anthracene	60	a	36		
Benzo(ghi)perylene	59	a	37		
Fluorene	59	a	38		
Phenanthrene	60	a	36		
Dibenz(a,h)anthracene	56	a	40		
Indeno(1,2,3-cd)pyrene	59	a	38		
Pyrene	60	a	37		
Dibenzofuran	59	a	39		
Pentachlorophenol	37	a	51		
Phenol	64	a	38		
2-Methylphenol	61	a	39		
3&4-Methylphenol	68	a	37		

Results for all target analytes in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) based on low recoveries in the LCS and/or LCSD.

Results for all compounds except 2-methylphenol, 3&4-methylphenol, phenol, and indeno(1,2,3-cd)pyrene, in SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J-, UJ) based on low recoveries in the LCS and/or LCSD.

Results for 4-chloroaniline in FIELD BLANK-1 and FIELD BLANK-2 were rejected (R) as unusable, based on recoveries less than 10% for the LCS and LCSD.

Results for all target analytes in SB-12 (0-4), SB-19 (0-2), SB-11 (0-4), SB-18 (7-9), SB-19 (7-9), SB-6 (7-9), SB-17 (2-4), SB-6 (0-2), SB-16 (0-4), SB-7 (7-9), SB-7 (0-2), SB-10a (0-3), SB-1 (0-2), SB-2 (0-2), SB-9 (0-4), SB-17 (0-2), SB-18 (0-2), SB-DUP-2, SB-8b (0-3), SB-8b (0-3) RE, and SB-10b (0-3) were qualified as estimated (J-, UJ) based on low recoveries in the LCS and/or LCSD. Results for phenol, 2-methylphenol, and 3&4-

methylphenol in SB-8b (0-3) and SB-8b (0-3) RE were previously rejected based on surrogate recovery <10%. The "R" qualifier takes precedence.

Results for 4-chloroaniline in FIELD BLANK-1 and FIELD BLANK-2 were rejected (R) as unusable, based on recoveries less than 10% for the LCS and LCSD.

E. Matrix Spike (MS)/MS Duplicate (MSD)

Two MS/MSD pairs were prepared and analyzed with the field samples. Recoveries for all spiked compounds assessed (validation limits 70-130% R) and agreement between paired results (<50 RPD) was acceptable, with the following exceptions.

Compound	MS %R	MSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1635905-4/5 – Parent sample SB-4 (0-2)					
Acenaphthene	a	56	a	SB-4 (0-2)	J-, UJ
Hexachlorobenzene	63	49	a		
Fluoranthene	a	57	a		
Naphthalene	a	60	a		
Benzo(a)anthracene	68	55	a		
Benzo(a)pyrene	58	46	a		
Benzo(b)fluoranthene	65	46	a		
Benzo(k)fluoranthene	57	48	a		
Chrysene	66	52	a		
Acenaphthylene	a	60	a		
Anthracene	67	55	a		
Benzo(ghi)perylene	64	50	a		
Fluorene	a	57	a		
Phenanthrene	a	59	a		
Dibenz(a,h)anthracene	64	50	a		
Indeno(1,2,3-cd)pyrene	68	53	a		
Pyrene	a	56	a		
Dibenzofuran	a	57	a		
Pentachlorophenol	66	53	a		
2-Methylphenol	a	65	a		
Batch 1635905-6/7 – Parent sample SB-5 (0-2)					
Acenaphthene	a	56	a	SB-5 (0-2)	J-, UJ
Hexachlorobenzene	63	49	a		
Fluoranthene	a	57	a		
Naphthalene	a	60	a		
Benzo(a)anthracene	68	55	a		
Benzo(a)pyrene	58	46	a		
Benzo(b)fluoranthene	65	46	a		
Benzo(k)fluoranthene	57	48	a		
Chrysene	66	52	a		

Compound	MS %R	MSD %R	RPD	Samples Affected	Qualifier Applied
Acenaphthylene	a	60	a		
Anthracene	67	55	a		
Benzo(ghi)perylene	64	50	a		
Fluorene	a	57	a		
Phenanthrene	a	59	a		
Dibenz(a,h)anthracene	64	50	a		
Indeno(1,2,3-cd)pyrene	68	53	a		
Pyrene	a	56	a		
Dibenzofuran	a	57	a		
Pentachlorophenol	66	53	a		
2-Methylphenol	a	65	a		

Results for all target analytes except phenol and 3&4-methylphenol in SB-4 (0-2) and SB-5 (0-2) were qualified as estimated (J-, UJ) based on low recoveries in the MS and/or MSD.

F. Field Duplicates

Sample SB-DUP-1 (included in SDG L2223458) was submitted as a field duplicate of SB-19 (7-9) included in this SDG. Sample SB-DUP-2 was submitted as a field duplicate for SB-1 (0-2), both reported with this dataset. None of the reported target analytes were detected in either sample of either of the field duplicate pairs.

V. SVOCs (Method 8270D SIM)

Only the 2 FBs were run for SIM – PAH and dioxane

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	N
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	Y
Field Duplicates	NA
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	NA

NA = not applicable or not analyzed

A. Calibration

One initial calibration, performed on 2/9/22 on instrument SB128, was provided in support of the acid- and base/neutral- extractable semivolatile compound results reported for the two field blanks. Another IC was performed on 5/4/22 on instrument PSH22 for 1,4-dioxane only. Calibration was established using average response factors, linear regression, and isotope dilution (1,4-dioxane only). All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable. An initial calibration verification (ICV) standard was analyzed after each of the ICs and all percent differences (%Ds) in these ICVs were acceptable (≤20%).

Continuing calibration (CC) standards were analyzed at the appropriate frequency and %Ds were acceptable (≤20%), with one exception:

CC Date	Compound	%D	Samples Affected	Qualifier Applied
5/8/22 @ 07:19 SV128	bis(2-Ethylhexyl)phthalate	+21.9	FIELD BLANK-1 FIELD BLANK-2	J, UJ

The high %D represents an increase in sensitivity for bis(2-ethylhexyl)phthalate, indicating the potential for high bias. This compound was not detected in either of the field blanks; therefore, no action was necessary.

B. Blanks

Two method blanks were prepared with the two field blank samples, one with the analytical batch extracted for acid- and base/neutral extractable compounds and a second for the extraction for 1,4-dioxane, only. The following compounds were detected in the associated method blank:

Blank	Compound	%D	Samples Affected	Qualifier Applied
WG1635276-1	Fluoranthene	0.03 J µg/L	FIELD BLANK-1 FIELD BLANK-2	none
	Naphthalene	0.31 J µg/L		
	Benzo(a)anthracene	0.02 J µg/L		
	Benzo(b)fluoranthene	0.01 J µg/L		
	Phenanthrene	0.02 J µg/L		
	2-Methylnaphthalene	0.07 J µg/L		U

The result for 2-methylnaphthalene in FIELD BLANK-1 was qualified as not detected (U) at the reporting limit, based on the presence of this compound in the associated method blank at a higher concentration. None of the other analytes detected in the method blank were detected in either field blank.

C. Surrogates

Six surrogate compounds (2-fluorophenol [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHd14]) were added before extraction to all QC and field samples. Of these, the three base/neutral extractable surrogate compounds (NBZ, FBP, and TPHd14), the acid-extractable compound 2,4,6-tribromophenol (TBP), and 1,4-dioxane-d_8 (DXd8, applicable to the 1,4-dioxane analyses only) have bearing on the selected target compounds. Recoveries for these surrogates were acceptable (70-130% for acid- and base/neutral extractable surrogates and 30-130% for 1,4-dioxane-d_8) with the exceptions detailed below:

Sample	DXd8	2FP	PHL	NBZ	FBP	TBP	TPHd14	Qualifier Applied
FIELD BLANK-1	a	a	a	a	a	137	a	none
FIELD BLANK-2	a	61	a	a	a	a	a	

Only pentachlorophenol was associated with 2,4,6-tribromophenol and this compound was not detected in FIELD BLANK-1 and 2-fluorophenol is not associated with any of the target compounds reported; therefore, no action was necessary.

D. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

One LCS/LCSD pair was prepared and analyzed with each extraction batch. Recoveries for all spiked compounds assessed (70-130% R) and agreement between paired results (<20 RPD) were acceptable, with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1635276-2/3					
Acenaphthylene	69	64	a	FIELD BLANK-1 FIELD BLANK-2	J-, UJ
Pentachlorophenol	a	62	a		

Results for acenaphthylene and pentachlorophenol in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) based on low recoveries in the LCS and/or LCSD.

VI. Pesticides

Review Element	Acceptable?
Calibration - IC, ICV, CCV	Y
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)	N
Field Duplicates	Y
MS/MSD	Y

Review Element	Acceptable?
Compound Identification	Y
Compound Quantitation	N

A. Calibration

Three initial calibrations were associated with the sample analyses; these were run on September 13, 2021, on instrument PEST10, on January 31, 2022, on instrument PEST18, and on April 22, 2022, on instrument PEST20. Calibration factors (CFs) and %RSDs were correctly calculated and reported. All %RSDs were all less than the maximum acceptance limit of 20%. ICV standards were analyzed after each IC. The %Ds for all target analyte peaks on both columns in the ICV standards were less than the maximum acceptance limit of 20%.

Six CC standards were analyzed with the samples. CFs and %Ds for all analyte 1260 peaks on both columns were correctly calculated and reported. The %D values were less than the maximum acceptance limit of 20%, with the following exceptions:

CC Standard	Analyte	Column	%D	Associated Samples	Qualifier Applied
5/9/22 @ 10:27 PEST10	Tetrachloro-m-xylene	Column 1	21.2	FIELD BLANK-1 FIELD BLANK-2	none
5/9/22 @ 14:17 PEST18	Decachlorobiphenyl	Column 2	23.4	SB-7 (7-9) SB-6 (0-2) SB-9 (0-4) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-18 (7-9) SB-3 (0-2) SB-DUP-2 SB-1 (0-2) SB-2 (0-2)	none
5/11/22 @ 08:07 PEST20	4,4'-DDD	Column 2	20.1	SB-8b (0-3)	none
5/17/22 @ 08:55 PEST10	Decachlorobiphenyl	Column 2	34.3	SB-5 (0-2)	none

Decachlorobiphenyl and tetrachloro-m-xylene are the surrogate compounds used for these analyses. Since surrogate compound concentrations are calculated using responses from the IC rather than the CC standard, no action was taken based on the high %D for these analytes in the CC standards run on May 9 and 17, 2022, on instrument PEST10 and on May 9, 2022, on instrument PEST18.

For the May 11, 2022, CC standard, the %D for 4,4'-DDD was acceptable on Column 2, and this compound was not detected in the associated site sample. Therefore, based on professional judgment, no action was necessary on this basis.

B. Surrogate Recovery

Tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB) were used as the surrogate compounds for these analyses. Recoveries of TCX and DCB for the reported site and laboratory QC samples were within the validation acceptance limits of 70-130%, with the following exceptions:

Sample	TCX %R Column 1	TCX %R Column 2	DCB %R Column 1	DCB %R Column 2	Qualifier
FIELD BLANK-1	58	64	67	a	J-, UJ
FIELD BLANK-2	55	59	48	59	
SB-7 (0-2)	60	66	a	a	
SB-6 (0-2)	62	69	68	59	
SB-6 (7-9)	58	64	a	a	
SB-8b (0-3)	0	0	0	0	none
SB-12 (0-4)	64	a	a	61	J-, UJ
SB-10a (0-3)	50	53	57	49	
SB-10b (0-3)	65	a	a	a	
SB-17 (2-4)	57	62	a	60	
SB-17 (0-2)	62	67	a	65	
SB-19 (0-2)	61	68	a	a	
SB-19 (7-9)	63	66	a	a	
SB-18 (7-9)	61	69	a	62	
SB-11 (0-4)	62	66	a	a	
SB-DUP-2	69	a	a	a	none
SB-1 (0-2)	65	a	a	68	UJ
SB-2 (0-2)	59	65	a	60	
SB-3 (0-2)	58	a	a	a	none
SB-4 (0-2)	a	a	a	69	

a = acceptable

Results for all target analytes in FIELD BLANK-1, FIELD BLANK-2, SB-7 (0-2), SB-6 (0-2), SB-6 (7-9), SB-12 (0-4), SB-10a (0-3), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (7-9), SB-11 (0-4), SB-1 (0-2), and SB-2 (0-2) were qualified as estimated (UJ) due to low surrogate recoveries.

For SB-10b (0-3), three of four surrogate recoveries were acceptable. However, positive results for 4,4'-DDT and cis-chlordane were reported from the primary column, and the recovery of TCX on this column was low. Results for 4,4'-DDT and cis-chlordane in SB-10b (0-3) were qualified as estimated with potential low bias (J-) due to a low surrogate recovery on the column from which these results were reported. Based on professional judgment, since no other target analytes were detected in the sample, and both surrogate recoveries on the secondary column were acceptable, no additional action was taken.

For SB-DUP-2, SB-3 (0-2), and SB-4 (0-2), three of four surrogate recoveries were acceptable, and no target analytes were detected in the samples. Therefore, based on professional judgment, no action was taken.

Sample SB-8b (0-3) was analyzed at a 20-fold dilution; according to the case narrative, the dilution was performed due to the matrix of the sample. As a result, concentrations of the surrogate compounds were diluted out, and no action was taken.

C. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

Four LCS/LCSD pairs were prepared and analyzed with the site samples. Recoveries and precision between paired recoveries were acceptable (70-130% R and <20% RPD), with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch WG1635259-2/3					
delta-BHC	50	61	a	FIELD BLANK-1 FIELD BLANK-2	UJ
Lindane	53	68	25		
alpha-BHC	55	69	24		
beta-BHC	53	a	35		
Heptachlor	54	68	23		
Aldrin	53	67	22		
Endrin	54	69	25		
Dieldrin	55	a	25		
4,4'-DDE	52	68	26		
4,4'-DDD	57	a	25		
4,4'-DDT	55	a	25		
Endosulfan I	50	64	24		
Endosulfan II	53	65	21		
Endosulfan sulfate	52	62	a		
cis-Chlordane	49	62	24		
Batch WG1635623-2/3					
delta-BHC	65	a	a	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-18 (7-9) SB-11 (0-4)	J-, UJ
Lindane	68	a	a		
alpha-BHC	67	a	a		
beta-BHC	67	a	a		
Aldrin	63	a	a		
Endrin	66	a	a		
Dieldrin	66	a	a		
4,4'-DDE	60	67	a		
4,4'-DDD	67	a	a		
4,4'-DDT	58	63	a		
Endosulfan I	60	67	a		
Endosulfan II	65	a	a		
Endosulfan sulfate	56	57	a		
cis-Chlordane	54	60	a		

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
				SB-DUP-2 SB-1 (0-2) SB-2 (0-2) SB-3 (0-2)	
Batch WG16535789-2/3					
Heptachlor	67	58	a	SB-18 (0-2) SB-4 (0-2)	UJ
Endosulfan I	a	69	a		
Endosulfan sulfate	a	67	a		
cis-Chlordane	69	61	a		
Batch WG1639033-2/3					
cis-Chlordane	66	a	a	SB-5 (0-2)	UJ

Results for all target analytes in FIELD BLANK-1 and FIELD BLANK-2, for delta-BHC, lindane, alpha-BHC, beta-BHC, aldrin, endrin, dieldrin, 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, endosulfan I, endosulfan II, endosulfan sulfate, and cis-chlordane in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (7-9), SB-11 (0-4), SB-DUP-2, SB-1 (0-2), SB-2 (0-2), and SB-3 (0-2), for heptachlor, endosulfan I, endosulfan sulfate, and cis-chlordane in SB-18 (0-2) and SB-4 (0-2), and for cis-chlordane in SB-5 (0-2) were qualified as estimated (J-, UJ) due to low LCS and/or LCSD recoveries.

Results for all target analytes except delta-BHC and endosulfan sulfate in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) due to LCS/LCSD imprecision.

D. Compound Quantitation

Target analytes concentrations and RLs were correctly calculated and reported. For all detected analytes except cis-chlordane in SB-6 (0-2), the laboratory reported the higher of the two column measurements. Agreement between the two measurements was acceptable (QC <40 RPD), except for cis-chlordane in SB-6 (0-2) (98 RPD). The result for cis-chlordane in SB-6 (0-2) was qualified as estimated (J) due to lack of agreement between the two column measurements.

VII. PCBs

Review Element	Acceptable?
Calibration - IC, ICV, CCV	N
Laboratory and Field Blanks	N
Surrogates	N
Laboratory Control Sample (LCS)	N
Field Duplicates	Y
MS/MSD	N
Compound Identification	N
Compound Quantitation	Y

NA = not analyzed

A. Calibration

Five initial calibrations were associated with the sample analyses; these were run on November 23, 2021, on instrument PEST13, on March 1, 2022, on instrument PEST21, on April 11, 2022, on instrument PEST23, on April 19-20, 2022, on instrument PEST2, and on April 25, 2022, on instrument PEST7. Calibration factors (CFs) and %RSDs were correctly calculated and reported. All %RSDs were all less than the maximum acceptance limit of 20%. ICV standards for Aroclor 1248 and the Aroclor 1016/1260, Aroclor 1242/1268, Aroclor 1232/1262, and Aroclor 1221/1254 mixtures were analyzed after each IC, and %Ds for all selected Aroclor peaks on both columns in the ICV standards were less than the maximum acceptance limit of 20%, with the following exceptions:

ICV Standard	Aroclor	Column	%D	Associated Samples	Qualifier Applied
4/11/22 @ 22:42 PEST23	Aroclor 1260-3	CLP-Pesticide	21.1	Lab QC Samples Only	none
	Aroclor 1260-4		20.3		
	Aroclor 1260-4	CLP-Pesticide II	20.3		
4/19/22 @ 21:10 PEST2	Aroclor 1232-2	CLP-Pesticide II	24.1	FIELD BLANK-1 FIELD BLANK-2	none
4/19/22 @ 22:27 PEST2	Aroclor 1248-2	CLP-Pesticide	21.4		
4/25/22 @ 18:02 PEST7	Aroclor 1260-3	CLP-Pesticide	20.7	SB-10b (0-3)	UJ
	Aroclor 1260-4		20.3		
	Aroclor 1260-4	CLP-Pesticide II	20.2		

The result for Aroclor 1260 in SB-10b (0-3) was qualified as estimated (UJ) due to high %Ds for selected Aroclor 1260 peaks on both columns in the associated ICV standard.

For the April 19, 2022, Aroclor 1232 and Aroclor 1248 ICV standards, %Ds were high on only one column, and the affected Aroclor was not detected in the associated samples. Therefore, based on professional judgment, no action was taken on this basis.

Eleven CC standards were analyzed with the samples. CFs and %Ds for all selected Aroclor 1016 and 1260 peaks on both columns were correctly calculated and reported. The %D values were less than the maximum acceptance limit of 20%, with the following exceptions:

CC Standard	Aroclor	Column	%D	Associated Samples	Qualifier Applied
5/10/22 @ 07:18 PEST21	Decachlorobiphenyl	CLP-Pesticide II	22.3	SB-8b (0-3)	none
5/16/22 at 12:48 PEST2	Aroclor 1260-4	CLP-Pesticide II	21.1	FIELD BLANK-1	none
5/18/22 at10:31 PEST23	Decachlorobiphenyl	CLP-Pesticide	29.1	Lab QC Samples Only	none
	Aroclor 1260-3		21.1		
	Decachlorobiphenyl	CLP-Pesticide II	23.3		
5/19/22 @ 06:42 PEST7	Tetrachloro-m-xylene	CLP-Pesticide II	23.6	SB-10b (0-3)	none
	Aroclor 1016-3		21.2		
	Aroclor 1260-3		20.4		

CC Standard	Aroclor	Column	%D	Associated Samples	Qualifier Applied
	Aroclor 1260-4		21.9		
	Aroclor 1260-5		20.5		

Decachlorobiphenyl and tetrachloro-m-xylene are the surrogate compounds used for these analyses. Since surrogate compound concentrations are calculated using responses from the IC rather than the CC standard, no action was taken based on the high %D for these analytes in the CC standards run on May 10, 2022, on instrument PEST21, and on May 19, 2022, on instrument PEST7.

Since no site sample analyses were associated with the CC standard run on instrument PEST23, no action was necessary based on the high %Ds.

For all other high Aroclor peak %Ds listed above, the %Ds were acceptable on the other column and the Aroclor was not detected in the associated site samples. Therefore, based on professional judgment, no action was necessary on this basis.

B. Blanks

Seven method blanks were prepared and analyzed with the site samples. Two field blanks (FIELD BLANK-1 and FIELD BLANK-2) were submitted with the field samples. The following analytes were detected in these blanks:

Blank ID	Analyte	Concentration (µg/kg)	Associated Samples	Qualifier
Method Blank WG1635783-1	Aroclor 1260	14.4 J	SB-18 (0-2) SB-4 (0-2)	U
Method Blank WG1636093-1	Aroclor 1260	14.6 J	SB-8b (0-3)	none

Results for Aroclor 1260 in SB-18 (0-2) and SB-4 (0-2) were qualified as not detected (U) at the RL due to associated method blank contamination. The concentration of Aroclor 1260 in SB-8b (0-3) was significantly greater than the method blank concentration; therefore, no action was warranted.

C. Surrogate Recovery

Tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB) were used as the surrogate compounds for these analyses. Recoveries of TCX and DCB for the reported site and laboratory QC samples were within the validation acceptance limits of 70-130%, with the following exceptions:

Sample	TCX %R Column 1*	TCX %R Column 2**	DCB %R Column 1	DCB %R Column 2	Qualifier
SB-7 (7-9)	52	52	44	42	UJ
SB-6 (0-2)	a	a	a	69	none
SB-6 (7-9)	64	64	65	61	UJ
SB-8b (0-3)	65	66	60	58	

Sample	TCX %R Column 1*	TCX %R Column 2**	DCB %R Column 1	DCB %R Column 2	Qualifier
SB-12 (0-4)	39	39	31	31	
SB-10b (0-3)	65	66	62	64	
SB-16 (0-4)	63	63	65	59	
SB-17 (2-4)	61	61	a	a	
SB-17 (0-2)	66	65	67	63	
SB-19 (0-2)	55	55	55	53	
SB-18 (0-2)	a	a	a	65	none
SB-18 (7-9)	66	66	58	56	J-, UJ
SB-DUP-2	61	61	61	58	
SB-2 (0-2)	66	67	69	68	
SB-3 (0-2)	67	67	69	65	
SB-4 (0-2)	a	a	69	64	
SB-5 (0-2)	58	50	56	52	

*CLP-Pesticide column
**CLP-Pesticide II column
a = acceptable

Results for all target Aroclors in SB-7 (7-9), SB-6 (7-9), SB-8b (0-3), SB-12 (0-4), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-18 (7-9), SB-DUP-2, SB-2 (0-2), SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J-, UJ) due to low surrogate recoveries on both columns. Based on professional judgment, since TCX recoveries on both columns and DCB recoveries on the CLP-Pesticide column in SB-6 (0-2) and SB-18 (0-2) were acceptable and no target Aroclors were detected in these samples, no action was necessary due to the low DCB recoveries on the CLP-Pesticide II column.

D. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

Seven LCS/LCSD pairs were prepared and analyzed with the site samples. Recoveries and precision between paired recoveries were acceptable (70-130% R and <20% RPD), with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch WG1636668-2/3					
Aroclor 1016	61 / a	49 / 58	a / 23	SB-5 (0-2)	UJ
Aroclor 1260	55 / 48	63 / 56	a / a		
Batch WG1639652-2/3					
Aroclor 1016	68 / 65	a / 58	a / a	SB-10b (0-3)	UJ
Aroclor 1260	55 / 48	63 / 56	a / a		

a = acceptable

Results for all target Aroclors in SB-5 (0-2) and SB-10b (0-3) were qualified as estimated (UJ) due to low LCS/LCSD recoveries and, for SB-5 (0-2), due to LCS/LCSD imprecision. Total PCBs results were also qualified as estimated (UJ).

E. Matrix Spike (MS)/MS Duplicate (MSD)

Samples SB-4 (0-2) and SB-5 (0-2) were prepared as MS/MSD pairs. Recoveries and precision between paired recoveries were acceptable (70-130% R and <50% RPD), with the following exceptions:

Compound	MS %R	MSD %R	RPD	Samples Affected	Qualifier Applied
Parent Sample SB-5 (0-2)					
Aroclor 1016	48 / 42	55 / 44	a / a	SB-5 (0-2)	UJ
Aroclor 1260	44 / 40	46 / 42	a / a		

a = acceptable

Results for all target Aroclors in SB-5 (0-2) were qualified as estimated (UJ) due to low MS/MSD recoveries. Total PCBs results were also qualified as estimated (UJ).

F. Compound Identification and Quantitation

With one exception, target Aroclors were correctly identified where present in the samples based on the presence peaks at appropriate retention times relative to the calibration standards and representative chromatographic patterns. Aroclor 1254 was identified in SB-8b (0-3). While peaks are present at the appropriate retention times on both columns for this Aroclor, the peak pattern representative of this Aroclor is not visible in either sample chromatogram. The result for Aroclor 1254 in SB-8b (0-3) was qualified as presumed present (N) on this basis.

Aroclors 1254 and 1260 were reported in SB-8b (0-3). These two Aroclors share peaks, and the chromatographic patterns overlap. Based on professional judgment, results for Aroclor 1254 and 1260 in SB-8b (0-3) were qualified as estimated (J) due to the potential for contribution from the other Aroclor.

VIII. ICP Metals

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	N
Interference Check Samples	N
Laboratory Control Samples	Y
Laboratory and Field Duplicates	N
Matrix Spike / Matrix Spike Duplicates	N
Post Digestion Spikes	N
Serial Dilution Analysis	N
Compound Quantitation	Y

A. Blanks

Initial and continuing calibration blanks were analyzed at the proper frequencies. Two preparation blanks for total ICP metals were prepared and analyzed with the samples. The following analytes were detected in these blanks:

Blank ID	Analyte	Concentration (mg/kg)	Associated Samples	Qualifier
MB(WG1639550-1BLANK)	Chromium	0.212	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-DUP-2 SB-5 (0-2) SB-1 (0-2) SB-2 (0-2)	none
	Nickel	0.100		none
	Zinc	0.156		none
	Selenium	0.144	SB-9 (0-4) SB-17 (2-4)	U
			SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-DUP-2 SB-5 (0-2) SB-1 (0-2) SB-2 (0-2)	none

Blank ID	Analyte	Concentration (mg/kg)	Associated Samples	Qualifier
CCB1 (R1568724-23 5/26/22 @ 12:47)	Selenium	0.12	SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2)	none
CCB1 (R1568724-27 5/26/22 @ 14:58	Beryllium	0.028	SB-19 (0-2)	none
ICB1 (R1568724-37 5/26/22 @ 18:29	Beryllium	0.016	SB-19 (7-9) SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-DUP-2 SB-2 (0-2)	none
CCB1 (R1568724-39 5/26/22 @ 19:16)	Beryllium	0.016		none
	Chromium	0.056		none
	Manganese	0.072		none
CCB1 (R1568724-41 5/26/22 @ 19:53)	Beryllium	0.016	SB-1 (0-2)	none
CCB1 (R1568724-43 5/26/22 @ 20:09)	Beryllium	0.016		none

The results for selenium in SB-9 (0-4) and SB-17 (2-4) were qualified as not detected (U) at the reporting limit due to method blank contamination. All other blank contamination (method and continuing calibration) was detected at less that actionable contamination levels and did not warrant qualification.

B. Interference Check Samples (ICSA/ICSAB)

The interference check samples associated with these samples were acceptable for all analytes with exceptions in the ICSA standard. All ICSAB recoveries were within acceptance criteria (85-115%).

ICSA Standard	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
ICSA1 (R1568724-15 5/26/22 @ 09:23)	Barium	0.00380	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3)	none
	Cadmium	-0.00340		UJ
	Manganese	0.00410		none

ICSA Standard	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
			SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-DUP-2 SB-1 (0-2) SB-2 (0-2)	
	Lead	0.00820	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-18 (7-9) SB-DUP-2 SB-1 (0-2) SB-2 (0-2)	J+
			SB-8b (0-3) SB-16 (0-4) SB-18 (0-2) SB-11 (0-4)	none
	Nickel	-0.00430	SB-7 (0-2) SB-8b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-18 (0-2) SB-18 (7-9)	J-
			SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-11 (0-4) SB-DUP-2	none

ICSA Standard	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
			SB-1 (0-2) SB-2 (0-2)	
ICSA1 (R1570013-9 5/31/22 @ 09:02)	Barium	0.00320	SB-3 (0-2) SB-4 (0-2) SB-5 (0-2)	J+
	Cadmium	0.0020		J+
	Chromium	0.00190		none
	Lead	0.00730		J+
	Selenium	-0.00730		UJ

The ICSA standards in both of the analytical runs were detected above the MDL for barium (MDL – 0.00174 mg/L) and lead (MDL – 0.00268 mg/L). Each of these instances exhibited an elevated response with potential for high bias in the associated samples. The barium concentrations in the associated samples were detected above actionable levels and did not warrant qualification. Results for lead in all samples except SB-8b (0-3), SB-16 (0-4), SB-18 (0-2), and SB-11 (0-4) were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. The results for cadmium in SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated and biased high (J+), because the associated ICSA standard was above the MDLs (0.000980 mg/L). The results for cadmium in all samples except SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) and selenium in SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated and biased low (UJ) because the absolute value of the negative concentrations reported in the associated ICSA standard were above the MDL (0.000980 mg/L and 0.00258 mg/L, respectively). The results of less than ten times the RL for nickel in SB-7 (0-2), SB-8b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-18 (0-2), and SB-18 (7-9) were qualified as estimated and biased low (J-) because the absolute value of the negative concentrations reported in the associated ICSA standard were above the MDL (0.00242 mg/L). All other associated samples were either not detected and associated with detected interferences or the samples were above the actionable levels and associated with negative interferences.

C. Laboratory and Field Duplicates

A laboratory duplicate was performed on SB-7 (0-2) in compliance with the analytical method, and all analyte concentrations were within the acceptance limit (<50%). SB-DUP-1 was collected as a field duplicate of SB-3 (0-2). This duplicate pair is split between two SDGs: L2223093 and L2223458. It is identified in both validation reports, and only the samples included in SDG L2223093 will be discussed below. SB-DUP-2 was collected as a field duplicate of SB-5 (0-2). The field duplicate pairs were within acceptance limits with exceptions noted in the table below:

Analyte	Original conc. (mg/kg)	Duplicate conc. (mg/kg)	RPD	Associated Sample
Field Duplicate Pair: SB-3 (0-2) : SB-DUP-1				
Arsenic	ND	0.898	N/C	SB-7 (0-2)

Analyte	Original conc. (mg/kg)	Duplicate conc. (mg/kg)	RPD	Associated Sample
Barium	71.1	18.5	117	SB-7 (7-9)
Chromium	13.0	6.74	63.4	SB-6 (0-2)
Manganese	102	52.5	64	SB-6 (7-9)
Nickel	21.2	7.23	98.3	SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-DUP-1 SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-1 (0-2) SB-2 (0-2) SB-3 (0-2) SB-4 (0-2)
Field Duplicate Pair: SB-5 (0-2) : SB-DUP-2				
Arsenic	0.610	ND	N/C	SB-7 (0-2)
Barium	27.8	219	154	SB-7 (7-9)
Cadmium	0.336	ND	N/C	SB-6 (0-2)
Chromium	14.9	32.2	73.5	SB-6 (7-9)
Copper	7.10	16.1	77.6	SB-9 (0-4)
Manganese	225	86.2	89.2	SB-8b (0-3)
Nickel	8.17	31.2	117	SB-12 (0-4)
Zinc	17.2	29.4	52.4	SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-DUP-2 SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-1 (0-2) SB-2 (0-2) SB-4 (0-2) SB-5 (0-2)

N/C – Not Calculated

Results for arsenic in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2),

SB-19 (0-2), SB-19 (7-9), SB-DUP-2, SB-18 (0-2), SB-18 (7-9), SB-11 (0-4),SB-1 (0-2), SB-2 (0-2), SB-3 (0-2), SB-4 (0-2), and SB-5 (0-2) were qualified as estimated (J, UJ), due to lack of confirmation in the field duplicate pair. Results for cadmium in all samples except SB-3 (0-2) were qualified as estimated (J, UJ), due to lack of confirmation in the field duplicate pair. Results for barium, chromium, manganese, and nickel in all samples were qualified as estimated (J) due to elevated RPD between the field duplicate pairs.

D. Matrix Spike, Matrix Spike Duplicate and Post Digestion Spike (PDS)

Three MS/MSD/PDS samples were prepared and analyzed with the site samples. Percent recoveries (%Rs) and relative percent differences (RPDs) were acceptable (validation QC 75-125%R, RPDs ≤20 RPD), with the exceptions noted below.

Analyte	MS %R	MSD %R	MS/MSD RPD	PDS
QC Sample: SB-7 (0-2)				
Beryllium	74	N/A	N/C	71
Cadmium	72	N/A	N/C	63
Chromium	74	N/A	N/C	67
Lead	74	N/A	N/C	65
Nickel	73	N/A	N/C	63
Zinc	74	N/A	N/C	64
QC Sample: SB-4 (0-2)				
Arsenic	71	67	a	72
Barium	64	64	a	67
Beryllium	66	63	a	66
Cadmium	63	58	a	64
Chromium	57	51	a	56
Copper	52	67	a	64
Lead	59	54	a	58
Manganese	66	67	a	53
Nickel	56	52	a	59
Selenium	57	52	a	57
Silver	68	64	a	63
Zinc	59	51	a	61
QC Sample: SB-5 (0-2)				
Arsenic	70	71	a	69
Barium	65	67	a	63
Beryllium	64	65	a	63
Cadmium	70	70	a	68
Chromium	60	67	a	55
Copper	67	67	a	63
Lead	60	60	a	57
Manganese	a	60	a	NA
Nickel	60	62	a	58
Selenium	62	62	a	63
Silver	a	66	a	63
Zinc	64	66	a	58

a = acceptable

NA - Not Analyzed

Although spike recoveries fell outside of acceptance limits for manganese in SB-5 (0-2) MS, the parent sample concentrations were more than four times the spike concentrations added. There is no expectation of acceptable recoveries at these spike levels, and qualification was not warranted. The results for beryllium, cadmium, chromium, lead, nickel and zinc in SB-7 (0-2) were qualified as estimated (J-, UJ), biased low due to low MS and PDS recoveries. The results for all ICP metals in SB-4 (0-2) were qualified as estimated (J-, UJ), biased low, due to low MS/MSD and PDS recoveries. The results for arsenic, barium, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, and zinc in SB-5 (0-2) were qualified as estimated (J-, UJ), biased low, due to low MS and/or MSD and PDS recoveries. The user is cautioned that matrix effects seen in the above qualified samples, may also be applicable to other site samples.

E. Serial Dilution

Serial dilutions were performed on SB-7 (0-2), SB-4 (0-2), and SB-5 (0-2) at 5-fold dilutions. Most percent differences (%Ds) were acceptable (<20%), with exceptions noted in the table below:

Analyte	SD %D
QC Sample: SB-7 (0-2)	
Barium	62
Chromium	34
Copper	32
Manganese	27
QC Sample: SB-4 (0-2)	
Barium	34
Chromium	36
Copper	29
Manganese	37
QC Sample: SB-5 (0-2)	
Barium	33
Chromium	34
Manganese	35

The results for all barium, chromium and manganese in all samples were qualified as estimated (J), due to elevated percent differences in the serial dilution sample. The results for copper in all samples except to SB-5 (0-2) were qualified as estimated (J) due to elevated percent difference in the serial dilution sample.

F. Analyte Quantitation

Sample SB-1 (0-2) was analyzed at a 5-fold dilution to bring the sample concentrations within the instrument calibration range. All analytes were reported from the dilution. All sample concentrations, RLs, and MDLs were appropriately raised to reflect the dilution factors applied.

IX. ICP-MS Metals

Review Element	Acceptable?
ICP-MS Instrument Tunes	Y
Calibrations - ICs, ICVs, CCVs	N
Laboratory and Field Blanks	N
Interference Check Samples	N
Laboratory Control Samples	Y
Field Duplicates	N/A
Matrix Spike / Matrix Spike Duplicates	Y
Post Digestion Spikes	N/A
Serial Dilution Analysis	Y
Internal Standard Recoveries	Y
Compound Quantitation	Y

N/A – Not Analyzed

A. Calibrations – ICs, ICVs, CCVs

Two initial calibrations were established on 5/24/22 on instrument ICPMSQ. Calibration criteria (R^2 >0.995 for the linear regression) were met for all reported analytes. The calculated percent differences for all non-zero standards were within the 30% limit except for cadmium (-37.5%D), silver (-34.5%D), and beryllium (-40.5) in the lowest calibration standard. Results for cadmium, beryllium and silver in both samples were less than the calibration supported RL of 0.001 mg/L and qualified as estimated (UJ), due to elevated %D in the low-level calibration standard.

A low-level continuing calibration verification (LLCCV) was analyzed at the beginning of the analytical sequence. All recoveries were within the 65-135% limit with exceptions following:

LLCCV ID	Analyte	%D	Associated Samples	Qualifier
LLCCV 5/24/22 @ 08:46:33	Chromium	63	FIELD BLANK-1 FIELD BLANK-2	UJ
	Copper	138		none

Results for chromium in FIELD BLANK-1 and FIELD BLANK-2 were qualified as estimated (UJ) due to the low recovery demonstrated in the LLCCV standard. Results may be biased low, or the limit of detection may be higher than reported. The elevated copper recovery in the LLCCV standard did not warrant qualification in associated non-detected samples.

B. Blanks

Initial and continuing calibration blanks were analyzed at the proper frequencies. A single preparation blank was prepared and analyzed with the samples. Two field blanks (FIELD BLANK-1 and FIELD BLANK-2) were submitted with the soil samples in this SDG. The

FIELD BLANK-2 was detected for barium (0.00095 mg/L or 0.158 mg/kg). All ICP soil results were compared against the ICP-MS FB detection for barium. Results were greater than the blank action level and did not warrant qualification.

C. Interference Check Samples (ICSA/ICSAB)

The interference check samples associated with these samples were acceptable for all analytes with one exception in the ICSA standard. All ICSAB recoveries were within acceptance criteria (85-115%).

ICSA Standard	Analyte	Concentration (ug/L)	Associated Samples	Qualifier
ICSA1 (R1567696-3 5/24/22 @ 08:51)	Barium	0.250	FIELD BLANK-1	none
			FIELD BLANK-2	J+

The ICSA was detected above the MDL for barium (MDL – 0.000173 mg/L), exhibiting an elevated response with potential for high bias in low level samples. The result for barium in FIELD BLANK-2 was qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. FIELD BLANK-1 was not detected and did not warrant qualification.

D. Analyte Quantitation

Both samples were analyzed, as prepared, without dilution. Sample concentrations, RLs, and MDLs were verified through the raw data and preparatory logs provided in the data package.

X. Mercury (Cold Vapor Atomic Absorption)

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	N
Laboratory Control Samples	Y
Field Duplicates	N
Matrix Spike / Matrix Spike Duplicates	N
Post Digestion Spikes	Y
Serial Dilution Analysis	N/A
Analyte Quantitation	Y

N/A – Not Analyzed

A. Blanks

Initial and continuing calibration blanks were analyzed at the proper frequencies. Two soil preparation blanks and one water preparation blank for mercury were prepared and

analyzed with the samples. Two field blanks (FIELD BLANK-1 and FIELD BLANK-2) were prepared and analyzed in this SDG. Blanks were not detected with exceptions:

Blank ID	Analyte	Concentration (mg/kg)	Associated Samples	Qualifier
CCB (R1565896-4 5/18/22 @ 20:30:09)	Mercury	-0.101	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-12 (0-4) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-8b (0-3) SB-10a (0-3)	J-, UJ
CCB (R1565896-8 5/18/22 @ 22:03	Mercury	-0.100	SB-19 (7-9) SB-18 (7-9) SB-DUP-2 SB-1 (0-2) SB-2 (0-2) SB-18 (0-2) SB-11 (0-4)	J-, UJ

The continuing calibration blanks bracketing the above documented samples demonstrated negative concentrations, indicating a potential for low bias in the associated samples. Results for mercury in the above samples qualified as estimated (J-, UJ) due to negative blank associations.

B. Field Duplicates

SB-DUP-1 was collected as a field duplicate of SB-3 (0-2) This duplicate pair is split between two SDGs: L2223093 and L2223458. It is identified in both validation reports, but only the samples included in SDG L2223093 will be discussed below. SB-DUP-2 was collected as a field duplicate of SB-5 (0-2). Both samples were not detected, and relative percent differences were not calculated. The field duplicate pair was within acceptance limits with exceptions noted in the table below:

Analyte	Original conc. (mg/kg)	Duplicate conc. (mg/kg)	RPD	Associated Sample
Field Duplicate Pair: SB-3 (0-2) : SB-DUP-1				
Mercury	2.0	ND	N/C	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3)

Analyte	Original conc. (mg/kg)	Duplicate conc. (mg/kg)	RPD	Associated Sample
				SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-DUP-1 SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-1 (0-2) SB-2 (0-2) SB-3 (0-2) SB-4 (0-2)

N/C – Not Calculated

Results for mercury in SB-7 (0-2), SB-7 (7-9), SB-6 (0-2), SB-6 (7-9), SB-9 (0-4), SB-8b (0-3), SB-12 (0-4), SB-10a (0-3), SB-10b (0-3), SB-16 (0-4), SB-17 (2-4), SB-17 (0-2), SB-19 (0-2), SB-19 (7-9), SB-DUP-1, SB-18 (0-2), SB-18 (7-9), SB-11 (0-4), SB-1 (0-2), SB-2 (0-2), SB-3 (0-2), and SB-4 (0-2) were qualified as estimated (J, UJ) due to lack of confirmation in the field duplicate pair.

C. Matrix Spike, Matrix Spike Duplicate and Post Digestion Spike (PDS)

Three MS/MSD/PDS samples were prepared and analyzed with the site samples [SB-4 (0-2), SB-5 (0-2) and SB-7 (0-2)]. Percent recoveries (%Rs) and relative percent differences (RPDs) were acceptable (validation QC 80-120%R, RPDs ≤20 RPD), with the exceptions noted below.

Analyte	MS %R	MSD %R	MS/MSD RPD
QC Sample: SB-4 (0-2)			
Mercury	a	143	a
QC Sample: SB-5 (0-2)			
Mercury	130	123	a

The result for mercury in SB-4 (0-2) was qualified as estimated and biased high (J+), based on the elevated MSD recovery. SB-5 (0-2) was not detected for mercury and did not warrant qualification. The user is cautioned that matrix effects seen in the above qualified samples, may also be applicable to other site samples.

D. Analyte Quantitation

All samples were analyzed, as prepared, without secondary analytical dilutions. Calculations were verified from the raw data and preparation sheets provided in the data package. All sample concentrations, RLs, and MDLs were appropriately reported.

XI. PFAS

Review Element	Acceptable?
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	Y
Labeled Analogs	N
LCS/LCSD	Y
Field Duplicates	Y
MS/MSD	N
Internal Standard Responses	Y
Compound Identification	Y

A. Calibration

Three initial calibrations were associated with the sample analyses; these were run on April 27 and 29, 2022, on instrument LCMS01 and on April 13, 2022, on instrument LCMS02. RRFs and %RSDs were correctly calculated and reported. All %RSDs were all less than the maximum acceptance limit of 20%. Recoveries of the target analytes were within the acceptance limits (50-150% for the low concentration IC standard and 70-130% for all other IC standards), with the following exceptions:

IC Standard	Analyte	%R	Associated Samples	Qualifier Applied
4/13/22 IC – 0.50 ng/mL	branched NEtFOSAA	31.0	SB-10b (0-3) SB-19 (7-9) SB-DUP-2 SB-3 (0-2) SB-5 (0-2)	UJ
4/13/22 IC – 1.0 ng/mL	branched NEtFOSAA	9.1		
	linear NMeFOSAA	61.6		
	branched NMeFOSAA	41.3		
4/13/22 IC – 2.0 ng/mL	branched NEtFOSAA	46.9		
4/13/22 IC – 5.0 ng/mL	branched NEtFOSAA	56.1		

Results for NEtFOSAA and NMeFOSAA in SB-10b (0-3), SB-19 (7-9), SB-DUP-2, SB-3 (0-2), and SB-5 (0-2) were qualified as estimated (UJ) due to low recoveries in associated IC standards.

ICV standards were analyzed after each IC, and %Rs for the target analytes were within the acceptance limits of 70-130%.

Fifteen CC standards were analyzed with the samples The %Rs for the target analytes were within the acceptance limits (50-150% for the 0.50 ng/mL CC standard and 70-130% for the 10 ng/mL CC standard), with the following exceptions:

CC Standard	Analyte	%R	Associated Samples	Qualifier Applied
5/11/22 @ 14:28 – LCMS02	branched NMeFOSAA	12.5	SB-10b (0-3) SB-19 (7-9) SB-DUP-2 SB-3 (0-2) SB-5 (0-2)	UJ
	branched NEtFOSAA	15.0		
5/11/22 @ 21:43 – LCMS02	branched NMeFOSAA	47.9		
5/12/22 @ 05:27 – LCMS02	branched NMeFOSAA	39.6	SB-5 (0-2)	
	branched NEtFOSAA	14.0		

Results for NEtFOSAA and NMeFOSAA in SB-10b (0-3), SB-19 (7-9), SB-DUP-2, SB-3 (0-2), and SB-5 (0-2) were qualified as estimated (UJ) due to low recoveries in associated CC standards.

Where a recovery was high and the associated compound was not detected in the sample, no qualification of sample results was warranted, and the recovery is not detailed above.

B. Labeled Analogs

Eighteen labeled analogs (also referred to as extraction standards) were used. Percent recoveries (%Rs) of the labeled analogs were assessed against validation criteria of 40-140%R. Exceedances that impacted sample results are detailed below:

Sample	Labeled Analog	%R	Native Compound	Qualifier Applied
SB-19 (7-9)	D3-NMeFOSAA	17	NMeFOSAA	UJ
	D5-NEtFOSAA	18	NEtFOSAA	
S-DUP-2	D3-NMeFOSAA	38	NMeFOSAA	
	D5-NEtFOSAA	33	NEtFOSAA	
SB-3 (0-2)	M8FOSA	18	FOSA	
SB-5 (0-2)	D3-NMeFOSAA	22	NMeFOSAA	
	D5-NEtFOSAA	27	NEtFOSAA	

Results for NMeFOSSA and NEtFOSAA in SB-19 (7-9), SB-DUP-2, and SB-5 (0-2) and for FOSA in SB-3 (0-2) were qualified as estimated (UJ) due to low labeled analog recoveries.

C. Field Duplicates

Sample SB-DUP-1 was submitted as a field duplicate of SB-19 (7-9). Results for SB-DUP-1 were reported in SDG L2223458. No target analytes were detected in either of these samples.

Sample SB-DUP-2 was submitted as a field duplicate of SB-1 (0-2). Sample SB-1 (0-2) was not analyzed for PFAS.

D. Matrix Spike/Matrix Spike Duplicate

Sample SB-5 (0-2) was prepared as an MS/MSD pair. MS/MSD %Rs were within the acceptance limits of 70-130%, and RPDs were less than the maximum acceptance limit of 50 RPD, except for PFTrDA (136%, 151%). Since the recoveries were high and

PFTrDA was not detected in SB-5 (0-2), no action was necessary due to the high recoveries.

XII. Cyanide

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	N
Laboratory Control Samples	N
Laboratory and Field Duplicates	Y
Matrix Spike / Matrix Spike Duplicates	Y
Compound Quantitation	Y

A. Laboratory and Field Blanks

Initial and continuing calibration blanks were analyzed at the proper frequencies. A single aqueous method blank, multiple soil method blanks, and two field blanks (FIELD BLANK-1; FIELD BLANK-2) were prepared and analyzed with the samples. Blanks were free of contamination and interferences with exception of FIELD BLANK-1 (0.004mg/L). All cyanide soil results were not detected or greater than the contamination level and did not warrant qualification.

B. Laboratory Control Samples

Multiple LCS/LCSD pairs were prepared and analyzed with the site samples. Percent recoveries and relative percent differences were with acceptance limits (85-115%R; 20%RPD) with the following exceptions:

Analyte	LCS %R	LCSD %R	LCS/LCSD RPD	Affected Samples	Qualifiers Applied
LCS/LCSD(WG1638806-2/ WG1638806-3)					
Cyanide	59	76	32	SB-9 (0-4) SB-8b (0-3) SB-10a (0-3)	J, UJ
LCS/LCSD(WG1638810-2/WG1638810-3					
Cyanide	71	76	21	SB-12 (0-4) SB-10b (0-3) SB-16 (0-4) SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9)	UJ
LCS/LCSD(WG1639289-2/WG1639289-3)					
Cyanide	42	84	67	SB-18 (0-2) SB-18 (7-9) SB-11 (0-4) SB-DUP-2 SB-1 (0-2) SB-2 (0-2) SB-3 (0-2)	UJ

Analyte	LCS %R	LCSD %R	LCS/LCSD RPD	Affected Samples	Qualifiers Applied
				SB-5 (0-2)	
LCS/LCSD(WG1639292-2/WG1639292-3)					
Cyanide	42	84	67	SB-4 (0-2)	UJ

a = acceptable

Results for cyanide in all above samples were qualified as estimated (J, UJ) due to low LCS/LCSD recoveries and elevated LCS/LCSD RPDs.

XIII. Hexavalent Chromium

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	Y
Laboratory Control Samples	N
Laboratory and Field Duplicates	N
Matrix Spikes	Y
Post Digestion Spikes	Y
Compound Quantitation	Y

A. Laboratory Control Samples

An LCS were prepared and analyzed with each preparation batch. Percent recoveries were with acceptance limits (80-120%R) with the following exceptions:

Analyte	LCS %R	Affected Samples	Qualifiers Applied
LCS(WG1634981-2)			
Hexavalent Chromium	70	SB-7 (0-2) SB-7 (7-9) SB-6 (0-2) SB-6 (7-9) SB-9 (0-4) SB-8b (0-3) SB-12 (0-4) SB-10a (0-3) SB-10b (0-3) SB-16 (0-4)	J-, UJ
LCS(WG1634982-2)			
Hexavalent Chromium	70	SB-17 (2-4) SB-17 (0-2) SB-19 (0-2) SB-19 (7-9) SB-18 (0-2) SB-18 (7-9)	J-, UJ

Analyte	LCS %R	Affected Samples	Qualifiers Applied
		SB-11 (0-4) SB-DUP-2 SB-1 (0-2) SB-4 (0-2)	

The results for hexavalent chromium in the above samples were qualified as estimated (J-, UJ), with low bias, due to low LCS recoveries.

B. Laboratory and Field Duplicates

SB-DUP-2 was submitted as a field duplicate of SB-5 (0-2). A laboratory duplicate was prepared and analyzed with each batch of samples. All results were in agreement with each other, with the exception of the laboratory duplicate performed on SB-5 (0-2) (ND/0.361 mg/kg) and the field duplicate pair (ND/0.427). Both sets of duplicate analysis on SB-5 (0-2) showed low level imprecision. Results for hexavalent chromium in all soil samples except SB-4 (0-2) and SB-7 (0-2) were qualified as estimated (J, UJ) due to low level imprecision in the field and lab duplicates.

XIV. Total Solids

Review Element	Acceptable?
Laboratory and Field Duplicates	Y
Compound Quantitation	Y

Aside from the holding time exceedance in SB-10a (0-3), SB-11 (0-4), and SB-1 (0-2) that was discussed at the beginning of the report, all results were acceptable as reported.

XV. Trivalent Chromium

Review Element	Acceptable?
Compound Quantitation	Y

All results were correctly calculated from the total chromium and hexavalent chromium results. Since trivalent chromium results are based on total chromium and hexavalent chromium analyses, any qualifiers applied to either total chromium or hexavalent chromium results, are also applied to trivalent chromium results.

Attachment A
Volatiles QC Summary Forms - Excursions

Case Narrative (continued)

date/time is reported as 03-MAY-22 12:50.
L2223093-27: Sample containers for PFAS were received for the "SB-5 (0-2)" sample, but were not listed on the chain of custody. At the client's request, the analysis was performed.

