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December 7, 2018

N.Y. State Department of Environmental Conservation
Bureau of Eastern Remedial Action
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7016
Attn: Mr. Michael MacCabe, P.E.

Re: Groundwater Monitoring Progress Report – December 2018
1 Warehouse Lane
Elmsford, Westchester County, New York
Spill Nos. 8901621 and 9204142

Dear Mr. MacCabe,

EWMA is pleased to present this Groundwater Monitoring Progress Report for the 1 Warehouse Lane property in Elmsford, Westchester County, New York (the "Site"). This Progress Report summarizes the results of the fourth biennial groundwater sampling event required to be conducted onsite as part of a post-remedial monitoring program. This progress report is provided pursuant to New York State Department of Environmental Conservation's (NYSDEC) September 23, 2011 letter approving the March 18, 2011 Remedial Investigation/Immediate Remedial Measures (RI/IRM) Report and the Alternative Analysis Report and Site Management Plan (AAR and SMP, respectively). Groundwater sampling conducted at the Site is consistent with the aforementioned NYDEC approval and implemented in accordance with the Department's September 2011 Decision Document for this Site. A Site Location Map is included as **Figure 1** and a Site Plan depicting the Property is included as **Figure 2.**

The subject property has previously undergone environmental investigation and remediation that was associated with removal of Underground Storage Tanks (USTs) in 2001, and off-site disposal of contaminated soil associated with historical operations. The work was conducted under the above-referenced NYSDEC Spill Case Numbers and under an agreement with NYSDEC pursuant to the former Voluntary Cleanup Program. As directed by NYSDEC, biennial post-remediation groundwater monitoring was required through 2016.

Due to elevated concentrations of benzene reported in MW-3, an additional biennial groundwater sampling event was requested by the NYSDEC in 2017 correspondence. This progress report presents the results of the requested groundwater sampling event conducted on October 11, 2018.

The results of the first, second and third biennial groundwater monitoring events conducted in February 2013, October 2014 and November 2016 were submitted to NYDEC in prior Groundwater Monitoring Progress Reports dated April 25, 2013, December 12, 2014 and January 16, 2017 respectively. The results presented in said reports were generally consistent with historical sampling results and reflected a

decrease in concentration levels as compared with pre-remediation concentration levels. As summarized herein, the October 2018 groundwater results for downgradient wells MW-2 and MW-5 indicate that concentrations have decreased for all compounds (except acenapthene) that exceeded GWQS during the last three groundwater monitoring events.

Groundwater Sampling Procedures:

On October 11, 2018, a groundwater sampling event was conducted by EWMA personnel and included the collection and analyses of groundwater samples from three (3) of the five (5) on-site monitoring wells (MW-2, MW-3 and MW-5). The NYDEC has approved the sampling cessation of on-site wells MW-1 and MW-4, and off-site up-gradient well MW-6. Sampling was conducted in accordance with the NYSDEC Sampling Guidelines & Protocols. The monitoring well locations are depicted on **Figure 2**.

Prior to sampling, monitoring wells MW-2, MW-3 and MW-5 were visually inspected and screened for floating product prior to sampling using a product level indicator. Water elevation measurements were recorded before and after purging activities, and prior to sampling activities using a water level indicator. Prior to well purging activities, a headspace reading was obtained from each well using a photo-ionization detector (PID). Representative samples were obtained from each of the three purge volumes and tested for pH, dissolved oxygen, temperature, and specific conductivity. The well purge data is included within **Appendix 1.** Field analysis was performed using a Horiba water lab.

Groundwater samples were obtained from the wells using dedicated disposable Teflon bailers. Groundwater samples were placed in laboratory supplied containers with Teflon-lined lids and were kept on ice in a cooler maintained at 4°C until delivery to Integrated Analytical Laboratories, LLC of Randolph, NJ (IAL), a New York certified laboratory (Cert. #11402).

In accordance with the EWMA March 2011 VCP-RIR and the NYSDEC September 23, 2011 approval letter, analytical parameters for groundwater sample analyses for each well were as follows:

Monitoring Well	Parameters	Area of Concern
MW-2	N.Y. Stars Volatile & Semi-volatile Organic Compounds	275-gallon UST excavation located east of the building
MW-3	N.Y. Stars Volatiles, Semi-volatile Organic Compounds & Lead	10,000-gallon gasoline UST excavation
MW-5	N.Y. Stars Volatiles, Semi-volatile Organic Compounds & Lead	Downgradient from the former location of the 10,000-gallon gasoline UST

Results and Discussion

During the October 2018 sampling event, EWMA purged and sampled monitoring wells MW-2, MW-3 and MW-5. Although slightly elevated PID readings were noted, no measurable floating product was detected in any of the sampled wells during the sampling event. The well purge data for the sampling event is provided in **Appendix 1**. A Groundwater Elevation Contour Plan for the October 11, 2018 groundwater sampling event is included as **Figure 3.** The contours indicate that groundwater flow is generally toward the northeast, and is consistent with the flow direction determined during previous sampling events.

The results of laboratory analysis identified one or more constituents in monitoring wells MW-2 and MW-3 at concentrations exceeding New York State Class GA Groundwater Quality Standards (GWQS). The compounds detected above GWQS included a number of VOCs (benzene, total xylenes and isopropyl benzene), SVOCs (acenaphthene, benzo(a)anthracene and chrysene) and lead. A summary of sample data for the October 2018 sampling event, along with historical sampling results, is provided as **Table 1**. A copy of the laboratory analytical report for the October 2018 sampling event is provided as **Appendix 2**.

Results are consistent with prior sampling results, and illustrate a continued decrease in concentration levels of individual and total compounds through natural attenuation. All monitoring wells sampled during the October 2018 event had fewer individual compounds exceeding the NYDEC criteria than that in previous rounds (2016 and prior).

Downgradient monitoring wells MW-2 and MW-5 did not detect any contaminants above the GWQS. However, duplicate sample MW 2 DUP exhibited a concentration of acenaphthene slightly above the GWQS.

Monitoring well MW-3 exhibited concentrations of benzene, total xylenes, isopropyl benzene, acenaphthene, benzo(a)anthracene, chrysene and lead above the GWQS. Except for benzene concentrations reported in MW-3, all contaminants are decreasing due to natural attenuation. The *Mann-Whitney U-Test* indicates that benzene reported in MW-3 cannot be concluded with 90% or greater confidence that the contaminant within the well has decreased with time. The elevated concentration of lead detected in MW-3 compared to prior events is attributed to high turbidity during sampling.

Historic Groundwater Sampling Results Table is included as **Table 1,** and the results illustrated on **Figure 4**. Electronic results of laboratory analyses will be provided to NYSDEC via email.

Conclusions and Recommendations

This fourth round of post remediation groundwater sampling was conducted in accordance with the approved SMP and as documented herein.

The most recent groundwater monitoring results indicate that, over time, natural attenuation processes such as sorption, cation exchange, biodegradation and hydrolysis are degrading and controlling residual contaminants detected in groundwater beneath the Site. Decreasing Site-wide contaminant concentrations (discussed above) indicate permanent contaminant degradation. Contaminant migration off-site has not occurred. Organic contaminants found in monitoring well MW-3 are not reaching downgradient wells MW-2 and MW-5. Thus, contaminant migration to a down-gradient natural receptor such as the Saw Mill River is not occurring.

Given the low concentrations of groundwater contaminants across the site which continue to decline, the existing institutional and engineering controls implemented as part of the Site remediation have sufficiently demonstrated that they effectively protect the public health and safety.

If you have any questions or need further information please feel free to contact me at 973-560-1400 ext. 152.

Sincerely,

EWMA

Francis Rooney, Project Manager
NJDEP LSRP # 668283

cc: Fay S. Navratil, New York State Department of Health
Frank Uzzo, Elmsford Realty Associates, LLC
Beverly Sturr, Mack-Cali Realty
William A. Baker, Scarinci Hollenbeck

CERTIFICATION OF SITE INSTITUTIONAL CONTROLS

In accordance with the September 2011 Decision Document, this certification is provided with the fourth and final Groundwater Monitoring Progress Report dated December 2018 ("Report") for the property formerly known as the Elmsford Distribution Center and addressed as 1 Warehouse Lane ("Site") in the Village of Elmsford, Westchester County, New York.

For each institutional control identified for the Site, I certify that all of the following statements are true:

- The institutional control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;
- Access to the Site will continue to be provided to the Department, upon reasonable notice, to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- Use of the Site is compliant with the environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal law. I, Francis Rooney, of EWMA, LLC, 100 Misty Lane, Parsippany, NJ 07054, am a Qualified Environmental Professional as that term is defined at 6 NYCRR 375-1.2(ak) and I am certifying as Elmsford Realty Associates, LLC's designated Site representative.

By EWMA, LLC

Francis Rooney 12-7-18

Francis Rooney, Project Manager Date

NJDEP LSRP # 668283

TABLES

TABLE 1
MW-1
Historical Groundwater Sampling Results
1 Warehouse Lane, Elmsford, New York
EWMA Project # 207930

Well: **Lab ID:** **Date:** **Matrix:**	**NYDEC Groundwater Quality Criteria**	**MW-1** **8911-001** **11/12/2002** **Aqueous**	**MW-1FILT** **8911-009** **11/12/2002** **Aqueous**	**MW-1** **9872-001** **12/12/2002** **Aqueous**	**MW-1FILT** **9872-008** **12/12/2002** **Aqueous**	**MW-1** **07735-001** **8/12/2004** **Aqueous**	**MW-1** **10970-001** **11/11/2004** **Aqueous**	**MW-1** **01264-001** **02/10/2005** **Aqueous**	**MW-1** **05309-001** **05/20/2005** **Aqueous**	**MW-1** **03767-006** **04/03/2008** **Aqueous**	**MW-1** **05064-001/011** **05/05/2008** **Aqueous**
Volatiles Stars List (ppb)		Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
MTBE	**10**	0.686	~	0.658	~	~	~	~	~	ND	~
Benzene	**1**	**1.64**	~	**2.13**	~	ND	ND	ND	0.673	ND	~
Toluene	**5**	ND	~	ND	~	~	~	~	~	ND	~
Ethylbenzene	**5**	0.886	~	0.639	~	~	~	~	~	ND	~
Total xylenes	**5**	ND	~	ND	~	~	~	~	~	ND	~
Isopropylbenzene	**5**	0.421	~	0.3	~	~	~	~	~	ND	~
n-Propylbenzene	**5**	0.779	~	0.514	~	~	~	~	~	ND	~
1,3,5-Trimethylbenzene	**5**	ND	~	ND	~	~	~	~	~	ND	~
tert-Butylbenzene	**5**	ND	~	ND	~	~	~	~	~	ND	~
1,2,4-Trimethylbenzene	**5**	ND	~	ND	~	~	~	~	~	ND	~
sec-Butylbenzene	**5**	0.377	~	ND	~	~	~	~	~	ND	~
4-Isopropyltoluene	**5**	ND	~	ND	~	~	~	~	~	ND	~
n-Butylbenzene	**5**	0.338	~	ND	~	~	~	~	~	ND	~
Naphthalene	**10**	1.66	~	0.406	~	~	~	~	~	2.08	~
Total VOCs	**NS**	6.787	~	4.647	~	~	~	~	0.673	2.08	~
Total TICs	**NS**	17.7	~	~	~	~	~	~	~	~	~
Total VOCs & TICs	**NS**	24.487	~	4.647	~	~	~	~	0.673	2.08	~
Semi-volatiles (ppb)											
Acenaphthene	**20**	0.179	~	ND	~	~	~	~	~	~	~
Flourene	**50**	0.278	~	ND	~	~	~	~	~	~	~
Phenanthrene	**50**	0.266	~	ND	~	~	~	~	~	~	~
Anthracene	**50**	ND	~	ND	~	~	~	~	~	~	~
Flouranthene	**50**	ND	~	ND	~	~	~	~	~	~	~
Pyrene	**50**	ND	~	ND	~	~	~	~	~	~	~
Benzo(a)anthracene	**0.002**	ND	~	ND	~	~	~	~	~	~	~
Chrysene	**0.002**	ND	~	ND	~	~	~	~	~	~	~
Benzo(b)flouranthene	**0.002**	ND	~	ND	~	~	~	~	~	~	~
Benzo(k)flouranthene	**0.002**	ND	~	ND	~	~	~	~	~	~	~
Benzo(a)pyrene	**0.002**	ND	~	ND	~	~	~	~	~	~	~
Indeno(1,2,3-cd)pyrene	**0.002**	ND	~	ND	~	~	~	~	~	~	~
Dibenz(a,h)anthracene	**50**	ND	~	ND	~	~	~	~	~	~	~
Benzo(g,h,i)perylene	**5**	ND	~	ND	~	~	~	~	~	~	~
Total SVOCs	**NS**	0.723	~	ND	~	~	~	~	~	~	~
Total TICs	**NS**	~	~	~	~	~	~	~	~	~	~
Total TICs & SVOCs	**NS**	0.723	~	ND	~	~	~	~	~	~	~
PCBs											
Aroclor-1016	**0.5**	ND	~	ND	~	~	~	~	~	~	~
Aroclor-1221	**0.5**	ND	~	ND	~	~	~	~	~	~	~
Aroclor-1232	**0.5**	ND	~	ND	~	~	~	~	~	~	~
Aroclor-1242	**0.5**	ND	~	ND	~	~	~	~	~	~	~
Aroclor-1248	**0.5**	ND	~	ND	~	~	~	~	~	~	~
Aroclor-1254	**0.5**	ND	~	ND	~	~	~	~	~	~	~
Aroclor-1260	**0.5**	ND	~	ND	~	~	~	~	~	~	~
Metals (ppb)											
Antimony	**20**	ND	ND	ND	ND	~	~	~	~	~	~
Arsenic	**25**	**54**	**59**	**45.1**	**51.5**	8.96	10.2	8.2	4.4	3.3	4.64
Beryllium	**20**	ND	ND	ND	ND	~	~	~	~	~	~
Cadmium	**4**	ND	ND	ND	ND	~	~	~	~	~	~
Chromium	**100**	ND	ND	ND	ND	~	~	~	~	~	~
Copper	**1,000**	257	ND	39.3	ND	~	~	~	~	~	~
Lead	**25**	**38**	ND	9	ND	3.41	5.4	ND	ND	4.07	ND
Mercury	**2**	ND	ND	ND	ND	~	~	~	~	~	~
Nickel	**100**	26	ND	11.8	ND	~	~	~	~	~	~
Selenium	**50**	ND	ND	ND	ND	~	~	~	~	~	~
Silver	**2**	ND	ND	ND	ND	~	~	~	~	~	~
Thallium	**10**	ND	ND	ND	ND	~	~	~	~	~	~
Zinc	**5,000**	210	ND	69.4	ND	~	~	~	~	~	~

Notes:
~ - Not analyzed.
ND - Not detected.
Samples exceeding the GWQS are depicted in bold highlighted print.
NS - No Published Standard

TABLE 1
MW-2
Historical Groundwater Sampling Results
1 Warehouse Lane, Elmsford, New York
EWMA Project # 207930

Well: Lab ID: Date: Matrix:	NYDEC Groundwater Quality Criteria	MW-2 8911-002 11/12/2002 Aqueous	MW-2DUP 8911-003 11/12/2002 Aqueous	MW-2 FILT 8911-010 11/12/2002 Aqueous	MW-2 9872-002 12/12/2002 Aqueous	MW-2DUP 9872-003 12/12/2002 Aqueous	MW-2 FILT 9872-009 12/12/2002 Aqueous	W-2DUP FIL 9872-010 12/12/2002 Aqueous	MW-2 07735-002 8/12/2004 Aqueous	MW-2 10970-002 11/11/2004 Aqueous	MW-2 01264-002 02/10/2005 Aqueous	MW-2 05309-002 05/20/2005 Aqueous	MW-2 03767-005 04/03/2008 Aqueous	MW-2 05064-002/009 05/05/2008 Aqueous	MW-2 07029-001 07/15/2009 Aqueous	MW-2 07006-001 07/16/2010 Aqueous	MW-2 07006-001 02/22/2013 Aqueous	MW-2 10541-001 10/30/2014 Aqueous	MW-2 10509-001 11/10/2016 Aqueous	MW-2 08195-002 10/11/2018 Aqueous	MW 2 DUP 08195-003 10/11/2018 Aqueous
Volatiles Stars List (ppb)		Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
MTBE	**10**	7.42	6.88	~	**14.9**	**15.1**	~	~	**28.8**	**31.2**	**26.4**	**20.9**	**9.52**	**7.87**	2.21	5.07	4.81	3.14	~	~	~
Benzene	**1**	**2.17**	**2.31**	~	**2.83**	**2.86**	~	~	**2.45**	**2.4**	**4.95**	**3.64**	**3.97**	**3.37**	**2.05**	**1.40**	**2.68**	ND	0.632	ND	ND
Toluene	**5**	ND	ND	~	ND	ND	~	~	0.641	0.969	ND	0.711	0.634	ND	0.317	ND	~	ND	~	ND	ND
Ethylbenzene	**5**	3.96	3.92	~	4.58	4.52	~	~	2.92	2.39	3.2	2.22	3.19	2.59	1.9	0.993	1	ND	ND	ND	ND
Total xylenes	**5**	3.12	**6.79**	~	**8.6**	**8.58**	~	~	**6.26**	4.96	0	4.78	**6.84**	**6.09**	4.18	3.39	4.58	2.72	2.39	ND	ND
Isopropylbenzene	**5**	ND	ND	~	ND	ND	~	~	0.542	ND	ND	ND	0.918	ND	0.46	0.450	0.746	0.485	ND	ND	ND
n-Propylbenzene	**5**	ND	1.78	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
1,3,5-Trimethylbenzene	**5**	ND	ND	~	ND	ND	~	~	1.65	1.26	ND	1.06	1.41	ND	1.03	0.724	1.01	~	ND	ND	ND
tert-Butylbenzene	**5**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
1,2,4-Trimethylbenzene	**5**	2.87	3.02	~	**5.07**	4.82	~	~	4.64	3.64	3.86	3.25	3.36	3.89	2.21	1.28	1.5	~	ND	ND	ND
sec-Butylbenzene	**5**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
4-Isopropyltoluene	**5**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
n-Butylbenzene	**5**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
Naphthalene	**10**	**363**	**390**	~	**421**	**407**	~	~	**276**	**273**	**387**	**216**	**178**	**318**	**115**	**49.7**	**52.2**	1.48	ND	ND	ND
Total VOCs	**NS**	382.54	414.7	~	456.98	442.88	~	~	323.903	320	425.41	252	207.84	342	129.35	126.01	68.53	7.83	3.02	~	~
Total TICs	**NS**	112	114	~	~	~	~	~	~	~	~	~	~	455	~	~	~	263.00	~	~	~
Total VOCs & TICs	**NS**	494.54	528.7	~	456.98	442.88	~	~	323.903	320	425.41	252	207.84	797	129.35	126.01	68.53	269.00	3.02	~	~
Semi-volatiles (ppb)																					
Acenaphthene	**20**	10.2	9.13	~	**21.4**	**23**	~	~	**25**	**22.2**	**41.2**	14.3	**42.6**	**36.5**	13.3	**21.8**	ND	**37.6**	**39.1**	16.4	**22.4**
Flourene	**50**	0.945	0.908	~	4.04	4.31	~	~	7.57	6.99	11.7	4.63	14.7	11.7	3.95	7.95	ND	13.1	14.6	6.47	9.09
Phenanthrene	**50**	0.135	0.164	~	0.198	0.21	~	~	1.9	2.13	3.62	1.24	7.27	5.22	1.72	4.16	ND	5.47	4.22	1.48	4.44
Anthracene	**50**	ND	ND	~	ND	ND	~	~	ND	0.187	ND	ND	0.409	ND	0.093	ND	ND	ND	0.453 J	ND	ND
Flouranthene	**50**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.319 J	ND	ND
Pyrene	**50**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.002**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	**0.002**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.002**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**0.002**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.002**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	**0.002**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	**50**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**5**	ND	ND	~	ND	ND	~	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total SVOCs	**NS**	11.28	10.202	~	25.638	27.52	~	~	34.47	31.507	56.52	20.17	64.98	53.42	19.06	33.91	~	56.17	58.7 J	~	~
Total TICs	**NS**	~	~	~	~	~	~	~	~	ND	~	~	~	~	~	~	~	71.00	~	~	~
Total TICs & SVOCs	**NS**	11.28	10.202	~	25.638	27.52	~	~	34.47	31.507	56.52	20.17	64.98	53.42	19.06	33.91	~	122.17	58.7 J	~	~
PCBs																					
Aroclor-1016	**0.5**	ND	ND	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Aroclor-1221	**0.5**	ND	ND	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Aroclor-1232	**0.5**	ND	ND	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Aroclor-1242	**0.5**	ND	ND	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Aroclor-1248	**0.5**	ND	ND	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Aroclor-1254	**0.5**	ND	ND	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Aroclor-1260	**0.5**	ND	ND	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Metals (ppb)																					
Antimony	**20**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Arsenic	**25**	7.7	7.7	5.5	7.72	7.88	5.64	6.22	~	~	~	~	~	~	5.89	~	~	~	~	~	~
Beryllium	**20**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Cadmium	**4**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Chromium	**100**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Copper	**1,000**	ND	ND	ND	8.31	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Lead	**25**	10	8.9	ND	8.8	8.39	ND	ND	~	~	~	~	~	~	ND	~	~	~	~	~	~
Mercury	**2**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Nickel	**100**	17	16	13	12.7	12.1	9.24	9.07	~	~	~	~	~	~	~	~	~	~	~	~	~
Selenium	**50**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Silver	**2**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Thallium	**10**	ND	ND	ND	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~
Zinc	**5,000**	93	92	34	56.5	50.2	17.7	15.3	~	~	~	~	~	~	~	~	~	~	~	~	~

Notes:
~ - Not analyzed.
ND - Not detected.
Samples exceeding the GWQS are depicted in bold highlighted print.
NS - No Published Standard
D - The compound was reported from the diluted analysis
J - Compound detected below the RL but above the MDL

TABLE 1
MW-3
Historical Groundwater Sampling Results
1 Warehouse Lane, Elmsford, New York
EWMA Project # 207930

Well: Lab ID: Date: Matrix:	NYDEC Groundwater Quality Criteria	MW-3 8911-004 11/12/2002 Aqueous	MW-3 FILT 8911-011 11/12/2002 Aqueous	MW-3 9872-005 12/12/2002 Aqueous	MW-3 FILT 9872-011 12/12/2002 Aqueous	MW-3 07735-003 8/12/2004 Aqueous	MW-3 10970-003 11/11/2004 Aqueous	MW-3 01264-003 02/10/2005 Aqueous	MW-3 05309-003 05/20/2005 Aqueous	MW-3 03767-004 04/03/2008 Aqueous	MW-3 05064-003 05/05/2008 Aqueous	MW-3 07029-002 07/15/2009 Aqueous	MW-3 07006-002 07/16/2010 Aqueous	MW-3 07006-002 02/22/2013 Aqueous	MW-3 10541-002 10/30/2014 Aqueous	MW-3 10509-002 11/10/2016 Aqueous	MW-3 08195-001 10/11/2018 Aqueous
Volatiles Stars List (ppb)		Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
MTBE	**10**	**21.6**	~	**46.4**	~	**18.6**	**19**	**16.8**	**23.4**	5.54	6.19	**22.4**	2.53	1.3	ND	~	~
Benzene	**1**	**84.4**	~	**94.1**	~	**63.7**	**52.6**	**60.6**	**120**	**54.3**	**66.9**	**186**	**39.1**	**47**	**45.5**	**53.3**	**50 D**
Toluene	**5**	**6.87**	~	**11.1**	~	**8.27**	**5.4**	**9.82**	**30**	**7.43**	**9.2**	**18.7**	2.33	~	**5.08**	**~**	**~**
Ethylbenzene	**5**	**76.7**	~	**97.6**	~	**84**	**37.4**	**98.7**	**223**	**22**	**47.2**	**9.61**	1.45	**7.72**	1.91	1.39	2.05 D
Total xylenes	**5**	**45.6**	~	**99.7**	~	**65.4**	**32.7**	**79.6**	**173**	**21.4**	**31.2**	**61.5**	**7.09**	**21.6**	**21.2**	**14.1**	**9.57 D**
Isopropylbenzene	**5**	**53.3**	~	**52.9**	~	**48.4**	**37.3**	**43.4**	**54**	**35.9**	**68.8**	**159**	**28.3**	**43.1**	**45.5**	**44.9**	**30.1 D**
n-Propylbenzene	**5**	**115**	~	**113**	~	**89.3**	**69.5**	**81**	**97.1**	**49.9**	**109**	**319**	**46.0**	**80**	~	~	~
1,3,5-Trimethylbenzene	**5**	**8.82**	~	**13.9**	~	4.49	2.8	**5.37**	**9.11**	1.86	3.49	**5.34**	ND	3.18	~	~	~
tert-Butylbenzene	**5**	ND	~	1.59	~	ND	ND	1.2	ND	ND	ND	**6.09**	1.40	1.89	~	~	~
1,2,4-Trimethylbenzene	**5**	**20.5**	~	**36.6**	~	**6.8**	**3.63**	**10.6**	**13.6**	1.78	3.53	**7.5**	1.12	2.5	~	~	~
sec-Butylbenzene	**5**	**9.34**	~	**10.2**	~	**8.65**	**6.93**	**8.38**	**8.1**	**5.04**	**11.3**	**35.6**	**6.40**	**9.71**	~	~	~
4-Isopropyltoluene	**5**	2	~	2.84	~	1.6	1.05	1.53	ND	0.59	1.23	ND	ND	1.16	~	~	~
n-Butylbenzene	**5**	**21.1**	~	**22.9**	~	**12.7**	**11.3**	**12.9**	**12.1**	**6.99**	**18.4**	**54.2**	**6.41**	**13.2**	~	~	~
Naphthalene	**10**	**95.6**	~	**106**	~	**72.1**	**22.9**	**97.5**	**146**	**14.5**	**18.2**	**21.8**	**14.3**	**11.5**	4.37	4.63	ND
Total VOCs	**NS**	560.83	~	708.83	~	484.01	302.51	524.67	909.41	227.23	395	906.74	156.43	243.86	118.48	118	~
Total TICs	**NS**	1635	~	~	~	~	~	~	~	~	1400	~	~	~	1210	~	~
Total VOCs & TICs	**NS**	2195.83	~	708.83	~	484.01	302.51	524.67	909.41	227.23	1800	906.74	156.43	243.86	1328.48	118	~
Semi-volatiles (ppb)																	
Acenaphthene	**20**	**52.3**	~	**56.2**	~	**42.1**	**55.3**	**43.5**	**36.4**	**72.4**	**58.1**	**30.9**	**45.5**	ND	**80.6**	**45.1**	**27.0**
Flourene	**50**	25.6	~	27.4	~	15.9	23.8	15.1	13.5	30.1	23.3	11.5	19.8	ND	35.7	22.3	15.1
Phenanthrene	**50**	39.1	~	45.8	~	20	30.5	18.5	14.7	34.9	27.3	12.5	13.6	ND	29.7	11.2	6.11
Anthracene	**50**	2.59	~	3.32	~	0.679	1.04	ND	0.455	0.925	1.04	0.633	1.04	ND	2.06	1.37	2.05
Flouranthene	**50**	5.12	~	9.93	~	2.23	2.8	1.32	1.18	3.56	2.97	1.66	3.52	ND	7.45	5.54	9.24
Pyrene	**50**	2.89	~	5.62	~	1.3	1.31	1.05	0.724	1.59	2.18	0.846	2.41	2.27	2.83	3.56	6.36
Benzo(a)anthracene	**0.002**	**0.284**	~	**1.18**	~	**0.26**	**0.232**	ND	**0.168**	ND	ND	ND	**0.301**	ND	**0.201**	**0.444 J**	**0.437 J**
Chrysene	**0.002**	**0.338**	~	**1.62**	~	ND	**0.202**	ND	ND	ND	ND	ND	**0.253**	ND	**0.286**	**0.467 J**	**0.575 J**
Benzo(b)flouranthene	**0.002**	ND	~	**0.524**	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**0.002**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.002**	ND	~	**0.44**	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	**0.002**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	**50**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**5**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total SVOCs	**NS**	128.222	~	152.034	~	82.469	115	79.47	67.127	143.48	114.89	58.04	86.42	2.27	77.4	90.3 J	~
Total TICs	**NS**	~	~	~	~	~	~	~	~	~	~	~	~	~	321	~	~
Total TICs & SVOCs	**NS**	128.222	~	152.034	~	82.469	115	79.47	67.127	143.48	114.89	58.04	86.42	2.27	398.4	90.3 J	~
Metals (ppb)																	
Antimony	**20**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Arsenic	**25**	~	~	5.45	ND	~	~	~	~	~	~	ND	~	~	1.22	~	~
Beryllium	**20**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Cadmium	**4**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Chromium	**100**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Copper	**1,000**	~	~	16.4	ND	~	~	~	~	~	~	~	~	~	~	~	~
Lead	**25**	**56**	ND	**68.4**	ND	**79.5**	17.3	9.28	**120**	14.5	6.01	4.47	8.99	8.82	9.27	4.14	**28.9**
Mercury	**2**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Nickel	**100**	~	~	8	ND	~	~	~	~	~	~	~	~	~	~	~	~
Selenium	**50**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Silver	**2**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Thallium	**10**	~	~	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~
Zinc	**5,000**	~	~	182	ND	~	~	~	~	~	~	~	~	~	~	~	~