Volatile Organics
L2223093-13: The sample was received in appropriate containers (vials) for the Volatile Organics by EPA Method 5035/8260 Low-Level analysis; however, the initial analysis failed with low internal standards and the second Low-Level vial was disposed of due to laboratory error. With the client's authorization, a sample aliquot was taken from an unpreserved container (jar) and preserved appropriately. Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

Semivolatile Organics
L2223093-06: The surrogate recoveries were outside the acceptance criteria for 2-fluorophenol (4%) and 2,4,6-tribromophenol (1%); however, re-extraction achieved similar results: 2-fluorophenol (7%) and 2,4,6-tribromophenol (1%). The results of both extractions are reported.
The WG1635274-2/-3 LCS/LCSD recoveries, associated with L2223093-22 and -23, are below the acceptance criteria for 4-chloroaniline (7%/7%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

Semivolatile Organics by SIM
The WG1635276-1 Method Blank, associated with L2223093-22 and -23, has a concentration above the reporting limit for naphthalene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Perfluorinated Alkyl Acids by Isotope Dilution
L2223093-14, -19, -27, and WG1636990-3/-4: Extracted Internal Standard recoveries were outside the

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2022\220425N\
Data File : VG220425N20.D
Acq On : 26 Apr 2022 2:56 am
Operator : GONZO:MKS
Sample : C8260STD10PPB
Misc : WG1631147
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 26 12:03:27 2022
Quant Method : I:\VOLATILES\Gonzo\2022\220425N\G_220425N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Apr 26 12:00:50 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene		1.000	1.000	0.0	102	0.00
2	TP	Dichlorodifluoromethane		0.150	0.174	-16.0	111	0.00
3	TP	Chloromethane		0.187	0.214	-14.4	113	0.00
4	TC	Vinyl chloride		0.187	0.204	-9.1	107	0.00
5	TP	Bromomethane		0.102	0.114	-11.8	140	0.00
6	TP	Chloroethane		0.140	0.150	-7.1	104	0.00
7	TP	Trichlorofluoromethane		0.272	0.283	-4.0	103	0.00
8	TP	Ethyl ether		0.079	0.090	-13.9	116	0.00
10	TC	1,1-Dichloroethene		0.152	0.147	3.3	96	0.00
11	TP	Carbon disulfide		0.417	0.431	-3.4	108	0.00
12	TP	Freon-113		0.159	0.164	-3.1	103	0.00
13	TP	Iodomethane	*	10.000	5.169	48.3#	58	0.00
14	TP	Acrolein		0.030	0.025	16.7	86	0.00
15	TP	Methylene chloride		0.169	0.164	3.0	100	0.00
17	TP	Acetone	*	10.000	7.544	24.6#	88	0.00
18	TP	trans-1,2-Dichloroethene		0.164	0.162	1.2	98	0.00
19	TP	Methyl acetate		0.118	0.101	14.4	90	0.00
20	TP	Methyl tert-butyl ether		0.430	0.421	2.1	103	0.00
21	TP	tert-Butyl alcohol		0.017	0.014	17.6	88	0.00
22	TP	Diisopropyl ether		0.599	0.538	10.2	94	0.00
23	TP	1,1-Dichloroethane		0.323	0.324	-0.3	101	0.00
24	TP	Halothane		0.129	0.125	3.1	97	0.00
25	TP	Acrylonitrile		0.060	0.054	10.0	93	0.00
26	TP	Ethyl tert-butyl ether		0.535	0.475	11.2	92	0.00
27	TP	Vinyl acetate		0.413	0.304	26.4#	91	0.00
28	TP	cis-1,2-Dichloroethene		0.190	0.179#	5.8	97	0.00
29	TP	2,2-Dichloropropane		0.264	0.238	9.8	92	0.00
30	TP	Bromochloromethane		0.083	0.083#	0.0	98	0.00
31	TP	Cyclohexane		0.330	0.295	10.6	92	0.00
32	TC	Chloroform		0.319	0.289	9.4	93	0.00
33	TP	Ethyl acetate		0.179	0.141	21.2#	86	0.00
34	TP	Carbon tetrachloride		0.235	0.218	7.2	97	0.00
35	TP	Tetrahydrofuran		0.057	0.048	15.8	84	0.00
36	S	Dibromofluoromethane		0.265	0.260	1.9	102	0.00
37	TP	1,1,1-Trichloroethane		0.270	0.284	-5.2	107	0.00
39	TP	2-Butanone		0.084	0.067	20.2#	83	0.00
40	TP	1,1-Dichloropropene		0.232	0.224	3.4	99	0.00
41	TP	Benzene		0.704	0.656	6.8	96	0.00
42	TP	tert-Amyl methyl ether		0.471	0.395	16.1	89	0.00

Data Path : I:\VOLATILES\Gonzo\2022\220425N\
Data File : VG220425N20.D
Acq On : 26 Apr 2022 2:56 am
Operator : GONZO:MKS
Sample : C8260STD10PPB
Misc : WG1631147
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 26 12:03:27 2022
Quant Method : I:\VOLATILES\Gonzo\2022\220425N\G_220425N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Apr 26 12:00:50 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
43	S	1,2-Dichloroethane-d4	0.313	0.321	-2.6	101	0.00
44	TP	1,2-Dichloroethane	0.239	0.223	6.7	97	0.00
47	TP	Methyl cyclohexane	0.328	0.289	11.9	90	0.00
48	TP	Trichloroethene	0.192	0.183#	4.7	99	0.00
50	TP	Dibromomethane	0.105	0.097	7.6	95	0.00
51	TC	1,2-Dichloropropane	0.190	0.176	7.4	96	0.00
53	TP	2-Chloroethyl vinyl ether	0.110	0.091	17.3	86	0.00
54	TP	Bromodichloromethane	0.249	0.223#	10.4	95	0.00
57	TP	1,4-Dioxane	0.00194	0.00179#	7.7	90	0.00
58	TP	cis-1,3-Dichloropropene	0.282	0.256#	9.2	93	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	101	0.00
60	S	Toluene-d8	1.253	1.261	-0.6	101	0.00
61	TC	Toluene	0.562	0.531	5.5	97	0.00
62	TP	4-Methyl-2-pentanone	0.076	0.063	17.1	87	0.00
63	TP	Tetrachloroethene	0.248	0.236	4.8	97	0.00
65	TP	trans-1,3-Dichloropropene	0.323	0.288#	10.8	94	0.00
67	TP	Ethyl methacrylate	0.270	0.235	13.0	91	0.00
68	TP	1,1,2-Trichloroethane	0.157	0.140#	10.8	95	0.00
69	TP	Chlorodibromomethane	0.217	0.194#	10.6	96	0.00
70	TP	1,3-Dichloropropane	0.322	0.289	10.2	92	0.00
71	TP	1,2-Dibromoethane	0.191	0.169#	11.5	92	0.00
72	TP	2-Hexanone	0.177	0.138	22.0#	82	0.00
73	TP	Chlorobenzene	0.629	0.603	4.1	100	0.00
74	TC	Ethylbenzene	1.133	1.065	6.0	97	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.221	0.203	8.1	99	0.00
76	TP	p/m Xylene	0.439	0.418	4.8	99	0.00
77	TP	o Xylene	0.433	0.407	6.0	100	0.00
78	TP	Styrene	0.710	0.679	4.4	101	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	104	0.00
80	TP	Bromoform	0.248	0.211	14.9	97	0.00
82	TP	Isopropylbenzene	1.972	1.839	6.7	99	0.00
83	S	4-Bromofluorobenzene	0.841	0.822	2.3	102	0.00
84	TP	Bromobenzene	0.478	0.452	5.4	99	0.00
85	TP	n-Propylbenzene	2.395	2.250	6.1	99	0.00
86	TP	1,4-Dichlorobutane	0.627	0.567	9.6	98	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.408	0.352	13.7	95	0.00
88	TP	4-Ethyltoluene	1.981	1.862	6.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2022\220425N\
Data File : VG220425N20.D
Acq On : 26 Apr 2022 2:56 am
Operator : GONZO:MKS
Sample : C8260STD10PPB
Misc : WG1631147
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 26 12:03:27 2022
Quant Method : I:\VOLATILES\Gonzo\2022\220425N\G_220425N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Apr 26 12:00:50 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
89 TP	2-Chlorotoluene	1.390	1.255	9.7	98	0.00
90 TP	1,3,5-Trimethylbenzene	1.718	1.549	9.8	96	0.00
91 TP	1,2,3-Trichloropropane	0.378	0.312	17.5	93	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.135	0.105	22.2#	87	0.00
93 TP	4-Chlorotoluene	1.425	1.286	9.8	97	0.00
94 TP	tert-Butylbenzene	1.474	1.366	7.3	99	0.00
97 TP	1,2,4-Trimethylbenzene	1.644	1.503	8.6	98	0.00
98 TP	sec-Butylbenzene	2.263	2.069	8.6	96	0.00
99 TP	p-Isopropyltoluene	1.920	1.751	8.8	98	0.00
100 TP	1,3-Dichlorobenzene	0.925	0.864	6.6	100	0.00
101 TP	1,4-Dichlorobenzene	0.935	0.871	6.8	99	0.00
102 TP	p-Diethylbenzene	1.102	0.976	11.4	95	0.00
103 TP	n-Butylbenzene	1.651	1.561	5.5	102	0.00
104 TP	1,2-Dichlorobenzene	0.865	0.793	8.3	97	0.00
105 TP	1,2,4,5-Tetramethylbenzene	1.326	1.123	15.3	99	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.075	0.064	14.7	89	0.00
107 TP	1,3,5-Trichlorobenzene	0.619	0.576	6.9	99	0.00
108 TP	Hexachlorobutadiene	0.295	0.280	5.1	98	0.00
109 TP	1,2,4-Trichlorobenzene	0.499	0.460	7.8	101	0.00
110 TP	Naphthalene	0.971	0.826	14.9	97	0.00
111 TP	1,2,3-Trichlorobenzene	0.406	0.367#	9.6	98	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 11 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA129\2022\220509P\
Data File : V29220509P01.D
Acq On : 09 May 2022 08:05 pm
Operator : VOA129:AJK
Sample : WG1636811-2
Misc : WG1636811,ICAL18964
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 20:48:32 2022
Quant Method : I:\VOLATILES\VOA129\2022\220509P\V129_220422N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 25 06:44:01 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene		1.000	1.000	0.0	106	0.00
2	TP	Dichlorodifluoromethane		0.318	0.227	28.6#	79	0.00
3	TP	Chloromethane		0.458	0.407	11.1	97	0.00
4	TC	Vinyl chloride		0.365	0.332	9.0	97	0.00
5	TP	Bromomethane	*	40.000	41.339	-3.3	110	0.00
6	TP	Chloroethane		0.211	0.198	6.2	98	0.00
7	TP	Trichlorofluoromethane		0.418	0.377	9.8	99	0.00
8	TP	Ethyl ether		0.133	0.133	0.0	105	0.00
10	TC	1,1-Dichloroethene		0.247	0.236	4.5	104	0.00
11	TP	Carbon disulfide		0.713	0.655	8.1	99	0.00
12	TP	Freon-113		0.251	0.242	3.6	104	0.00
14	TP	Acrolein		0.065	0.055	15.4	93	0.00
15	TP	Methylene chloride	*	40.000	40.385	-1.0	104	0.00
17	TP	Acetone	*	40.000	33.185	17.0	99	0.00
18	TP	trans-1,2-Dichloroethene		0.285	0.275	3.5	103	0.00
19	TP	Methyl acetate	*	40.000	35.500	11.3	92	0.00
20	TP	Methyl tert-butyl ether		0.676	0.677	-0.1	105	0.00
21	TP	tert-Butyl alcohol		0.046	0.034	26.1#	88	0.00
22	TP	Diisopropyl ether		1.108	1.170	-5.6	107	0.00
23	TP	1,1-Dichloroethane		0.577	0.559	3.1	104	0.00
24	TP	Halothane		0.205	0.202	1.5	105	0.00
25	TP	Acrylonitrile		0.123	0.111	9.8	96	0.00
26	TP	Ethyl tert-butyl ether		0.921	0.977	-6.1	106	0.00
27	TP	Vinyl acetate		0.816	0.804	1.5	105	0.00
28	TP	cis-1,2-Dichloroethene		0.315	0.303	3.8	102	0.00
29	TP	2,2-Dichloropropane		0.409	0.403	1.5	105	0.00
30	TP	Bromochloromethane		0.141	0.139	1.4	106	0.00
31	TP	Cyclohexane		0.617	0.616	0.2	107	0.00
32	TC	Chloroform		0.519	0.493	5.0	101	0.00
33	TP	Ethyl acetate		0.398	0.343	13.8	98	0.00
34	TP	Carbon tetrachloride		0.371	0.343	7.5	98	0.00
35	TP	Tetrahydrofuran		0.145	0.124	14.5	92	0.00
36	S	Dibromofluoromethane		0.251	0.248	1.2	106	0.00
37	TP	1,1,1-Trichloroethane		0.405	0.393	3.0	100	0.00
39	TP	2-Butanone		0.192	0.150	21.9#	85	0.00
40	TP	1,1-Dichloropropene		0.370	0.364	1.6	102	0.00
41	TP	Benzene		1.118	1.101	1.5	102	0.00
42	TP	tert-Amyl methyl ether		0.665	0.698	-5.0	107	0.00
43	S	1,2-Dichloroethane-d4		0.317	0.295	6.9	100	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA129\2022\220509P\
Data File : V29220509P01.D
Acq On : 09 May 2022 08:05 pm
Operator : VOA129:AJK
Sample : WG1636811-2
Misc : WG1636811,ICAL18964
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 20:48:32 2022
Quant Method : I:\VOLATILES\VOA129\2022\220509P\V129_220422N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 25 06:44:01 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
44	TP	1,2-Dichloroethane	0.418	0.384	8.1	98	0.00
47	TP	Methyl cyclohexane	0.476	0.476	0.0	104	0.00
48	TP	Trichloroethene	0.284	0.278	2.1	99	0.00
50	TP	Dibromomethane	0.167	0.157	6.0	100	0.00
51	TC	1,2-Dichloropropane	0.321	0.328	-2.2	105	0.00
53	TP	2-Chloroethyl vinyl ether	0.189	0.127	32.8#	70	0.00
54	TP	Bromodichloromethane	0.352	0.347	1.4	102	0.00
57	TP	1,4-Dioxane	0.00345	0.00284#	17.7	85	0.01
58	TP	cis-1,3-Dichloropropene	* 40.000	37.249	6.9	104	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.00
60	S	Toluene-d8	1.335	1.352	-1.3	104	0.00
61	TC	Toluene	* 40.000	39.124	2.2	100	0.00
62	TP	4-Methyl-2-pentanone	0.166	0.164	1.2	99	0.00
63	TP	Tetrachloroethene	0.383	0.396	-3.4	105	0.00
65	TP	trans-1,3-Dichloropropene	* 40.000	37.046	7.4	103	0.00
67	TP	Ethyl methacrylate	0.428	0.432	-0.9	102	0.00
68	TP	1,1,2-Trichloroethane	0.257	0.270	-5.1	103	0.00
69	TP	Chlorodibromomethane	* 40.000	38.683	3.3	103	0.00
70	TP	1,3-Dichloropropane	0.559	0.571	-2.1	103	0.00
71	TP	1,2-Dibromoethane	0.296	0.312	-5.4	102	0.00
72	TP	2-Hexanone	0.357	0.307	14.0	96	0.00
73	TP	Chlorobenzene	1.041	1.041	0.0	104	0.00
74	TC	Ethylbenzene	1.811	1.780	1.7	102	0.00
75	TP	1,1,1,2-Tetrachloroethane	* 40.000	37.348	6.6	101	0.00
76	TP	p/m Xylene	0.675	0.696	-3.1	104	0.00
77	TP	o Xylene	0.653	0.672	-2.9	104	0.00
78	TP	Styrene	1.054	1.110	-5.3	103	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00
80	TP	Bromoform	0.425	0.411	3.3	102	0.00
82	TP	Isopropylbenzene	3.395	3.517	-3.6	102	0.00
83	S	4-Bromofluorobenzene	0.936	0.944	-0.9	101	0.00
84	TP	Bromobenzene	0.809	0.851	-5.2	105	0.00
85	TP	n-Propylbenzene	4.096	4.264	-4.1	103	0.00
86	TP	1,4-Dichlorobutane	1.338	1.363	-1.9	103	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.763	0.769	-0.8	98	0.00
88	TP	4-Ethyltoluene	3.375	3.515	-4.1	105	0.00
89	TP	2-Chlorotoluene	2.488	2.555	-2.7	103	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA129\2022\220509P\
Data File : V29220509P01.D
Acq On : 09 May 2022 08:05 pm
Operator : VOA129:AJK
Sample : WG1636811-2
Misc : WG1636811,ICAL18964
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 20:48:32 2022
Quant Method : I:\VOLATILES\VOA129\2022\220509P\V129_220422N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 25 06:44:01 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
90 TP	1,3,5-Trimethylbenzene		2.872	2.959	-3.0	102	0.00
91 TP	1,2,3-Trichloropropane		0.706	0.677	4.1	97	0.00
92 TP	trans-1,4-Dichloro-2-butene		0.299	0.270	9.7	89	0.00
93 TP	4-Chlorotoluene		2.571	2.646	-2.9	105	0.00
94 TP	tert-Butylbenzene		2.483	2.601	-4.8	103	0.00
97 TP	1,2,4-Trimethylbenzene		2.806	2.894	-3.1	101	0.00
98 TP	sec-Butylbenzene		3.730	3.923	-5.2	103	0.00
99 TP	p-Isopropyltoluene		3.117	3.358	-7.7	104	0.00
100 TP	1,3-Dichlorobenzene		1.622	1.721	-6.1	109	0.00
101 TP	1,4-Dichlorobenzene		1.638	1.719	-4.9	107	0.00
102 TP	p-Diethylbenzene		1.841	1.937	-5.2	102	0.00
103 TP	n-Butylbenzene		2.900	3.028	-4.4	102	0.00
104 TP	1,2-Dichlorobenzene		1.514	1.601	-5.7	106	0.00
105 TP	1,2,4,5-Tetramethylbenzene		2.562	2.239	12.6	84	0.00
106 TP	1,2-Dibromo-3-chloropropane	*	40.000	34.700	13.2	99	0.00
107 TP	1,3,5-Trichlorobenzene		1.160	1.142	1.6	100	0.00
108 TP	Hexachlorobutadiene		0.573	0.617	-7.7	108	0.00
109 TP	1,2,4-Trichlorobenzene		1.054	1.064	-0.9	101	0.00
110 TP	Naphthalene		2.623	2.624	-0.0	101	0.00
111 TP	1,2,3-Trichlorobenzene		1.013	1.022	-0.9	103	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 1 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA127\2022\220510B\
Data File : V27220510B01.D
Acq On : 10 May 2022 09:56 am
Operator : VOA127:NLK
Sample : WG1637092-2
Misc : WG1637092,ICAL18933
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 11:13:15 2022
Quant Method : I:\VOLATILES\VOA127\2022\220510B\V127_220413B_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 14 07:05:09 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	61	-0.02
2	TP	Dichlorodifluoromethane	0.273	0.304	-11.4	64	0.00
3	TP	Chloromethane	0.227	0.265	-16.7	70	0.00
4	TC	Vinyl chloride	0.257	0.292	-13.6	65	0.00
5	TP	Bromomethane	* 40.000	46.078	-15.2	61	0.00
6	TP	Chloroethane	0.161	0.186	-15.5	68	0.00
7	TP	Trichlorofluoromethane	0.458	0.484	-5.7	60	0.00
8	TP	Ethyl ether	0.125	0.130	-4.0	59	-0.01
10	TC	1,1-Dichloroethene	0.269	0.275	-2.2	61	-0.01
11	TP	Carbon disulfide	0.722	0.769	-6.5	63	0.00
12	TP	Freon-113	0.269	0.293	-8.9	61	0.00
14	TP	Acrolein	0.033	0.034	-3.0	57	-0.01
15	TP	Methylene chloride	0.284	0.280	1.4	60	-0.01
17	TP	Acetone	* 40.000	42.612	-6.5	57	-0.02
18	TP	trans-1,2-Dichloroethene	0.281	0.297	-5.7	62	-0.01
19	TP	Methyl acetate	0.165	0.136	17.6	50	-0.01
20	TP	Methyl tert-butyl ether	0.583	0.615	-5.5	59	-0.01
21	TP	tert-Butyl alcohol	0.034	0.026	23.5#	45#	-0.02
22	TP	Diisopropyl ether	0.640	0.733	-14.5	65	-0.02
23	TP	1,1-Dichloroethane	0.452	0.482	-6.6	63	-0.01
24	TP	Halothane	0.214	0.226	-5.6	60	-0.02
25	TP	Acrylonitrile	0.072	0.064	11.1	52	-0.02
26	TP	Ethyl tert-butyl ether	0.647	0.733	-13.3	63	-0.02
27	TP	Vinyl acetate	0.437	0.522	-19.5	66	-0.02
28	TP	cis-1,2-Dichloroethene	0.315	0.318	-1.0	60	-0.02
29	TP	2,2-Dichloropropane	0.429	0.475	-10.7	64	-0.02
30	TP	Bromochloromethane	0.159	0.155	2.5	57	-0.02
31	TP	Cyclohexane	0.382	0.478	-25.1#	69	-0.01
32	TC	Chloroform	0.509	0.527	-3.5	61	-0.02
33	TP	Ethyl acetate	0.224	0.197	12.1	52	-0.02
34	TP	Carbon tetrachloride	0.396	0.428	-8.1	60	-0.02
35	TP	Tetrahydrofuran	0.067	0.070	-4.5	58	-0.02
36	S	Dibromofluoromethane	0.293	0.269	8.2	58	-0.01
37	TP	1,1,1-Trichloroethane	0.416	0.462	-11.1	62	-0.01
39	TP	2-Butanone	0.110	0.096	12.7	50	-0.02
40	TP	1,1-Dichloropropene	0.311	0.381	-22.5#	65	-0.02
41	TP	Benzene	0.979	1.088	-11.1	64	-0.02
42	TP	tert-Amyl methyl ether	0.633	0.679	-7.3	61	-0.01
43	S	1,2-Dichloroethane-d4	0.294	0.276	6.1	60	-0.02

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA127\2022\220510B\
Data File : V27220510B01.D
Acq On : 10 May 2022 09:56 am
Operator : VOA127:NLK
Sample : WG1637092-2
Misc : WG1637092,ICAL18933
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 11:13:15 2022
Quant Method : I:\VOLATILES\VOA127\2022\220510B\V127_220413B_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 14 07:05:09 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
44	TP	1,2-Dichloroethane	0.338	0.354	-4.7	61	-0.01
47	TP	Methyl cyclohexane	0.416	0.505	-21.4#	67	-0.02
48	TP	Trichloroethene	0.265	0.300	-13.2	64	-0.01
50	TP	Dibromomethane	0.173	0.165	4.6	57	-0.01
51	TC	1,2-Dichloropropane	0.240	0.264	-10.0	63	-0.02
53	TP	2-Chloroethyl vinyl ether	0.135	0.144	-6.7	57	-0.01
54	TP	Bromodichloromethane	0.374	0.375	-0.3	58	-0.01
57	TP	1,4-Dioxane	0.00295	0.00271#	8.1	59	-0.02
58	TP	cis-1,3-Dichloropropene	0.385	0.428	-11.2	60	-0.01
59	I	Chlorobenzene-d5	1.000	1.000	0.0	61	0.00
60	S	Toluene-d8	1.227	1.277	-4.1	62	0.00
61	TC	Toluene	0.818	0.907	-10.9	65	-0.01
62	TP	4-Methyl-2-pentanone	0.100	0.093	7.0	48#	-0.01
63	TP	Tetrachloroethene	0.408	0.462	-13.2	63	0.00
65	TP	trans-1,3-Dichloropropene	0.434	0.483	-11.3	58	-0.01
67	TP	Ethyl methacrylate	0.358	0.355	0.8	53	0.00
68	TP	1,1,2-Trichloroethane	0.214	0.229	-7.0	56	-0.01
69	TP	Chlorodibromomethane	0.345	0.352	-2.0	53	-0.01
70	TP	1,3-Dichloropropane	0.442	0.484	-9.5	59	0.00
71	TP	1,2-Dibromoethane	0.272	0.287	-5.5	56	0.00
72	TP	2-Hexanone	0.204	0.167	18.1	46#	0.00
73	TP	Chlorobenzene	0.953	1.017	-6.7	60	0.00
74	TC	Ethylbenzene	1.531	1.730	-13.0	62	-0.01
75	TP	1,1,1,2-Tetrachloroethane	0.333	0.368	-10.5	57	0.00
76	TP	p/m Xylene	0.638	0.704	-10.3	60	0.00
77	TP	o Xylene	0.627	0.673	-7.3	58	0.00
78	TP	Styrene	1.049	1.098	-4.7	56	-0.01
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	55	0.00
80	TP	Bromoform	0.449	0.417	7.1	46#	0.00
82	TP	Isopropylbenzene	2.570	3.148	-22.5#	60	-0.01
83	S	4-Bromofluorobenzene	0.746	0.819	-9.8	61	0.00
84	TP	Bromobenzene	0.755	0.816	-8.1	55	0.00
85	TP	n-Propylbenzene	2.985	3.752	-25.7#	61	-0.01
86	TP	1,4-Dichlorobutane	0.636	0.736	-15.7	58	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.516	0.584	-13.2	52	0.00
88	TP	4-Ethyltoluene	2.589	3.194	-23.4#	60	0.00
89	TP	2-Chlorotoluene	1.818	2.548	-40.2#	68	0.00

Data Path : I:\VOLATILES\VOA127\2022\220510B\
Data File : V27220510B01.D
Acq On : 10 May 2022 09:56 am
Operator : VOA127:NLK
Sample : WG1637092-2
Misc : WG1637092,ICAL18933
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 11:13:15 2022
Quant Method : I:\VOLATILES\VOA127\2022\220510B\V127_220413B_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 14 07:05:09 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
90 TP	1,3,5-Trimethylbenzene	2.216	2.749	-24.1#	60	0.00
91 TP	1,2,3-Trichloropropane	0.448	0.495	-10.5	53	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.156	0.171	-9.6	51	0.00
93 TP	4-Chlorotoluene	1.921	2.256	-17.4	59	0.00
94 TP	tert-Butylbenzene	1.992	2.380	-19.5	58	0.00
97 TP	1,2,4-Trimethylbenzene	2.174	2.693	-23.9#	59	0.00
98 TP	sec-Butylbenzene	2.820	3.523	-24.9#	60	0.00
99 TP	p-Isopropyltoluene	2.495	3.120	-25.1#	59	0.00
100 TP	1,3-Dichlorobenzene	1.449	1.639	-13.1	55	-0.01
101 TP	1,4-Dichlorobenzene	1.468	1.636	-11.4	55	0.00
102 TP	p-Diethylbenzene	1.461	1.861	-27.4#	61	0.00
103 TP	n-Butylbenzene	2.039	2.767	-35.7#	63	0.00
104 TP	1,2-Dichlorobenzene	1.373	1.500	-9.2	53	0.00
105 TP	1,2,4,5-Tetramethylbenzene	2.098	2.700	-28.7#	62	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.123	0.111	9.8	43#	0.00
107 TP	1,3,5-Trichlorobenzene	1.104	1.375	-24.5#	60	0.00
108 TP	Hexachlorobutadiene	0.650	0.751	-15.5	56	0.00
109 TP	1,2,4-Trichlorobenzene	1.011	1.201	-18.8	58	0.00
110 TP	Naphthalene	2.102	2.200	-4.7	51	0.00
111 TP	1,2,3-Trichlorobenzene	0.963	1.076	-11.7	56	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 1 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA129\2022\220511A\
Data File : V29220511A03.D
Acq On : 11 May 2022 07:38 am
Operator : VOA129:NLK
Sample : WG1638217-2
Misc : WG1638217,ICAL18964
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 11 08:02:32 2022
Quant Method : I:\VOLATILES\VOA129\2022\220511A\V129_220422N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 25 06:44:01 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene		1.000	1.000	0.0	104	0.00
2	TP	Dichlorodifluoromethane		0.318	0.167	47.5#	57	0.00
3	TP	Chloromethane		0.458	0.317	30.8#	75	0.00
4	TC	Vinyl chloride		0.365	0.254	30.4#	73	0.00
5	TP	Bromomethane	*	40.000	35.069	12.3	92	0.00
6	TP	Chloroethane		0.211	0.162	23.2#	79	0.00
7	TP	Trichlorofluoromethane		0.418	0.293	29.9#	76	0.00
8	TP	Ethyl ether		0.133	0.121	9.0	94	0.00
10	TC	1,1-Dichloroethene		0.247	0.187	24.3#	81	0.01
11	TP	Carbon disulfide		0.713	0.533	25.2#	80	0.00
12	TP	Freon-113		0.251	0.188	25.1#	79	0.00
14	TP	Acrolein		0.065	0.054	16.9	90	0.00
15	TP	Methylene chloride	*	40.000	34.921	12.7	89	0.00
17	TP	Acetone	*	40.000	30.286	24.3#	90	0.01
18	TP	trans-1,2-Dichloroethene		0.285	0.227	20.4#	84	0.00
19	TP	Methyl acetate	*	40.000	33.511	16.2	86	0.00
20	TP	Methyl tert-butyl ether		0.676	0.628	7.1	96	0.00
21	TP	tert-Butyl alcohol		0.046	0.035	23.9#	89	0.01
22	TP	Diisopropyl ether		1.108	1.042	6.0	94	0.00
23	TP	1,1-Dichloroethane		0.577	0.468	18.9	86	0.00
24	TP	Halothane		0.205	0.166	19.0	85	0.00
25	TP	Acrylonitrile		0.123	0.110	10.6	93	0.00
26	TP	Ethyl tert-butyl ether		0.921	0.891	3.3	95	0.00
27	TP	Vinyl acetate		0.816	0.731	10.4	94	0.00
28	TP	cis-1,2-Dichloroethene		0.315	0.261	17.1	87	0.01
29	TP	2,2-Dichloropropane		0.409	0.329	19.6	84	0.00
30	TP	Bromochloromethane		0.141	0.126	10.6	95	0.00
31	TP	Cyclohexane		0.617	0.476	22.9#	82	0.00
32	TC	Chloroform		0.519	0.418	19.5	84	0.00
33	TP	Ethyl acetate		0.398	0.327	17.8	92	0.00
34	TP	Carbon tetrachloride		0.371	0.281	24.3#	79	0.00
35	TP	Tetrahydrofuran		0.145	0.116	20.0	85	0.01
36	S	Dibromofluoromethane		0.251	0.251	0.0	106	0.00
37	TP	1,1,1-Trichloroethane		0.405	0.320	21.0#	80	0.00
39	TP	2-Butanone		0.192	0.158	17.7	88	0.00
40	TP	1,1-Dichloropropene		0.370	0.295	20.3#	81	0.01
41	TP	Benzene		1.118	0.935	16.4	86	0.00
42	TP	tert-Amyl methyl ether		0.665	0.652	2.0	98	0.00
43	S	1,2-Dichloroethane-d4		0.317	0.301	5.0	101	0.00

Data Path : I:\VOLATILES\VOA129\2022\220511A\
Data File : V29220511A03.D
Acq On : 11 May 2022 07:38 am
Operator : VOA129:NLK
Sample : WG1638217-2
Misc : WG1638217,ICAL18964
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 11 08:02:32 2022
Quant Method : I:\VOLATILES\VOA129\2022\220511A\V129_220422N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 25 06:44:01 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
44	TP	1,2-Dichloroethane	0.418	0.347	17.0	87	0.00
47	TP	Methyl cyclohexane	0.476	0.372	21.8#	80	0.00
48	TP	Trichloroethene	0.284	0.237	16.5	83	0.00
50	TP	Dibromomethane	0.167	0.146	12.6	92	0.00
51	TC	1,2-Dichloropropane	0.321	0.289	10.0	91	0.00
53	TP	2-Chloroethyl vinyl ether	0.189	0.173	8.5	94	0.00
54	TP	Bromodichloromethane	0.352	0.315	10.5	91	0.00
57	TP	1,4-Dioxane	0.00345	0.00289#	16.2	85	0.01
58	TP	cis-1,3-Dichloropropene	* 40.000	33.640	15.9	93	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00
60	S	Toluene-d8	1.335	1.336	-0.1	102	0.00
61	TC	Toluene	* 40.000	32.557	18.6	82	0.00
62	TP	4-Methyl-2-pentanone	0.166	0.158	4.8	94	0.00
63	TP	Tetrachloroethene	0.383	0.324	15.4	85	0.00
65	TP	trans-1,3-Dichloropropene	* 40.000	34.478	13.8	95	0.00
67	TP	Ethyl methacrylate	0.428	0.417	2.6	98	0.00
68	TP	1,1,2-Trichloroethane	0.257	0.253	1.6	95	0.00
69	TP	Chlorodibromomethane	* 40.000	36.239	9.4	95	0.00
70	TP	1,3-Dichloropropane	0.559	0.528	5.5	94	0.00
71	TP	1,2-Dibromoethane	0.296	0.292	1.4	94	0.00
72	TP	2-Hexanone	0.357	0.311	12.9	96	0.00
73	TP	Chlorobenzene	1.041	0.897	13.8	88	0.00
74	TC	Ethylbenzene	1.811	1.497	17.3	85	0.00
75	TP	1,1,1,2-Tetrachloroethane	* 40.000	33.940	15.2	91	0.00
76	TP	p/m Xylene	0.675	0.590	12.6	87	0.00
77	TP	o Xylene	0.653	0.581	11.0	89	0.00
78	TP	Styrene	1.054	0.976	7.4	90	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00
80	TP	Bromoform	0.425	0.394	7.3	98	0.00
82	TP	Isopropylbenzene	3.395	2.887	15.0	85	0.00
83	S	4-Bromofluorobenzene	0.936	0.938	-0.2	101	0.00
84	TP	Bromobenzene	0.809	0.737	8.9	92	0.00
85	TP	n-Propylbenzene	4.096	3.490	14.8	85	0.00
86	TP	1,4-Dichlorobutane	1.338	1.247	6.8	95	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.763	0.718	5.9	92	0.00
88	TP	4-Ethyltoluene	3.375	2.912	13.7	87	0.00
89	TP	2-Chlorotoluene	2.488	2.172	12.7	88	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA129\2022\220511A\
Data File : V29220511A03.D
Acq On : 11 May 2022 07:38 am
Operator : VOA129:NLK
Sample : WG1638217-2
Misc : WG1638217,ICAL18964
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 11 08:02:32 2022
Quant Method : I:\VOLATILES\VOA129\2022\220511A\V129_220422N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 25 06:44:01 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
90 TP	1,3,5-Trimethylbenzene	2.872	2.466	14.1	85	0.00
91 TP	1,2,3-Trichloropropane	0.706	0.641	9.2	93	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.299	0.256	14.4	85	0.00
93 TP	4-Chlorotoluene	2.571	2.256	12.3	90	0.00
94 TP	tert-Butylbenzene	2.483	2.128	14.3	85	0.00
97 TP	1,2,4-Trimethylbenzene	2.806	2.469	12.0	87	0.00
98 TP	sec-Butylbenzene	3.730	3.141	15.8	83	0.00
99 TP	p-Isopropyltoluene	3.117	2.739	12.1	85	0.00
100 TP	1,3-Dichlorobenzene	1.622	1.467	9.6	94	0.00
101 TP	1,4-Dichlorobenzene	1.638	1.497	8.6	94	0.00
102 TP	p-Diethylbenzene	1.841	1.593	13.5	85	0.00
103 TP	n-Butylbenzene	2.900	2.420	16.6	82	0.00
104 TP	1,2-Dichlorobenzene	1.514	1.417	6.4	95	0.00
105 TP	1,2,4,5-Tetramethylbenzene	2.562	1.911	25.4#	72	0.00
106 TP	1,2-Dibromo-3-chloropropane *	40.000	32.981	17.5	94	0.00
107 TP	1,3,5-Trichlorobenzene	1.160	0.997	14.1	88	0.00
108 TP	Hexachlorobutadiene	0.573	0.492	14.1	87	0.00
109 TP	1,2,4-Trichlorobenzene	1.054	0.948	10.1	90	0.00
110 TP	Naphthalene	2.623	2.469	5.9	96	0.00
111 TP	1,2,3-Trichlorobenzene	1.013	0.934	7.8	95	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 1 CCC's out = 2

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2022\220513A\
Data File : VG220513A02.D
Acq On : 13 May 2022 9:02 am
Operator : GONZO:PD
Sample : WG1638761-2 (Sig #1); 8260 CCAL (Sig #2)
Misc : WG1638761,ICAL18969 (Sig #1); WG,ICAL18969 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 09:25:05 2022
Quant Method : I:\VOLATILES\Gonzo\2022\220513A\G_220425N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Apr 26 12:00:50 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	69	0.00
2	TP	Dichlorodifluoromethane	0.150	0.222	-48.0#	97	0.00
3	TP	Chloromethane	0.187	0.224	-19.8	81	0.00
4	TC	Vinyl chloride	0.187	0.237	-26.7#	85	0.00
5	TP	Bromomethane	0.102	0.103	-1.0	87	0.00
6	TP	Chloroethane	0.140	0.210	-50.0#	100	0.00
7	TP	Trichlorofluoromethane	0.272	0.294	-8.1	73	0.00
8	TP	Ethyl ether	0.079	0.074	6.3	65	0.00
10	TC	1,1-Dichloroethene	0.152	0.153	-0.7	68	0.00
11	TP	Carbon disulfide	0.417	0.452	-8.4	77	0.00
12	TP	Freon-113	0.159	0.179	-12.6	77	0.00
14	TP	Acrolein	0.030	0.024	20.0	56	0.00
15	TP	Methylene chloride	0.169	0.179	-5.9	74	0.00
17	TP	Acetone	* 10.000	7.813	21.9#	62	0.00
18	TP	trans-1,2-Dichloroethene	0.164	0.177	-7.9	73	0.00
19	TP	Methyl acetate	0.118	0.102	13.6	62	0.00
20	TP	Methyl tert-butyl ether	0.430	0.373	13.3	62	0.00
21	TP	tert-Butyl alcohol	0.017	0.012	29.4#	48#	0.00
22	TP	Diisopropyl ether	0.599	0.563	6.0	67	0.00
23	TP	1,1-Dichloroethane	0.323	0.332	-2.8	71	0.00
24	TP	Halothane	0.129	0.142	-10.1	75	0.00
25	TP	Acrylonitrile	0.060	0.054	10.0	62	0.00
26	TP	Ethyl tert-butyl ether	0.535	0.453	15.3	60	0.00
27	TP	Vinyl acetate	0.413	0.368	10.9	75	0.00
28	TP	cis-1,2-Dichloroethene	0.190	0.191#	-0.5	70	0.00
29	TP	2,2-Dichloropropane	0.264	0.263	0.4	70	0.00
30	TP	Bromochloromethane	0.083	0.090#	-8.4	72	0.00
31	TP	Cyclohexane	0.330	0.334	-1.2	71	0.00
32	TC	Chloroform	0.319	0.323	-1.3	71	0.00
33	TP	Ethyl acetate	0.179	0.139	22.3#	58	0.00
34	TP	Carbon tetrachloride	0.235	0.248	-5.5	75	0.00
35	TP	Tetrahydrofuran	0.057	0.053	7.0	63	0.00
36	S	Dibromofluoromethane	0.265	0.265	0.0	71	0.00
37	TP	1,1,1-Trichloroethane	0.270	0.288	-6.7	74	0.00
39	TP	2-Butanone	0.084	0.063	25.0#	53	0.00
40	TP	1,1-Dichloropropene	0.232	0.246	-6.0	74	0.00
41	TP	Benzene	0.704	0.726	-3.1	72	0.00
42	TP	tert-Amyl methyl ether	0.471	0.372	21.0#	57	0.00
43	S	1,2-Dichloroethane-d4	0.313	0.324	-3.5	69	0.00

Data Path : I:\VOLATILES\Gonzo\2022\220513A\
Data File : VG220513A02.D
Acq On : 13 May 2022 9:02 am
Operator : GONZO:PD
Sample : WG1638761-2 (Sig #1); 8260 CCAL (Sig #2)
Misc : WG1638761,ICAL18969 (Sig #1); WG,ICAL18969 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 09:25:05 2022
Quant Method : I:\VOLATILES\Gonzo\2022\220513A\G_220425N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Apr 26 12:00:50 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
44	TP	1,2-Dichloroethane	0.239	0.241	-0.8	71	0.00
47	TP	Methyl cyclohexane	0.328	0.332	-1.2	70	0.00
48	TP	Trichloroethene	0.192	0.195#	-1.6	71	0.00
50	TP	Dibromomethane	0.105	0.107	-1.9	71	0.00
51	TC	1,2-Dichloropropane	0.190	0.195	-2.6	72	0.00
54	TP	Bromodichloromethane	0.249	0.260#	-4.4	75	0.00
57	TP	1,4-Dioxane	0.00194	0.00180#	7.2	62	0.00
58	TP	cis-1,3-Dichloropropene	0.282	0.274#	2.8	68	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	69	0.00
60	S	Toluene-d8	1.253	1.280	-2.2	70	0.00
61	TC	Toluene	0.562	0.580	-3.2	73	0.00
62	TP	4-Methyl-2-pentanone	0.076	0.061	19.7	57	0.00
63	TP	Tetrachloroethene	0.248	0.261	-5.2	73	0.00
65	TP	trans-1,3-Dichloropropene	0.323	0.301	6.8	67	0.00
67	TP	Ethyl methacrylate	0.270	0.223	17.4	59	0.00
68	TP	1,1,2-Trichloroethane	0.157	0.157#	0.0	73	0.00
69	TP	Chlorodibromomethane	0.217	0.227	-4.6	77	0.00
70	TP	1,3-Dichloropropane	0.322	0.320	0.6	70	0.00
71	TP	1,2-Dibromoethane	0.191	0.188#	1.6	70	0.00
72	TP	2-Hexanone	0.177	0.128	27.7#	52	0.00
73	TP	Chlorobenzene	0.629	0.652	-3.7	74	0.00
74	TC	Ethylbenzene	1.133	1.148	-1.3	72	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.221	0.224	-1.4	74	0.00
76	TP	p/m Xylene	0.439	0.460	-4.8	75	0.00
77	TP	o Xylene	0.433	0.442	-2.1	74	0.00
78	TP	Styrene	0.710	0.725	-2.1	74	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	74	0.00
80	TP	Bromoform	0.248	0.237	4.4	77	0.00
82	TP	Isopropylbenzene	1.972	1.911	3.1	73	0.00
83	S	4-Bromofluorobenzene	0.841	0.784	6.8	69	0.00
84	TP	Bromobenzene	0.478	0.468	2.1	73	0.00
85	TP	n-Propylbenzene	2.395	2.332	2.6	73	0.00
86	TP	1,4-Dichlorobutane	0.627	0.557	11.2	69	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.408	0.392	3.9	75	0.00
88	TP	4-Ethyltoluene	1.981	1.950	1.6	75	0.00
89	TP	2-Chlorotoluene	1.390	1.338	3.7	75	0.00
90	TP	1,3,5-Trimethylbenzene	1.718	1.679	2.3	74	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2022\220513A\
Data File : VG220513A02.D
Acq On : 13 May 2022 9:02 am
Operator : GONZO:PD
Sample : WG1638761-2 (Sig #1); 8260 CCAL (Sig #2)
Misc : WG1638761,ICAL18969 (Sig #1); WG,ICAL18969 (Sig #2)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 09:25:05 2022
Quant Method : I:\VOLATILES\Gonzo\2022\220513A\G_220425N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Apr 26 12:00:50 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
91 TP	1,2,3-Trichloropropane	0.378	0.339	10.3	72	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.135	0.093	31.1#	55	0.00
93 TP	4-Chlorotoluene	1.425	1.387	2.7	75	0.00
94 TP	tert-Butylbenzene	1.474	1.465	0.6	75	0.00
97 TP	1,2,4-Trimethylbenzene	1.644	1.583	3.7	74	0.00
98 TP	sec-Butylbenzene	2.263	2.268	-0.2	75	0.00
99 TP	p-Isopropyltoluene	1.920	1.885	1.8	75	0.00
100 TP	1,3-Dichlorobenzene	0.925	0.957	-3.5	79	0.00
101 TP	1,4-Dichlorobenzene	0.935	0.951	-1.7	77	0.00
102 TP	p-Diethylbenzene	1.102	1.069	3.0	74	0.00
103 TP	n-Butylbenzene	1.651	1.635	1.0	76	0.00
104 TP	1,2-Dichlorobenzene	0.865	0.873	-0.9	76	0.00
105 TP	1,2,4,5-Tetramethylbenzene	1.326	1.135	14.4	72	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.075	0.065	13.3	64	0.00
107 TP	1,3,5-Trichlorobenzene	0.619	0.610	1.5	75	0.00
108 TP	Hexachlorobutadiene	0.295	0.285	3.4	71	0.00
109 TP	1,2,4-Trichlorobenzene	0.499	0.465	6.8	73	0.00
110 TP	Naphthalene	0.971	0.802	17.4	67	0.00
111 TP	1,2,3-Trichlorobenzene	0.406	0.368#	9.4	70	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 9 CCC's out = 1

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1638761-3	**Analysis Date** : 05/13/22 09:02	**File ID** : VG220513A02
LCSD Sample ID	: WG1638761-4	**Analysis Date** : 05/13/22 09:28	**File ID** : VG220513A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	10	100	10	10	100	0	70-130	20
1,1-Dichloroethane	10	10	100	10	10	100	0	70-130	20
Chloroform	10	10	100	10	9.5	95	5	70-130	20
Carbon tetrachloride	10	10	100	10	10	100	0	63-132	20
Tetrachloroethene	10	10	100	10	9.6	96	4	70-130	20
Chlorobenzene	10	10	100	10	10	100	0	75-130	20
1,2-Dichloroethane	10	10	100	10	9.8	98	2	70-130	20
1,1,1-Trichloroethane	10	11	110	10	10	100	10	67-130	20
Benzene	10	10	100	10	9.8	98	2	70-130	20
Toluene	10	10	100	10	9.9	99	1	70-130	20
Ethylbenzene	10	10	100	10	9.6	96	4	70-130	20
Vinyl chloride	10	13	130	10	12	120	8	55-140	20
1,1-Dichloroethene	10	10	100	10	10	100	0	61-145	20
trans-1,2-Dichloroethene	10	11	110	10	10	100	10	70-130	20
Trichloroethene	10	10	100	10	9.7	97	3	70-130	20
1,2-Dichlorobenzene	10	10	100	10	9.9	99	1	70-130	20
1,3-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
1,4-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
Methyl tert butyl ether	10	8.7	87	10	8.3	83	5	63-130	20
p/m-Xylene	20	21	105	20	20	100	5	70-130	20
o-Xylene	20	20	100	20	20	100	0	70-130	20
cis-1,2-Dichloroethene	10	10	100	10	9.7	97	3	70-130	20
Acetone	10	7.8	78	10	6.4	64	20	58-148	20
2-Butanone	10	7.4	74	10	7.9	79	7	63-138	20
n-Butylbenzene	10	9.9	99	10	9.6	96	3	53-136	20
sec-Butylbenzene	10	10	100	10	9.7	97	3	70-130	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1637092-3	**Analysis Date** : 05/10/22 09:56	**File ID** : V27220510B01
LCSD Sample ID	: WG1637092-4	**Analysis Date** : 05/10/22 10:15	**File ID** : V27220510B02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	40	39	98	40	36	89	10	70-130	30
1,1-Dichloroethane	40	43	107	40	38	95	12	70-130	30
Chloroform	40	41	104	40	37	92	12	70-130	30
Carbon tetrachloride	40	43	108	40	38	96	12	70-130	30
Tetrachloroethene	40	45	113	40	41	102	10	70-130	30
Chlorobenzene	40	43	107	40	39	98	9	70-130	30
1,2-Dichloroethane	40	42	105	40	39	98	7	70-130	30
1,1,1-Trichloroethane	40	44	111	40	39	98	12	70-130	30
Benzene	40	45	111	40	40	100	10	70-130	30
Toluene	40	44	111	40	40	100	10	70-130	30
Ethylbenzene	40	45	113	40	41	102	10	70-130	30
Vinyl chloride	40	46	114	40	39	97	16	67-130	30
1,1-Dichloroethene	40	41	102	40	36	90	13	65-135	30
trans-1,2-Dichloroethene	40	42	106	40	37	94	12	70-130	30
Trichloroethene	40	45	113	40	40	101	11	70-130	30
1,2-Dichlorobenzene	40	44	109	40	40	100	9	70-130	30
1,3-Dichlorobenzene	40	45	113	40	41	102	10	70-130	30
1,4-Dichlorobenzene	40	45	111	40	40	100	10	70-130	30
Methyl tert butyl ether	40	42	105	40	42	104	1	66-130	30
p/m-Xylene	80	88	110	80	80	100	10	70-130	30
o-Xylene	80	86	107	80	78	97	10	70-130	30
cis-1,2-Dichloroethene	40	40	101	40	36	90	12	70-130	30
Acetone	40	43	106	40	39	98	8	54-140	30
2-Butanone	40	35	87	40	34	85	2	70-130	30
n-Butylbenzene	40	54	136 Q	40	47	118	14	70-130	30
sec-Butylbenzene	40	50	125	40	45	112	11	70-130	30

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1638217-3	**Analysis Date** : 05/11/22 07:38	**File ID** : V29220511A03
LCSD Sample ID	: WG1638217-4	**Analysis Date** : 05/11/22 08:17	**File ID** : V29220511A05

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	40	35	87	40	36	89	2	70-130	30
1,1-Dichloroethane	40	33	81	40	34	85	5	70-130	30
Chloroform	40	32	80	40	34	85	6	70-130	30
Carbon tetrachloride	40	30	76	40	33	83	9	70-130	30
Tetrachloroethene	40	34	85	40	38	94	10	70-130	30
Chlorobenzene	40	35	86	40	36	89	3	70-130	30
1,2-Dichloroethane	40	33	83	40	33	83	0	70-130	30
1,1,1-Trichloroethane	40	32	79	40	34	86	8	70-130	30
Benzene	40	34	84	40	35	87	4	70-130	30
Toluene	40	33	81	40	34	86	6	70-130	30
Ethylbenzene	40	33	83	40	35	88	6	70-130	30
Vinyl chloride	40	28	70	40	23	57 Q	20	67-130	30
1,1-Dichloroethene	40	30	76	40	31	78	3	65-135	30
trans-1,2-Dichloroethene	40	32	80	40	34	85	6	70-130	30
Trichloroethene	40	33	83	40	36	90	8	70-130	30
1,2-Dichlorobenzene	40	37	94	40	37	92	2	70-130	30
1,3-Dichlorobenzene	40	36	90	40	36	91	1	70-130	30
1,4-Dichlorobenzene	40	37	91	40	36	91	0	70-130	30
Methyl tert butyl ether	40	37	93	40	37	92	1	66-130	30
p/m-Xylene	80	70	87	80	73	92	6	70-130	30
o-Xylene	80	71	89	80	74	92	3	70-130	30
cis-1,2-Dichloroethene	40	33	83	40	35	86	4	70-130	30
Acetone	40	30	76	40	33	81	6	54-140	30
2-Butanone	40	33	82	40	33	82	0	70-130	30
n-Butylbenzene	40	33	83	40	35	88	6	70-130	30
sec-Butylbenzene	40	34	84	40	36	90	7	70-130	30

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1638761-3	**Analysis Date** : 05/13/22 09:02	**File ID** : VG220513A02
LCSD Sample ID	: WG1638761-4	**Analysis Date** : 05/13/22 09:28	**File ID** : VG220513A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	10	100	10	10	100	0	70-130	20
1,1-Dichloroethane	10	10	100	10	10	100	0	70-130	20
Chloroform	10	10	100	10	9.5	95	5	70-130	20
Carbon tetrachloride	10	10	100	10	10	100	0	63-132	20
Tetrachloroethene	10	10	100	10	9.6	96	4	70-130	20
Chlorobenzene	10	10	100	10	10	100	0	75-130	20
1,2-Dichloroethane	10	10	100	10	9.8	98	2	70-130	20
1,1,1-Trichloroethane	10	11	110	10	10	100	10	67-130	20
Benzene	10	10	100	10	9.8	98	2	70-130	20
Toluene	10	10	100	10	9.9	99	1	70-130	20
Ethylbenzene	10	10	100	10	9.6	96	4	70-130	20
Vinyl chloride	10	13	130	10	12	120	8	55-140	20
1,1-Dichloroethene	10	10	100	10	10	100	0	61-145	20
trans-1,2-Dichloroethene	10	11	110	10	10	100	10	70-130	20
Trichloroethene	10	10	100	10	9.7	97	3	70-130	20
1,2-Dichlorobenzene	10	10	100	10	9.9	99	1	70-130	20
1,3-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
1,4-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
Methyl tert butyl ether	10	8.7	87	10	8.3	83	5	63-130	20
p/m-Xylene	20	21	105	20	20	100	5	70-130	20
o-Xylene	20	20	100	20	20	100	0	70-130	20
cis-1,2-Dichloroethene	10	10	100	10	9.7	97	3	70-130	20
Acetone	10	7.8	78	10	6.4	64	20	58-148	20
2-Butanone	10	7.4	74	10	7.9	79	7	63-138	20
n-Butylbenzene	10	9.9	99	10	9.6	96	3	53-136	20
sec-Butylbenzene	10	10	100	10	9.7	97	3	70-130	20

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27	**Analysis Date**	: 05/10/22 14:25
Matrix Spike	: WG1637092-6	**MS Analysis Date**	: 05/10/22 19:00
Matrix Spike Dup	: WG1637092-7	**MSD Analysis Date**	: 05/10/22 19:20

		Matrix Spike Sample				Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD	Recovery Limits	RPD Limit
Methylene chloride	ND	128	100	79		112	110	96		7	70-130	30
1,1-Dichloroethane	ND	128	110	86		112	120	105		7	70-130	30
Chloroform	ND	128	100	81		112	110	100		8	70-130	30
Carbon tetrachloride	ND	128	110	86		112	120	105		6	70-130	30
Tetrachloroethene	ND	128	99	77		112	100	92		5	70-130	30
Chlorobenzene	ND	128	93	72		112	97	86		5	70-130	30
1,2-Dichloroethane	ND	128	110	83		112	120	104		9	70-130	30
1,1,1-Trichloroethane	ND	128	110	89		112	120	108		7	70-130	30
Benzene	ND	128	110	88		112	120	108		7	70-130	30
Toluene	ND	128	100	81		112	110	98		6	70-130	30
Ethylbenzene	ND	128	97	75		112	100	88		3	70-130	30
Vinyl chloride	ND	128	120	95		112	130	114		5	67-130	30
1,1-Dichloroethene	ND	128	110	82		112	110	100		6	65-135	30
trans-1,2-Dichloroethene	ND	128	110	83		112	110	100		6	70-130	30
Trichloroethene	ND	128	110	85		112	120	103		6	70-130	30
1,2-Dichlorobenzene	ND	128	81	63	Q	112	82	73		1	70-130	30
1,3-Dichlorobenzene	ND	128	79	61	Q	112	80	71		1	70-130	30
1,4-Dichlorobenzene	ND	128	76	59	Q	112	77	68	Q	1	70-130	30
Methyl tert butyl ether	ND	128	120	94		112	130	117		9	66-130	30
p/m-Xylene	ND	257	180	70		225	190	83		3	70-130	30
o-Xylene	ND	257	180	71		225	190	84		3	70-130	30
cis-1,2-Dichloroethene	ND	128	100	79		112	110	97		8	70-130	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27	**Analysis Date**	: 05/10/22 14:25
Matrix Spike	: WG1637092-6	**MS Analysis Date**	: 05/10/22 19:00
Matrix Spike Dup	: WG1637092-7	**MSD Analysis Date**	: 05/10/22 19:20

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD	Recovery Limits	RPD Limit
Acetone	ND	128	110	83		112	120	108		14	54-140	30
2-Butanone	ND	128	88	68	Q	112	98	87		10	70-130	30
n-Butylbenzene	ND	128	79	62	Q	112	77	68	Q	3	70-130	30
sec-Butylbenzene	ND	128	90	70		112	87	78		3	70-130	30
tert-Butylbenzene	ND	128	94	73		112	93	83		1	70-130	30
n-Propylbenzene	ND	128	94	73		112	95	84		1	70-130	30
1,3,5-Trimethylbenzene	ND	128	94	73		112	95	84		1	70-130	30
1,2,4-Trimethylbenzene	ND	128	91	71		112	92	81		0	70-130	30
1,4-Dioxane	ND	6420	5500	85		5620	6500	116		18	65-136	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-4 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-26	**Analysis Date**	: 05/10/22 14:06
Matrix Spike	: WG1637092-8	**MS Analysis Date**	: 05/10/22 18:40
Matrix Spike Dup	: WG1637092-9	**MSD Analysis Date**	: 05/11/22 16:35

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD		Recovery Limits	RPD Limit
Methylene chloride	ND	83.5	66	79		127	98	77		39	Q	70-130	30
1,1-Dichloroethane	ND	83.5	73	88		127	110	83		36	Q	70-130	30
Chloroform	ND	83.5	70	84		127	100	79		35	Q	70-130	30
Carbon tetrachloride	ND	83.5	74	89		127	100	81		32	Q	70-130	30
Tetrachloroethene	ND	83.5	72	86		127	85	67	Q	16		70-130	30
Chlorobenzene	ND	83.5	67	80		127	81	64	Q	20		70-130	30
1,2-Dichloroethane	ND	83.5	71	85		127	100	80		35	Q	70-130	30
1,1,1-Trichloroethane	ND	83.5	77	92		127	110	85		34	Q	70-130	30
Benzene	ND	83.5	77	92		127	110	83		31	Q	70-130	30
Toluene	ND	83.5	73	87		127	92	73		23		70-130	30
Ethylbenzene	ND	83.5	72	86		127	82	64	Q	13		70-130	30
Vinyl chloride	ND	83.5	77	92		127	110	87		37	Q	67-130	30
1,1-Dichloroethene	ND	83.5	68	82		127	100	78		37	Q	65-135	30
trans-1,2-Dichloroethene	ND	83.5	66	78		127	100	78		41	Q	70-130	30
Trichloroethene	ND	83.5	72	87		127	99	78		31	Q	70-130	30
1,2-Dichlorobenzene	ND	83.5	63	75		127	69	54	Q	9		70-130	30
1,3-Dichlorobenzene	ND	83.5	61	72		127	64	50	Q	6		70-130	30
1,4-Dichlorobenzene	ND	83.5	58	69	Q	127	62	48	Q	6		70-130	30
Methyl tert butyl ether	ND	83.5	83	100		127	110	90		31	Q	66-130	30
p/m-Xylene	ND	167	140	81		254	150	59	Q	11		70-130	30
o-Xylene	ND	167	140	83		254	160	62	Q	13		70-130	30
cis-1,2-Dichloroethene	ND	83.5	65	78		127	98	77		40	Q	70-130	30

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-4 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-26	**Analysis Date**	: 05/10/22 14:06
Matrix Spike	: WG1637092-8	**MS Analysis Date**	: 05/10/22 18:40
Matrix Spike Dup	: WG1637092-9	**MSD Analysis Date**	: 05/11/22 16:35

		Matrix Spike Sample			Matrix Spike Duplicate						
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R		RPD		Recovery Limits	RPD Limit
Acetone	ND	83.5	78	94	127	99	78		23		54-140	30
2-Butanone	ND	83.5	62	74	127	85	67	Q	31	Q	70-130	30
n-Butylbenzene	ND	83.5	66	79	127	57	45	Q	15		70-130	30
sec-Butylbenzene	ND	83.5	73	87	127	67	53	Q	9		70-130	30
tert-Butylbenzene	ND	83.5	74	88	127	72	57	Q	2		70-130	30
n-Propylbenzene	ND	83.5	74	88	127	70	55	Q	5		70-130	30
1,3,5-Trimethylbenzene	ND	83.5	75	89	127	72	57	Q	3		70-130	30
1,2,4-Trimethylbenzene	ND	83.5	73	87	127	71	56	Q	3		70-130	30
1,4-Dioxane	ND	4180	3800	90	6350	5700	89		40	Q	65-136	30

Attachment B
Semi-volatiles Full Scan QC Summary Forms – Excursions

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635274-2	**Analysis Date** : 05/07/22 12:42	**File ID** : 635274-2
LCSD Sample ID	: WG1635274-3	**Analysis Date** : 05/07/22 13:05	**File ID** : 635274-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	18	12.	65	18	11.	62	5	37-111	30
1,2,4-Trichlorobenzene	18	11.	59	18	10.	58	2	39-98	30
Hexachlorobenzene	18	11.	63	18	11.	59	7	40-140	30
Bis(2-chloroethyl)ether	18	11.	62	18	11.	58	7	40-140	30
2-Chloronaphthalene	18	11.	58	18	11.	59	2	40-140	30
1,2-Dichlorobenzene	18	11.	59	18	10.	56	5	40-140	30
1,3-Dichlorobenzene	18	10.	58	18	10.	56	4	40-140	30
1,4-Dichlorobenzene	18	10.	58	18	10.	56	4	36-97	30
3,3'-Dichlorobenzidine	18	10.	56	18	9.7	53	6	40-140	30
2,4-Dinitrotoluene	18	13.	74	18	13.	72	3	48-143	30
2,6-Dinitrotoluene	18	13.	70	18	12.	68	3	40-140	30
Fluoranthene	18	12.	66	18	12.	66	0	40-140	30
4-Chlorophenyl phenyl ether	18	12.	66	18	11.	61	8	40-140	30
4-Bromophenyl phenyl ether	18	11.	61	18	11.	59	3	40-140	30
Bis(2-chloroisopropyl)ether	18	11.	59	18	10.	56	5	40-140	30
Bis(2-chloroethoxy)methane	18	11.	61	18	10.	58	5	40-140	30
Hexachlorobutadiene	18	10.	58	18	11.	59	2	40-140	30
Hexachlorocyclopentadiene	18	8.4	46	18	8.3	46	0	40-140	30
Hexachloroethane	18	10.	57	18	10.	57	0	40-140	30
Isophorone	18	10.	55	18	9.6	53	4	40-140	30
Naphthalene	18	11.	61	18	11.	62	2	40-140	30
Nitrobenzene	18	12.	67	18	11.	63	6	40-140	30
NDPA/DPA	18	12.	65	18	11.	62	5	40-140	30
n-Nitrosodi-n-propylamine	18	11.	59	18	11.	58	2	29-132	30
Bis(2-ethylhexyl)phthalate	18	12.	65	18	12.	66	2	40-140	30
Butyl benzyl phthalate	18	11.	63	18	11.	61	3	40-140	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635274-2	**Analysis Date** : 05/07/22 12:42	**File ID** : 635274-2
LCSD Sample ID	: WG1635274-3	**Analysis Date** : 05/07/22 13:05	**File ID** : 635274-3

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R		True (ug/l)	Found (ug/l)	%R		RPD	Recovery Limits	RPD Limit
Di-n-butylphthalate	18	11.	62		18	12.	64		3	40-140	30
Di-n-octylphthalate	18	12.	65		18	12.	64		2	40-140	30
Diethyl phthalate	18	12.	65		18	11.	62		5	40-140	30
Dimethyl phthalate	18	11.	60		18	11.	60		0	40-140	30
Benzo(a)anthracene	18	12.	67		18	12.	69		3	40-140	30
Benzo(a)pyrene	18	13.	70		18	12.	69		1	40-140	30
Benzo(b)fluoranthene	18	13.	70		18	13.	70		0	40-140	30
Benzo(k)fluoranthene	18	13.	71		18	13.	71		0	40-140	30
Chrysene	18	13.	71		18	13.	70		1	40-140	30
Acenaphthylene	18	11.	58		18	10.	58		0	45-123	30
Anthracene	18	12.	65		18	12.	64		2	40-140	30
Benzo(ghi)perylene	18	13.	71		18	13.	71		0	40-140	30
Fluorene	18	12.	67		18	11.	63		6	40-140	30
Phenanthrene	18	12.	68		18	12.	66		3	40-140	30
Dibenzo(a,h)anthracene	18	13.	73		18	13.	71		3	40-140	30
Indeno(1,2,3-cd)pyrene	18	13.	73		18	13.	72		1	40-140	30
Pyrene	18	12.	67		18	12.	65		3	26-127	30
Biphenyl	18	11.	63		18	11.	60		5	40-140	30
4-Chloroaniline	18	1.3	7	Q	18	1.3	7	Q	0	40-140	30
2-Nitroaniline	18	13.	71		18	13.	69		3	52-143	30
3-Nitroaniline	18	3.6	20	Q	18	3.5	19	Q	5	25-145	30
4-Nitroaniline	18	9.8	54		18	9.9	54		0	51-143	30
Dibenzofuran	18	12.	67		18	12.	64		5	40-140	30
2-Methylnaphthalene	18	11.	60		18	11.	60		0	40-140	30
1,2,4,5-Tetrachlorobenzene	18	11.	59		18	10.	57		3	2-134	30
Acetophenone	18	11.	60		18	11.	60		0	39-129	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635274-2	**Analysis Date** : 05/07/22 12:42	**File ID** : 635274-2
LCSD Sample ID	: WG1635274-3	**Analysis Date** : 05/07/22 13:05	**File ID** : 635274-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
2,4,6-Trichlorophenol	18	11.	61	18	11.	60	2	30-130	30
p-Chloro-m-cresol	18	12.	64	18	11.	62	3	23-97	30
2-Chlorophenol	18	11.	62	18	11.	60	3	27-123	30
2,4-Dichlorophenol	18	12.	64	18	12.	63	2	30-130	30
2,4-Dimethylphenol	18	11.	63	18	10.	56	12	30-130	30
2-Nitrophenol	18	13.	69	18	12.	67	3	30-130	30
4-Nitrophenol	18	12.	64	18	11.	61	5	10-80	30
2,4-Dinitrophenol	18	12.	66	18	15.	81	20	20-130	30
4,6-Dinitro-o-cresol	18	15.	82	18	14.	80	2	20-164	30
Pentachlorophenol	18	10.	55	18	11.	62	12	9-103	30
Phenol	18	8.2	45	18	7.6	42	7	12-110	30
2-Methylphenol	18	11.	61	18	11.	58	5	30-130	30
3-Methylphenol/4-Methylphenol	18	11.	61	18	10.	55	10	30-130	30
2,4,5-Trichlorophenol	18	11.	61	18	11.	62	2	30-130	30
Benzoic Acid	18	7.2	40	18	8.2	45	12	10-164	30
Benzyl Alcohol	18	10.	55	18	9.8	54	2	26-116	30
Carbazole	18	13.	70	18	12.	69	1	55-144	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1635635-2	**Analysis Date** : 05/12/22 01:35	**File ID** : 635635-2
LCSD Sample ID	: WG1635635-3	**Analysis Date** : 05/12/22 01:57	**File ID** : 635635-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	1300	830	64	1300	820	63	2	31-137	50
Hexachlorobenzene	1300	880	67	1300	900	69	3	40-140	50
Fluoranthene	1300	870	67	1300	860	66	2	40-140	50
Naphthalene	1300	760	59	1300	790	60	2	40-140	50
Benzo(a)anthracene	1300	880	68	1300	880	68	0	40-140	50
Benzo(a)pyrene	1300	910	70	1300	860	66	6	40-140	50
Benzo(b)fluoranthene	1300	900	69	1300	840	64	8	40-140	50
Benzo(k)fluoranthene	1300	850	66	1300	840	64	3	40-140	50
Chrysene	1300	840	65	1300	830	64	2	40-140	50
Acenaphthylene	1300	860	66	1300	920	70	6	40-140	50
Anthracene	1300	850	65	1300	840	65	0	40-140	50
Benzo(ghi)perylene	1300	870	67	1300	830	64	5	40-140	50
Fluorene	1300	860	66	1300	870	67	2	40-140	50
Phenanthrene	1300	830	64	1300	820	63	2	40-140	50
Dibenzo(a,h)anthracene	1300	870	67	1300	860	66	2	40-140	50
Indeno(1,2,3-cd)pyrene	1300	920	70	1300	880	67	4	40-140	50
Pyrene	1300	840	65	1300	820	63	3	35-142	50
Dibenzofuran	1300	850	66	1300	850	65	2	40-140	50
Pentachlorophenol	1300	700	54	1300	760	58	7	17-109	50
Phenol	1300	810	62	1300	840	65	5	26-90	50
2-Methylphenol	1300	820	63	1300	870	67	6	30-130.	50
3-Methylphenol/4-Methylphenol	1300	830	64	1300	910	70	9	30-130	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1635905-2	**Analysis Date** : 05/12/22 02:04	**File ID** : 635905-2
LCSD Sample ID	: WG1635905-3	**Analysis Date** : 05/12/22 02:28	**File ID** : 635905-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	1300	850	65	1300	930	71	9	31-137	50
Hexachlorobenzene	1300	800	61	1300	890	68	11	40-140	50
Fluoranthene	1300	880	67	1300	970	74	10	40-140	50
Naphthalene	1300	860	66	1300	940	72	9	40-140	50
Benzo(a)anthracene	1300	830	63	1300	900	69	9	40-140	50
Benzo(a)pyrene	1300	760	58	1300	820	63	8	40-140	50
Benzo(b)fluoranthene	1300	770	58	1300	820	63	8	40-140	50
Benzo(k)fluoranthene	1300	780	60	1300	850	65	8	40-140	50
Chrysene	1300	800	61	1300	880	67	9	40-140	50
Acenaphthylene	1300	900	68	1300	1000	76	11	40-140	50
Anthracene	1300	840	64	1300	920	70	9	40-140	50
Benzo(ghi)perylene	1300	860	66	1300	930	71	7	40-140	50
Fluorene	1300	880	67	1300	960	73	9	40-140	50
Phenanthrene	1300	870	67	1300	960	73	9	40-140	50
Dibenzo(a,h)anthracene	1300	840	64	1300	920	70	9	40-140	50
Indeno(1,2,3-cd)pyrene	1300	910	70	1300	990	76	8	40-140	50
Pyrene	1300	860	66	1300	950	73	10	35-142	50
Dibenzofuran	1300	880	67	1300	960	74	10	40-140	50
Pentachlorophenol	1300	800	61	1300	890	68	11	17-109	50
Phenol	1300	970	74	1300	1100	82	10	26-90	50
2-Methylphenol	1300	920	70	1300	1000	79	12	30-130.	50
3-Methylphenol/4-Methylphenol	1300	1000	77	1300	1100	86	11	30-130	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1639053-2	**Analysis Date** : 05/16/22 23:16	**File ID** : 639053-2
LCSD Sample ID	: WG1639053-3	**Analysis Date** : 05/16/22 23:40	**File ID** : 639053-3

	Laboratory Control Sample			Laboratory Control Duplicate						
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD		Recovery Limits	RPD Limit
Acenaphthene	1300	750	57	1300	1100	84	38		31-137	50
Hexachlorobenzene	1300	750	57	1300	1000	81	35		40-140	50
Fluoranthene	1300	800	61	1300	1100	87	35		40-140	50
Naphthalene	1300	740	56	1300	1100	83	39		40-140	50
Benzo(a)anthracene	1300	780	60	1300	1100	86	36		40-140	50
Benzo(a)pyrene	1300	720	55	1300	1000	77	33		40-140	50
Benzo(b)fluoranthene	1300	730	55	1300	1000	77	33		40-140	50
Benzo(k)fluoranthene	1300	700	53	1300	1000	78	38		40-140	50
Chrysene	1300	750	57	1300	1100	82	36		40-140	50
Acenaphthylene	1300	800	60	1300	1200	89	39		40-140	50
Anthracene	1300	790	60	1300	1100	86	36		40-140	50
Benzo(ghi)perylene	1300	770	59	1300	1100	86	37		40-140	50
Fluorene	1300	780	59	1300	1100	87	38		40-140	50
Phenanthrene	1300	790	60	1300	1100	86	36		40-140	50
Dibenzo(a,h)anthracene	1300	740	56	1300	1100	84	40		40-140	50
Indeno(1,2,3-cd)pyrene	1300	770	59	1300	1100	87	38		40-140	50
Pyrene	1300	790	60	1300	1100	87	37		35-142	50
Dibenzofuran	1300	780	59	1300	1100	88	39		40-140	50
Pentachlorophenol	1300	480	37	1300	810	62	51	Q	17-109	50
Phenol	1300	840	64	1300	1200	94 Q	38		26-90	50
2-Methylphenol	1300	810	61	1300	1200	91	39		30-130.	50
3-Methylphenol/4-Methylphenol	1300	890	68	1300	1300	99	37		30-130	50

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	Lab Number	: L2223093
Project Name	: 60 MCLEAN AVENUE	Project Number	: 15514
Client Sample ID	: SB-4 (0-2)	Matrix	: SOIL
Lab Sample ID	: L2223093-26	Analysis Date	: 05/12/22 07:39
Matrix Spike	: WG1635905-4	MS Analysis Date	: 05/12/22 06:51
Matrix Spike Dup	: WG1635905-5	MSD Analysis Date	: 05/12/22 07:15

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	ND	1390	970	70	1390	780	56	22	31-137	50
Hexachlorobenzene	ND	1390	870	63	1390	680	49	25	40-140	50
Fluoranthene	ND	1390	1000	72	1390	790	57	23	40-140	50
Naphthalene	ND	1390	1000	72	1390	830	60	19	40-140	50
Benzo(a)anthracene	ND	1390	940	68	1390	760	55	21	40-140	50
Benzo(a)pyrene	ND	1390	810	58	1390	640	46	23	40-140	50
Benzo(b)fluoranthene	ND	1390	900	65	1390	640	46	34	40-140	50
Benzo(k)fluoranthene	ND	1390	790	57	1390	670	48	16	40-140	50
Chrysene	ND	1390	920	66	1390	720	52	24	40-140	50
Acenaphthylene	ND	1390	990	71	1390	830	60	18	40-140	50
Anthracene	ND	1390	930	67	1390	760	55	20	40-140	50
Benzo(ghi)perylene	ND	1390	890	64	1390	700	50	24	40-140	50
Fluorene	ND	1390	980	71	1390	790	57	21	40-140	50
Phenanthrene	ND	1390	1000	72	1390	820	59	20	40-140	50
Dibenzo(a,h)anthracene	ND	1390	890	64	1390	700	50	24	40-140	50
Indeno(1,2,3-cd)pyrene	ND	1390	940	68	1390	740	53	24	40-140	50
Pyrene	ND	1390	1000	72	1390	780	56	25	35-142	50
Dibenzofuran	ND	1390	1000	72	1390	790	57	23	40-140	50
Pentachlorophenol	ND	1390	920	66	1390	730	53	23	17-109	50
Phenol	ND	1390	1200	87	1390	970	70	21	26-90	50
2-Methylphenol	ND	1390	1100	79	1390	900	65	20	30-130.	50
3-Methylphenol/4-Methylphenol	ND	1390	1200	87	1390	980	71	20	30-130	50

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	Lab Number	: L2223093
Project Name	: 60 MCLEAN AVENUE	Project Number	: 15514
Client Sample ID	: SB-5 (0-2)	Matrix	: SOIL
Lab Sample ID	: L2223093-27	Analysis Date	: 05/12/22 09:15
Matrix Spike	: WG1635905-6	MS Analysis Date	: 05/12/22 08:27
Matrix Spike Dup	: WG1635905-7	MSD Analysis Date	: 05/12/22 08:51

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	ND	1480	910	62	1480	940	64	3	31-137	50
Hexachlorobenzene	ND	1480	730	49	1480	800	54	9	40-140	50
Fluoranthene	240	1480	1200	65	1480	1100	58	9	40-140	50
Naphthalene	ND	1480	960	65	1480	980	66	2	40-140	50
Benzo(a)anthracene	110	1480	1000	68	1480	930	63	7	40-140	50
Benzo(a)pyrene	92J	1480	810	55	1480	780	53	4	40-140	50
Benzo(b)fluoranthene	120	1480	890	52	1480	870	51	2	40-140	50
Benzo(k)fluoranthene	45J	1480	740	50	1480	750	51	1	40-140	50
Chrysene	160	1480	980	56	1480	930	52	5	40-140	50
Acenaphthylene	ND	1480	910	62	1480	960	65	5	40-140	50
Anthracene	ND	1480	890	60	1480	900	61	1	40-140	50
Benzo(ghi)perylene	63J	1480	830	56	1480	850	58	2	40-140	50
Fluorene	ND	1480	910	62	1480	950	64	4	40-140	50
Phenanthrene	210	1480	1200	67	1480	1100	60	9	40-140	50
Dibenzo(a,h)anthracene	ND	1480	790	54	1480	830	56	5	40-140	50
Indeno(1,2,3-cd)pyrene	66J	1480	880	60	1480	910	62	3	40-140	50
Pyrene	230	1480	1200	66	1480	1000	52	18	35-142	50
Dibenzofuran	ND	1480	920	62	1480	950	64	3	40-140	50
Pentachlorophenol	ND	1480	780	53	1480	810	55	4	17-109	50
Phenol	ND	1480	1100	75	1480	1100	74	0	26-90	50
2-Methylphenol	ND	1480	1000	68	1480	1100	74	10	30-130.	50
3-Methylphenol/4-Methylphenol	ND	1480	1100	75	1480	1200	81	9	30-130	50

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223093
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
FIELD BLANK-1 (L2223093-22)	77	59	85	76	84	79	0
FIELD BLANK-2 (L2223093-23)	57	47	63	67	66	63	0
WG1635274-1BLANK	43	22	90	87	76	91	0
WG1635274-2LCS	55	45	71	61	67	64	0
WG1635274-3LCSD	52	40	65	59	64	64	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223093
Project Number: 15514
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
SB-7 (0-2) (L2223093-01)	66	66	58	65	62	62	0
SB-7 (7-9) (L2223093-02)	75	77	67	78	76	70	0
SB-6 (0-2) (L2223093-03)	72	73	62	71	71	65	0
SB-6 (7-9) (L2223093-04)	79	78	71	77	78	69	0
SB-9 (0-4) (L2223093-05)	80	80	72	77	82	62	0
SB-8B (0-3) (L2223093-06)	4*	24	62	61	1*	54	2
SB-8B (0-3) (L2223093-06RE)	7*	34	62	59	1*	51	2
SB-12 (0-4) (L2223093-07)	82	82	77	82	82	71	0
SB-10A (0-3) (L2223093-08)	69	78	69	79	65	79	0
SB-10B (0-3) (L2223093-09)	71	74	75	73	74	69	0
SB-16 (0-4) (L2223093-10)	78	78	71	79	77	69	0
SB-17 (2-4) (L2223093-11)	63	62	54	61	62	60	0
SB-17 (0-2) (L2223093-12)	74	76	69	72	74	63	0
SB-19 (0-2) (L2223093-13)	64	65	57	62	69	55	0
SB-19 (7-9) (L2223093-14)	69	70	62	68	69	63	0
SB-18 (0-2) (L2223093-16)	70	71	64	63	74	51	0
SB-18 (7-9) (L2223093-17)	68	68	62	65	66	53	0
SB-11 (0-4) (L2223093-18)	73	73	67	72	72	71	0
SB-DUP-2 (L2223093-19)	52	80	79	83	42	74	0
SB-1 (0-2) (L2223093-20)	25	53	58	62	17	54	0
SB-2 (0-2) (L2223093-21)	76	77	71	78	80	73	0
SB-3 (0-2) (L2223093-25)	74	84	82	74	66	56	0
SB-4 (0-2) (L2223093-26)	67	72	69	57	61	46	0
SB-5 (0-2) (L2223093-27)	88	96	94	75	82	63	0
WG1635635-1BLANK	78	78	69	77	68	75	0
WG1635635-2LCS	61	63	58	64	72	66	0
WG1635635-3LCSD	64	66	64	67	75	64	0
WG1635905-1BLANK	82	85	79	78	78	72	0

QC LIMITS

(25-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(30-120) FBP = 2-FLUOROBIPHENYL
(10-136) TBP = 2,4,6-TRIBROMOPHENOL
(18-120) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

FORM II NYTCL-8270-LVI

Attachment C
Semi-volatiles SIM QC Summary Forms – Excursions

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2223093
Project Name	: 60 MCLEAN AVENUE	Project Number	: 15514
Lab ID	: L2223093-22	Date Collected	: 05/03/22 13:00
Client ID	: FIELD BLANK-1	Date Received	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	Date Analyzed	: 05/08/22 13:42
Sample Matrix	: WATER	Date Extracted	: 05/07/22
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 23093-22	Analyst	: JJW
Sample Amount	: 275 ml	Instrument ID	: SV128
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	0.10	0.01	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	ND	0.10	0.05	U
56-55-3	Benzo(a)anthracene	ND	0.10	0.02	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.01	U
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.01	U
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.01	U
86-73-7	Fluorene	ND	0.10	0.01	U
85-01-8	Phenanthrene	ND	0.10	0.02	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.01	U
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	0.04	0.10	0.02	J
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2223093
Project Name	: 60 MCLEAN AVENUE	Project Number	: 15514
Lab ID	: WG1635276-1	Date Collected	: NA
Client ID	: WG1635276-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/07/22 17:13
Sample Matrix	: WATER	Date Extracted	: 05/06/22
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 635276-1	Analyst	: JJW
Sample Amount	: 275 ml	Instrument ID	: SV128
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	0.10	0.01	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	0.03	0.10	0.02	J
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	0.31	0.10	0.05	
56-55-3	Benzo(a)anthracene	0.02	0.10	0.02	J
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	0.01	0.10	0.01	J
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.01	U
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.01	U
86-73-7	Fluorene	ND	0.10	0.01	U
85-01-8	Phenanthrene	0.02	0.10	0.02	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.01	U
129-00-0	Pyrene	0.02	0.10	0.02	J
91-57-6	2-Methylnaphthalene	0.07	0.10	0.02	J
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Attachment D
Pesticides QC Summary Forms – Excursions

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635259-2	**Analysis Date** : 05/09/22 10:43	**File ID** : 18220509a-09
LCSD Sample ID	: WG1635259-3	**Analysis Date** : 05/09/22 10:54	**File ID** : 18220509a-10

	Laboratory Control Sample			Laboratory Control Duplicate						
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD		Recovery Limits	RPD Limit
Delta-BHC	0.357	0.180	50	0.357	0.216	61	18		30-150	20
Lindane	0.357	0.189	53	0.357	0.242	68	25	Q	30-150	20
Alpha-BHC	0.357	0.195	55	0.357	0.248	69	24	Q	30-150	20
Beta-BHC	0.357	0.188	53	0.357	0.267	75	35	Q	30-150	20
Heptachlor	0.357	0.193	54	0.357	0.242	68	23	Q	30-150	20
Aldrin	0.357	0.190	53	0.357	0.238	67	22	Q	30-150	20
Endrin	0.357	0.193	54	0.357	0.247	69	25	Q	30-150	20
Dieldrin	0.357	0.198	55	0.357	0.254	71	25	Q	30-150	20
4,4'-DDE	0.357	0.187	52	0.357	0.242	68	26	Q	30-150	20
4,4'-DDD	0.357	0.202	57	0.357	0.260	73	25	Q	30-150	20
4,4'-DDT	0.357	0.196	55	0.357	0.252	71	25	Q	30-150	20
Endosulfan I	0.357	0.180	50	0.357	0.230	64	24	Q	30-150	20
Endosulfan II	0.357	0.188	53	0.357	0.232	65	21	Q	30-150	20
Endosulfan sulfate	0.357	0.184	52	0.357	0.221	62	18		30-150	20
cis-Chlordane	0.357	0.174	49	0.357	0.221	62	24	Q	30-150	20

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1635623-2	**Analysis Date** : 05/09/22 13:41	**File ID** : 10220509b-20
LCSD Sample ID	: WG1635623-3	**Analysis Date** : 05/09/22 13:52	**File ID** : 10220509b-21

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	32.5	21.0	65	31.4	22.2	71	9	30-150	30
Lindane	32.5	22.0	68	31.4	23.0	73	7	30-150	30
Alpha-BHC	32.5	21.8	67	31.4	22.8	73	9	30-150	30
Beta-BHC	32.5	21.9	67	31.4	22.1	70	4	30-150	30
Heptachlor	32.5	23.1	71	31.4	24.4	78	9	30-150	30
Aldrin	32.5	20.6	63	31.4	22.0	70	11	30-150	30
Endrin	32.5	21.4	66	31.4	23.0	73	10	30-150	30
Dieldrin	32.5	21.6	66	31.4	23.6	75	13	30-150	30
4,4'-DDE	32.5	19.6	60	31.4	21.1	67	11	30-150	30
4,4'-DDD	32.5	21.8	67	31.4	23.3	74	10	30-150	30
4,4'-DDT	32.5	18.9	58	31.4	19.7	63	8	30-150	30
Endosulfan I	32.5	19.6	60	31.4	21.1	67	11	30-150	30
Endosulfan II	32.5	21.0	65	31.4	22.1	70	7	30-150	30
Endosulfan sulfate	32.5	18.2	56	31.4	17.8	57	2	30-150	30
cis-Chlordane	32.5	17.7	54	31.4	18.8	60	11	30-150	30

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1635789-2	**Analysis Date** : 05/09/22 22:49	**File ID** : 20220509b-10
LCSD Sample ID	: WG1635789-3	**Analysis Date** : 05/09/22 23:01	**File ID** : 20220509b-11

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	31.9	29.0	91	32.5	25.5	78	15	30-150	30
Lindane	31.9	30.2	95	32.5	26.6	82	15	30-150	30
Alpha-BHC	31.9	31.3	98	32.5	27.5	85	14	30-150	30
Beta-BHC	31.9	26.8	84	32.5	24.5	75	11	30-150	30
Heptachlor	31.9	21.4	67	32.5	19.0	58	14	30-150	30
Aldrin	31.9	26.8	84	32.5	23.5	72	15	30-150	30
Endrin	31.9	28.6	90	32.5	25.3	78	14	30-150	30
Dieldrin	31.9	30.6	96	32.5	27.1	83	15	30-150	30
4,4'-DDE	31.9	31.1	98	32.5	27.8	86	13	30-150	30
4,4'-DDD	31.9	33.1	104	32.5	29.2	90	14	30-150	30
4,4'-DDT	31.9	29.1	91	32.5	25.4	78	15	30-150	30
Endosulfan I	31.9	25.4	80	32.5	22.4	69	15	30-150	30
Endosulfan II	31.9	29.0	91	32.5	25.5	78	15	30-150	30
Endosulfan sulfate	31.9	24.7	77	32.5	21.7	67	14	30-150	30
cis-Chlordane	31.9	21.9	69	32.5	19.7	61	12	30-150	30

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1639033-2	**Analysis Date** : 05/17/22 10:24	**File ID** : 10220517a-09
LCSD Sample ID	: WG1639033-3	**Analysis Date** : 05/17/22 10:35	**File ID** : 10220517a-10

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	31.4	22.6	72	31.9	25.3	79	9	30-150	30
Lindane	31.4	23.1	74	31.9	26.2	82	10	30-150	30
Alpha-BHC	31.4	24.2	77	31.9	27.5	86	11	30-150	30
Beta-BHC	31.4	24.7	79	31.9	27.2	85	7	30-150	30
Heptachlor	31.4	25.4	81	31.9	28.8	90	11	30-150	30
Aldrin	31.4	23.2	74	31.9	26.3	82	10	30-150	30
Endrin	31.4	24.8	79	31.9	28.1	88	11	30-150	30
Dieldrin	31.4	25.3	81	31.9	28.5	89	9	30-150	30
4,4'-DDE	31.4	23.3	74	31.9	26.1	82	10	30-150	30
4,4'-DDD	31.4	25.0	80	31.9	28.2	88	10	30-150	30
4,4'-DDT	31.4	25.5	81	31.9	28.6	90	11	30-150	30
Endosulfan I	31.4	22.6	72	31.9	25.5	80	11	30-150	30
Endosulfan II	31.4	24.3	77	31.9	27.6	87	12	30-150	30
Endosulfan sulfate	31.4	22.0	70	31.9	24.5	77	10	30-150	30
cis-Chlordane	31.4	20.8	66	31.9	23.4	73	10	30-150	30

Identification Summary
Form 10
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab Sample ID	: L2223093-03		
Client ID	: SB-6 (0-2)		
Date Analyzed (1)	: 05/09/22 15:13	**Date Analyzed (2)**	: 05/09/22 15:13
Instrument ID (1)	: PEST18	**Instrument ID (2)**	: PEST18
GC Column (1)	: CLPPesticides	**GC Column (2)**	: CLPPesticidesII

Analyte	Col	RT	RT Window From	RT Window To	Concentration	RPD
alpha-Chlordane (cis	1	3.39	3.34	3.44	1.73J	
	2	4.11	4.06	4.16	0.597J	NC

Surrogate Recovery Summary
Form 2
Pesticides

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223093
Project Number: 15514
Matrix: Water

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
FIELD BLANK-1 (L2223093-22)	58	64	67	81			0
FIELD BLANK-2 (L2223093-23)	55	59	48	59			0
WG1635259-1BLANK	59	62	54	52			0
WG1635259-2LCS	53	59	48	53			0
WG1635259-3LCSD	61	66	66	64			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Surrogate Recovery Summary
Form 2
Pesticides

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223093
Project Number: 15514
Matrix: Soil

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
SB-7 (0-2) (L2223093-01)	60	66	72	93			0
SB-7 (7-9) (L2223093-02)	71	77	79	69			0
SB-6 (0-2) (L2223093-03)	62	69	68	59			0
SB-6 (7-9) (L2223093-04)	58	64	73	88			0
SB-9 (0-4) (L2223093-05)	74	81	86	73			0
SB-8B (0-3) (L2223093-06D)	0*	0*	0*	0*			4
SB-12 (0-4) (L2223093-07)	64	70	75	61			0
SB-10A (0-3) (L2223093-08)	50	53	57	49			0
SB-10B (0-3) (L2223093-09)	65	75	71	74			0
SB-16 (0-4) (L2223093-10)	72	77	83	71			0
SB-17 (2-4) (L2223093-11)	57	62	70	60			0
SB-17 (0-2) (L2223093-12)	62	67	73	65			0
SB-19 (0-2) (L2223093-13)	61	68	81	98			0
SB-19 (7-9) (L2223093-14)	63	66	76	93			0
SB-18 (0-2) (L2223093-16)	83	84	84	75			0
SB-18 (7-9) (L2223093-17)	61	69	73	62			0
SB-11 (0-4) (L2223093-18)	62	66	76	92			0
SB-DUP-2 (L2223093-19)	69	73	89	73			0
SB-1 (0-2) (L2223093-20)	65	72	79	68			0
SB-2 (0-2) (L2223093-21)	59	65	72	60			0
SB-3 (0-2) (L2223093-25)	58	75	72	75			0
SB-4 (0-2) (L2223093-26)	88	81	84	69			0
SB-5 (0-2) (L2223093-27)	72	81	92	116			0
WG1635623-1BLANK	55	61	65	85			0
WG1635623-2LCS	60	66	73	92			0
WG1635623-3LCSD	64	71	82	101			0
WG1635789-1BLANK	91	86	90	78			0
WG1635789-2LCS	92	89	89	78			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

FORM II NYTCL-8081

Attachment E
PCB QC Summary Forms – Excursions

Evaluate Continuing Calibration Report

Data Path : I:\PCB\Pest7\2022\220425I\
Data File : P7220425i-39.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 25 Apr 2022   6:02 pm
Operator : pest7:kb
Sample   : cicv1660,42e,,10747
Misc   : WG1633747,
ALS Vial : 37 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 03 09:45:41 2022
Quant Method : I:\PCB\Pest7\2022\220425I\P7_pcb_04_25_22_ugL_ICAL.m
Quant Title : pcb
QLast Update : Mon May 02 10:10:17 2022
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   :
Signal #1 Phase :   Signal #2 Phase:
Signal #1 Info :   Signal #2 Info :

Min. RRF   :   0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20%   Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	i	1660_1br2nb	1.000	1.000	0.0	103	0.00
2	s	2,4,5,6-Tetrachloro-m-xylen	1.165	1.084	7.0	99	0.00
3	s	Decachlorobiphenyl	0.919	0.850	7.5	99	0.00
4	l1	1016-1	0.022	0.019	13.6	96	0.00
5	l1	1016-2	0.047	0.043	8.5	102	0.00
6	l1	1016-3	0.055	0.053	3.6	102	0.00
7	l1	1016-4	0.041	0.039	4.9	102	0.00
8	l1	1016-5	0.032	0.029	9.4	100	0.00
9	l2	1260-1	0.061	0.054	11.5	99	0.00
10	l2	1260-2	0.091	0.085	6.6	101	0.00
11	l2	1260-3	0.058	0.046	20.7#	85	0.00
12	l2	1260-4	0.123	0.098	20.3#	84	0.00
13	l2	1260-5	0.065	0.056	13.8	92	0.00
14	i	2154_1br2nb	1.000	1.000	0.0	98	0.00
23	i	4268_1br2nb	1.000	1.000	0.0	98	0.00
34	i	1248_1br2nb	1.000	1.000	0.0	101	0.00
40	i	3262_1br2nb	1.000	1.000	0.0	101	0.00

Signal #2

1	i	1660_1br2nb	1.000	1.000	0.0	103	0.00
2	s	2,4,5,6-Tetrachloro-m-xyl	1.151	1.073	6.8	98	0.00
3	s	Decachlorobiphenyl	0.786	0.729	7.3	98	0.00
4	l1	1016-1	0.021	0.018	14.3	95	0.00
5	l1	1016-2	0.047	0.043	8.5	101	0.00
6	l1	1016-3	0.052	0.050	3.8	102	0.00

Evaluate Continuing Calibration Report

Data Path : I:\PCB\Pest7\2022\220425I\
Data File : P7220425i-39.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 25 Apr 2022   6:02 pm
Operator : pest7:kb
Sample   : cicv1660,42e,,10747
Misc   : WG1633747,
ALS Vial : 37 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 03 09:45:41 2022
Quant Method : I:\PCB\Pest7\2022\220425I\P7_pcb_04_25_22_ugL_ICAL.m
Quant Title : pcb
QLast Update : Mon May 02 10:10:17 2022
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   :
Signal #1 Phase :   Signal #2 Phase:
Signal #1 Info :   Signal #2 Info :

Min. RRF   :   0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20%   Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
7	l1	1016-4	0.037	0.034	8.1	102	0.00
8	l1	1016-5	0.030	0.027	10.0	100	0.00
9	l2	1260-1	0.055	0.052	5.5	101	0.00
10	l2	1260-2	0.066	0.060	9.1	98	0.00
11	l2	1260-3	0.054	0.045	16.7	88	0.00
12	l2	1260-4	0.114	0.091	20.2#	84	0.00
13	l2	1260-5	0.078	0.065	16.7	88	0.00
14	i	2154_1br2nb	1.000	1.000	0.0	97	0.00
23	i	4268_1br2nb	1.000	1.000	0.0	97	0.00
34	i	1248_1br2nb	1.000	1.000	0.0	101	0.00
40	i	3262_1br2nb	1.000	1.000	0.0	100	0.00

Evaluate Continuing Calibration Report - Not Founds

15	l3	1221-2	0.00006	0.00000	100.0#	0#	-2.80#
16	l3	1221-3	0.00004	0.00000	100.0#	0#	-2.92#
17	l3	1221-4	0.00013	0.00000	100.0#	0#	-2.95#
18	l4	1254-1	0.00018	0.00000	100.0#	0#	-4.39#
19	l4	1254-2	0.00031	0.00000	100.0#	0#	-4.61#
20	l4	1254-3	0.00030	0.00000	100.0#	0#	-4.94#
21	l4	1254-4	0.00024	0.00000	100.0#	0#	-5.17#
22	l4	1254-5	0.00033	0.00000	100.0#	0#	-5.54#
24	l6	1242-1	0.00007	0.00000	100.0#	0#	-2.95#
25	l6	1242-2	0.00014	0.00000	100.0#	0#	-3.22#
26	l6	1242-3	0.00017	0.00000	100.0#	0#	-3.61#
27	l6	1242-4	0.00012	0.00000	100.0#	0#	-3.72#
28	l6	1242-5	0.00010	0.00000	100.0#	0#	-4.43#

Quantitation Report (QT Reviewed)

Data Path : I:\PCB\Pest21\2022\21220510a\
Data File : 21220510a-08.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 10 May 2022 09:35 am
Operator : pest21:er
Sample : L2223093-06,42,, re
Misc : wg1636532,wg1636093,ical18785
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 18 16:02:02 2022
Quant Method : I:\PCB\Pest21\2022\21220510a\P21_pcb_03_01_22_ugL_ICAL18785.m
Quant Title : pcb
QLast Update : Wed May 04 12:14:02 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

CCAL FILE(s) : 1 - I:\PCB\Pest21\2022\21220510a\21220510a-02.D
Sub List : Default - All compounds listed

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	Internal Standards						
1) i	1660_1br2nb	1.175	1.254	536.0E6	400.8E6	250.000M4	250.000
	Standard Area 1 : #1 = 469558993				Recovery =	114.14%	
	Standard Area 1 : #2 = 360177254				Recovery =	111.29%	
14) i	2154_1br2nb	1.175	1.254	536.0E6	400.8E6	250.000M4	250.000
23) i	4268_1br2nb	1.175	1.254	536.0E6	400.8E6	250.000M4	250.000
34) i	1248_1br2nb	1.175	1.254	536.0E6	400.8E6	250.000M4	250.000
40) i	3262_1br2nb	1.175	1.254	536.0E6	400.8E6	250.000M4	250.000
	System Monitoring Compounds						
2) s	2,4,5,6-Tetr	1.455	1.628	879.0E6	670.3E6	324.543M4	331.893
	Spiked Amount 500.000	Range 30 - 150		Recovery =		64.91%	66.38%
3) s	Decachlorobi	4.009	4.562	583.1E6	403.1E6	301.522	289.291
	Spiked Amount 500.000	Range 30 - 150		Recovery =		60.30%	57.86%
	Target Compounds						
4) l1	1016-1	0.000	0.000	0	0	N.D. d	N.D. d
5) l1	1016-2	0.000	0.000	0	0	N.D. d	N.D. d
6) l1	1016-3	0.000	0.000	0	0	N.D. d	N.D. d
7) l1	1016-4	0.000	0.000	0	0	N.D. d	N.D. d
8) l1	1016-5	0.000	0.000	0	0	N.D. d	N.D. d
	Sum 1016-1			0	0	N.D.	N.D.
	Average 1016-1					0.000	0.000
9) l2	1260-1	0.000	0.000	0	0	N.D. d	N.D. d
10) l2	1260-2	2.807	3.180	375.6E6	197.8E6	2025.786	1785.129
11) l2	1260-3	0.000	3.574	0	177.6E6	N.D. d	1887.541
12) l2	1260-4	3.276	3.705	551.0E6	399.5E6	2139.267	2061.393
13) l2	1260-5	3.423	3.905	460.3E6	275.1E6	2368.935M1	1997.272
	Sum 1260-1			1386.9E6	1050.1E6	6533.988	7731.335
	Average 1260-1					2177.996	1932.834

Data Path : I:\PCB\Pest21\2022\21220510a\
Data File : 21220510a-08.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 10 May 2022 09:35 am
Operator : pest21:er
Sample : L2223093-06,42,, re
Misc : wg1636532,wg1636093,ical18785
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 18 16:02:02 2022
Quant Method : I:\PCB\Pest21\2022\21220510a\P21_pcb_03_01_22_ugL_ICAL18785.m
Quant Title : pcb
QLast Update : Wed May 04 12:14:02 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

CCAL FILE(s) : 1 - I:\PCB\Pest21\2022\21220510a\21220510a-02.D
Sub List : Default - All compounds listed

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
15) l3	1221-1	0.000	0.000	0	0	N.D. d	N.D. d
16) l3	1221-2	0.000	0.000	0	0	N.D. d	N.D. d
17) l3	1221-3	0.000	0.000	0	0	N.D. d	N.D. d
Sum	1221-1			0	0	N.D.	N.D.
Average	1221-1					0.000	0.000
18) l4	1254-1	2.301	2.666f	165.5E6	149.2E6	2137.512M3	2256.857M3
19) l4	1254-2	2.412	2.752f	224.5E6	106.2E6	1661.014M3	1399.269M3
20) l4	1254-3	0.000	0.000	0	0	N.D. d	N.D. d
21) l4	1254-4	2.723	3.078f	86926579	193.5E6	805.057	2470.385M3
22) l4	1254-5	0.000	0.000	0	0	N.D. d	N.D. d
Sum	1254-1			476.9E6	448.9E6	4603.583	6126.512
Average	1254-1					1534.528	2042.171
24) l6	1242-1	0.000	0.000	0	0	N.D. d	N.D. d
25) l6	1242-2	0.000	0.000	0	0	N.D. d	N.D. d
26) l6	1242-3	0.000	0.000	0	0	N.D. d	N.D. d
27) l6	1242-4	0.000	0.000	0	0	N.D. d	N.D. d
28) l6	1242-5	0.000	0.000	0	0	N.D. d	N.D. d
Sum	1242-1			0	0	N.D.	N.D.
Average	1242-1					0.000	0.000
29) l9	1268-1	0.000	0.000	0	0	N.D. d	N.D. d
30) l9	1268-2	0.000	0.000	0	0	N.D. d	N.D. d
31) l9	1268-3	0.000	0.000	0	0	N.D. d	N.D. d
32) l9	1268-4	0.000	0.000	0	0	N.D. d	N.D. d
33) l9	1268-5	0.000	0.000	0	0	N.D. d	N.D. d
Sum	1268-1			0	0	N.D.	N.D.
Average	1268-1					0.000	0.000

Quantitation Report (QT Reviewed)

Data Path : I:\PCB\Pest21\2022\21220510a\
Data File : 21220510a-08.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 10 May 2022 09:35 am
Operator : pest21:er
Sample : L2223093-06,42,, re
Misc : wg1636532,wg1636093,ical18785
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 18 16:02:02 2022
Quant Method : I:\PCB\Pest21\2022\21220510a\P21_pcb_03_01_22_ugL_ICAL18785.m
Quant Title : pcb
QLast Update : Wed May 04 12:14:02 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

CCAL FILE(s) : 1 - I:\PCB\Pest21\2022\21220510a\21220510a-02.D
Sub List : Default - All compounds listed

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
35) l7	1248-1	0.000	0.000	0	0	N.D. d	N.D. d
36) l7	1248-2	0.000	0.000	0	0	N.D. d	N.D. d
37) l7	1248-3	0.000	0.000	0	0	N.D. d	N.D. d
38) l7	1248-4	0.000	0.000	0	0	N.D. d	N.D. d
39) l7	1248-5	0.000	0.000	0	0	N.D. d	N.D. d
Sum	1248-1			0	0	N.D.	N.D.
Average	1248-1					0.000	0.000
41) l5	1232-1	0.000	0.000	0	0	N.D. d	N.D. d
42) l5	1232-2	0.000	0.000	0	0	N.D. d	N.D. d
43) l5	1232-3	0.000	0.000	0	0	N.D. d	N.D. d
44) l5	1232-4	0.000	0.000	0	0	N.D. d	N.D. d
45) l5	1232-5	0.000	0.000	0	0	N.D. d	N.D. d
Sum	1232-1			0	0	N.D.	N.D.
Average	1232-1					0.000	0.000
46) l8	1262-1	0.000	0.000	0	0	N.D. d	N.D. d
47) l8	1262-2	0.000	0.000	0	0	N.D. d	N.D. d
48) l8	1262-3	0.000	0.000	0	0	N.D. d	N.D. d
49) l8	1262-4	0.000	0.000	0	0	N.D. d	N.D. d
50) l8	1262-5	0.000	0.000	0	0	N.D. d	N.D. d
Sum	1262-1			0	0	N.D.	N.D.
Average	1262-1					0.000	0.000
SemiQuant Compounds - Not Calibrated on this Instrument							
Sum	1262-1			0	0	N.D.	N.D.
Average	1262-1					0.000	0.000

(f)=RT Delta > 1/2 Window (D)=Amounts differ by > 40% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\PCB\Pest21\2022\21220510a\
Data File : 21220510a-08.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 10 May 2022 09:35 am
Operator : pest21:er
Sample : L2223093-06,42,, re
Misc : wg1636532,wg1636093,ical18785
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 18 16:02:02 2022
Quant Method : I:\PCB\Pest21\2022\21220510a\P21_pcb_03_01_22_ugL_ICAL18785.m
Quant Title : pcb
QLast Update : Wed May 04 12:14:02 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

CCAL FILE(s) : 1 - I:\PCB\Pest21\2022\21220510a\21220510a-02.D
Sub List : Default - All compounds listed

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l

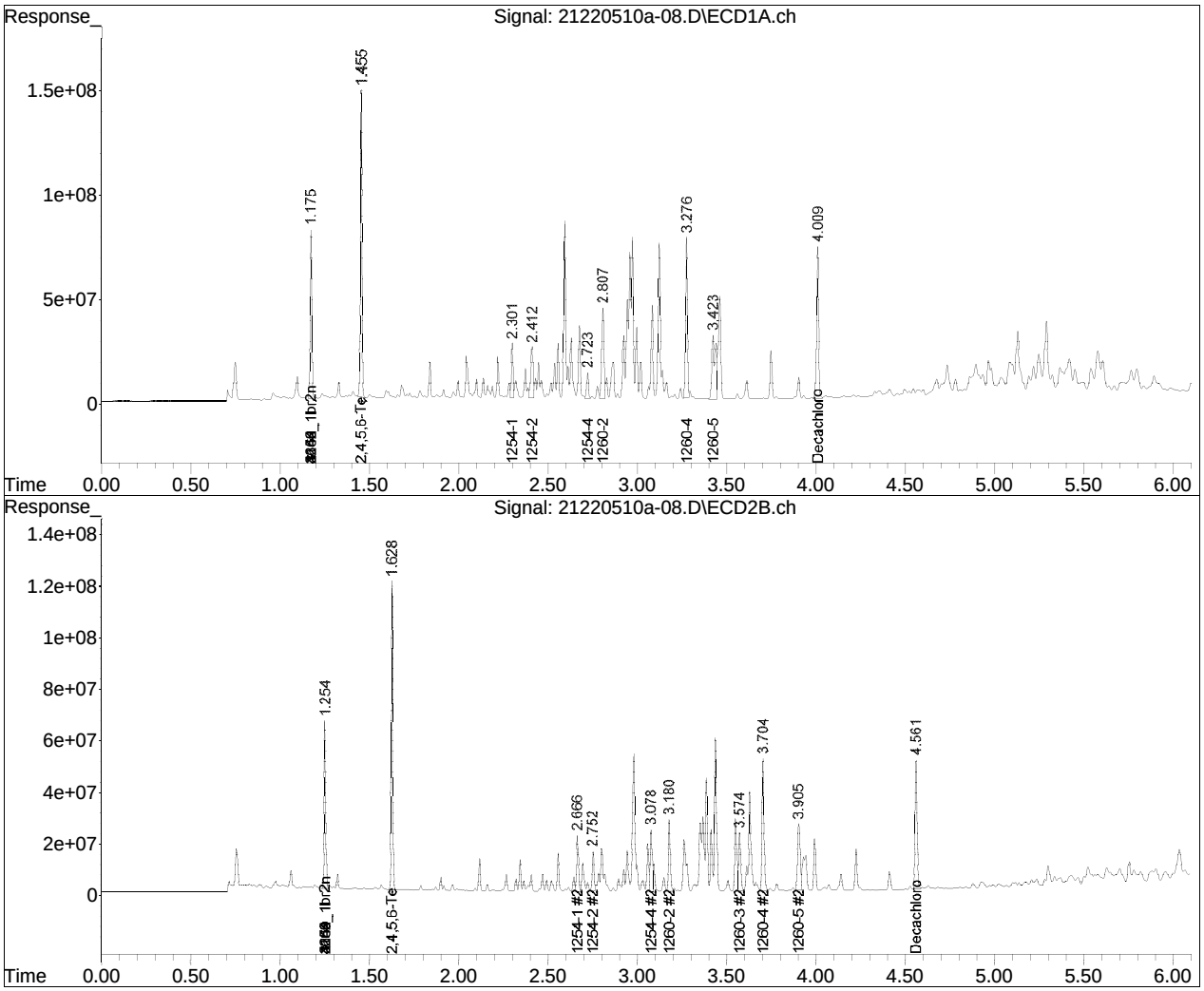
(#)=Recovery Exceeds Compound Acceptance Limits.
(I,C,F) I=Interference, C=Coelluting Calibration Peak, F=Fails CC Criteria.

Sub List : Default - All compounds listed0a\21220510a-02.D••

Data Path : I:\PCB\Pest21\2022\21220510a\
Data File : 21220510a-08.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 10 May 2022 09:35 am
Operator : pest21:er
Sample : L2223093-06,42,, re
Misc : wg1636532,wg1636093,ical18785
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: May 18 16:02:02 2022
Quant Method : I:\PCB\Pest21\2022\21220510a\P21_pcb_03_01_22_ugL_ICAL18785.m
Quant Title : pcb
QLast Update : Wed May 04 12:14:02 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Laboratory Control Sample Summary
Form 3
PCBs

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1636668-2	**Analysis Date** : 05/11/22 15:52	**File ID** : 23220511a-41
LCSD Sample ID	: WG1636668-3	**Analysis Date** : 05/11/22 16:00	**File ID** : 23220511a-42

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Aroclor 1016	207	127	61	207	151	73	18	40-140	50
Aroclor 1260	207	113	55	207	131	63	14	40-140	50

Laboratory Control Sample Summary
Form 3
PCBs

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1639652-2	**Analysis Date** : 05/18/22 14:34	**File ID** : 23220518a-10
LCSD Sample ID	: WG1639652-3	**Analysis Date** : 05/18/22 14:42	**File ID** : 23220518a-11

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Aroclor 1016	197	134	68	205	145	71	4	40-140	50
Aroclor 1260	197	99.7	50	205	110	54	8	40-140	50

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: WG1635783-1	**Date Collected**	: NA
Client ID	: WG1635783-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/09/22 21:24
Sample Matrix	: SOIL	**Date Extracted**	: 05/08/22
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 21220509a-62	**Analyst**	: ER
Sample Amount	: 15.57 g	**Instrument ID**	: PEST21
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11096-82-5	Aroclor 1260	14.4	32.1	5.93	J
1336-36-3	PCBs, Total	14.4	32.1	2.85	J

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: WG1636093-1	**Date Collected**	: NA
Client ID	: WG1636093-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/10/22 00:58
Sample Matrix	: SOIL	**Date Extracted**	: 05/09/22
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13220509a-44	**Analyst**	: JM
Sample Amount	: 15.62 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11096-82-5	Aroclor 1260	14.6	32.0	5.92	J
1336-36-3	PCBs, Total	14.6	32.0	2.84	J

Matrix Spike Sample Summary
Form 3
PCBs

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27	**Analysis Date**	: 05/11/22 16:34
Matrix Spike	: WG1636668-4	**MS Analysis Date**	: 05/11/22 16:42
Matrix Spike Dup	: WG1636668-5	**MSD Analysis Date**	: 05/11/22 16:51

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/kg)	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	Spike Added (ug/kg)	Spike Conc. (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Aroclor 1016	ND	230	112	49	232	127	55	13	40-140	50
Aroclor 1260	ND	230	101	44	232	106	46	5	40-140	50

Surrogate Recovery Summary
Form 2
PCBs

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223093
Project Number: 15514
Matrix: Soil

GC Column 1: CLP-Pesticide
GC Column 2: CLP-PesticideII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
SB-7 (0-2) (L2223093-01)	75	75	75	70			0
SB-7 (7-9) (L2223093-02)	52	52	44	42			0
SB-6 (0-2) (L2223093-03)	74	73	74	69			0
SB-6 (7-9) (L2223093-04)	64	64	65	61			0
SB-9 (0-4) (L2223093-05)	76	77	76	72			0
SB-8B (0-3) (L2223093-06)	65	66	60	58			0
SB-12 (0-4) (L2223093-07)	39	39	31	31			0
SB-10A (0-3) (L2223093-08)	80	79	81	75			0
SB-10B (0-3) (L2223093-09)	65	66	62	64			0
SB-16 (0-4) (L2223093-10)	63	63	65	59			0
SB-17 (2-4) (L2223093-11)	61	61	76	70			0
SB-17 (0-2) (L2223093-12)	66	65	67	63			0
SB-19 (0-2) (L2223093-13)	55	55	55	53			0
SB-19 (7-9) (L2223093-14)	74	74	75	73			0
SB-18 (0-2) (L2223093-16)	77	80	70	65			0
SB-18 (7-9) (L2223093-17)	66	66	58	56			0
SB-11 (0-4) (L2223093-18)	80	80	84	79			0
SB-DUP-2 (L2223093-19)	61	61	61	58			0
SB-1 (0-2) (L2223093-20)	80	80	82	78			0
SB-2 (0-2) (L2223093-21)	66	67	69	68			0
SB-3 (0-2) (L2223093-25)	67	67	69	65			0
SB-4 (0-2) (L2223093-26)	72	72	69	64			0
SB-5 (0-2) (L2223093-27)	58	50	56	52			0
WG1635633-1BLANK	91	91	93	85			0
WG1635633-2LCS	88	88	90	84			0
WG1635633-3LCSD	89	88	91	85			0
WG1635783-1BLANK	78	77	76	71			0
WG1635783-2LCS	78	77	76	71			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Attachment F
Metals QC Summary Forms – Excursions

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: WG1639550-1	**Date Collected**	: NA
Client ID	: WG1639550-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/26/22 11:59
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,6010D	**Analyst**	: EW
Lab File ID	: WG1643086.pdf	**Instrument ID**	: TRACE5
Sample Amount	: 1.25g	**%Solids**	: NA
Digestion Method	: EPA 3050B	**Date Digested**	: 05/18/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	ND	0.400	0.083	U
7440-39-3	Barium, Total	ND	0.400	0.070	U
7440-41-7	Beryllium, Total	ND	0.200	0.013	U
7440-43-9	Cadmium, Total	ND	0.400	0.039	U
7440-47-3	Chromium, Total	0.212	0.400	0.038	J
7440-50-8	Copper, Total	ND	0.400	0.103	U
7439-92-1	Lead, Total	ND	2.00	0.107	U
7439-96-5	Manganese, Total	ND	0.400	0.064	U
7440-02-0	Nickel, Total	0.100	1.00	0.097	J
7782-49-2	Selenium, Total	0.144	0.800	0.103	J
7440-22-4	Silver, Total	ND	0.400	0.113	U
7440-66-6	Zinc, Total	0.156	2.00	0.117	J

Form 4a
Interference Check Sample

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: TRACE5	**Concentration Units**	: mg/L

	True		Initial Found				Final Found			
Lab ID :			R1568724-15							
Analysis Date :			05/26/22 09:23							
Analyte	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Arsenic			-0.000200							
Barium			0.00380							
Beryllium			0.00							
Cadmium			-0.00340							
Chromium			-0.000100							
Copper			0.00250							
Lead			0.00820							
Manganese			0.00410							
Nickel			-0.00430							
Selenium			0.00150							
Silver			-0.000400							
Zinc			0.00150							

Acceptance Criteria: Methods 200.7, 200.8, 6010, 6020

ICSA: 80-120%

ICSAB: 80-120%

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-19	**Date Collected**	: 05/03/22 11:00
Client ID	: SB-DUP-2	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/26/22 18:53
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,6010D	**Analyst**	: EW
Lab File ID	: WG1643086.pdf	**Instrument ID**	: TRACE5
Sample Amount	: 1.331g	**%Solids**	: 89
Digestion Method	: EPA 3050B	**Date Digested**	: 05/18/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	ND	0.422	0.088	U
7440-39-3	Barium, Total	219	0.422	0.074	
7440-41-7	Beryllium, Total	0.558	0.211	0.014	
7440-43-9	Cadmium, Total	ND	0.422	0.041	U
7440-47-3	Chromium, Total	32.2	0.422	0.041	
7440-50-8	Copper, Total	16.1	0.422	0.109	
7439-92-1	Lead, Total	6.18	2.11	0.113	
7439-96-5	Manganese, Total	86.2	0.422	0.067	
7440-02-0	Nickel, Total	31.2	1.06	0.102	
7782-49-2	Selenium, Total	ND	0.845	0.109	U
7440-22-4	Silver, Total	ND	0.422	0.120	U
7440-66-6	Zinc, Total	29.4	2.11	0.124	

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-25	**Date Collected**	: 05/03/22 12:40
Client ID	: SB-3 (0-2)	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/31/22 15:15
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,6010D	**Analyst**	: EW
Lab File ID	: WG1644470.pdf	**Instrument ID**	: TRACE4
Sample Amount	: 1.277g	**%Solids**	: 94
Digestion Method	: EPA 3050B	**Date Digested**	: 05/18/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	ND	0.416	0.087	U
7440-39-3	Barium, Total	71.1	0.416	0.073	
7440-41-7	Beryllium, Total	0.216	0.208	0.014	
7440-43-9	Cadmium, Total	0.550	0.416	0.041	
7440-47-3	Chromium, Total	13.0	0.416	0.040	
7440-50-8	Copper, Total	12.5	0.416	0.107	
7439-92-1	Lead, Total	5.89	2.08	0.112	
7439-96-5	Manganese, Total	102	0.416	0.066	
7440-02-0	Nickel, Total	21.2	1.04	0.101	
7782-49-2	Selenium, Total	ND	0.833	0.107	U
7440-22-4	Silver, Total	ND	0.416	0.118	U
7440-66-6	Zinc, Total	14.2	2.08	0.122	

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-27	**Date Collected**	: 05/03/22 12:30
Client ID	: SB-5 (0-2)	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/31/22 11:22
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,6010D	**Analyst**	: EW
Lab File ID	: WG1644470.pdf	**Instrument ID**	: TRACE4
Sample Amount	: 1.276g	**%Solids**	: 89
Digestion Method	: EPA 3050B	**Date Digested**	: 05/18/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	0.610	0.442	0.092	
7440-39-3	Barium, Total	27.8	0.442	0.077	
7440-41-7	Beryllium, Total	0.230	0.221	0.015	
7440-43-9	Cadmium, Total	0.336	0.442	0.043	J
7440-47-3	Chromium, Total	14.9	0.442	0.042	
7440-50-8	Copper, Total	7.10	0.442	0.114	
7439-92-1	Lead, Total	7.75	2.21	0.118	
7439-96-5	Manganese, Total	225	0.442	0.070	
7440-02-0	Nickel, Total	8.17	1.10	0.107	
7782-49-2	Selenium, Total	ND	0.884	0.114	U
7440-22-4	Silver, Total	ND	0.442	0.125	U
7440-66-6	Zinc, Total	17.2	2.21	0.129	

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223458-05	**Date Collected**	: 05/03/22 12:00
Client ID	: SB-DUP-1	**Date Received**	: 05/04/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/19/22 16:57
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,6010D	**Analyst**	: EW
Lab File ID	: WG1640303.pdf	**Instrument ID**	: TRACE4
Sample Amount	: 1.276g	**%Solids**	: 93
Digestion Method	: EPA 3050B	**Date Digested**	: 05/19/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	0.898	0.420	0.087	
7440-39-3	Barium, Total	18.5	0.420	0.073	
7440-41-7	Beryllium, Total	0.113	0.210	0.014	J
7440-43-9	Cadmium, Total	0.193	0.420	0.041	J
7440-47-3	Chromium, Total	6.74	0.420	0.040	
7440-50-8	Copper, Total	8.51	0.420	0.108	
7439-92-1	Lead, Total	2.09	2.10	0.112	J
7439-96-5	Manganese, Total	52.5	0.420	0.067	
7440-02-0	Nickel, Total	7.23	1.05	0.102	
7782-49-2	Selenium, Total	ND	0.839	0.108	U
7440-22-4	Silver, Total	ND	0.420	0.119	U
7440-66-6	Zinc, Total	13.9	2.10	0.123	

Form 5a
Matrix Spike

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-7 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-01		
Matrix Spike	: WG1639550-3	**MS Analysis Date**	: 05/26/22 12:17
Matrix Spike Dup	:	**MSD Analysis Date**	:

		Matrix Spike Sample				Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Arsenic, Total	0.530	9.85	8.75	83						75-125	20
Barium, Total	19.0	164	150	80						75-125	20
Beryllium, Total	0.094J	4.1	3.06	74	Q					75-125	20
Cadmium, Total	ND	4.35	3.14	72	Q					75-125	20
Chromium, Total	11.5	16.4	23.6	74	Q					75-125	20
Copper, Total	10.8	20.5	27.8	83						75-125	20
Lead, Total	2.18	43.5	34.5	74	Q					75-125	20
Manganese, Total	112	41	154	102						75-125	20
Nickel, Total	8.20	41	38.1	73	Q					75-125	20
Selenium, Total	0.152J	9.85	8.17	83						75-125	20
Silver, Total	ND	24.6	19.1	78						75-125	20
Zinc, Total	11.4	41	41.6	74	Q					75-125	20

Form 5a
Matrix Spike

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-4 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-26		
Matrix Spike	: WG1639565-3	**MS Analysis Date**	: 05/31/22 10:00
Matrix Spike Dup	: WG1639565-4	**MSD Analysis Date**	: 05/31/22 10:06

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		RPD	Recovery Limits	RPD Limit
Arsenic, Total	ND	9.81	7.01	71	Q	9.7	6.48	67	Q	8	75-125	20
Barium, Total	68.0	163	172	64	Q	162	171	64	Q	1	75-125	20
Beryllium, Total	0.178J	4.09	2.68	66	Q	4.04	2.55	63	Q	5	75-125	20
Cadmium, Total	0.724	4.33	3.45	63	Q	4.28	3.21	58	Q	7	75-125	20
Chromium, Total	15.7	16.3	25.0	57	Q	16.2	24.0	51	Q	4	75-125	20
Copper, Total	34.6	20.4	45.3	52	Q	20.2	48.2	67	Q	6	75-125	20
Lead, Total	4.22	43.3	29.7	59	Q	42.8	27.2	54	Q	9	75-125	20
Manganese, Total	124	40.9	151	66	Q	40.4	151	67	Q	0	75-125	20
Nickel, Total	16.9	40.9	39.9	56	Q	40.4	38.1	52	Q	5	75-125	20
Selenium, Total	ND	9.81	5.57	57	Q	9.7	5.02	52	Q	10	75-125	20
Silver, Total	ND	24.5	16.7	68	Q	24.2	15.5	64	Q	7	75-125	20
Zinc, Total	30.2	40.9	54.4	59	Q	40.4	50.7	51	Q	7	75-125	20

Form 5a
Matrix Spike

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27		
Matrix Spike	: WG1639565-9	**MS Analysis Date**	: 05/31/22 11:26
Matrix Spike Dup	: WG1639565-10	**MSD Analysis Date**	: 05/31/22 11:31

		Matrix Spike Sample				Matrix Spike Duplicate						
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		RPD	Recovery Limits	RPD Limit
Arsenic, Total	0.610	10.4	7.93	70	Q	10.8	8.21	71	Q	3	75-125	20
Barium, Total	27.8	173	140	65	Q	179	148	67	Q	6	75-125	20
Beryllium, Total	0.230	4.33	3.01	64	Q	4.48	3.15	65	Q	5	75-125	20
Cadmium, Total	0.336J	4.59	3.22	70	Q	4.75	3.35	70	Q	4	75-125	20
Chromium, Total	14.9	17.3	25.3	60	Q	17.9	26.9	67	Q	6	75-125	20
Copper, Total	7.10	21.6	21.6	67	Q	22.4	22.2	67	Q	3	75-125	20
Lead, Total	7.75	45.9	35.4	60	Q	47.5	36.3	60	Q	3	75-125	20
Manganese, Total	225	43.3	256	72	Q	44.8	252	60	Q	2	75-125	20
Nickel, Total	8.17	43.3	34.0	60	Q	44.8	36.1	62	Q	6	75-125	20
Selenium, Total	ND	10.4	6.50	62	Q	10.8	6.63	62	Q	2	75-125	20
Silver, Total	ND	26	20.0	77		26.9	17.8	66	Q	12	75-125	20
Zinc, Total	17.2	43.3	44.7	64	Q	44.8	46.9	66	Q	5	75-125	20

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-7 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-01		
Post Spike	: WG1639550-5	**PS Analysis Date**	: 05/26/22 12:30

		Post Spike Sample			
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	Recovery Limits
Beryllium, Total	0.094J	4.1	2.91	71	75-125
Cadmium, Total	ND	4.35	2.74	63	75-125
Chromium, Total	11.5	16.4	22.5	67	75-125
Lead, Total	2.18	43.5	30.4	65	75-125
Nickel, Total	8.20	41	34.1	63	75-125
Zinc, Total	11.4	41	37.6	64	75-125

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-4 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-26		
Post Spike	: WG1639565-5	**PS Analysis Date**	: 05/31/22 12:25

		Post Spike Sample			
	Sample Conc.	Spike Added	Spike Conc.	%R	Recovery
Parameter	(mg/kg)	(mg/kg)	(mg/kg)		Limits
Silver, Total	ND	4.14	2.59	63	75-125

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-4 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-26		
Post Spike	: WG1639565-5	**PS Analysis Date**	: 05/31/22 10:21

Parameter	Sample Conc. (mg/kg)	Post Spike Sample: Spike Added (mg/kg)	Post Spike Sample: Spike Conc. (mg/kg)	%R	Recovery Limits
Arsenic, Total	ND	9.93	7.16	72	75-125
Barium, Total	68.0	166	179	67	75-125
Beryllium, Total	0.178J	4.14	2.75	66	75-125
Cadmium, Total	0.724	4.39	3.51	64	75-125
Chromium, Total	15.7	16.6	25.0	56	75-125
Copper, Total	34.6	20.7	47.9	64	75-125
Lead, Total	4.22	43.9	29.9	58	75-125
Manganese, Total	124	41.4	146	53	75-125
Nickel, Total	16.9	41.4	41.4	59	75-125
Selenium, Total	ND	9.93	5.69	57	75-125
Zinc, Total	30.2	41.4	55.3	61	75-125

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27		
Post Spike	: WG1639565-11	**PS Analysis Date**	: 05/31/22 11:45

		Post Spike Sample			
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	Recovery Limits
Arsenic, Total	0.610	10.6	7.90	69	75-125
Barium, Total	27.8	177	140	63	75-125
Beryllium, Total	0.230	4.42	3.00	63	75-125
Cadmium, Total	0.336J	4.68	3.21	68	75-125
Chromium, Total	14.9	17.7	24.6	55	75-125
Copper, Total	7.10	22.1	21.1	63	75-125
Lead, Total	7.75	46.8	34.5	57	75-125
Nickel, Total	8.17	44.2	33.7	58	75-125
Selenium, Total	ND	10.6	6.73	63	75-125
Zinc, Total	17.2	44.2	43.0	58	75-125

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27		
Post Spike	: WG1639565-11	**PS Analysis Date**	: 05/31/22 12:30

		Post Spike Sample			
	Sample Conc.	Spike Added	Spike Conc.	%R	Recovery
Parameter	(mg/kg)	(mg/kg)	(mg/kg)		Limits
Silver, Total	ND	4.42	2.79	63	75-125

Form 8
Serial Dilutions

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-7 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-01	**Analysis Date**	: 05/26/22 12:12
Serial Dilution ID	: WG1639550-6	**Analysis Date**	: 05/26/22 12:39

Parameter	Initial Sample Result (mg/kg)	Serial Dilution Result (mg/kg)	% Difference	%D Limit
Barium, Total	19.0	30.7	62*	20
Chromium, Total	11.5	15.4	34*	20
Copper, Total	10.8	14.3	32*	20
Manganese, Total	112	142	27*	20