Notes:
~ - Not analyzed.
ND - Not detected.
Samples exceeding the GWQS are depicted in bold highlighted print.
NS - No Published Standard
D - The compound was reported from the diluted analysis
J - Compound detected below the RL but above the MDL

TABLE 1
MW-4
Historical Groundwater Sampling Results
1 Warehouse Lane, Elmsford, New York
EWMA Project # 207930

Well: Lab ID: Date: Matrix:	NYDEC Groundwater Quality Criteria	MW-4 8911-005 11/12/2002 Aqueous	MW-4 FILT 8911-012 11/12/2002 Aqueous	MW-4 9872-004 12/12/2002 Aqueous	MW-4 FILT 9872-012 12/12/2002 Aqueous	MW-4 07735-04 8/12/2004 Aqueous	MW-4 10970-004 11/11/2004 Aqueous	MW-4DUP 10970-008 11/11/2004 Aqueous	MW-4 01264-004 02/10/2005 Aqueous	MW-4 DUP 01264-005 02/10/2005 Aqueous	MW-4 05309-004 05/20/2005 Aqueous	MW-4 DUP 05309-005 05/20/2005 Aqueous	MW-4 03767-003 04/03/2008 Aqueous	MW-4 05064-004 05/05/2008 Aqueous	MW-4 07029-003 07/15/2009 Aqueous	MW-4 07006-003 07/16/2010 Aqueous	MW-4 07006-003 02/22/2013 Aqueous	MW-4 10541-003 10/30/2014 Aqueous	MW-4 10509-003 11/10/2016 Aqueous
Volatiles Stars List (ppb)		Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
MTBE	**10**	8.78	~	3.58	~	3.33	6.26	6.57	3.98	3.92	5.35	5.74	ND	1.18	ND	ND	ND	0.593	~
Benzene	**1**	**4.86**	~	**1.33**	~	**2.08**	**1.8**	**1.87**	**2.1**	**2.19**	**2.7**	**2.75**	**1.71**	**3.21**	**1.99**	**2.21**	**1.22**	0.505	0.603
Toluene	**5**	0.885	~	ND	~	0.452	0.482	0.499	ND	ND	0.452	0.484	0.334	0.524	0.47	0.437	~	ND	~
Ethylbenzene	**5**	**10.2**	~	3.93	~	1.1	ND	ND	0.443	0.445	0.567	0.585	ND	0.974	0.44	0.740	ND	ND	ND
Total xylenes	**5**	**8.82**	~	1.5	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65	ND	ND	ND	ND
Isopropylbenzene	**5**	**6.87**	~	1.47	~	3.63	2.47	2.65	2.46	2.84	2.71	2.71	**5.39**	**9.54**	**6.46**	**7.03**	**7.67**	1.16	2.89
n-Propylbenzene	**5**	**12.5**	~	2.51	~	**5.14**	2.53	2.7	2.88	3.29	3.61	3.59	**6.34**	**12.3**	**10.40**	**10.5**	**12.3**	~	ND
1,3,5-Trimethylbenzene	**5**	2.59	~	0.73	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND
tert-Butylbenzene	**5**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53	ND	0.426	~	ND
1,2,4-Trimethylbenzene	**5**	**18.6**	~	2.43	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.34	~	ND
sec-Butylbenzene	**5**	2.88	~	0.641	~	1.39	1.22	1.36	1.22	1.17	0.898	0.932	1.43	2.64	2.51	2.70	2.72	~	ND
4-Isopropyltoluene	**5**	0.391	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.21	~	ND
n-Butylbenzene	**5**	**5.22**	~	1.4	~	0.989	NS	ND	1.03	0.686	0.67	0.636	1.14	2.71	2.17	2.20	2.3	~	ND
Naphthalene	**10**	**31.3**	~	**13.6**	~	2.4	NS	ND	1.78	1.98	4.98	2.03	1.18	2.59	2.22	3.02	2.05	ND	1.77
Total VOCs	**NS**	113.896	~	33.121	~	20.511	14.762	15.6	15.89	16.52	21.93	19.46	17.52	35.7	27.84	28.84	32.78	2.258	5.26
Total TICs	**NS**	304.1	~	~	~	~	~	~	~	~	~	~	~	372	~	~	~		~
Total VOCs & TICs	**NS**	417.996	~	33.121	~	20.511	14.762	15.6	15.89	16.52	21.93	19.46	17.52	408	27.84	28.84	32.78		5.26
Semi-volatiles (ppb)																			
Acenaphthene	**20**	6.05	~	4.38	~	2.9	4.27	4.64	2.7	2.16	2.49	2.42	3.41	4.49	2.41	3.32	ND	3.97	4
Flourene	**50**	4.8	~	3.42	~	2.09	2.54	3.06	1.75	1.49	1.8	1.91	2.27	2.73	1.67	1.93	ND	1.83	1.73
Phenanthrene	**50**	10.7	~	5.97	~	0.462	0.282	0.671	0.292	0.29	0.524	0.514	0.617	1.25	0.78	0.268	ND	ND	0.409 J
Anthracene	**50**	0.663	~	0.723	~	0.351	ND	ND	0.236	ND	0.202	0.236	ND	0.249	0.13	ND	ND	ND	ND
Flouranthene	**50**	1.76	~	1.38	~	0.421	0.304	0.463	0.231	ND	0.338	0.376	ND	0.437	ND	ND	ND	ND	0.280 J
Pyrene	**50**	1.42	~	1.31	~	0.472	0.356	0.621	0.375	ND	0.444	0.406	ND	0.509	ND	ND	ND	ND	0.327 J
Benzo(a)anthracene	**0.002**	**0.343**	~	**0.472**	~	ND	ND	ND	ND	ND	ND	**0.145**	ND	**0.228**	ND	ND	ND	ND	ND
Chrysene	**0.002**	**0.973**	~	**0.886**	~	**0.228**	ND	ND	ND	ND	ND	**0.134**	ND	**0.271**	ND	ND	ND	ND	ND
Benzo(b)flouranthene	**0.002**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)flouranthene	**0.002**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	**0.002**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	**0.002**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	**50**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**5**	ND	~	ND	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total SVOCs	**NS**	26.709	~	18.541	~	ND	7.75	9.46	5.58	3.94	5.79	6.14	6.30	10.64	4.99	5.52	~	12.00	6.75 J
Total TICs	**NS**	~	~	~	~	ND	~	~	~	~	~	~	~	~	~	~	~	23.50	~
Total TICs & SVOCs	**NS**	26.709	~	18.541	~	ND	7.75	9.46	7.75	9.46	5.79	6.14	6.30	10.64	4.99	5.52	~	35.50	6.75 J
Metals (ppb)																			
Antimony	**20**	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Arsenic	**25**	**55**	**30**	**56.4**	**50**	16.9	13.2	11.2	7.61	7.73	23	25	3.52	3.19	4.44	7.88	1.6	1.78	1.76 J
Beryllium	**20**	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Cadmium	**4**	1.1	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Chromium	**100**	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Copper	**1,000**	ND	ND	22.2	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Lead	**25**	**90**	ND	**42.7**	ND	14.7	**40.9**	**25.1**	**35.5**	**37.3**	**35**	25	9.52	ND	3.99	2.81	1.93	8.2	5.81
Mercury	**2**	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Nickel	**100**	12	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Selenium	**50**	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Silver	**2**	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Thallium	**10**	ND	ND	ND	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~
Zinc	**5,000**	683	ND	91.7	ND	~	~	~	~	~	~	~	~	~	~	~	~	~	~

Notes:
~ - Not analyzed.
ND - Not detected.
Samples exceeding the GWQS are depicted in bold highlighted print.
NS - No Published Standard
J - Compound detected below the RL but above the MDL

TABLE 1
MW-5
Historical Groundwater Sampling Results
1 Warehouse Lane, Elmsford, New York
EWMA Project # 207930

Well: Lab ID: Date: Matrix:	NYDEC Groundwater Quality Criteria	MW-5 07735-005 8/12/2004 Aqueous	MW-5 10970-005 11/11/2004 Aqueous	MW-5 01264-006 02/10/2005 Aqueous	MW-5 05309-006 05/20/2005 Aqueous	MW-5 03767-002 04/03/2008 Aqueous	MW-5 05064-005 05/05/2008 Aqueous	MW-5 07029-004 07/15/2009 Aqueous	MW-5 07006-004 07/16/2010 Aqueous	MW-5 07006-004 02/22/2013 Aqueous	MW-5 07006-004 10/30/2014 Aqueous	MW-5 10509-004 11/10/2016 Aqueous	MW-5 08195-004 10/11/2018 Aqueous
Volatiles Stars List (ppb)		Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
MTBE	**10**	**19.4**	**29.9**	**26.6**	**19.6**	7	9.3	5.86	4.51	1.01	3.71	~	~
Benzene	**1**	**3.78**	**17.8**	**30.4**	**12.4**	0.551	0.553	0.33	ND	0.349	ND	0.562	ND
Toluene	**5**	ND	0.941	0.614	0.432	ND	ND	ND	ND	~	ND	~	~
Ethylbenzene	**5**	2.15	2.67	2.41	1.26	ND	ND	ND	ND	NA	ND	ND	ND
Total xylenes	**5**	3.35	3.6	**5.51**	2.56	1.08	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	**5**	0.714	ND	0.546	0.606	0.431	ND	ND	ND	0.378	ND	ND	ND
n-Propylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND
1,3,5-Trimethylbenzene	**5**	0.877	ND	0.965	0.494	0.397	ND	ND	ND	ND	~	ND	ND
tert-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND
1,2,4-Trimethylbenzene	**5**	2.68	2.37	2.77	1.44	0.772	ND	ND	ND	ND	~	ND	ND
sec-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND
4-Isopropyltoluene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND
n-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	~	ND	ND
Naphthalene	**10**	**285**	**235**	**219**	**122**	**27.5**	2.24	**20.60**	ND	ND	ND	ND	ND
Total VOCs	**NS**	113.896	292.281	288.82	161.24	37.73	12.1	26.79	4.51	1.74	3.71	0.56	~
Total TICs	**NS**	304.1	~	~	~	~	35.4				31.20	~	~
Total VOCs & TICs	**NS**	417.996	292.281	288.82	161.24	37.73	47.5	26.79	4.51	1.74	34.90	0.56	~
Semi-volatiles (ppb)													
Acenaphthene	**20**	**111**	**53.3**	**68.2**	**25.6**	**44.8**	1.64	18.20	1.66	ND	**39.0**	12.3	6.79
Flourene	**50**	**50**	21.4	27.1	10.8	19.3	0.326	10.80	0.724	ND	17.2	4.06	2.23
Phenanthrene	**50**	**91.8**	23.9	29.3	13.1	23.2	0.377	30.60	0.270	1.15	16.5	4.87	5.42
Anthracene	**50**	5.84	1.36	1.64	0.762	1.83	0.205	3.12	0.408	0.328	7.60	2.50	1.53
Flouranthene	**50**	18.4	2.19	2.23	1.47	4.47	0.23	13.80	0.284	5.97	18.8	6.58	5.04
Pyrene	**50**	13.1	1.22	1.86	0.899	2.34	0.453	10.40	0.417	6.89	12.2	5.94	3.82
Benzo(a)anthracene	**0.002**	**1.94**	ND	ND	ND	**0.331**	**0.272**	**2.13**	ND	**2.17**	**1.53**	**0.617 J**	ND
Chrysene	**0.002**	**1.56**	ND	ND	ND	ND	**0.215**	**1.81**	ND	**1.56**	**0.915**	**0.327 J**	ND
Benzo(b)flouranthene	**0.002**	ND	ND	ND	ND	ND	ND	**0.41**	ND	**0.794**	**0.457**	ND	ND
Benzo(k)flouranthene	**0.002**	**112**	ND	ND	ND	ND	ND	**1.74**	ND	**0.823**	**0.337**	ND	ND
Benzo(a)pyrene	**0.002**	**50.1**	ND	ND	ND	ND	ND	**0.39**	ND	**0.610**	**0.340**	ND	ND
Indeno(1,2,3-cd)pyrene	**0.002**	**91.9**	ND	ND	ND	ND	ND	ND	ND	**0.311**	**0.114**	ND	ND
Dibenz(a,h)anthracene	**50**	5.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**5**	**18.5**	ND	ND	ND	ND	ND	ND	ND	0.311	0.311	ND	ND
Total SVOCs	**NS**	570.43	103	130.33	52.63	52.63	3.72	93.4	3.76	21.22	21.22	37.2 J	~
Total TICs	**NS**	~	~	~	~	~	~	~	~	~	~	~	~
Total TICs & SVOCs	**NS**	570.43	103	130.33	52.63	52.63	3.72	93.4	3.76	21.22	21.22	37.2 J	~
Metals (ppb)													
Antimony	**20**	~	~	~	~	~	~	~	~	~	~	~	~
Arsenic	**25**	~	~	~	~	~	~	ND	~	~	~	~	~
Beryllium	**20**	~	~	~	~	~	~	~	~	~	~	~	~
Cadmium	**4**	~	~	~	~	~	~	~	~	~	~	~	~
Chromium	**100**	~	~	~	~	~	~	~	~	~	~	~	~
Copper	**1,000**	~	~	~	~	~	~	~	~	~	~	~	~
Lead	**25**	ND	6.19	2.32	2.2	~	~	ND	~	~	~	ND	ND
Mercury	**2**	~	~	~	~	~	~	~	~	~	~	~	~
Nickel	**100**	~	~	~	~	~	~	~	~	~	~	~	~
Selenium	**50**	~	~	~	~	~	~	~	~	~	~	~	~
Silver	**2**	~	~	~	~	~	~	~	~	~	~	~	~
Thallium	**10**	~	~	~	~	~	~	~	~	~	~	~	~
Zinc	**5,000**	~	~	~	~	~	~	~	~	~	~	~	~

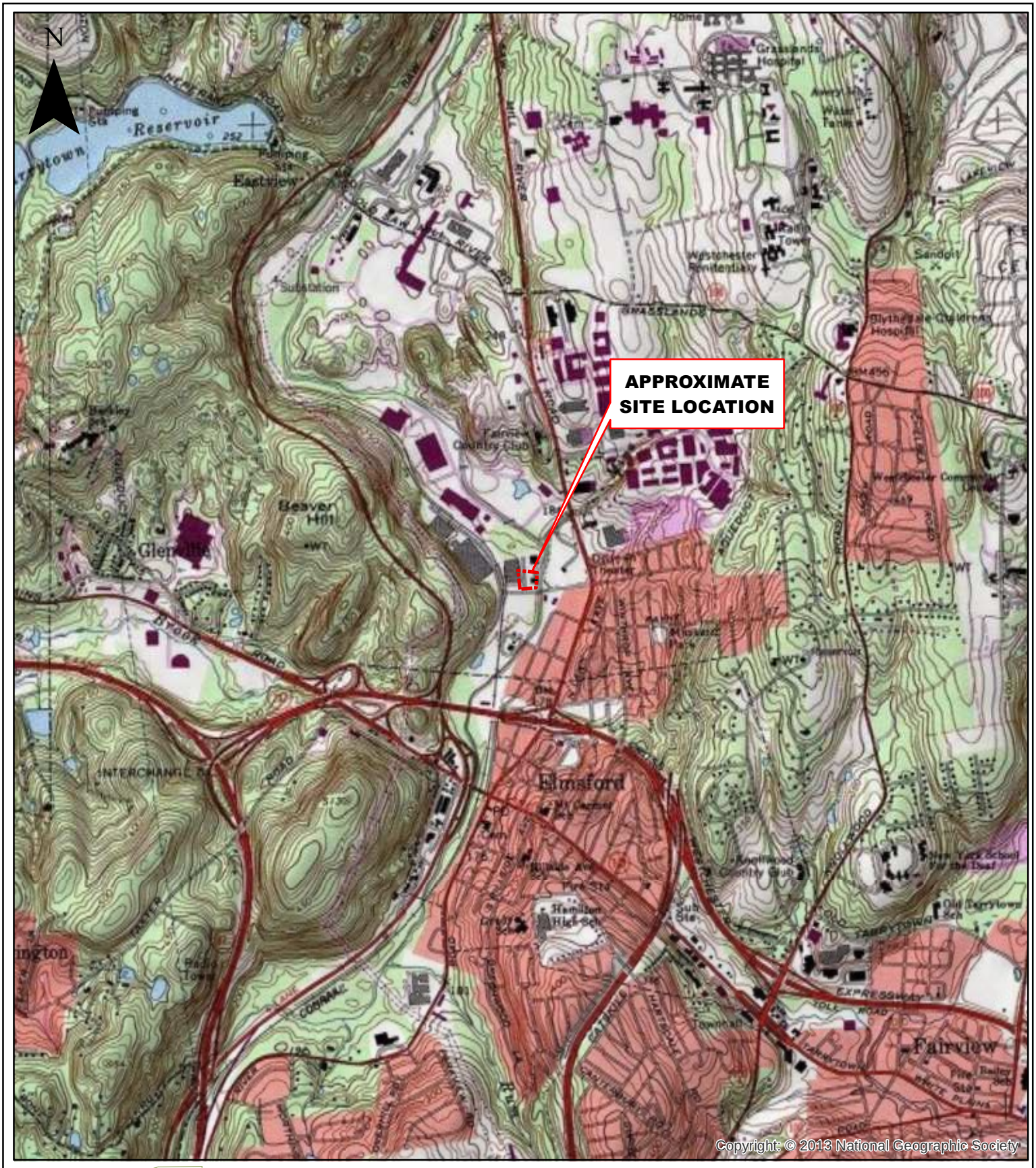
Notes:
~ - Not analyzed.
ND - Not detected.
Samples exceeding the GWQS are depicted in bold highlighted print.
NS - No Published Standard
D - The compound was reported from the diluted analysis
J - Compound detected below the RL but above the MDL

TABLE 1
MW-6
Historical Groundwater Sampling Results
1 Warehouse Lane, Elmsford, New York
EWMA Project # 207930

Well: **Lab ID:** **Date:** **Matrix:**	**NYDEC** **Groundwater** **Quality** **Criteria**	**MW-6** **03737-001** **4/3/2008** **Aqueous**	**MW-6** **05064-006** **5/5/2008** **Aqueous**
Volatiles Stars List (ppb)		Conc	Conc
MTBE	**10**	ND	ND
Benzene	**1**	ND	ND
Toluene	**5**	ND	ND
Ethylbenzene	**5**	ND	ND
Total xylenes	**5**	ND	ND
Isopropylbenzene	**5**	ND	ND
n-Propylbenzene	**5**	ND	ND
1,3,5-Trimethylbenzene	**5**	ND	ND
tert-Butylbenzene	**5**	ND	ND
1,2,4-Trimethylbenzene	**5**	ND	ND
sec-Butylbenzene	**5**	ND	ND
4-Isopropyltoluene	**5**	ND	ND
n-Butylbenzene	**5**	ND	ND
Naphthalene	**10**	ND	ND
Total VOCs	**NS**	ND	ND
Total TICs	**NS**	ND	ND
Total VOCs & TICs	**NS**	ND	ND
Semi-volatiles (ppb)		ND	ND
Acenaphthene	**20**	ND	ND
Flourene	**50**	ND	ND
Phenanthrene	**50**	ND	ND
Anthracene	**50**	ND	ND
Flouranthene	**50**	ND	ND
Pyrene	**50**	ND	ND
Benzo(a)anthracene	**0.002**	ND	ND
Chrysene	**0.002**	ND	ND
Benzo(b)flouranthene	**0.002**	ND	ND
Benzo(k)flouranthene	**0.002**	ND	ND
Benzo(a)pyrene	**0.002**	ND	ND
Indeno(1,2,3-cd)pyrene	**0.002**	ND	ND
Dibenz(a,h)anthracene	**50**	ND	ND
Benzo(g,h,i)perylene	**5**	ND	ND
Total SVOCs	**NS**	ND	ND
Total TICs	**NS**	ND	ND
Total TICs & SVOCs	**NS**	ND	ND
PCBs			
Aroclor-1016	**0.5**	~	~
Aroclor-1221	**0.5**	~	~
Aroclor-1232	**0.5**	~	~
Aroclor-1242	**0.5**	~	~
Aroclor-1248	**0.5**	~	~
Aroclor-1254	**0.5**	~	~
Aroclor-1260	**0.5**	~	~
Metals (ppb)			
Antimony	**20**	~	~
Arsenic	**25**	2.49	6.5
Beryllium	**20**	~	~
Cadmium	**4**	~	~
Chromium	**100**	~	~
Copper	**1,000**	~	~
Lead	**25**	ND	2.7
Mercury	**2**	~	~
Nickel	**100**	~	~
Selenium	**50**	~	~
Silver	**2**	~	~
Thallium	**10**	~	~
Zinc	**5,000**	~	~

Notes:
~ - not analyzed.
ND - not detected.
Samples exceeding the GWQS are depicted in bold highlighted print.
NS - No Published Standard

FIGURES



2,000 1,000 0 2,000 Feet

SOURCE: USGS WHITE PLAINS, N.Y. 7.5 MINUTE. QUADRANGLE, TOPOGRAPHIC IMAGERY OBTAINED FROM ARCGIS ONLINE

Environmental Consulting & Remediation
100 Misty Lane
P.O. Box 5430
Parsippany, NJ 07054

DATE:	PROJECT #
5/31/17	207930

DRAWN BY: RR
CHECKED BY: FR

Document Path: G:\Job Data\207000\207930\DRAWINGS\207930f1.mxd

SITE LOCATION
ELMSFORD DISTRIBUTION CENTER
1 WAREHOUSE LANE
ELMSFORD, NEW YORK

Figure #
1

Legend

- Monitoring Well Location
- Groundwater Elevation Contour with Flow Direction- 10/11/18
- Property Boundary

40 20 0 40 Feet

SOURCE: AERIAL IMAGERY OBTAINED FROM NJ GEOGRAPHIC INFORMATION WEBSITE, TAX PARCELS OBTAINED FROM WESTCHESTER COUNTY GEOGRAPHIC INFORMATION SYSTM (WCGIS)
BASED ON DATA COLLECTED BY ELMSFORD TAX ASSESSOR'S OFFICE, N.Y.

Environmental Consulting & Remediation
100 Misty Lane
P.O. Box 5430
Parsippany, NJ 07054

DATE: 10/31/2018
PROJECT # 207930
DRAWN BY: JS
CHECKED BY: FR

Document Path: G:\Job Data\207000\207930\DRAWINGS\207930f4_2018.mxd

GROUNDWATER ELEVATION CONTOUR - 10/11/18
ELMSFORD DISTRIBUTION CENTER
1 WAREHOUSE LANE
ELMSFORD, NEW YORK

Figure# 3

Legend

40 20 0 40 Feet

Monitoring Well Location

Property Boundary

SOURCE: AERIAL IMAGERY OBTAINED FROM NJ GEOGRAPHIC INFORMATION WEBSITE, TAX PARCELS OBTAINED FROM WESTCHESTER COUNTY GEOGRAPHIC INFORMATION SYSTM (WCGIS)
BASED ON DATA COLLECTED BY ELMSFORD TAX ASSESSOR'S OFFICE, N.Y.