Form 8
Serial Dilutions

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-4 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-26	**Analysis Date**	: 05/31/22 09:55
Serial Dilution ID	: WG1639565-6	**Analysis Date**	: 05/31/22 10:26

Parameter	Initial Sample Result (mg/kg)	Serial Dilution Result (mg/kg)	% Difference	%D Limit
Barium, Total	68.0	91.2	34*	20
Chromium, Total	15.7	21.4	36*	20
Copper, Total	34.6	44.8	29*	20
Manganese, Total	124	170	37*	20

Form 8
Serial Dilutions

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27	**Analysis Date**	: 05/31/22 11:22
Serial Dilution ID	: WG1639565-12	**Analysis Date**	: 05/31/22 11:50

Parameter	Initial Sample Result (mg/kg)	Serial Dilution Result (mg/kg)	% Difference	%D Limit
Barium, Total	27.8	36.9	33*	20
Chromium, Total	14.9	20.0	34*	20
Manganese, Total	225	303	35*	20

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-23	**Date Collected**	: 05/03/22 13:30
Client ID	: FIELD BLANK-2	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/24/22 10:47
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: SV
Lab File ID	: WG1642081.pdf	**Instrument ID**	: ICPMSQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 05/23/22

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.00095	0.00050	0.00017	
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-47-3	Chromium, Total	ND	0.00100	0.00017	U
7440-50-8	Copper, Total	ND	0.00100	0.00038	U
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-96-5	Manganese, Total	ND	0.00100	0.00044	U
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U

Form 4a
Interference Check Sample

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: ICPMSQ	**Concentration Units**	: ug/l

	True		Initial Found				Final Found			
Lab ID :			R1567696-3							
Analysis Date :			05/24/22 08:51							
Analyte	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Arsenic			-0.139							
Barium			0.250							
Beryllium			0.00468							
Cadmium			0.0554							
Chromium			0.333							
Copper			1.12							
Lead			0.130							
Manganese			0.753							
Nickel			0.839							
Selenium			-0.0558							
Silver			0.0118							
Zinc			4.02							

Acceptance Criteria: Methods 200.7, 200.8, 6010, 6020

ICSA: 80-120%

ICSAB: 80-120%

Alpha ICPMSQ Data

5/24/2022 3:03:34 PM

Analysis index:	4	Analysis started at:	5/24/2022 8:06:11 AM	Rack	0
Analysis label:	0.2/20 Cal	User name	ALPHALAB\Metals-Instrument	Vial	2

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	96.493 %	97.613 %	0.151 ppb	8.130 ppb	12.688 ppb	0.338 ppb	16.872 ppb	123.445 ppb	101.355 %
Concentration per Run 1	93.938 %	101.759 %	0.162 ppb	15.562 ppb	14.486 ppb	-0.079 ppb	27.460 ppb	112.701 ppb	99.642 %
Concentration per Run 2	97.261 %	95.226 %	0.153 ppb	6.845 ppb	13.533 ppb	0.394 ppb	-1.606 ppb	110.477 ppb	102.769 %
Concentration per Run 3	98.281 %	95.854 %	0.139 ppb	1.982 ppb	10.043 ppb	0.700 ppb	24.764 ppb	147.157 ppb	101.654 %
Concentration RSD	2.4 %	3.7 %	7.8 %	84.6 %	18.4 %	116.0 %	95.2 %	16.7 %	1.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.132 ppb	0.125 ppb	0.134 ppb	20.535 ppb	0.128 ppb	0.168 ppb	0.112 ppb	0.455 ppb	99.590 %
Concentration per Run 1	0.212 ppb	0.128 ppb	0.098 ppb	17.753 ppb	0.125 ppb	0.143 ppb	0.107 ppb	0.365 ppb	104.429 %
Concentration per Run 2	0.088 ppb	0.110 ppb	0.155 ppb	21.585 ppb	0.128 ppb	0.201 ppb	0.128 ppb	0.502 ppb	95.588 %
Concentration per Run 3	0.098 ppb	0.136 ppb	0.149 ppb	22.268 ppb	0.130 ppb	0.161 ppb	0.102 ppb	0.498 ppb	98.753 %
Concentration RSD	52.0 %	10.5 %	23.5 %	11.9 %	1.9 %	17.5 %	12.5 %	17.1 %	4.5 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	118Sn (KED AGD)	121Sb (KED AGD)
Concentration average	0.161 ppb	-0.015 ppb	0.221 ppb	99.703 %	0.131 ppb	0.125 ppb	100.425 %	0.220 ppb	0.166 ppb
Concentration per Run 1	0.231 ppb	0.139 ppb	0.242 ppb	102.753 %	0.139 ppb	0.123 ppb	105.614 %	0.303 ppb	0.173 ppb
Concentration per Run 2	0.171 ppb	-0.114 ppb	0.216 ppb	95.781 %	0.136 ppb	0.109 ppb	95.049 %	0.150 ppb	0.198 ppb
Concentration per Run 3	0.082 ppb	-0.072 ppb	0.205 ppb	100.576 %	0.119 ppb	0.143 ppb	100.613 %	0.207 ppb	0.126 ppb
Concentration RSD	46.4 %	882.7 %	8.6 %	3.6 %	8.2 %	13.6 %	5.3 %	35.1 %	21.8 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.163 ppb	99.760 %	100.017 %	0.112 ppb	0.129 ppb	99.325 %
Concentration per Run 1	0.221 ppb	104.842 %	106.385 %	0.107 ppb	0.124 ppb	103.634 %
Concentration per Run 2	0.146 ppb	96.305 %	94.344 %	0.106 ppb	0.133 ppb	96.713 %
Concentration per Run 3	0.121 ppb	98.133 %	99.321 %	0.122 ppb	0.131 ppb	97.629 %
Concentration RSD	32.0 %	4.5 %	6.0 %	8.1 %	3.7 %	3.8 %

Alpha ICPMSQ Data

5/24/2022 3:03:34 PM

Analysis index:	12	Analysis started at:	5/24/2022 8:46:33 AM	Rack	4
Analysis label:	LLCCV	User name	ALPHALAB\Metals-Instrument	Vial	51

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	92.999 %	93.718 %	0.372 ppb	87.146 ppb	81.086 ppb	12.442 ppb	103.352 ppb	187.609 ppb	97.357 %
Concentration per Run 1	91.928 %	95.603 %	0.355 ppb	82.334 ppb	71.309 ppb	12.133 ppb	118.154 ppb	187.906 ppb	95.843 %
Concentration per Run 2	92.171 %	95.352 %	0.394 ppb	84.766 ppb	81.375 ppb	12.301 ppb	100.799 ppb	186.641 ppb	96.754 %
Concentration per Run 3	94.899 %	90.201 %	0.367 ppb	94.338 ppb	90.573 ppb	12.893 ppb	91.105 ppb	188.280 ppb	99.474 %
Recovery Percentage 1			74.479 %	87.146 %	115.837 %	124.421 %	103.352 %	187.609 %	
Concentration RSD	1.8 %	3.3 %	5.4 %	7.3 %	11.9 %	3.2 %	13.3 %	0.5 %	1.9 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	5.397 ppb	0.632 ppb	1.241 ppb	74.355 ppb	0.627 ppb	2.300 ppb	1.384 ppb	12.180 ppb	100.040 %
Concentration per Run 1	5.408 ppb	0.720 ppb	1.243 ppb	81.240 ppb	0.625 ppb	2.274 ppb	1.385 ppb	12.151 ppb	97.132 %
Concentration per Run 2	5.774 ppb	0.565 ppb	1.269 ppb	66.021 ppb	0.618 ppb	2.341 ppb	1.353 ppb	12.328 ppb	100.254 %
Concentration per Run 3	5.010 ppb	0.610 ppb	1.210 ppb	75.805 ppb	0.639 ppb	2.284 ppb	1.415 ppb	12.060 ppb	102.735 %
Recovery Percentage 1	107.950 %	63.170 %	124.064 %	148.710 %	125.490 %	114.995 %	138.416 %	121.798 %	
Concentration RSD	7.1 %	12.7 %	2.4 %	10.4 %	1.7 %	1.6 %	2.2 %	1.1 %	2.8 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	118Sn (KED AGD)	121Sb (KED AGD)
Concentration average	0.623 ppb	5.789 ppb	0.638 ppb	99.208 %	0.358 ppb	0.242 ppb	102.192 %	31.716 ppb	2.211 ppb
Concentration per Run 1	0.653 ppb	6.515 ppb	0.642 ppb	98.172 %	0.374 ppb	0.295 ppb	101.214 %	30.587 ppb	2.161 ppb
Concentration per Run 2	0.597 ppb	5.841 ppb	0.625 ppb	99.193 %	0.351 ppb	0.242 ppb	104.379 %	31.863 ppb	2.258 ppb
Concentration per Run 3	0.618 ppb	5.011 ppb	0.646 ppb	100.258 %	0.350 ppb	0.189 ppb	100.982 %	32.698 ppb	2.213 ppb
Recovery Percentage 1	124.584 %	115.778 %	127.609 %		89.518 %	120.944 %		1,057.201 %	55.271 %
Concentration RSD	4.6 %	13.0 %	1.7 %	1.1 %	3.8 %	21.8 %	1.9 %	3.4 %	2.2 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.630 ppb	103.413 %	102.617 %	0.783 ppb	0.605 ppb	105.182 %
Concentration per Run 1	0.583 ppb	102.445 %	101.286 %	0.711 ppb	0.591 ppb	109.131 %
Concentration per Run 2	0.623 ppb	104.362 %	104.464 %	0.810 ppb	0.629 ppb	103.205 %
Concentration per Run 3	0.683 ppb	103.431 %	102.102 %	0.829 ppb	0.595 ppb	103.211 %
Recovery Percentage 1	125.988 %			156.689 %	121.030 %	
Concentration RSD	8.0 %	0.9 %	1.6 %	8.1 %	3.5 %	3.3 %

Attachment G
Mercury QC Summary Forms – Excursions

No.	NAME	SVOL [mL]	CVOL [mL]	DVOL [mL]	AREA [ON]	MEAS [ng]	CONC [ug/L]	Recovery [%]	M. TIME	Note
6	I2223093-01 T	2.500	2.500	2.500	-0.4948	-1.4703	-0.588	-	20:06	DR,NIC2
7	WG1639551-3 T	2.500	2.500	2.500	0.8417	2.7914	1.117	-	20:10	DR,NIC2
8	WG1639551-4 T	2.500	2.500	2.500	-0.0276	0.0195	0.008	-	20:13	DR,NIC2
9	PS 093-01	2.500	2.500	2.500	8.1016	25.9411	10.376	-	20:16	DR,NIC2
10	I2223093-02 T	2.500	2.500	2.500	-0.4499	-1.3271	-0.531	-	20:20	DR,NIC2
11	I2223093-03 T	2.500	2.500	2.500	0.0346	0.2178	0.087	-	20:23	DR,NIC2
12	Check STD(10ug/L)	2.500	2.500	2.500	8.0529	25.7858	10.314	103.1	20:26	DR,NIC2
13	Check Blank	2.500	2.500	2.500	-0.5107	-1.5210	-0.608	-	20:30	DR,NIC2
14	I2223093-04 T	2.500	2.500	2.500	0.0298	0.2025	0.081	-	20:33	DR,NIC2
15	I2223093-05 T	2.500	2.500	2.500	0.4907	1.6722	0.669	-	20:36	DR,NIC2
16	I2223093-06 T	2.500	2.500	2.500	1.0117	3.3335	1.333	-	20:40	DR,NIC2
17	I2223093-07 T	2.500	2.500	2.500	-0.0513	-0.0561	-0.022	-	20:43	DR,NIC2
18	I2223093-08 T	2.500	2.500	2.500	7.8087	25.0071	10.003	-	20:46	DR,NIC2
19	I2223093-09 T	2.500	2.500	2.500	0.3136	1.1074	0.443	-	20:49	DR,NIC2
20	I2223093-10 T	2.500	2.500	2.500	0.1368	0.5437	0.217	-	20:53	DR,NIC2
21	I2223093-11 T	2.500	2.500	2.500	0.1040	0.4391	0.176	-	20:56	DR,NIC2
22	I2223093-12 T	2.500	2.500	2.500	0.0795	0.3610	0.144	-	20:59	DR,NIC2
23	I2223093-13 T	2.500	2.500	2.500	0.2205	0.8106	0.324	-	21:03	DR,NIC2
24	Check STD(10ug/L)	2.500	2.500	2.500	8.2838	26.5221	10.609	106.1	21:06	DR,NIC2
25	Check Blank	2.500	2.500	2.500	-0.5013	-1.4910	-0.596	-	21:09	DR,NIC2
26	I2223093-14 T	2.500	2.500	2.500	0.1442	0.5673	0.227	-	21:13	DR,NIC2
27	I2223093-16 T	2.500	2.500	2.500	2.5956	8.3841	3.354	-	21:16	DR,NIC2
28	I2223093-17 T	2.500	2.500	2.500	-0.0482	-0.0462	-0.018	-	21:19	DR,NIC2
29	I2223093-18 T	2.500	2.500	2.500	1.3667	4.4655	1.786	-	21:23	DR,NIC2
30	I2223093-19 T	2.500	2.500	2.500	0.2162	0.7969	0.319	-	21:26	DR,NIC2
31	I2223093-20 T	2.500	2.500	2.500	0.1795	0.6798	0.272	-	21:29	DR,NIC2
32	I2223093-21 T	2.500	2.500	2.500	0.1841	0.6945	0.278	-	21:32	DR,NIC2
33	WG1638687-1 T	2.500	2.500	2.500	-0.1371	-0.3297	-0.132	-	21:49	DR,NIC2
34	WG1638687-2 T 5x	2.500	2.500	0.500	9.9418	31.8090	63.618	-	21:53	DR,NIC2
35	L2222891-09 T	2.500	2.500	2.500	3.9692	12.7641	5.106	-	21:56	DR,NIC2
36	Check STD(10ug/L)	2.500	2.500	2.500	7.8926	25.2747	10.110	101.1	21:59	DR,NIC2
37	Check Blank	2.500	2.500	2.500	-0.5054	-1.5041	-0.602	-	22:03	DR,NIC2

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223458-05	**Date Collected**	: 05/03/22 12:00
Client ID	: SB-DUP-1	**Date Received**	: 05/04/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/19/22 14:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: AW
Lab File ID	: WG1640359.pdf	**Instrument ID**	: NIC1
Sample Amount	: 0.398g	**%Solids**	: 93
Digestion Method	: EPA 7471B	**Date Digested**	: 05/19/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	ND	0.067	0.044	U

Form 1
METALS

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-25	**Date Collected**	: 05/03/22 12:40
Client ID	: SB-3 (0-2)	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/18/22 19:01
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7471B	**Analyst**	: DMB
Lab File ID	: WG1639760.pdf	**Instrument ID**	: NIC1
Sample Amount	: 0.329g	**%Solids**	: 94
Digestion Method	: EPA 7471B	**Date Digested**	: 05/18/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7439-97-6	Mercury, Total	2.00	0.081	0.053	

Form 5a
Matrix Spike

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-4 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-26		
Matrix Spike	: WG1639571-3	**MS Analysis Date**	: 05/18/22 18:21
Matrix Spike Dup	: WG1639571-4	**MSD Analysis Date**	: 05/18/22 18:24

		Matrix Spike Sample			Matrix Spike Duplicate						
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		RPD	Recovery Limits	RPD Limit
Mercury, Total	0.547	0.166	0.680	80	0.162	0.779	143	Q	14	80-120	20

Attachment H
pfas QC Summary Forms – Excursions

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Impact Environmental		**Lab Number**	: L2223093	
Project Name	: 60 MCLEAN AVENUE		**Project Number**	: 15514	
Instrument ID	: LCMS02		**Calibration Date**	: 05/11/22 14:28	
Lab File ID	: I60470		**Init. Calib. Date(s)**	: 04/13/22	04/13/22
Sample No	: WG1637252-1		**Init. Calib. Times**	: 16:33	19:32
Channel	:				

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.495	0.500	99.1	50-150
Perfluoropentanoic Acid (PFPeA)	0.522	0.500	104.4	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.454	0.440	102.3	50-150
Perfluorohexanoic Acid (PFHxA)	0.518	0.500	103.6	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.468	0.470	99.9	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.470	0.470	99.9	50-150
Perfluoroheptanoic Acid (PFHpA)	0.503	0.500	100.7	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.065	0.095	68.5	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.406	0.405	100.1	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.471	0.457	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)			-	50-150
Perfluorooctanoic Acid-Linear (L-PFOA)	0.509	0.500	101.8	50-150
Perfluorooctanoic Acid (PFOA)	0.509	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.452	0.480	95.1	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.479	0.480	100.6	50-150
Perfluorononanoic Acid (PFNA)	0.528	0.500	105.6	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.083	0.106	79	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.408	0.394	103.4	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.491	0.464	-	50-150
Perfluorodecanoic Acid (PFDA)	0.496	0.500	99.1	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.414	0.480	86.4	50-150
Perfluorononanesulfonic Acid (PFNS)	0.530	0.480	110.2	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.249	0.500	-	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NMeFOSAA)	0.015	0.120	12.5*	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NMeFOSAA)	0.234	0.380	61.6	50-150
Perfluoroundecanoic Acid (PFUnA)	0.455	0.500	91.1	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.530	0.480	109.8	50-150
Perfluorooctanesulfonamide (FOSA)	0.531	0.500	106.1	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.453	0.500	-	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NEtFOSAA)	0.017	0.113	15*	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NEtFOSAA)	0.436	0.388	112.5	50-150
Perfluorododecanoic Acid (PFDoA)	0.515	0.500	102.9	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.487	0.500	97.3	50-150
Perfluorotetradecanoic Acid (PFTA)	0.573	0.500	114.7	50-150
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	4.074	5.000	81.5	50-150
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	0.509	0.473	107.8	50-150
Perfluorohexadecanoic Acid (PFHxDA)	0.644	0.500	128.8	50-150
Perfluorooctadecanoic Acid (PFODA)	0.383	0.500	76.6	50-150
Perfluorododecane Sulfonic Acid (PFDoDS)	0.505	0.484	101.1	50-150
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	0.539	0.483	111.5	50-150
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	0.453	0.467	97.2	50-150
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	0.462	0.472	97.9	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.416	10.000	94.2	50-150

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: LCMS02	**Calibration Date**	: 05/11/22 14:28
Lab File ID	: I60470	**Init. Calib. Date(s)**	: 04/13/22 04/13/22
Sample No	: WG1637252-1	**Init. Calib. Times**	: 16:33 19:32
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	9.603	10.000	96	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	8.121	9.320	87.1	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	5.544	9.380	59.1	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	9.404	10.000	94	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.460	10.000	94.6	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	9.241	9.480	97.5	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.296	10.000	93	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	5.969	9.510	62.8	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	9.083	10.000	90.8	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	8.620	9.590	89.9	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	9.645	10.000	96.4	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	5.639	9.600	58.7	50-150
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	10.442	10.000	104.4	50-150
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	10.291	10.000	102.9	50-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	9.841	10.000	98.4	50-150
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	9.096	10.000	91	50-150
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	10.793	10.000	107.9	50-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	11.114	10.000	111.1	50-150
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	259.850	200.000	129.9	50-150
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	13.812	10.000	138.1	50-150
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	13.238	19.600	67.5	50-150
M4PFOS	12.726		127.3	
M2PFDA	11.411		114.1	
M2PFOA	11.529		115.3	
M3PFBA	11.599		116	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: LCMS02	**Calibration Date**	: 05/11/22 21:43
Lab File ID	: I60496	**Init. Calib. Date(s)**	: 04/13/22 04/13/22
Sample No	: WG1637252-3	**Init. Calib. Times**	: 16:33 19:32
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.504	0.500	100.8	50-150
Perfluoropentanoic Acid (PFPeA)	0.510	0.500	102	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.469	0.440	105.7	50-150
Perfluorohexanoic Acid (PFHxA)	0.512	0.500	102.3	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.354	0.470	75.5	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.421	0.470	89.5	50-150
Perfluoroheptanoic Acid (PFHpA)	0.518	0.500	103.6	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.070	0.095	74.4	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.403	0.405	99.3	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.473	0.457	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)			-	50-150
Perfluorooctanoic Acid-Linear (L-PFOA)	0.541	0.500	108.1	50-150
Perfluorooctanoic Acid (PFOA)	0.541	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.457	0.480	96.1	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.465	0.480	97.7	50-150
Perfluorononanoic Acid (PFNA)	0.521	0.500	104.2	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.106	0.106	100	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.411	0.394	104.2	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.517	0.464	-	50-150
Perfluorodecanoic Acid (PFDA)	0.531	0.500	106.2	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.403	0.480	83.9	50-150
Perfluorononanesulfonic Acid (PFNS)	0.524	0.480	109	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.474	0.500	-	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NMeFOSAA)	0.057	0.120	47.9*	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NMeFOSAA)	0.417	0.380	109.7	50-150
Perfluoroundecanoic Acid (PFUnA)	0.460	0.500	92	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.567	0.480	117.6	50-150
Perfluorooctanesulfonamide (FOSA)	0.462	0.500	92.4	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.385	0.500	-	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NEtFOSAA)	0.068	0.113	60.6	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NEtFOSAA)	0.317	0.388	81.8	50-150
Perfluorododecanoic Acid (PFDoA)	0.585	0.500	117	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.586	0.500	117.3	50-150
Perfluorotetradecanoic Acid (PFTA)	0.645	0.500	129	50-150
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	4.988	5.000	99.8	50-150
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	0.500	0.473	105.8	50-150
Perfluorohexadecanoic Acid (PFHxDA)	0.578	0.500	115.6	50-150
Perfluorooctadecanoic Acid (PFODA)	0.328	0.500	65.6	50-150
Perfluorododecane Sulfonic Acid (PFDoDS)	0.411	0.484	82.1	50-150
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	0.442	0.483	91.5	50-150
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	0.464	0.467	99.5	50-150
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	0.488	0.472	103.5	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.342	10.000	93.4	50-150

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: LCMS02	**Calibration Date**	: 05/11/22 21:43
Lab File ID	: I60496	**Init. Calib. Date(s)**	: 04/13/22 04/13/22
Sample No	: WG1637252-3	**Init. Calib. Times**	: 16:33 19:32
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	9.726	10.000	97.3	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	7.663	9.320	82.2	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	4.693	9.380	50	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	9.349	10.000	93.5	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.401	10.000	94	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	8.907	9.480	94	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.262	10.000	92.6	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	5.138	9.510	54	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	8.582	10.000	85.8	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	8.340	9.590	87	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	9.594	10.000	95.9	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	5.477	9.600	57	50-150
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	10.203	10.000	102	50-150
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	9.950	10.000	99.5	50-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	9.215	10.000	92.2	50-150
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	10.249	10.000	102.5	50-150
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	10.291	10.000	102.9	50-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	10.227	10.000	102.3	50-150
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	268.019	200.000	134	50-150
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	15.241	10.000	152.4*	50-150
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	12.651	19.600	64.5	50-150
M4PFOS	13.958		139.6	
M2PFDA	11.681		116.8	
M2PFOA	11.604		116	
M3PFBA	11.141		111.4	

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Impact Environmental		**Lab Number**	: L2223093	
Project Name	: 60 MCLEAN AVENUE		**Project Number**	: 15514	
Instrument ID	: LCMS02		**Calibration Date**	: 05/12/22 05:27	
Lab File ID	: I60524		**Init. Calib. Date(s)**	: 04/13/22	04/13/22
Sample No	: WG1637252-5		**Init. Calib. Times**	: 16:33	19:32
Channel	:				

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.513	0.500	102.5	50-150
Perfluoropentanoic Acid (PFPeA)	0.528	0.500	105.6	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.456	0.440	102.7	50-150
Perfluorohexanoic Acid (PFHxA)	0.528	0.500	105.6	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.523	0.470	111.6	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.381	0.470	81	50-150
Perfluoroheptanoic Acid (PFHpA)	0.512	0.500	102.3	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.093	0.095	98.5	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.384	0.405	94.8	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.477	0.457	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)			-	50-150
Perfluorooctanoic Acid-Linear (L-PFOA)	0.545	0.500	109	50-150
Perfluorooctanoic Acid (PFOA)	0.545	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.380	0.480	79.8	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.548	0.480	115	50-150
Perfluorononanoic Acid (PFNA)	0.541	0.500	108.2	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.081	0.106	77	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.409	0.394	103.6	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.490	0.464	-	50-150
Perfluorodecanoic Acid (PFDA)	0.562	0.500	112.3	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.380	0.480	79.2	50-150
Perfluorononanesulfonic Acid (PFNS)	0.467	0.480	97	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.336	0.500	-	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NMeFOSAA)	0.047	0.120	39.6*	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NMeFOSAA)	0.289	0.380	76	50-150
Perfluoroundecanoic Acid (PFUnA)	0.420	0.500	84	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.487	0.480	101	50-150
Perfluorooctanesulfonamide (FOSA)	0.527	0.500	105.4	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.357	0.500	-	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NEtFOSAA)	0.016	0.113	14*	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NEtFOSAA)	0.341	0.388	88	50-150
Perfluorododecanoic Acid (PFDoA)	0.518	0.500	103.6	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.671	0.500	134.3	50-150
Perfluorotetradecanoic Acid (PFTA)	0.567	0.500	113.3	50-150
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	4.628	5.000	92.6	50-150
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	0.506	0.473	107.1	50-150
Perfluorohexadecanoic Acid (PFHxDA)	0.535	0.500	107.1	50-150
Perfluorooctadecanoic Acid (PFODA)	0.394	0.500	78.8	50-150
Perfluorododecane Sulfonic Acid (PFDoDS)	0.535	0.484	107	50-150
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	0.775	0.483	160.4*	50-150
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	0.465	0.467	99.7	50-150
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	0.495	0.472	104.9	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.356	10.000	93.6	50-150

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Impact Environmental		**Lab Number**	: L2223093	
Project Name	: 60 MCLEAN AVENUE		**Project Number**	: 15514	
Instrument ID	: LCMS02		**Calibration Date**	: 05/12/22 05:27	
Lab File ID	: I60524		**Init. Calib. Date(s)**	: 04/13/22	04/13/22
Sample No	: WG1637252-5		**Init. Calib. Times**	: 16:33	19:32
Channel	:				

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	9.461	10.000	94.6	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	7.918	9.320	85	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	5.264	9.380	56.1	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	9.448	10.000	94.5	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.603	10.000	96	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	9.200	9.480	97	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.212	10.000	92.1	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	6.003	9.510	63.1	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	8.301	10.000	83	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	8.659	9.590	90.3	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	8.784	10.000	87.8	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	6.200	9.600	64.6	50-150
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	9.600	10.000	96	50-150
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	10.555	10.000	105.5	50-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	10.066	10.000	100.7	50-150
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	9.052	10.000	90.5	50-150
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	10.873	10.000	108.7	50-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	10.310	10.000	103.1	50-150
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	233.796	200.000	116.9	50-150
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	15.635	10.000	156.3*	50-150
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	14.133	19.600	72.1	50-150
M4PFOS	14.096		141	
M2PFDA	11.877		118.8	
M2PFOA	11.740		117.4	
M3PFBA	12.215		122.2	

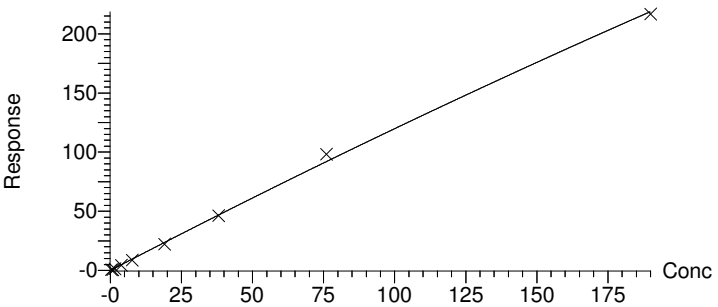
* Value outside of QC limits.

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2022\220413_537ISO_ICAL.PRO\Data\WG1626786_ICAL.qld
Last Altered: Wednesday, April 13, 2022 20:50:50 Eastern Daylight Time
Printed: Wednesday, April 13, 2022 20:53:35 Eastern Daylight Time

Compound name: L-NMeFOSAA

	Name	ID	Acq.Date	Acq.Time	RT	IS Area	Area	Conc (ng...	%Rec	RRF	1º S/N	2º S/N	(b/a)
1	I58708	IA537STD-.5	13-Apr-22	19:32:11	10.9...	2785.578	141.346	0.406	106.8	1.335	5	6	0.76
2	I58709	IA537STD-1.0	13-Apr-22	16:33:12	10.8...	2577.158	150.763	0.468	61.6	0.770	43	12	1.22
3	I58710	IA537STD-2.0	13-Apr-22	16:49:47	10.9...	2567.593	379.750	1.183	77.8	0.973	9	12	0.88
4	I58711	IA537STD-5.0	13-Apr-22	17:06:20	10.8...	2806.508	1189.424	3.394	89.3	1.115	31	29	1.01
5	I58712	IA537STD-10	13-Apr-22	17:22:56	10.9...	2646.290	2287.070	6.931	91.2	1.137	298	73	0.86
6	I58713	IA537STD-25	13-Apr-22	17:39:29	10.8...	2550.829	5630.429	17.781	93.6	1.162	274	73	1.00
7	I58714	IA537STD-50	13-Apr-22	17:56:03	10.9...	2540.939	11766.226	37.616	99.0	1.219	1015	427	0.96
8	I58715	IA537STD-100	13-Apr-22	18:12:37	10.9...	2364.550	23248.422	81.371	107.1	1.294	393	320	0.93
9	I58716	IA537STD-250	13-Apr-22	18:29:11	10.8...	2511.711	54410.430	187.894	98.9	1.140	931	2677	0.91

Compound name: L-NMeFOSAA
Coefficient of Determination: R^2 = 0.997524
Calibration curve: -0.000519832 * x^2 + 1.25059 * x
Response type: Internal Std (Ref 40), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



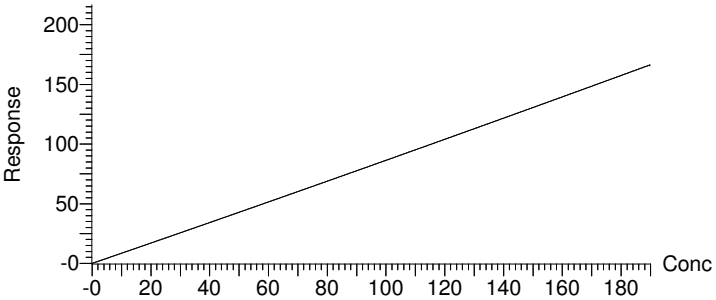
all concentration units in (ng/mL)

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2022\220413_537ISO_ICAL.PRO\Data\WG1626786_ICAL.qld
Last Altered: Wednesday, April 13, 2022 20:50:50 Eastern Daylight Time
Printed: Wednesday, April 13, 2022 20:53:35 Eastern Daylight Time

Compound name: NMeFOSAA

	Name	ID	Acq.Date	Acq.Time	RT	IS Area	Area	Conc (ng...	%Rec	RRF	1º S/N	2º S/N	(b/a)
1	I58708	IA537STD-.5	13-Apr-22	19:32:11		2785.578	155.797	0.521					
2	I58709	IA537STD-1.0	13-Apr-22	16:33:12		2577.158	162.242	0.567					
3	I58710	IA537STD-2.0	13-Apr-22	16:49:47		2567.593	424.078	1.567					
4	I58711	IA537STD-5.0	13-Apr-22	17:06:20		2806.508	1322.706	4.448					
5	I58712	IA537STD-10	13-Apr-22	17:22:56		2646.290	2542.878	9.073					
6	I58713	IA537STD-25	13-Apr-22	17:39:29		2550.829	6281.672	23.406					
7	I58714	IA537STD-50	13-Apr-22	17:56:03		2540.939	13134.607	49.354					
8	I58715	IA537STD-100	13-Apr-22	18:12:37		2364.550	26213.397	108.015					
9	I58716	IA537STD-250	13-Apr-22	18:29:11		2511.711	61794.742	247.103					

Compound name: NMeFOSAA
Coefficient of Determination: 0.000000
Calibration curve: 0.850013 * x
Response type: Internal Std (Ref 40), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



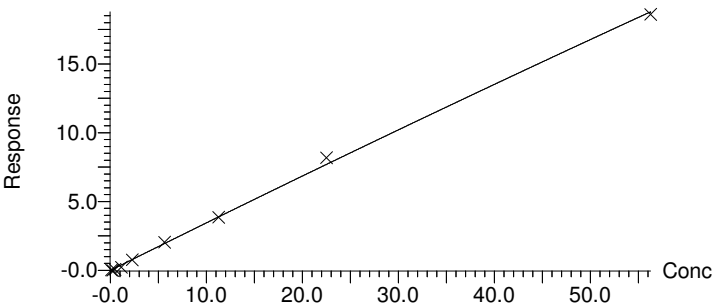
all concentration units in (ng/mL)

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2022\220413_537ISO_ICAL.PRO\Data\WG1626786_ICAL.qld
Last Altered: Wednesday, April 13, 2022 20:50:50 Eastern Daylight Time
Printed: Wednesday, April 13, 2022 20:53:35 Eastern Daylight Time

Compound name: br-NEtFOSAA

	Name	ID	Acq.Date	Acq.Time	RT	IS Area	Area	Conc (ng...	%Rec	RRF	1º S/N	2º S/N	(b/a)
1	I58708	IA537STD-.5	13-Apr-22	19:32:11	10.9...	2132.584	2.591	0.035	31.0	0.108	65	0	3.55
2	I58709	IA537STD-1.0	13-Apr-22	16:33:12	11.034	2155.549	1.533	0.020	9.1	0.032	0	1	0.24
3	I58710	IA537STD-2.0	13-Apr-22	16:49:47	11.047	2148.323	15.770	0.211	46.9	0.163	6	9	0.22
4	I58711	IA537STD-5.0	13-Apr-22	17:06:20	11.047	2352.798	52.222	0.638	56.7	0.197	18	4	0.37
5	I58712	IA537STD-10	13-Apr-22	17:22:56	11.045	2160.968	167.117	2.226	99.0	0.344	17	35	0.28
6	I58713	IA537STD-25	13-Apr-22	17:39:29	11.038	2047.219	418.397	5.899	104.9	0.363	25	58	0.38
7	I58714	IA537STD-50	13-Apr-22	17:56:03	11.038	2234.842	861.283	11.166	99.3	0.343	12	38	0.39
8	I58715	IA537STD-100	13-Apr-22	18:12:37	11.043	2053.126	1681.369	23.945	106.4	0.364	64	74	0.33
9	I58716	IA537STD-250	13-Apr-22	18:29:11	11.038	2137.363	3974.725	55.646	98.9	0.331	71	182	0.39

Compound name: br-NEtFOSAA
Coefficient of Determination: R^2 = 0.992638
Calibration curve: -0.000246377 * x^2 + 0.347901 * x
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



all concentration units in (ng/mL)

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223093
Project Number: 15514
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S8 ()	S9 ()	S10 ()	S11 ()	S12 ()	S13 ()	S14 ()
SB-10B (0-3) (L2223093-09)	56	88	92	93	67	68	106
SB-19 (7-9) (L2223093-14)	NA	NA	NA	NA	NA	NA	NA
SB-19 (7-9) (L2223093-14)	49	75	79	79	45	17*	85
SB-DUP-2 (L2223093-19)	NA	NA	NA	NA	NA	NA	NA
SB-DUP-2 (L2223093-19)	50	78	85	87	55	38	101
SB-3 (0-2) (L2223093-25)	64	94	100	100	65	76	111
SB-5 (0-2) (L2223093-27)	62	87	88	96	66	22*	111
SB-5 (0-2) (L2223093-27)	NA	NA	NA	NA	NA	NA	NA
WG1636990-1BLANK	NA	NA	NA	NA	NA	NA	NA
WG1636990-1BLANK	58	87	88	89	56	72	105
WG1636990-2LCS	59	89	88	95	63	85	109
WG1636990-2LCS	NA	NA	NA	NA	NA	NA	NA
SB-5 (0-2)MS	63	87	93	93	74	16*	105
SB-5 (0-2)MSD	62	82	92	88	64	20*	101
SB-2 (18-20')MS	NA	NA	NA	NA	NA	NA	NA
SB-2 (18-20')MS	64	20*	95	30*	72	8*	47*
SB-2 (18-20')MSD	68	17*	95	25*	75	5*	40*
SB-2 (18-20')MSD	NA	NA	NA	NA	NA	NA	NA

QC LIMITS

(20-154) S8 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]OCTANESULFONIC ACID (M2-6:2FTS)
(72-140) S9 = PERFLUORO[13C9]NONANOIC ACID (M9PFNA)
(79-136) S10 = PERFLUORO[13C8]OCTANESULFONIC ACID (M8PFOS)
(75-130) S11 = PERFLUORO[1,2,3,4,5,6-13C6]DECANOIC ACID (M6PFDA)
(19-175) S12 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]DECANESULFONIC ACID (M2-8:2FTS)
(31-134) S13 = N-DEUTERIOMETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D3-NMEFOSAA)
(31-134) S14 = PERFLUORO[1,2,3,4,5,6,7-13C7]UNDECANOIC ACID (M7-PFUDA)

*** Values outside of QC limits**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223093
Project Number: 15514
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S15 ()	S16 ()	S17 ()	S18 ()	S19 ()	S20 ()	S21 ()	TOT OUT
SB-10B (0-3) (L2223093-09)	61	78	107	99	--	--	--	0
SB-19 (7-9) (L2223093-14)	85	NA	NA	NA	--	--	--	0
SB-19 (7-9) (L2223093-14)	NA	18*	88	56	--	--	--	3
SB-DUP-2 (L2223093-19)	77	NA	NA	NA	--	--	--	0
SB-DUP-2 (L2223093-19)	NA	33*	95	52	--	--	--	2
SB-3 (0-2) (L2223093-25)	18	71	117	83	--	--	--	0
SB-5 (0-2) (L2223093-27)	NA	27*	109	58	--	--	--	2
SB-5 (0-2) (L2223093-27)	83	NA	NA	NA	--	--	--	0
WG1636990-1BLANK	92	NA	NA	NA	--	--	--	0
WG1636990-1BLANK	40	68	105	62	--	--	--	0
WG1636990-2LCS	57	74	109	80	--	--	--	0
WG1636990-2LCS	94	NA	NA	NA	--	--	--	0
SB-5 (0-2)MS	NA	25*	105	56	--	--	--	2
SB-5 (0-2)MSD	NA	22*	103	49	--	--	--	2
SB-2 (18-20')MS	91	NA	NA	NA	--	--	--	0
SB-2 (18-20')MS	NA	9*	59	65	--	--	--	10
SB-2 (18-20')MSD	NA	9*	52*	59	--	--	--	11
SB-2 (18-20')MSD	90	NA	NA	NA	--	--	--	0

QC LIMITS

(10-117) S15 = PERFLUORO[13C8]OCTANESULFONAMIDE (M8FOSA)
(34-137) S16 = N-DEUTERIOETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D5-NETFOSAA)
(54-150) S17 = PERFLUORO[1,2-13C2]DODECANOIC ACID (MPFDOA)
(24-159) S18 = PERFLUORO[1,2-13C2]TETRADECANOIC ACID (M2PFTEDA)

*** Values outside of QC limits**

FORM II A2-NY-537-ISOTOPE (Continued)

Attachment I
Cyanide QC Summary Forms – Excursions

Form 7
Laboratory Control Sample

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: NA	**Matrix**	: SOIL
Lab Sample ID	: WG1638806-2	**LCS Analysis Date**	: 05/16/22 13:18
Dup Sample ID	: WG1638806-3	**LCSD Analysis Date**	: 05/16/22 13:19

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	True (mg/kg)	Found (mg/kg)	%R		True (mg/kg)	Found (mg/kg)	%R		RPD	Recovery Limits	RPD Limit
Cyanide, Total	141.	82.0	59.	Q	141.	110	76.	Q	32	80-120	35

Attachment J
Total Solids QC Summary Forms – Excursions

Form 1
WETCHEM

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-08	**Date Collected**	: 05/02/22 10:30
Client ID	: SB-10A (0-3)	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/11/22 09:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: RI
Lab File ID	: WG1637013.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 100
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**99.6**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-18	**Date Collected**	: 05/03/22 10:00
Client ID	: SB-11 (0-4)	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/11/22 09:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: RI
Lab File ID	: WG1637013.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 99
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**98.8**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-20	**Date Collected**	: 05/03/22 10:35
Client ID	: SB-1 (0-2)	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/11/22 09:38
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: RI
Lab File ID	: WG1637013.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 87
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**86.8**	**0.100**	**NA**	

Attachment K
Hexavalent Chromium QC Summary Forms – Excursions

Form 7
Laboratory Control Sample

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: NA	**Matrix**	: SOIL
Lab Sample ID	: WG1634981-2	**LCS Analysis Date**	: 05/12/22 21:05
Dup Sample ID	:	**LCSD Analysis Date**	:

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	True (mg/kg)	Found (mg/kg)	%R		True (mg/kg)	Found (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Chromium, Hexavalent	131.	92.3	70.	Q					80-120	20

Form 7
Laboratory Control Sample

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: NA	**Matrix**	: SOIL
Lab Sample ID	: WG1634982-2	**LCS Analysis Date**	: 05/12/22 21:05
Dup Sample ID	:	**LCSD Analysis Date**	:

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	**True (mg/kg)**	**Found (mg/kg)**	**%R**		**True (mg/kg)**	**Found (mg/kg)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
Chromium, Hexavalent	**131.**	**92.3**	**70.**	**Q**					**80-120**	**20**

Form 1
WETCHEM

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-19	**Date Collected**	: 05/03/22 11:00
Client ID	: SB-DUP-2	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/12/22 21:05
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: NL
Lab File ID	: WG1634982.csv	**Instrument ID**	: SPEC 4
Sample Amount	: 2.475g	**%Solids**	: 89
Digestion Method	: EPA 3060A	**Date Digested**	: 05/09/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	0.427	0.900	0.180	J

Form 1
WETCHEM

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: L2223093-27	**Date Collected**	: 05/03/22 12:30
Client ID	: SB-5 (0-2)	**Date Received**	: 05/03/22
Sample Location	: 60 MCLEAN AVENUE	**Date Analyzed**	: 05/07/22 11:33
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,7196A	**Analyst**	: NL
Lab File ID	: WG1634983.csv	**Instrument ID**	: GENSYS10VI
Sample Amount	: 2.4734g	**%Solids**	: 89
Digestion Method	: EPA 3060A	**Date Digested**	: 05/05/22

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
18540-29-9	Chromium, Hexavalent	ND	0.902	0.180	U

Form 6
Lab Duplicates

Client	: Impact Environmental	**Lab Number**	: L2223093
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-5 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223093-27	**Analysis Date**	: 05/07/22 11:33
Dup Sample ID	: WG1634983-7	**DUP Analysis Date**	: 05/07/22 11:33

Parameter	Sample Concentration (mg/kg)	Duplicate Concentration (mg/kg)	RPD	RPD Limit
Chromium, Hexavalent	ND	0.361J	NC	20

DATA VALIDATION

FOR

60 McLEAN AVENUE
YONKERS, NY

ORGANIC AND INORGANIC ANALYSIS DATA

Laboratory Sample Delivery Group (SDG) No. L2223458

Analyses Performed By:

Alpha Analytical
Westborough, Massachusetts

For:

Impact Environmental Inc.
Bohemia, NY

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55102

August 5, 2022

2144-000102
60 McLean Avenue\L2223458.docx

EXECUTIVE SUMMARY

Validation of the organic and inorganic analyses data prepared by Alpha Analytical Westborough, Massachusetts for five soil samples from the 60 McLean Avenue Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Stage 4 validation was performed on the samples. The data were reported by the laboratory under SDG No. L2223458. The following samples were reported:

SB-20 (0-2)	SB-20 (7-9)	SB-14 (0-4)	SB-DUP-1

Although sample SB-20 (13-15) was received and identified by the laboratory as L2223458-03, the following note was included in the data package narrative.

> *L2223458-03: At the client's request, the analyses of Volatile Organics, Semivolatile Organics, Pesticides, PCBs, Total Metals, Hexavalent Chromium and Total Cyanide were not performed.*

Based on professional judgment results for non-detects should be considered to be "U," not detected, at the analyte-specific reporting limit (RL) to represent the lowest concentration at which the laboratory can detect and accurately quantitate sample concentrations based on the documentation provided. The laboratory reported results as not detected at the method detection limit (MDL). The MDL is an estimated value based on a statistical determination, not a quantitative measurement supported by the data provided and should not be used to report non-detect results. It should also be noted by the data user that the laboratory reported non-detect results, RLs, and MDLS to three significant figures. The level of accuracy portrayed at these concentrations and estimated concentrations is not supported by the data and should not be used.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

Data Usability Summary Report	
1. Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2. Have all holding times been met?	Yes
3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See following sections
4. Have all of the data been generated using established and agreed upon analytical protocols?	Yes

Data Usability Summary Report	
5. Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes See Attachments A through H

Based on the validation effort, the following data qualifiers were applied:

VOCs

- The result for acetone in the initial and reanalysis of SB-20 (7-9) were qualified as estimated (J+) and may be biased high, due to an unacceptable surrogate recovery.

- The result for n-butylbenzene in SB-14 (0-4) was qualified as estimated (J+) and may be biased high, due to an unacceptable laboratory control sample recovery.

- Results for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-butanone, acetone, and o-xylene in all samples in this data set were qualified as estimated (J, UJ) due to poor precision between paired field samples.

- The result for acetone in SB-20 (7-9) should be taken from the initial analysis. The concentration in the initial analysis was greater than in the reanalysis and a more conservative approach was taken for determining usability for that data point.

- Results for all compounds in SB-20 (7-9) were qualified estimated J, UJ due to low internal responses.

SVOCs

- Results for all target compounds in SB-DUP-1 were qualified as estimated (UJ) based on low recoveries for the associated surrogate compounds.

- Results for anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene in SB-20 (0-2) and SB-20 (7-9) were qualified as estimated (UJ) based on low recovery for the associated surrogate.

- Results for acenaphthene, hexachlorobenzene, fluoranthene, naphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)pyrene, chrysene, acenaphthylene, anthracene, fluorene, dibenz(a,h)anthracene, phenanthrene, pyrene, dibenzofuran, and pentachlorophenol in SB-20 (0-2), SB-20 (7-9), and SB-DUP-1 were qualified as estimated (UJ) with potential low bias, based on low recoveries in the associated batch LCS and/or LCSD.

- Results for acenaphthene, fluoranthene, naphthalene, benzo(a)anthracene, chrysene, anthracene, fluorene, phenanthrene, pyrene, dibenzofuran, and pentachlorophenol in SB-14 (0-4) were qualified as estimated (UJ) with potential low bias, based on low recoveries in the associated batch LCS and/or LCSD.

Pesticides

- Results for all target compounds in SB-14 were qualified as estimated (UJ) due to low surrogate recoveries.

- Results for delta-BHC, lindane, alpha-BHC, beta-BHC, heptachlor, aldrin, endrin, 4,4'-DDT, endosulfan I, endosulfan II, endosulfan sulfate, and cis-chlordane in SB-20 (0-2), SB-20 (7-9), SB-14 (0-4), and SB-DUP-1 were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

PCBs

- Results for Aroclor 1260 and Total PCBs in SB-20 (0-2), SB-20 (7-9), SB-14 (0-4), and SB-DUP-1 were qualified as not detected (U) at the reporting limit (RL) due to associated method blank contamination.

- Results for all target Aroclors and total Aroclors in SB-20 (0-2), SB-20 (7-9), and SB-14 (0-4) were qualified as estimated (UJ) due to low surrogate recoveries.

ICP Metals

- Results for arsenic, barium, cadmium, and zinc in all samples were qualified as estimated with potential high bias (J+), due to elevated response in the ICSA standard.

- Results for beryllium and selenium in all samples were qualified as estimated (J-, UJ), biased low, due to negative responses in the ICSA standard.

- Results for arsenic in all samples were qualified as estimated (J) due to lack of confirmation in the field duplicate pair.

- Results for barium, chromium, manganese, and nickel in all samples were qualified as estimated (J) due to elevated RPD between the field duplicate pair.

- Results for barium, beryllium, chromium, lead, manganese, selenium, and zinc in SB-20 (0-2) were qualified as estimated (J, UJ) due to low MS recoveries.

- Results for nickel and silver in SB-20 (0-2) were qualified as estimated (J-, UJ) due to low MS and PDS recoveries.

- Result for copper in SB-20 (0-2) was qualified as estimated (J) due to elevated MS recovery.

- Results for copper and manganese in all samples were qualified as estimated (J) due to elevated percent differences in the serial dilution sample.

CV – Mercury

- Results for mercury in all samples were qualified as estimated (J, UJ) due to lack of confirmation in the field duplicate pair.

PFAS

- Results for NMeFOSAA and NEtFOSAA in SB-DUP-1 were qualified as estimated (UJ) due to low labeled analog recoveries.

Cyanide

- Result for cyanide in SB-DUP-1 was qualified as estimated (UJ), due to low LCS recovery and elevated relative percent difference between the LCS and LCSD.

- Results for cyanide in SB-20 (0-2), SB-20 (7-9), and SB-14 (0-4) were qualified as estimated, and biased low UJ) due to low LCS/LCSD recoveries.

Trivalent Chromium

- Results for trivalent chromium in all samples were qualified as estimate (J) due to elevated RPD in the field duplicate pair and, for SB-20 (0-2), low MS recovery in the total chromium analysis.

All other results were determined to be valid as reported by the laboratory.

This report should be considered part of the data package for all future distributions of the data.

INTRODUCTION

Analyses for the requested parameters were performed by the laboratory according to the following analytical methods:

Volatile Organic Compounds (VOCs)	SW846 Method 8260C
Semivolatile Organic Compounds (SVOCs)	SW846 Method 8270D SW846 Method 8270DSIM
Organochlorine Pesticides	SW846 Method 8081B
Polychlorinated Biphenyls	SW846 Method 8082A
Total Metals	SW846 Method 6010C SW846 Method 6020B SW846 Method 7471B
Polyfluorinated Alkyl Substances (PFAS)	EPA Method 537 (M)
Total Cyanide	SW846 9012B
Hexavalent Chromium	SW846 7196A
Total Solids	SM2540G

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used to denote specific information regarding the analytical results.

ddms' validation was performed in conformance with the USEPA "National Functional Guidelines (NFG for Organic Data Review" (1999), the USEPA "National Functional Guidelines for Inorganic Data Review" (2004), ddms' Standard Operating Procedures (SOPs) for the methods followed, the requirements of the analytical methods followed, and the specifications of the project-specific Quality Assurance Project Plan (QAPP). Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the CLP. This requires that the data package be presented in accordance with the CLP requirements, so that sufficient supporting documentation is available to facilitate the validation effort. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added

by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the NFG:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data package, documenting sample collection dates of May 3 and 4, 2022. The samples were received at the laboratory on May 4, 2022.

The temperatures of the coolers upon receipt at the laboratory (2.9°C to 5.4°C) were acceptable (QC <6°C). All samples were prepared and analyzed within method holding times.

II. Documentation

The following documentation issues were observed during the validation effort:

- Sample SB-DUP-1 was collected as a field duplicate of SB-19 (7-9). The COC indicated that SB-DUP-1 was collected on May 3, 2022, while SB-19 (7-9) was collected on May 2, 2022. The client was contacted and replied that SB-DUP-1 was mis-labelled as being collected on May 3, 2022, and was actually collected on May 2, 2022. It was mislaid in the field and was submitted on May 4, 2022.

- Sample SB-DUP-1 was included on the COC for SDG L2223093. It was not received by the laboratory in SDG L2223093, but it was included with SDG L2223458 samples as well as on the COC for SDG L2223458. Discussion of any data quality excursions impacting SB-DUP-1 have been included in this data review report.

- Raw data for the 1.0 ng/mL standard of the PFAS initial calibration run on April 27, 2022, on instrument LCMS01 were not included in the data package. Instead, two sets of raw data for the 0.50 ng/mL standard were provided. On request, the laboratory provided the raw data for the 1.0 ng/mL standard, which were reviewed and verified by the validator. At the discretion of the data user, the laboratory should be requested to revise the data package to include this documentation so that complete and accurate documentation is available for future reference.

- The internal standard used to calculate concentrations of PFTrDA in the calibration standards and laboratory QC samples could not be determined from the information in the data package as received. On request, the laboratory explained that the area used for this calculation is the average of the areas of internal standards M2PFTeDA and MPFDOA. This was confirmed by the validator. At the discretion of the data user, the laboratory should be requested to provide this information in the data package so that complete information is available for future reference.

The remainder of this report discusses the review effort for each of the parameters. The tables below document the quality control (QC) elements reviewed for each analysis parameter. Where a quality indicator was deemed acceptable after thorough review, no

further discussion is included in this report. Detailed findings are included for each quality element that impacted the usability of the reported results. Additional information or explanation is included as needed, to provide support for decisions made, based on the validator's best professional judgment.

Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J with an indeterminate bias.

III. VOCs

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	N
MS/MSD	N/A
Internal Standard Responses	N
Compound Identification	Y
Tentatively Identified Compounds (TICs)	N/A

A. Calibration

Data for one Initial Calibration (IC) were provided, performed on instrument V111 on April 21, 2022. All of the IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable except for 1,4-dioxane (0.001). A review of other laboratory quality control data supports the laboratory's ability to detect and accurately quantify the compounds. No data were qualified on this basis.

An initial calibration verification (ICV) standard was analyzed after the IC; all percent differences (%Ds) were acceptable in the ICV standard.

Data for two continuing calibration standards were reported. All %Ds were acceptable except as summarized below. In every case, the excursion represented an increase in sensitivity and the analyte was not detected; therefore, no data required qualification.

Parameter	%D	Samples Affected	Qualifier Applied
Batch 1637730			
Vinyl chloride	25.9	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4)	none

Parameter	%D	Samples Affected	Qualifier Applied
		SB-DUP-1	
Batch 1639494			
Vinyl chloride	31.6	SB-20 (7-9) Reanalysis	none
n-Propylbenzene	24.5		
sec-Butylbenzene	23.5		
n-Butylbenzene	29.5		

B. Surrogates

Surrogate recoveries (70-130%R) were acceptable except for 1,2-dichloroethane-d_4 in both analyses of SB-20 (7-9) (164% and 169%). The results for acetone in the initial and reanalysis of SB-20 (7-9) were qualified as estimated (J+) and may be biased high.

C. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

One LCS/LSCD pair was analyzed with the samples in this data set. Results were within acceptance limits with the exceptions summarized below.

Compound	LCS %R	LCSD %R	Samples Affected	Qualifier Applied
Batch1639494-3/4				
n-Butylbenzene	a	136	SB-14 (0-4)	J+
Vinyl chloride	132	140		none
sec-Butylbenzene	a	131		

a = acceptable

The result for n-butylbenzene in SB-14 (0-4) was qualified as estimated (J+) and may be biased high on this basis.

D. Field Duplicates

Based on documentation from the client, SB-DUP-1 was submitted as a field duplicate of SB-19 (7-9) [SDG L2223039].

Compound	SB-19 (7-9)	SB-19 (7-9) RL	SB-DUP-1	SB-DUP-1 RL
1,2,4-Trimethylbenzene	ND	2.2	0.4 J	2.3
1,3,5-Trimethylbenzene	ND	2.2	0.45 J	2.3
2-Butanone	ND	11	4.4 J	11
Acetone	ND	11	31	11
o-Xylene	ND	1.1	0.53 J	1.1

Results for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-butanone, acetone, and o-xylene in all samples in this data set were qualified as estimated (J, UJ) on this basis.

E. Internal Standard Responses

Internal standard responses were acceptable except for SB-20 (7-9) [fluorobenzene (13%), chlorobenzene-d_5 (15%), and 1,4-dichlorobenzene-d_4 (14%)]. The sample was reanalyzed with similar results [fluorobenzene (10%), chlorobenzene-d_5 (12%), and 1,4-dichlorobenzene-d_4 (12%)]. Results for all compounds in SB-20 (7-9) were qualified estimated (J, UJ) on this basis. Acetone was the only analyte detected in either analysis and was reported at 42 µg/kg in the initial analysis and at 9.7 µg/kg in the reanalysis. Since acetone was reported at a higher concentration in the initial analysis and taking a more conservative approach, results from the initial analysis were identified as being reportable.

IV. SVOCs (8270D Full scan)

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	Y
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	NA

NA = not applicable or not analyzed

A. Calibration

Two initial calibrations were provided in support of the samples results, one performed on 1/22/22, on instrument GCMS5, and one on 3/31/22, on instrument SV109. All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable. An initial calibration verification (ICV) standard was analyzed after each IC; all percent differences (%Ds) were acceptable (≤20%) in the ICV standards, for the target compounds reported for the associated samples.

B. Blanks

A laboratory blank was prepared and analyzed for each of the two extraction batches. None of the target compounds reported in the field samples were detected in either of the laboratory method blanks.

C. Surrogates

Six surrogate compounds were added before extraction to all QC and field samples. Recoveries for the surrogates were acceptable (70-130%) with the exceptions detailed below:

Sample	2FP	PHL	NBZ	FBP	TBP	TPHd14	Qualifier Applied
SB-20 (0-2)	a	a	a	a	a	53	J-, UJ
SB-20 (7-9)	a	a	a	a	a	53	
SB-DUP-1	62	68	65	56	53	47	

Results for all target compounds in SB-DUP-1 were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in each of the acid and base/neutral extractables fractions.

Results for anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene in SB-20 (0-2) and SB-20 (7-9) were qualified as estimated (J-, UJ) based on low recovery for the associated surrogate.

D. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

One LCS/LCSD pair was prepared and analyzed with the field samples. Recoveries for spiked compounds assessed (data validation limits 70-130% R) and agreement between paired results (<20 RPD) were acceptable, with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1635905-2/3					
Acenaphthene	65	a	a	SB-20 (0-2) SB-20 (7-9) SB-DUP-1	UJ
Hexachlorobenzene	61	68	a		
Fluoranthene	67	a	a		
Naphthalene	66	a	a		
Benzo(a)anthracene	63	69	a		
Benzo(a)pyrene	58	63	a		
Benzo(b)fluoranthene	58	63	a		
Benzo(k)fluoranthene	60	65	a		
Chrysene	61	67	a		
Acenaphthylene	68	a	a		
Anthracene	64	a	a		
Benzo(ghi)perylene	66	a	a		
Fluorene	67	a	a		
Phenanthrene	67	a	a		
Dibenz(a,h)anthracene	64	a	a		

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Pyrene	66	a	a		
Dibenzofuran	67	a	a		
Pentachlorophenol	61	68	a		
Batch 1639958-2/3					
Acenaphthene	62	66	a	SB-14 (0-4)	UJ
Fluoranthene	68	a	a		
Naphthalene	67	a	a		
Benzo(a)anthracene	69	a	a		
Chrysene	66	69	a		
Anthracene	65	68	a		
Fluorene	65	69	a		
Phenanthrene	63	67	a		
Pyrene	66	a	a		
Dibenzofuran	67	a	a		
Pentachlorophenol	45	48	a		

Results for acenaphthene, hexachlorobenzene, fluoranthene, naphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)pyrene, chrysene, acenaphthylene, anthracene, fluorene, dibenz(a,h)anthracene, phenanthrene, pyrene, dibenzofuran, and pentachlorophenol in SB-20 (0-2), SB-20 (7-9), and SB-DUP-1 were qualified as estimated (UJ) with potential low bias, based on low recoveries in the associated batch LCS and/or LCSD.

Results for acenaphthene, fluoranthene, naphthalene, benzo(a)anthracene, chrysene, anthracene, fluorene, phenanthrene, pyrene, dibenzofuran, and pentachlorophenol in SB-14 (0-4) were qualified as estimated (UJ) with potential low bias, based on low recoveries in the associated batch LCS and/or LCSD.

E. Field Duplicates

Sample SB-DUP-1 (included in this SDG) was submitted as a field duplicate of sample SB-19 (7-9), which was included in SDG L2223093. None of the reported target analytes were detected in either sample of the field duplicate pair.

VI. Pesticides

Review Element	Acceptable?
Calibration - IC, ICV, CCV	Y
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)	N
Field Duplicates	Y
MS/MSD	NA

Review Element	Acceptable?
Compound Identification	Y
Compound Quantitation	Y

NA = not analyzed

A. Surrogate Recovery

Tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB) were used as the surrogate compounds for these analyses. Recoveries of TCX and DCB for the reported site and laboratory QC samples were within the validation acceptance limits of 70-130%, with the following exceptions:

Sample	TCX %R Column 1	TCX %R Column 2	DCB %R Column 1	DCB %R Column 2	Qualifier
SB-14 (0-4)	63	64	a	64	UJ

a = acceptable

Results for all target compounds in SB-14 were qualified as estimated (UJ) due to low surrogate recoveries.

B. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

An LCS/LCSD pair was prepared and analyzed with the site samples. Recoveries and precision between paired recoveries were acceptable (70-130% R and <20% RPD), with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch WG1635921-2/3					
delta-BHC	66	62	a	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1	UJ
Lindane	67	64	a		
alpha-BHC	a	66	a		
beta-BHC	62	59	a		
Heptachlor	53	49	a		
Aldrin	64	60	a		
Endrin	a	64	a		
4,4'-DDT	a	68	a		
Endosulfan I	61	57	a		
Endosulfan II	a	65	a		
Endosulfan sulfate	54	51	a		
cis-Chlordane	a	62	a		

a = acceptable

Results for delta-BHC, lindane, alpha-BHC, beta-BHC, heptachlor, aldrin, endrin, 4,4'-DDT, endosulfan I, endosulfan II, endosulfan sulfate, and cis-chlordane in SB-20 (0-2),

SB-20 (7-9), SB-14 (0-4), and SB-DUP-1 were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

VII. PCBs

Review Element	Acceptable?
Calibration - IC, ICV, CCV	Y
Laboratory and Field Blanks	N
Surrogates	N
Laboratory Control Sample (LCS)	N
Field Duplicates	Y
MS/MSD	NA
Compound Identification	Y
Compound Quantitation	Y

NA = not analyzed

A. Blanks

One method blank was prepared and analyzed with the site samples. Aroclor 1260 was reported in the method blank at 9.7 J µg/kg. Results for Aroclor 1260 and Total PCBs in SB-20 (0-2), SB-20 (7-9), SB-14 (0-4), and SB-DUP-1 were qualified as not detected (U) at the RL due to associated method blank contamination.

B. Surrogate Recovery

TCX and DCB were used as the surrogate compounds for these analyses. Recoveries of TCX and DCB for the reported site and laboratory QC samples were within the validation acceptance limits of 70-130%, with the following exceptions:

Sample	TCX %R Column 1	TCX %R Column 2	DCB %R Column 1	DCB %R Column 2	Qualifier
SB-20 (0-2)	51	52	50	52	UJ
SB-20 (7-9)	55	57	60	60	
SB-14 (0-4)	38	40	35	34	
SB-DUP-1	68	a	a	a	none

a = acceptable

Results for all target Aroclors in SB-20 (0-2), SB-20 (7-9), and SB-14 (0-4) were qualified as estimated (UJ) due to low surrogate recoveries. Total Aroclor results for these samples were also qualified as estimated. Since three of four surrogate recoveries for SB-DUP-1 were acceptable and no target Aroclors were detected in the sample, qualification of sample results due to the single low surrogate recovery was not necessary.

C. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

An LCS/LCSD pair was prepared and analyzed with the site samples. Recoveries and precision between paired recoveries were acceptable (70-130% R and <20% RPD), with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch WG1635800-2/3					
Aroclor 1016	a / a	69 / a	a / a	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1	None
Aroclor 1260	66 / a	67 / a	a / a		

Based on professional judgment, since all LCS/LCSD recoveries on the second column were acceptable and no target Aroclors were reported in the site samples after qualifications based on method blank contamination, no action was taken based on the slightly low recoveries on the initial column.

VIII. ICP Metals

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory Blanks	Y
Interference Check Samples	N
Laboratory Control Samples	Y
Laboratory and Field Duplicates	N
Matrix Spike	N
Post Digestion Spikes	N
Serial Dilution Analysis	N
Compound Quantitation	Y

A. Blanks

Initial and continuing calibration blanks were analyzed at the proper frequencies. One preparation blank for total metals was prepared and analyzed with the samples. Raw data was evaluated for negative blank concentrations, without any findings. Multiple analytes were detected above the MDL in the following blanks:

Blank ID	Analyte	Concentration (mg/kg)	Associated Samples	Qualifier
MB(WG1640166-1BLANK)	Chromium	0.296	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1	none
	Manganese	0.064		
	Nickel	0.168		

Blank ID	Analyte	Concentration (mg/kg)	Associated Samples	Qualifier
CCB (R1566085-27) @ 16:43	Beryllium	0.016	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1	none

The method blank and continuing calibration blank were detected at less than actionable contamination levels; therefore, field sample results did not warrant qualification.

B. Interference Check Samples (ICSA/ICSAB)

The interference check samples associated with these samples were acceptable for all analytes in the ICSA standard except as summarized below. All ICSAB recoveries were within acceptance criteria (85-115%).

ICSA Standard	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
ICSA (R1566085-21) 5/19/22 @ 14:03	Arsenic	0.00420	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1	J+
	Barium	0.00390		J+
	Cadmium	0.00140		J+
	Zinc	0.00310		J+
	Beryllium	-0.00040	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1	J-, UJ
	Selenium	-0.00870		UJ

The ICSA was detected at a concentration greater than the MDL for arsenic (MDL - 0.00208 mg/L), barium (MDL – 0.00174 mg/L), cadmium (MDL – 0.000980 mg/L), and zinc (MDL – 0.00293 mg/L), exhibiting an elevated response with potential for high bias in detected samples. The results for arsenic, barium, cadmium, and zinc in all samples were qualified as estimated (J+), due to elevated response in the ICSA standard. The results for beryllium and selenium in all samples were qualified as estimated (J-, UJ), biased low, due to negative responses in the ICSA standard.

C. Field and Laboratory Duplicates

A laboratory duplicate was performed on SB-20 (0-2) in compliance with the analytical method, and all analyte concentrations were within the acceptance limit (<50 RPD). SB-DUP-1 was collected as a field duplicate of SB-3 (0-2). This duplicate pair is split between two SDGs: L2223093 and L2223458. It will be identified in both validation reports, and only the samples included in SDG L2223458 will be discussed below. The field duplicate pair was within acceptance limits with exceptions noted in the table below:

Analyte	Original conc. (mg/kg)	Duplicate conc. (mg/kg)	RPD	Associated Sample
Field Duplicate Pair: SB-3 (0-2) : SB-DUP-1				
Arsenic	ND	0.898	N/C	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1
Barium	71.1	18.5	117	
Chromium	13.0	6.74	63.4	
Manganese	102	52.5	64	
Nickel	21.2	7.23	98.3	

N/C – Not Calculated
ND – not detected

Results for arsenic in all samples were qualified as estimated (J) due to lack of confirmation in the field duplicate pair. Results for barium, chromium, manganese, and nickel in all samples were qualified as estimated (J) due to elevated RPD between the field duplicate pair.

D. Matrix Spike (MS) and Post Digestion Spike (PDS)

SB-20 (0-2) was prepared as an MS and analyzed with the site samples. A PDS was prepared and analyzed, on the same sample, with the site samples. %Rs and RPDs were acceptable (validation QC 75-125%R, RPDs ≤20 RPD), with the exceptions noted below.

Analyte	MS %R	PDS
Barium	69	a
Beryllium	72	a
Chromium	67	a
Copper	139	a
Lead	68	a
Manganese	69	a
Nickel	64	73
Selenium	66	a
Silver	74	70
Zinc	71	a

a = acceptable

The results for barium, beryllium, chromium, lead, manganese, selenium, and zinc in SB-20 (0-2) were qualified as estimated (J, UJ) due to low MS recoveries and acceptable PDS recoveries. The results for nickel and silver in SB-20 (0-2) were qualified as estimated (J-, UJ) due to low MS and PDS recoveries. The result for copper in SB-20 (0-2) was qualified as estimated (J) due to elevated MS recovery and acceptable PDS recovery. The user is cautioned that matrix effects seen in the qualified sample may also be applicable to other site samples.

E. Serial Dilution

A 5-fold serial dilution was performed on SB-20 (0-2). Most percent differences (%Ds) were acceptable (<20%), with exception of copper (29%D) and manganese (49%D). The

results for copper and manganese in all samples were qualified as estimated (J) due to elevated percent differences in the serial dilution sample.

F. Analyte Quantitation

All samples were analyzed as prepared without secondary analytical dilutions. Calculations were verified from the raw data and preparation sheets provided in the data package. All sample concentrations, RLs, and MDLs were appropriately reported.

IX. Mercury – CVAA

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	Y
Laboratory Control Samples	Y
Field Duplicates	N
Matrix Spike	Y
Post Digestion Spikes	Y
Serial Dilution Analysis	Y
Compound Quantitation	Y

N/A - Not Applicable

A. Field Duplicates

SB-DUP-1 was collected as a field duplicate of SB-3 (0-2). This duplicate pair is split between two SDGs: L2223093 and L2223458. It will be identified in both validation reports, but only the samples included in SDG L2223458 will be discussed below. The field duplicate pair was within acceptance limits with exceptions noted in the table below:

Analyte	Original conc. (mg/kg)	Duplicate conc. (mg/kg)	RPD	Associated Sample
Field Duplicate Pair: SB-3 (0-2) : SB-DUP-1				
Mercury	2.0	ND	N/C	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4) SB-DUP-1

N/C – Not Calculated

The mercury results in all samples were qualified as estimated (J, UJ) due to lack of confirmation in the field duplicate pair.

B. Compound Quantitation

All samples were analyzed as prepared without secondary analytical dilutions. Calculations were verified from the raw data and preparation sheets provided in the data package. All sample concentrations, RLs, and MDLs were appropriately reported.

X. PFAS

Review Element	Acceptable?
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	Y
Labeled Analogs	N
LCS/LCSD	Y
Field Duplicates	Y
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	Y

NA = not analyzed

A. Labeled Analogs

Eighteen labeled analogs (also referred to as extraction standards) were used. Percent recoveries (%Rs) of the labeled analogs were assessed against validation criteria of 40-140%R. Exceedances that impacted sample results are detailed below:

Sample	Labeled Analog	%R	Native Compound	Qualifier Applied
SB-DUP-1	d3-NMEFOSAA	24	NMeFOSAA	UJ
	D5-NETFOSAA	34	NEtFOSA	

Results for NMeFOSAA and NEtFOSAA in SB-DUP-1 were qualified as estimated (UJ) due to low labeled analog recoveries.

B. Field Duplicate

Sample SB-DUP-1 was submitted as a field duplicate of SB-19 (7-9). Results for SB-19 (7-9) were reported in SDG L2223093. No target analytes were detected in either of these samples.

XI. Cyanide

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory Blanks	Y
Laboratory Control Samples	N
Field Duplicate	Y
Matrix Spike	Y
Compound Quantitation	Y

A. Laboratory Control Samples

Two LCS/LCSD pairs were prepared and analyzed with the site samples. Recoveries and precision were acceptable (80-120% R and <20% RPD), with the following exceptions:

Analyte	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch WG1639289-2/3					
Cyanide	42	a	67	SB-DUP-1	UJ
Batch WG1639561-2/3					
Cyanide	76	77	a	SB-20 (0-2) SB-20 (7-9) SB-14 (0-4)	UJ

The result for cyanide in SB-DUP-1 was qualified as estimated (UJ), due to low LCS recovery and elevated relative percent difference between the LCS and LCSD. The results for cyanide in SB-20 (0-2), SB-20 (7-9), and SB-14 (0-4) were qualified as estimated and biased low due to low LCS/LCSD recoveries.

B. Field Duplicate

SB-DUP-1 was collected as a field duplicate of SB-3 (0-2). This duplicate pair is split between two SDGs: L2223093 and L2223458. It is identified in both validation reports, to ensure all associated samples are assessed. The field duplicate pair was within acceptance limit (<30%).

XII. Hexavalent Chromium

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory Blanks	Y
Laboratory Control Samples	Y
Laboratory and Field Duplicates	Y
Matrix Spike and Post-Spike	Y
Compound Quantitation	Y

The hexavalent chromium results in all site samples were acceptable as reported. No qualification of data was warranted.

XIII. Total Solids

Review Element	Acceptable?
Field Duplicate	Y
Compound Quantitation	Y

The total solid results in all site samples were acceptable as reported. No qualification of data was warranted.

XIV. Trivalent Chromium

Review Element	Acceptable?
Compound Quantitation	Y

All results were correctly calculated from the total chromium and hexavalent chromium results. Since trivalent chromium results are based on total chromium and hexavalent chromium analyses, any qualifiers applied to either total chromium or hexavalent chromium results are also applied to trivalent chromium results.

Attachment A
Volatiles QC Summary Forms - Excursions

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA111\2022\220510N\
Data File : V11220510N01.D
Acq On : 10 May 2022 07:55 pm
Operator : VOA111:AJK
Sample : WG1637730-2
Misc : WG1637730,ICAL18962
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 20:15:41 2022
Quant Method : I:\VOLATILES\VOA111\2022\220510N\V111_220419N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 21 15:53:10 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	93	0.00
2	TP	Dichlorodifluoromethane	0.234	0.185	20.9#	72	0.00
3	TP	Chloromethane	0.249	0.253	-1.6	96	0.00
4	TC	Vinyl chloride	0.247	0.311	-25.9#	115	0.00
5	TP	Bromomethane	0.149	0.215	-44.3#	144	0.00
6	TP	Chloroethane	0.142	0.165	-16.2	110	0.00
7	TP	Trichlorofluoromethane	0.308	0.329	-6.8	98	0.00
8	TP	Ethyl ether	0.104	0.112	-7.7	99	0.00
10	TP	1,1-Dichloroethene	0.181	0.182	-0.6	93	0.00
11	TP	Carbon disulfide	0.561	0.558	0.5	95	-0.01
12	TP	Freon-113	0.187	0.187	0.0	91	-0.01
14	TP	Acrolein	0.034	0.032	5.9	91	0.00
15	TP	Methylene chloride	0.243	0.239	1.6	99	-0.01
17	TP	Acetone	* 40.000	37.936	5.2	86	0.00
18	TP	trans-1,2-Dichloroethene	0.212	0.217	-2.4	96	0.00
19	TP	Methyl acetate	0.145	0.136	6.2	96	0.00
20	TP	Methyl tert-butyl ether	0.578	0.590	-2.1	95	-0.01
21	TP	tert-Butyl alcohol	0.023	0.024	-4.3	94	-0.01
22	TP	Diisopropyl ether	0.764	0.818	-7.1	100	-0.01
23	TC	1,1-Dichloroethane	0.396	0.429	-8.3	100	0.00
24	TP	Halothane	0.168	0.156	7.1	90	-0.01
25	TP	Acrylonitrile	0.065	0.067	-3.1	93	-0.01
26	TP	Ethyl tert-butyl ether	0.756	0.795	-5.2	99	-0.01
27	TP	Vinyl acetate	0.580	0.606	-4.5	98	-0.01
28	TP	cis-1,2-Dichloroethene	0.243	0.253	-4.1	97	-0.01
29	TP	2,2-Dichloropropane	0.344	0.353	-2.6	97	-0.01
30	TP	Bromochloromethane	0.116	0.116	0.0	92	-0.01
31	TP	Cyclohexane	0.363	0.370	-1.9	95	0.00
32	TC	Chloroform	0.419	0.429	-2.4	100	-0.01
33	TP	Ethyl acetate	0.217	0.211	2.8	92	-0.01
34	TP	Carbon tetrachloride	0.304	0.291	4.3	89	-0.01
35	TP	Tetrahydrofuran	0.062	0.058	6.5	90	-0.01
36	S	Dibromofluoromethane	0.254	0.241	5.1	88	-0.02
37	TP	1,1,1-Trichloroethane	0.317	0.328	-3.5	93	-0.01
39	TP	2-Butanone	0.104	0.096	7.7	96	-0.01
40	TP	1,1-Dichloropropene	* 40.000	40.297	-0.7	96	-0.01
41	TP	Benzene	0.856	0.922	-7.7	100	-0.01
42	TP	tert-Amyl methyl ether	0.658	0.680	-3.3	97	-0.01
43	S	1,2-Dichloroethane-d4	0.260	0.259	0.4	93	-0.01

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA111\2022\220511N\
Data File : V11220511N01.D
Acq On : 11 May 2022 07:09 pm
Operator : VOA111:LAC
Sample : WG1639494-2
Misc : WG1639494,ICAL18962
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 11 19:36:46 2022
Quant Method : I:\VOLATILES\VOA111\2022\220511N\V111_220419N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 21 15:53:10 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	97	0.00
2	TP	Dichlorodifluoromethane	0.234	0.208	11.1	86	0.00
3	TP	Chloromethane	0.249	0.268	-7.6	107	0.00
4	TC	Vinyl chloride	0.247	0.325	-31.6#	127	0.00
5	TP	Bromomethane	0.149	0.246	-65.1#	174	0.00
6	TP	Chloroethane	0.142	0.173	-21.8#	121	0.00
7	TP	Trichlorofluoromethane	0.308	0.361	-17.2	113	0.00
8	TP	Ethyl ether	0.104	0.105	-1.0	97	0.00
10	TP	1,1-Dichloroethene	0.181	0.198	-9.4	106	0.00
11	TP	Carbon disulfide	0.561	0.596	-6.2	107	-0.01
12	TP	Freon-113	0.187	0.208	-11.2	106	-0.01
14	TP	Acrolein	0.034	0.031	8.8	93	0.00
15	TP	Methylene chloride	0.243	0.233	4.1	101	-0.01
17	TP	Acetone	* 40.000	37.744	5.6	90	0.00
18	TP	trans-1,2-Dichloroethene	0.212	0.226	-6.6	105	0.00
19	TP	Methyl acetate	0.145	0.125	13.8	93	0.00
20	TP	Methyl tert-butyl ether	0.578	0.552	4.5	94	-0.01
21	TP	tert-Butyl alcohol	0.023	0.021	8.7	85	-0.01
22	TP	Diisopropyl ether	0.764	0.797	-4.3	102	-0.01
23	TC	1,1-Dichloroethane	0.396	0.435	-9.8	106	0.00
24	TP	Halothane	0.168	0.167	0.6	101	0.00
25	TP	Acrylonitrile	0.065	0.061	6.2	89	-0.01
26	TP	Ethyl tert-butyl ether	0.756	0.756	0.0	98	-0.01
27	TP	Vinyl acetate	0.580	0.571	1.6	96	-0.01
28	TP	cis-1,2-Dichloroethene	0.243	0.252	-3.7	101	-0.01
29	TP	2,2-Dichloropropane	0.344	0.374	-8.7	107	-0.01
30	TP	Bromochloromethane	0.116	0.111	4.3	92	0.00
31	TP	Cyclohexane	0.363	0.408	-12.4	110	0.00
32	TC	Chloroform	0.419	0.426	-1.7	104	-0.01
33	TP	Ethyl acetate	0.217	0.191	12.0	88	-0.01
34	TP	Carbon tetrachloride	0.304	0.312	-2.6	101	-0.01
35	TP	Tetrahydrofuran	0.062	0.053	14.5	86	-0.01
36	S	Dibromofluoromethane	0.254	0.238	6.3	91	-0.01
37	TP	1,1,1-Trichloroethane	0.317	0.348	-9.8	104	-0.01
39	TP	2-Butanone	0.104	0.090	13.5	93	-0.01
40	TP	1,1-Dichloropropene	* 40.000	43.458	-8.6	109	0.00
41	TP	Benzene	0.856	0.932	-8.9	106	-0.01
42	TP	tert-Amyl methyl ether	0.658	0.638	3.0	95	-0.01
43	S	1,2-Dichloroethane-d4	0.260	0.258	0.8	97	0.00

Data Path : I:\VOLATILES\VOA111\2022\220511N\
Data File : V11220511N01.D
Acq On : 11 May 2022 07:09 pm
Operator : VOA111:LAC
Sample : WG1639494-2
Misc : WG1639494,ICAL18962
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 11 19:36:46 2022
Quant Method : I:\VOLATILES\VOA111\2022\220511N\V111_220419N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 21 15:53:10 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
44	TP	1,2-Dichloroethane	0.317	0.311	1.9	96	-0.01
47	TP	Methyl cyclohexane	0.370	0.406	-9.7	108	0.00
48	TP	Trichloroethene	0.221	0.239	-8.1	104	-0.01
50	TP	Dibromomethane	0.141	0.133	5.7	92	-0.01
51	TC	1,2-Dichloropropane	0.238	0.253	-6.3	104	-0.01
53	TP	2-Chloroethyl vinyl ether	0.123	0.112	8.9	86	-0.01
54	TP	Bromodichloromethane	0.323	0.324	-0.3	97	-0.01
57	TP	1,4-Dioxane	*2000.000	1950.434	2.5	94	-0.01
58	TP	cis-1,3-Dichloropropene	0.386	0.393	-1.8	98	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	90	0.00
60	S	Toluene-d8	1.287	1.355	-5.3	94	0.00
61	TC	Toluene	* 40.000	43.467	-8.7	102	-0.01
62	TP	4-Methyl-2-pentanone	0.097	0.100	-3.1	86	-0.01
63	TP	Tetrachloroethene	0.291	0.316	-8.6	94	0.00
65	TP	trans-1,3-Dichloropropene	0.467	0.492	-5.4	94	-0.01
67	TP	Ethyl methacrylate	0.366	0.350	4.4	86	-0.01
68	TP	1,1,2-Trichloroethane	0.210	0.222	-5.7	95	-0.01
69	TP	Chlorodibromomethane	0.309	0.306	1.0	87	-0.01
70	TP	1,3-Dichloropropane	0.435	0.463	-6.4	95	0.00
71	TP	1,2-Dibromoethane	0.252	0.254	-0.8	88	0.00
72	TP	2-Hexanone	0.215	0.189	12.1	85	-0.01
73	TP	Chlorobenzene	0.833	0.895	-7.4	97	0.00
74	TC	Ethylbenzene	1.403	1.574	-12.2	103	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.302	0.323	-7.0	93	-0.01
76	TP	p/m Xylene	0.537	0.605	-12.7	100	-0.01
77	TP	o Xylene	0.526	0.595	-13.1	100	0.00
78	TP	Styrene	0.914	0.986	-7.9	97	-0.01
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	87	0.00
80	TP	Bromoform	0.367	0.358	2.5	84	0.00
82	TP	Isopropylbenzene	2.583	3.071	-18.9	103	0.00
83	S	4-Bromofluorobenzene	0.889	0.903	-1.6	87	-0.01
84	TP	Bromobenzene	0.678	0.710	-4.7	91	0.00
85	TP	n-Propylbenzene	3.067	3.819	-24.5#	108	-0.01
86	TP	1,4-Dichlorobutane	0.878	0.928	-5.7	93	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.589	0.645	-9.5	93	0.00
88	TP	4-Ethyltoluene	2.568	3.056	-19.0	103	0.00
89	TP	2-Chlorotoluene	1.845	2.164	-17.3	103	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA111\2022\220511N\
Data File : V11220511N01.D
Acq On : 11 May 2022 07:09 pm
Operator : VOA111:LAC
Sample : WG1639494-2
Misc : WG1639494,ICAL18962
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 11 19:36:46 2022
Quant Method : I:\VOLATILES\VOA111\2022\220511N\V111_220419N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 21 15:53:10 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
90 TP	1,3,5-Trimethylbenzene	2.227	2.639	-18.5	102	-0.01
91 TP	1,2,3-Trichloropropane	0.484	0.526	-8.7	94	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.211	0.222	-5.2	91	-0.01
93 TP	4-Chlorotoluene	1.957	2.284	-16.7	103	0.00
94 TP	tert-Butylbenzene	1.909	2.233	-17.0	101	0.00
97 TP	1,2,4-Trimethylbenzene	2.257	2.631	-16.6	101	0.00
98 TP	sec-Butylbenzene	2.833	3.500	-23.5#	106	0.00
99 TP	p-Isopropyltoluene	2.479	2.947	-18.9	103	-0.01
100 TP	1,3-Dichlorobenzene	1.330	1.456	-9.5	96	-0.01
101 TP	1,4-Dichlorobenzene	1.347	1.463	-8.6	96	0.00
102 TP	p-Diethylbenzene	1.487	1.765	-18.7	102	0.00
103 TP	n-Butylbenzene	2.221	2.876	-29.5#	112	0.00
104 TP	1,2-Dichlorobenzene	1.269	1.336	-5.3	93	-0.01
105 TP	1,2,4,5-Tetramethylbenzene	2.425	2.667	-10.0	96	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.104	0.089	14.4	75	0.00
107 TP	1,3,5-Trichlorobenzene	0.947	1.013	-7.0	94	0.00
108 TP	Hexachlorobutadiene	0.412	0.439	-6.6	92	0.00
109 TP	1,2,4-Trichlorobenzene	0.854	0.873	-2.2	90	0.00
110 TP	Naphthalene	1.992	1.890	5.1	85	0.00
111 TP	1,2,3-Trichlorobenzene	0.732	0.725	1.0	86	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220511N\
Data File : V11220511N01.D
Acq On : 11 May 2022 07:09 pm
Operator : VOA111:LAC
Sample : WG1639494-2
Misc : WG1639494,ICAL18962
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 11 19:36:46 2022
Quant Method : I:\VOLATILES\VOA111\2022\220511N\V111_220419N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Apr 21 15:53:10 2022
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\VOLATILES\VOA111\2022\220511N\V11220511N01.D
Sub List : 8260-CurveSoil - Megamix plus Diox

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.323	96	117972	20.000	ug/L	0.00
Standard Area 1 = 117972			Recovery = 100.00%			
59) Chlorobenzene-d5	9.904	117	84045	20.000	ug/L	0.00
Standard Area 1 = 84045			Recovery = 100.00%			
79) 1,4-Dichlorobenzene-d4	12.530	152	43277	20.000	ug/L	0.00
Standard Area 1 = 43277			Recovery = 100.00%			
System Monitoring Compounds						
36) Dibromofluoromethane	5.489	113	28127	18.794	ug/L	-0.01
Spiked Amount 20.000	Range 70 - 130		Recovery = 93.97%			
43) 1,2-Dichloroethane-d4	6.029	65	30439	19.836	ug/L	0.00
Spiked Amount 20.000	Range 70 - 130		Recovery = 99.18%			
60) Toluene-d8	8.037	98	113913	21.060	ug/L	0.00
Spiked Amount 20.000	Range 70 - 130		Recovery = 105.30%			
83) 4-Bromofluorobenzene	11.346	95	39091	20.326	ug/L	-0.01
Spiked Amount 20.000	Range 70 - 130		Recovery = 101.63%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.693	85	49032	35.456	ug/L	99
3) Chloromethane	1.908	50	63291	43.124	ug/L	97
4) Vinyl chloride	1.981	62	76741	52.754	ug/L	97
5) Bromomethane	2.333	94	58017	66.059	ug/L	99
6) Chloroethane	2.469	64	40918	49.002	ug/L	98
7) Trichlorofluoromethane	2.621	101	85203	46.845	ug/L	100
8) Ethyl ether	2.941	74	24759	40.446	ug/L	74
10) 1,1-Dichloroethene	3.145	96	46694	43.708	ug/L	90
11) Carbon disulfide	3.177	76	140549	42.462	ug/L	100
12) Freon-113	3.187	101	49071	44.556	ug/L	94
14) Acrolein	3.481	56	7233	36.379	ug/L	99
15) Methylene chloride	3.727	84	54903	38.284	ug/L	75
17) Acetone	3.769	43	15240	37.744	ug/L	95
18) trans-1,2-Dichloroethene	3.895	96	53440	42.804	ug/L	90
19) Methyl acetate	3.895	43	29607	34.698	ug/L #	85
20) Methyl tert-butyl ether	3.995	73	130345	38.247	ug/L	87
21) tert-Butyl alcohol	4.073	59	24924	185.868	ug/L	94
22) Diisopropyl ether	4.367	45	188006	41.734	ug/L #	92
23) 1,1-Dichloroethane	4.503	63	102669	44.005	ug/L	97
24) Halothane	4.550	117	39406	39.863	ug/L	99
25) Acrylonitrile	4.540	53	14499	37.790	ug/L	96

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1639494-3	**Analysis Date** : 05/11/22 19:09	**File ID** : V11220511N01
LCSD Sample ID	: WG1639494-4	**Analysis Date** : 05/11/22 19:34	**File ID** : V11220511N02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	40	38	96	40	41	102	6	70-130	30
1,1-Dichloroethane	40	44	110	40	47	116	5	70-130	30
Chloroform	40	41	102	40	44	109	7	70-130	30
Carbon tetrachloride	40	41	103	40	44	110	7	70-130	30
Tetrachloroethene	40	43	109	40	46	115	5	70-130	30
Chlorobenzene	40	43	107	40	46	115	7	70-130	30
1,2-Dichloroethane	40	39	98	40	42	105	7	70-130	30
1,1,1-Trichloroethane	40	44	110	40	46	116	5	70-130	30
Benzene	40	44	109	40	46	115	5	70-130	30
Toluene	40	44	109	40	46	114	4	70-130	30
Ethylbenzene	40	45	112	40	48	119	6	70-130	30
Vinyl chloride	40	53	132 Q	40	56	140 Q	6	67-130	30
1,1-Dichloroethene	40	44	109	40	45	113	4	65-135	30
trans-1,2-Dichloroethene	40	43	107	40	45	113	5	70-130	30
Trichloroethene	40	43	108	40	46	114	5	70-130	30
1,2-Dichlorobenzene	40	42	105	40	45	112	6	70-130	30
1,3-Dichlorobenzene	40	44	109	40	46	115	5	70-130	30
1,4-Dichlorobenzene	40	43	109	40	46	115	5	70-130	30
Methyl tert butyl ether	40	38	96	40	41	103	7	66-130	30
p/m-Xylene	80	90	113	80	96	120	6	70-130	30
o-Xylene	80	91	113	80	96	120	6	70-130	30
cis-1,2-Dichloroethene	40	42	104	40	44	111	7	70-130	30
Acetone	40	38	94	40	38	95	1	54-140	30
2-Butanone	40	35	86	40	37	93	8	70-130	30
n-Butylbenzene	40	52	129	40	55	136 Q	5	70-130	30
sec-Butylbenzene	40	49	124	40	52	131 Q	5	70-130	30

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1639494-3	**Analysis Date** : 05/11/22 19:09	**File ID** : V11220511N01
LCSD Sample ID	: WG1639494-4	**Analysis Date** : 05/11/22 19:34	**File ID** : V11220511N02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
tert-Butylbenzene	40	47	117	40	49	122	4	70-130	30
n-Propylbenzene	40	50	124	40	52	130	5	70-130	30
1,3,5-Trimethylbenzene	40	47	118	40	50	124	5	70-130	30
1,2,4-Trimethylbenzene	40	47	116	40	49	122	5	70-130	30
1,4-Dioxane	2000	2000	98	2000	2100	104	6	65-136	30

Internal Standard Area and RT Summary
Form 8a
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: VOA111	**Analysis Date**	: 05/10/22 19:55:00
Sample No	: WG1637730-2	**Lab File ID**	: V11220510N01

	Fluorobenzene (IS)		Chlorobenzene-d5		1,4-Dichlorobenzene-D4	
	Area	RT	Area	RT	Area	RT
WG1637730-2	112439	6.32	80265	9.90	42083	12.53
Upper Limit	224878	6.82	160530	10.40	84166	13.03
Lower Limit	56220	5.82	40133	9.40	21042	12.03
Sample ID						
WG1637730-3 LCS	112439	6.32	80265	9.90	42083	12.53
WG1637730-4 LCSD	106838	6.32	77481	9.90	40654	12.53
WG1637730-5 BLANK	91902	6.32	65492	9.90	32791	12.53
SB-20 (0-2)	70447	6.32	48898	9.90	21578	12.53
SB-20 (7-9)	14489*	6.32	11635*	9.90	5931*	12.53
SB-DUP-1	69374	6.32	50039	9.90	23741	12.53
SB-14 (0-4)	72325	6.32	50381	9.90	25758	12.53

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = +0.50 minutes of internal standard RT
RT Lower Limit = -0.50 minutes of internal standard RT

* Values outside of QC limits

Attachment B
Semi-volatiles QC Summary Forms – Excursions

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223458
Project Number: 15514
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
SB-20 (0-2) (L2223458-01)	81	88	81	74	78	53	0
SB-20 (7-9) (L2223458-02)	83	91	86	73	80	53	0
SB-14 (0-4) (L2223458-04)	102	105	94	95	85	97	0
SB-DUP-1 (L2223458-05)	62	68	65	56	53	47	0
WG1635905-1BLANK	82	85	79	78	78	72	0
WG1635905-2LCS	77	81	76	71	72	63	0
WG1635905-3LCSD	82	87	82	77	78	67	0
WG1639985-1BLANK	93	94	82	83	78	86	0
WG1639985-2LCS	71	74	66	64	71	64	0
WG1639985-3LCSD	77	77	71	67	75	66	0

QC LIMITS

(25-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(30-120) FBP = 2-FLUOROBIPHENYL
(10-136) TBP = 2,4,6-TRIBROMOPHENOL
(18-120) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

FORM II NYTCL-8270

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1635905-2	**Analysis Date** : 05/12/22 02:04	**File ID** : 635905-2
LCSD Sample ID	: WG1635905-3	**Analysis Date** : 05/12/22 02:28	**File ID** : 635905-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	1300	850	65	1300	930	71	9	31-137	50
Hexachlorobenzene	1300	800	61	1300	890	68	11	40-140	50
Fluoranthene	1300	880	67	1300	970	74	10	40-140	50
Naphthalene	1300	860	66	1300	940	72	9	40-140	50
Benzo(a)anthracene	1300	830	63	1300	900	69	9	40-140	50
Benzo(a)pyrene	1300	760	58	1300	820	63	8	40-140	50
Benzo(b)fluoranthene	1300	770	58	1300	820	63	8	40-140	50
Benzo(k)fluoranthene	1300	780	60	1300	850	65	8	40-140	50
Chrysene	1300	800	61	1300	880	67	9	40-140	50
Acenaphthylene	1300	900	68	1300	1000	76	11	40-140	50
Anthracene	1300	840	64	1300	920	70	9	40-140	50
Benzo(ghi)perylene	1300	860	66	1300	930	71	7	40-140	50
Fluorene	1300	880	67	1300	960	73	9	40-140	50
Phenanthrene	1300	870	67	1300	960	73	9	40-140	50
Dibenzo(a,h)anthracene	1300	840	64	1300	920	70	9	40-140	50
Indeno(1,2,3-cd)pyrene	1300	910	70	1300	990	76	8	40-140	50
Pyrene	1300	860	66	1300	950	73	10	35-142	50
Dibenzofuran	1300	880	67	1300	960	74	10	40-140	50
Pentachlorophenol	1300	800	61	1300	890	68	11	17-109	50
Phenol	1300	970	74	1300	1100	82	10	26-90	50
2-Methylphenol	1300	920	70	1300	1000	79	12	30-130.	50
3-Methylphenol/4-Methylphenol	1300	1000	77	1300	1100	86	11	30-130	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1639985-2	**Analysis Date** : 05/18/22 20:01	**File ID** : 639985-2
LCSD Sample ID	: WG1639985-3	**Analysis Date** : 05/18/22 20:25	**File ID** : 639985-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	1300	810	62	1300	870	66	6	31-137	50
Hexachlorobenzene	1300	930	71	1300	990	76	7	40-140	50
Fluoranthene	1300	880	68	1300	930	71	4	40-140	50
Naphthalene	1300	880	67	1300	940	71	6	40-140	50
Benzo(a)anthracene	1300	900	69	1300	940	72	4	40-140	50
Benzo(a)pyrene	1300	970	74	1300	1000	77	4	40-140	50
Benzo(b)fluoranthene	1300	910	70	1300	960	73	4	40-140	50
Benzo(k)fluoranthene	1300	930	72	1300	980	75	4	40-140	50
Chrysene	1300	870	66	1300	900	69	4	40-140	50
Acenaphthylene	1300	930	71	1300	990	75	5	40-140	50
Anthracene	1300	850	65	1300	890	68	5	40-140	50
Benzo(ghi)perylene	1300	950	73	1300	990	75	3	40-140	50
Fluorene	1300	850	65	1300	900	69	6	40-140	50
Phenanthrene	1300	820	63	1300	880	67	6	40-140	50
Dibenzo(a,h)anthracene	1300	990	76	1300	1000	79	4	40-140	50
Indeno(1,2,3-cd)pyrene	1300	1100	82	1300	1100	84	2	40-140	50
Pyrene	1300	860	66	1300	910	70	6	35-142	50
Dibenzofuran	1300	870	67	1300	930	71	6	40-140	50
Pentachlorophenol	1300	590	45	1300	630	48	6	17-109	50
Phenol	1300	1000	78	1300	1100	82	5	26-90	50
2-Methylphenol	1300	960	74	1300	1000	78	5	30-130.	50
3-Methylphenol/4-Methylphenol	1300	980	75	1300	1000	79	5	30-130	50

Attachment C
Pesticide QC Summary Forms – Excursions

Surrogate Recovery Summary
Form 2
Pesticides

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223458
Project Number: 15514
Matrix: Soil

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
SB-20 (0-2) (L2223458-01)	108	107	119	101			0
SB-20 (7-9) (L2223458-02)	108	75	126	71			0
SB-14 (0-4) (L2223458-04)	63	64	72	64			0
SB-DUP-1 (L2223458-05)	106	83	111	75			0
WG1635921-1BLANK	71	77	90	79			0
WG1635921-2LCS	73	55	92	57			0
WG1635921-3LCSD	64	62	74	55			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Matrix	: SOIL		
LCS Sample ID	: WG1635921-2	**Analysis Date** : 05/10/22 06:00	**File ID** : 20220509b-36
LCSD Sample ID	: WG1635921-3	**Analysis Date** : 05/10/22 06:12	**File ID** : 20220509b-37

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	32.6	21.4	66	31.6	19.6	62	6	30-150	30
Lindane	32.6	21.8	67	31.6	20.4	64	5	30-150	30
Alpha-BHC	32.6	22.8	70	31.6	21.0	66	6	30-150	30
Beta-BHC	32.6	20.2P	62	31.6	18.7	59	5	30-150	30
Heptachlor	32.6	17.4	53	31.6	15.4	49	8	30-150	30
Aldrin	32.6	20.9	64	31.6	19.0	60	6	30-150	30
Endrin	32.6	22.7	70	31.6	20.3	64	9	30-150	30
Dieldrin	32.6	25.1	77	31.6	22.6	71	8	30-150	30
4,4'-DDE	32.6	24.8	76	31.6	22.6	71	7	30-150	30
4,4'-DDD	32.6	27.4	84	31.6	24.1	76	10	30-150	30
4,4'-DDT	32.6	23.8	73	31.6	21.4	68	7	30-150	30
Endosulfan I	32.6	19.8	61	31.6	18.1	57	7	30-150	30
Endosulfan II	32.6	23.1	71	31.6	20.6	65	9	30-150	30
Endosulfan sulfate	32.6	17.7	54	31.6	16.1	51	6	30-150	30
cis-Chlordane	32.6	23.0	71	31.6	19.5	62	14	30-150	30

Attachment D
PCB QC Summary Forms – Excursions

Surrogate Recovery Summary
Form 2
PCBs

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223458
Project Number: 15514
Matrix: Soil

GC Column 1: CLP-Pesticide
GC Column 2: CLP-PesticideII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
SB-20 (0-2) (L2223458-01)	51	52	50	51			0
SB-20 (7-9) (L2223458-02)	55	57	60	60			0
SB-14 (0-4) (L2223458-04)	38	40	35	34			0
SB-DUP-1 (L2223458-05)	68	70	72	74			0
WG1635800-1BLANK	74	76	78	78			0
WG1635800-2LCS	69	70	71	71			0
WG1635800-3LCSD	68	69	70	71			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

FORM II NYTCL-8082

Results Summary
Form 1
Polychlorinated Biphenyls by GC

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Lab ID	: WG1635800-1	**Date Collected**	: NA
Client ID	: WG1635800-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/09/22 10:18
Sample Matrix	: SOIL	**Date Extracted**	: 05/08/22
Analytical Method	: 1,8082A	**Dilution Factor**	: 1
Lab File ID	: 13220509a-04	**Analyst**	: WR
Sample Amount	: 15.63 g	**Instrument ID**	: PEST13
Extraction Method	: EPA 3546	**GC Column**	: CLP-PesticideII
Extract Volume	: 1000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL
Sulfur Cleanup	: Y		

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
11096-82-5	Aroclor 1260	9.68	32.0	5.91	J
1336-36-3	PCBs, Total	9.68	32.0	2.84	J

Attachment E
Metals QC Summary Forms – Excursions

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223458
Project Name	: 60 MCLEAN AVENUE	Project Number	: 15514
Lab ID	: WG1640166-1	Date Collected	: NA
Client ID	: WG1640166-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/19/22 15:52
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: EW
Lab File ID	: WG1640303.pdf	Instrument ID	: TRACE4
Sample Amount	: 1.25g	%Solids	: NA
Digestion Method	: EPA 3050B	Date Digested	: 05/19/22

		mg/kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-38-2	Arsenic, Total	ND	0.400	0.083	U
7440-39-3	Barium, Total	ND	0.400	0.070	U
7440-41-7	Beryllium, Total	ND	0.200	0.013	U
7440-43-9	Cadmium, Total	ND	0.400	0.039	U
7440-47-3	Chromium, Total	0.296	0.400	0.038	J
7440-50-8	Copper, Total	ND	0.400	0.103	U
7439-92-1	Lead, Total	ND	2.00	0.107	U
7439-96-5	Manganese, Total	0.064	0.400	0.064	J
7440-02-0	Nickel, Total	0.168	1.00	0.097	J
7782-49-2	Selenium, Total	ND	0.800	0.103	U
7440-22-4	Silver, Total	ND	0.400	0.113	U
7440-66-6	Zinc, Total	ND	2.00	0.117	U

Form 3
Blanks

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: TRACE4		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :	R1566085-25		R1566085-27		R1566085-29		R1566085-31			
Date Analyzed :	05/19/22 15:23		05/19/22 16:43		05/19/22 17:39		05/19/22 18:21			
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Arsenic	0.00208	U	0.00208	U	0.00208	U	0.00208	U		
Barium	0.00174	U	0.00174	U	0.00174	U	0.00174	U		
Beryllium	0.000330	U	0.000400	J	0.000330	U	0.000330	U		
Cadmium	0.000980	U	0.000980	U	0.000980	U	0.000980	U		
Chromium	0.000960	U	0.000960	U	0.000960	U	0.000960	U		
Copper	0.00258	U	0.00258	U	0.00258	U	0.00258	U		
Lead	0.00268	U	0.00268	U	0.00268	U	0.00268	U		
Manganese	0.00159	U	0.00159	U	0.00159	U	0.00159	U		
Nickel	0.00242	U	0.00242	U	0.00242	U	0.00242	U		
Selenium	0.00258	U	0.00258	U	0.00258	U	0.00258	U		
Silver	0.00283	U	0.00283	U	0.00283	U	0.00283	U		
Zinc	0.00293	U	0.00293	U	0.00293	U	0.00293	U		

Form 4a
Interference Check Sample

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Instrument ID	: TRACE4	**Concentration Units**	: mg/L

	True		Initial Found				Final Found			
Lab ID :			R1566085-21							
Analysis Date :			05/19/22 14:03							
Analyte	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Arsenic			0.00420							
Barium			0.00390							
Beryllium			-0.000400							
Cadmium			0.00140							
Chromium			0.00							
Copper			0.00140							
Lead			0.00220							
Manganese			-0.00270							
Nickel			-0.00140							
Selenium			-0.00870							
Silver			-0.000300							
Zinc			0.00310							

Acceptance Criteria: Methods 200.7, 200.8, 6010, 6020

ICSA: 80-120%

ICSAB: 80-120%

Form 5a
Matrix Spike

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-20 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223458-01		
Matrix Spike	: WG1640166-3	**MS Analysis Date**	: 05/19/22 16:15
Matrix Spike Dup	:	**MSD Analysis Date**	:

		Matrix Spike Sample				Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/kg)	Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R		Spike Added (mg/kg)	Spike Conc. (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Arsenic, Total	1.29	10.8	9.42	75						75-125	20
Barium, Total	34.7	180	160	69	Q					75-125	20
Beryllium, Total	0.278	4.51	3.53	72	Q					75-125	20
Cadmium, Total	0.180J	4.78	3.47	72	Q					75-125	20
Chromium, Total	9.88	18	22.0	67	Q					75-125	20
Copper, Total	17.5	22.6	48.8	139	Q					75-125	20
Lead, Total	6.09	47.8	38.4	68	Q					75-125	20
Manganese, Total	40.5	45.1	71.8	69	Q					75-125	20
Nickel, Total	6.09	45.1	35.1	64	Q					75-125	20
Selenium, Total	ND	10.8	7.17	66	Q					75-125	20
Silver, Total	ND	27.1	20.0	74	Q					75-125	20
Zinc, Total	15.2	45.1	47.4	71	Q					75-125	20

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-20 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223458-01		
Post Spike	: WG1640166-5	**PS Analysis Date**	: 05/19/22 17:30

		Post Spike Sample			
	Sample	Spike	Spike		
	Conc.	Added	Conc.	%R	Recovery
Parameter	(mg/kg)	(mg/kg)	(mg/kg)		Limits
Silver, Total	ND	4.63	3.24	70	75-125

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-20 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223458-01		
Post Spike	: WG1640166-5	**PS Analysis Date**	: 05/19/22 16:29

Parameter	Sample Conc. (mg/kg)	Post Spike Sample: Spike Added (mg/kg)	Post Spike Sample: Spike Conc. (mg/kg)	%R	Recovery Limits
Barium, Total	34.7	185	206	92	75-125
Beryllium, Total	0.278	4.63	4.47	90	75-125
Cadmium, Total	0.180J	4.91	3.99	81	75-125
Chromium, Total	9.88	18.5	25.2	83	75-125
Copper, Total	17.5	23.2	38.0	88	75-125
Lead, Total	6.09	49.1	43.2	76	75-125
Manganese, Total	40.5	46.3	79.1	83	75-125
Nickel, Total	6.09	46.3	40.1	73	75-125
Selenium, Total	ND	11.1	8.94	80	75-125
Zinc, Total	15.2	46.3	50.1	75	75-125

Form 8
Serial Dilutions

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: SB-20 (0-2)	**Matrix**	: SOIL
Lab Sample ID	: L2223458-01	**Analysis Date**	: 05/19/22 16:11
Serial Dilution ID	: WG1640166-6	**Analysis Date**	: 05/19/22 16:34

Parameter	Initial Sample Result (mg/kg)	Serial Dilution Result (mg/kg)	% Difference	%D Limit
Barium, Total	34.7	41.7	20	20
Copper, Total	17.5	22.6	29*	20
Manganese, Total	40.5	49.0	21*	20

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223458
Project Name	: 60 MCLEAN AVENUE	Project Number	: 15514
Lab ID	: L2223458-05	Date Collected	: 05/03/22 12:00
Client ID	: SB-DUP-1	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVENUE	Date Analyzed	: 05/19/22 16:57
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: EW
Lab File ID	: WG1640303.pdf	Instrument ID	: TRACE4
Sample Amount	: 1.276g	%Solids	: 93
Digestion Method	: EPA 3050B	Date Digested	: 05/19/22

		mg/kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7440-38-2	Arsenic, Total	0.898	0.420	0.087	
7440-39-3	Barium, Total	18.5	0.420	0.073	
7440-41-7	Beryllium, Total	0.113	0.210	0.014	J
7440-43-9	Cadmium, Total	0.193	0.420	0.041	J
7440-47-3	Chromium, Total	6.74	0.420	0.040	
7440-50-8	Copper, Total	8.51	0.420	0.108	
7439-92-1	Lead, Total	2.09	2.10	0.112	J
7439-96-5	Manganese, Total	52.5	0.420	0.067	
7440-02-0	Nickel, Total	7.23	1.05	0.102	
7782-49-2	Selenium, Total	ND	0.839	0.108	U
7440-22-4	Silver, Total	ND	0.420	0.119	U
7440-66-6	Zinc, Total	13.9	2.10	0.123	

Attachment F
Mercury QC Summary Forms – Excursions

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223458
Project Name	: 60 MCLEAN AVENUE	Project Number	: 15514
Lab ID	: L2223458-05	Date Collected	: 05/03/22 12:00
Client ID	: SB-DUP-1	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVENUE	Date Analyzed	: 05/19/22 14:38
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,7471B	Analyst	: AW
Lab File ID	: WG1640359.pdf	Instrument ID	: NIC1
Sample Amount	: 0.398g	%Solids	: 93
Digestion Method	: EPA 7471B	Date Digested	: 05/19/22

		mg/kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7439-97-6	Mercury, Total	ND	0.067	0.044	U

Attachment G
pfas QC Summary Forms – Excursions

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223458
Project Number: 15514
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S8 ()	S9 ()	S10 ()	S11 ()	S12 ()	S13 ()	S14 ()
SB-DUP-1 (L2223458-05)	NA	NA	NA	NA	NA	NA	NA
SB-DUP-1 (L2223458-05)	83	92	93	89	98	24*	86
WG1637514-1BLANK	73	81	79	80	87	65	82
WG1637514-1BLANK	NA	NA	NA	NA	NA	NA	NA
WG1637514-2LCS	NA	NA	NA	NA	NA	NA	NA
WG1637514-2LCS	80	86	81	87	99	65	82
EP23_EL9MS	78	91	95	93	88	49	85
EP24_EL9DUP	98	98	104	95	124	91	94

QC LIMITS

(20-154) S8 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]OCTANESULFONIC ACID (M2-6:2FTS)
(72-140) S9 = PERFLUORO[13C9]NONANOIC ACID (M9PFNA)
(79-136) S10 = PERFLUORO[13C8]OCTANESULFONIC ACID (M8PFOS)
(75-130) S11 = PERFLUORO[1,2,3,4,5,6-13C6]DECANOIC ACID (M6PFDA)
(19-175) S12 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]DECANESULFONIC ACID (M2-8:2FTS)
(31-134) S13 = N-DEUTERIOMETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D3-NMEFOSAA)
(31-134) S14 = PERFLUORO[1,2,3,4,5,6,7-13C7]UNDECANOIC ACID (M7-PFUDA)

*** Values outside of QC limits**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVENUE

Lab Number: L2223458
Project Number: 15514
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S15 ()	S16 ()	S17 ()	S18 ()	S19 ()	S20 ()	S21 ()	TOT OUT
SB-DUP-1 (L2223458-05)	87	NA	NA	NA	--	--	--	0
SB-DUP-1 (L2223458-05)	NA	34	81	54	--	--	--	1
WG1637514-1BLANK	53	58	77	55	--	--	--	0
WG1637514-1BLANK	94	NA	NA	NA	--	--	--	0
WG1637514-2LCS	91	NA	NA	NA	--	--	--	0
WG1637514-2LCS	35	71	85	68	--	--	--	0
EP23_EL9MS	79	71	92	88	--	--	--	0
EP24_EL9DUP	77	104	98	92	--	--	--	0

QC LIMITS

(10-117) S15 = PERFLUORO[13C8]OCTANESULFONAMIDE (M8FOSA)
(34-137) S16 = N-DEUTERIOETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D5-NETFOSAA)
(54-150) S17 = PERFLUORO[1,2-13C2]DODECANOIC ACID (MPFDOA)
(24-159) S18 = PERFLUORO[1,2-13C2]TETRADECANOIC ACID (M2PFTEDA)

* Values outside of QC limits

Attachment H
Cyanide QC Summary Forms – Excursions

Form 7
Laboratory Control Sample

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: NA	**Matrix**	: SOIL
Lab Sample ID	: WG1639289-2	**LCS Analysis Date**	: 05/17/22 13:35
Dup Sample ID	: WG1639289-3	**LCSD Analysis Date**	: 05/17/22 14:06

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	True (mg/kg)	Found (mg/kg)	%R		True (mg/kg)	Found (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Cyanide, Total	141.	59.0	42.	Q	141.	120	84.	67 Q	80-120	35

Form 7
Laboratory Control Sample

Client	: Impact Environmental	**Lab Number**	: L2223458
Project Name	: 60 MCLEAN AVENUE	**Project Number**	: 15514
Client Sample ID	: NA	**Matrix**	: SOIL
Lab Sample ID	: WG1639561-2	**LCS Analysis Date**	: 05/18/22 10:38
Dup Sample ID	: WG1639561-3	**LCSD Analysis Date**	: 05/18/22 10:39

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	True (mg/kg)	Found (mg/kg)	%R		True (mg/kg)	Found (mg/kg)	%R		RPD	Recovery Limits	RPD Limit
Cyanide, Total	141.	110.	76.	Q	141.	110	77.	Q	10	80-120	35

DATA VALIDATION

FOR

60 McLEAN AVENUE
YONKERS, NY

ORGANIC AND INORGANIC ANALYSIS DATA

Laboratory Sample Delivery Group (SDG) No. L2223459

Analyses Performed By:

Alpha Analytical
Westborough, Massachusetts

For:

Impact Environmental Inc.
Bohemia, NY

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55102

August 9, 2022

2144-000102
60 McLean Avenue\L2223459.docx

EXECUTIVE SUMMARY

Validation of the organic and inorganic analyses data prepared by Alpha Analytical Westborough, Massachusetts for seven aqueous samples, one trip blank (TB), and one field blank (FB) from the 60 McLean Avenue Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Stage 4 validation was performed on the samples. The data were reported by the laboratory under SDG No. L2223459. The following samples were reported:

MW-7A	MW-9A	MW-4A	MW-5A	WP-11
WP-12	FIELD BLANK	TRIP BLANK	MW-DUP-1	

Based on professional judgment results for non-detects should be considered to be "U," not detected, at the analyte-specific reporting limit (RL) to represent the lowest concentration at which the laboratory can detect and accurately quantitate sample concentrations based on the documentation provided. The laboratory reported results as not detected at the method detection limit (MDL). The MDL is an estimated value based on a statistical determination, not a quantitative measurement supported by the data provided and should not be used to report non-detect results. It should also be noted by the data user that the laboratory reported non-detect results, RLs, and MDLS to three significant figures. The level of accuracy portrayed at these concentrations and estimated concentrations is not supported by the data and should not be used.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

Data Usability Summary Report	
1. Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2. Have all holding times been met?	Yes
3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See following sections
4. Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5. Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes

Data Usability Summary Report	
7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes See Attachments A through I

Based on the validation effort, the following data qualifiers were applied:

VOCs

- Results for dichlorodifluoromethane and vinyl acetate in MW-DUP-1 were qualified as estimated (UJ) due to an unacceptable %D between the IC and the ICV.

- Volatile organic results were qualified estimated (J-, UJ) due to loss in sensitivity from the IC as summarized in the table in Calibration section of the VOAs discussion.

- The result for acetone in MW-4A was qualified as not detected at the reporting limit (5.0 µg/L) due to field blank contamination.

- Results for acetone in all samples except MW-DUP-1 were qualified as estimated (J, UJ) due to unacceptable LCS/LCSD and RPD values.

- Results for benzene, toluene, n-butylbenzene, o-xylene, 1,4-diethylbenzene, p-isopropyltoluene, p/m-xylene, and sec-butylbenzene in all field samples in this data set were qualified estimated (J, UJ) due to failure to confirm in paired field samples.

SVOCs - Fullscan

- Results for all target compounds in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in each of the acid and base/neutral extractables fractions.

- Results for acenaphthene, 1,2,4-trichlorobenzene, hexachlorobenzene, bis(2-chloroethyl)ether, 2-chloronaphthalene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 3,3'-dichlorobenzidine, 4-chlorophenyl phenyl ether, 4-bromophenyl phenyl ether, bis(2-chloroisopropyl)ether, bis(2-chloroethoxy)methane, hexachlorobutadiene, hexachlorocyclopentadiene, hexachloroethane, isophorone, naphthalene, n-nitrosodiphenylamine, n-nitrosodi-n-propylamine, dimethyl phthalate, acenaphthylene, fluorene, phenanthrene, biphenyl, 4-chloroaniline, dibenzofuran, 2-methylnaphthalene, 1,2,4,5-tetrachlorobenzene, acetophenone, 2,4,6-trichlorophenol, 4-chloro-3-methylphenol, 2-chlorophenol, 2,4-dichlorophenol, 2,4-dimehtylphenol, pentachlorophenol, phenol, 2-methylphenol, 3&4-methyphenol, 2,4,5-

trichlorophenol, benzoic acid, and benzyl alcohol in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (J-, UJ) with potential low bias, based on low recoveries in the LCS and/or LCSD. The results for benzoic acid in these samples were also qualified as estimated based on imprecision between the LCS and LCSD.

- Results for bis(2-chloroethyl)ether in all field samples in this dataset were qualified as estimated (J, UJ) based on imprecision in the field duplicate pair.

SVOCs - SIM (PAHs, Pentachlorophenol, and 1,4-Dioxane)

- Results for benzo(a)anthracene in MW-9A, and benzo(a)anthracene and benzo(b)fluoranthene in MW-9A and FIELD BLANK, were qualified as not detected (U) at the reporting limits based on contamination at similar concentrations in the laboratory method blank.

- Results for benzo(b)fluoranthene and benzo(k)fluoranthene in MW-9A were qualified as not detected (U) at the reporting limit, based on the presence of these compounds in the associated field blank at similar concentrations.

- Results for all target analytes in MW-7A, MW-5A, MW-4A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (J-, UJ) with potential low bias, based on low recoveries for the associated surrogate compounds.

- Results for 2-chloronaphthalene, hexachloroethane, and fluorene in MW-9A were qualified as estimated (J-, UJ) with potential low bias, based on low recovery for the associated surrogate compound.

- Results for hexachlorobutadiene, acenaphthylene, and hexachloroethane were qualified as estimated (J-, UJ) with potential low bias, as detailed in the table above, based on low recoveries in the associated batch LCS and/or LCSD.

- Results for 1,4-dioxane and naphthalene in all of the field samples were qualified as estimated (J, UJ), based on imprecision in the field duplicate pair.

Pesticides

- Results for all target analytes in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (UJ) due to low surrogate recoveries.

- Results for delta-BHC, beta-BHC, heptachlor, aldrin, endrin, endrin aldehyde, 4,4'-DDT, endosulfan I, and cis-chlordane in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, and FIELD BLANK were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

- Results for delta-BHC, heptachlor epoxide, endrin, endrin aldehyde, endrin ketone, dieldrin, 4,4'-DDE, 4,4'-DDT, endosulfan I, endosulfan II, endosulfan sulfate, methoxychlor, and cis-chlordane in MW-DUP-1 were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

PCBs

- Results for all target Aroclors in MW-9A and MW-4A were qualified as estimated (UJ) due to low surrogate recoveries on both columns.

- Results for Aroclor 1260 in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (UJ) due to low LCS/LCSD recoveries.

- Results for Aroclor 1016 in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (UJ) due to LCS/LCSD imprecision.

ICP-MS Metals (Total and Dissolved)

- Results for total and dissolved beryllium and total and dissolved cadmium in all reported samples were qualified as estimated (UJ) due to elevated %D in the low level calibration standard.

- Results for total and dissolved beryllium, total and dissolved chromium, and total and dissolved antimony in all samples were qualified as estimated (J-, UJ) due to low recoveries of the LLCCV standard.

- Results for total iron in MW-5A and WP-12 and dissolved iron in MW-4A, WP-12, and FIELD BLANK were qualified as estimated (J+), biased high, due to elevated LLCCV recoveries.

- Results for dissolved chromium in MW-7A and MW-4A were qualified as not detected (U) at the reporting limit due to method blank contamination.

- Results for dissolved aluminum in MW-7A, MW-4A, and MW-DUP-1, as well as dissolved manganese in MW-5A, were qualified as not detected (U) at the reporting limit or reported value, whichever was greater, due to field blank contamination.

- Results for dissolved thallium in MW-7A, MW-9A, WP-11, and WP-12 were qualified as not detected (U) due to continuing calibration blank contamination.