Environmental Consulting & Remediation
100 Misty Lane
P.O. Box 5430
Parsippany, NJ 07054

DATE: 5/31/17

PROJECT # 207930

DRAWN BY: RR

CHECKED BY: FR

Document Path: G:\Job Data\207000\207930\DRAWINGS\207930f2.mxd

SITE MAP
ELMSFORD DISTRIBUTION CENTER
1 WAREHOUSE LANE
ELMSFORD, NEW YORK

Figure# 2

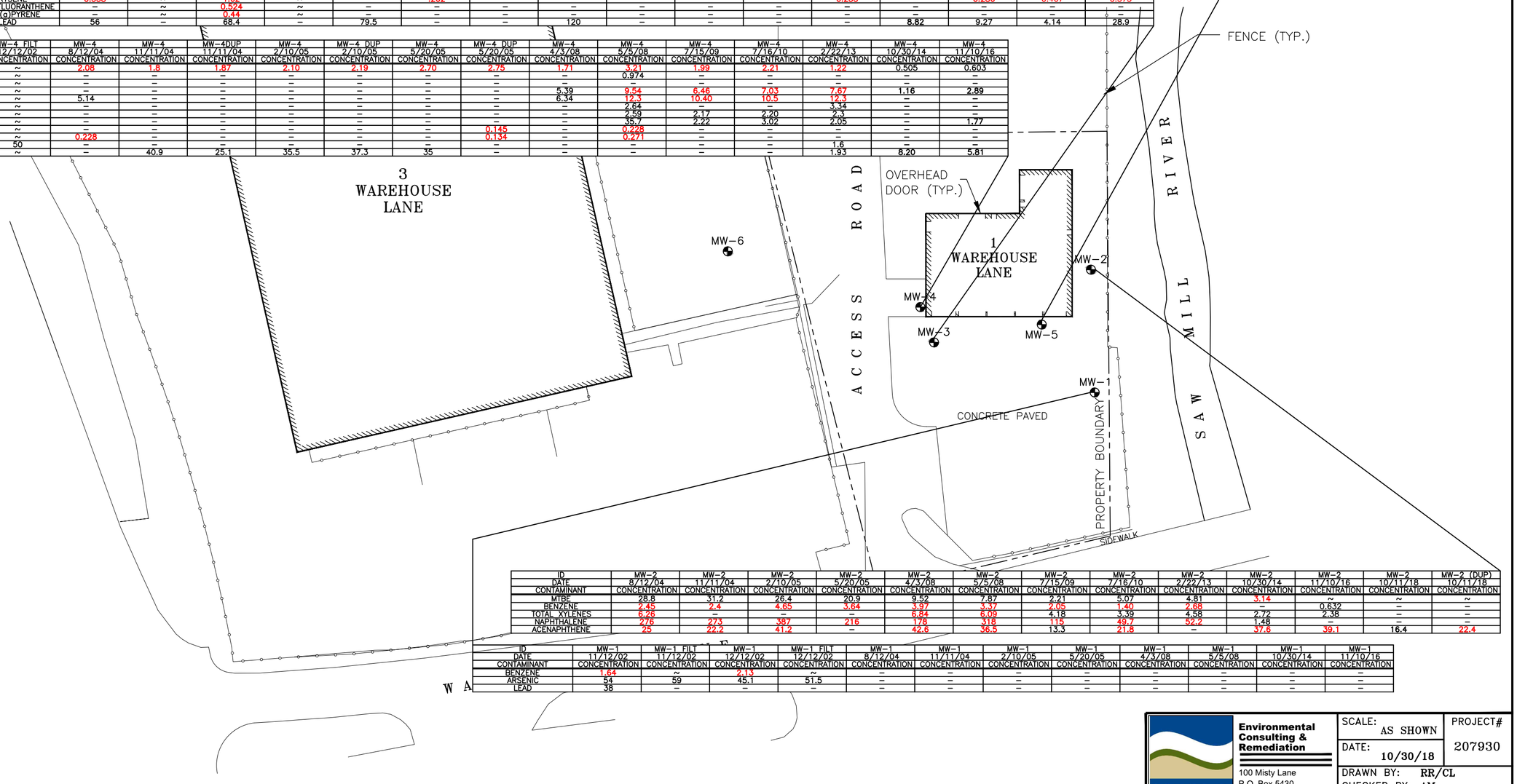
ID	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
DATE	8/12/04	11/11/04	2/10/05	5/20/05	4/3/08	5/5/08	7/15/09	7/16/10	2/22/13	10/30/14	11/10/16	10/11/18
CONTAMINANT	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
MTBE	19.4	29.9	26.6	19.6	7	9.30	5.86	4.51	1.01	3.71	~	~
BENZENE	3.78	17.8	30.4	12.4	–	0.553	0.33	–	0.349	–	0.562	–
TOTAL XYLENES	3.35	3.6	5.51	–	–	–	–	–	–	–	–	–
NAPHTHALENE	285	235	219	122	27.5	2.24	20.60	–	–	–	–	–
ACENAPHTHENE	111	53.3	68.2	25.6	44.8	–	–	–	–	–	12.3	6.79
FLOURENE	50.0	–	–	–	–	–	–	–	–	–	4.06	2.23
PHENANTHRENE	91.8	–	–	–	–	–	–	–	1.15	16.5	4.87	5.42
BENZO(a)ANTHRACENE	1.94	–	–	–	0.331	0.272	2.13	–	2.17	1.53	0.617	–
CHRYSENE	1.56	–	–	–	–	0.215	1.81	–	1.56	0.915	0.327	–
BENZO(b)FLUORANTHENE	–	–	–	–	–	–	0.41	–	0.794	0.457	–	–
BENZO(k)FLUORANTHENE	1.12	–	–	–	–	–	1.74	–	0.823	0.337	–	–
BENZO(a)PYRENE	50.1	–	–	–	–	–	0.39	–	0.610	0.340	–	–
INDENO(1,2,3-cd)PYRENE	91.9	–	–	–	–	–	–	–	0.311	0.114	–	–
BENZO(g,h,i)PERYLENE	18.5	–	–	–	–	–	–	–	0.311	–	–	–

ID	MW-3	MW-3 FILT	MW-3	MW-3 FILT	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3
DATE	11/12/02	11/12/02	12/12/02	12/12/02	8/12/04	11/11/04	2/10/05	5/20/05	4/3/08	5/5/08	7/15/09	7/16/10	2/22/13	10/30/14	11/10/16	10/11/18
CONTAMINANT	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
MTBE	21.6	~	46.4	~	18.6	19	16.8	23.4	–	6.19	22.4	2.53	1.3	–	~	~
BENZENE	84.4	~	94.1	~	63.7	52.6	60.6	120	54.3	66.9	186	39.1	47	45.5	53.3	50
TOLUENE	6.87	~	11.1	~	8.27	5.4	9.82	30	7.43	9.2	18.7	2.33	–	5.08	~	~
ETHYLBENZENE	75.7	~	97.6	~	84	57.4	98.7	223	22	47.2	91.61	1.45	7.72	1.91	1.39	2.05
TOTAL XYLENES	45.6	~	99.7	~	65.4	32.7	79.6	173	21.4	31.2	61.5	7.09	23.6	21.2	14.1	9.57
ISOPROPYLBENZENE	53.3	~	52.9	~	48.4	37.3	43.4	54	–	68.8	159	28.3	43.1	45.5	44.9	30.1
N-PROPYLBENZENE	115	~	113	~	89.3	69.5	81	97.1	–	109	319	46	80	–	–	–
1,3,5-TRIMETHYLBENZENE	8.82	~	13.9	~	4.49	2.8	5.37	9.11	–	3.49	5.34	–	3.18	–	–	–
1,2,4-TRIMETHYLBENZENE	20.5	~	36.6	~	6.80	3.63	10.6	13.6	–	3.53	7.5	1.12	2.5	–	–	–
SEC-BUTYLBENZENE	9.34	~	10.2	~	8.65	6.93	8.38	8.10	–	11.3	35.6	6.40	9.71	–	–	–
N-BUTYLBENZENE	21.1	~	22.9	~	12.7	11.3	12.9	12.1	–	18.4	54.2	6.41	13.2	–	–	–
NAPHTHALENE	95.6	~	106	~	72.1	22.9	97.5	146	14.5	18.2	21.8	14.3	11.5	4.37	4.63	–
ACENAPHTHENE	52.3	~	56.2	~	42.1	25.3	43.5	36.4	72.4	58.1	30.9	45.5	–	80.6	45.1	27.0
BENZENE(g)ANTHRACENE	0.284	~	1.18	~	0.260	.232	–	0.168	–	–	–	0.301	–	0.201	0.444	0.437
CHRYSENE	0.338	~	1.62	~	–	.202	–	–	–	–	–	0.253	–	0.286	0.467	0.575
BENZO(b)FLUORANTHENE	–	~	0.524	~	–	–	–	–	–	–	–	–	–	–	–	–
BENZO(g)PYRENE	–	~	0.44	~	–	–	–	–	–	–	–	–	–	–	–	–
LEAD	56	–	68.4	–	79.5	–	–	120	–	–	–	–	8.82	9.27	4.14	28.9

ID	MW-4	MW-4 FILT	MW-4	MW-4 FILT	MW-4	MW-4	MW-4DUP	MW-4	MW-4 DUP	MW-4	MW-4 DUP	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
DATE	11/12/02	11/12/02	12/12/02	12/12/02	8/12/04	11/11/04	11/11/04	2/10/05	2/10/05	5/20/05	5/20/05	4/3/08	5/5/08	7/15/09	7/16/10	2/22/13	10/30/14	11/10/16
CONTAMINANT	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BENZENE	4.86	~	1.33	~	2.08	1.8	1.87	2.10	2.19	2.70	2.75	1.71	3.21	1.99	2.21	1.22	0.505	0.603
ETHYLBENZENE	10.2	~	–	~	–	–	–	–	–	–	–	–	0.974	–	–	–	–	–
TOTAL XYLENES	8.82	~	–	~	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ISOPROPAYLBENZENE	6.87	~	–	~	–	–	–	–	–	–	–	5.39	9.54	6.46	7.03	7.67	1.16	2.89
N-PROPYLBENZENE	12.5	~	–	~	5.14	–	–	–	–	–	–	6.34	12.3	10.40	10.5	12.3	–	–
1,2,4-TRIMEHYLBENZENE	18.6	~	–	~	–	–	–	–	–	–	–	–	2.64	–	–	3.34	–	–
N-BUTYLBENZENE	5.22	~	–	~	–	–	–	–	–	–	–	–	2.59	2.17	2.20	2.3	–	–
NAPHTHALENE	31.5	~	13.6	~	–	–	–	–	–	–	–	–	35.7	2.22	3.02	2.05	–	1.77
BENZO(a)ANTHRACENE	0.343	~	0.472	~	–	–	–	–	–	–	0.145	–	0.228	–	–	–	–	–
CHRYSENE	0.973	~	0.886	~	0.228	–	–	–	–	–	0.134	–	0.271	–	–	–	–	–
ARSENIC	55	30	56.4	50	–	–	–	–	–	–	–	–	–	–	–	1.6	–	–
LEAD	90	~	42.7	~	–	40.9	25.1	35.5	37.3	35	–	–	–	–	–	1.93	8.20	5.81

ID	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2 (DUP)
DATE	8/12/04	11/11/04	2/10/05	5/20/05	4/3/08	5/5/08	7/15/09	7/16/10	2/22/13	10/30/14	11/10/16	10/11/18	10/11/18
CONTAMINANT	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
MTBE	28.8	31.2	26.4	20.9	9.52	7.87	2.21	5.07	4.81	3.14	~	~	~
BENZENE	2.45	2.4	4.65	3.64	3.87	3.37	2.05	1.40	2.68	–	0.632	–	–
TOTAL XYLENES	6.26	–	–	–	6.84	6.09	4.18	3.39	4.58	2.72	2.36	–	–
NAPHTHALENE	276	273	387	216	178	318	115	49.7	52.2	1.48	–	–	–
ACENAPHTHENE	25	22.2	41.2	–	42.6	36.5	13.3	21.8	–	37.6	39.1	16.4	22.4

ID	MW-1	MW-1 FILT	MW-1	MW-1 FILT	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1
DATE	11/12/02	11/12/02	12/12/02	12/12/02	8/12/04	11/11/04	2/10/05	5/20/05	4/3/08	5/5/08	10/30/14	11/10/16
CONTAMINANT	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION	CONCENTRATION
BENZENE	1.64	~	2.13	~	–	–	–	–	–	–	–	–
ARSENIC	54	59	45.1	51.5	–	–	–	–	–	–	–	–
LEAD	38	–	–	–	–	–	–	–	–	–	–	–



LEGEND

MW-1 — MONITORING WELL LOCATION

— NOT DETECTED

~ NOT ANALYZED

NOTES: ALL RESULTS IN BOLD EXCEED NYSDEC GROUND WATER QUALITY STANDARDS (GWQS); ALL RESULTS ARE IN PARTS PER BILLION (PPB)

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)

Environmental Consulting & Remediation
100 Misty Lane
P.O. Box 5430
Parsippany, NJ 07054

SCALE: AS SHOWN

DATE: 10/30/18

PROJECT# 207930

DRAWN BY: RR/CL

CHECKED BY: AM

FILE: k:\drawings\200000\207930\207930f4_CL.dwg

GROUND WATER EXCEEDANCE PLAN

ELMSFORD DISTRIBUTION CENTER
1 & 6 WAREHOUSE LANE
ELMSFORD, NEW YORK

FIGURE# 4

APPENDIX 1
PURGE GUIDES

100 Misty Lane
Parsippany, NJ
(973) 560-1400

Job Name: 1 Warehouse Lane
Job Number: 207930
Personnel: Matt Gower
Weather: Cloudy, 70°F
Date: 10/11/2018

WELL INFORMATION	MW-3	MW-2	MW-5
PID (ppm):	22.1	0.4	0.0
Depth to Product (feet):	-	-	-
Depth of Well (feet):	22.60	28.70	25.56
Depth to Top of Screen (feet):	NR	NR	NR
Depth to Water (feet)	4.35	8.68	5.28
Well Diameter (inches):	2	2	4
Volume in Well (gal):	2.97	3.26	13.24
PRE - PURGE DATA			
Purge Start:	10:14	10:57	11:57
pH:	6.86	7.14	6.57
Specific Conductivity:	25.10	6.3	24.8
Dissolved Oxygen (mg/l):	7.45	1.46	0.18
Temperature (deg. C):	21.1	18.9	20.3
Purge End:	10:32	11:17	12:50
Elapsed Time:	0:18	0:20	0:53
POST-PURGE DATA			
Depth to Water (feet):	5.35	9.28	13.67
pH:	6.88	6.33	6.48
Specific Conductivity:	24.30	5.78	18.6
Dissolved Oxygen (mg/l):	0.00	0.00	0.00
Temperature (deg. C):	20.99	14.89	17.45
Minimum Purge Vol. Req. (gal):	8.9	9.8	39.7
Rate of Purge: (gal/min)	0.50	0.50	0.75
Actual Total Volume Purged (gal):	9.00	10.00	39.75
Purge Method:	Redi-Flow	Redi-Flow	Redi-Flow
SAMPLE DATA			
Sample Time:	10:43	11:30	13:30
Sample Method:	Teflon Bailer	Teflon Bailer	Teflon Bailer
Depth to Water (feet):	5.26	9.57	8.77
pH:	6.96	6.57	6.70
Specific Conductivity:	22.40	3.36	17.3
Dissolved Oxygen (mg/l):	7.32	0.32	1.84
Temperature (deg. C):	21.99	17.6	20.4
Odor:	Yes	None	None
Turbidity:	Cloudy	Clear	Clear
Drawdown: (ft)	1.00	0.60	8.39

APPENDIX 2
LABORATORY ANALYTICAL DATA REPORT
OCTOBER 2018

Integrated Analytical Laboratories LLC

ANALYTICAL DATA REPORT

Environmental Waste Management Associates, LLC.
Lanidex Center
100 Misty Lane
Parsippany, NJ 07054

Project Name: **1 WAREHOUSE LANE - #207930**
IAL Case Number: **E18-08195**

These data have been reviewed and accepted by:

Michael H. Leffin, Ph.D.
Laboratory Director

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

IAL is a NELAP accredited lab (TNI01284) and maintains certification in Connecticut (PH-0699), New Jersey (14751), New York (11402), and Pennsylvania (68-00773).

Integrated Analytical Laboratories - Table of Contents

Sample Summary

IAL Case No.

E18-08195

Client EWMA - HQ

Project 1 WAREHOUSE LANE - #207930

Received On 10/11/2018@16:10

Lab ID	*Client Sample ID*	*Depth Top/Bottom*	*Sampling Time*	*Matrix*	*# of Container*
08195-001	MW 3	n/a	10/11/2018@10:43	Aqueous	5
08195-002	MW 2	n/a	10/11/2018@11:30	Aqueous	4
08195-003	MW 2 DUP	n/a	10/11/2018@11:40	Aqueous	4
08195-004	MW 5	n/a	10/11/2018@13:30	Aqueous	5
08195-005	FIELD BLANK	n/a	10/11/2018@11:50	Aqueous	5
08195-006	TRIP BLANK	n/a	10/11/2018	Aqueous	2

Integrated Analytical Labs ~ 273 Franklin Road, Randolph, NJ 07869 ~ (973) 361-4252 ~ Fax (973) 989-5288

INTEGRATED ANALYTICAL LABORATORIES, LLC.

DATA QUALIFIERS AND FLAGS

B	Indicates the analyte found in the associated method blank and in the sample due to potential lab contamination.
C	Indicates analyte is a common laboratory contaminant.
D	Indicates analyte was reported from diluted analysis.
E	Identifies a compound concentration that exceeds the upper level of the calibration range of the instrument
J	Indicates an estimated value either when the concentration in the sample is less than the RL or for qualification of TICs
M	Indicates matrix interference
N	Presumptive evidence of a compound from the use of GC/MS library search.
X	Indicates samples analyzed for total and dissolved metals differ at ≤20% RPD.
Y	Indicates DO depletion in the BOD blank is >0.20ppm
Z	Indicates internal standard failure. Sample results are either biased high or biased low.
$	Value outside NJDEP DKQP Limits
*	Result outside of QC limits

PROJECT NOTES

- All results for soils, solids, and sludges are reported on a dry-weight basis except where noted
- All test results and QC are compliant with TNI or other applicable state agency requirements/guidance unless otherwise notated in the case narrative
- The case narrative for this SDG should be consulted to determine any non-conformances
- Any samples with 15-minute or "analyze immediately" holding times (e.g. pH, Dissolved Oxygen, Sulfite, etc.) which are analyzed in the laboratory are considered out of holding time
- IAL is a NELAP/TNI certified laboratory (TNI ID# TNI01284). IAL retains certification in Connecticut (PH-0699), New Jersey (14751), New York (11402), and Pennsylvania (68-00773).
- Certification is not required to perform analyses in the following states: AL, CO, DE, GA, HI, ID, IN, KY, MD, MI, MS, MO, MT, NE, NM, SD and TN. IAL can perform all analyses, except Drinking Water, within its scope of capabilities in these states.

ACRONYMS AND ABBREVIATIONS

CFU	Colony Forming Unit	**ND**	Indicates analyte was analyzed for but not detected at MDL or RL (only if MDL is not used)
CCB	Continuing Calibration Blank		
CCV	Continuing Calibration Verification	**NTU**	Nephelometric Turbidity Units
DF	Dilution Factor	**ppb**	Parts per billion. Reported as µg/L or µg/kg
DL	Attached as a suffix to a diluted sample	**ppm**	Parts per million. Reported as mg/L, µg/mL or mg/kg
DUP	Duplicate	**QC**	Quality Control
ICB	Initial Calibration Blank	**% Rec**	Percent Recovery
ICC	Initial Calibration Curve	**RL**	Reporting Limit. The RL is typically determined by the concentration of the lowest standard in the calibration curve
ICV	Initial Calibration Verification		
kg	kilogram		
L	Liter	**RPD**	Relative Percent Difference
LCS	Laboratory Control Sample	**RSD**	Relative Standard Deviation
LCSD	Laboratory Control Sample Duplicate	**RT**	Retention Time
MDL	Method Detection Limit as determined according to 40 CFR Part 136 Appendix B	**SU**	Standard Units
		TIC	Tentatively Identified Compound AKA Library Search Compounds
MF	Membrane Filter		
mg	milligram (1000mg = 1g)	**TNI**	The NELAC (National Environmental Laboratory Accreditation Council) Institute
µg	microgram (1000µg = 1mg)		
ml	milliliter (1000ml = 1L)	**TNTC**	Too numerous to count
µl	microliter (1000µl = 1ml)	*	When attached to a compound name, indicates this analyte was analyzed by Method SW-846 8270 SIM
µmhos	Conductivity units - resistance expressed in ohms		
MPN	Most Probable Number	^	When attached to a compound name, indicates this analyte was analyzed by Method SW-846 8011 or EPA 504.1
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		
NA	Not applicable	<	Less than; In conjunction with a numerical value, indicates a concentration less than the RL or MDL
NC	Not calculated		

SAMPLE DELIVERY GROUP CASE NARRATIVE
(Conformance / Non-Conformance Summary)

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE DELIVERY GROUP CASE NARRATIVE

SDG#: E18-08195

Integrated Analytical Laboratories, LLC. received six (6) samples** from EWMA - HQ (IAL SDG# **E18-08195**, Project: 1 WAREHOUSE LANE - #207930) on October 11, 2018 for the analysis of :

(5) NYCP51T3
(1) TCL VO
(5) NYCP51T3BN
(3) Lead - Pb

**Number of samples listed above may be greater than what is listed on the chain of custody. Any samples that require in-house filtration or splitting will be counted as separate samples.

Samples were received in good condition with documentation in order.
Cooler temperature was acceptable at 4 ± 2°C

Volatiles By SW 8260C	**Batch: 181022A**	**Matrix: Aqueous**

QC
- Calibration curve met QC criteria.
- Internal standards recovery met QC criteria.
- Surrogate percent recovery met QC criteria.
- Method blank met QC criteria.
- LCS/LCSD Percent Recovery met QC criteria.
- MS/MSD were not analyzed due to insufficient sample volume. LCS/LCSD were analyzed in their absence to meet method specific QC requirements.

E18-08195
- All samples were analyzed within holding time.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E18-08195-001	1	NA
E18-08195-002	1	NA
E18-08195-003	1	NA
E18-08195-004	1	NA
E18-08195-005	1	NA
E18-08195-006	1	NA

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE DELIVERY GROUP CASE NARRATIVE

SDG#: E18-08195

Semivolatiles By SW 8270D | **Batch: 181017-01** | **Matrix: Aqueous**

QC
- Calibration curve met QC criteria.
- Internal standard recovery met QC criteria.
- Surrogate recovery met QC criteria.
- Method blank met QC criteria.
- LCS percent recovery met QC criteria. NJDEP DKQP criteria not met.
- MS/MSD RPD met QC criteria.
- MS/MSD percent recovery met QC criteria. NJDEP DKQP criteria not met.

E18-08195
- Extraction holding time met requirement for each sample.
- Analysis holding time met requirement for each sample.
- Sample(s) used for aqueous Semivolatiles analyses contained varying levels of sediment. Precautions were taken to take an aliquot representative of the sample. However, due to the nature of aqueous samples containing sediment, reproduction of results may prove difficult. The rough amount of sediment present in the samples is as follows: 08195-001:1%; 08195-002:1%; 08195-003:1%; 08195-004:1%.
- 08195-003: Surrogate did not meet DKQP criteria.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E18-08195-001	1	NA
E18-08195-002	1	NA
E18-08195-003	1	NA
E18-08195-004	1	NA
E18-08195-005	1	NA

The result reported for 1,2-Diphenylhydrazine is also representative of Azobenzene. 1,2-Diphenylhydrazine rapidly decomposes to Azobenzene when exposed to water or heat. Analytical results from analysis of 1,2-Diphenylhydrazine will be directly compared to the applicable criteria for Azobenzene and/or 1,2-Diphenylhydrazine.

Metals By SW 6020B | **Batch: A181016-01 (604A)** | **Matrix: Aqueous**

QC
- Calibration Curve Linearity met QC criteria.
- Internal Standard Recovery met QC criteria.
- Method Blank met QC criteria.
- LCS Percent Recovery met QC criteria.
- MS Percent Recovery met QC criteria.
- RPD between Sample/Duplicate met QC criteria.
- Serial Dilution met QC criteria.

E18-08195
- Digestion Holding Time met requirement for each sample.
- Analysis Holding Time met requirement for each sample.
- Sample(s) used for aqueous Metals analyses contained varying levels of sediment. Precautions were taken to take an aliquot representative of the sample. However, due to the nature of aqueous samples containing sediment, reproduction of results may prove difficult. The rough amount of sediment present in the samples is as follows: 08195-001: 1%;.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E18-08195-001	1	NA
E18-08195-004	1	NA
E18-08195-005	1	NA

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE DELIVERY GROUP CASE NARRATIVE

SDG#: E18-08195

A review of the QA/QC measures for the analysis of the sample(s) contained in this report has been performed by:

Reviewed by	Date
	10/25/2018

RESULTS SUMMARY REPORT

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Environmental Waste Management Associates, LLC.
Project: 1 WAREHOUSE LANE - #207930
Lab Case No.: E18-08195

Lab ID:	08195-001			08195-002			08195-003			08195-004		
Client ID:	MW 3			MW 2			MW 2 DUP			MW 5		
Matrix:	Aqueous			Aqueous			Aqueous			Aqueous		
Sampled Date	10/11/18			10/11/18			10/11/18			10/11/18		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (Units)	*(ug/L)*			*(ug/L)*			*(ug/L)*			*(ug/L)*		
Benzene	50.0	D	0.288	ND		0.144	ND		0.144	ND		0.144
Ethylbenzene	2.05	D	0.540	ND		0.270	ND		0.270	ND		0.270
Total Xylenes	9.57	D	1.76	ND		0.881	ND		0.881	ND		0.881
Isopropylbenzene	30.1	D	0.772	ND		0.386	ND		0.386	ND		0.386
n-Propylbenzene	ND		0.720	ND		0.360	ND		0.360	ND		0.360
1,3,5-Trimethylbenzene	ND		0.776	ND		0.388	ND		0.388	ND		0.388
tert-Butylbenzene	ND		0.832	ND		0.416	ND		0.416	ND		0.416
1,2,4-Trimethylbenzene	ND		0.774	ND		0.387	ND		0.387	ND		0.387
sec-Butylbenzene	ND		0.852	ND		0.426	ND		0.426	ND		0.426
4-Isopropyltoluene	ND		0.890	ND		0.445	ND		0.445	ND		0.445
n-Butylbenzene	ND		0.844	ND		0.422	ND		0.422	ND		0.422
Naphthalene	ND		1.14	ND		0.569	ND		0.569	ND		0.569
m,p-Xylene	7.82	D	1.76	ND		0.881	ND		0.881	ND		0.881
o-Xylene	1.74	D	0.882	ND		0.441	ND		0.441	ND		0.441
Semivolatiles - BN (Units)	*(ug/L)*			*(ug/L)*			*(ug/L)*			*(ug/L)*		
Acenaphthylene	ND		0.160	ND		0.160	ND		0.160	ND		0.160
Acenaphthene	27.0		0.326	16.4		0.326	22.4		0.326	6.79		0.326
Fluorene	15.1		0.282	6.47		0.282	9.09		0.282	2.23		0.282
Phenanthrene	6.11		0.289	1.48		0.289	4.44		0.289	5.42		0.289
Anthracene	2.05		0.245	ND		0.245	ND		0.245	1.53		0.245
Fluoranthene	9.24		0.235	ND		0.235	ND		0.235	5.04		0.235
Pyrene	6.36		0.366	ND		0.366	ND		0.366	3.82		0.366
Benzo[a]anthracene	0.437	J	0.181	ND		0.181	ND		0.181	ND		0.181
Chrysene	0.575	J	0.462	ND		0.462	ND		0.462	ND		0.462
Benzo[b]fluoranthene	ND		0.224	ND		0.224	ND		0.224	ND		0.224
Benzo[k]fluoranthene	ND		0.326	ND		0.326	ND		0.326	ND		0.326
Benzo[a]pyrene	ND		0.138	ND		0.138	ND		0.138	ND		0.138
Indeno[1,2,3-cd]pyrene	ND		0.111	ND		0.111	ND		0.111	ND		0.111
Dibenz[a,h]anthracene	ND		0.146	ND		0.146	ND		0.146	ND		0.146
Benzo[g,h,i]perylene	ND		0.367	ND		0.367	ND		0.367	ND		0.367
Metals (Units)	*(ug/L)*			*(ug/L)*			*(ug/L)*			*(ug/L)*		
Lead	28.9		1.20	~		~	~		~	ND		1.20

~ = Sample not analyzed for
ND = Analyzed for but Not Detected at the MDL
J = Concentration detected at a value below the RL and above the MDL for target compounds. For non-target compounds (i.e. TICs), qualifier indicates estimated concentrations.
D = The compound was reported from the Diluted analysis

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Environmental Waste Management Associates, LLC.
Project: 1 WAREHOUSE LANE - #207930
Lab Case No.: E18-08195

Lab ID:	08195-005			08195-006		
Client ID:	FIELD BLANK			TRIP BLANK		
Matrix:	Aqueous			Aqueous		
Sampled Date	10/11/18			10/11/18		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL
Volatiles (Units)	*(ug/L)*			*(ug/L)*		
Benzene	ND		0.144	~		~
Ethylbenzene	ND		0.270	~		~
Total Xylenes	ND		0.881	~		~
Isopropylbenzene	ND		0.386	~		~
n-Propylbenzene	ND		0.360	~		~
1,3,5-Trimethylbenzene	ND		0.388	~		~
tert-Butylbenzene	ND		0.416	~		~
1,2,4-Trimethylbenzene	ND		0.387	~		~
sec-Butylbenzene	ND		0.426	~		~
4-Isopropyltoluene	ND		0.445	~		~
n-Butylbenzene	ND		0.422	~		~
Naphthalene	ND		0.569	~		~
m,p-Xylene	ND		0.881	~		~
o-Xylene	ND		0.441	~		~
Volatiles (Units)	*(ug/L)*			*(ug/L)*		
TOTAL VO's:	~		~	ND		
Semivolatiles - BN (Units)	*(ug/L)*			*(ug/L)*		
Acenaphthylene	ND		0.160	~		~
Acenaphthene	ND		0.326	~		~
Fluorene	ND		0.282	~		~
Phenanthrene	ND		0.289	~		~
Anthracene	ND		0.245	~		~
Fluoranthene	ND		0.235	~		~
Pyrene	ND		0.366	~		~
Benzo[a]anthracene	ND		0.181	~		~
Chrysene	ND		0.462	~		~
Benzo[b]fluoranthene	ND		0.224	~		~
Benzo[k]fluoranthene	ND		0.326	~		~
Benzo[a]pyrene	ND		0.138	~		~
Indeno[1,2,3-cd]pyrene	ND		0.111	~		~
Dibenz[a,h]anthracene	ND		0.146	~		~
Benzo[g,h,i]perylene	ND		0.367	~		~
Metals (Units)	*(ug/L)*			*(ug/L)*		
Lead	ND		1.20	~		~

~ = Sample not analyzed for
ND = Analyzed for but Not Detected at the MDL

ANALYTICAL RESULTS

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: E18-08195-001
Client ID: MW_3
Date Received: 10/11/2018
Date Analyzed: 10/23/2018
Data file: E7662.D 10/23/2018 07:02

GC/MS Column: DB-624
Sample wt/vol: 2.5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 2

Compound	Concentration	Q	RL	MDL
Benzene	50.0	D	1.00	0.288
Ethylbenzene	2.05	D	1.00	0.540
Total Xylenes	9.57	D	2.00	1.76
Isopropylbenzene	30.1	D	1.00	0.772
n-Propylbenzene	ND		1.00	0.720
1,3,5-Trimethylbenzene	ND		1.00	0.776
tert-Butylbenzene	ND		1.00	0.832
1,2,4-Trimethylbenzene	ND		1.00	0.774
sec-Butylbenzene	ND		1.00	0.852
4-Isopropyltoluene	ND		1.00	0.890
n-Butylbenzene	ND		1.00	0.844
Naphthalene	ND		2.00	1.14
m,p-Xylene	7.82	D	2.00	1.76
o-Xylene	1.74	D	1.00	0.882
Total Target Compounds (14):	91.7	D		

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: E18-08195-002
Client ID: MW_2
Date Received: 10/11/2018
Date Analyzed: 10/22/2018
Data file: E7646.D 10/22/2018 23:15

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Benzene	ND		0.500	0.144
Ethylbenzene	ND		0.500	0.270
Total Xylenes	ND		1.00	0.881
Isopropylbenzene	ND		0.500	0.386
n-Propylbenzene	ND		0.500	0.360
1,3,5-Trimethylbenzene	ND		0.500	0.388
tert-Butylbenzene	ND		0.500	0.416
1,2,4-Trimethylbenzene	ND		0.500	0.387
sec-Butylbenzene	ND		0.500	0.426
4-Isopropyltoluene	ND		0.500	0.445
n-Butylbenzene	ND		0.500	0.422
Naphthalene	ND		1.00	0.569
m,p-Xylene	ND		1.00	0.881
o-Xylene	ND		0.500	0.441

Total Target Compounds (14): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: E18-08195-003
Client ID: MW_2_DUP
Date Received: 10/11/2018
Date Analyzed: 10/22/2018
Data file: E7647.D 10/22/2018 23:44

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Benzene	ND		0.500	0.144
Ethylbenzene	ND		0.500	0.270
Total Xylenes	ND		1.00	0.881
Isopropylbenzene	ND		0.500	0.386
n-Propylbenzene	ND		0.500	0.360
1,3,5-Trimethylbenzene	ND		0.500	0.388
tert-Butylbenzene	ND		0.500	0.416
1,2,4-Trimethylbenzene	ND		0.500	0.387
sec-Butylbenzene	ND		0.500	0.426
4-Isopropyltoluene	ND		0.500	0.445
n-Butylbenzene	ND		0.500	0.422
Naphthalene	ND		1.00	0.569
m,p-Xylene	ND		1.00	0.881
o-Xylene	ND		0.500	0.441

Total Target Compounds (14): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: E18-08195-004
Client ID: MW_5
Date Received: 10/11/2018
Date Analyzed: 10/23/2018
Data file: E7648.D 10/23/2018 00:17

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Benzene	ND		0.500	0.144
Ethylbenzene	ND		0.500	0.270
Total Xylenes	ND		1.00	0.881
Isopropylbenzene	ND		0.500	0.386
n-Propylbenzene	ND		0.500	0.360
1,3,5-Trimethylbenzene	ND		0.500	0.388
tert-Butylbenzene	ND		0.500	0.416
1,2,4-Trimethylbenzene	ND		0.500	0.387
sec-Butylbenzene	ND		0.500	0.426
4-Isopropyltoluene	ND		0.500	0.445
n-Butylbenzene	ND		0.500	0.422
Naphthalene	ND		1.00	0.569
m,p-Xylene	ND		1.00	0.881
o-Xylene	ND		0.500	0.441

Total Target Compounds (14): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: E18-08195-005
Client ID: FIELD_BLANK
Date Received: 10/11/2018
Date Analyzed: 10/22/2018
Data file: E7645.D 10/22/2018 22:46

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Benzene	ND		0.500	0.144
Ethylbenzene	ND		0.500	0.270
Total Xylenes	ND		1.00	0.881
Isopropylbenzene	ND		0.500	0.386
n-Propylbenzene	ND		0.500	0.360
1,3,5-Trimethylbenzene	ND		0.500	0.388
tert-Butylbenzene	ND		0.500	0.416
1,2,4-Trimethylbenzene	ND		0.500	0.387
sec-Butylbenzene	ND		0.500	0.426
4-Isopropyltoluene	ND		0.500	0.445
n-Butylbenzene	ND		0.500	0.422
Naphthalene	ND		1.00	0.569
m,p-Xylene	ND		1.00	0.881
o-Xylene	ND		0.500	0.441

Total Target Compounds (14): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: E18-08195-006
Client ID: TRIP_BLANK
Date Received: 10/11/2018
Date Analyzed: 10/22/2018
Data file: E7644.D 10/22/2018 22:16

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Dichlorodifluoromethane	ND		1.00	0.490
Chloromethane	ND		0.500	0.317
Vinyl chloride	ND		1.00	0.149
Bromomethane	ND		1.00	0.356
Chloroethane	ND		0.500	0.390
Trichlorofluoromethane	ND		0.500	0.445
1,1-Dichloroethene	ND		0.500	0.409
Acetone	ND		2.00	1.95
Carbon disulfide	ND		1.00	0.220
Methylene chloride	ND		1.00	0.990
trans-1,2-Dichloroethene	ND		0.500	0.281
Methyl tert-butyl ether (MTBE)	ND		0.500	0.265
1,1-Dichloroethane	ND		0.500	0.193
cis-1,2-Dichloroethene	ND		0.500	0.156
2-Butanone (MEK)	ND		2.00	0.701
Bromochloromethane	ND		1.00	0.174
Chloroform	ND		0.500	0.163
1,1,1-Trichloroethane	ND		0.500	0.105
Carbon tetrachloride	ND		0.500	0.119
1,2-Dichloroethane (EDC)	ND		0.500	0.271
Benzene	ND		0.500	0.144
Trichloroethene	ND		0.500	0.205
1,2-Dichloropropane	ND		0.500	0.110
1,4-Dioxane	ND		100	36.7
Bromodichloromethane	ND		0.500	0.286
cis-1,3-Dichloropropene	ND		0.500	0.222
4-Methyl-2-pentanone (MIBK)	ND		1.00	0.795

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: E18-08195-006
Client ID: TRIP_BLANK
Date Received: 10/11/2018
Date Analyzed: 10/22/2018
Data file: E7644.D 10/22/2018 22:16

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Toluene	ND		0.500	0.174
trans-1,3-Dichloropropene	ND		0.500	0.241
1,1,2-Trichloroethane	ND		0.500	0.232
Tetrachloroethene	ND		0.500	0.270
2-Hexanone	ND		1.00	0.975
Dibromochloromethane	ND		0.500	0.381
1,2-Dibromoethane (EDB)	ND		0.500	0.260
Chlorobenzene	ND		0.500	0.278
Ethylbenzene	ND		0.500	0.270
Total Xylenes	ND		1.00	0.881
Styrene	ND		0.500	0.432
Bromoform	ND		0.500	0.423
Isopropylbenzene	ND		0.500	0.386
1,1,2,2-Tetrachloroethane	ND		1.00	0.791
1,3-Dichlorobenzene	ND		0.500	0.296
1,4-Dichlorobenzene	ND		0.500	0.392
1,2-Dichlorobenzene	ND		0.500	0.324
1,2-Dibromo-3-chloropropane	ND		1.00	0.572
1,2,4-Trichlorobenzene	ND		1.00	0.362
1,2,3-Trichlorobenzene	ND		1.00	0.513
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.00	0.347
Methyl acetate	ND		0.500	0.487
Cyclohexane	ND		1.00	0.548
Methylcyclohexane	ND		1.00	0.500
1,3-Dichloropropene (cis- and trans-)	ND		0.500	0.241

Total Target Compounds (52): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: E18-08195-001
Client ID: MW_3
Date Received: 10/11/2018
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6961.D 10/18/2018 14:51

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Acenaphthylene	ND		1.00	0.160
Acenaphthene	27.0		1.00	0.326
Fluorene	15.1		1.00	0.282
Phenanthrene	6.11		1.00	0.289
Anthracene	2.05		1.00	0.245
Fluoranthene	9.24		1.00	0.235
Pyrene	6.36		1.00	0.366
Benzo[a]anthracene	0.437	J	1.00	0.181
Chrysene	0.575	J	1.00	0.462
Benzo[b]fluoranthene	ND		1.00	0.224
Benzo[k]fluoranthene	ND		1.00	0.326
Benzo[a]pyrene	ND		1.00	0.138
Indeno[1,2,3-cd]pyrene	ND		1.00	0.111
Dibenz[a,h]anthracene	ND		1.00	0.146
Benzo[g,h,i]perylene	ND		1.00	0.367
Total Target Compounds (15):	66.9	J		

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve
B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: E18-08195-002
Client ID: MW_2
Date Received: 10/11/2018
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6962.D 10/18/2018 15:06

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Acenaphthylene	ND		1.00	0.160
Acenaphthene	16.4		1.00	0.326
Fluorene	6.47		1.00	0.282
Phenanthrene	1.48		1.00	0.289
Anthracene	ND		1.00	0.245
Fluoranthene	ND		1.00	0.235
Pyrene	ND		1.00	0.366
Benzo[a]anthracene	ND		1.00	0.181
Chrysene	ND		1.00	0.462
Benzo[b]fluoranthene	ND		1.00	0.224
Benzo[k]fluoranthene	ND		1.00	0.326
Benzo[a]pyrene	ND		1.00	0.138
Indeno[1,2,3-cd]pyrene	ND		1.00	0.111
Dibenz[a,h]anthracene	ND		1.00	0.146
Benzo[g,h,i]perylene	ND		1.00	0.367

Total Target Compounds (15): 24.4

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: E18-08195-003
Client ID: MW_2_DUP
Date Received: 10/11/2018
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6963.D 10/18/2018 15:22

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Acenaphthylene	ND		1.00	0.160
Acenaphthene	22.4		1.00	0.326
Fluorene	9.09		1.00	0.282
Phenanthrene	4.44		1.00	0.289
Anthracene	ND		1.00	0.245
Fluoranthene	ND		1.00	0.235
Pyrene	ND		1.00	0.366
Benzo[a]anthracene	ND		1.00	0.181
Chrysene	ND		1.00	0.462
Benzo[b]fluoranthene	ND		1.00	0.224
Benzo[k]fluoranthene	ND		1.00	0.326
Benzo[a]pyrene	ND		1.00	0.138
Indeno[1,2,3-cd]pyrene	ND		1.00	0.111
Dibenz[a,h]anthracene	ND		1.00	0.146
Benzo[g,h,i]perylene	ND		1.00	0.367

Total Target Compounds (15): 35.9

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve
B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: E18-08195-004
Client ID: MW_5
Date Received: 10/11/2018
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6964.D 10/18/2018 15:38

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Acenaphthylene	ND		1.00	0.160
Acenaphthene	6.79		1.00	0.326
Fluorene	2.23		1.00	0.282
Phenanthrene	5.42		1.00	0.289
Anthracene	1.53		1.00	0.245
Fluoranthene	5.04		1.00	0.235
Pyrene	3.82		1.00	0.366
Benzo[a]anthracene	ND		1.00	0.181
Chrysene	ND		1.00	0.462
Benzo[b]fluoranthene	ND		1.00	0.224
Benzo[k]fluoranthene	ND		1.00	0.326
Benzo[a]pyrene	ND		1.00	0.138
Indeno[1,2,3-cd]pyrene	ND		1.00	0.111
Dibenz[a,h]anthracene	ND		1.00	0.146
Benzo[g,h,i]perylene	ND		1.00	0.367

Total Target Compounds (15): 24.8

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: E18-08195-005
Client ID: FIELD_BL
Date Received: 10/11/2018
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6965.D 10/18/2018 15:54

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Acenaphthylene	ND		1.00	0.160
Acenaphthene	ND		1.00	0.326
Fluorene	ND		1.00	0.282
Phenanthrene	ND		1.00	0.289
Anthracene	ND		1.00	0.245
Fluoranthene	ND		1.00	0.235
Pyrene	ND		1.00	0.366
Benzo[a]anthracene	ND		1.00	0.181
Chrysene	ND		1.00	0.462
Benzo[b]fluoranthene	ND		1.00	0.224
Benzo[k]fluoranthene	ND		1.00	0.326
Benzo[a]pyrene	ND		1.00	0.138
Indeno[1,2,3-cd]pyrene	ND		1.00	0.111
Dibenz[a,h]anthracene	ND		1.00	0.146
Benzo[g,h,i]perylene	ND		1.00	0.367

Total Target Compounds (15): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Lead

Client/Project: EWMA1 WAREHOUSE LANE - #207930

Batch #: 604
Date Received: 10/11/18 16:10
Method: SW 6020B

Lab ID	Client ID	Result	Q	DF	Matrix-Unit	RL	MDL	% Moist	Date Collected	Date Analyzed
E18-08195-001	MW 3	28.9		1	Aqueous-ug/L	2.00	1.20	100	10/11/18 10:43	10/17/18 16:39
E18-08195-004	MW 5	ND		1	Aqueous-ug/L	2.00	1.20	100	10/11/18 13:30	10/17/18 16:44
E18-08195-005	FIELD BLANK	ND		1	Aqueous-ug/L	2.00	1.20	100	10/11/18 11:50	10/17/18 14:22

ND = Analyzed for but Not Detected at the MDL

VOLATILE ORGANICS

VOLATILE ORGANICS QC SUMMARY

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 10/22/2018

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
BLKA181022A	AQUEOUS	E7643.D	97	101	103
E18-08195-006	AQUEOUS	E7644.D	124	104	107
E18-08195-005	AQUEOUS	E7645.D	119	103	107
E18-08195-002	AQUEOUS	E7646.D	121	104	107
E18-08195-003	AQUEOUS	E7647.D	118	107	107
E18-08195-004	AQUEOUS	E7648.D	115	108	106
E18-08312-012	AQUEOUS	E7650.D	117	106	103
E18-08312-011	AQUEOUS	E7651.D	101	98	108
E18-08312-003	AQUEOUS	E7652.D	101	105	103
E18-08312-005	AQUEOUS	E7653.D	95	104	102
E18-08312-007	AQUEOUS	E7654.D	100	101	105
E18-08312-009	AQUEOUS	E7655.D	100	100	103
E18-08312-010	AQUEOUS	E7656.D	97	101	104
E18-08312-001	AQUEOUS	E7657.D	95	102	108
E18-08312-002	AQUEOUS	E7658.D	108	121	106
E18-08312-004	AQUEOUS	E7659.D	95	103	100
E18-08312-006	AQUEOUS	E7660.D	96	102	102
E18-08312-008	AQUEOUS	E7661.D	98	101	105
E18-08195-001	AQUEOUS	E7662.D	93	102	109
LCSA181022A	AQUEOUS	E7663.D	92	106	110
LCSDA181022A	AQUEOUS	E7664.D	89	106	111

	Concentration	DKQPs	Leachate Aqueous/Meoh	Soil
SMC1 = 1,2-Dichloroethane-d4	50 ppb	70-130	59-138	43-133
SMC2 = Toluene-d8	50 ppb	70-130	40-133	39-137
SMC3 = Bromofluorobenzene	50 ppb	70-130	42-152	45-145

Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
D Surrogate diluted out
M Matrix interference

8260

LCS/LCSD ACCURACY REPORT

Lab ID: BLANK
Client ID: BLANK
Date Received: NA
Date Analyzed: 10/23/2018
LCS Data file: E7663.D
LCSD Data file: E7664.D

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. LCS	%Rec. LCS	#	Conc. LCSD	%Rec. LCSD	#	% RPD	#	Limits
Dichlorodifluoromethane	50.0	0.0	38.5	77		36.0	72		7		39-167/21
Chloromethane	50.0	0.0	37.8	76		36.1	72		5		32-153/20
Vinyl chloride	50.0	0.0	45.5	91		41.0	82		10		47-162/19
Bromomethane	50.0	0.0	51.6	103		50.1	100		3		38-172/22
Chloroethane	50.0	0.0	53.7	107		52.3	105		3		46-163/20
Trichlorofluoromethane	50.0	0.0	48.0	96		40.8	82		16		45-168/21
Acrolein	150	0.0	159	106		153	102		4		15-159/24
1,1-Dichloroethene	50.0	0.0	44.4	89		39.1	78		13		42-157/19
Acetone	100	0.0	95.6	96		91.0	91		5		12-167/26
Carbon disulfide	50.0	0.0	44.2	88		41.2	82		7		45-165/20
Vinyl acetate	50.0	0.0	42.9	86		39.0	78		10		39-156/20
Methylene chloride	50.0	0.0	47.4	95		40.8	82		15		42-159/19
Acrylonitrile	150	0.0	180	120		189	126		5		47-164/20
tert-Butyl alcohol (TBA)	100	0.0	92.6	93		92.1	92		1		30-165/23
trans-1,2-Dichloroethene	50.0	0.0	47.4	95		43.0	86		10		42-159/20
Methyl tert-butyl ether (MTBE)	50.0	0.0	52.5	105		50.6	101		4		43-157/19
1,1-Dichloroethane	50.0	0.0	47.5	95		44.3	89		7		34-164/22
Diisopropyl ether (DIPE)	50.0	0.0	49.3	99		45.1	90		9		44-161/20
cis-1,2-Dichloroethene	50.0	0.0	49.8	100		45.8	92		8		39-162/20
2,2-Dichloropropane	50.0	0.0	35.6	71		41.2	82		15		42-171/22
2-Butanone (MEK)	100	0.0	103.9	104		95.3	95		9		18-162/24
Bromochloromethane	50.0	0.0	49.3	99		45.9	92		7		39-155/19
Chloroform	50.0	0.0	48.8	98		45.4	91		7		42-160/20
1,1,1-Trichloroethane	50.0	0.0	46.6	93		45.4	91		3		44-167/21
Carbon tetrachloride	50.0	0.0	44.0	88		41.6	83		6		41-166/21
1,1-Dichloropropene	50.0	0.0	46.9	94		43.0	86		9		40-159/20
1,2-Dichloroethane (EDC)	50.0	0.0	46.8	94		43.2	86		8		40-163/21
Benzene	50.0	0.0	49.3	99		47.6	95		4		38-159/20
Trichloroethene	50.0	0.0	50.3	101		50.2	100		0		40-156/19
1,2-Dichloropropane	50.0	0.0	51.3	103		48.8	98		5		37-160/21
Dibromomethane	50.0	0.0	50.6	101		49.0	98		3		38-155/20
1,4-Dioxane	1,500	0.0	1749	117		1626	108		7		14-202/31
Bromodichloromethane	50.0	0.0	49.8	100		48.2	96		3		33-167/22
2-Chloroethyl vinyl ether	100	0.0	103.7	104		98.7	99		5		0-205/49
cis-1,3-Dichloropropene	50.0	0.0	51.8	104		49.3	99		5		37-162/21
4-Methyl-2-pentanone (MIBK)	100	0.0	100.6	101		95.7	96		5		21-165/24
Toluene	50.0	0.0	51.2	102		48.5	97		5		38-157/20
trans-1,3-Dichloropropene	50.0	0.0	51.9	104		50.4	101		3		40-159/20
1,1,2-Trichloroethane	50.0	0.0	53.5	107		50.9	102		5		39-160/20
Tetrachloroethene	50.0	0.0	47.5	95		45.6	91		4		32-162/22
1,3-Dichloropropane	50.0	0.0	53.3	107		52.2	104		2		39-159/20

INTEGRATED ANALYTICAL LABORATORIES

LCS/LCSD ACCURACY REPORT

Lab ID: BLANK
Client ID: BLANK
Date Received: NA
Date Analyzed: 10/23/2018
LCS Data file: E7663.D
LCSD Data file: E7664.D

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. LCS	%Rec. LCS	#	Conc. LCSD	%Rec. LCSD	% RPD	#	Limits
2-Hexanone	100	0.0	115.3	115		110.8	111	4		14-165/25
Dibromochloromethane	50.0	0.0	51.7	103		49.7	99	4		34-164/22
1,2-Dibromoethane (EDB)	50.0	0.0	53.3	107		51.5	103	3		38-151/19
Chlorobenzene	50.0	0.0	42.5	85		40.7	81	4		33-157/21
1,1,1,2-Tetrachloroethane	50.0	0.0	41.3	83		41.2	82	0		32-165/22
Ethylbenzene	50.0	0.0	45.2	90		43.4	87	4		28-160/22
m,p-Xylene	100	0.0	92.2	92		88.9	89	4		25-165/23
o-Xylene	50.0	0.0	47.6	95		45.4	91	5		23-165/24
Styrene	50.0	0.0	48.3	97		46.5	93	4		29-166/23
Bromoform	50.0	0.0	40.7	81		40.2	80	1		16-173/26
Isopropylbenzene	50.0	0.0	49.4	99		47.2	94	5		23-166/24
1,1,2,2-Tetrachloroethane	50.0	0.0	39.1	78		36.3	73	7		21-160/23
Bromobenzene	50.0	0.0	42.6	85		41.4	83	3		23-163/23
1,2,3-Trichloropropane	50.0	0.0	44.4	89		43.0	86	3		25-157/22
n-Propylbenzene	50.0	0.0	46.6	93		45.0	90	3		35-156/20
2-Chlorotoluene	50.0	0.0	43.6	87		42.3	85	3		35-150/19
1,3,5-Trimethylbenzene	50.0	0.0	46.4	93		45.2	90	3		39-154/19
4-Chlorotoluene	50.0	0.0	43.6	87		42.4	85	3		31-156/21
tert-Butylbenzene	50.0	0.0	49.0	98		46.8	94	5		36-157/20
1,2,4-Trimethylbenzene	50.0	0.0	50.0	100		48.7	97	3		38-156/20
sec-Butylbenzene	50.0	0.0	48.3	97		46.4	93	4		40-157/20
1,3-Dichlorobenzene	50.0	0.0	42.1	84		41.4	83	2		28-159/22
4-Isopropyltoluene	50.0	0.0	46.3	93		44.6	89	4		36-159/20
1,4-Dichlorobenzene	50.0	0.0	42.5	85		41.6	83	2		28-156/21
n-Butylbenzene	50.0	0.0	47.3	95		46.5	93	2		34-158/21
1,2-Dichlorobenzene	50.0	0.0	42.7	85		40.6	81	5		31-155/21
1,2-Dibromo-3-chloropropane	50.0	0.0	46.6	93		47.3	95	1		32-151/20
1,2,4-Trichlorobenzene	50.0	0.0	51.2	102		50.8	102	1		32-156/21
Hexachlorobutadiene	50.0	0.0	43.1	86		39.5	79	9		34-158/21
Naphthalene	50.0	0.0	54.0	108		53.4	107	1		28-160/22
1,2,3-Trichlorobenzene	50.0	0.0	54.8	110		56.8	114	4		29-160/22
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	0.0	34.9	70		38.5	77	10		30-170/23
Methyl acetate	50.0	0.0	37.7	75		38.2	76	1		31-153/20
Cyclohexane	50.0	0.0	40.6	81		36.5	73	11		22-171/25
Methylcyclohexane	50.0	0.0	44.4	89		39.5	79	12		29-165/23

	Leachate Aqueous/Meoh	Soil/Sediment
LCS/LCSD Recovery Limits (DKQP)	70-130	70-130
LCS/LCSD RPD Limits (DKQP)	20	30

Column used to flag recovery and RPD values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
NC Not calculable

INTEGRATED ANALYTICAL LABORATORIES

LCS/LCSD ACCURACY REPORT

Lab ID: BLANK
Client ID: BLANK
Date Received: NA
Date Analyzed: 10/23/2018
LCS Data file: E7663.D
LCSD Data file: E7664.D

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	%RP	#

2-Chloroethyl vinyl ether has zero spike recovery in the MS/MSD. This is due to the HCL acid preservation used on the samples. It is a known phenomenon, that this compound decomposes in the presence of acid.