- Results for total thallium in FIELD BLANK and MW-DUP-1 were qualified as not detected (U) due to continuing calibration blank contamination.

- Results for total and dissolved barium in FIELD BLANK; total chromium in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, and MW-DUP-1; dissolved

chromium in MW-5A and WP-12; total cobalt in MW-7A, MW-9A, MW-4A, WP-11, and MW-DUP-1; dissolved cobalt in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, and MW-DUP-1; total manganese in MW-5A, WP-11, WP-12, total copper, and total nickel in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, and MW-DUP-1; dissolved copper in MW-5A and WP-12; dissolved manganese in WP-11, WP-12, and FIELD BLANK; dissolved nickel in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, and MW-DUP-1; total zinc in MW-7A, MW-9A, MW-4A, and MW-5A; and dissolved zinc in MW-4A, MW-5A, and WP-12 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard.

- Dissolved results for iron, magnesium, manganese, and potassium in MW-7A were qualified as estimated (J) due to elevated MS recovery.

- Results for dissolved iron and total aluminum in all site samples were qualified as estimated (J, UJ) due to elevated RPD in the field duplicate pair.

- Results for dissolved antimony, dissolved copper, dissolved lead, dissolved silver, and total and dissolved zinc in all site samples were five qualified as estimated (J, UJ) due to lack of confirmation in the field and/or laboratory duplicate.

- Total and dissolved results for aluminum, beryllium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, and vanadium in MW-4A; all dissolved metals in MW-5A; dissolved results for aluminum, beryllium, calcium, chromium, cobalt, copper, iron, potassium, magnesium, manganese, nickel, sodium, and vanadium in WP-11; total and dissolved results for beryllium, lead and thallium in WP12; total results for lead and thallium in MW-9A; and total beryllium results for WP-11 were qualified as estimated (J, UJ) due to internal standard (IS) percent relative intensity (%RI) drift.

- Results for total and dissolved antimony in MW-4A and total and dissolved copper and zinc in MW-5A were qualified as estimated (J) because the dissolved concentrations exceeded the total concentrations by more than ten percent difference.

- Results for total and dissolved cobalt in MW-5A, total and dissolved zinc in WP-12, and total and dissolved aluminum, antimony, iron, manganese, and sodium, in Field Blank were qualified as estimated (J, UJ), because the dissolved concentrations were greater than the non-detected total concentrations.

<u>PFAS</u>

- Results for 6:2 FTS in MW-7A and MW-4A were qualified as not detected (U) at the RL due to field blank contamination.

- Results for 6:2 FTS in MW-7A and MW-4A were qualified as estimated with potential high bias (J+) due to high labeled analog recoveries.

- Results for FOSA in MW-7A and FIELD BLANK were qualified as estimated (UJ) due to low labeled analog recoveries.

- Results for PFPeA and PFHxA in MW-4A were qualified as estimated (UJ) due to low labeled analog recoveries.

- Results for PFBA, PFPeA, PFHxA, PFHpA, PFOA, and PFNA in MW-4A were qualified as estimated (J, UJ) due to low areas of the corresponding internal standard.

- The result for PFNA in MW-9A was qualified as presumptively present and estimated (NJ) because the mass ratio was outside the established range.

Cyanide

- Results for cyanide in MW-7A, MW-9A, MW-5A, WP-11, FIELD BLANK, and MW-DUP-1 were less than twice the reporting limit, and qualified as estimated (J, UJ), due to low level field duplicate imprecision.

All other results were determined to be valid as reported by the laboratory.

This report should be considered part of the data package for all future distributions of the data.

INTRODUCTION

Analyses for the requested parameters were performed by the laboratory according to the following analytical methods:

Volatile Organic Compounds (VOCs)	SW846 Method 8260C
Semivolatile Organic Compounds (SVOCs)	SW846 Method 8270D SW846 Method 8270DSIM
Organochlorine Pesticides	SW846 Method 8081B
Polychlorinated Biphenyls	SW846 Method 8082A
Total and Dissolved Metals	SW846 Method 6020B SW846 Method 7470A
Polyfluorinated Alkyl Substances (PFAS)	EPA Method 537 (M)

Results of sample analyses are reported by the laboratory as either qualified or unoneualified; various qualifier codes are used to denote specific information regarding the analytical results.

ddms' validation was performed in conformance with the ddms' Standard Operating Procedures (SOPs) for the methods followed, the USEPA "National Functional Guidelines (NGF) for Organic Data Review" (1999), the USEPA "National Functional Guidelines for Inorganic Data Review" (2004), the requirements of the analytical methods followed, and the specifications of the project-specific Quality Assurance Project Plan (QAPP). Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the CLP. This requires that the data package be presented in accordance with the CLP requirements, so that sufficient supporting documentation is available to facilitate the validation effort. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unoneualified. Unoneualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the NFG:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data package, documenting sample collection dates of May 4, 2022. The samples were received at the laboratory on May 4, 2022.

The temperatures of the coolers upon receipt at the laboratory (2.2°C to 5.4°C) were acceptable (QC <6°C). Appropriate sample preservation was noted on sample receipt checklists and sequence logs. All samples were prepared and analyzed within method holding times.

II. Documentation

The following documentation issues were observed during the validation effort:

- Samples identified as "FIELD BLANK" and "TRIP BLANK" were received but were not listed on the Chain of Custody (COC). TRIP BLANK was archived. At the client's request, FIELD BLANK sample was analyzed.

- VOCs were identified twice for analysis on one page of the COC, and analysis for SVOCs were not identified.

- The source of the reference spectra for the identification the semivolatile target compounds by SIM could not be determined. For instance, the retention time (3.022 min.) listed for 2-methylnaphthalene in the raw data for MW-7A is much earlier than the RT displayed for the reference spectrum (4.456 min.). Nor does the reference spectrum RT match the calibration standards analyzed in support of the sample analyses (3.2 min.)

- Raw data for the 1.0 ng/mL standard of the PFAS initial calibration run on April 27, 2022, on instrument LCMS01 were not included in the data package. Instead, two sets of raw data for the 0.50 ng/mL standard were provided. On request, the laboratory provided the raw data for the 1.0 ng/mL standard, which were reviewed and verified by the validator. At the discretion of the data user, the laboratory should be requested to revise the data package to include this documentation so that complete and accurate documentation is available for future reference.

- The internal standard used to calculate concentrations of PFTrDA in the calibration standards and laboratory QC samples could not be determined from the information in the data package as received. On request, the laboratory explained that the area used for this calculation is the average of the areas of internal standards M2PFTeDA and MPFDOA. This was confirmed by the validator. At the discretion of the data user, the laboratory should be requested to provide this information in the data package so that complete information is available for future reference.

The remainder of this report discusses the review effort for each of the parameters. The tables below document the quality control (QC) elements reviewed for each analysis parameter. Where a quality indicator was deemed acceptable after thorough review, no further discussion is included in this report. Detailed findings are included for each quality element that impacted the usability of the reported results. Additional information or explanation is included as needed, to provide support for decisions made, based on the validator's best professional judgment.

Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J with an indeterminate bias.

III. VOCs

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory and Field Blanks	N
Surrogates	Y
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	N
MS only	N/A
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	Y

A. Calibration

Data for two ICs were provided, one on instrument VOA130 and one on instrument 105. All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable except for 1,4-dioxane (0.001 on both instruments). A review of other laboratory quality control data was performed, with further discussion below. Two initial calibration verification (ICV) standards were analyzed after each IC; all target compound percent differences (%Ds) were acceptable in the ICV standards except as summarized below.

Parameter	%D	Samples Affected	Qualifier Applied
Batch 1635374			
Dichlorodifluoromethane	-23.9	MW-DUP-1	UJ
Ethyl ether	+23.9		none
Vinyl acetate	-32.2		UJ

Parameter	%D	Samples Affected	Qualifier Applied
Batch 1637761			
Bromomethane	+24.3	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 FIELD BLANK	none
Ethyl ether	+28.7		none

Results for dichlorodifluoromethane and vinyl acetate in MW-DUP-1 were qualified as estimated (UJ) due to an unacceptable %D between the IC and the ICV.

Two CC standards were run in support of the data in this sample set. All target compound percent differences (%Ds) were acceptable in the CC standards except as summarized below.

Parameter	%D	Samples Affected	Qualifier Applied
Batch 1639023-2			
Bromomethane	+35.5	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 FIELD BLANK	none
Chloroethane	+32.7		
Trichlorofluoromethane	+52.5		
Ethyl ether	+21.3		
Acetone	-33.4		J-, UJ
1,4-Dioxane	-21.1		UJ
4-Methyl-2-pentanone	-21.5		
2-Hexanone	-23.3		
1,2,3-Trichloropropane	-21.3		
trans-1,4-Dichloro-2-butene	-21.2		
Batch 1640338-2			
Ethyl ether	-21.7	MW-DUP-1	UJ
2-Butanone	-23.2		
1,4-Dioxane	-21.7		
Bromoform	-24.1		
trans-1,4-Dichloro-2-butene	-24.2		

Results were qualified estimated (J-, UJ) due to loss in sensitivity from the IC as summarized in the table above.

B. Laboratory and Field Blanks

Two method blanks were prepared and analyzed with these samples. No analytes were reported at a concentration greater than the analyte specific reporting limit. Acetone was reported in FIELD BLANK (4.0 µg/L) as well as in MW-4A (3.3 µg/L). The result for

acetone in MW-4A was qualified as not detected at the reporting limit (5.0 µg/L) due to field blank contamination.

C. LCS/LCSD

Two LCS/LCSD pair was prepared and analyzed with these samples. Recoveries for all spiked compounds assessed (70-130% R) and agreement between paired results (<20 RPD) were acceptable except as summarized below.

Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1639023-3/4					
Trichlorofluoromethane	150	160	a	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 FIELD BLANK	none
Bromomethane	140	130	a		none
Acetone	67	94	34		J, UJ

D. Field Duplicates

Sample MW-DUP-1 was submitted as a field duplicate of sample MW-7A. Paired results exceeding acceptance criteria (greater than 30% RPD) are summarized below.

Compound	MW-7A	MW-DUP-1	%RPD
Benzene	7.4	4.1	57
Toluene	48	27	56
n-Butylbenzene	6.3	12	-62
o-Xylene	300	210	35
1,4-Diethylbenzene	61	90	-38
p-Isopropyltoluene	11	21	-63
p/m-Xylene	1100	730	40
sec-Butylbenzene	7.9	11	-33

Results for benzene, toluene, n-butylbenzene, o-xylene, 1,4-diethylbenzene, p-isopropyltoluene, p/m-xylene, and sec-butylbenzene in all field samples in this data set were qualified estimated (J, UJ) due to failure to confirm in paired field samples.

IV. SVOCs (8270D Fullscan)

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N

Review Element	Acceptable?
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	Y
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	NA

NA = not applicable or not analyzed

A. Calibration

One initial calibration was provided in support of the sample results, performed on 4/20-21/22, on instrument DAKOTA. All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable. Initial calibration verification (ICV) standards were analyzed after the IC and included all of the target analytes reported; all percent differences (%Ds) were acceptable (≤20%) in the ICV standards, for the target compounds reported.

Continuing calibration (CC) standards were analyzed at the appropriate frequency and %Ds were acceptable (≤20%) with the following exceptions:

CC Date	Compound	%D	Samples Affected	Qualifier Applied
5/8/22 @ 09:07 DAKOTA	2,4-Dinitrophenol 4,6-Dinitro-o-cresol	+49.9 +32.4	QC samples only	None
5/9/22 @ 07:32 DAKOTA	2,4-Dinitrophenol 4,6-Dinitro-o-cresol	+43.1 +31.3	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 FIELD BLANK MW-DUP-1	None

The high %Ds for 2,4-dinitrophenol and 4,6-dinitro-o-cresol are indicative of high bias or the presence of false positives and neither compound was detected in any of the field samples; therefore, no action was necessary.

A. Blanks

A method blank was prepared with the extraction batch that included the field samples. A field blank was submitted with the sample set. None of the target analytes were detected in the laboratory of field blanks.

B. Surrogates

Six surrogate compounds were added before extraction to all QC and field samples. Recoveries for the surrogates were acceptable (70-130%) with the exceptions detailed below:

Sample	2FP	PHL	NBZ	FBP	TBP	TPHd14	Qualifier Applied
MW-7A	61	45	68	58	50	64	J-, UJ
MW-9A	54	41	65	58	61	65	
MW-4A	58	47	66	57	a	61	
MW-5A	51	37	62	52	54	59	
WP-11	49	40	60	57	53	58	
WP-12	39	33	47	46	47	49	
FIELD BLANK	55	43	69	65	59	67	
MW-DUP-1	53	44	69	62	47	63	

Results for all target compounds in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (J-, UJ) based on low recoveries for two or more surrogates in each of the acid and base/neutral extractables fractions.

C. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

One LCS/LCSD pair was prepared and analyzed with the field samples. Recoveries for spiked compounds assessed (data validation limits 70-130% R) and agreement between paired results (<20 RPD) were acceptable, with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1635587-2/3					
Acenaphthene	66	66	a	All samples	J-, UJ
1,2,4-Trichlorobenzene	60	55	a		
Hexachlorobenzene	66	66	a		
bis(2-Chloroethyl)ether	66	64	a		
2-Chloronaphthalene	64	60	a		
1,2-Dichlorobenzene	59	54	a		
1,3-Dichlorobenzene	58	54	a		
1,4-Dichlorobenzene	60	54	a		
3,3'-Dichlorobenzidine	57	62	a		
4-Chlorophenyl phenyl ether	67	65	a		
4-Bromophenyl phenyl ether	66	66	a		
bis(2-Chloroisopropyl)ether	64	61	a		

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
bis(2-Chloroethoxy)methane	67	65	a		
Hexachlorobutadiene	58	54	a		
Hexachlorocyclopentadiene	54	52	a		
Hexachloroethane	57	49	a		
Isophorone	62	59	a		
Naphthalene	66	62	a		
n-Nitrosodiphenylamine	69	a	a		
n-Nitrosodi-n-propylamine	66	65	a		
Dimethyl phthalate	68	66	a		
Acenaphthylene	66	64	a		
Fluorene	68	68	a		
Phenanthrene	69	69	a		
Biphenyl	69	65	a		
4-Chloroaniline	58	63	a		
Dibenzofuran	a	69	a		
2-Methylnaphthalene	64	62	a		
1,2,4,5-Tetrachlorobenzene	61	59	a		
Acetophenone	65	64	a		
2,4,6-Trichlorophenol	69	a	a		
4-Chloro-3-methylphenol	a	69	a		
2-Chlorophenol	69	66	a		
2,4-Dichlorophenol	68	67	a		
2,4-Dimethylphenol	66	64	a		
Pentachlorophenol	67	a	a		
Phenol	49	50	a		
2-Methylphenol	65	66	a		
3&4-Methylphenol	67	66	a		
2,4,5-Trichlorophenol	a	69	a		
Benzoic acid	48	65	30		
Benzyl alcohol	63	64	a		

Results for acenaphthene, 1,2,4-trichlorobenzene, hexachlorobenzene, bis(2-chloroethyl)ether, 2-chloronaphthalene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 3,3'-dichlorobenzidine, 4-chlorophenyl phenyl ether, 4-bromophenyl phenyl ether, bis(2-chloroisopropyl)ether, bis(2-chloroethoxy)methane, hexachlorobutadiene, hexachlorocyclopentadiene, hexachloroethane, isophorone, naphthalene, n-nitrosodiphenylamine, n-nitrosodi-n-propylamine, dimethyl phthalate, acenaphthylene, fluorene, phenanthrene, biphenyl, 4-chloroaniline, dibenzofuran, 2-methylnaphthalene, 1,2,4,5-tetrachlorobenzene, acetophenone, 2,4,6-trichlorophenol, 4-chloro-3-methylphenol, 2-chlorophenol, 2,4-dichlorophenol, 2,4-dimehtylphenol, pentachlorophenol, phenol, 2-methylphenol, 3&4-methyphenol, 2,4,5-trichlorophenol, benzoic acid, and benzyl alcohol in all samples in this data set were qualified as estimated

(J-, UJ) with potential low bias, based on low recoveries in the LCS and/or LCSD. The results for benzoic acid in these samples were also qualified as estimated based on imprecision between the LCS and LCSD.

D. Field Duplicates

Sample MW-DUP-1 was submitted as a field duplicate of sample MW-7A. Bis(2-chloroethyl)ether was detected in MW-DUP-1 (2.3 µg/L) but was not detected in MW-7A. Results for bis(2-chloroethyl)ether in all field samples in this dataset were qualified as estimated (J, UJ) based on imprecision in the field duplicate pair. No other target analytes were detected in either sample of the field duplicate pair.

V. SVOCs (Method 8270D SIM)

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	N
Surrogates	N
Laboratory Control Sample (LCS)/LCS duplicate (LCSD)	N
Field Duplicates	N
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	NA

NA = not applicable or not analyzed

A. Calibration

One initial calibration, performed on 2/9/22 on instrument SV128, was provided in support of the PAHs and pentachlorophenol results for the samples. Another IC was performed on 5/4/22 on instrument PAH22 for 1,4-dioxane only. Calibration was established using internal standard methodology with average response factors, linear regression, and by isotope dilution (for 1,4-dioxane only). All IC relative response factors (RRFs) and percent relative standard deviations (%RSDs) were acceptable. An initial calibration verification (ICV) standard was analyzed after each of the ICs and all percent differences (%Ds) in these ICVs were acceptable (≤20%).

Continuing calibration (CC) standards were analyzed at the appropriate frequency and %Ds were acceptable (≤20%).

B. Blanks

Two method blanks were prepared with the field samples, one with the analytical batch extracted for acid- and base/neutral extractable compounds and a second for the extraction for 1,4-dioxane, only. One field blank was submitted with the field samples. The following compounds were detected in the method blanks and field blank at concentration below the RLs but above the MDLs:

Blank	Compound	%D	Samples Affected	Qualifier Applied
WG1635588-1	Benzo(a)anthracene	0.02 J µg/L	MW-9A	U
	Benzo(b)fluoranthene	0.01 J µg/L	FIELD BLANK	
FIELD BLANK	Benzo(b)fluoranthene	0.01 J µg/L	MW-9A	
	Benzo(k)fluoranthene	0.01 J µg/L		

Results for benzo(a)anthracene and benzo(b)fluoranthene in MW-9A and FIELD BLANK were qualified as not detected (U) at the reporting limits based on contamination at similar concentrations in the laboratory method blank. Results for benzo(b)fluoranthene and benzo(k)fluoranthene in MW-9A were qualified as not detected (U) at the reporting limit, based on the presence of these compounds in the associated field blank at similar concentrations.

C. Surrogates

Six surrogate compounds (2-fluorophenol [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHd14]) were added before extraction to all QC and field samples. Of these, the three base/neutral extractable surrogate compounds (NBZ, FBP, and TPHd14), the acid-extractable compound 2,4,6-tribromophenol (TBP), and 1,4-dioxane-d_8 (DXd8, applicable to the 1,4-dioxane analyses only) have bearing on the selected target compounds. Recoveries for these surrogates were acceptable (70-130% for acid- and base/neutral extractable surrogates and 30-130% for 1,4-dioxane-d_8) with the exceptions detailed below:

Sample	DXd8	2FP	PHL	NBZ	FBP	TBP	TPHd14	Qualifier Applied
MW-7A	a	63	50	a	64	56	65	J-, UJ
MW-9A	a	68	52	a	69	a	a	
MW-4A	a	53	47	66	60	a	60	
MW-5A	a	50	45	64	58	69	62	
WP-11	a	45	43	63	57	55	58	
WP-12	a	42	36	51	47	60	49	
FIELD BLANK	a	53	46	68	62	64	61	
MW-DUP-1	a	51	46	a	63	45	62	

Results for all target analytes in MW-7A, MW-5A, MW-5A, WP-11, WP-12, FIELD BLANK, and MW-DUP-1 were qualified as estimated (J-, UJ) with potential low bias, based on low recoveries for the associated surrogate compounds.

Results for 2-chloronaphthalene, hexachloroethane, and fluorene in MW-9A were qualified as estimated (J-, UJ) with potential low bias, based on low recovery for the associated surrogate compound.

D. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

Two LCS/LCSD pairs were prepared and analyzed with the field samples (one for acid/base/neutral extractable target list, and one for 1,4-dioxane only). Recoveries for spiked compounds assessed (data validation limits 70-130% R) and agreement between paired results (<20 RPD) were acceptable, with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch 1635588-2/3					
Hexachlorobutadiene	62	62	a	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 FIELD BLANK MW-DUP-1	J-, UJ
Acenaphthylene	68	67	a		
Hexachloroethane	65	68	a		

Results for hexachlorobutadiene, acenaphthylene, and hexachloroethane were qualified as estimated (J-, UJ) with potential low bias, as detailed in the table above, based on low recoveries in the associated batch LCS and/or LCSD.

E. Field Duplicates

MW-DUP-1 was submitted as a field duplicate of sample MW-7A. Results showed good agreement with the following exceptions:

Compound	MW-7A	MW-DUP-1	RPD	Qualifier Applied
1,4-Dioxane	64 J	144 U	nc	J, UJ
Naphthalene	47	33	35	

Results for 1,4-dioxane and naphthalene in all of the field samples were qualified as estimated (J, UJ), based on imprecision in the field duplicate pair.

VI. Pesticides

Review Element	Acceptable?
Calibration - IC, ICV, CCV	N

Review Element	Acceptable?
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)	N
Field Duplicates	Y
MS/MSD	NA
Compound Identification	Y
Compound Quantitation	Y

NA = not analyzed

A. Calibration

Two initial calibrations were associated with the sample analyses; these were run on January 31, 2022, on instrument PEST18 and on April 22, 2022, on instrument PEST20. Calibration factors (CFs) and %RSDs were correctly calculated and reported. All %RSDs were all less than the maximum acceptance limit of 20%. ICV standards for the single-component pesticides, multi-component chlordane, and multi-component toxaphene were analyzed after each IC. The %Ds for all target analyte peaks on both columns in the ICV standards were less than the maximum acceptance limit of 20%, except for the first selected toxaphene peak (toxaphene-1) on the primary column of the ICV standard run on January 31, 2022, at 14:01 on instrument PEST18. Based on professional judgment, since the secondary column %D for this peak was acceptable and toxaphene was not detected in the associated site sample, no action was taken on this basis.

Seven CC standards were analyzed with the samples. CFs and %Ds for all analyte peaks on both columns were correctly calculated and reported. The %D values were less than the maximum acceptance limit of 20%, with the following exceptions:

CC Standard	Analyte	Column	%D	Associated Samples	Qualifier Applied
5/10/22 @ 14:46 PEST20	4,4'-DDD	Column 1	22.8	Lab QC Samples Only	none
	Methoxychlor		25.4		
	4,4'-DDT	Column 2	24.2		
5/10/22 @ 14:58 PEST20	Chlordane-1	Column 1	23.3	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 FIELD BLANK	none
5/10/22 @ 21:44 PEST20	4,4'-DDD	Column 1	26.7		
	Methoxychlor		29.7		
	delta-BHC	Column 2	20.7		
	trans-Chlordane		27.9		
	Dieldrin		22.4		
	4,4'-DDD		30.6		
5/11/22 @ 22:22 PEST18	Toxaphene-1	Column 1	21.1	MW-DUP-1	none

The high %Ds for all peaks listed above resulted from an increase in sensitivity relative to the IC, which suggests the potential for reporting false positives. Since no target analytes were detected in any of the field samples, no action was necessary based on the high responses.

B. Surrogate Recovery

Tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB) were used as the surrogate compounds for these analyses. Recoveries of TCX and DCB for the reported site and laboratory QC samples were within the validation acceptance limits of 70-130%, with the following exceptions:

Sample	TCX %R Column 1	TCX %R Column 2	DCB %R Column 1	DCB %R Column 2	Qualifier
MW-7A	66	a	45	57	UJ
MW-9A	62	64	41	42	
MW-4A	58	64	42	42	
MW-5A	a	a	65	63	
WP-11	a	a	65	62	
WP-12	69	67	61	56	
FIELD BLANK	a	a	64	62	
MW-DUP-1	59	61	50	44	

a = acceptable

Results for all target analytes in all samples in this data set were qualified as estimated (UJ) due to low surrogate recoveries.

C. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

Two LCS/LCSD pairs were prepared and analyzed with the site samples. Recoveries and precision between paired recoveries were acceptable (70-130% R and <20% RPD), with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch WG1636383-2/3					
delta-BHC	64	a	a	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 FIELD BLANK	UJ
beta-BHC	67	a	a		
Heptachlor	68	a	a		
Aldrin	67	a	a		
Endrin	69	a	a		
Endrin aldehyde	64	a	a		
4,4'-DDT	69	a	a		
Endosulfan I	64	a	a		
cis-Chlordane	59	67	a		
Batch WG1637021-2/3					
delta-BHC	67	67	a	MW-DUP-1	UJ
Heptachlor epoxide	67	69	a		
Endrin	67	69	a		
Endrin aldehyde	55	55	a		

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Endrin ketone	64	65	a		
Dieldrin	69	a	a		
4,4'-DDE	68	69	a		
4,4'-DDT	68	a	a		
Endosulfan I	66	66	a		
Endosulfan II	65	67	a		
Endosulfan sulfate	61	62	a		
Methoxychlor	68	69	a		
cis-Chlordane	63	63	a		

Results for delta-BHC, beta-BHC, heptachlor, aldrin, endrin, endrin aldehyde, 4,4'-DDT, endosulfan I, and cis-chlordane in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, and FIELD BLANK and for delta-BHC, heptachlor epoxide, endrin, endrin aldehyde, endrin ketone, dieldrin, 4,4'-DDE, 4,4'-DDT, endosulfan I, endosulfan II, endosulfan sulfate, methoxychlor, and cis-chlordane in MW-DUP-1 were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

VII. PCBs

Review Element	Acceptable?
Calibration - IC, ICV, CCV	N
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Sample (LCS)	N
Field Duplicates	Y
MS/MSD	NA
Compound Identification	Y
Compound Quantitation	Y

NA = not analyzed

A. Calibration

One initial calibration, run on April 19-20, 2022, on instrument PEST2, was associated with the sample analyses. Calibration factors (CFs) and %RSDs were correctly calculated and reported. All %RSDs were all less than the maximum acceptance limit of 20%. ICV standards for Aroclor 1248 and the Aroclor 1016/1260, Aroclor 1242/1268, Aroclor 1232/1262, and Aroclor 1221/1254 mixtures were analyzed after the IC, and %Ds for all selected Aroclor peaks on both columns in the ICV standards were less than the maximum acceptance limit of 20%.

Two CC standards were analyzed with the samples on May 19, 2022, at 06:42 and12:27. CFs and %Ds for all selected Aroclor 1016 and 1260 peaks on both columns were correctly calculated and reported. The %D values were less than the maximum

acceptance limit of 20%, except for the fourth selected Aroclor 1260 peak (Aroclor 1260-4) on the CLP-Pesticide II column of the CC standard run at 12:27 (21.9%). Based on professional judgment, since all %Ds on the CLP-Pesticide column were acceptable, and no Aroclors were detected in any of the site samples, no action was necessary on this basis.

B. Surrogate Recovery

TCX and DCB were used as the surrogate compounds for these analyses. Recoveries of TCX and DCB for the reported site and laboratory QC samples were within the validation acceptance limits of 70-130%, with the following exceptions:

Sample	TCX %R Column 1*	TCX %R Column 2**	DCB %R Column 1	DCB %R Column 2	Qualifier
MW-9A	a	69	68	65	UJ
MW-4A	a	a	69	69	
WP-11	a	64	a	a	none

*CLP-Pesticide column
**CLP-Pesticide II column
a = acceptable

Results for all target Aroclors in MW-9A and MW-4A were qualified as estimated (UJ) due to low surrogate recoveries on both columns. Based on professional judgment, since DCB recoveries on both columns and the TCX recovery on the CLP-Pesticide column in WP-11 were acceptable, and no target Aroclors were detected in this sample, no action was necessary due to the low TCX recovery on the CLP-Pesticide II column.

C. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD)

An LCS/LCSD pair was prepared and analyzed with the site samples. Recoveries and precision between paired recoveries were acceptable (70-130% R and <20% RPD), with the following exceptions:

Compound	LCS %R	LCSD %R	RPD	Samples Affected	Qualifier Applied
Batch WG1640120-2/3					
Aroclor 1016	a / a	a / a	22 / a	All samples	UJ
Aroclor 1260	64 / 63	65 / 64	a / a		

Results for all pcbs in all samples in this data set were qualified as estimated (UJ) due to low LCS/LCSD recoveries and/or LCS/LCSD imprecision. Total PCBs results were also qualified as estimated (UJ).

VIII. Total and Dissolved ICP-MS Metals

Review Element	Acceptable?
ICP-MS Instrument Tunes	Y
Calibrations - ICs, ICVs, CCVs	N
Laboratory and Field Blanks	N
Interference Check Samples	N
Laboratory Control Samples / LCS Duplicates	Y
Field and Laboratory Duplicates	N
Matrix Spike / Matrix Spike Duplicates	N
Post Digestion Spikes	N
Serial Dilution Analysis	Y
Internal Standard Recoveries	N
Total vs. Dissolved	N
Analyte Quantitation	Y

A. Calibrations – ICs, ICVs, CCVs

The initial calibration was established on 5/26/22 on instrument ICPMSQ. Calibration criteria (R^2 >0.995 for the linear regression) were met in for all reported analytes. The calculated percent differences for all non-zero standards were within the 30% limit with the exception of beryllium (-42%D) and cadmium (-34%D). All results for total and dissolved beryllium and total and dissolved cadmium were less than the calibration supported RL of 0.001 mg/L and were qualified as estimated (UJ) due to elevated %D in the low level calibration standard

A low level continuing calibration verification (LLCCV) was analyzed at the beginning and the end of the analytical sequence. All recoveries were within the 65-135% acceptance limits with exceptions following:

LLCCV ID	Analyte	%R	Associated Samples	Qualifier
LLCCV 5/26/22 @ 08:39:42	Beryllium, Total and Dissolved	63.5	All samples	J-, UJ
	Chromium, Total and Dissolved	56.1		
	Antimony, Total and Dissolved	55.2		
LLCCV 5/26/22 @ 22:50:52	Chromium, Total and Dissolved	62.6		
	Antimony, Total and Dissolved	58.4		
	Total and Dissolved Lead	61.8		

LLCCV ID	Analyte	%R	Associated Samples	Qualifier
	Iron, Total	178	MW-5A WP-12	J+
	Iron, Dissolved	178	MW-4A WP-12 FIELD BLANK	J+

Results for total and dissolved beryllium, chromium, and antimony were less than 10x the reporting limit and qualified as estimated (J-, UJ) due to low recoveries demonstrated in the LLCCV standard. Results may be biased low, or the limit of detection may be higher than reported. Results for total iron in MW-5A and WP-12 and dissolved iron in MW-4A, WP-12, and FIELD BLANK were less than 10x the RL and qualified as estimated (J+), biased high, due to elevated LLCCV recoveries.

B. Blanks

Initial and continuing calibration blanks were analyzed at the proper frequencies. One preparation blank for total metals and one preparation blank for dissolved metals were prepared and analyzed with the samples. One field blank (FIELD BLANK) was submitted with this SDG. The following analytes were detected in these blanks:

Blank ID	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
MB(WG1642946-1BLANK)	Antimony, Dissolved	0.00047	All samples	none
	Sodium, Dissolved	0.0311		none
	Chromium, Dissolved	0.00022	MW-9A MW-5A WP-11 WP-12 FIELD BLANK MW-DUP-1	none
			MW-7A MW-4A	U
FIELD BLANK	Antimony, Dissolved	0.00052	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 MW-DUP-1	none
	Barium, Dissolved	0.00029		none
	Iron, Dissolved	0.0371		none
	Sodium, Dissolved	0.0662		none
	Aluminum, Dissolved	0.00908	MW-9A MW-5A WP-11 WP-12	none
			MW-7A MW-4A	U

Blank ID	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
			MW-DUP-1	
	Manganese, Dissolved	0.00237	MW-7A MW-9A MW-4A WP-11 WP-12 MW-DUP-1	none
			MW-5A	U
	Barium, Total	0.00032	MW-7A	none
			MW-9A MW-4A MW-5A WP-11 WP-12 MW-DUP-1	none
CCB (R1568727-7)	Arsenic, Dissolved	0.000178	MW-7A MW-9A MW-4A MW-5A	none
	Iron, Dissolved	0.0366		
CCB (R1568727-9)		0.0336		
CCB (R1568727-7)	Thallium, Dissolved	0.000651	MW-4A MW-5A	none
CCB (R1568727-9)	Thallium, Dissolved	0.000657	MW-7A MW-9A	U
CCB (R1568727-9)	Thallium, Dissolved	0.000657	WP-11 WP-12	U
CCB (R1568727-12)	Thallium, Dissolved	0.000639	FIELD BLANK MW-DUP-1	none
	Iron, Dissolved	0.0292	WP-11 WP-12 FIELD BLANK MW-DUP-1	none
CCB (R1568727-18)	Iron, Total	0.0311	MW-7A MW-9A MW-5A WP-11 WP-12 FIELD BLANK	none
CCB (R1568727-20)	Iron, Total	0.0346		none
CCB (R1568727-22)	Iron, Total	0.0358	MW-DUP-1	none
CCB (R1568727-18)	Thallium, Total	0.000767	MW-7A MW-9A MW-5A WP-11 WP-12	none
CCB (R1568727-20)	Thallium, Total	0.000703	FIELD BLANK	U
CCB (R1568727-22)	Thallium, Total	0.000804	MW-DUP-1	U

Blank ID	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
CCB (R1568727-24)	Sodium, Total	0.0315	MW-4A	none
CCB (R1568727-28)	Iron, Total	0.0376	MW-4A	none
	Thallium, Total	0.000724		

The method blank associated with the dissolved metals analysis was detected at an actionable contamination level for dissolved chromium. Results for dissolved chromium in MW-7A and MW-4A were qualified as not detected (U) at the reporting limit due to method blank contamination. The FIELD BLANK associated with the dissolved metals analysis was detected at actionable contamination levels for dissolved aluminum and dissolved manganese. Results for dissolved aluminum in MW-7A, MW-4A, and MW-DUP-1, as well as dissolved manganese in MW-5A, were qualified as not detected (U) at the reporting limit or reported value, whichever was greater, due to field blank contamination. The results for dissolved thallium in MW-7A, MW-9A, WP-11, and WP-12 were qualified as not detected (U) due to continuing calibration blank contamination. Results for total thallium in FIELD BLANK and MW-DUP-1 were qualified as not detected (U) due to continuing calibration blank contamination. Where blank contamination was detected at concentrations levels less than reported in the sample, or associated samples were not detected, exceedance were noted, but qualification of results was not warranted.

C. Interference Check Samples (ICSA/ICSAB)

The interference check samples associated with these samples were acceptable for all analytes with exceptions in the ICSA standard. All ICSAB recoveries were within acceptance criteria (85-115%).

ICSA Standard	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
ICSA R1568727-3	Total and Dissolved Barium	0.000240	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12	none
			FIELD BLANK	J+
			MW-DUP-1	
	Chromium, Total	0.000328	FIELD BLANK	none
			MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 MW-DUP-1	J+
	Chromium, Dissolved		MW-7A MW-9A	none

ICSA Standard	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
			MW-4A WP-11 FIELD BLANK MW-DUP-1	
			MW-5A WP-12	J+
	Cobalt, Total	0.000472	MW-5A WP-12 FIELD BLANK	none
			MW-7A MW-9A MW-4A WP-11 MW-DUP-1	J+
	Cobalt, Dissolved		WP-12 FIELD BLANK	none
			MW-7A MW-9A MW-4A MW-5A WP-11 MW-DUP-1	J+
	Copper, Total	0.0012	FIELD BLANK	none
			MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 MW-DUP-1	J+
	Copper, Dissolved		MW-7A MW-9A MW-4A WP-11 FIELD BLANK MW-DUP-1	none
			MW-5A WP-12	J+
	Manganese, Total	0.000851	FIELD BLANK MW-7A MW-9A MW-4A MW-DUP-1	none
			MW-5A WP-11 WP-12	J+
	Manganese, Dissolved		MW-5A MW-7A MW-9A	none

ICSA Standard	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
			MW-4A MW-DUP-1	
			WP-11 WP-12 FIELD BLANK	J+
	Nickel, Total	0.000614	FIELD BLANK	none
			MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 MW-DUP-1	J+
	Nickel, Dissolved		WP-12 FIELD BLANK	none
			MW-7A MW-9A MW-4A MW-5A WP-11 MW-DUP-1	J+
	Zinc, Total	0.00504	WP-11 WP-12 FIELD BLANK MW-DUP-1	none
			MW-7A MW-9A MW-4A MW-5A	J+
	Zinc, Dissolved		MW-7A MW-9A WP-11 FIELD BLANK MW-DUP-1	none
			MW-4A MW-5A WP-12	J+

The ICSA was detected at concentrations greater than the MDL for barium (MDL - 0.000173 mg/L), chromium (MDL – 0.000178 mg/L), cobalt (MDL – 0.000163), copper (MDL - 0.000384 mg/L), manganese (MDL – 0.000440 mg/L) , nickel (MDL – 0.000556 mg/L) , and zinc (MDL – 0.00341 mg/L), exhibiting an elevated response with potential for high bias in detected samples. The ICSAB was spiked with a known concentrations for aluminum (20 mg/L), calcium (60 mg/L), iron (50 mg/L), magnesium (20 mg/L), sodium (50 mg/L) and potassium (20 mg/L) and recovered within acceptance limits (85-115%). The results for total and dissolved barium in FIELD BLANK were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for total chromium in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, and MW-DUP-1 were

qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for dissolved chromium in MW-5A and WP-12 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for total cobalt in MW-7A, MW-9A, MW-4A, WP-11, and MW-DUP-1 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for dissolved cobalt in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, and MW-DUP-1 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for total manganese in MW-5A, WP-11, and WP-12 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for total copper and total nickel in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, WP-12, and MW-DUP-1 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for dissolved copper in MW-5A and WP-12 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for dissolved manganese in WP-11, WP-12, and FIELD BLANK were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard Results for dissolved nickel in MW-7A, MW-9A, MW-4A, MW-5A, WP-11, and MW-DUP-1 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for total zinc in MW-7A, MW-9A, MW-4A, and MW-5A were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Results for dissolved zinc in MW-4A, MW-5A, and WP-12 were qualified as estimated and biased high (J+) due to elevated response in the ICSA standard. Where sample concentrations were not detected or significantly greater than the detected ICSA concentration, qualification was not warrant qualification.

D. Matrix Spike (MS), Matrix Spike Duplicate (MSD) and Post Digestion Spike (PDS)

One MS/MSD pair was prepared and analyzed with the site samples for the dissolved metals fraction. A single PDS was analyzed with the site samples. Percent recoveries (%Rs) and relative percent differences (RPDs) were acceptable (validation QC 75-125%R, RPDs ≤20 RPD), with the exceptions noted below.

Sample ID	Analyte	MS %R	PDS %R
QC Sample: MW-7A	Calcium, Dissolved	208	a
	Iron, Dissolved	160	a
	Magnesium, Dissolved	153	a
	Manganese, Dissolved	204	a
	Potassium, Dissolved	133	a
	Sodium, Dissolved	530	a

a-acceptable

The matrix spike recovered high for dissolved calcium, dissolved iron, dissolved magnesium, dissolved manganese, dissolved potassium, and dissolved sodium. The dissolved results for iron, magnesium, manganese, and potassium in MW-7A were qualified as estimated (J), due to elevated MS recoveries. Although spike recoveries fell outside of acceptance limits for dissolved calcium and dissolved sodium, the parent sample concentrations were more than four times the spike concentrations added. There

is no expectation of acceptable recoveries at these spike levels, and qualification was not warranted.

E. Duplicates

MW-DUP-1 was collected as a field duplicate of MW-7A and analyzed in support of this sampling event. The laboratory also analyzed the dissolved metals fraction of MW-7A in duplicate as part of their standard batch QC practices. Evaluation of these duplicate analyses were performed with acceptable relative percent differences (RPDs) and low-level comparability with exceptions noted in the table below.

Analyte	Original conc. (mg/L)	Duplicate conc. (mg/L)	RPD	Associated Sample
Field Duplicate Pair: MW-7A : MW-DUP-1				
Iron, Dissolved	1.38	0.957	36.2	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 MW-DUP-1
Lead, Dissolved	0.00047	ND	N/C	
Aluminum, Total	0.105	0.446	123	
Zinc, Total	0.03409	ND	N/C	
Laboratory Duplicate Pair: MW-7A : MW-7ADUP				
Antimony, Dissolved	ND	0.00067	N/C	MW-7A MW-9A MW-4A MW-5A WP-11 WP-12 MW-DUP-1
Copper, Dissolved	ND	0.00104	N/C	
Silver, Dissolved	ND	0.00018	N/C	
Zinc, Dissolved	ND	0.00415	N/C	

N/C – Not Calculated

The results for dissolved iron and total aluminum in all site samples were qualified as estimated (J, UJ) due to elevated RPD in the field duplicate pair. The results for dissolved antimony, dissolved copper, dissolved lead, dissolved silver, and total and dissolved zinc in all site samples were less than five times the RL and qualified as estimated (J, UJ) due to lack of confirmation in the field and/or laboratory duplicate.

F. Internal Standards

The laboratory used five internal standards (ISs), (^{6}Li, ^{45}Sc, ^{74}Ge, ^{115}In and ^{209}Bi) in support of sample analysis. The percent relative intensities (%RI) were monitored throughout the analytical run and were within the 70-130% limits in all site samples with exceptions noted in the table below.

Sample	^{6}Li	^{45}Sc	^{74}Ge	^{115}In	^{209}Bi
MW-4A (Diss)	166	143	a	a	a
MW-4A (5x) (Diss)	140	a	a	a	a
MW-5A (Diss)	161	151	133	135	131

Sample	^{6}Li	^{45}Sc	^{74}Ge	^{115}In	^{209}Bi
WP-11 (Diss)	a	132	a	a	a
WP-12 (Diss)	131	a	a	a	132
MW-9A (Total)	a	a	a	a	132
MW-4A (5x) (Total)	131	a	a	a	a
MW-4A (Total)	150	133	a	a	a
W-5A (Total)	158	142	a	a	a
WP-11 (Total)	147	a	a	a	a
WP-12	142	a	a	a	131

a-acceptable

The total and dissolved results for aluminum, beryllium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, and vanadium in MW-4A were qualified as estimated (J, UJ) due to IS %RI drift. The results for all dissolved metals in MW-5A were qualified as estimated (J, UJ) due to IS %RI drift. The dissolved results for aluminum, beryllium, calcium, chromium, cobalt, copper, iron, potassium, magnesium, manganese, nickel, sodium, and vanadium in WP-11 were qualified as estimated (J, UJ) due to IS %RI drift. The total and dissolved results for beryllium, lead and thallium in WP12 were qualified as estimated (J, UJ) due to IS %RI drift. The total results for lead and thallium in MW-9A were qualified as estimated (J, UJ) due to IS %RI drift. The total beryllium results for WP-11 were qualified as estimated (J, UJ) due to IS %RI drift.

G. Total Vs. Dissolved

Total and dissolved metals analysis was performed on all samples. The relationship is based on the logic that total concentrations can equal or be greater than the dissolved concentrations but cannot be less. The percent differences between the sample concentrations were within the 10% acceptance limit. Any exceptions are noted in the table below:

Analyte	Total Conc. (mg/L)	Dissolved Conc. (mg/L)	% Difference
Sample: MW-7A			
Barium	0.1325	0.1345	1.5
Cobalt	0.00244	0.0025	2.5
Magnesium	14.3	14.4	0.69
Manganese	1.783	1.803	1.1
Nickel	0.00326	0.00332	1.8
Potassium	7.76	7.82	0.77
Sodium	245	255	4.1
Sample: MW-9A			
Sodium	183	184	0.55
Sample: MW-4A			
Antimony	0.00057	0.00074	**31**
Calcium	442	464	5.0
Magnesium	104	112	7.7
Manganese	0.5132	0.5207	1.5
Nickel	0.00198	0.00214	8.1
Sample: MW-5A			

Analyte	Total Conc. (mg/L)	Dissolved Conc. (mg/L)	% Difference
Barium	0.3751	0.3869	3.14
Cobalt	ND	0.00016	N/C
Copper	0.00202	0.00372	**84**
Nickel	0.00227	0.00231	1.8
Zinc	0.00428	0.00553	**29**
Sample: WP-12			
Zinc	ND	0.00493	N/C
Sample: Field Blank			
Aluminum	ND	0.00908	N/C
Antimony	ND	0.00052	N/C
Iron	ND	0.00371	N/C
Manganese	ND	0.00237	N/C
Sodium	ND	0.0662	N/C
Sample: MW-DUP-1			
Sodium	270	277	2.6

N/C – Not Calculated

Results for total and dissolved antimony in MW-4A and total and dissolved copper and zinc in MW-5A were qualified as estimated (J) because the dissolved concentrations exceeded the total concentrations by more than ten percent difference. The results for total and dissolved cobalt in MW-5A, total and dissolved zinc in WP-12, and total and dissolved aluminum, antimony, iron, manganese, and sodium in Field Blank were qualified as estimated (J, UJ), because the dissolved concentrations were greater than the non-detected and unconfirmed total concentrations. In instances where the dissolved concentrations exceeded the total concentrations by less than 10% difference, the difference can be attributed to experimental error, and qualification of data is not warranted.

H. Analyte Quantitation

Dilutions were performed on one of the samples to bring the analyte concentrations within instrument calibration range. Sample WP-12 was analyzed at 5-fold dilution for total and dissolved potassium and sodium to bring the sample concentrations within the instrument calibration range. All sample concentrations, RLs, and MDLs were appropriately raised to reflect the dilution factors applied.

IX. Cold Vapor – Total and Dissolved Mercury

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	Y
Laboratory Control Samples	Y
Field and Laboratory Duplicates	Y
Matrix Spike	Y
Post Digestion Spikes	N/A
Serial Dilution Analysis	N/A

Review Element	Acceptable?
Total vs. Dissolved	Y
Analyte Quantitation	Y

A. Analyte Quantitation

Preparatory dilutions were performed on all total mercury samples due to limited sample volume. Sample MW-7A was analyzed at a 25-fold dilution, and MW-9A, MW-4A, MW-5A, WP-11, WP-12 and FIELD BLANK were analyzed at 5-fold dilutions. All sample concentrations, RLs, and MDLs were appropriately raised to reflect the dilution factors applied.

X. PFAS

Review Element	Acceptable?
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	N
Labeled Analogs	N
LCS/LCSD	Y
Field Duplicates	NA
MS/MSD	Y
Internal Standard Responses	N
Compound Identification	N

A. Blanks

The following analyte was detected in an associated blank:

Blank	Analyte	Concentration	Affected Sample	Qualifier Applied
FIELD BLANK	6:2-FTS	19.8 ng/L	MW-7A MW-4A	U

Results for 6:2 FTS in MW-7A and MW-4A were qualified as not detected (U) at the RL due to field blank contamination.

B. Labeled Analogs

Eighteen labeled analogs (also referred to as extraction standards) were used. Percent recoveries (%Rs) of the labeled analogs were assessed against validation criteria of 40-140%R. Exceedances that impacted sample results are detailed below:

Sample	Labeled Analog	%R	Native Compound	Qualifier Applied
MW-7A	M2-6:2 FTS	194	6:2 FTS	J+
	M8FOSA	21	FOSA	UJ

Sample	Labeled Analog	%R	Native Compound	Qualifier Applied
MW-9A	M8FOSA	14	FOSA	
MW-4A	M5PFPEA	31	PFPeA	
	M4PFHXA	33	PFHxA	
	M2-6:2 FTS	323	6:2 FTS	J+
FIELD BLANK	M8FOSA	35	FOSA	UJ

Results were qualified as follows:

- Results for 6:2 FTS in MW-7A and MW-4A were qualified as estimated with potential high bias (J+) due to high labeled analog recoveries.
- Results for FOSA in MW-7A and FIELD BLANK were qualified as estimated (UJ) due to low labeled analog recoveries.
- Results for PFPeA and PFHxA in MW-4A were qualified as estimated (UJ) due to low labeled analog recoveries.

Where a labeled analog recovery was greater than 140%R and the associated compound was not detected in the sample, no qualification of sample results was warranted, and the recovery is not detailed above.

C. Internal Standard Responses

Recoveries of internal standards M3PFBA, M2PFOA, M4PFOS, and M2PFDA were within the acceptance limits of 50-150% with the following exceptions:

Sample	Internal Standard	%R	Affected Compounds	Qualifier Applied
MW-4A	M3PFBA	26	PFBA PFPeA	J, UJ
	M2PFOA	42	PFHxA PFHpA PFOA PFNA	

Results for PFBA, PFPeA, PFHxA, PFHpA, PFOA, and PFNA in MW-4A were qualified as estimated (J, UJ) due to low areas of the corresponding internal standard.

D. Identification

The result for PFNA in MW-9A was flagged by the laboratory with an “F” to indicate that this represents an estimated maximum possible concentration (EMPC). The mass ratio for this compound was slightly outside the criteria established by the reference standards. In keeping with a conservative approach, which errs on the side of false positives, this result was qualified as presumptively present and estimated (NJ) because the mass ratio was outside the established range.

XI. Hexavalent Chromium

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	Y
Laboratory Control Samples	Y
Field and Laboratory Duplicates	Y
Matrix Spike	Y
Analyte Quantitation	Y

A. Analyte Quantitation

Sample MW-7A was analyzed at 5-fold dilution for hexavalent chromium because the sample had a low pH (1.9). The sample concentration, RL, and MDL were appropriately raised to reflect the dilution factor applied.

XII. Cyanide, Total

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	N
Laboratory Control Samples	Y
Laboratory and Field Duplicates	N
Matrix Spike and Matrix Spike Duplicate	Y
Compound Quantitation	Y

A. Blanks

Initial and continuing calibration blanks were analyzed at the proper frequencies. Two preparation blanks and one field blank (FIELD BLANK) for total cyanide were prepared and analyzed with the samples. The following blank was detected for cyanide:

Blank ID	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
Method Blank WG1639913-1BLANK	Cyanide	0.001	MW-DUP-1	none

The sample associated with the method blank contamination was not detected and did not warrant qualification.

B. Field Duplicates

MW-DUP-1 was collected as a field duplicate of MW-7A. MW-DUP-1 was not detected for cyanide, and MW-7A was detected at a low-level concentration between the MDL and RL (0.002 mg/L). Results for cyanide in MW-7A, MW-9A, MW-5A, WP-11, FIELD BLANK, and MW-DUP-1 were less than twice the reporting limit and were qualified as estimated (J, UJ) due to low level field duplicate imprecision.

XIII. Sulfide, Total

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	N
Laboratory and Field Blanks	Y
Laboratory Control Samples	Y
Laboratory Duplicates	n/a
Matrix Spike	n/a
Compound Quantitation	Y

n/a – not applicable (non-site sample)

A. Calibrations – ICs, ICVs, CCVs

A multi-point calibration was performed with an acceptable correlation coefficient (>0.995). The percent difference for each calibration level was within the acceptance limit (<30%). The initial calibration verification (ICV) was within acceptance limits (90-110%). The closing calibration verification (CCV) standard associated with MW-7A and MW-9A demonstrated elevated recovery (112%) and was biased high, outside acceptance limits (90-110%). Both reported samples were not detected and did not warrant qualification.

XIV. Nitrogen, Nitrite

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	Y
Laboratory Control Samples	Y
Laboratory Duplicates	Y
Matrix Spike	Y
Compound Quantitation	Y

All nitrogen, nitrite results were acceptable as reported and did not warrant qualification.

XV. Nitrogen, Nitrate

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	N
Laboratory Control Samples	Y
Laboratory Duplicates	n/a
Matrix Spike	n/a
Compound Quantitation	Y

n/a – not applicable (non-site sample)

Initial and continuing calibration blanks were analyzed at the proper frequencies. One preparation blank for nitrogen, nitrate was prepared and analyzed with the samples. One

field blank (FIELD BLANK) was submitted with this SDG. The following negative concentrations were found in these blanks:

Blank ID	Analyte	Concentration (mg/L)	Associated Samples	Qualifier
CCB	Nitrogen, Nitrate	-0.03391	MW-7A MW-9A	NONE

NONE – Not Qualified

The continuing calibration blank (CCB) associated with the above samples indicated a negative instrument response slightly above the MDL and below the RL. Results for nitrogen, nitrate in MW-7A and MW-9A were more than ten times the negative blank and its effects and did not warrant qualification of samples.

XVI. Sulfate

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	Y
Laboratory Control Samples	Y
Laboratory Duplicates	Y
Matrix Spike	Y
Compound Quantitation	Y

All sulfate results were acceptable as reported and did not warrant qualification.

XVII. Ferrous Iron

Review Element	Acceptable?
Calibrations - ICs, ICVs, CCVs	Y
Laboratory and Field Blanks	Y
Laboratory Control Samples	Y
Laboratory Duplicates	n/a
Matrix Spike	Y
Compound Quantitation	Y

n/a – not applicable (non-site sample)

All ferrous iron results were acceptable as reported and did not warrant qualification.

XVIII. Ferric Iron

Review Element	Acceptable?
Compound Quantitation	Y

All ferric iron results were acceptable as reported and did not warrant qualification.