As per SW-846 8260C, up to 10% of the compounds may be out , but may be within 40-160%
As per NJDEP DKQPs, only the following compounds may be in the 40-160% range:
Acetone; Bromomethane; 2-Butanone (MEK); Carbon disulfide; Chloroethane; Chloromethane
1,2-Dibromo-3-chloropropane; Dichlorodifluoromethane; 1,4-Dioxane; 2-Hexanone
Naphthalene; 4-Methyl-2-pentanone (MIBK); Trichlorofluoromethane

	Leachate Aqueous/Meoh	Soil/Sediment
LCS/LCSD Recovery Limits (DKQP)	70-130	70-130
LCS/LCSD RPD Limits (DKQP)	30/20	30/30

Column used to flag recovery and RPD values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
NC Not calculable

VOLATILE METHOD BLANK SUMMARY

Lab File ID: E7643.D Instrument ID: MSD_E

Date Analyzed: 10/22/2018 Time Analyzed: 21:47

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
TRIP_BLANK	E18-08195-006	10/22/2018	22:16
FIELD_BLANK	E18-08195-005	10/22/2018	22:46
MW_2	E18-08195-002	10/22/2018	23:15
MW_2_DUP	E18-08195-003	10/22/2018	23:44
MW_5	E18-08195-004	10/23/2018	0:17
FIELD__BLANK	E18-08312-012	10/23/2018	1:10
FIELD__BLANK	E18-08312-011	10/23/2018	1:39
MW-3	E18-08312-003	10/23/2018	2:09
MW-5D	E18-08312-005	10/23/2018	2:38
MW-7	E18-08312-007	10/23/2018	3:08
MW-8	E18-08312-009	10/23/2018	3:37
MW-8D	E18-08312-010	10/23/2018	4:06
MW-1D	E18-08312-001	10/23/2018	4:35
MW-2D	E18-08312-002	10/23/2018	5:05
MW-4D	E18-08312-004	10/23/2018	5:34
MW-6D	E18-08312-006	10/23/2018	6:03
MW-7D	E18-08312-008	10/23/2018	6:33
MW_3	E18-08195-001	10/23/2018	7:02
LCSA_50PPB	LCSA181022A	10/23/2018	7:32
LCSDA_50PPB	LCSDA181022A	10/23/2018	8:01

FORM 4

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E7485.D BFB Injection Date: 10/10/2018

Inst ID: MSD_E BFB Injection Time: 8:20

m/z	Ion Abudance Criteria	%Relative Abundance	
50	15 - 40.0% of mass 95	28.6	
75	30.0 - 60.0% of mass 95	46.6	
95	Base peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	7.2	
173	Less than 2.0% of mass 174	1.9	(1.9)1
174	Great than 50.0% of mass 95	99.9	
175	5.0 - 9.0% of mass 174	6.5	(6.5)1
176	95.0 - 101.0% of mass 174	99.7	(99.8)1
177	5.0 - 9.0% of mass 176	5.4	(5.4)2
	1-Value is % mass 174	2-Value is % mass 176	

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
ICC181010	ICC100	E7490.D	10/10/2018	10:45
ICC181010	ICC00.5	E7486.D	10/10/2018	8:49
ICC181010	ICC001	E7487.D	10/10/2018	9:18
ICC181010	ICC005	E7488.D	10/10/2018	9:47
ICC181010	ICC020	E7489.D	10/10/2018	10:16
ICC181010	ICC150	E7491.D	10/10/2018	11:14
ICC181010	ICC200	E7492.D	10/10/2018	11:43
ICV181010	ICV100	E7493.D	10/10/2018	12:13

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E7640.D

BFB Injection Date: 10/22/2018

Inst ID: MSD_E

BFB Injection Time: 20:19

m/z	Ion Abudance Criteria	%Relative Abundance			
50	15 - 40.0% of mass 95	22.2			
75	30.0 - 60.0% of mass 95	46.3			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.2			
173	Less than 2.0% of mass 174	1.7	(	1.7	)1
174	Great than 50.0% of mass 95	99.8			
175	5.0 - 9.0% of mass 174	6.4	(	6.4	)1
176	95.0 - 101.0% of mass 174	99.8	(	100.0	)1
177	5.0 - 9.0% of mass 176	6.1	(	6.1	)2
	1-Value is % mass 174	2-Value is % mass 176			

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
CCV100	CCV181022a	E7642.D	10/22/2018	21:18
BLKA181022A	BLKA181022A	E7643.D	10/22/2018	21:47
TRIP_BLANK	E18-08195-006	E7644.D	10/22/2018	22:16
FIELD_BLANK	E18-08195-005	E7645.D	10/22/2018	22:46
MW_2	E18-08195-002	E7646.D	10/22/2018	23:15
MW_2_DUP	E18-08195-003	E7647.D	10/22/2018	23:44
MW_5	E18-08195-004	E7648.D	10/23/2018	0:17
FIELD__BLANK	E18-08312-012	E7650.D	10/23/2018	1:10
FIELD__BLANK	E18-08312-011	E7651.D	10/23/2018	1:39
MW-3	E18-08312-003	E7652.D	10/23/2018	2:09
MW-5D	E18-08312-005	E7653.D	10/23/2018	2:38
MW-7	E18-08312-007	E7654.D	10/23/2018	3:08
MW-8	E18-08312-009	E7655.D	10/23/2018	3:37
MW-8D	E18-08312-010	E7656.D	10/23/2018	4:06
MW-1D	E18-08312-001	E7657.D	10/23/2018	4:35
MW-2D	E18-08312-002	E7658.D	10/23/2018	5:05
MW-4D	E18-08312-004	E7659.D	10/23/2018	5:34
MW-6D	E18-08312-006	E7660.D	10/23/2018	6:03
MW-7D	E18-08312-008	E7661.D	10/23/2018	6:33

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: E7640.D

BFB Injection Date : 10/22/201

Inst ID: MSD_E

BFB Injection Time: 20:19

m/z	Ion Abudance Criteria	%Relative Abundance			
50	15 - 40.0% of mass 95	22.2			
75	30.0 - 60.0% of mass 95	46.3			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.2			
173	Less than 2.0% of mass 174	1.7	(	1.7	)1
174	Great than 50.0% of mass 95	99.8			
175	5.0 - 9.0% of mass 174	6.4	(	6.4	)1
176	95.0 - 101.0% of mass 174	99.8	(	100.0	)1
177	5.0 - 9.0% of mass 176	6.1	(	6.1	)2
	1-Value is % mass 174	2-Value is % mass 176			

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
MW_3	E18-08195-001	E7662.D	10/23/2018	7:02
LCSA_50PPB	LCSA181022A	E7663.D	10/23/2018	7:32
LCSDA_50PPB	LCSDA181022A	E7664.D	10/23/2018	8:01

Response Factor Report MSD_E

Method Path : C:\MSDCHEM\1\METHODS\
Method File : E8101018.M
Title : VOLATILE ORGANICS BY EPA METHOD 8260C
Last Update : Thu Oct 11 09:31:47 2018
Response Via : Initial Calibration

Calibration Files
0.5 =E7486.D 1.0 =E7487.D 5.0 =E7488.D
20. =E7489.D 100 =E7490.D 150 =E7491.D 200 =E7492.D

		Compound	0.5	1.0	5.0	20.	100	150	200	Avg	%RSD
1)	I	Pentafluorobenzene	----------ISTD----------								
2)	T	Dichlorodifluorom		0.691	0.663	0.681	0.642	0.597	0.559	0.639	8.03
3)	P	Chloromethane	1.384	1.193	1.181	1.132	1.138	1.147	1.082	1.179	8.22
4)	C	Vinyl chloride		0.712	0.719	0.673	0.644	0.629	0.624	0.667	6.25
5)	T	Bromomethane		0.266	0.294	0.250	0.223	0.218	0.209	0.243	13.50
6)	T	Chloroethane	0.258	0.282	0.304	0.252	0.240	0.237	0.238	0.259	9.89
7)	T	Trichlorofluorome	0.561	0.413	0.617	0.619	0.661	0.642	0.655	0.595	14.61
8)	T	Acrolein	0.023	0.028	0.022	0.020	0.019	0.019	0.019	0.022	15.43
9)	MC	1,1-Dichloroethen	0.708	0.557	0.568	0.533	0.512	0.452	0.452	0.540	16.15
10)	T	Acetone		0.406	0.326	0.331	0.284	0.276	0.269	0.315	16.31
11)	T	Carbon disulfide		2.540	2.717	2.645	2.491	2.331	2.343	2.511	6.23
12)	T	Vinyl acetate		0.531	0.529	0.544	0.494	0.490	0.496	0.514	4.56
13)	T	Methylene chlorid		0.692	0.693	0.683	0.623	0.601	0.583	0.646	7.66
14)	T	Acrylonitrile	0.297	0.302	0.241	0.262	0.282	0.258	0.246	0.270	8.98
15)	T	tert-Butyl alcoho		0.051	0.054	0.055	0.046	0.048	0.052	0.051	6.86
16)	T	trans-1,2-Dichlor	0.693	0.605	0.630	0.646	0.616	0.581	0.568	0.620	6.78
17)	T	Methyl tert-butyl	1.584	1.150	1.239	1.425	1.349	1.331	1.327	1.344	10.23
18)	P	1,1-Dichloroethan	1.538	1.388	1.467	1.465	1.382	1.328	1.313	1.411	5.79
19)	T	Diisopropyl ether	2.656	2.027	2.526	3.072	2.962	2.876	2.846	2.709	12.99
20)	T	cis-1,2-Dichloroe	0.804	0.544	0.666	0.694	0.672	0.657	0.640	0.668	11.49
21)	T	2,2-Dichloropropa	0.774	0.528	0.541	0.621	0.542	0.485	0.469	0.565	18.39
22)	T	2-Butanone (MEK)		0.365	0.284	0.355	0.315	0.318	0.317	0.326	9.10
23)	T	Bromochloromethan		0.303	0.350	0.335	0.315	0.301	0.302	0.318	6.42
24)	T	Tetrahydrofuran								0.000	-1.00
25)	C	Chloroform	1.291	1.042	1.109	1.124	1.053	1.009	1.007	1.091	9.10
26)	T	1,1,1-Trichloroet	0.994	0.588	0.867	0.869	0.824	0.762	0.773	0.811	15.43
27)	T	Carbon tetrachlor	0.986	0.740	0.812	0.805	0.778	0.729	0.730	0.797	11.31
28)	T	1,1-Dichloroprope	0.908	0.750	0.763	0.812	0.808	0.755	0.761	0.794	7.10
29)	T	1,2-Dichloroethan	1.243	0.967	0.927	0.931	0.889	0.869	0.863	0.955	13.83
30)	S	1,2-Dichloroethan	0.559	0.575	0.559	0.546	0.548	0.523	0.535	0.549	3.11
31)	I	1,4-Difluorobenzene	----------ISTD----------								
32)	M	Benzene	1.661	1.336	1.478	1.511	1.408	1.362	1.344	1.443	8.11
33)	M	Trichloroethene	0.524	0.334	0.382	0.344	0.331	0.326	0.331	0.368	19.44
34)	C	1,2-Dichloropropa	0.460	0.451	0.440	0.444	0.416	0.408	0.409	0.433	4.94
35)	T	Dibromomethane	0.282	0.185	0.187	0.207	0.189	0.185	0.185	0.203	17.66
36)	T	1,4-Dioxane	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	19.56
37)	T	Bromodichlorometh	0.618	0.414	0.414	0.458	0.432	0.431	0.425	0.456	16.03
38)	T	2-Chloroethyl vin		0.226	0.220	0.222	0.208	0.204	0.205	0.214	4.54
39)	T	cis-1,3-Dichlorop	0.542	0.340	0.412	0.508	0.484	0.494	0.497	0.468	14.63
40)	T	4-Methyl-2-pentan	0.472	0.370	0.310	0.372	0.320	0.326	0.321	0.356	16.00
41)	S	Toluene-d8	0.997	0.993	1.032	1.017	1.033	1.019	1.026	1.017	1.58
42)	MC	Toluene	1.075	0.768	0.827	0.883	0.816	0.811	0.799	0.854	12.10
43)	T	trans-1,3-Dichlor	0.483	0.329	0.346	0.409	0.406	0.415	0.408	0.400	12.62
44)	T	1,1,2-Trichloroet	0.289	0.267	0.205	0.224	0.204	0.211	0.205	0.229	15.06
45)	T	Tetrachloroethene	0.484	0.365	0.344	0.368	0.348	0.335	0.333	0.368	14.31
46)	T	1,3-Dichloropropa	0.633	0.422	0.422	0.456	0.413	0.419	0.409	0.453	17.77
47)	T	2-Hexanone	0.308	0.225	0.225	0.288	0.248	0.248	0.239	0.254	12.51
48)	T	Dibromochlorometh	0.255	0.225	0.241	0.258	0.243	0.237	0.237	0.242	4.69
49)	T	1,2-Dibromoethane	0.378	0.244	0.251	0.279	0.247	0.253	0.249	0.272	17.81
50)	I	Chlorobenzene-d5	----------ISTD----------								
51)	MP	Chlorobenzene	1.095	1.084	0.995	1.075	0.991	0.980	0.950	1.024	5.71
52)	T	1,1,1,2-Tetrachlo	0.418	0.372	0.334	0.387	0.351	0.349	0.344	0.365	8.10
53)	C	Ethylbenzene	1.924	1.415	1.476	1.753	1.675	1.636	1.603	1.640	10.37

Response Factor Report MSD_E

Method Path : C:\MSDCHEM\1\METHODS\
Method File : E8101018.M
Title : VOLATILE ORGANICS BY EPA METHOD 8260C
Last Update : Thu Oct 11 09:31:47 2018
Response Via : Initial Calibration

Calibration Files
0.5 =E7486.D 1.0 =E7487.D 5.0 =E7488.D
20. =E7489.D 100 =E7490.D 150 =E7491.D 200 =E7492.D

		Compound	0.5	1.0	5.0	20.	100	150	200	Avg	%RSD
54)	T	m,p-Xylene	0.728	0.517	0.587	0.736	0.672	0.645	0.618	0.643	12.10
55)	T	o-Xylene	0.684	0.500	0.550	0.716	0.692	0.684	0.661	0.641	12.80
56)	T	Styrene	1.117	0.681	0.906	1.148	1.110	1.109	1.069	1.020	16.63
57)	P	Bromoform	0.278	0.236	0.257	0.203	0.195	0.198	0.196	0.223	15.21
58)	T	Isopropylbenzene	1.343	1.001	1.230	1.657	1.663	1.621	1.591	1.444	17.85
59)	S	Bromofluorobenzen	0.447	0.462	0.466	0.488	0.494	0.510	0.490	0.479	4.56
60)	P	1,1,2,2-Tetrachlo		0.489	0.358	0.379	0.347	0.336	0.326	0.373	16.04
61)	T	Bromobenzene	0.547	0.413	0.413	0.459	0.439	0.426	0.416	0.445	10.82
62)	T	1,2,3-Trichloropr		0.416	0.346	0.336	0.297	0.286	0.283	0.327	15.51
63)	T	n-Propylbenzene	1.997	1.514	1.689	2.052	1.976	1.922	1.874	1.861	10.34
64)	T	2-Chlorotoluene	1.621	1.030	1.067	1.267	1.196	1.172	1.135	1.213	16.22
65)	T	1,3,5-Trimethylbe	1.430	0.990	1.177	1.486	1.433	1.396	1.369	1.326	13.40
66)	T	4-Chlorotoluene	1.621	1.241	1.290	1.385	1.331	1.314	1.267	1.350	9.49
67)	T	tert-Butylbenzene	1.036	0.723	0.865	1.198	1.218	1.189	1.159	1.055	18.24
68)	T	1,2,4-Trimethylbe	1.048	0.854	1.036	1.431	1.392	1.347	1.321	1.204	18.42
69)	T	sec-Butylbenzene	1.488	1.189	1.400	1.791	1.765	1.703	1.686	1.575	14.16
70)	T	1,3-Dichlorobenze	1.149	0.785	0.805	0.870	0.837	0.826	0.790	0.866	14.79
71)	T	4-Isopropyltoluen	1.359	0.899	1.057	1.419	1.362	1.339	1.296	1.247	15.46
72)	T	1,4-Dichlorobenze	1.154	0.719	0.784	0.882	0.834	0.824	0.790	0.855	16.50
73)	T	n-Butylbenzene	1.002	0.837	0.953	1.300	1.306	1.261	1.232	1.127	17.03
74)	T	1,2-Dichlorobenze	1.225	0.790	0.782	0.873	0.807	0.797	0.759	0.862	19.01
75)	T	1,2-Dibromo-3-chl		0.052	0.047	0.048	0.047	0.048	0.047	0.048	3.93
76)	T	1,2,4-Trichlorobe		0.236	0.247	0.324	0.343	0.365	0.357	0.312	18.12
77)	T	Hexachlorobutadie			0.148	0.168	0.157	0.151	0.151	0.155	4.96
78)	T	Naphthalene		0.669	0.691	0.650	0.759	0.792	0.791	0.725	8.71
79)	T	1,2,3-Trichlorobe		0.228	0.176	0.255	0.259	0.275	0.272	0.244	15.32
80)	T	1,1,2-Trichloro-1		0.338	0.337	0.336	0.315	0.268	0.256	0.308	12.03
81)	T	Methyl acetate	0.478	0.331	0.332	0.352	0.308	0.305	0.304	0.344	17.91
82)	T	Cyclohexane		0.822	1.037	1.081	0.972	0.863	0.834	0.935	11.82
83)	T	Methylcyclohexane		0.463	0.512	0.633	0.600	0.541	0.515	0.544	11.53

(#) = Out of Range ### Number of calibration levels exceeded format ###

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA\E\10-10-18\
Data File : E7493.D
Acq On : 10 Oct 2018 12:13
Operator : Sylvia
Sample : ICV181010,ICV100,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 11 13:38:05 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 35% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	1.000	1.000	0.0	125	0.00
2	T	Dichlorodifluoromethane	0.639	0.537	16.0	104	0.01
3	P	Chloromethane	1.179	1.031	12.6	113	0.01
4	C	Vinyl chloride	0.667	0.542	18.7	105	0.02
5	T	Bromomethane	0.243	0.199	18.1	111	-0.01
6	T	Chloroethane	0.259	0.229	11.6	119	0.00
7	T	Trichlorofluoromethane	0.595	0.541	9.1	102	0.04
8	T	Acrolein	0.022	0.021	4.5	133	0.00
9	MC	1,1-Dichloroethene	0.540	0.493	8.7	120	0.00
10	T	Acetone	0.315	0.297	5.7	131	0.01
11	T	Carbon disulfide	2.511	2.076	17.3	104	0.00
12	T	Vinyl acetate	0.514	0.472	8.2	119	0.00
13	T	Methylene chloride	0.646	0.526	18.6	105	0.00
14	T	Acrylonitrile	0.270	0.257	4.8	113	0.00
15	T	tert-Butyl alcohol (TBA)	0.051	0.048	5.9	129	0.00
16	T	trans-1,2-Dichloroethene	0.620	0.588	5.2	119	0.01
17	T	Methyl tert-butyl ether (MT	1.344	1.249	7.1	115	0.00
18	P	1,1-Dichloroethane	1.411	1.164	17.5	105	0.00
19	T	Diisopropyl ether (DIPE)	2.709	2.478	8.5	104	0.00
20	T	cis-1,2-Dichloroethene	0.668	0.557	16.6	103	0.00
21	T	2,2-Dichloropropane	0.565	0.598	-5.8	137	0.00
22	T	2-Butanone (MEK)	0.326	0.297	8.9	118	0.00
23	T	Bromochloromethane	0.318	0.275	13.5	109	-0.01
24	T	Tetrahydrofuran	0.000	0.000	0.0	99	0.00
25	C	Chloroform	1.091	0.983	9.9	116	0.00
26	T	1,1,1-Trichloroethane	0.811	0.716	11.7	108	0.00
27	T	Carbon tetrachloride	0.797	0.658	17.4	105	0.00
28	T	1,1-Dichloropropene	0.794	0.688	13.4	106	0.00
29	T	1,2-Dichloroethane (EDC)	0.955	0.807	15.5	113	0.00
30	S	1,2-Dichloroethane-d4	0.549	0.543	1.1	123	0.00
31	I	1,4-Difluorobenzene	1.000	1.000	0.0	116	0.00
32	M	Benzene	1.443	1.239	14.1	102	0.00
33	M	Trichloroethene	0.368	0.361	1.9	126	-0.01
34	C	1,2-Dichloropropane	0.433	0.375	13.4	104	-0.01
35	T	Dibromomethane	0.203	0.179	11.8	110	-0.01
36	T	1,4-Dioxane	0.002	0.002	0.0	116	-0.02
37	T	Bromodichloromethane	0.456	0.390	14.5	105	0.00
38	T	2-Chloroethyl vinyl ether	0.214	0.187	12.6	104	-0.01
39	T	cis-1,3-Dichloropropene	0.468	0.450	3.8	108	-0.02
40	T	4-Methyl-2-pentanone (MIBK)	0.356	0.336	5.6	122	0.00
41	S	Toluene-d8	1.017	1.076	-5.8	121	0.00
42	MC	Toluene	0.854	0.737	13.7	105	0.00
43	T	trans-1,3-Dichloropropene	0.400	0.378	5.5	108	-0.02
44	T	1,1,2-Trichloroethane	0.229	0.209	8.7	119	0.00
45	T	Tetrachloroethene	0.368	0.305	17.1	102	-0.01
46	T	1,3-Dichloropropane	0.453	0.390	13.9	110	0.00
47	T	2-Hexanone	0.254	0.245	3.5	115	-0.02

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA\E\10-10-18\
Data File : E7493.D
Acq On : 10 Oct 2018 12:13
Operator : Sylvia
Sample : ICV181010,ICV100,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 11 13:38:05 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 35% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48	T	Dibromochloromethane	0.242	0.211	12.8	101	0.00
49	T	1,2-Dibromoethane (EDB)	0.272	0.239	12.1	112	-0.01
50	I	Chlorobenzene-d5	1.000	1.000	0.0	123	0.00
51	MP	Chlorobenzene	1.024	0.923	9.9	115	0.00
52	T	1,1,1,2-Tetrachloroethane	0.365	0.294	19.5	103	-0.01
53	C	Ethylbenzene	1.640	1.371	16.4	101	0.00
54	T	m,p-Xylene	0.643	0.591	8.1	108	0.00
55	T	o-Xylene	0.641	0.553	13.7	98	-0.01
56	T	Styrene	1.020	0.904	11.4	100	0.00
57	P	Bromoform	0.223	0.186	16.6	118	0.00
58	T	Isopropylbenzene	1.444	1.287	10.9	95	0.00
59	S	Bromofluorobenzene	0.479	0.501	-4.6	125	0.00
60	P	1,1,2,2-Tetrachloroethane	0.373	0.307	17.7	109	0.00
61	T	Bromobenzene	0.445	0.357	19.8	100	0.00
62	T	1,2,3-Trichloropropane	0.327	0.262	19.9	109	0.00
63	T	n-Propylbenzene	1.861	1.530	17.8	95	0.00
64	T	2-Chlorotoluene	1.213	1.099	9.4	113	0.00
65	T	1,3,5-Trimethylbenzene	1.326	1.115	15.9	96	0.00
66	T	4-Chlorotoluene	1.350	1.229	9.0	114	0.00
67	T	tert-Butylbenzene	1.055	0.957	9.3	97	0.00
68	T	1,2,4-Trimethylbenzene	1.204	1.089	9.6	97	0.00
69	T	sec-Butylbenzene	1.575	1.391	11.7	97	0.00
70	T	1,3-Dichlorobenzene	0.866	0.724	16.4	107	-0.01
71	T	4-Isopropyltoluene	1.247	1.080	13.4	98	0.00
72	T	1,4-Dichlorobenzene	0.855	0.844	1.3	125	0.00
73	T	n-Butylbenzene	1.127	1.021	9.4	96	0.00
74	T	1,2-Dichlorobenzene	0.862	0.710	17.6	108	0.00
75	T	1,2-Dibromo-3-chloropropane	0.048	0.044	8.3	115	-0.02
76	T	1,2,4-Trichlorobenzene	0.312	0.317	-1.6	114	0.00
77	T	Hexachlorobutadiene	0.155	0.126	18.7	99	0.00
78	T	Naphthalene	0.725	0.731	-0.8	119	0.00
79	T	1,2,3-Trichlorobenzene	0.244	0.260	-6.6	124	0.00
80	T	1,1,2-Trichloro-1,2,2-trifl	0.308	0.253	17.9	99	0.02
81	T	Methyl acetate	0.344	0.297	13.7	119	0.00
82	T	Cyclohexane	0.935	0.929	0.6	118	0.00
83	T	Methylcyclohexane	0.544	0.461	15.3	95	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7642.D
Acq On : 22 Oct 2018 21:18
Operator : Sylvia
Sample : CCV100,CCV181022a,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 23 13:47:32 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 35% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	1.000	1.000	0.0	142	0.00
2	T	Dichlorodifluoromethane	0.639	0.650	-1.7	143	0.01
3	P	Chloromethane	1.179	0.965	18.2	120	0.01
4	C	Vinyl chloride	0.667	0.587	12.0	129	0.02
5	T	Bromomethane	0.243	0.223	8.2	142	0.00
6	T	Chloroethane	0.259	0.250	3.5	148	0.00
7	T	Trichlorofluoromethane	0.595	0.566	4.9	121	0.04
8	T	Acrolein	0.022	0.018	18.2	136	0.00
9	MC	1,1-Dichloroethene	0.540	0.451	16.5	125	0.00
10	T	Acetone	0.315	0.294	6.7	147	0.01
11	T	Carbon disulfide	2.511	2.196	12.5	125	0.00
12	T	Vinyl acetate	0.514	0.509	1.0	146	0.00
13	T	Methylene chloride	0.646	0.607	6.0	138	0.00
14	T	Acrylonitrile	0.270	0.344	-27.4	172	0.00
15	T	tert-Butyl alcohol (TBA)	0.051	0.058	-13.7	177	0.00
16	T	trans-1,2-Dichloroethene	0.620	0.586	5.5	135	0.01
17	T	Methyl tert-butyl ether (MT	1.344	1.465	-9.0	154	0.00
18	P	1,1-Dichloroethane	1.411	1.329	5.8	136	-0.01
19	T	Diisopropyl ether (DIPE)	2.709	2.526	6.8	121	0.00
20	T	cis-1,2-Dichloroethene	0.668	0.668	0.0	141	0.00
21	T	2,2-Dichloropropane	0.565	0.621	-9.9	162	-0.01
22	T	2-Butanone (MEK)	0.326	0.337	-3.4	151	0.00
23	T	Bromochloromethane	0.318	0.317	0.3	143	-0.01
24	T	Tetrahydrofuran	0.000	0.000	0.0	86	0.00
25	C	Chloroform	1.091	1.036	5.0	139	0.00
26	T	1,1,1-Trichloroethane	0.811	0.730	10.0	125	0.00
27	T	Carbon tetrachloride	0.797	0.697	12.5	127	0.00
28	T	1,1-Dichloropropene	0.794	0.760	4.3	133	0.00
29	T	1,2-Dichloroethane (EDC)	0.955	0.872	8.7	139	0.00
30	S	1,2-Dichloroethane-d4	0.549	0.505	8.0	131	0.00
31	I	1,4-Difluorobenzene	1.000	1.000	0.0	138	0.00
32	M	Benzene	1.443	1.412	2.1	138	0.00
33	M	Trichloroethene	0.368	0.360	2.2	149	-0.01
34	C	1,2-Dichloropropane	0.433	0.433	0.0	143	-0.01
35	T	Dibromomethane	0.203	0.202	0.5	146	-0.02
36	T	1,4-Dioxane	0.002	0.002	0.0	119	-0.02
37	T	Bromodichloromethane	0.456	0.446	2.2	142	-0.01
38	T	2-Chloroethyl vinyl ether	0.214	0.217	-1.4	143	-0.01
39	T	cis-1,3-Dichloropropene	0.468	0.506	-8.1	144	-0.03
40	T	4-Methyl-2-pentanone (MIBK)	0.356	0.334	6.2	143	-0.01
41	S	Toluene-d8	1.017	1.070	-5.2	142	0.00
42	MC	Toluene	0.854	0.860	-0.7	145	0.00
43	T	trans-1,3-Dichloropropene	0.400	0.443	-10.7	150	-0.02
44	T	1,1,2-Trichloroethane	0.229	0.241	-5.2	163	0.00
45	T	Tetrachloroethene	0.368	0.356	3.3	141	-0.01
46	T	1,3-Dichloropropane	0.453	0.483	-6.6	161	0.00
47	T	2-Hexanone	0.254	0.267	-5.1	148	-0.02

Evaluate Continuing Calibration Report

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7642.D
Acq On : 22 Oct 2018 21:18
Operator : Sylvia
Sample : CCV100,CCV181022a,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 23 13:47:32 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 35% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48	T	Dibromochloromethane	0.242	0.251	-3.7	142	0.00
49	T	1,2-Dibromoethane (EDB)	0.272	0.292	-7.4	162	-0.02
50	I	Chlorobenzene-d5	1.000	1.000	0.0	166	0.00
51	MP	Chlorobenzene	1.024	0.870	15.0	146	0.00
52	T	1,1,1,2-Tetrachloroethane	0.365	0.302	17.3	142	-0.02
53	C	Ethylbenzene	1.640	1.506	8.2	149	0.00
54	T	m,p-Xylene	0.643	0.590	8.2	145	0.00
55	T	o-Xylene	0.641	0.601	6.2	144	-0.02
56	T	Styrene	1.020	1.016	0.4	152	-0.01
57	P	Bromoform	0.223	0.192	13.9	163	0.00
58	T	Isopropylbenzene	1.444	1.460	-1.1	146	0.00
59	S	Bromofluorobenzene	0.479	0.531	-10.9	178	0.00
60	P	1,1,2,2-Tetrachloroethane	0.373	0.308	17.4	147	-0.01
61	T	Bromobenzene	0.445	0.387	13.0	146	0.00
62	T	1,2,3-Trichloropropane	0.327	0.283	13.5	158	0.00
63	T	n-Propylbenzene	1.861	1.764	5.2	148	0.00
64	T	2-Chlorotoluene	1.213	1.060	12.6	147	0.00
65	T	1,3,5-Trimethylbenzene	1.326	1.243	6.3	144	0.00
66	T	4-Chlorotoluene	1.350	1.184	12.3	147	0.00
67	T	tert-Butylbenzene	1.055	1.034	2.0	141	0.00
68	T	1,2,4-Trimethylbenzene	1.204	1.208	-0.3	144	-0.01
69	T	sec-Butylbenzene	1.575	1.528	3.0	144	0.00
70	T	1,3-Dichlorobenzene	0.866	0.728	15.9	144	-0.01
71	T	4-Isopropyltoluene	1.247	1.181	5.3	144	0.00
72	T	1,4-Dichlorobenzene	0.855	0.732	14.4	145	-0.01
73	T	n-Butylbenzene	1.127	1.131	-0.4	144	0.00
74	T	1,2-Dichlorobenzene	0.862	0.717	16.8	147	0.00
75	T	1,2-Dibromo-3-chloropropane	0.048	0.048	0.0	169	-0.02
76	T	1,2,4-Trichlorobenzene	0.312	0.361	-15.7	174	0.00
77	T	Hexachlorobutadiene	0.155	0.141	9.0	148	0.00
78	T	Naphthalene	0.725	0.849	-17.1	185	0.00
79	T	1,2,3-Trichlorobenzene	0.244	0.288	-18.0	185	0.00
80	T	1,1,2-Trichloro-1,2,2-trifl	0.308	0.280	9.1	147	0.02
81	T	Methyl acetate	0.344	0.299	13.1	161	0.00
82	T	Cyclohexane	0.935	0.751	19.7	128	0.00
83	T	Methylcyclohexane	0.544	0.488	10.3	135	0.00

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

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E7490.D

Date Analyzed: 10/10/2018

Instrument ID: MSD_E

Time Analyzed: 10:45

	50UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	177423	6.38	311973	7.21	284526	10.57
	UPPER LIMIT	354846	6.88	623946	7.71	569052	11.07
	LOWER LIMIT	88711.5	5.88	155986.5	6.71	142263	10.07
	LAB SAMPLE ID						
01	ICC00.5	156395	6.38	274847	7.21	253790	10.57
02	ICC001	160733	6.37	278172	7.21	257706	10.57
03	ICC005	159526	6.38	267015	7.21	253873	10.57
04	ICC020	180059	6.38	308031	7.21	278226	10.57
05	ICC150	196535	6.38	340920	7.21	316146	10.57
06	ICC200	218182	6.37	383145	7.21	356286	10.57
07	ICV100	221060	6.38	361628	7.21	350869	10.57
08							
09							
10							
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12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM 8

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E7642.D Date Analyzed: 10/22/2018

Instrument ID: MSD_E Time Analyzed: 21:18

	50UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	251229	6.38	429009	7.21	471619	10.56
	UPPER LIMIT	502458	6.88	858018	7.71	943238	11.06
	LOWER LIMIT	125614.5	5.88	214504.5	6.71	235809.5	10.06
	LAB SAMPLE ID						
01	BLKA181022A	237075	6.38	422798	7.21	455650	10.56
02	E18-08195-006	173815	6.37	337476	7.21	356782	10.57
03	E18-08195-005	160123	6.38	308844	7.21	326512	10.56
04	E18-08195-002	154994	6.38	295888	7.21	315110	10.56
05	E18-08195-003	144803	6.38	272378	7.21	303088	10.56
06	E18-08195-004	143248	6.38	259403	7.21	294697	10.56
08	E18-08312-012	155106	6.38	293420	7.21	320994	10.56
09	E18-08312-011	182371	6.37	327275	7.21	348137	10.56
10	E18-08312-003	184209	6.37	329167	7.21	365855	10.57
11	E18-08312-005	196971	6.37	342066	7.21	378025	10.56
12	E18-08312-007	179571	6.38	322050	7.21	346705	10.56
13	E18-08312-009	171797	6.38	306073	7.21	332450	10.56
14	E18-08312-010	176994	6.37	302379	7.21	328752	10.56
15	E18-08312-001	178702	6.38	306045	7.21	327521	10.56
16	E18-08312-002	149444	6.38	259547	7.21	342885	10.56
17	E18-08312-004	172147	6.37	290357	7.21	329760	10.56
18	E18-08312-006	178163	6.38	298299	7.21	334765	10.56
19	E18-08312-008	168103	6.38	297212	7.21	324919	10.56
20	E18-08195-001	185250	6.37	317802	7.21	347041	10.56
21	LCSA181022A	190514	6.38	323116	7.21	359916	10.56
22	LCSDA181022A	202387	6.37	326603	7.21	366382	10.56

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM 8

VOLATILE ORGANICS SAMPLE DATA

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7662.D
Acq On : 23 Oct 2018 7:02
Operator : Sylvia
Sample : MW_3,E18-08195-001,A,2.5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,2
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Oct 23 12:08:30 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

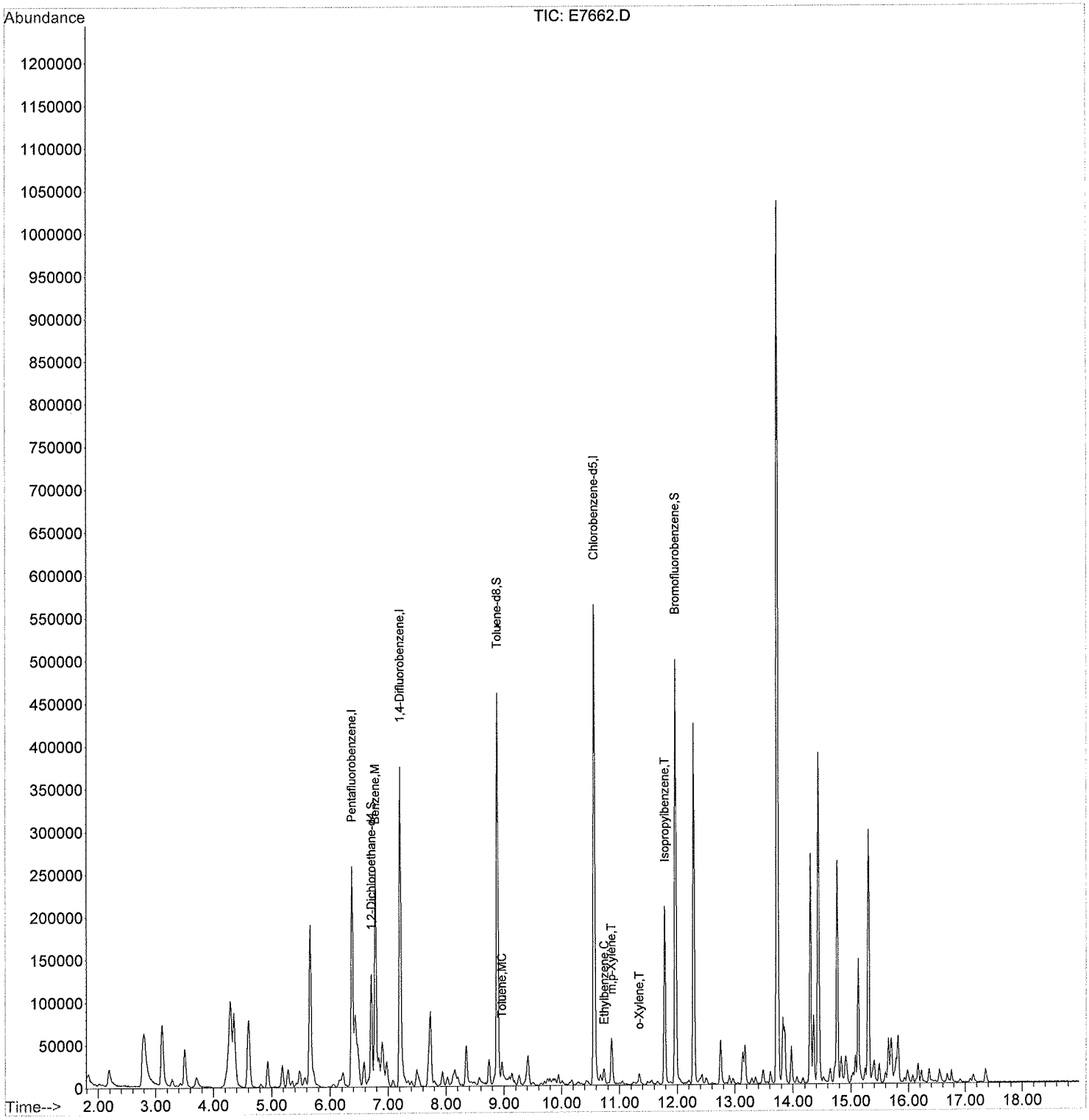
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.37	168	185250	50.00	UG	0.00
31) 1,4-Difluorobenzene	7.21	114	317802	50.00	UG	0.00
50) Chlorobenzene-d5	10.56	117	347041	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.71	65	94893	46.64	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 93.28%			
41) Toluene-d8	8.89	98	330468	51.13	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.26%			
59) Bromofluorobenzene	11.97	95	181584	54.56	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 109.12%			
Target Compounds						Qvalue
32) Benzene	6.78	78	229318	25.01	UG	100
42) Toluene	8.97	92	12991	2.39	UG	99
53) Ethylbenzene	10.74	91	11673	1.03	UG	99
54) m,p-Xylene	10.86	106	17469	3.91	UG	97
55) o-Xylene	11.34	106	3878	0.87	UG	93
58) Isopropylbenzene	11.79	105	150677	15.04	UG	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7662.D
Acq On : 23 Oct 2018 7:02
Operator : Sylvia
Sample : MW_3,E18-08195-001,A,2.5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,2
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Oct 23 12:08:30 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration



Quantitation Report (QT/LSC Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7646.D
Acq On : 22 Oct 2018 23:15
Operator : Sylvia
Sample : MW_2,E18-08195-002,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 23 12:08:48 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.38	168	154994	50.00	UG	0.00
31) 1,4-Difluorobenzene	7.21	114	295888	50.00	UG	0.00
50) Chlorobenzene-d5	10.56	117	315110	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.71	65	102613	60.28	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 120.56%#			
41) Toluene-d8	8.89	98	312732	51.97	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.94%			
59) Bromofluorobenzene	11.97	95	161867	53.57	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.14%			

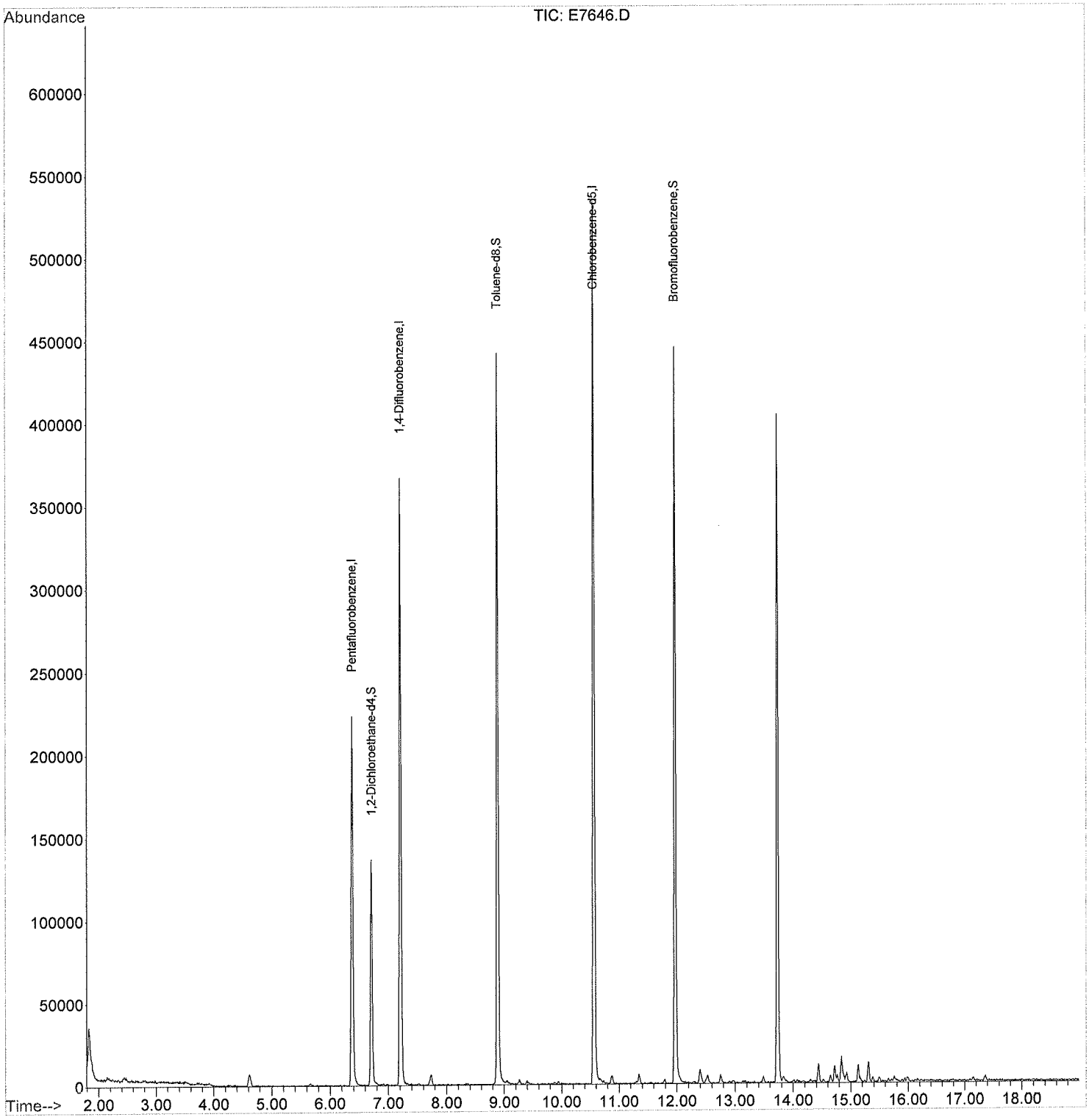
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7646.D
Acq On : 22 Oct 2018 23:15
Operator : Sylvia
Sample : MW_2,E18-08195-002,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 23 12:08:48 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7647.D
Acq On : 22 Oct 2018 23:44
Operator : Sylvia
Sample : MW_2_DUP,E18-08195-003,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 23 12:09:19 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.38	168	144803	50.00	UG	0.00
31) 1,4-Difluorobenzene	7.21	114	272378	50.00	UG	0.00
50) Chlorobenzene-d5	10.56	117	303088	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.71	65	93530	58.81	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 117.62%			
41) Toluene-d8	8.89	98	295807	53.40	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 106.80%			
59) Bromofluorobenzene	11.97	95	155422	53.47	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 106.94%			

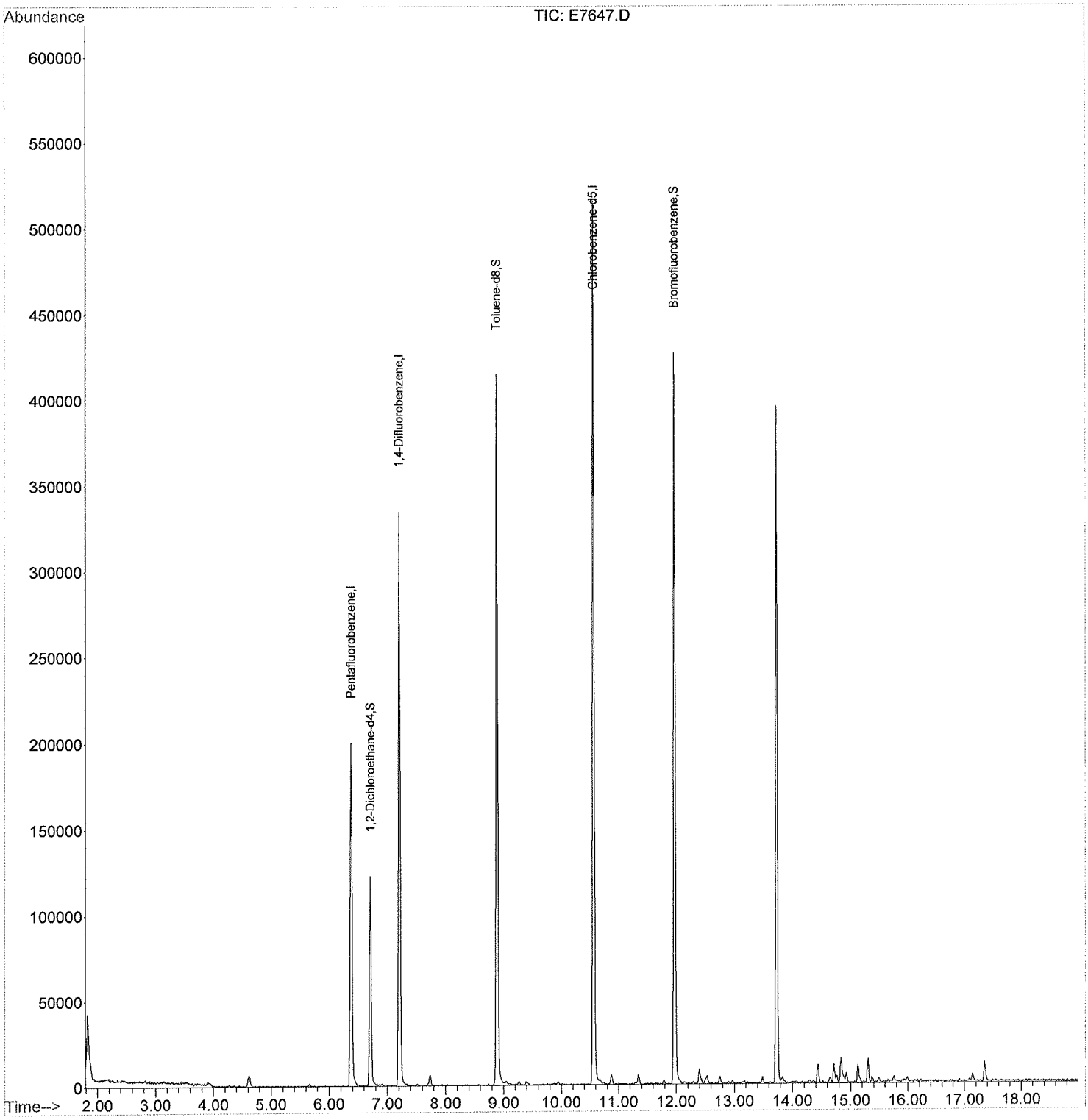
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7647.D
Acq On : 22 Oct 2018 23:44
Operator : Sylvia
Sample : MW_2_DUP,E18-08195-003,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 23 12:09:19 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7648.D
Acq On : 23 Oct 2018 00:17
Operator : Sylvia
Sample : MW_5,E18-08195-004,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 23 12:09:37 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.38	168	143248	50.00	UG	0.00
31) 1,4-Difluorobenzene	7.21	114	259403	50.00	UG	0.00
50) Chlorobenzene-d5	10.56	117	294697	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.71	65	90311	57.40	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 114.80%			
41) Toluene-d8	8.89	98	285210	54.06	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 108.12%			
59) Bromofluorobenzene	11.97	95	150172	53.14	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 106.28%			