Attachment A
Volatiles QC Summary Forms - Excursions

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA130\2022\220505NICAL\
Data File : V30220505N18.D
Acq On : 05 May 2022 11:11 pm
Operator : VOA130:PD
Sample : C8260STD10PPB
Misc : WG1635374,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 06 11:02:52 2022
Quant Method : I:\VOLATILES\VOA130\2022\220505NICAL\VOA130_220505N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri May 06 10:59:18 2022
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\VOLATILES\VOA130\2022\220505NICAL\V30220505N09.D
Sub List : 8260-Curve - Megamix plus Diox

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	5.568	96	263950	10.000	ug/L	0.00
Standard Area 1 = 270448			Recovery = 97.60%			
59) Chlorobenzene-d5	8.549	117	197269	10.000	ug/L	0.00
Standard Area 1 = 200720			Recovery = 98.28%			
79) 1,4-Dichlorobenzene-d4	10.030	152	105584	10.000	ug/L	0.00
Standard Area 1 = 111510			Recovery = 94.69%			
System Monitoring Compounds						
36) Dibromofluoromethane	4.586	113	71918	9.938	ug/L	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.38%			
43) 1,2-Dichloroethane-d4	5.222	65	74091	9.990	ug/L	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.90%			
60) Toluene-d8	7.266	98	258719	10.176	ug/L	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.76%			
83) 4-Bromofluorobenzene	9.363	95	94901	10.213	ug/L	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.13%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.961	85	49623	7.624	ug/L	98
3) Chloromethane	1.092	50	63216	9.602	ug/L	99
4) Vinyl chloride	1.136	62	66303	10.332	ug/L	96
5) Bromomethane	1.343	94	34206	11.061	ug/L	98
6) Chloroethane	1.429	64	41202	10.809	ug/L	95
7) Trichlorofluoromethane	1.530	101	90642	10.587	ug/L	98
8) Ethyl ether	1.772	74	30120	12.469	ug/L	73
10) 1,1-Dichloroethene	1.901	96	50989	10.273	ug/L #	65
11) Carbon disulfide	1.906	76	158145	11.681	ug/L	96
12) Freon-113	1.942	101	58866	11.439	ug/L	95
13) Iodomethane	2.007	142	23564	7.383	ug/L	85
14) Acrolein	2.188	56	5304	9.652	ug/L	95
15) Methylene chloride	2.400	84	63243	10.366	ug/L	70
17) Acetone	2.467	43	10697	10.334	ug/L	97
18) trans-1,2-Dichloroethene	2.548	96	58424	10.529	ug/L	75
19) Methyl acetate	2.601	43	25490	10.136	ug/L #	95
20) Methyl tert-butyl ether	2.693	73	117679	10.836	ug/L	94
21) tert-Butyl alcohol	2.857	59	11469	47.627	ug/L #	84
22) Diisopropyl ether	3.139	45	157508	9.558	ug/L #	91
23) 1,1-Dichloroethane	3.203	63	113931	10.771	ug/L	98
24) Halothane	3.359	117	47757	10.856	ug/L	98

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA105\2022\220511N-ICAL\
Data File : V05220511N18.d
Acq On : 11 May 2022 10:00 pm
Operator : VOA105:PD
Sample : C8260STD10PPB
Misc : WG1637761,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 12 12:41:07 2022
Quant Method : I:\VOLATILES\VOA105\2022\220511N-ICAL\V105_220511N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu May 12 12:36:57 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	90	0.00
2	TP	Dichlorodifluoromethane	0.265	0.312	-17.7	95	0.00
3	TP	Chloromethane	0.308	0.335	-8.8	100	0.00
4	TC	Vinyl chloride	0.269	0.299	-11.2	94	-0.01
5	TP	Bromomethane	0.152	0.189	-24.3#	122	0.00
6	TP	Chloroethane	0.147	0.162	-10.2	99	-0.01
7	TP	Trichlorofluoromethane	0.373	0.417	-11.8	94	-0.01
8	TP	Ethyl ether	0.080	0.103	-28.7#	131	0.00
10	TC	1,1-Dichloroethene	0.218	0.202	7.3	81	0.00
11	TP	Carbon disulfide	0.576	0.557	3.3	88	0.00
12	TP	Freon-113	0.216	0.208	3.7	78	0.00
13	TP	Iodomethane	0.344	0.278	19.2	73	0.00
14	TP	Acrolein	0.028	0.027	3.6	90	0.00
15	TP	Methylene chloride	0.241	0.226	6.2	87	0.00
17	TP	Acetone	* 10.000	8.321	16.8	92	0.00
18	TP	trans-1,2-Dichloroethene	0.239	0.228	4.6	85	0.00
19	TP	Methyl acetate	0.105	0.095	9.5	92	0.00
20	TP	Methyl tert-butyl ether	0.433	0.450	-3.9	102	0.00
21	TP	tert-Butyl alcohol	0.010	0.011	-10.0	118	0.00
22	TP	Diisopropyl ether	0.754	0.689	8.6	90	0.00
23	TP	1,1-Dichloroethane	0.424	0.414	2.4	90	0.00
24	TP	Halothane	0.188	0.172	8.5	81	0.00
25	TP	Acrylonitrile	0.047	0.048	-2.1	97	0.00
26	TP	Ethyl tert-butyl ether	0.597	0.558	6.5	93	0.00
27	TP	Vinyl acetate	0.476	0.413	13.2	90	0.00
28	TP	cis-1,2-Dichloroethene	0.272	0.249	8.5	86	0.00
29	TP	2,2-Dichloropropane	0.361	0.306	15.2	77	0.00
30	TP	Bromochloromethane	0.125	0.119	4.8	88	0.00
31	TP	Cyclohexane	0.419	0.357	14.8	73	0.00
32	TC	Chloroform	0.416	0.389	6.5	89	0.00
33	TP	Ethyl acetate	0.150	0.143	4.7	104	0.00
34	TP	Carbon tetrachloride	0.332	0.310	6.6	82	0.00
35	TP	Tetrahydrofuran	0.047	0.050	-6.4	101	0.00
36	S	Dibromofluoromethane	0.267	0.270	-1.1	91	0.00
37	TP	1,1,1-Trichloroethane	0.357	0.363	-1.7	90	0.00
39	TP	2-Butanone	0.062	0.059	4.8	104	0.00
40	TP	1,1-Dichloropropene	0.302	0.283	6.3	83	0.00
41	TP	Benzene	0.967	0.892	7.8	87	0.00
42	TP	tert-Amyl methyl ether	0.508	0.462	9.1	92	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA105\2022\220514B\
Data File : V05220514B02.d
Acq On : 14 May 2022 10:54 am
Operator : VOA105:PD
Sample : WG1639023-2
Misc : WG1639023,ICAL19020
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 14 11:15:42 2022
Quant Method : I:\VOLATILES\VOA105\2022\220514B\V105_220511N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu May 12 12:36:57 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	96	0.00
2	TP	Dichlorodifluoromethane	0.265	0.305	-15.1	100	0.00
3	TP	Chloromethane	0.308	0.284	7.8	91	0.00
4	TC	Vinyl chloride	0.269	0.287	-6.7	97	0.00
5	TP	Bromomethane	0.152	0.206	-35.5#	143	0.00
6	TP	Chloroethane	0.147	0.195	-32.7#	127	0.00
7	TP	Trichlorofluoromethane	0.373	0.569	-52.5#	138	0.00
8	TP	Ethyl ether	0.080	0.097	-21.3#	133	0.00
10	TC	1,1-Dichloroethene	0.218	0.220	-0.9	95	0.00
11	TP	Carbon disulfide	0.576	0.596	-3.5	101	0.00
12	TP	Freon-113	0.216	0.246	-13.9	99	0.00
15	TP	Methylene chloride	0.241	0.242	-0.4	100	0.00
17	TP	Acetone	* 10.000	6.663	33.4#	81	0.00
18	TP	trans-1,2-Dichloroethene	0.239	0.241	-0.8	97	0.00
19	TP	Methyl acetate	0.105	0.082	21.9#	85	0.00
20	TP	Methyl tert-butyl ether	0.433	0.384	11.3	93	0.00
21	TP	tert-Butyl alcohol	0.01009	0.00533#	47.2#	59	0.00
22	TP	Diisopropyl ether	0.754	0.679	9.9	95	0.00
23	TP	1,1-Dichloroethane	0.424	0.415	2.1	97	0.00
24	TP	Halothane	0.188	0.196	-4.3	99	0.00
25	TP	Acrylonitrile	0.047	0.045	4.3	98	0.00
26	TP	Ethyl tert-butyl ether	0.597	0.516	13.6	92	0.00
27	TP	Vinyl acetate	0.476	0.386	18.9	91	0.00
28	TP	cis-1,2-Dichloroethene	0.272	0.264	2.9	98	0.00
29	TP	2,2-Dichloropropane	0.361	0.331	8.3	90	0.00
30	TP	Bromochloromethane	0.125	0.132	-5.6	106	0.00
31	TP	Cyclohexane	0.419	0.437	-4.3	95	0.00
32	TC	Chloroform	0.416	0.446	-7.2	110	0.00
33	TP	Ethyl acetate	0.150	0.120	20.0	93	0.00
34	TP	Carbon tetrachloride	0.332	0.343	-3.3	97	0.00
35	TP	Tetrahydrofuran	0.047	0.042	10.6	91	0.00
36	S	Dibromofluoromethane	0.267	0.283	-6.0	103	0.00
37	TP	1,1,1-Trichloroethane	0.357	0.406	-13.7	108	0.00
39	TP	2-Butanone	0.062	0.050	19.4	96	0.00
40	TP	1,1-Dichloropropene	0.302	0.320	-6.0	101	0.00
41	TP	Benzene	0.967	0.968	-0.1	101	0.00
42	TP	tert-Amyl methyl ether	0.508	0.407	19.9	87	0.00
43	S	1,2-Dichloroethane-d4	0.261	0.284	-8.8	102	0.00
44	TP	1,2-Dichloroethane	0.270	0.281	-4.1	109	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA130\2022\220518N\
Data File : V30220518N01.D
Acq On : 18 May 2022 05:50 pm
Operator : VOA130:TMS
Sample : WG1640338-2
Misc : WG1640338,ICAL18995
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 18 18:09:32 2022
Quant Method : I:\VOLATILES\VOA130\2022\220518N\VOA130_220505N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri May 06 10:59:18 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	94	0.00
2	TP	Dichlorodifluoromethane	0.247	0.258	-4.5	88	0.00
3	TP	Chloromethane	0.249	0.283	-13.7	103	0.00
4	TC	Vinyl chloride	0.243	0.262	-7.8	94	0.00
5	TP	Bromomethane	0.117	0.103	12.0	85	0.00
6	TP	Chloroethane	0.144	0.152	-5.6	90	0.00
7	TP	Trichlorofluoromethane	0.324	0.340	-4.9	91	0.00
8	TP	Ethyl ether	0.092	0.072	21.7#	75	0.00
10	TC	1,1-Dichloroethene	0.188	0.190	-1.1	88	0.00
11	TP	Carbon disulfide	0.513	0.532	-3.7	92	0.00
12	TP	Freon-113	0.195	0.202	-3.6	88	0.00
13	TP	Iodomethane	* 10.000	6.073	39.3#	71	0.00
14	TP	Acrolein	0.021	0.021	0.0	93	0.00
15	TP	Methylene chloride	0.231	0.235	-1.7	93	0.00
17	TP	Acetone	0.039	0.036	7.7	82	0.00
18	TP	trans-1,2-Dichloroethene	0.210	0.224	-6.7	96	0.00
19	TP	Methyl acetate	0.095	0.082	13.7	79	0.00
20	TP	Methyl tert-butyl ether	0.411	0.337	18.0	78	0.00
21	TP	tert-Butyl alcohol	0.00912	0.00639#	29.9#	68	0.00
22	TP	Diisopropyl ether	0.624	0.593	5.0	94	0.00
23	TP	1,1-Dichloroethane	0.401	0.411	-2.5	93	0.00
24	TP	Halothane	0.167	0.171	-2.4	90	0.00
25	TP	Acrylonitrile	0.046	0.040	13.0	76	0.00
26	TP	Ethyl tert-butyl ether	0.529	0.442	16.4	84	0.00
27	TP	Vinyl acetate	0.307	0.297	3.3	105	0.00
28	TP	cis-1,2-Dichloroethene	0.241	0.245	-1.7	91	0.00
29	TP	2,2-Dichloropropane	0.290	0.324	-11.7	104	0.00
30	TP	Bromochloromethane	0.111	0.108	2.7	87	0.00
31	TP	Cyclohexane	0.371	0.406	-9.4	96	0.00
32	TC	Chloroform	0.413	0.410	0.7	91	0.00
33	TP	Ethyl acetate	0.120	0.078	35.0#	62	0.00
34	TP	Carbon tetrachloride	0.284	0.298	-4.9	90	0.00
35	TP	Tetrahydrofuran	0.036	0.031	13.9	75	0.00
36	S	Dibromofluoromethane	0.274	0.268	2.2	92	0.00
37	TP	1,1,1-Trichloroethane	0.323	0.335	-3.7	92	0.00
39	TP	2-Butanone	0.056	0.043	23.2#	85	0.00
40	TP	1,1-Dichloropropene	0.281	0.289	-2.8	90	0.00
41	TP	Benzene	0.862	0.901	-4.5	94	0.00
42	TP	tert-Amyl methyl ether	0.446	0.362	18.8	82	0.00

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Lab ID	: L2223459-07	**Date Collected**	: 05/04/22 11:00
Client ID	: FIELD BLANK	**Date Received**	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	**Date Analyzed**	: 05/14/22 17:31
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260C	**Analyst**	: MV
Lab File ID	: V05220514B19	**Instrument ID**	: VOA105
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	4.0	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1639023-3	**Analysis Date** : 05/14/22 10:54	**File ID** : V05220514B02
LCSD Sample ID	: WG1639023-4	**Analysis Date** : 05/14/22 11:17	**File ID** : V05220514B03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
trans-1,2-Dichloroethene	10	10	100	10	10	100	0	70-130	20
Trichloroethene	10	9.8	98	10	10	100	2	70-130	20
1,2-Dichlorobenzene	10	9.6	96	10	9.6	96	0	70-130	20
1,3-Dichlorobenzene	10	9.8	98	10	9.9	99	1	70-130	20
1,4-Dichlorobenzene	10	9.7	97	10	9.7	97	0	70-130	20
Methyl tert butyl ether	10	8.9	89	10	9.3	93	4	63-130	20
p/m-Xylene	20	22	110	20	22	110	0	70-130	20
o-Xylene	20	21	105	20	21	105	0	70-130	20
cis-1,2-Dichloroethene	10	9.7	97	10	10	100	3	70-130	20
Dibromomethane	10	10	100	10	11	110	10	70-130	20
1,2,3-Trichloropropane	10	7.8	78	10	8.5	85	9	64-130	20
Acrylonitrile	10	9.5	95	10	9.6	96	1	70-130	20
Styrene	20	21	105	20	22	110	5	70-130	20
Dichlorodifluoromethane	10	12	120	10	12	120	0	36-147	20
Acetone	10	6.7	67	10	9.4	94	34 Q	58-148	20
Carbon disulfide	10	10	100	10	10	100	0	51-130	20
2-Butanone	10	8.2	82	10	9.4	94	14	63-138	20
Vinyl acetate	10	8.1	81	10	8.5	85	5	70-130	20
4-Methyl-2-pentanone	10	7.9	79	10	8.8	88	11	59-130	20
2-Hexanone	10	7.7	77	10	8.5	85	10	57-130	20
Bromochloromethane	10	10	100	10	10	100	0	70-130	20
2,2-Dichloropropane	10	9.2	92	10	9.3	93	1	63-133	20
1,2-Dibromoethane	10	10	100	10	11	110	10	70-130	20
1,3-Dichloropropane	10	10	100	10	10	100	0	70-130	20
1,1,1,2-Tetrachloroethane	10	10	100	10	9.9	99	1	64-130	20
Bromobenzene	10	9.6	96	10	9.6	96	0	70-130	20

Attachment B
Semi-volatiles Full Scan QC Summary Forms – Excursions

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-07	Date Collected	: 05/04/22 11:00
Client ID	: FIELD BLANK	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/09/22 09:30
Sample Matrix	: WATER	Date Extracted	: 05/07/22
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 23459-07	Analyst	: AH
Sample Amount	: 275 ml	Instrument ID	: SV128
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	0.10	0.01	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	ND	0.10	0.05	U
56-55-3	Benzo(a)anthracene	ND	0.10	0.02	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	0.01	0.10	0.01	J
207-08-9	Benzo(k)fluoranthene	0.01	0.10	0.01	J
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.01	U
86-73-7	Fluorene	ND	0.10	0.01	U
85-01-8	Phenanthrene	ND	0.10	0.02	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.01	U
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	ND	0.10	0.02	U
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-09	Date Collected	: 05/05/22 12:15
Client ID	: MW-DUP-1	Date Received	: 05/05/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/09/22 09:46
Sample Matrix	: WATER	Date Extracted	: 05/07/22
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 23459-09	Analyst	: AH
Sample Amount	: 275 ml	Instrument ID	: SV128
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	0.02	0.10	0.01	J
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	33	0.10	0.05	
56-55-3	Benzo(a)anthracene	ND	0.10	0.02	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.01	U
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.01	U
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.01	U
86-73-7	Fluorene	0.02	0.10	0.01	J
85-01-8	Phenanthrene	0.04	0.10	0.02	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.01	U
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	9.0	0.10	0.02	
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-09	Date Collected	: 05/05/22 12:15
Client ID	: MW-DUP-1	Date Received	: 05/05/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/09/22 18:03
Sample Matrix	: WATER	Date Extracted	: 05/07/22
Analytical Method	: 1,8270D	Dilution Factor	: 1
Lab File ID	: 23459-09	Analyst	: ALS
Sample Amount	: 275 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	U
111-44-4	Bis(2-chloroethyl)ether	2.3	2.0	0.50	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.45	U
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.40	U
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.43	U
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.6	U
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.2	U
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.93	U
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.49	U
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.38	U
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.53	U
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.50	U
77-47-4	Hexachlorocyclopentadiene	ND	20	0.69	U
78-59-1	Isophorone	ND	5.0	1.2	U
98-95-3	Nitrobenzene	ND	2.0	0.77	U
86-30-6	NDPA/DPA	ND	2.0	0.42	U
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.64	U
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.5	U
85-68-7	Butyl benzyl phthalate	ND	5.0	1.2	U
84-74-2	Di-n-butylphthalate	ND	5.0	0.39	U
117-84-0	Di-n-octylphthalate	ND	5.0	1.3	U
84-66-2	Diethyl phthalate	ND	5.0	0.38	U

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635587-2	**Analysis Date** : 05/08/22 12:06	**File ID** : 635587-2
LCSD Sample ID	: WG1635587-3	**Analysis Date** : 05/08/22 12:29	**File ID** : 635587-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	18	12.	66	18	12.	66	0	37-111	30
1,2,4-Trichlorobenzene	18	11.	60	18	9.9	55	9	39-98	30
Hexachlorobenzene	18	12.	66	18	12.	66	0	40-140	30
Bis(2-chloroethyl)ether	18	12.	66	18	12.	64	3	40-140	30
2-Chloronaphthalene	18	12.	64	18	11.	60	6	40-140	30
1,2-Dichlorobenzene	18	11.	59	18	9.9	54	9	40-140	30
1,3-Dichlorobenzene	18	10.	58	18	9.8	54	7	40-140	30
1,4-Dichlorobenzene	18	11.	60	18	9.8	54	11	36-97	30
3,3'-Dichlorobenzidine	18	10.	57	18	11.	62	8	40-140	30
2,4-Dinitrotoluene	18	14.	80	18	15.	81	1	48-143	30
2,6-Dinitrotoluene	18	13.	74	18	14.	79	7	40-140	30
Fluoranthene	18	13.	72	18	13.	70	3	40-140	30
4-Chlorophenyl phenyl ether	18	12.	67	18	12.	65	3	40-140	30
4-Bromophenyl phenyl ether	18	12.	66	18	12.	66	0	40-140	30
Bis(2-chloroisopropyl)ether	18	12.	64	18	11.	61	5	40-140	30
Bis(2-chloroethoxy)methane	18	12.	67	18	12.	65	3	40-140	30
Hexachlorobutadiene	18	11.	58	18	9.9	54	7	40-140	30
Hexachlorocyclopentadiene	18	9.8	54	18	9.4	52	4	40-140	30
Hexachloroethane	18	10.	57	18	8.9	49	15	40-140	30
Isophorone	18	11.	62	18	11.	59	5	40-140	30
Naphthalene	18	12.	66	18	11.	62	6	40-140	30
Nitrobenzene	18	13.	71	18	13.	70	1	40-140	30
NDPA/DPA	18	13.	69	18	13.	72	4	40-140	30
n-Nitrosodi-n-propylamine	18	12.	66	18	12.	65	2	29-132	30
Bis(2-ethylhexyl)phthalate	18	13.	72	18	14.	78	8	40-140	30
Butyl benzyl phthalate	18	13.	72	18	13.	72	0	40-140	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635587-2	**Analysis Date** : 05/08/22 12:06	**File ID** : 635587-2
LCSD Sample ID	: WG1635587-3	**Analysis Date** : 05/08/22 12:29	**File ID** : 635587-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Di-n-butylphthalate	18	13.	70	18	13.	70	0	40-140	30
Di-n-octylphthalate	18	13.	71	18	14.	77	8	40-140	30
Diethyl phthalate	18	13.	70	18	13.	70	0	40-140	30
Dimethyl phthalate	18	12.	68	18	12.	66	3	40-140	30
Benzo(a)anthracene	18	13.	71	18	14.	74	4	40-140	30
Benzo(a)pyrene	18	13.	74	18	14.	77	4	40-140	30
Benzo(b)fluoranthene	18	14.	74	18	14.	75	1	40-140	30
Benzo(k)fluoranthene	18	13.	74	18	14.	76	3	40-140	30
Chrysene	18	13.	73	18	14.	76	4	40-140	30
Acenaphthylene	18	12.	66	18	12.	64	3	45-123	30
Anthracene	18	13.	70	18	13.	71	1	40-140	30
Benzo(ghi)perylene	18	14.	76	18	14.	74	3	40-140	30
Fluorene	18	12.	68	18	12.	68	0	40-140	30
Phenanthrene	18	12.	69	18	12.	69	0	40-140	30
Dibenzo(a,h)anthracene	18	14.	77	18	14.	77	0	40-140	30
Indeno(1,2,3-cd)pyrene	18	14.	78	18	14.	77	1	40-140	30
Pyrene	18	13.	70	18	13.	71	1	26-127	30
Biphenyl	18	12.	69	18	12.	65	6	40-140	30
4-Chloroaniline	18	10.	58	18	11.	63	8	40-140	30
2-Nitroaniline	18	15.	82	18	15.	80	2	52-143	30
3-Nitroaniline	18	14.	78	18	14.	79	1	25-145	30
4-Nitroaniline	18	14.	78	18	15.	81	4	51-143	30
Dibenzofuran	18	13.	70	18	13.	69	1	40-140	30
2-Methylnaphthalene	18	12.	64	18	11.	62	3	40-140	30
1,2,4,5-Tetrachlorobenzene	18	11.	61	18	11.	59	3	2-134	30
Acetophenone	18	12.	65	18	12.	64	2	39-129	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635587-2	**Analysis Date** : 05/08/22 12:06	**File ID** : 635587-2
LCSD Sample ID	: WG1635587-3	**Analysis Date** : 05/08/22 12:29	**File ID** : 635587-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
2,4,6-Trichlorophenol	18	12.	69	18	13.	70	1	30-130	30
p-Chloro-m-cresol	18	14.	76	18	12.	69	10	23-97	30
2-Chlorophenol	18	12.	69	18	12.	66	4	27-123	30
2,4-Dichlorophenol	18	12.	68	18	12.	67	1	30-130	30
2,4-Dimethylphenol	18	12.	66	18	12.	64	3	30-130	30
2-Nitrophenol	18	15.	80	18	14.	77	4	30-130	30
4-Nitrophenol	18	13.	73	18	14.	79	8	10-80	30
2,4-Dinitrophenol	18	15.	83	18	18.	98	17	20-130	30
4,6-Dinitro-o-cresol	18	17.	92	18	17.	94	2	20-164	30
Pentachlorophenol	18	12.	67	18	13.	74	10	9-103	30
Phenol	18	8.9	49	18	9.1	50	2	12-110	30
2-Methylphenol	18	12.	65	18	12.	66	2	30-130	30
3-Methylphenol/4-Methylphenol	18	12.	67	18	12.	66	2	30-130	30
2,4,5-Trichlorophenol	18	13.	72	18	13.	69	4	30-130	30
Benzoic Acid	18	8.7	48	18	12.	65	30	10-164	30
Benzyl Alcohol	18	11.	63	18	12.	64	2	26-116	30
Carbazole	18	14.	74	18	13.	73	1	55-144	30

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: WG1635588-1	Date Collected	: NA
Client ID	: WG1635588-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/07/22 19:40
Sample Matrix	: WATER	Date Extracted	: 05/06/22
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 635588-1	Analyst	: JJW
Sample Amount	: 275 ml	Instrument ID	: SV128
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	ND	0.10	0.01	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	ND	0.10	0.05	U
56-55-3	Benzo(a)anthracene	0.02	0.10	0.02	J
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	0.01	0.10	0.01	J
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.01	U
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.01	U
86-73-7	Fluorene	ND	0.10	0.01	U
85-01-8	Phenanthrene	ND	0.10	0.02	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.01	U
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	ND	0.10	0.02	U
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-01	Date Collected	: 05/04/22 11:30
Client ID	: MW-7A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/09/22 15:26
Sample Matrix	: WATER	Date Extracted	: 05/07/22
Analytical Method	: 1,8270D	Dilution Factor	: 1
Lab File ID	: 23459-01	Analyst	: ALS
Sample Amount	: 275 ml	Instrument ID	: DAKOTA
Extraction Method	: EPA 3510C	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	U
111-44-4	Bis(2-chloroethyl)ether	ND	2.0	0.50	U
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.45	U
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.40	U
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.43	U
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	1.6	U
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.2	U
606-20-2	2,6-Dinitrotoluene	ND	5.0	0.93	U
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.49	U
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.38	U
108-60-1	Bis(2-chloroisopropyl)ether	ND	2.0	0.53	U
111-91-1	Bis(2-chloroethoxy)methane	ND	5.0	0.50	U
77-47-4	Hexachlorocyclopentadiene	ND	20	0.69	U
78-59-1	Isophorone	ND	5.0	1.2	U
98-95-3	Nitrobenzene	ND	2.0	0.77	U
86-30-6	NDPA/DPA	ND	2.0	0.42	U
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.64	U
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.5	U
85-68-7	Butyl benzyl phthalate	ND	5.0	1.2	U
84-74-2	Di-n-butylphthalate	ND	5.0	0.39	U
117-84-0	Di-n-octylphthalate	ND	5.0	1.3	U
84-66-2	Diethyl phthalate	ND	5.0	0.38	U

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-02	Date Collected	: 05/04/22 14:00
Client ID	: MW-9A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/09/22 08:08
Sample Matrix	: WATER	Date Extracted	: 05/07/22
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 23459-02	Analyst	: AH
Sample Amount	: 275 ml	Instrument ID	: SV128
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	0.03	0.10	0.01	J
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	49	0.10	0.05	
56-55-3	Benzo(a)anthracene	0.05	0.10	0.02	J
50-32-8	Benzo(a)pyrene	0.04	0.10	0.02	J
205-99-2	Benzo(b)fluoranthene	0.08	0.10	0.01	J
207-08-9	Benzo(k)fluoranthene	0.03	0.10	0.01	J
218-01-9	Chrysene	0.04	0.10	0.01	J
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	0.02	0.10	0.01	J
191-24-2	Benzo(ghi)perylene	0.04	0.10	0.01	J
86-73-7	Fluorene	0.04	0.10	0.01	J
85-01-8	Phenanthrene	0.08	0.10	0.02	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	0.10	0.01	J
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	15	0.10	0.02	
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2223459
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-7A (L2223459-01)	61	45	68	58	50	64	0
MW-9A (L2223459-02)	54	41	65	58	61	65	0
MW-4A (L2223459-03)	58	47	66	57	73	61	0
MW-5A (L2223459-04)	51	37	62	52	54	59	0
WP-11 (L2223459-05)	49	40	60	57	53	58	0
WP-12 (L2223459-06)	39	33	47	46	47	49	0
FIELD BLANK (L2223459-07)	55	43	69	65	59	67	0
MW-DUP-1 (L2223459-09)	53	44	69	62	47	63	0
WG1635587-1BLANK	63	51	77	74	63	78	0
WG1635587-2LCS	64	49	69	65	70	71	0
WG1635587-3LCSD	62	50	67	64	75	69	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

Attachment C
Semi-volatiles SIM QC Summary Forms – Excursions

Results Summary
Form 1
1,4 Dioxane by 8270D-SIM

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Lab ID	: L2223459-09	**Date Collected**	: 05/05/22 12:15
Client ID	: MW-DUP-1	**Date Received**	: 05/05/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	**Date Analyzed**	: 05/12/22 20:59
Sample Matrix	: WATER	**Date Extracted**	: 05/11/22
Analytical Method	: 1,8270D-SIM	**Dilution Factor**	: 1
Lab File ID	: F2205122211	**Analyst**	: DB
Sample Amount	: 260 ml	**Instrument ID**	: PAH22
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	144	32.6	U

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-01	Date Collected	: 05/04/22 11:30
Client ID	: MW-7A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/09/22 07:52
Sample Matrix	: WATER	Date Extracted	: 05/07/22
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: 23459-01	Analyst	: AH
Sample Amount	: 275 ml	Instrument ID	: SV128
Extraction Method	: EPA 3510C	GC Column	: RXI-5SilM
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	0.02	0.10	0.01	J
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	47	0.10	0.05	
56-55-3	Benzo(a)anthracene	ND	0.10	0.02	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.01	U
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.01	U
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	ND	0.10	0.01	U
86-73-7	Fluorene	0.03	0.10	0.01	J
85-01-8	Phenanthrene	0.03	0.10	0.02	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.01	U
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	11	0.10	0.02	
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Results Summary
Form 1
1,4 Dioxane by 8270D-SIM

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Lab ID	: L2223459-01	**Date Collected**	: 05/04/22 11:30
Client ID	: MW-7A	**Date Received**	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	**Date Analyzed**	: 05/12/22 19:32
Sample Matrix	: WATER	**Date Extracted**	: 05/11/22
Analytical Method	: 1,8270D-SIM	**Dilution Factor**	: 1
Lab File ID	: F2205122207	**Analyst**	: DB
Sample Amount	: 270 ml	**Instrument ID**	: PAH22
Extraction Method	: EPA 3510C	**GC Column**	: RTX-5
Extract Volume	: 2500 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	64.0	139	31.4	J

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1635588-2	**Analysis Date** : 05/07/22 19:08	**File ID** : 635588-2
LCSD Sample ID	: WG1635588-3	**Analysis Date** : 05/07/22 19:24	**File ID** : 635588-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	3.6	2.9	79	3.6	2.9	79	0	40-140	40
2-Chloronaphthalene	3.6	2.6	71	3.6	2.6	72	1	40-140	40
Fluoranthene	3.6	2.8	78	3.6	2.8	78	0	40-140	40
Hexachlorobutadiene	3.6	2.2	62	3.6	2.3	62	0	40-140	40
Naphthalene	3.6	2.6	72	3.6	2.6	73	1	40-140	40
Benzo(a)anthracene	3.6	2.9	80	3.6	2.9	81	1	40-140	40
Benzo(a)pyrene	3.6	2.6	72	3.6	2.7	74	3	40-140	40
Benzo(b)fluoranthene	3.6	2.8	77	3.6	2.9	80	4	40-140	40
Benzo(k)fluoranthene	3.6	3.0	84	3.6	3.1	85	1	40-140	40
Chrysene	3.6	2.8	78	3.6	3.1	84	7	40-140	40
Acenaphthylene	3.6	2.5	68	3.6	2.4	67	1	40-140	40
Anthracene	3.6	2.9	79	3.6	2.8	78	1	40-140	40
Benzo(ghi)perylene	3.6	3.1	86	3.6	3.1	85	1	40-140	40
Fluorene	3.6	2.9	79	3.6	2.9	80	1	40-140	40
Phenanthrene	3.6	2.8	78	3.6	2.9	80	3	40-140	40
Dibenzo(a,h)anthracene	3.6	3.3	90	3.6	3.3	90	0	40-140	40
Indeno(1,2,3-cd)pyrene	3.6	3.2	89	3.6	3.3	92	3	40-140	40
Pyrene	3.6	2.9	80	3.6	2.9	80	0	40-140	40
2-Methylnaphthalene	3.6	2.6	71	3.6	2.6	71	0	40-140	40
Pentachlorophenol	3.6	3.0	83	3.6	3.0	82	1	40-140	40
Hexachlorobenzene	3.6	3.0	82	3.6	3.2	87	6	40-140	40
Hexachloroethane	3.6	2.4	65	3.6	2.4	68	5	40-140	40

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2223459
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-7A (L2223459-01)	63	50	71	64	56	65	0
MW-9A (L2223459-02)	68	52	78	69	81	75	0
MW-4A (L2223459-03)	53	47	66	60	83	60	0
MW-5A (L2223459-04)	50	45	64	58	69	62	0
WP-11 (L2223459-05)	45	43	63	57	55	58	0
WP-12 (L2223459-06)	42	36	51	47	60	49	0
FIELD BLANK (L2223459-07)	53	46	68	62	64	61	0
MW-DUP-1 (L2223459-09)	51	46	70	63	45	62	0
WG1635588-1BLANK	64	55	85	74	86	78	0
WG1635588-2LCS	66	55	80	67	91	73	0
WG1635588-3LCSD	67	57	78	68	93	70	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

Attachment D
Pesticide QC Summary Forms – Excursions

Surrogate Recovery Summary
Form 2
Pesticides

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2223459
Project Number: 15514
Matrix: Water

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
MW-7A (L2223459-01)	66	70	45	57			0
MW-9A (L2223459-02)	62	64	41	42			0
MW-4A (L2223459-03)	58	64	42	42			0
MW-5A (L2223459-04)	73	76	65	63			0
WP-11 (L2223459-05)	74	75	65	62			0
WP-12 (L2223459-06)	69	67	61	56			0
FIELD BLANK (L2223459-07)	75	75	64	62			0
MW-DUP-1 (L2223459-09)	59	61	50	44			0
WG1636383-1BLANK	73	74	69	67			0
WG1636383-2LCS	65	67	61	61			0
WG1636383-3LCSD	70	72	66	64			0
WG1637021-1BLANK	62	66	58	52			0
WG1637021-2LCS	65	71	53	52			0
WG1637021-3LCSD	62	66	55	52			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

FORM II NYTCL-8081

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1636383-2	**Analysis Date** : 05/10/22 17:46	**File ID** : 20220510a-08
LCSD Sample ID	: WG1636383-3	**Analysis Date** : 05/10/22 17:58	**File ID** : 20220510a-09

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	0.357	0.227	64	0.357	0.251	70	10	30-150	20
Lindane	0.357	0.254	71	0.357	0.278	78	9	30-150	20
Alpha-BHC	0.357	0.265	74	0.357	0.291	82	9	30-150	20
Beta-BHC	0.357	0.240	67	0.357	0.268	75	11	30-150	20
Heptachlor	0.357	0.244	68	0.357	0.271	76	11	30-150	20
Aldrin	0.357	0.240	67	0.357	0.269	75	11	30-150	20
Heptachlor epoxide	0.357	0.249	70	0.357	0.278	78	11	30-150	20
Endrin	0.357	0.245	69	0.357	0.276	77	12	30-150	20
Endrin aldehyde	0.357	0.229	64	0.357	0.262	73	14	30-150	20
Endrin ketone	0.357	0.253	71	0.357	0.294	82	15	30-150	20
Dieldrin	0.357	0.265	74	0.357	0.300	84	12	30-150	20
4,4'-DDE	0.357	0.262	73	0.357	0.302	85	14	30-150	20
4,4'-DDD	0.357	0.297	83	0.357	0.334	94	12	30-150	20
4,4'-DDT	0.357	0.247	69	0.357	0.288	81	15	30-150	20
Endosulfan I	0.357	0.228	64	0.357	0.258	72	12	30-150	20
Endosulfan II	0.357	0.249	70	0.357	0.284	80	13	30-150	20
Endosulfan sulfate	0.357	0.249	70	0.357	0.284	80	13	30-150	20
Methoxychlor	0.357	0.304	85	0.357	0.346	97	13	30-150	20
cis-Chlordane	0.357	0.211	59	0.357	0.239	67	12	30-150	20
trans-Chlordane	0.357	0.271	76	0.357	0.304	85	11	30-150	20

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1637021-2	**Analysis Date** : 05/12/22 06:11	**File ID** : 18220511c-25
LCSD Sample ID	: WG1637021-3	**Analysis Date** : 05/12/22 06:21	**File ID** : 18220511c-26

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	0.357	0.239	67	0.357	0.240	67	0	30-150	20
Lindane	0.357	0.268	75	0.357	0.263	74	2	30-150	20
Alpha-BHC	0.357	0.313	88	0.357	0.283	79	10	30-150	20
Beta-BHC	0.357	0.284	80	0.357	0.276	77	3	30-150	20
Heptachlor	0.357	0.258	72	0.357	0.257	72	0	30-150	20
Aldrin	0.357	0.264	74	0.357	0.252	71	5	30-150	20
Heptachlor epoxide	0.357	0.240	67	0.357	0.245	69	2	30-150	20
Endrin	0.357	0.240	67	0.357	0.247	69	3	30-150	20
Endrin aldehyde	0.357	0.197	55	0.357	0.198	55	0	30-150	20
Endrin ketone	0.357	0.227	64	0.357	0.233	65	2	30-150	20
Dieldrin	0.357	0.247	69	0.357	0.256	72	4	30-150	20
4,4'-DDE	0.357	0.243	68	0.357	0.246	69	1	30-150	20
4,4'-DDD	0.357	0.249	70	0.357	0.259	73	4	30-150	20
4,4'-DDT	0.357	0.242	68	0.357	0.249	70	3	30-150	20
Endosulfan I	0.357	0.235	66	0.357	0.236	66	0	30-150	20
Endosulfan II	0.357	0.232	65	0.357	0.238	67	2	30-150	20
Endosulfan sulfate	0.357	0.216	61	0.357	0.222	62	3	30-150	20
Methoxychlor	0.357	0.242	68	0.357	0.245	69	1	30-150	20
cis-Chlordane	0.357	0.224	63	0.357	0.226	63	1	30-150	20
trans-Chlordane	0.357	0.282	79	0.357	0.273	76	3	30-150	20

Attachment E
PCB QC Summary Forms – Excursions

Surrogate Recovery Summary
Form 2
PCBs

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2223459
Project Number: 15514
Matrix: Water

GC Column 1: CLP-Pesticide
GC Column 2: CLP-PesticideII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
MW-7A (L2223459-01)	77	75	71	70			0
MW-9A (L2223459-02)	83	69	68	65			0
MW-4A (L2223459-03)	84	81	69	69			0
MW-5A (L2223459-04)	79	75	83	88			0
WP-11 (L2223459-05)	70	64	70	72			0
WP-12 (L2223459-06)	78	75	81	82			0
FIELD BLANK (L2223459-07)	85	80	84	87			0
MW-DUP-1 (L2223459-09)	89	80	64	62			0
WG1640120-1BLANK	73	68	73	67			0
WG1640120-2LCS	83	77	87	83			0
WG1640120-3LCSD	75	67	71	70			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
PCBs

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Matrix	: WATER		
LCS Sample ID	: WG1640120-2	**Analysis Date** : 05/19/22 11:37	**File ID** : P2220519a-20
LCSD Sample ID	: WG1640120-3	**Analysis Date** : 05/19/22 11:46	**File ID** : P2220519a-21

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Aroclor 1016	1.78	1.42	80	1.78	1.14	64	22	40-140	50
Aroclor 1260	1.78	1.40	78	1.78	1.16	65	19	40-140	50

Attachment F
Metals QC Summary Forms – Excursions

Alpha ICPMSQ Data

5/27/2022 9:35:11 AM

Analysis index:	4	Analysis started at:	5/26/2022 7:53:46 AM	Rack	0
Analysis label:	0.2/20 Cal	User name	ALPHALAB\Metals-Instrument	Vial	2

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	98.260 %	95.089 %	0.116 ppb	12.353 ppb	13.925 ppb	0.629 ppb	5.708 ppb	129.985 ppb	102.534 %
Concentration per Run 1	96.930 %	96.274 %	0.117 ppb	14.352 ppb	15.431 ppb	0.245 ppb	-3.632 ppb	110.179 ppb	100.431 %
Concentration per Run 2	98.884 %	98.433 %	0.130 ppb	11.548 ppb	13.581 ppb	0.743 ppb	-1.895 ppb	137.721 ppb	103.831 %
Concentration per Run 3	98.965 %	90.559 %	0.100 ppb	11.159 ppb	12.764 ppb	0.900 ppb	22.653 ppb	142.056 ppb	103.340 %
Concentration RSD	1.2 %	4.3 %	13.0 %	14.1 %	9.8 %	54.4 %	257.5 %	13.3 %	1.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.178 ppb	0.209 ppb	0.139 ppb	17.256 ppb	0.132 ppb	0.170 ppb	0.153 ppb	0.392 ppb	101.284 %
Concentration per Run 1	0.210 ppb	0.218 ppb	0.215 ppb	17.360 ppb	0.141 ppb	0.087 ppb	0.128 ppb	0.438 ppb	100.002 %
Concentration per Run 2	0.089 ppb	0.200 ppb	0.012 ppb	15.232 ppb	0.131 ppb	0.197 ppb	0.175 ppb	0.408 ppb	103.782 %
Concentration per Run 3	0.236 ppb	0.210 ppb	0.191 ppb	19.176 ppb	0.126 ppb	0.225 ppb	0.157 ppb	0.329 ppb	100.068 %
Concentration RSD	44.0 %	4.2 %	79.6 %	11.4 %	5.8 %	43.0 %	15.3 %	14.4 %	2.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	118Sn (KED AGD)	121Sb (KED AGD)
Concentration average	0.253 ppb	0.008 ppb	0.252 ppb	100.472 %	0.127 ppb	0.131 ppb	100.152 %	0.075 ppb	0.168 ppb
Concentration per Run 1	0.232 ppb	0.069 ppb	0.243 ppb	99.885 %	0.117 ppb	0.129 ppb	99.909 %	0.014 ppb	0.161 ppb
Concentration per Run 2	0.289 ppb	-0.153 ppb	0.237 ppb	101.103 %	0.139 ppb	0.121 ppb	100.455 %	0.047 ppb	0.176 ppb
Concentration per Run 3	0.237 ppb	0.108 ppb	0.274 ppb	100.427 %	0.123 ppb	0.143 ppb	100.092 %	0.164 ppb	0.168 ppb
Concentration RSD	12.5 %	1,795.6 %	7.8 %	0.6 %	9.2 %	8.7 %	0.3 %	105.4 %	4.4 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.103 ppb	99.551 %	98.973 %	0.115 ppb	0.128 ppb	98.963 %
Concentration per Run 1	0.056 ppb	99.479 %	96.718 %	0.112 ppb	0.124 ppb	101.967 %
Concentration per Run 2	0.131 ppb	99.666 %	100.195 %	0.115 ppb	0.128 ppb	98.658 %
Concentration per Run 3	0.122 ppb	99.509 %	100.005 %	0.119 ppb	0.132 ppb	96.264 %
Concentration RSD	39.4 %	0.1 %	2.0 %	3.2 %	3.2 %	2.9 %

Alpha ICPMSQ Data

5/27/2022 8:34:48 AM

Analysis index:	12	Analysis started at:	5/26/2022 8:39:42 AM	Rack	4
Analysis label:	LLCCV	User name	ALPHALAB\Metals-Instrument	Vial	51

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	98.151 %	101.905 %	0.318 ppb	106.278 ppb	73.370 ppb	13.175 ppb	109.576 ppb	152.249 ppb	98.141 %
Concentration per Run 1	98.382 %	99.831 %	0.307 ppb	104.993 ppb	70.985 ppb	13.561 ppb	111.349 ppb	144.581 ppb	96.982 %
Concentration per Run 2	98.213 %	102.117 %	0.319 ppb	104.810 ppb	69.911 ppb	12.769 ppb	103.386 ppb	134.494 ppb	98.902 %
Concentration per Run 3	97.859 %	103.768 %	0.328 ppb	109.031 ppb	79.213 ppb	13.194 ppb	113.994 ppb	177.673 ppb	98.540 %
Recovery Percentage 1			63.527 %	106.278 %	104.814 %	131.747 %	109.576 %	152.249 %	
Concentration RSD	0.3 %	1.9 %	3.3 %	2.2 %	6.9 %	3.0 %	5.0 %	14.8 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	5.509 ppb	0.561 ppb	1.127 ppb	68.774 ppb	0.575 ppb	2.126 ppb	1.220 ppb	11.657 ppb	106.721 %
Concentration per Run 1	5.563 ppb	0.615 ppb	0.943 ppb	68.109 ppb	0.550 ppb	1.996 ppb	1.221 ppb	11.956 ppb	103.478 %
Concentration per Run 2	5.389 ppb	0.541 ppb	1.217 ppb	68.019 ppb	0.573 ppb	2.005 ppb	1.217 ppb	11.332 ppb	106.628 %
Concentration per Run 3	5.574 ppb	0.527 ppb	1.220 ppb	70.196 ppb	0.603 ppb	2.378 ppb	1.223 ppb	11.683 ppb	110.056 %
Recovery Percentage 1	110.173 %	56.086 %	112.654 %	137.549 %	115.045 %	106.312 %	122.033 %	116.571 %	
Concentration RSD	1.9 %	8.4 %	14.1 %	1.8 %	4.6 %	10.3 %	0.3 %	2.7 %	3.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	118Sn (KED AGD)	121Sb (KED AGD)
Concentration average	0.594 ppb	5.835 ppb	0.644 ppb	105.088 %	0.316 ppb	0.230 ppb	111.153 %	31.821 ppb	2.210 ppb
Concentration per Run 1	0.431 ppb	6.181 ppb	0.657 ppb	104.151 %	0.330 ppb	0.249 ppb	108.302 %	31.056 ppb	2.207 ppb
Concentration per Run 2	0.725 ppb	5.687 ppb	0.605 ppb	103.737 %	0.325 ppb	0.278 ppb	109.954 %	32.451 ppb	2.184 ppb
Concentration per Run 3	0.625 ppb	5.638 ppb	0.670 ppb	107.375 %	0.293 ppb	0.164 ppb	115.204 %	31.956 ppb	2.237 ppb
Recovery Percentage 1	118.745 %	116.704 %	128.853 %		78.952 %	115.213 %		1,060.705 %	55.238 %
Concentration RSD	25.1 %	5.2 %	5.3 %	1.9 %	6.2 %	25.7 %	3.2 %	2.2 %	1.2 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.582 ppb	109.012 %	111.071 %	0.651 ppb	0.589 ppb	110.909 %
Concentration per Run 1	0.520 ppb	109.360 %	109.975 %	0.637 ppb	0.580 ppb	112.331 %
Concentration per Run 2	0.669 ppb	106.805 %	109.390 %	0.652 ppb	0.591 ppb	110.579 %
Concentration per Run 3	0.558 ppb	110.872 %	113.846 %	0.665 ppb	0.597 ppb	109.818 %
Recovery Percentage 1	116.444 %			130.262 %	117.872 %	
Concentration RSD	13.3 %	1.9 %	2.2 %	2.1 %	1.5 %	1.2 %

Alpha ICPMSQ Data

5/27/2022 8:34:48 AM

Analysis index:	154	Analysis started at:	5/26/2022 10:50:52 PM	Rack	4
Analysis label:	LLCCV	User name	ALPHALAB\Metals-Instrument	Vial	51

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	83.117 %	100.296 %	0.336 ppb	104.603 ppb	75.475 ppb	13.021 ppb	115.630 ppb	180.531 ppb	75.019 %
Concentration per Run 1	80.654 %	96.147 %	0.306 ppb	107.671 ppb	70.518 ppb	12.075 ppb	127.646 ppb	194.435 ppb	73.899 %
Concentration per Run 2	84.229 %	103.895 %	0.357 ppb	103.831 ppb	81.761 ppb	12.784 ppb	104.973 ppb	193.907 ppb	76.652 %
Concentration per Run 3	84.467 %	100.847 %	0.346 ppb	102.307 ppb	74.147 ppb	14.204 ppb	114.270 ppb	153.251 ppb	74.505 %
Recovery Percentage 1			67.223 %	104.603 %	107.822 %	130.210 %	115.630 %	180.531 %	
Concentration RSD	2.6 %	3.9 %	8.0 %	2.6 %	7.6 %	8.3 %	9.9 %	13.1 %	1.9 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	5.417 ppb	0.626 ppb	1.288 ppb	89.081 ppb	0.537 ppb	2.209 ppb	1.399 ppb	14.099 ppb	101.386 %
Concentration per Run 1	5.540 ppb	0.648 ppb	1.264 ppb	89.632 ppb	0.555 ppb	2.335 ppb	1.472 ppb	13.631 ppb	99.441 %
Concentration per Run 2	5.199 ppb	0.592 ppb	1.262 ppb	86.188 ppb	0.483 ppb	2.008 ppb	1.433 ppb	14.127 ppb	102.307 %
Concentration per Run 3	5.511 ppb	0.637 ppb	1.337 ppb	91.423 ppb	0.575 ppb	2.285 ppb	1.291 ppb	14.539 ppb	102.410 %
Recovery Percentage 1	108.333 %	62.551 %	128.773 %	178.162 %	107.491 %	110.473 %	139.893 %	140.990 %	
Concentration RSD	3.5 %	4.8 %	3.3 %	3.0 %	9.0 %	8.0 %	6.8 %	3.2 %	1.7 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	118Sn (KED AGD)	121Sb (KED AGD)
Concentration average	0.438 ppb	5.890 ppb	0.669 ppb	106.357 %	0.291 ppb	0.221 ppb	108.414 %	33.820 ppb	2.335 ppb
Concentration per Run 1	0.419 ppb	5.614 ppb	0.652 ppb	105.510 %	0.312 ppb	0.211 ppb	105.269 %	34.052 ppb	2.390 ppb
Concentration per Run 2	0.466 ppb	5.688 ppb	0.711 ppb	107.821 %	0.278 ppb	0.204 ppb	110.729 %	33.802 ppb	2.335 ppb
Concentration per Run 3	0.429 ppb	6.367 ppb	0.643 ppb	105.741 %	0.283 ppb	0.248 ppb	109.245 %	33.607 ppb	2.279 ppb
Recovery Percentage 1	87.579 %	117.799 %	133.777 %		72.698 %	110.540 %		1,127.343 %	58.368 %
Concentration RSD	5.6 %	7.0 %	5.5 %	1.2 %	6.3 %	10.8 %	2.6 %	0.7 %	2.4 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.669 ppb	115.415 %	118.590 %	1.501 ppb	0.618 ppb	115.843 %
Concentration per Run 1	0.752 ppb	114.711 %	115.501 %	1.570 ppb	0.619 ppb	115.862 %
Concentration per Run 2	0.683 ppb	117.401 %	119.218 %	1.518 ppb	0.604 ppb	117.100 %
Concentration per Run 3	0.573 ppb	114.133 %	121.052 %	1.414 ppb	0.630 ppb	114.568 %
Recovery Percentage 1	133.860 %			150.072 %	61.751 %	
Concentration RSD	13.5 %	1.5 %	2.4 %	5.3 %	2.2 %	1.1 %

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: WG1642946-1	Date Collected	: NA
Client ID	: WG1642946-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/26/22 10:10
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	ND	0.0100	0.00327	U
7440-36-0	Antimony, Dissolved	0.00047	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	ND	0.00050	0.00017	U
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	ND	0.100	0.0394	U
7440-47-3	Chromium, Dissolved	0.00022	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	ND	0.00050	0.00016	U
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	ND	0.0700	0.0242	U
7439-96-5	Manganese, Dissolved	ND	0.00100	0.00044	U
7440-02-0	Nickel, Dissolved	ND	0.00200	0.00055	U
7440-09-7	Potassium, Dissolved	ND	0.100	0.0309	U
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	0.0311	0.100	0.0293	J
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-07	Date Collected	: 05/04/22 11:00
Client ID	: FIELD BLANK	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:41
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00908	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	0.00052	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.00029	0.00050	0.00017	J
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	ND	0.100	0.0394	U
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	ND	0.00050	0.00016	U
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	0.0371	0.0500	0.0191	J
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	ND	0.0700	0.0242	U
7439-96-5	Manganese, Dissolved	0.00237	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	ND	0.00200	0.00055	U
7440-09-7	Potassium, Dissolved	ND	0.100	0.0309	U
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	0.0662	0.100	0.0293	J
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 3
Blanks

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Instrument ID	: ICPMSQ		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :	R1568727-2		R1568727-5		R1568727-7		R1568727-9		WG1642946-1	
Date Analyzed :	05/26/22 08:27		05/26/22 08:59		05/26/22 09:53		05/26/22 11:21		05/26/22 10:10	
Parameter	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	mg/l	Q
Aluminum	3.27	U	3.27	U	3.27	U	3.27	U	0.00327	U
Antimony	0.429	U	0.429	U	0.429	U	0.429	U	0.00047	J
Arsenic	0.165	U	0.165	U	0.178	J	0.165	U	0.00016	U
Barium	0.173	U	0.173	U	0.173	U	0.173	U	0.00017	U
Beryllium	0.107	U	0.107	U	0.107	U	0.107	U	0.00010	U
Cadmium	0.0599	U	0.0599	U	0.0599	U	0.0599	U	0.00005	U
Calcium	39.4	U	39.4	U	39.4	U	39.4	U	0.0394	U
Chromium	0.178	U	0.178	U	0.178	U	0.178	U	0.00022	J
Cobalt	0.163	U	0.163	U	0.163	U	0.163	U	0.00016	U
Copper	0.384	U	0.384	U	0.384	U	0.384	U	0.00038	U
Iron	22.5	J	32.7	J	36.6	J	33.6	J	0.0191	U
Lead	0.343	U	0.343	U	0.343	U	0.343	U	0.00034	U
Magnesium	24.2	U	24.2	U	24.2	U	24.2	U	0.0242	U
Manganese	0.440	U	0.440	U	0.440	U	0.440	U	0.00044	U
Nickel	0.556	U	0.556	U	0.556	U	0.556	U	0.00055	U
Potassium	30.9	U	30.9	U	30.9	U	30.9	U	0.0309	U
Selenium	1.73	U	1.73	U	1.73	U	1.73	U	0.00173	U
Silver	0.163	U	0.163	U	0.163	U	0.163	U	0.00016	U
Sodium	29.3	U	29.3	U	29.3	U	29.3	U	0.0311	J
Thallium	0.672	J	0.636	J	0.651	J	0.657	J	0.00014	U
Vanadium	1.57	U	1.57	U	1.57	U	1.57	U	0.00157	U
Zinc	3.41	U	3.41	U	3.41	U	3.41	U	0.00341	U

Form 3
Blanks

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Instrument ID	: ICPMSQ		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1568727-18		R1568727-20		R1568727-22			
Date Analyzed :			05/26/22 15:07		05/26/22 16:07		05/26/22 16:19			
Parameter	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q		Q
Aluminum			3.27	U	3.27	U	3.27	U		
Antimony			0.429	U	0.429	U	0.429	U		
Arsenic			0.165	U	0.165	U	0.165	U		
Barium			0.173	U	0.173	U	0.173	U		
Beryllium			0.107	U	0.107	U	0.107	U		
Cadmium			0.0599	U	0.0599	U	0.0599	U		
Calcium			39.4	U	39.4	U	39.4	U		
Chromium			0.178	U	0.178	U	0.178	U		
Cobalt			0.163	U	0.163	U	0.163	U		
Copper			0.384	U	0.384	U	0.384	U		
Iron			31.1	J	34.6	J	35.8	J		
Lead			0.343	U	0.343	U	0.343	U		
Magnesium			24.2	U	24.2	U	24.2	U		
Manganese			0.440	U	0.440	U	0.440	U		
Nickel			0.556	U	0.556	U	0.556	U		
Potassium			30.9	U	30.9	U	30.9	U		
Selenium			1.73	U	1.73	U	1.73	U		
Silver			0.163	U	0.163	U	0.163	U		
Sodium			29.3	U	29.3	U	29.3	U		
Thallium			0.767	J	0.703	J	0.804	J		
Vanadium			1.57	U	1.57	U	1.57	U		
Zinc			3.41	U	3.41	U	3.41	U		

Form 3
Blanks

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Instrument ID	: ICPMSQ		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1568727-18		R1568727-20		R1568727-22			
Date Analyzed :			05/26/22 15:07		05/26/22 16:07		05/26/22 16:19			
Parameter	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q		Q
Aluminum			3.27	U	3.27	U	3.27	U		
Antimony			0.429	U	0.429	U	0.429	U		
Arsenic			0.165	U	0.165	U	0.165	U		
Barium			0.173	U	0.173	U	0.173	U		
Beryllium			0.107	U	0.107	U	0.107	U		
Cadmium			0.0599	U	0.0599	U	0.0599	U		
Calcium			39.4	U	39.4	U	39.4	U		
Chromium			0.178	U	0.178	U	0.178	U		
Cobalt			0.163	U	0.163	U	0.163	U		
Copper			0.384	U	0.384	U	0.384	U		
Iron			31.1	J	34.6	J	35.8	J		
Lead			0.343	U	0.343	U	0.343	U		
Magnesium			24.2	U	24.2	U	24.2	U		
Manganese			0.440	U	0.440	U	0.440	U		
Nickel			0.556	U	0.556	U	0.556	U		
Potassium			30.9	U	30.9	U	30.9	U		
Selenium			1.73	U	1.73	U	1.73	U		
Silver			0.163	U	0.163	U	0.163	U		
Sodium			29.3	U	29.3	U	29.3	U		
Thallium			0.767	J	0.703	J	0.804	J		
Vanadium			1.57	U	1.57	U	1.57	U		
Zinc			3.41	U	3.41	U	3.41	U		

Form 4a
Interference Check Sample

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Instrument ID	: ICPMSQ	Concentration Units	: ug/l

	True		Initial Found				Final Found			
Lab ID :			R1568727-3							
Analysis Date :			05/26/22 08:44							
Analyte	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	20000		19000	95						
Antimony			0.0638							
Arsenic			-0.0899							
Barium			0.240							
Beryllium			-0.00398							
Cadmium			0.0571							
Calcium	60000		58700	98						
Chromium			0.328							
Cobalt			0.472							
Copper			1.20							
Iron	50000		47900	96						
Lead			0.136							
Magnesium	20000		19200	96						
Manganese			0.851							
Nickel			0.614							
Potassium	20000		19500	98						
Selenium			-0.0295							
Silver			0.00202							
Sodium	50000		50300	101						
Thallium			0.124							
Vanadium			-0.0825							
Zinc			5.04							

Acceptance Criteria: Methods 200.7, 200.8, 6010, 6020

ICSA: 80-120%

ICSAB: 80-120%

Form 5a
Matrix Spike

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Client Sample ID	: MW-7A	Matrix	: WATER
Lab Sample ID	: L2223459-01		
Matrix Spike	: WG1642946-3	MS Analysis Date	: 05/26/22 10:37
Matrix Spike Dup	:	MSD Analysis Date	:

		Matrix Spike Sample				Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/l)	Spike Added (mg/l)	Spike Conc. (mg/l)	%R		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	RPD	Recovery Limits	RPD Limit
Aluminum, Dissolved	0.00376J	2	2.42	121						75-125	20
Antimony, Dissolved	ND	0.5	0.5689	114						75-125	20
Arsenic, Dissolved	ND	0.12	0.1501	125						75-125	20
Barium, Dissolved	0.1345	2	2.522	119						75-125	20
Beryllium, Dissolved	ND	0.05	0.05820	116						75-125	20
Cadmium, Dissolved	ND	0.053	0.06459	122						75-125	20
Calcium, Dissolved	51.2	10	72.0	208	Q					75-125	20
Chromium, Dissolved	0.00020J	0.2	0.2340	117						75-125	20
Cobalt, Dissolved	0.00250	0.5	0.5735	114						75-125	20
Copper, Dissolved	ND	0.25	0.2911	116						75-125	20
Iron, Dissolved	1.38	1	2.98	160	Q					75-125	20
Lead, Dissolved	0.00047J	0.53	0.6432	121						75-125	20
Magnesium, Dissolved	14.4	10	29.7	153	Q					75-125	20
Manganese, Dissolved	1.803	0.5	2.821	204	Q					75-125	20
Nickel, Dissolved	0.00332	0.5	0.5717	114						75-125	20
Potassium, Dissolved	7.82	10	21.1	133	Q					75-125	20
Selenium, Dissolved	ND	0.12	0.149	124						75-125	20
Silver, Dissolved	ND	0.05	0.06148	123						75-125	20
Sodium, Dissolved	255.	10	308.	530	Q					75-125	20
Thallium, Dissolved	0.00025J	0.12	0.1448	121						75-125	20
Vanadium, Dissolved	ND	0.5	0.5778	116						75-125	20
Zinc, Dissolved	ND	0.5	0.5621	112						75-125	20

Form 5b
Post Digest Spike Recovery

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Client Sample ID	: MW-7A	**Matrix**	: WATER
Lab Sample ID	: L2223459-01		
Post Spike	: WG1642946-5	**PS Analysis Date**	: 05/26/22 10:42

		Post Spike Sample			
Parameter	Sample Conc. (mg/l)	Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Recovery Limits
Iron, Dissolved	1.38	50	47.5	92	75-125
Magnesium, Dissolved	14.4	50	61.8	95	75-125
Manganese, Dissolved	1.803	0.5	2.371	114	75-125
Potassium, Dissolved	7.82	50	56.4	97	75-125

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-01	Date Collected	: 05/04/22 11:30
Client ID	: MW-7A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 10:52
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00376	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.1345	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	51.2	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00020	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	0.00250	0.00050	0.00016	
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	1.38	0.0500	0.0191	
7439-92-1	Lead, Dissolved	0.00047	0.00100	0.00034	J
7439-95-4	Magnesium, Dissolved	14.4	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	1.803	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00332	0.00200	0.00055	
7440-09-7	Potassium, Dissolved	7.82	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	255.	0.100	0.0293	
7440-28-0	Thallium, Dissolved	0.00025	0.00100	0.00014	J
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-09	Date Collected	: 05/05/22 12:15
Client ID	: MW-DUP-1	Date Received	: 05/05/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:46
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00860	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.1406	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	50.9	0.100	0.0394	
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	0.00222	0.00050	0.00016	
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	0.957	0.0500	0.0191	
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	15.4	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	1.369	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00351	0.00200	0.00055	
7440-09-7	Potassium, Dissolved	6.63	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	277.	0.100	0.0293	
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-01	Date Collected	: 05/04/22 11:30
Client ID	: MW-7A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 15:33
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 25ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.105	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.1325	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	51.6	0.100	0.0394	
7440-47-3	Chromium, Total	0.00047	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00244	0.00050	0.00016	
7440-50-8	Copper, Total	0.00086	0.00100	0.00038	J
7439-89-6	Iron, Total	1.54	0.0500	0.0191	
7439-92-1	Lead, Total	0.00092	0.00100	0.00034	J
7439-95-4	Magnesium, Total	14.3	0.0700	0.0242	
7439-96-5	Manganese, Total	1.783	0.00100	0.00044	
7440-02-0	Nickel, Total	0.00326	0.00200	0.00055	
7440-09-7	Potassium, Total	7.76	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	245.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.03409	0.01000	0.00341	

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-07	Date Collected	: 05/04/22 11:00
Client ID	: FIELD BLANK	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 15:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	ND	0.0100	0.00327	U
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.00032	0.00050	0.00017	J
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	ND	0.100	0.0394	U
7440-47-3	Chromium, Total	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	ND	0.00100	0.00038	U
7439-89-6	Iron, Total	ND	0.0500	0.0191	U
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Total	ND	0.0700	0.0242	U
7439-96-5	Manganese, Total	ND	0.00100	0.00044	U
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7440-09-7	Potassium, Total	ND	0.100	0.0309	U
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	ND	0.100	0.0293	U
7440-28-0	Thallium, Total	0.00029	0.00100	0.00014	J
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U

Form 6
Lab Duplicates

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Client Sample ID	: MW-7A	Matrix	: WATER
Lab Sample ID	: L2223459-01	Analysis Date	: 05/26/22 10:52
Dup Sample ID	: WG1642946-4	DUP Analysis Date	: 05/26/22 10:47

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Aluminum, Dissolved	0.00376J	0.00663J	NC	20
Antimony, Dissolved	ND	0.00067J	NC	20
Arsenic, Dissolved	ND	ND	NC	20
Barium, Dissolved	0.1345	0.1309	3	20
Beryllium, Dissolved	ND	ND	NC	20
Cadmium, Dissolved	ND	ND	NC	20
Calcium, Dissolved	51.2	50.6	1	20
Chromium, Dissolved	0.00020J	ND	NC	20
Cobalt, Dissolved	0.00250	0.00245	2	20
Copper, Dissolved	ND	0.00104	NC	20
Iron, Dissolved	1.38	1.38	0	20
Lead, Dissolved	0.00047J	0.00053J	NC	20
Magnesium, Dissolved	14.4	14.0	3	20
Manganese, Dissolved	1.803	1.813	1	20
Nickel, Dissolved	0.00332	0.00317	5	20
Potassium, Dissolved	7.82	7.50	4	20
Selenium, Dissolved	ND	ND	NC	20
Silver, Dissolved	ND	0.00018J	NC	20
Sodium, Dissolved	255.	247.	3	20
Thallium, Dissolved	0.00025J	0.00073J	NC	20
Vanadium, Dissolved	ND	ND	NC	20
Zinc, Dissolved	ND	0.00415J	NC	20

Form 15
ICP-MS Internal Standards Relative Intensity Summary

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Instrument ID	: ICPMSQ	**Analysis Method**	: 1,6020B
Start Date	: 05/26/22	**End Date**	: 05/26/22