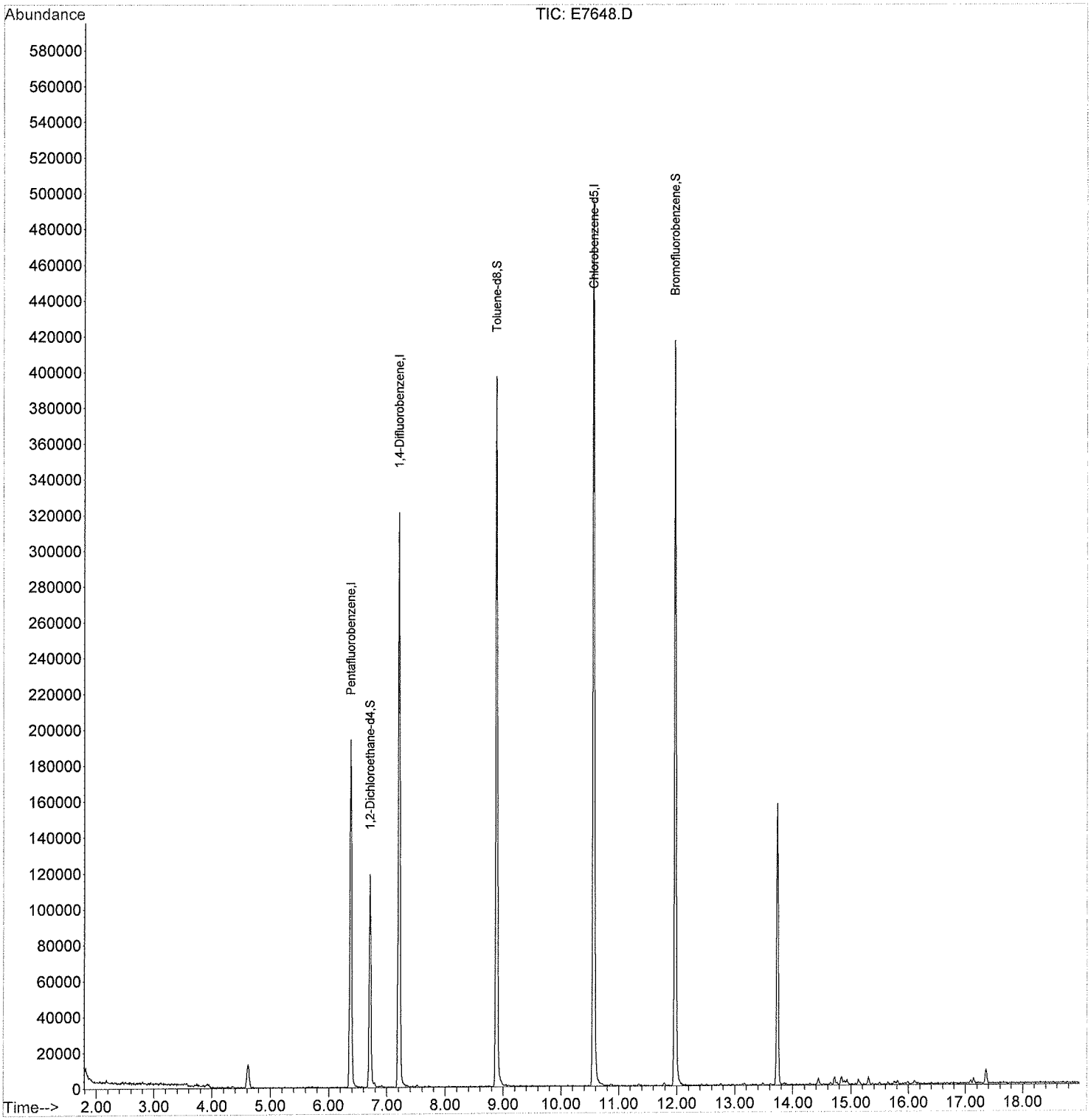
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7648.D
Acq On : 23 Oct 2018 00:17
Operator : Sylvia
Sample : MW_5,E18-08195-004,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 23 12:09:37 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7645.D
Acq On : 22 Oct 2018 22:46
Operator : Sylvia
Sample : FIELD_BLANK,E18-08195-005,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 23 09:58:40 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.38	168	160123	50.00	UG	0.00
31) 1,4-Difluorobenzene	7.21	114	308844	50.00	UG	0.00
50) Chlorobenzene-d5	10.56	117	326512	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.70	65	104510	59.43	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 118.86%			
41) Toluene-d8	8.89	98	324213	51.61	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.22%			
59) Bromofluorobenzene	11.97	95	168240	53.73	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.46%			

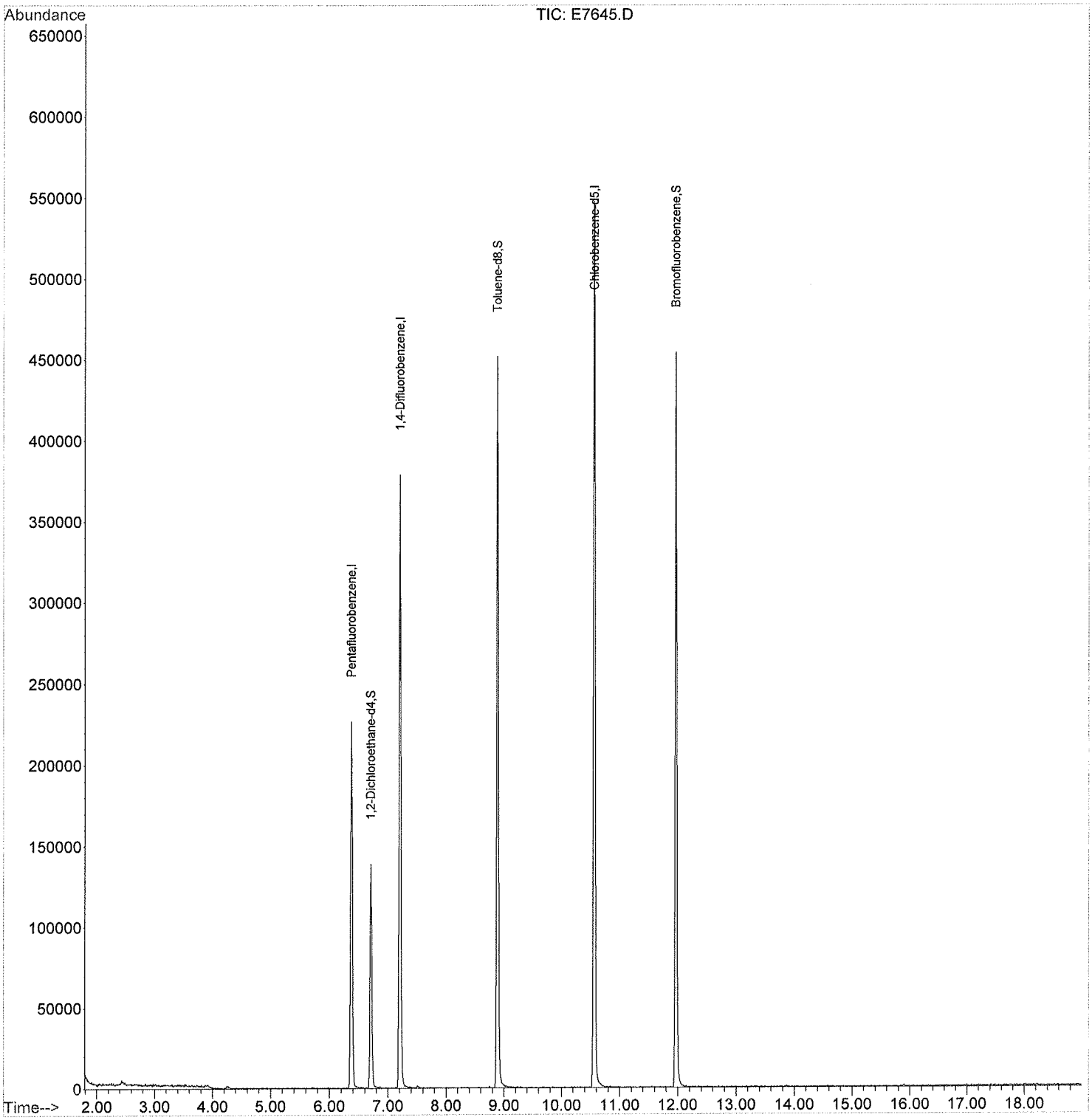
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7645.D
Acq On : 22 Oct 2018 22:46
Operator : Sylvia
Sample : FIELD_BLANK,E18-08195-005,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 23 09:58:40 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7644.D
Acq On : 22 Oct 2018 22:16
Operator : Sylvia
Sample : TRIP_BLANK,E18-08195-006,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 23 09:57:01 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.37	168	173815	50.00	UG	0.00
31) 1,4-Difluorobenzene	7.21	114	337476	50.00	UG	0.00
50) Chlorobenzene-d5	10.57	117	356782	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.70	65	118298	61.97	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 123.94%#			
41) Toluene-d8	8.89	98	356161	51.89	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.78%			
59) Bromofluorobenzene	11.97	95	183124	53.52	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.04%			

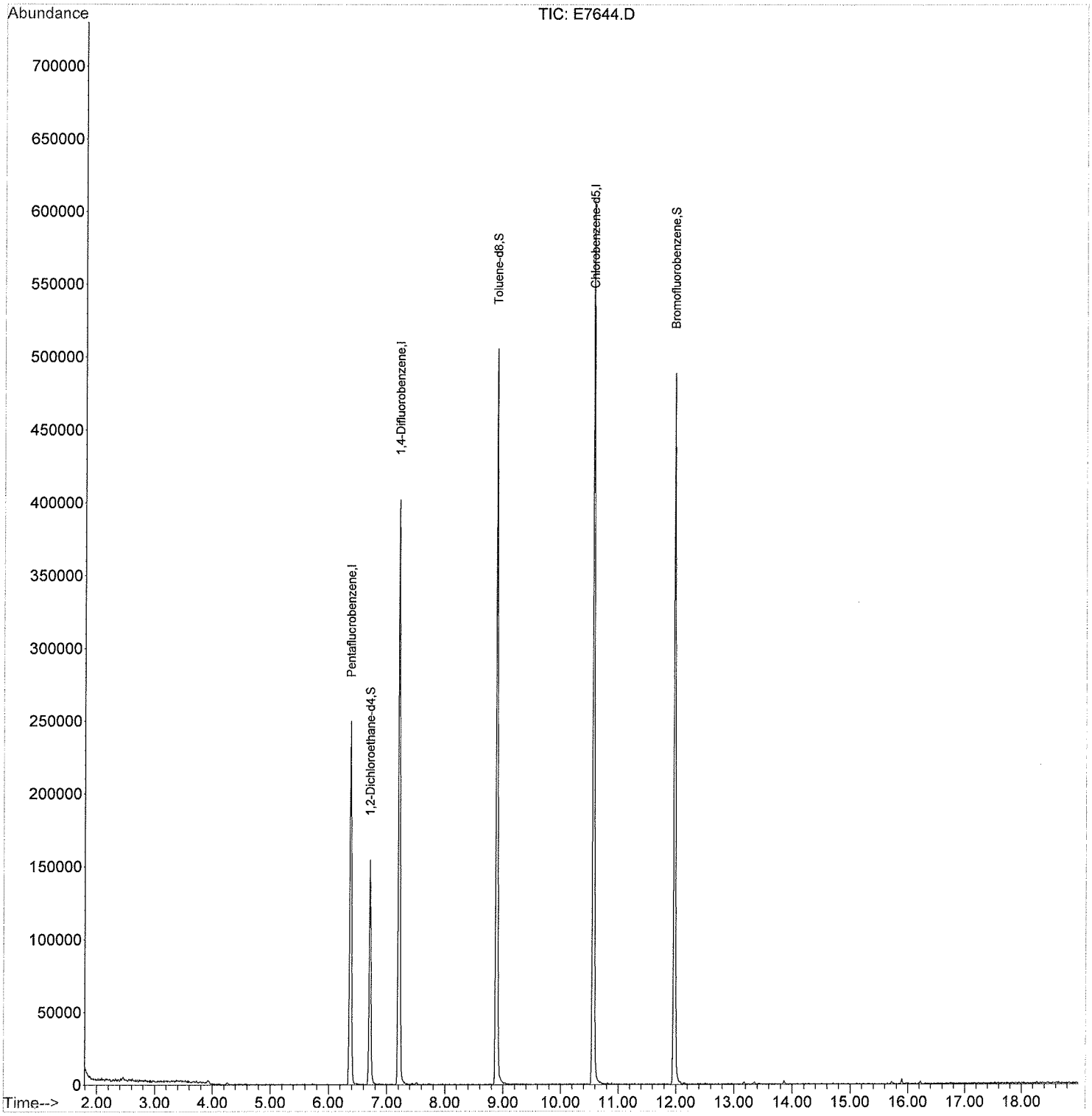
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7644.D
Acq On : 22 Oct 2018 22:16
Operator : Sylvia
Sample : TRIP_BLANK,E18-08195-006,A,5mL,100
Misc : EWMA/1_WAREHOUSE_L,10/11/18,10/11/18,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 23 09:57:01 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration



INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: BLKA181022A
Client ID: BLKA181022A
Date Received: NA
Date Analyzed: 10/22/2018
Data file: E7643.D 10/22/2018 21:47

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Dichlorodifluoromethane	ND		1.00	0.490
Chloromethane	ND		0.500	0.317
Vinyl chloride	ND		1.00	0.149
Bromomethane	ND		1.00	0.356
Chloroethane	ND		0.500	0.390
Trichlorofluoromethane	ND		0.500	0.445
1,1-Dichloroethene	ND		0.500	0.409
Acetone	ND		2.00	1.95
Carbon disulfide	ND		1.00	0.220
Methylene chloride	ND		1.00	0.990
trans-1,2-Dichloroethene	ND		0.500	0.281
Methyl tert-butyl ether (MTBE)	ND		0.500	0.265
1,1-Dichloroethane	ND		0.500	0.193
cis-1,2-Dichloroethene	ND		0.500	0.156
2-Butanone (MEK)	ND		2.00	0.701
Bromochloromethane	ND		1.00	0.174
Chloroform	ND		0.500	0.163
1,1,1-Trichloroethane	ND		0.500	0.105
Carbon tetrachloride	ND		0.500	0.119
1,2-Dichloroethane (EDC)	ND		0.500	0.271
Benzene	ND		0.500	0.144
Trichloroethene	ND		0.500	0.205
1,2-Dichloropropane	ND		0.500	0.110
1,4-Dioxane	ND		100	36.7
Bromodichloromethane	ND		0.500	0.286
cis-1,3-Dichloropropene	ND		0.500	0.222
4-Methyl-2-pentanone (MIBK)	ND		1.00	0.795

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: BLKA181022A
Client ID: BLKA181022A
Date Received: NA
Date Analyzed: 10/22/2018
Data file: E7643.D 10/22/2018 21:47

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
Toluene	ND		0.500	0.174
trans-1,3-Dichloropropene	ND		0.500	0.241
1,1,2-Trichloroethane	ND		0.500	0.232
Tetrachloroethene	ND		0.500	0.270
2-Hexanone	ND		1.00	0.975
Dibromochloromethane	ND		0.500	0.381
1,2-Dibromoethane (EDB)	ND		0.500	0.260
Chlorobenzene	ND		0.500	0.278
Ethylbenzene	ND		0.500	0.270
Total Xylenes	ND		1.00	0.881
Styrene	ND		0.500	0.432
Bromoform	ND		0.500	0.423
Isopropylbenzene	ND		0.500	0.386
1,1,2,2-Tetrachloroethane	ND		1.00	0.791
1,3-Dichlorobenzene	ND		0.500	0.296
1,4-Dichlorobenzene	ND		0.500	0.392
1,2-Dichlorobenzene	ND		0.500	0.324
1,2-Dibromo-3-chloropropane	ND		1.00	0.572
1,2,4-Trichlorobenzene	ND		1.00	0.362
1,2,3-Trichlorobenzene	ND		1.00	0.513
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.00	0.347
Methyl acetate	ND		0.500	0.487
Cyclohexane	ND		1.00	0.548
Methylcyclohexane	ND		1.00	0.500
1,3-Dichloropropene (cis- and trans-)	ND		0.500	0.241

Total Target Compounds (52): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS
Tentatively Identified Compounds

Lab ID: BLKA181022A
Client ID: BLKA181022A
Date Received: NA
Date Analyzed: 10/22/2018
Data file: E7643.D 10/22/2018 21:47

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-µg/L
Dilution Factor: 1
% Moisture: 100

CAS #	Compound	Estimated Concentration	Q	Retention Time

No peaks detected

Total TICs = 0

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7643.D
Acq On : 22 Oct 2018 21:47
Operator : Sylvia
Sample : BLKA181022A,BLKA181022A,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 23 09:54:42 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.38	168	237075	50.00	UG	0.00
31) 1,4-Difluorobenzene	7.21	114	422798	50.00	UG	0.00
50) Chlorobenzene-d5	10.56	117	455650	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.70	65	125846	48.33	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.66%			
41) Toluene-d8	8.89	98	432453	50.29	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.58%			
59) Bromofluorobenzene	11.97	95	225116	51.52	UG	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.04%			

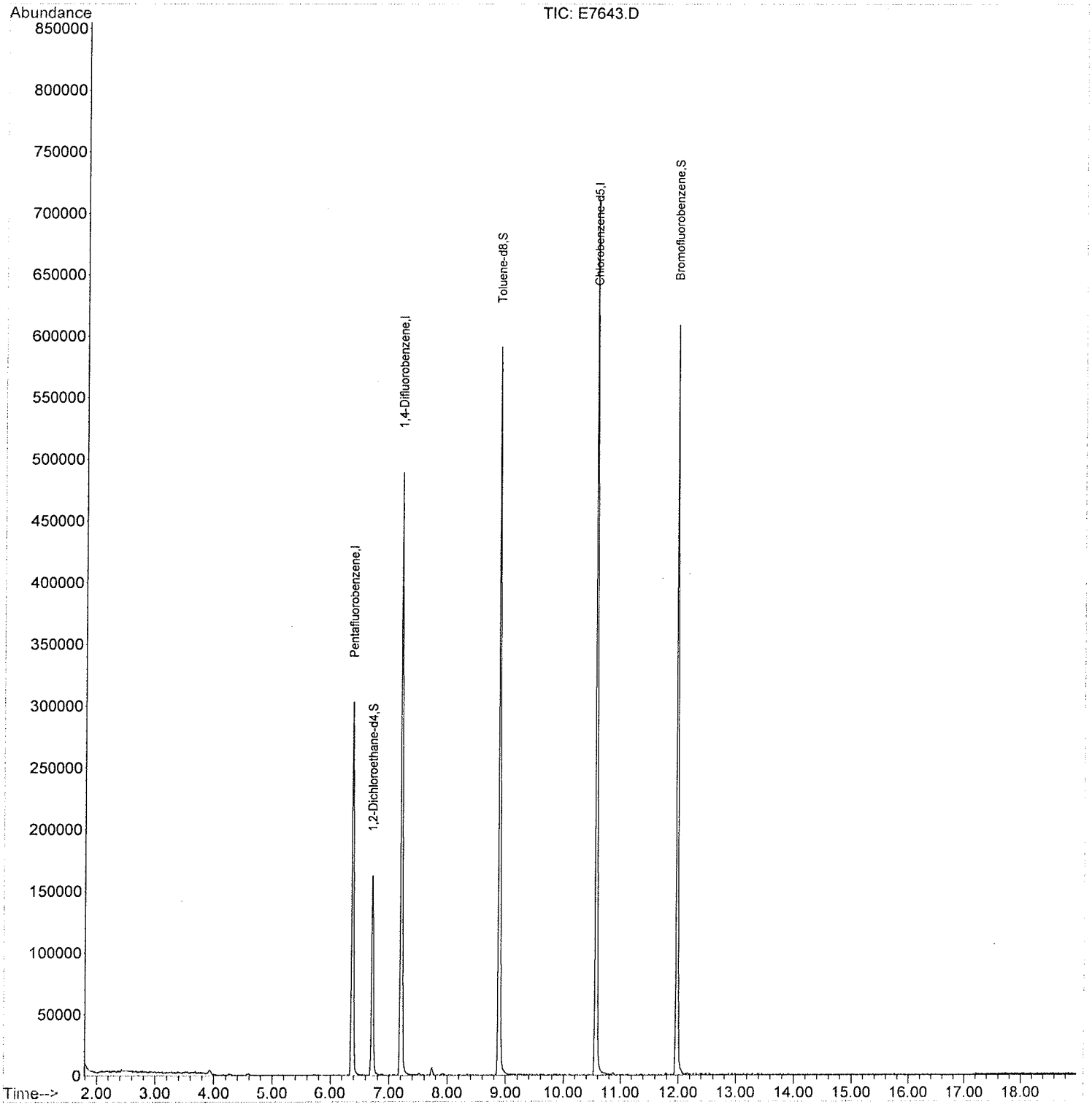
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7643.D
Acq On : 22 Oct 2018 21:47
Operator : Sylvia
Sample : BLKA181022A,BLKA181022A,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 23 09:54:42 2018
Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Thu Oct 11 09:31:47 2018
Response via : Initial Calibration



LSC Area Percent Report

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7643.D
Acq On : 22 Oct 2018 21:47
Operator : Sylvia
Sample : BLKA181022A,BLKA181022A,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 29 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.07 Max Peaks: 100
Stop Thrs : 0.2 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 10

Method : C:\MSDCHEM\1\METHODS\E8101018.M
Title : VOLATILE ORGANICS BY EPA METHOD 8260C

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.380	865	876	898	rBV2	303348	668271	47.36%	11.240%
2	6.705	927	938	964	rBV	162290	367782	26.07%	6.186%
3	7.208	1022	1034	1061	rBV	489591	1002628	71.06%	16.864%
4	8.886	1343	1354	1387	rBV	591659	1190925	84.41%	20.032%
5	10.564	1662	1674	1695	rBV	712682	1410911	100.00%	23.732%
6	11.969	1932	1942	1968	rBV	609620	1140250	80.82%	19.179%
7	13.175	2163	2172	2182	rBV2	10582	20280	1.44%	0.341%
8	13.353	2200	2206	2214	rVB3	9664	18190	1.29%	0.306%
9	13.862	2292	2303	2317	rBV4	12038	27614	1.96%	0.464%
10	15.712	2650	2656	2670	rVB3	14091	25523	1.81%	0.429%
11	15.891	2685	2690	2699	rVB6	9638	16250	1.15%	0.273%
12	15.980	2699	2707	2722	rVB3	10820	20730	1.47%	0.349%
13	16.221	2747	2753	2763	rBV3	21207	35876	2.54%	0.603%

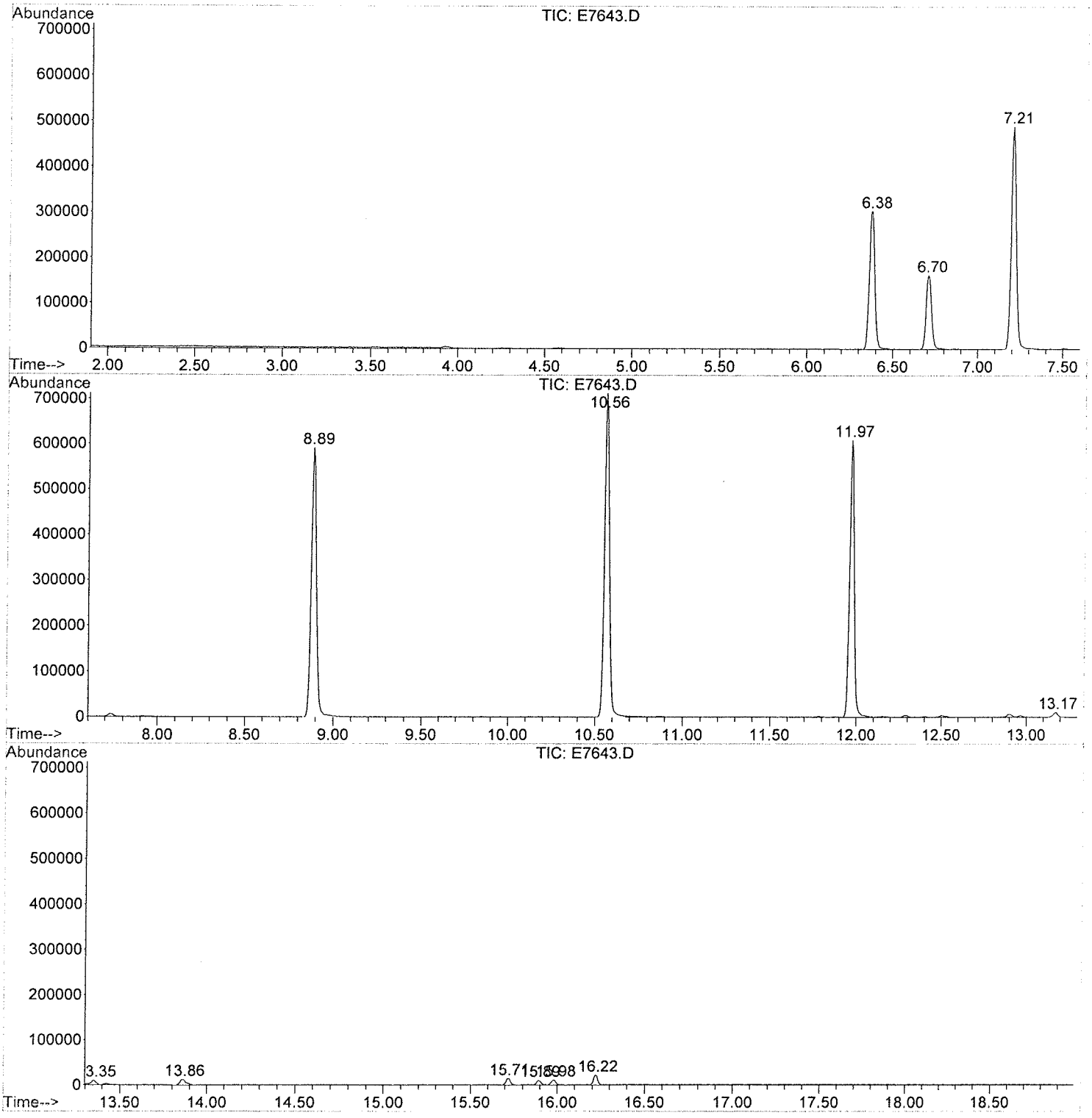
Sum of corrected areas: 5945230

LSC Report - Integrated Chromatogram

Data Path : C:\MSDCHEM\1\DATA\E\10-22-18\
Data File : E7643.D
Acq On : 22 Oct 2018 21:47
Operator : Sylvia
Sample : BLKA181022A,BLKA181022A,A,5mL,100
Misc : NA,NA,NA,1
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\E8101018.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C

TIC Library : C:\DATABASE\NIST05A.L
TIC Integration Parameters: LSCINT.P



SEMI-VOLATILE ORGANICS

SEMI-VOLATILE ORGANICS QC SUMMARY

SEMIVOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 10/18/2018

Lab Sample ID	Matrix	File ID	S1	#	S2	#	S3	#	S4	#	S5	#	S6	#	S7	#
CCV040BNA2	AQUEOUS	A6945.D	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BLKA181017-01	AQUEOUS	A6947.D	55		59		54		62		59		91		N/A	
LCSA181017-01	AQUEOUS	A6948.D	40		46		46		48		60		90		N/A	
E18-08270-001MS	AQUEOUS	A6949.D	28		23		53		56		63		101		N/A	
E18-08270-001MSD	AQUEOUS	A6950.D	28		23		52		54		63		101		N/A	
E18-08248-001	AQUEOUS	A6951.D	N/A		N/A		49		51		N/A		82		N/A	
E18-08236-003	AQUEOUS	A6954.D	N/A		N/A		45		45		N/A		80		N/A	
E18-08236-004	AQUEOUS	A6955.D	N/A		N/A		44		42		N/A		77		N/A	
E18-08236-005	AQUEOUS	A6956.D	N/A		N/A		43		41		N/A		69		N/A	
E18-08236-006	AQUEOUS	A6957.D	N/A		N/A		45		30		N/A		22	$	N/A	
E18-08236-007	AQUEOUS	A6958.D	N/A		N/A		70		51		N/A		66		N/A	
E18-08236-008	AQUEOUS	A6959.D	N/A		N/A		50		60		N/A		60		N/A	
E18-08195-001	AQUEOUS	A6961.D	N/A		N/A		41		46		N/A		89		N/A	
E18-08195-002	AQUEOUS	A6962.D	N/A		N/A		37		49		N/A		75		N/A	
E18-08195-003	AQUEOUS	A6963.D	N/A		N/A		23	$	46		N/A		82		N/A	
E18-08195-004	AQUEOUS	A6964.D	N/A		N/A		57		57		N/A		93		N/A	
E18-08195-005	AQUEOUS	A6965.D	N/A		N/A		49		52		N/A		88		N/A	
E18-08258-001	AQUEOUS	A6966.D	N/A		N/A		49		51		N/A		76		N/A	
E18-08270-001	AQUEOUS	A6967.D	N/A		N/A		46		49		N/A		87		N/A	
E18-08284-001	AQUEOUS	A6968.D	N/A		N/A		49		55		N/A		101		N/A	
E18-08284-002	AQUEOUS	A6969.D	N/A		N/A		54		60		N/A		103		N/A	
E18-08284-003	AQUEOUS	A6970.D	N/A		N/A		57		56		N/A		96		N/A	