Sample #	Time	Internal Standards %RI For:				
		Lithium	Scandium	Ge	In	Bismuth
R1568727-1 ICV	08:22:47	97	102	110	114	115
R1568727-2 ICB	08:27:39	89	89	97	100	103
R1568727-3 ICSA	08:44:36	100	101	117	117	121
R1568727-4 CCV	08:54:17	99	109	112	114	119
R1568727-5 CCB	08:59:09	91	92	99	101	106
R1568727-6 CCV	09:49:04	112	120	120	121	124
R1568727-7 CCB	09:53:56	101	100	108	111	109
WG1642946-1 BLANK	10:10:35	112	119	119	118	120
WG1642946-2 LCS	10:33:04	116	129	125	126	126
WG1642946-3 MS	10:37:54	109	109	122	127	131
WG1642946-5 PS	10:42:45	102	100	123	127	130
WG1642946-4 DUP	10:47:32	110	114	125	127	129
L2223459-01	10:52:24	117	114	128	127	125
L2223459-02	10:57:15	124	126	128	128	128
L2223459-03	11:02:02	166	143	122	121	114
L2223459-04	11:06:50	161	151	133	135	131
WG1642946-6 SERDIL	11:11:39	153	147	128	129	129
R1568727-8 CCV	11:16:26	141	147	119	124	132
R1568727-9 CCB	11:21:19	121	115	111	116	121
L2223459-05	11:28:05	128	132	128	124	130
L2223459-06	11:32:52	131	124	123	128	132
L2223459-07	11:41:40	129	128	120	123	129
L2223459-09	11:46:29	128	124	122	123	126
L2223459-03	11:51:18	140	119	127	129	130
R1568727-11 CCV	12:29:21	128	134	119	124	135
R1568727-12 CCB	12:34:14	110	102	106	114	120
WG1642946-2 LCS	13:07:26	119	112	121	125	134

Form 15
ICP-MS Internal Standards Relative Intensity Summary

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Instrument ID	: ICPMSQ	**Analysis Method**	: 1,6020B
Start Date	: 05/26/22	**End Date**	: 05/26/22

Sample #	Time	Internal Standards %RI For:				
		Lithium	Scandium	Ge	In	Bismuth
R1568727-1 ICV	08:22:47	97	102	110	114	115
R1568727-2 ICB	08:27:39	89	89	97	100	103
R1568727-3 ICSA	08:44:36	100	101	117	117	121
R1568727-4 CCV	08:54:17	99	109	112	114	119
R1568727-5 CCB	08:59:09	91	92	99	101	106
R1568727-6 CCV	09:49:04	112	120	120	121	124
R1568727-7 CCB	09:53:56	101	100	108	111	109
R1568727-8 CCV	11:16:26	141	147	119	124	132
R1568727-9 CCB	11:21:19	121	115	111	116	121
R1568727-11 CCV	12:29:21	128	134	119	124	135
R1568727-12 CCB	12:34:14	110	102	106	114	120
R1568727-13 CCV	13:14:38	114	114	117	122	132
R1568727-14 CCB	13:19:30	100	95	104	111	118
WG1642418-1 BLANK	14:01:51	104	96	110	115	124
WG1642418-2 LCS	14:10:41	100	92	121	126	131
WG1642418-3 MS	14:15:28	109	103	123	127	134
WG1642418-4 MSD	14:20:16	109	102	124	128	134
WG1642418-7 MS	14:25:05	111	105	122	126	133
WG1642418-8 MSD	14:29:54	109	102	125	127	134
WG1642418-6 SERDIL	14:39:33	104	92	128	134	132
R1568727-15 CCV	14:49:10	110	117	120	128	134
R1568727-16 CCB	14:54:03	96	90	107	112	121
R1568727-17 CCV	15:02:26	104	111	120	127	136
R1568727-18 CCB	15:07:17	93	87	108	115	122
L2223459-07	15:13:20	98	98	113	119	128
L2223459-01	15:33:55	120	120	127	128	128
L2223459-02	15:38:44	121	110	123	128	132

Form 15
ICP-MS Internal Standards Relative Intensity Summary

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Instrument ID	: ICPMSQ	**Analysis Method**	: 1,6020B
Start Date	: 05/26/22	**End Date**	: 05/26/22

Sample #	Time	Internal Standards %RI For:				
		Lithium	Scandium	Ge	In	Bismuth
L2223459-04	15:48:20	158	142	129	130	129
L2223459-05	15:53:08	147	128	126	127	129
L2223459-06	15:57:57	142	124	126	128	131
R1568727-19 CCV	16:02:46	136	136	120	124	131
R1568727-20 CCB	16:07:39	114	102	106	110	117
R1568727-21 CCV	16:14:45	128	136	115	121	131
R1568727-22 CCB	16:19:37	110	98	106	110	119
L2223459-09	16:25:36	124	107	121	124	130
R1568727-23 CCV	17:13:47	137	138	120	126	130
R1568727-24 CCB	17:18:40	110	97	109	113	115
L2223459-03	18:00:53	131	111	128	129	127
R1568727-25 CCV	18:15:21	127	127	120	126	131
R1568727-26 CCB	18:20:13	106	96	104	112	115
L2223459-03	19:10:31	150	133	122	122	120
R1568727-27 CCV	19:15:19	145	139	120	123	127
R1568727-28 CCB	19:20:12	121	108	107	112	113

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-01	Date Collected	: 05/04/22 11:30
Client ID	: MW-7A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 10:52
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00376	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.1345	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	51.2	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00020	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	0.00250	0.00050	0.00016	
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	1.38	0.0500	0.0191	
7439-92-1	Lead, Dissolved	0.00047	0.00100	0.00034	J
7439-95-4	Magnesium, Dissolved	14.4	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	1.803	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00332	0.00200	0.00055	
7440-09-7	Potassium, Dissolved	7.82	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	255.	0.100	0.0293	
7440-28-0	Thallium, Dissolved	0.00025	0.00100	0.00014	J
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-01	Date Collected	: 05/04/22 11:30
Client ID	: MW-7A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 15:33
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 25ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.105	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.1325	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	51.6	0.100	0.0394	
7440-47-3	Chromium, Total	0.00047	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00244	0.00050	0.00016	
7440-50-8	Copper, Total	0.00086	0.00100	0.00038	J
7439-89-6	Iron, Total	1.54	0.0500	0.0191	
7439-92-1	Lead, Total	0.00092	0.00100	0.00034	J
7439-95-4	Magnesium, Total	14.3	0.0700	0.0242	
7439-96-5	Manganese, Total	1.783	0.00100	0.00044	
7440-02-0	Nickel, Total	0.00326	0.00200	0.00055	
7440-09-7	Potassium, Total	7.76	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	245.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.03409	0.01000	0.00341	

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-02	Date Collected	: 05/04/22 14:00
Client ID	: MW-9A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 10:57
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	ND	0.0100	0.00327	U
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	0.00030	0.00050	0.00016	J
7440-39-3	Barium, Dissolved	0.06701	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	38.6	0.100	0.0394	
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	0.00149	0.00050	0.00016	
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	2.79	0.0500	0.0191	
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	11.4	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	0.6428	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00152	0.00200	0.00055	J
7440-09-7	Potassium, Dissolved	4.91	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	184.	0.100	0.0293	
7440-28-0	Thallium, Dissolved	0.00016	0.00100	0.00014	J
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-02	Date Collected	: 05/04/22 14:00
Client ID	: MW-9A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 15:38
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	2.70	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00086	0.00050	0.00016	
7440-39-3	Barium, Total	0.08924	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	39.4	0.100	0.0394	
7440-47-3	Chromium, Total	0.00549	0.00100	0.00017	
7440-48-4	Cobalt, Total	0.00379	0.00050	0.00016	
7440-50-8	Copper, Total	0.00732	0.00100	0.00038	
7439-89-6	Iron, Total	8.56	0.0500	0.0191	
7439-92-1	Lead, Total	0.00326	0.00100	0.00034	
7439-95-4	Magnesium, Total	12.5	0.0700	0.0242	
7439-96-5	Manganese, Total	0.7852	0.00100	0.00044	
7440-02-0	Nickel, Total	0.00645	0.00200	0.00055	
7440-09-7	Potassium, Total	5.30	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	183.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	0.00679	0.00500	0.00157	
7440-66-6	Zinc, Total	0.01764	0.01000	0.00341	

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-03	Date Collected	: 05/04/22 12:20
Client ID	: MW-4A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:02
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00612	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	0.00074	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	0.00067	0.00050	0.00016	
7440-39-3	Barium, Dissolved	0.02342	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	464.	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00018	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	0.00174	0.00050	0.00016	
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	0.0829	0.0500	0.0191	
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	112.	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	0.5207	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00214	0.00200	0.00055	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.01837	0.01000	0.00341	

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-03	Date Collected	: 05/04/22 12:20
Client ID	: MW-4A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:02
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00612	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	0.00074	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	0.00067	0.00050	0.00016	
7440-39-3	Barium, Dissolved	0.02342	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	464.	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00018	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	0.00174	0.00050	0.00016	
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	0.0829	0.0500	0.0191	
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	112.	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	0.5207	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00214	0.00200	0.00055	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.01837	0.01000	0.00341	

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-03	Date Collected	: 05/04/22 12:20
Client ID	: MW-4A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 19:10
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.0226	0.0100	0.00327	
7440-36-0	Antimony, Total	0.00057	0.00400	0.00042	J
7440-38-2	Arsenic, Total	0.00150	0.00050	0.00016	
7440-39-3	Barium, Total	0.03978	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	442.	0.100	0.0394	
7440-47-3	Chromium, Total	0.00055	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00189	0.00050	0.00016	
7440-50-8	Copper, Total	0.00130	0.00100	0.00038	
7439-89-6	Iron, Total	13.0	0.0500	0.0191	
7439-92-1	Lead, Total	0.00202	0.00100	0.00034	
7439-95-4	Magnesium, Total	104.	0.0700	0.0242	
7439-96-5	Manganese, Total	0.5132	0.00100	0.00044	
7440-02-0	Nickel, Total	0.00198	0.00200	0.00055	J
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.04678	0.01000	0.00341	

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-04	Date Collected	: 05/04/22 13:15
Client ID	: MW-5A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:06
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.0123	0.0100	0.00327	
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.03869	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	29.5	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00028	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	0.00016	0.00050	0.00016	J
7440-50-8	Copper, Dissolved	0.00372	0.00100	0.00038	
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	11.6	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	0.00139	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00231	0.00200	0.00055	
7440-09-7	Potassium, Dissolved	4.61	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	51.6	0.100	0.0293	
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.00553	0.01000	0.00341	J

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-04	Date Collected	: 05/04/22 13:15
Client ID	: MW-5A	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 15:48
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.0200	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.03751	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	29.6	0.100	0.0394	
7440-47-3	Chromium, Total	0.00044	0.00100	0.00017	J
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	0.00202	0.00100	0.00038	
7439-89-6	Iron, Total	0.0712	0.0500	0.0191	
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Total	11.9	0.0700	0.0242	
7439-96-5	Manganese, Total	0.00150	0.00100	0.00044	
7440-02-0	Nickel, Total	0.00227	0.00200	0.00055	
7440-09-7	Potassium, Total	4.61	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	51.7	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	0.00428	0.01000	0.00341	J

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-06	Date Collected	: 05/04/22 13:20
Client ID	: WP-12	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.0230	0.0100	0.00327	
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.05018	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	41.4	0.100	0.0394	
7440-47-3	Chromium, Dissolved	0.00062	0.00100	0.00017	J
7440-48-4	Cobalt, Dissolved	ND	0.00050	0.00016	U
7440-50-8	Copper, Dissolved	0.00051	0.00100	0.00038	J
7439-89-6	Iron, Dissolved	0.111	0.0500	0.0191	
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	14.5	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	0.00270	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	ND	0.00200	0.00055	U
7440-09-7	Potassium, Dissolved	4.46	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	123.	0.100	0.0293	
7440-28-0	Thallium, Dissolved	0.00016	0.00100	0.00014	J
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	0.00493	0.01000	0.00341	J

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-06	Date Collected	: 05/04/22 13:20
Client ID	: WP-12	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 15:57
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.0592	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.05096	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	42.5	0.100	0.0394	
7440-47-3	Chromium, Total	0.00214	0.00100	0.00017	
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	0.00077	0.00100	0.00038	J
7439-89-6	Iron, Total	0.267	0.0500	0.0191	
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Total	15.1	0.0700	0.0242	
7439-96-5	Manganese, Total	0.00328	0.00100	0.00044	
7440-02-0	Nickel, Total	0.00073	0.00200	0.00055	J
7440-09-7	Potassium, Total	4.63	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	127.	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-07	Date Collected	: 05/04/22 11:00
Client ID	: FIELD BLANK	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:41
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00908	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	0.00052	0.00400	0.00042	J
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.00029	0.00050	0.00017	J
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	ND	0.100	0.0394	U
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	ND	0.00050	0.00016	U
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	0.0371	0.0500	0.0191	J
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	ND	0.0700	0.0242	U
7439-96-5	Manganese, Dissolved	0.00237	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	ND	0.00200	0.00055	U
7440-09-7	Potassium, Dissolved	ND	0.100	0.0309	U
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	0.0662	0.100	0.0293	J
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-07	Date Collected	: 05/04/22 11:00
Client ID	: FIELD BLANK	Date Received	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 15:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	ND	0.0100	0.00327	U
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.00032	0.00050	0.00017	J
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	ND	0.100	0.0394	U
7440-47-3	Chromium, Total	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	ND	0.00100	0.00038	U
7439-89-6	Iron, Total	ND	0.0500	0.0191	U
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Total	ND	0.0700	0.0242	U
7439-96-5	Manganese, Total	ND	0.00100	0.00044	U
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7440-09-7	Potassium, Total	ND	0.100	0.0309	U
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	ND	0.100	0.0293	U
7440-28-0	Thallium, Total	0.00029	0.00100	0.00014	J
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-09	Date Collected	: 05/05/22 12:15
Client ID	: MW-DUP-1	Date Received	: 05/05/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 11:46
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Dissolved	0.00860	0.0100	0.00327	J
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.1406	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	50.9	0.100	0.0394	
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	0.00222	0.00050	0.00016	
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	0.957	0.0500	0.0191	
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	15.4	0.0700	0.0242	
7439-96-5	Manganese, Dissolved	1.369	0.00100	0.00044	
7440-02-0	Nickel, Dissolved	0.00351	0.00200	0.00055	
7440-09-7	Potassium, Dissolved	6.63	0.100	0.0309	
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	277.	0.100	0.0293	
7440-28-0	Thallium, Dissolved	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: L2223459-09	Date Collected	: 05/05/22 12:15
Client ID	: MW-DUP-1	Date Received	: 05/05/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	Date Analyzed	: 05/26/22 16:25
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: SV
Lab File ID	: WG1643133.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 05/25/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
7429-90-5	Aluminum, Total	0.446	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.1489	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	54.3	0.100	0.0394	
7440-47-3	Chromium, Total	0.00134	0.00100	0.00017	
7440-48-4	Cobalt, Total	0.00253	0.00050	0.00016	
7440-50-8	Copper, Total	0.00150	0.00100	0.00038	
7439-89-6	Iron, Total	1.99	0.0500	0.0191	
7439-92-1	Lead, Total	0.00102	0.00100	0.00034	
7439-95-4	Magnesium, Total	15.9	0.0700	0.0242	
7439-96-5	Manganese, Total	1.457	0.00100	0.00044	
7440-02-0	Nickel, Total	0.00431	0.00200	0.00055	
7440-09-7	Potassium, Total	6.79	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	270.	0.100	0.0293	
7440-28-0	Thallium, Total	0.00030	0.00100	0.00014	J
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U

Attachment G
pfas QC Summary Forms – Excursions

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Lab ID	: L2223459-07	**Date Collected**	: 05/04/22 11:00
Client ID	: FIELD BLANK	**Date Received**	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	**Date Analyzed**	: 05/20/22 10:13
Sample Matrix	: WATER	**Date Extracted**	: 05/17/22
Analytical Method	: 134,LCMSMS-ID	**Dilution Factor**	: 1
Lab File ID	: I20370	**Analyst**	: RS
Sample Amount	: 272.23 g	**Instrument ID**	: LCMS01
Extraction Method	: ALPHA 23528	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	1.84	0.375	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	1.84	0.364	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.84	0.218	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	1.84	0.301	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.84	0.207	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.84	0.345	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	1.84	0.217	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	19.8	1.84	1.22	
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.84	0.632	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.84	0.286	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	1.84	0.463	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.84	0.279	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.84	1.11	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.84	0.595	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.84	0.239	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.84	0.900	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.84	0.533	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.84	0.738	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Lab ID	: L2223459-07	**Date Collected**	: 05/04/22 11:00
Client ID	: FIELD BLANK	**Date Received**	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	**Date Analyzed**	: 05/20/22 10:13
Sample Matrix	: WATER	**Date Extracted**	: 05/17/22
Analytical Method	: 134,LCMSMS-ID	**Dilution Factor**	: 1
Lab File ID	: I20370	**Analyst**	: RS
Sample Amount	: 272.23 g	**Instrument ID**	: LCMS01
Extraction Method	: ALPHA 23528	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.84	0.342	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.84	0.300	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.84	0.228	U
NONE	PFOA/PFOS, Total	ND	1.84	0.217	U

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2022\220519_537ISO.PRO\Data\wg1640657-E.qld
Last Altered: Friday, May 20, 2022 19:40:39 Eastern Daylight Time
Printed: Friday, May 20, 2022 19:41:13 Eastern Daylight Time

Method: C:\MassLynx\Data\2022\220519_537ISO.PRO\MethDB\537ISO_Q_220427_RT.mdb 17 May 2022 09:16:45
Calibration: C:\MassLynx\Data\2022\220519_537ISO.PRO\CurveDB\220427_ICAL.cdb 28 Apr 2022 13:10:49

ID: L2223459-02
Name: I20367
Date: 20-May-2022
Time: 09:23:47
Description: WG1640657,WG1639295,ICAL18975
Instrument: XEVO-TQSmicro#QEA0276
User: LCMS01:RS
Inlet Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\LCMS_537_ISO_FULL
Tune Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\220113_TUNE.IPR
MS Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\537ISO_M_SPAN2_DOD_TOP_220429.EXP

	Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Ratio Flag	%Rec
1	PFBA	375-22-4	2.13	213.032 > 169.022	4859	M4	1.300		na	
2	M3PFBA	INT STD	2.14	216.009 > 171.999	37658		7.270		na	72.7
3	MPFBA	INT STD	2.14	217.001 > 171.999	36869		8.851		na	88.5
4	PFPeA	2706-90-3	4.89	263.039 > 219.03	9976	M4	1.688		na	
5	M5PFPEA	INT STD	4.89	268.001 > 222.999	54834		11.616		na	116.2
6	PFBS	375-73-5	5.52	299.092 > 80.062	2822		1.068	2.10	NO	
7	M3PFBS	INT STD	5.52	302.069 > 80.062	20624		9.507		na	102.0
8	4:2FTS	757124-72-4		327.146 > 307.139			ND		YES	
9	M2-4:2FTS	INT STD	6.67	329.13 > 309.124	9526		13.135		na	140.0
10	PFHxA	307-24-4	6.75	313.047 > 269.037	11154		1.358	14.04	NO	
11	M5PFHxA	INT STD	6.75	318.009 > 273.007	76354		8.133		na	81.3
12	PFPeS	2706-91-4	7.07	349.1 > 80.062	328	M7	0.125	1.66	NO	
13	PFHpA	375-85-9	8.02	363.055 > 319.045	7380		0.904	3.86	NO	
14	M4PFHpA	INT STD	8.02	367.025 > 322.022	74355		8.640		na	86.4
15	br-PFHxS	355-46-4	7.95	399.107 > 80.062	509	M5,M7	0.237	2.37	NO	
16	L-PFHxS	355-46-4	8.18	399.107 > 80.062	2593		1.067	1.56	NO	
17	PFHxS	355-46-4		399.107 > 80.062	3102		1.304		na	
18	M3PFHxS	INT STD	8.18	402.084 > 80.062	23521		10.550		na	111.3
19	br-PFOA	335-67-1	8.74	413.063 > 369.053	3720	M7	0.405	1.71	NO	
20	L-PFOA	335-67-1	8.97	413.063 > 369.053	47351		5.155	9.98	NO	
21	PFOA	335-67-1		413.063 > 369.053	51071		5.560		na	
22	M8PFOA	INT STD	8.97	421.002 > 376.	80803		9.144		na	91.4
23	M2PFOA	INT STD	8.97	415.048 > 370.045	89227		11.057		na	110.6
24	6:2FTS	27619-97-2		427.161 > 407.155			ND		YES	
25	M2-6:2FTS	INT STD	8.93	429.146 > 409.14	9230		12.711		na	133.7
26	PFHpS	375-92-8	9.07	449.115 > 80.062	151	M7	0.063	2.02	NO	
27	PFNA	375-95-1	9.74	463.071 > 419.061	2044		0.252	9.14	YES	
28	M9PFNA	INT STD	9.74	472.002 > 427.	71863		8.218		na	82.2
29	br-PFOS	1763-23-1	9.53	499.123 > 80.062	2384	M5,M7	0.907	4.20	NO	
30	L-PFOS	1763-23-1	9.79	499.123 > 80.062	2716		1.242	1.79	NO	
31	PFOS	1763-23-1		499.123 > 80.062	5100		2.149		na	
32	M4PFOS	INT STD	9.79	503.093 > 80.062	22872		10.271		na	102.7
33	M8PFOS	INT STD	9.79	507.062 > 80.062	23237		9.457		na	98.6
34	PFDA	335-76-2	10.38	513.078 > 469.069	676		0.107	1.90	NO	
35	M2PFDA	INT STD	10.37	515.063 > 470.061	75763		12.728		na	127.3
36	M6PFDA	INT STD	10.37	519.033 > 474.03	64170		8.173		na	81.7
37	8:2FTS	39108-34-4		527.177 > 507.171			ND		YES	
38	M2-8:2FTS	INT STD	10.36	529.162 > 509.155	6406		11.799		na	122.9
39	PFNS	68259-12-1		549.131 > 80.062			ND		YES	

all concentration units in (ng/mL)

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2022\220519_537ISO.PRO\Data\wg1640657-E.qld
Last Altered: Friday, May 20, 2022 19:40:39 Eastern Daylight Time
Printed: Friday, May 20, 2022 19:41:13 Eastern Daylight Time

ID: L2223459-02
Name: I20367
Date: 20-May-2022
Time: 09:23:47
Description: WG1640657,WG1639295,ICAL18975
Instrument: XEVO-TQSmicro#QEA0276
User: LCMS01:RS
Inlet Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\LCMS_537_ISO_FULL
Tune Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\220113_TUNE.IPR
MS Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\537ISO_M_SPAN2_DOD_TOP_220429.EXP

	Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Ratio Flag	%Rec
40	d3-NMeFOSAA	INT STD	10.75	573.22 > 419.061	11985		8.732		na	87.3
41	br-NMeFOSAA	2355-31-9		570.202 > 419.061			ND		YES	
42	L-NMeFOSAA	2355-31-9		570.202 > 419.061			ND		YES	
43	NMeFOSAA	2355-31-9		570.202 > 419.061	0		ND		na	
44	PFUnA	2058-94-8		563.086 > 519.076			ND		YES	
45	M7-PFUDA	INT STD	10.92	570.033 > 525.031	56679		7.428		na	74.3
46	PFDS	335-77-3		598.926 > 80.062			ND		YES	
47	FOSA	754-91-6		498.146 > 78.07			ND		YES	
48	M8FOSA	INT STD	10.79	506.077 > 78.07	10936		1.380		na	13.8
49	d5-NEtFOSAA	INT STD	11.04	589.259 > 419.061	10829		8.235		na	82.3
50	br-NEtFOSAA	2991-50-6		584.229 > 419.061			ND		YES	
51	L-NEtFOSAA	2991-50-6		584.229 > 419.061			ND		YES	
52	NEtFOSAA	2991-50-6		584.229 > 419.061	0		ND		na	
53	PFDoA	307-55-1		613.094 > 569.084			ND		YES	
54	MPFDOA	INT STD	11.39	615.079 > 570.077	58992		7.368		na	73.7
55	PFTrDA	72629-94-8		663.102 > 619.092			ND		YES	
56	PFTA	376-06-7		713.11 > 669.1			ND		YES	
57	M2PFTEDA	INT STD	12.18	715.094 > 670.092	42383		7.757		na	77.6

all concentration units in (ng/mL)

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2022\220519_537ISO.PRO\Data\wg1640657-E.qld
Last Altered: Friday, May 20, 2022 19:40:39 Eastern Daylight Time
Printed: Friday, May 20, 2022 19:41:17 Eastern Daylight Time

Method: C:\MassLynx\Data\2022\220519_537ISO.PRO\MethDB\537ISO_Q_220427_RT.mdb 17 May 2022 09:16:45
Calibration: C:\MassLynx\Data\2022\220519_537ISO.PRO\CurveDB\220427_ICAL.cdb 28 Apr 2022 13:10:49

ID: L2223459-03
Name: I20369
Date: 20-May-2022
Time: 09:56:52
Description: WG1640657,WG1639295,ICAL18975
Instrument: XEVO-TQSmicro#QEA0276
User: LCMS01:RS
Inlet Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\LCMS_537_ISO_FULL
Tune Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\220113_TUNE.IPR
MS Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\537ISO_M_SPAN2_DOD_TOP_220429.EXP

	Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Ratio Flag	%Rec
1	PFBA	375-22-4	1.85	213.032 > 169.022	18596		13.815		na	
2	M3PFBA	INT STD	1.86	216.009 > 171.999	13400		2.587		na	25.9
3	MPFBA	INT STD	1.86	217.001 > 171.999	13277		8.957		na	89.6
4	PFPeA	2706-90-3	4.62	263.039 > 219.03	9325	M4	16.433		na	
5	M5PFPEA	INT STD	4.62	268.001 > 222.999	5265		3.134		na	31.3
6	PFBS	375-73-5		299.092 > 80.062			ND		YES	
7	M3PFBS	INT STD	5.28	302.069 > 80.062	9858		5.352		na	57.4
8	4:2FTS	757124-72-4	6.47	327.146 > 307.139	237	M7	0.321	0.61	YES	
9	M2-4:2FTS	INT STD	6.47	329.13 > 309.124	6873		11.162		na	119.0
10	PFHxA	307-24-4	6.55	313.047 > 269.037	23991	M2,M7	19.240	13.87	NO	
11	M5PFHxA	INT STD	6.55	318.009 > 273.007	11592		3.286		na	32.9
12	PFPeS	2706-91-4	7.06	349.1 > 80.062	835	M7	0.481	15.13	YES	
13	PFHpA	375-85-9	7.90	363.055 > 319.045	40716		20.111	3.97	NO	
14	M4PFHpA	INT STD	7.90	367.025 > 322.022	18446		5.704		na	57.0
15	br-PFHxS	355-46-4		399.107 > 80.062			ND		YES	
16	L-PFHxS	355-46-4		399.107 > 80.062			ND		YES	
17	PFHxS	355-46-4		399.107 > 80.062	0		ND		na	
18	M3PFHxS	INT STD	8.08	402.084 > 80.062	15587		8.234		na	86.9
19	br-PFOA	335-67-1	8.64	413.063 > 369.053	2052	M5,M7	0.671	13.65	NO	
20	L-PFOA	335-67-1	8.90	413.063 > 369.053	63984		20.906	8.49	NO	
21	PFOA	335-67-1		413.063 > 369.053	66036		21.576		na	
22	M8PFOA	INT STD	8.90	421.002 > 376.	26925		8.108		na	81.1
23	M2PFOA	INT STD	8.90	415.048 > 370.045	33530		4.155		na	41.5
24	6:2FTS	27619-97-2	8.85	427.161 > 407.155	50951		30.681	2.63	NO	
25	M2-6:2FTS	INT STD	8.85	429.146 > 409.14	18984		30.790		na	323.8
26	PFHpS	375-92-8		449.115 > 80.062			ND		YES	
27	PFNA	375-95-1	9.69	463.071 > 419.061	76411		19.069	4.99	NO	
28	M9PFNA	INT STD	9.69	472.002 > 427.	35492		10.801		na	108.0
29	br-PFOS	1763-23-1	9.48	499.123 > 80.062	1456	M5,M7	0.780	4.90	NO	
30	L-PFOS	1763-23-1	9.75	499.123 > 80.062	908	M4,M7	0.585	2.41	NO	
31	PFOS	1763-23-1		499.123 > 80.062	2363		1.365		na	
32	M4PFOS	INT STD	9.75	503.093 > 80.062	19420		8.721		na	87.2
33	M8PFOS	INT STD	9.75	507.062 > 80.062	16503		7.910		na	82.5
34	PFDA	335-76-2	10.35	513.078 > 469.069	2692	M4	0.718	4.21	NO	
35	M2PFDA	INT STD	10.35	515.063 > 470.061	52214		8.772		na	87.7
36	M6PFDA	INT STD	10.35	519.033 > 474.03	38114		7.044		na	70.4
37	8:2FTS	39108-34-4		527.177 > 507.171			ND		YES	
38	M2-8:2FTS	INT STD	10.33	529.162 > 509.155	17299		37.526		na	390.9
39	PFNS	68259-12-1		549.131 > 80.062			ND		YES	

all concentration units in (ng/mL)

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2022\220519_537ISO.PRO\Data\wg1640657-E.qld
Last Altered: Friday, May 20, 2022 19:40:39 Eastern Daylight Time
Printed: Friday, May 20, 2022 19:41:17 Eastern Daylight Time

ID: L2223459-03
Name: I20369
Date: 20-May-2022
Time: 09:56:52
Description: WG1640657,WG1639295,ICAL18975
Instrument: XEVO-TQSmicro#QEA0276
User: LCMS01:RS
Inlet Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\LCMS_537_ISO_FULL
Tune Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\220113_TUNE.IPR
MS Method Name: C:\MassLynx\Data\2022\220519_537ISO.PRO\ACQUDB\537ISO_M_SPAN2_DOD_TOP_220429.EXP

	Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Ratio Flag	%Rec
40	d3-NMeFOSAA	INT STD	10.74	573.22 > 419.061	10208		10.792		na	107.9
41	br-NMeFOSAA	2355-31-9		570.202 > 419.061			ND		YES	
42	L-NMeFOSAA	2355-31-9		570.202 > 419.061			ND		YES	
43	NMeFOSAA	2355-31-9		570.202 > 419.061	0		ND		na	
44	PFUnA	2058-94-8	10.90	563.086 > 519.076	5449		1.104	5.24	NO	
45	M7-PFUDA	INT STD	10.90	570.033 > 525.031	50129		9.532		na	95.3
46	PFDS	335-77-3		598.926 > 80.062			ND		YES	
47	FOSA	754-91-6		498.146 > 78.07			ND		YES	
48	M8FOSA	INT STD	10.78	506.077 > 78.07	23747		4.347		na	43.5
49	d5-NEtFOSAA	INT STD	11.03	589.259 > 419.061	12240		13.505		na	135.1
50	br-NEtFOSAA	2991-50-6		584.229 > 419.061			ND		YES	
51	L-NEtFOSAA	2991-50-6		584.229 > 419.061			ND		YES	
52	NEtFOSAA	2991-50-6		584.229 > 419.061	0		ND		na	
53	PFDoA	307-55-1		613.094 > 569.084			ND		YES	
54	MPFDOA	INT STD	11.38	615.079 > 570.077	53590		9.712		na	97.1
55	PFTrDA	72629-94-8	11.79	663.102 > 619.092	290	M7	0.071	41.79	YES	
56	PFTA	376-06-7		713.11 > 669.1			ND		YES	
57	M2PFTEDA	INT STD	12.17	715.094 > 670.092	35503		9.428		na	94.3

all concentration units in (ng/mL)

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2223459
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 ()	S2 ()	S3 ()	S4 ()	S5 ()	S6 ()	S7 ()
MW-7A (L2223459-01)	90	98	104	77	87	113	88
MW-9A (L2223459-02)	89	116	102	81	86	111	91
MW-4A (L2223459-03)	90	31*	57*	33*	57*	87	81
FIELD BLANK (L2223459-07)	107	126	103	103	108	112	103
WG1639295-1BLANK	106	120	104	106	107	106	102
WG1639295-2LCS	106	118	107	106	106	107	105
MW-7AMS	88	102	101	76	85	107	86
MW-9ADUP	85	113	99	77	85	104	84

QC LIMITS

(58-132) S1 = PERFLUORO[13C4]BUTANOIC ACID (MPFBA)
(62-163) S2 = PERFLUORO[13C5]PENTANOIC ACID (M5PFPEA)
(70-131) S3 = PERFLUORO[2,3,4-13C3]BUTANESULFONIC ACID (M3PFBS)
(57-129) S4 = PERFLUORO[1,2,3,4,6-13C5]HEXANOIC ACID (M5PFHXA)
(60-129) S5 = PERFLUORO[1,2,3,4-13C4]HEPTANOIC ACID (M4PFHPA)
(71-134) S6 = PERFLUORO[1,2,3-13C3]HEXANESULFONIC ACID (M3PFHXS)
(71-134) S7 = PERFLUORO[13C8]OCTANOIC ACID (M8PFOA)

*** Values outside of QC limits**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2223459
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S8 ()	S9 ()	S10 ()	S11 ()	S12 ()	S13 ()	S14 ()
MW-7A (L2223459-01)	194*	86	104	86	120	70	79
MW-9A (L2223459-02)	134	82	99	82	123	87	74
MW-4A (L2223459-03)	323*	108	82	70	391*	108	95
FIELD BLANK (L2223459-07)	93	102	108	99	90	123*	98
WG1639295-1BLANK	100	105	105	106	119	92	98
WG1639295-2LCS	108	97	106	102	123	99	94
MW-7AMS	176*	83	102	85	120	85	75
MW-9ADUP	127	81	102	83	120	89	76

QC LIMITS

(14-147) S8 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]OCTANESULFONIC ACID (M2-6:2FTS)
(59-139) S9 = PERFLUORO[13C9]NONANOIC ACID (M9PFNA)
(69-131) S10 = PERFLUORO[13C8]OCTANESULFONIC ACID (M8PFOS)
(62-124) S11 = PERFLUORO[1,2,3,4,5,6-13C6]DECANOIC ACID (M6PFDA)
(10-162) S12 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]DECANESULFONIC ACID (M2-8:2FTS)
(24-116) S13 = N-DEUTERIOMETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D3-NMEFOSAA)
(24-116) S14 = PERFLUORO[1,2,3,4,5,6,7-13C7]UNDECANOIC ACID (M7-PFUDA)

*** Values outside of QC limits**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Impact Environmental
Project Name: 60 MCLEAN AVE

Lab Number: L2223459
Project Number: 15514
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S15 ()	S16 ()	S17 ()	S18 ()	S19 ()	S20 ()	S21 ()	TOT OUT
MW-7A (L2223459-01)	21	74	74	73	--	--	--	1
MW-9A (L2223459-02)	14	82	74	78	--	--	--	0
MW-4A (L2223459-03)	43	135*	97	94	--	--	--	7
FIELD BLANK (L2223459-07)	35	103	96	92	--	--	--	1
WG1639295-1BLANK	55	96	101	101	--	--	--	0
WG1639295-2LCS	42	100	101	96	--	--	--	0
MW-7AMS	22	81	71	71	--	--	--	1
MW-9ADUP	19	87	77	81	--	--	--	0

QC LIMITS

(10-112) S15 = PERFLUORO[13C8]OCTANESULFONAMIDE (M8FOSA)
(27-126) S16 = N-DEUTERIOETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D5-NETFOSAA)
(48-131) S17 = PERFLUORO[1,2-13C2]DODECANOIC ACID (MPFDOA)
(22-136) S18 = PERFLUORO[1,2-13C2]TETRADECANOIC ACID (M2PFTEDA)

* Values outside of QC limits

Attachment H
Cyanide QC Summary Forms – Excursions

Form 1
WETCHEM

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Lab ID	: L2223459-01	**Date Collected**	: 05/04/22 11:30
Client ID	: MW-7A	**Date Received**	: 05/04/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	**Date Analyzed**	: 05/18/22 09:13
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: CS
Lab File ID	: TCN051822-A	**Instrument ID**	: LACHAT6
Sample Amount	:	**%Solids**	: N/A
Digestion Method	:	**Date Digested**	: 05/17/22

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	0.002	0.005	0.001	J

Form 1
WETCHEM

Client	: Impact Environmental	**Lab Number**	: L2223459
Project Name	: 60 MCLEAN AVE	**Project Number**	: 15514
Lab ID	: L2223459-09	**Date Collected**	: 05/05/22 12:15
Client ID	: MW-DUP-1	**Date Received**	: 05/05/22
Sample Location	: 60 MCLEAN AVE YONKERS NY	**Date Analyzed**	: 05/19/22 09:57
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,9010C/9012B	**Analyst**	: CS
Lab File ID	: TCN051922-A	**Instrument ID**	: LACHAT6
Sample Amount	:	**%Solids**	: N/A
Digestion Method	:	**Date Digested**	: 05/18/22

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Total	ND	0.005	0.001	U

Form 1
WETCHEM

Client	: Impact Environmental	Lab Number	: L2223459
Project Name	: 60 MCLEAN AVE	Project Number	: 15514
Lab ID	: WG1639913-1	Date Collected	: NA
Client ID	: WG1639913-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/19/22 09:53
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,9010C/9012B	Analyst	: CS
Lab File ID	: TCN051922-A	Instrument ID	: LACHAT6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 05/18/22

		mg/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
57-12-5	Cyanide, Total	0.001	0.005	0.001	J

Attachment I
Nitrate QC Summary Forms – Excursions

CCB	1	S1	-0.01792	-0.00763			
	Known Conc:		0.00000	0.00000			
L2222250-15A	1	108	0.13383	0.01602			
L2222250-16A	1	109	0.06709	0.01092			
L2222250-17A	1	110	0.04119	0.01236			
L2222973-01A,R2C	1	111	2.36747	0.00658			
WG1634614-1; BLANK NO2 5.0725	1	112	0.03687	0.07206			0.10145 g
WG1634614-2; LCS NO2 5.1724	1	113	50.37178	47.21921			0.10345 g
WG1634615-1; BLANK NO3 5.0725	1	114	-0.28879	0.00814			0.10145 g
WG1634615-2; LCS NO3 5.0385	1	115	49.85104	0.07973			0.10077 g
L2222256-01B; 5.0858	1	116	3.83344	0.29042			0.10172 g
WG1634615-3; DUP NO3 256-01 5.1954	1	117	3.87068	0.30875			0.10391 g
CCV NO3	1	S2	1.02652	-0.00191			
	Known Conc:		1.00000	0.00000			
CCV NO2	1	S9	1.03877	0.98447			
	Known Conc:		0.00000	1.00000			
CCB	1	S1	-0.01942	-0.00494			
	Known Conc:		0.00000	0.00000			
WG1634615-4; MS NO3 256-01 5.2917	1	118	79.46186	0.19734	5.00		0.10583 g
WG1634614-3; DUP NO2 256-01 5.1954	1	119	5.57651	0.44513			0.10391 g
WG1634614-4; MS NO2 256-01 5.1226	1	120	86.34721	78.47189	5.00		0.10245 g
L2222854-01B; 5.6485	1	121	0.19114	0.38486			0.11297 g
L2222200-01C 5.3696	1	122	0.37795	0.14876			0.10739 g
L2223376-01M	1	123	3.51199	0.07448			
L2223422-01A	1	124	0.01118	0.01134			
WG1634633-3; DUP NO3 422-01	1	125	0.01645	0.01267			
WG1634633-4; MS NO3 422-01	1	126	3.96010	0.01393			
WG1634631-3; DUP NO2 422-01	1	127	0.01666	0.01312			
CCV NO3	1	S2	1.02220	-0.00285			
	Known Conc:		1.00000	0.00000			
CCV NO2	1	S9	1.04658	0.98385			
	Known Conc:		0.00000	1.00000			
CCB	1	S1	-0.02083	-0.00285			
	Known Conc:		0.00000	0.00000			
WG1634631-4; MS NO2 422-01	1	128	4.37857	4.06706			
L2223422-02A	1	129	0.21337	0.09480			
L2223432-01A	1	130	1.03243	0.20792			
L2223432-02A	1	131	12.88181	0.27700			
L2223459-01S,PRI	1	132	2.07216	0.01195			
L2223459-02S,PRI	1	133	2.45250	0.01910			
L2223432-02A	1	131	14.49366	0.27290	5.00		
L2223459-01S,PRI	1	132	2.07441	0.01221			
CCV NO3	1	S2	1.01632	-0.00250			
	Known Conc:		1.00000	0.00000			
CCV NO2	1	S9	1.01835	0.98451			
	Known Conc:		0.00000	1.00000			
CCB	1	S1	-0.03391	-0.00291			
	Known Conc:		0.00000	0.00000			

DATA VALIDATION

FOR

60 McLEAN AVENUE
YONKERS, NY

ORGANIC ANALYSIS DATA

Laboratory Sample Delivery Group (SDG) No. L2224094

Analyses Performed By:

Alpha Analytical
Westborough, Massachusetts

For:

Impact Environmental Inc.
Bohemia, NY

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55102

July 28, 2022

EXECUTIVE SUMMARY

Validation of the organic analyses data prepared by Alpha Analytical Westborough, Massachusetts for 16 soil vapor samples from the 60 McLean Avenue Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Stage 4 validation was performed on all of the sample data. The data were reported by the laboratory under SDG No. L2224094. The following samples were reported:

SV-2A	SV-3A	SV-5A	IA-2A	SV-6A	SV-7A
SV-8A	OA-1A	SV-DUP	SV-9A	SV-10A	IA-4A
IA-3A	IA-1A	SV-4A	OA-2A		

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See following sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7.	Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes – See Attachment A

Based on the validation effort, the following data qualifiers were applied:

- Results for benzyl chloride and 1,2,4-trichlorobenzene in all samples were qualified as estimated (UJ) due to an unacceptable relative standard deviation (RSD) across the initial calibration (IC) range and/or percent difference (%D) between the initial calibration verification (ICV) and the IC.

- See Section C (Field Duplicates) for results qualified due to unacceptable field duplicate precision.

All other results were determined to be valid as reported by the laboratory. Review of Tentatively Identified Compounds (TICs) is outside the scope of this project.

This report should be considered part of the data package for all future distributions of the data.

INTRODUCTION

Analyses for the requested parameters were performed by the laboratory according to the following analytical method:

Volatile Organic Compounds (VOCs) TO-15

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used to denote specific information regarding the analytical results.

ddms' validation was performed in conformance with ddms' Standard Operating Procedures (SOPs) for the methods followed, the USEPA "National Functional Guidelines (NGF) for Organic Data Review" (1999), the requirements of the analytical methods followed, and the specifications of the project-specific Quality Assurance Project Plan (QAPP). Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the CLP. This requires that the data package be presented in accordance with the CLP requirements, so that sufficient supporting documentation is available to facilitate the validation effort. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the NFG:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data package, documenting a sample collection date of May 4, 2022. The samples were received at the laboratory on May 4, 2022. All samples were prepared and analyzed within method holding times.

II. Documentation

The following documentation issue was observed during the validation effort:

- The chain of custody records included one revised page with OA-17A added to the revised page. A note on page one of the COC indicated that water had been encountered at SV-1A, and the field crew had been told not to sample that location. The login report and sample list indicate that OA-17A was received.

The remainder of this report discusses the review effort for each of the parameters. The tables below document the quality control (QC) elements reviewed for each analysis parameter. Where a quality indicator was deemed acceptable after thorough review, no further discussion is included in this report. Detailed findings are included for each quality element that impacted the usability of the reported results. Additional information or explanation is included as needed, to provide support for decisions made, based on the validator's best professional judgment.

Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J with an indeterminate bias.

III. VOCs (Full Scan and SIM)

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	N
Laboratory Blanks	Y
Surrogates	Y
Laboratory Control Sample (LCS)	N
Laboratory Duplicates*	Y
Field Duplicates	N
Matrix Spike (MS)	N/A
Internal Standard Responses	Y
Compound Identification	Y
Tentatively Identified Compounds (TICs)	N/A

* Laboratory Duplicate = IA-2A

N/A – not applicable

A. Calibration

One initial calibration was prepared on instrument Airlab19 in association with the samples in this SDG. All relative response factors (RRFs) and relative percent differences (RPDs) [<30%] were acceptable with the exception of benzyl chloride (RPD = 31.3%). An initial calibration verification (ICV) standard was analyzed after the IC; all percent differences (%Ds) were acceptable in the ICV standard with the exception of benzyl chloride (-39.4%D) and 1,2,4-trichlorobenzene (-40.8%D). Results for benzyl chloride and 1,2,4-trichlorobenzene in all samples were qualified as estimated (UJ) due to and unacceptable RPD over the IC and/or RPD for the ICV.

B. LCS

LCS recoveries for 3-chloropropene (133%), dibromochloromethane (132%), bromoform (134%) and benzyl chloride (134%) are above the upper 130% acceptance limit. None of the samples associated with this LCS have reportable amounts of these analytes. Therefore, no data required qualification on this basis.

C. Field Duplicates

SV-DUP was collected as a field duplicate of SV-9A. Paired results, where detected in one or both samples, are summarized below.

Compound	SV-DUP	SV-9A	RPD	2X RL	<2X RL
1,2,4-Trimethylbenzene	2.35	1.87	N/C	1.97	yes
1,4-Dioxane	ND	0.948	N/C	1.44	yes
2-Butanone	6.4	6.55	-2.3	2.94	no
2-Hexanone	ND	0.832	N/C	1.64	yes
Acetone	132	87.7	40	4.76	no
Benzene	ND	1.51	N/C	1.28	yes
Chloromethane	ND	0.434	N/C	0.83	yes
Dichlorodifluoromethane	2.34	2.49	-6.2	1.98	no
Ethyl Alcohol	90.8	53.1	52	18.84	no
Ethylbenzene	ND	1.01	N/C	1.74	yes
Heptane	1.97	2.95	-40	1.64	no
Iso-Propyl Alcohol	10.6	63.4	-140	2.46	no
Methylene Chloride	ND	3.93	N/C	3.48	yes
Tert-Butyl Alcohol	4.27	4.4	-3.0	3.04	no
Tetrachloroethene	15.9	21.2	-29	2.72	no
Tetrahydrofuran	ND	2.6	N/C	2.94	yes
Toluene	9.12	8.93	2.1	1.51	no

Compound	SV-DUP	SV-9A	RPD	2X RL	<2X RL
n-Hexane	2.28	4.76	-70	1.41	no
o-Xylene	1.26	1.19	N/C	1.74	yes
p/m-Xylene	2.77	3.12	N/C	3.48	yes

N/C = not calculated

When one field duplicate result is positive but less than two times the analyte-specific RL, and the other result is not detected, it is ddms' policy to qualify for that analyte all associated sample results less than two times the RL, including non-detects, as estimated (J, UJ). Results summarized below were qualified as estimated (J, UJ) on this basis.

- 1,2,4-trimethylbenzene in SV-2A, SV-3A, SV-6A, SV-7A, SV-8A, SV-9A, SV-5A, SV-4A, and OA-2A
- 1,4-dioxane in all samples except SV-7A
- 2-hexanone in all samples except SV-6A
- benzene in SV-2A, SV-5A, SV-6A, SV-3A, SV-7A, SV-DUP, SV-4A, and OA-2A
- chloromethane in SV-5A, SV-6A, SV-7A, SV-9A, SV-2A, SV-3A, SV-8A, SV-DUP, SV-10A, and SV-4A
- ethylbenzene in SV-8A, OA-1A, SV-9A, SV-2A, SV-3A, SV-7A, SV-DUP, SV-10A, SV-4A, and OA-2A
- tetrahydrofuran in all samples
- o-xylene in SV-2A, SV-7A, SV-8A, SV-DUP, SV-9A, SV-10A, SV-3A, SV-4A, OA-2A, and IA-4A
- p/m-xylene in SV-2A, SV-3A, SV-7A, SV-8A, SV-DUP, SV-9A, SV-4A, OA-2A, and SV-10A

Results for acetone, ethyl alcohol, heptane, iso-propyl alcohol, tetrachloroethene, and n-hexane were qualified as estimated (J) due to unacceptable precision between results in the paired field samples as summarized below.

- acetone in all samples except OA-2A and SV-4A
- heptane in IA-2A, SV-6A, SV-7A, SV-8A, OA-1A, SV-DUP, SV-9A, SV-10A, IA-4A, IA-3A, IA-1A, and OA-2A
- ethyl alcohol, iso-propyl alcohol, and tetrachloroethene in all of the samples except SV-4A

Attachment A
QC Summary Forms - Excursions

Response Factor Report

Method Path : O:\Forensics\Data\Airlab19\2022\05\0509T_I\
Method File : TFS19_220509.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue May 10 15:52:29 2022
Response Via : Initial Calibration

Calibration Files
0.2 =r1914626.D 0.5 =r1914627.D 1.0 =r1914628.D 5.0 =r1914629.D 10 =r1914630.D 20 =r1914631.D
50 =r1914632.D 100 =r1914633.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
94)		n-propylbenzene	1.167	1.357	1.400	1.304	1.341	1.212	1.186	1.055	1.2529	9.33
95)		4-chlorotoluene	0.960	1.047	1.148	1.037	1.062	0.962	0.965	0.906	1.0108	7.60
96)		4-ethyl toluene	3.903	4.347	4.652	4.312	4.372	3.990	3.698	3.258	4.0665	10.99
97)		1,3,5-trimethylbenzene	3.352	3.696	3.650	3.687	4.141	3.849	3.599	3.041	3.6269	8.98
98)		tert-butylbenzene	3.624	3.885	3.695	3.688	3.581	3.455	2.844	2.124	3.3620	17.48
99)		1,2,4-trimethylbenzene	3.189	3.585	3.300	3.502	3.377	3.225	2.704	2.038	3.1148	16.37
100)		decane	2.786	3.513	3.668	3.659	3.672	3.373	3.247	2.848	3.3458	10.76
101)	C	Benzyl Chloride	0.919	1.272	1.620	2.021	2.412	2.482	2.575	2.067	1.9209	31.30#
102)		1,3-dichlorobenzene	1.479	1.710	1.808	1.782	1.815	1.650	1.515	1.376	1.6419	10.16
103)	C	1,4-dichlorobenzene	1.443	1.648	1.719	1.717	1.765	1.612	1.543	1.347	1.5992	9.13
104)		sec-butylbenzene	4.722	5.474	5.711	5.429	5.380	4.846	4.302	3.650	4.9392	14.20
105)		1,2,3-trimethylbenzene	2.824	3.301	3.412	3.160	3.187	2.710	2.366	1.801	2.8451	19.18
106)		p-isopropyltoluene	3.485	4.503	4.719	4.473	4.494	3.870	3.281	2.409	3.9042	20.53
107)		1,2-dichlorobenzene	1.243	1.544	1.685	1.663	1.665	1.514	1.472	1.259	1.5056	11.63
108)		n-butylbenzene	3.159	3.289	3.910	3.995	4.104	3.615	3.379	2.503	3.4942	15.15
109)		indan	2.765	3.155	3.379	3.153	3.246	2.914	2.737	2.245	2.9492	12.38
110)		indene	1.553	2.028	2.330	2.443	2.521	2.354	2.239	1.782	2.1563	15.79
111)	C	1,2-dibromo-3-chloropropane	0.734	0.792	0.899	1.040	1.122	1.014	0.966	0.734	0.9128	16.14
112)		undecane	3.085	3.660	3.660	3.920	4.061	3.544	3.045	2.453	3.4285	15.51
113)		1,2,4,5-tetramethylbenzene	3.992	4.167	4.547	2.917	2.994	3.266	2.624	2.203	3.3388	24.48
114)		dodecane	2.074	3.045	3.666	4.028	3.993	3.169	3.183	2.942	3.2625	19.60
115)	C	1,2,4-trichlorobenzene	0.444	0.770	0.888	1.080	1.242	0.814	0.878	1.057	0.8966	26.88
116)		naphthalene	2.070	3.051	3.133	3.521	3.956	2.642	2.894	3.331	3.0748	18.53
117)		1,2,3-trichlorobenzene	0.701	0.913	1.071	0.995	1.046	0.821	1.016	1.057	0.9527	13.82
118)		benzothiophene	3.176	5.023	5.760	3.508	4.175	3.933	4.430	4.450	4.3067	19.09
119)	C	hexachlorobutadiene	1.155	1.157	1.242	1.281	1.256	0.828	0.771	0.800	1.0614	20.87
120)		2-methylnaphthalene			0.249	0.257	0.381	0.594	0.833	0.964	0.5464	55.41#
121)		1-methylnaphthalene			1.711	1.060	1.244	1.302	1.603	1.687	1.4349	18.77

(#) = Out of Range

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2022\05\0509T_I\
Data File : r1914636.D
Acq On : 10 May 2022 11:47 AM
Operator : AIRLAB19:TS
Sample : CTO15-LLSTD10.0
Misc : WG1637032
ALS Vial : 0 Sample Multiplier: 1

Quant Time: May 10 15:59:28 2022
Quant Method : O:\Forensics\Data\Airlab19\2022\05\0509T_I\TFS19_220509.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue May 10 15:52:29 2022
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	C	ethylbenzene	3.740	4.181	-11.8	105	0.00
83	C	m+p-xylene	2.983	3.353	-12.4	103	0.00
84	C	bromoform	0.842	1.038	-23.3	109	0.00
85	C	styrene	2.327	2.708	-16.4	103	0.00
86	C	1,1,2,2-tetrachloroethane	2.147	2.523	-17.5	105	0.00
87	C	o-xylene	2.927	3.316	-13.3	103	0.00
88		1,2,3-trichloropropane	1.885	1.893	-0.4	91	0.00
89		nonane	3.230	3.152	2.4	90	0.00
90	s	bromofluorobenzene	2.754	2.743	0.4	97	0.00
91	C	isopropylbenzene	4.033	4.178	-3.6	95	0.00
92		bromobenzene	2.367	2.420	-2.2	92	0.00
93		2-chlorotoluene	1.050	1.040	1.0	91	0.00
94		n-propylbenzene	1.253	1.282	-2.3	92	0.00
95		4-chlorotoluene	1.011	1.029	-1.8	94	0.00
96		4-ethyl toluene	4.066	4.635	-14.0	102	0.00
97		1,3,5-trimethylbenzene	3.627	4.510	-24.3	105	0.00
98		tert-butylbenzene	3.362	3.594	-6.9	97	0.00
99		1,2,4-trimethylbenzene	3.115	3.833	-23.0	110	0.00
100		decane	3.346	3.499	-4.6	92	0.00
101	C	Benzyl Chloride	1.921	2.678	-39.4#	107	0.00
102		1,3-dichlorobenzene	1.642	1.909	-16.3	102	0.00
103	C	1,4-dichlorobenzene	1.599	1.875	-17.3	103	0.00
104		sec-butylbenzene	4.939	5.151	-4.3	92	0.00
106		p-isopropyltoluene	3.904	4.079	-4.5	88	0.00
107		1,2-dichlorobenzene	1.506	1.835	-21.8	106	0.00
108		n-butylbenzene	3.494	4.014	-14.9	94	0.00
111	C	1,2-dibromo-3-chloropropane	0.913	1.091	-19.5	94	0.00
112		undecane	3.429	3.984	-16.2	95	0.00
114		dodecane	3.262	3.917	-20.1	95	0.00
115	C	1,2,4-trichlorobenzene	0.897	1.263	-40.8#	98	0.00
116		naphthalene	3.075	3.646	-18.6	89	0.00
117		1,2,3-trichlorobenzene	0.953	1.039	-9.0	96	0.00
119	C	hexachlorobutadiene	1.061	1.353	-27.5	104	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 2

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client : Impact Environmental
Project Name :
Matrix : AIR
LCS Sample ID : WG1641106-3 **Analysis Date** : 05/20/22 13:53 **File ID** : r1914825
LCSD Sample ID : **Analysis Date** : **File ID** :

Lab Number : L2224094
Project Number : 15514

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
Dichlorodifluoromethane	10	11.4	114				-	70-130	-
Chloromethane	10	12.0	120				-	70-130	-
Freon-114	10	11.5	115				-	70-130	-
Vinyl chloride	10	11.2	112				-	70-130	-
1,3-Butadiene	10	12.7	127				-	70-130	-
Bromomethane	10	11.1	111				-	70-130	-
Chloroethane	10	11.0	110				-	70-130	-
Ethanol	50	46.4	93				-	40-160	-
Vinyl bromide	10	11.5	115				-	70-130	-
Acetone	50	55.6	111				-	40-160	-
Trichlorofluoromethane	10	10.5	105				-	70-130	-
Isopropanol	25	28.4	114				-	40-160	-
1,1-Dichloroethene	10	11.6	116				-	70-130	-
Tertiary butyl Alcohol	10	10.5	105				-	70-130	-
Methylene chloride	10	11.7	117				-	70-130	-
3-Chloropropene	10	13.3	133 Q				-	70-130	-
Carbon disulfide	10	9.46	95				-	70-130	-
Freon-113	10	11.6	116				-	70-130	-
trans-1,2-Dichloroethene	10	10.9	109				-	70-130	-
1,1-Dichloroethane	10	11.4	114				-	70-130	-
Methyl tert butyl ether	10	11.4	114				-	70-130	-
2-Butanone	10	11.6	116				-	70-130	-
cis-1,2-Dichloroethene	10	11.6	116				-	70-130	-
Ethyl Acetate	10	12.3	123				-	70-130	-
Chloroform	10	11.3	113				-	70-130	-
Tetrahydrofuran	10	11.8	118				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client : Impact Environmental
Project Name :
Matrix : AIR
LCS Sample ID : WG1641106-3 **Analysis Date** : 05/20/22 13:53 **File ID** : r1914825
LCSD Sample ID : **Analysis Date** : **File ID** :

Lab Number : L2224094
Project Number : 15514

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
1,2-Dichloroethane	10	10.2	102				-	70-130	-
n-Hexane	10	10.8	108				-	70-130	-
1,1,1-Trichloroethane	10	11.2	112				-	70-130	-
Benzene	10	10.7	107				-	70-130	-
Carbon tetrachloride	10	12.2	122				-	70-130	-
Cyclohexane	10	10.8	108				-	70-130	-
1,2-Dichloropropane	10	11.7	117				-	70-130	-
Bromodichloromethane	10	11.9	119				-	70-130	-
1,4-Dioxane	10	12.0	120				-	70-130	-
Trichloroethene	10	11.7	117				-	70-130	-
2,2,4-Trimethylpentane	10	11.0	110				-	70-130	-
Heptane	10	11.8	118				-	70-130	-
cis-1,3-Dichloropropene	10	12.8	128				-	70-130	-
4-Methyl-2-pentanone	10	12.7	127				-	70-130	-
trans-1,3-Dichloropropene	10	11.8	118				-	70-130	-
1,1,2-Trichloroethane	10	12.2	122				-	70-130	-
Toluene	10	11.6	116				-	70-130	-
2-Hexanone	10	12.4	124				-	70-130	-
Dibromochloromethane	10	13.2	132 Q				-	70-130	-
1,2-Dibromoethane	10	12.6	126				-	70-130	-
Tetrachloroethene	10	12.1	121				-	70-130	-
Chlorobenzene	10	12.1	121				-	70-130	-
Ethylbenzene	10	12.0	120				-	70-130	-
p/m-Xylene	20	23.6	118				-	70-130	-
Bromoform	10	13.4	134 Q				-	70-130	-
Styrene	10	11.8	118				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: Impact Environmental	**Lab Number**	: L2224094
Project Name	:	**Project Number**	: 15514
Matrix	: AIR		
LCS Sample ID	: WG1641106-3	**Analysis Date** : 05/20/22 13:53	**File ID** : r1914825
LCSD Sample ID	:	**Analysis Date** :	**File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
1,1,2,2-Tetrachloroethane	10	11.8	118				-	70-130	-
o-Xylene	10	11.6	116				-	70-130	-
4-Ethyltoluene	10	11.3	113				-	70-130	-
1,3,5-Trimethylbenzene	10	12.3	123				-	70-130	-
1,2,4-Trimethylbenzene	10	12.2	122				-	70-130	-
Benzyl chloride	10	13.4	134 Q				-	70-130	-
1,3-Dichlorobenzene	10	11.5	115				-	70-130	-
1,4-Dichlorobenzene	10	11.5	115				-	70-130	-
1,2-Dichlorobenzene	10	11.8	118				-	70-130	-
1,2,4-Trichlorobenzene	10	12.9	129				-	70-130	-
Hexachlorobutadiene	10	12.6	126				-	70-130	-