	DKQPs		IAL	
	Aqueous	Soil	Aqueous/Leachate	Soil
S1 (2FP) = 2-Fluorophenol	15-110	30-130	6-106	6-107
S2 (PHL) = Phenol-d5	15-110	30-130	5-99	5-109
S3 (NBZ) = Nitrobenzene-d5	30-130	30-130	19-89	11-106
S4 (FBP) = 2-Fluorobiphenyl	30-130	30-130	15-134	13-123
S5 (TBP) = 2,4,6-Tribromophenol	15-110	30-130	15-100	22-119
S6 (TPH) = Terphenyl-d14	30-130	30-130	22-145	19-154
S7 (DIO) = 1,4-Dioxane-d8	15-110	30-130	15-110	15-110

Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
D Surrogate diluted out
M Matrix interference
N/A Not applicable

SEMIVOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 10/18/2018

Lab Sample ID	Matrix	File ID	S1	#	S2	#	S3	#	S4	#	S5	#	S6	#	S7	#
E18-08236-001	AQUEOUS	A6984.D	N/A		N/A		50		60		N/A		80		N/A	
E18-08236-002	AQUEOUS	A6985.D	N/A		N/A		50		60		N/A		85		N/A	
E18-08236-006DL	AQUEOUS	A6986.D	N/A		N/A		80		40		N/A		40		N/A	
E18-08236-009	AQUEOUS	A6987.D	N/A		N/A		45		60		N/A		75		N/A	
E18-08284-003DL	AQUEOUS	A6988.D	N/A		N/A		75		95		N/A		115		N/A	

	DKQPs		IAL	
	Aqueous	Soil	Aqueous/Leachate	Soil
S1 (2FP) = 2-Fluorophenol	15-110	30-130	6-106	6-107
S2 (PHL) = Phenol-d5	15-110	30-130	5-99	5-109
S3 (NBZ) = Nitrobenzene-d5	30-130	30-130	19-89	11-106
S4 (FBP) = 2-Fluorobiphenyl	30-130	30-130	15-134	13-123
S5 (TBP) = 2,4,6-Tribromophenol	15-110	30-130	15-100	22-119
S6 (TPH) = Terphenyl-d14	30-130	30-130	22-145	19-154
S7 (DIO) = 1,4-Dioxane-d8	15-110	30-130	15-110	15-110

Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
D Surrogate diluted out
M Matrix interference
N/A Not applicable

INTEGRATED ANALYTICAL LABORATORIES

8270

LCS ACCURACY REPORT

Lab ID: LCSA181017-01
Date Received: NA
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6948.D

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Conc. Add	Conc. LCS	%Rec. LCS	#	Rec Limits IAL	Rec Limits DKQP
N-Nitrosodimethylamine	50.0	25.1	50	$	25-106	70-130
Pyridine	50.0	28.4	57		17-116	20-160
Benzaldehyde	50.0	5.2	10	$	3-55	20-160
Phenol	50.0	20.2	40		31-103	20-160
Aniline	50.0	20.4	41	$	28-102	70-130
Bis(2-chloroethyl) ether	50.0	21.1	42	$	26-115	70-130
2-Chlorophenol	50.0	19.5	39		34-99	20-160
1,3-Dichlorobenzene	50.0	20.1	40	$	37-100	70-130
1,4-Dichlorobenzene	50.0	20.1	40	$	37-100	70-130
Benzyl alcohol	50.0	21.8	44	$	31-101	70-130
1,2-Dichlorobenzene	50.0	21.1	42	$	37-101	70-130
2-Methylphenol	50.0	21.1	42		36-99	20-160
2,2'-Oxybis(1-Chloropropane)	50.0	21.9	44	$	27-116	70-130
4-Methylphenol	50.0	23.0	46	$	35-100	70-130
N-Nitrosodi-n-propylamine	50.0	24.1	48	$	26-108	70-130
Acetophenone	50.0	22.0	44	$	34-98	70-130
3-Methylphenol	50.0	23.0	46		35-100	20-160
Hexachloroethane	50.0	20.4	41	$	33-100	70-130
Nitrobenzene	50.0	20.6	41	$	25-103	70-130
Isophorone	50.0	23.9	48	$	27-107	70-130
2-Nitrophenol	50.0	22.7	45		39-88	20-160
2,4-Dimethylphenol	50.0	22.0	44		29-101	20-160
Bis(2-chloroethoxy) methane	50.0	21.8	44	$	31-105	70-130
Benzoic acid	50.0	45.7	91		11-128	20-160
2,4-Dimethylaniline	50.0	18.7	37	$	29-96	70-130
2,4-Dichlorophenol	50.0	22.9	46		39-92	20-160
1,2,4-Trichlorobenzene	50.0	21.3	43	$	40-92	70-130
Naphthalene	50.0	21.5	43	$	37-95	70-130
4-Chloroaniline	50.0	20.6	41	$	29-96	70-130
Hexachlorobutadiene	50.0	21.1	42	$	39-91	70-130
Caprolactam	50.0	29.8	60	$	40-126	70-130
4-Chloro-3-methylphenol	50.0	24.8	50		30-100	20-160
2-Methylnaphthalene	50.0	21.8	44	$	37-91	70-130
Hexachlorocyclopentadiene	50.0	17.3	35		4-94	20-160
2,4,6-Trichlorophenol	50.0	25.1	50		38-94	20-160
2,4,5-Trichlorophenol	50.0	25.1	50		38-97	20-160
1,1'-Biphenyl	50.0	20.9	42	$	37-93	70-130
2-Chloronaphthalene	50.0	21.5	43	$	38-97	70-130
2-Nitroaniline	50.0	27.4	55	$	27-109	70-130
Dimethyl phthalate	50.0	26.5	53	$	35-100	70-130
2,6-Dinitrotoluene	50.0	27.0	54	$	40-90	70-130
Acenaphthylene	50.0	22.7	45	$	37-98	70-130
3-Nitroaniline	50.0	26.8	54	$	31-105	70-130
Acenaphthene	50.0	23.5	47		36-94	20-160
2,4-Dinitrophenol	50.0	37.6	75		4-93	20-160

INTEGRATED ANALYTICAL LABORATORIES

LCS ACCURACY REPORT

Lab ID: LCSA181017-01
Date Received: NA
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6948.D

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Conc. Add	Conc. LCS	%Rec. LCS	#	Rec Limits IAL	Rec Limits DKQP
4-Nitrophenol	50.0	33.1	66		16-105	20-160
2,4-Dinitrotoluene	50.0	31.7	63	$	22-108	70-130
Dibenzofuran	50.0	22.2	44	$	34-97	70-130
Diethyl phthalate	50.0	28.8	58	$	26-111	70-130
Fluorene	50.0	25.7	51	$	33-106	70-130
4-Chlorophenyl phenyl ether	50.0	24.7	49	$	38-97	70-130
4-Nitroaniline	50.0	25.0	50	$	19-116	70-130
1,2,4,5-Tetrachlorobenzene	50.0	20.9	42	$	22-113	70-130
2,3,4,6-Tetrachlorophenol	50.0	29.9	60	$	36-102	70-130
4,6-Dinitro-2-methylphenol	50.0	40.7	81		15-85	20-160
N-Nitrosodiphenylamine	50.0	29.4	59	$	32-99	70-130
1,2-Diphenylhydrazine	50.0	24.7	49	$	18-112	70-130
4-Bromophenyl phenyl ether	50.0	26.9	54	$	36-88	70-130
Hexachlorobenzene	50.0	28.4	57	$	35-89	70-130
Atrazine	50.0	17.5	35		21-103	20-160
Pentachlorophenol	50.0	33.7	67		31-86	20-160
Phenanthrene	50.0	28.2	56	$	35-92	70-130
Anthracene	50.0	29.2	58	$	36-93	70-130
Carbazole	50.0	31.7	63	$	32-98	70-130
Di-n-butyl phthalate	50.0	33.8	68	$	26-105	70-130
Fluoranthene	50.0	33.8	68	$	30-97	70-130
Benzidine	50.0	3.4	7	$	4-38	20-160
Pyrene	50.0	38.9	78		29-110	70-130
3,3'-Dimethylbenzidine	50.0	18.5	37		3-57	20-160
Butyl benzyl phthalate	50.0	45.0	90		11-124	70-130
3,3'-Dichlorobenzidine	50.0	53.1	106		23-117	70-130
Benzo[a]anthracene	50.0	39.6	79		28-108	70-130
Chrysene	50.0	39.3	79		28-109	70-130
Bis(2-ethylhexyl) phthalate	50.0	44.0	88		15-114	70-130
Di-n-octyl phthalate	50.0	44.0	88		11-96	70-130
Benzo[b]fluoranthene	50.0	42.7	85		15-102	70-130
Benzo[k]fluoranthene	50.0	38.6	77		20-124	70-130
Benzo[a]pyrene	50.0	40.6	81		19-101	70-130
Indeno[1,2,3-cd]pyrene	50.0	41.0	82		18-99	70-130
Dibenz[a,h]anthracene	50.0	46.2	92		18-100	70-130
Benzo[g,h,i]perylene	50.0	40.9	82		17-101	70-130

Column used to flag recovery values that did not meet criteria

* Values outside of QC limits

$ Values outside of NJ DKQP limits

NC Not calculable

INTEGRATED ANALYTICAL LABORATORIES

8270

MS/MSD ACCURACY REPORT

Lab ID: E18-08270-001
Date Received: NA
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
MS Data file: A6949.D
MSD Data file: A6950.D

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	% RPD	#	Rec/RPD limits IAL	DKQP
N-Nitrosodimethylamine	50.0	0.0	19.4	39	$	19.1	38	$	2		2-90/17	70-130/20
Pyridine	50.0	0.0	19.0	38		19.4	39		2		4-97/15	20-160/20
Benzaldehyde	50.0	0.0	5.2	10	$	5.2	10	$	0		3-92/16	20-160/20
Phenol	50.0	0.0	9.9	20		10.1	20		2		6-99/17	20-160/20
Aniline	50.0	0.0	19.2	38	$	19.7	39	$	3		13-80/17	70-130/20
Bis(2-chloroethyl) ether	50.0	0.0	23.3	47	$	24.0	48	$	3		17-89/14	70-130/20
2-Chlorophenol	50.0	0.0	19.8	40		20.8	42		5		11-80/19	20-160/20
1,3-Dichlorobenzene	50.0	0.0	20.0	40	$	20.8	42	$	4		25-79/19	70-130/20
1,4-Dichlorobenzene	50.0	0.0	20.0	40	$	20.8	42	$	4		22-83/20	70-130/20
Benzyl alcohol	50.0	0.0	21.3	43	$	22.2	44	$	4		17-75/20	70-130/20
1,2-Dichlorobenzene	50.0	0.0	20.3	41	$	21.1	42	$	4		24-81/20	70-130/20
2-Methylphenol	50.0	0.0	19.8	40		19.4	39		2		7-81/15	20-160/20
2,2'-Oxybis(1-Chloropropane)	50.0	0.0	23.6	47	$	23.8	48	$	1		15-85/16	70-130/20
4-Methylphenol	50.0	0.0	18.5	37	$	19.0	38	$	3		3-81/19	70-130/20
N-Nitrosodi-n-propylamine	50.0	0.0	26.6	53	$	27.0	54	$	1		19-92/16	70-130/20
Acetophenone	50.0	0.0	23.7	47	$	24.5	49	$	3		23-83/20	70-130/20
3-Methylphenol	50.0	0.0	18.5	37		19.0	38		3		3-81/19	20-160/20
Hexachloroethane	50.0	0.0	20.0	40	$	19.8	40	$	1		27-79/19	70-130/20
Nitrobenzene	50.0	0.0	24.1	48	$	23.9	48	$	1		21-83/20	70-130/20
Isophorone	50.0	0.0	27.7	55	$	27.5	55	$	1		15-96/19	70-130/20
2-Nitrophenol	50.0	0.0	24.7	49		25.3	51		2		11-88/20	20-160/20
2,4-Dimethylphenol	50.0	0.0	18.0	36		17.8	36		1		10-99/18	20-160/20
Bis(2-chloroethoxy) methane	50.0	0.0	24.5	49	$	25.0	50	$	2		19-89/17	70-130/20
Benzoic acid	50.0	0.0	7.5	15	$	6.8	14	$	10		3-91/20	20-160/20
2,4-Dimethylaniline	50.0	0.0	18.5	37	$	18.6	37	$	1		15-90/18	70-130/20
2,4-Dichlorophenol	50.0	0.0	23.9	48		24.1	48		1		8-92/17	20-160/20
1,2,4-Trichlorobenzene	50.0	0.0	22.6	45	$	22.8	46	$	1		24-84/20	70-130/20
Naphthalene	50.0	0.0	23.4	47	$	23.4	47	$	0		19-90/20	70-130/20
4-Chloroaniline	50.0	0.0	22.4	45	$	23.2	46	$	4		16-89/19	70-130/20
Hexachlorobutadiene	50.0	0.0	21.4	43	$	21.3	43	$	0		24-87/19	70-130/20
Caprolactam	50.0	0.0	10.5	21	$	10.5	21	$	0		11-77/17	70-130/20
4-Chloro-3-methylphenol	50.0	0.0	26.8	54		27.1	54		1		9-98/15	20-160/20
2-Methylnaphthalene	50.0	0.0	24.5	49	$	24.6	49	$	0		17-90/18	70-130/20
Hexachlorocyclopentadiene	50.0	0.0	18.6	37		19.8	40		6		23-84/19	20-160/20
2,4,6-Trichlorophenol	50.0	0.0	26.7	53		25.1	50		6		6-99/16	20-160/20
2,4,5-Trichlorophenol	50.0	0.0	26.7	53		25.1	50		6		12-97/14	20-160/20
1,1'-Biphenyl	50.0	0.0	24.7	49	$	24.0	48	$	3		22-88/20	70-130/20
2-Chloronaphthalene	50.0	0.0	25.4	51	$	24.2	48	$	5		24-91/17	70-130/20
2-Nitroaniline	50.0	0.0	33.6	67	$	33.3	67	$	1		24-104/18	70-130/20
Dimethyl phthalate	50.0	0.0	23.3	47	$	23.6	47	$	1		25-91/19	70-130/20
2,6-Dinitrotoluene	50.0	0.0	33.0	66	$	33.0	66	$	0		27-107/17	70-130/20
Acenaphthylene	50.0	0.0	27.7	55	$	26.8	54	$	3		22-94/17	70-130/20
3-Nitroaniline	50.0	0.0	33.2	66	$	32.2	64	$	3		24-103/20	70-130/20
Acenaphthene	50.0	0.0	28.3	57		27.5	55		3		22-93/18	20-160/20
2,4-Dinitrophenol	50.0	0.0	17.5	35		17.0	34		3		3-111/18	20-160/20

INTEGRATED ANALYTICAL LABORATORIES

MS/MSD ACCURACY REPORT

Lab ID: E18-08270-001
Date Received: NA
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
MS Data file: A6949.D
MSD Data file: A6950.D

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	% RPD	#	Rec/RPD IAL Limits	Rec/RPD DKQP Limits
4-Nitrophenol	50.0	0.0	13.0	26		12.3	25		6		11-101/16	20-160/20
2,4-Dinitrotoluene	50.0	0.0	38.4	77		38.0	76		1		27-116/15	70-130/20
Dibenzofuran	50.0	0.0	26.8	54	$	26.0	52	$	3		21-92/19	70-130/20
Diethyl phthalate	50.0	0.0	31.9	64	$	31.6	63	$	1		26-106/19	70-130/20
Fluorene	50.0	0.0	30.7	61	$	30.1	60	$	2		25-98/18	70-130/20
4-Chlorophenyl phenyl ether	50.0	0.0	29.2	58	$	28.5	57	$	2		24-100/17	70-130/20
4-Nitroaniline	50.0	0.0	33.8	68	$	33.7	67	$	0		26-106/18	70-130/20
1,2,4,5-Tetrachlorobenzene	50.0	0.0	23.8	48	$	23.7	47	$	0		19-89/17	70-130/20
2,3,4,6-Tetrachlorophenol	50.0	0.0	21.5	43	$	21.3	43	$	1		6-108/17	70-130/20
4,6-Dinitro-2-methylphenol	50.0	0.0	34.1	68		34.9	70		2		4-109/15	20-160/20
N-Nitrosodiphenylamine	50.0	0.0	34.9	70		34.4	69	$	1		24-113/15	70-130/20
1,2-Diphenylhydrazine	50.0	0.0	30.9	62	$	29.2	58	$	6		20-105/16	70-130/20
4-Bromophenyl phenyl ether	50.0	0.0	32.3	65	$	31.3	63	$	3		24-105/18	70-130/20
Hexachlorobenzene	50.0	0.0	32.7	65	$	32.1	64	$	2		22-109/16	70-130/20
Atrazine	50.0	0.0	21.3	43		20.7	41		3		20-176/32	20-160/20
Pentachlorophenol	50.0	0.0	14.5	29		14.0	28		4		4-109/19	20-160/20
Phenanthrene	50.0	0.0	34.1	68	$	33.0	66	$	3		27-107/18	70-130/20
Anthracene	50.0	0.0	34.8	70		33.4	67	$	4		28-110/19	70-130/20
Carbazole	50.0	0.0	37.7	75		36.9	74		2		24-120/16	70-130/20
Di-n-butyl phthalate	50.0	0.0	41.2	82		39.6	79		4		22-129/18	70-130/20
Fluoranthene	50.0	0.0	41.6	83		39.5	79		5		22-124/17	70-130/20
Benzidine	50.0	0.0	12.4	25		14.2	28		14		4-85/19	20-160/20
Pyrene	50.0	0.0	46.1	92		45.2	90		2		15-154/23	70-130/20
3,3'-Dimethylbenzidine	50.0	0.0	18.0	36		18.9	38		5		4-57/19	20-160/20
Butyl benzyl phthalate	50.0	0.0	54.8	110		53.6	107		2		9-162/26	70-130/20
3,3'-Dichlorobenzidine	50.0	0.0	68.5	137	$	67.1	134	$	2		11-156/24	70-130/20
Benzo[a]anthracene	50.0	0.0	46.6	93		45.9	92		2		18-150/22	70-130/20
Chrysene	50.0	0.0	46.0	92		45.6	91		1		18-146/21	70-130/20
Bis(2-ethylhexyl) phthalate	50.0	0.0	54.2	108		54.7	109		1		9-156/25	70-130/20
Di-n-octyl phthalate	50.0	0.0	55.6	111		55.1	110		1		25-146/25	70-130/20
Benzo[b]fluoranthene	50.0	0.0	50.4	101		44.2	88		13		13-123/18	70-130/20
Benzo[k]fluoranthene	50.0	0.0	44.8	90		49.0	98		9		6-137/22	70-130/20
Benzo[a]pyrene	50.0	0.0	48.9	98		48.5	97		1		7-134/21	70-130/20
Indeno[1,2,3-cd]pyrene	50.0	0.0	49.6	99		49.7	99		0		8-139/22	70-130/20
Dibenz[a,h]anthracene	50.0	0.0	53.7	107		55.0	110		2		7-138/22	70-130/20
Benzo[g,h,i]perylene	50.0	0.0	47.6	95		48.9	98		3		11-129/20	70-130/20

Column used to flag recovery and RPD values that did not meet criteria

* Values outside of QC limits

$ Values outside of NJ DKQP limits

NC Not calculable

SEMIVOLATILE METHOD BLANK SUMMARY

Lab File ID: A6947.D

Instrument ID: MSDA

Date Extracted: 10/17/18

Matrix: AQUEOUS

Date Analyzed: 10/18/2018

Time Analyzed: 11:04

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
.	LCSA181017-01	10/18/2018	11:20
MW-1/22.	E18-08270-001MS	10/18/2018	11:36
MW-1/22.	E18-08270-001MSD	10/18/2018	11:52
POTABLE	E18-08248-001	10/18/2018	12:07
MW-16	E18-08236-003	10/18/2018	12:55
MW-17	E18-08236-004	10/18/2018	13:15
MW-19	E18-08236-005	10/18/2018	13:31
MW-20	E18-08236-006	10/18/2018	13:47
MW-21	E18-08236-007	10/18/2018	14:03
RW-1	E18-08236-008	10/18/2018	14:18
MW_3	E18-08195-001	10/18/2018	14:51
MW_2	E18-08195-002	10/18/2018	15:06
MW_2_DUP	E18-08195-003	10/18/2018	15:22
MW_5	E18-08195-004	10/18/2018	15:38
FIELD_BL	E18-08195-005	10/18/2018	15:54
HR-MW2	E18-08258-001	10/18/2018	16:10
MW-1/22.	E18-08270-001	10/18/2018	16:26
ERL-MW-1	E18-08284-001	10/18/2018	16:42
ERL-MW-1	E18-08284-002	10/18/2018	16:58
ERL-MW-2	E18-08284-003	10/18/2018	17:14
MW-6	E18-08236-001	10/18/2018	20:32
MW-8	E18-08236-002	10/18/2018	20:48
MW-20	E18-08236-006DL	10/18/2018	21:04
RW-4	E18-08236-009	10/18/2018	21:20
ERL-MW-2	E18-08284-003DL	10/18/2018	21:36

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: A6650.D

DFTPP Injection Date : 10/09/2018

Inst ID: MSDA

DFTPP Injection Time: 09:05

m/z	Ion Abudance Criteria	%Relative Abundance	
51	30.0 - 60.0% of mass 198	41.5	
68	Less than 2.0% of mass 69	0.6	(1.3)1
69	Mass 69 relative abundance	49.8	
70	Less than 2.0% of mass 69	0.2	(0.5)1
127	40.0 - 60.0% of mass 198	59.0	
197	Less than 1.0% of mass 198	0.6	
198	Base peak, 100% relative abundance	100.0	
199	5.0 - 9.0% of mass 198	6.9	
275	10.0 - 30.0% of mass 198	22.2	
365	Greater than 1.0% of mass 198	1.6	
441	Present, but less than mass 443	12.61	(86.7)3
442	40.0 - 100.0% of mass 198	74.2	
443	17.0 - 23.0% of mass 442	14.5	(19.6)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
ABN104-18	ICC001BNA1	A6651.D	10/09/2018	09:27
ABN105-18	ICC010BNA1	A6652.D	10/09/2018	09:43
ABN106-18	ICC020BNA1	A6653.D	10/09/2018	09:59
ABN107-18	ICC040BNA1	A6654.D	10/09/2018	10:15
ABN108-18	ICC080BNA1	A6655.D	10/09/2018	10:31
ABN109-18	ICC160BNA1	A6656.D	10/09/2018	10:47
ABN115-18	ICC160BNA2	A6657.D	10/09/2018	11:03
ABN114-18	ICC080BNA2	A6658.D	10/09/2018	11:19
ABN113-18	ICC040BNA2	A6659.D	10/09/2018	11:35
ABN112-18	ICC020BNA2	A6660.D	10/09/2018	11:52
ABN111-18	ICC010BNA2	A6661.D	10/09/2018	12:08
ABN110-18	ICC001BNA2	A6662.D	10/09/2018	12:24
ABN116-18	ICV040BNA1	A6663.D	10/09/2018	12:40
ABN117-18	ICV040BNA2	A6664.D	10/09/2018	12:56

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: A6943.D

DFTPP Injection Date : 10/18/2018

Inst ID: MSDA

DFTPP Injection Time: 10:07

m/z	Ion Abudance Criteria	%Relative Abundance	
51	30.0 - 60.0% of mass 198	43.7	
68	Less than 2.0% of mass 69	0.8	(1.7)1
69	Mass 69 relative abundance	48.5	
70	Less than 2.0% of mass 69	0.2	(0.4)1
127	40.0 - 60.0% of mass 198	53.0	
197	Less than 1.0% of mass 198	0.4	
198	Base peak, 100% relative abundance	100.0	
199	5.0 - 9.0% of mass 198	6.7	
275	10.0 - 30.0% of mass 198	24.5	
365	Greater than 1.0% of mass 198	2.1	
441	Present, but less than mass 443	15.11	(78.6)3
442	40.0 - 100.0% of mass 198	98.6	
443	17.0 - 23.0% of mass 442	19.2	(19.5)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
ABN107-18	CCV040BNA1	A6944.D	10/18/2018	10:17
ABN113-18	CCV040BNA2	A6945.D	10/18/2018	10:32
.	BLKA181017-01	A6947.D	10/18/2018	11:04
.	LCSA181017-01	A6948.D	10/18/2018	11:20
MW-1/22.	E18-08270-001MS	A6949.D	10/18/2018	11:36
MW-1/22.	E18-08270-001MSD	A6950.D	10/18/2018	11:52
POTABLE	E18-08248-001	A6951.D	10/18/2018	12:07
MW-16	E18-08236-003	A6954.D	10/18/2018	12:55
MW-17	E18-08236-004	A6955.D	10/18/2018	13:15
MW-19	E18-08236-005	A6956.D	10/18/2018	13:31
MW-20	E18-08236-006	A6957.D	10/18/2018	13:47
MW-21	E18-08236-007	A6958.D	10/18/2018	14:03
RW-1	E18-08236-008	A6959.D	10/18/2018	14:18
MW_3	E18-08195-001	A6961.D	10/18/2018	14:51
MW_2	E18-08195-002	A6962.D	10/18/2018	15:06
MW_2_DUP	E18-08195-003	A6963.D	10/18/2018	15:22
MW_5	E18-08195-004	A6964.D	10/18/2018	15:38
FIELD_BL	E18-08195-005	A6965.D	10/18/2018	15:54
HR-MW2	E18-08258-001	A6966.D	10/18/2018	16:10
MW-1/22.	E18-08270-001	A6967.D	10/18/2018	16:26
ERL-MW-1	E18-08284-001	A6968.D	10/18/2018	16:42
ERL-MW-1	E18-08284-002	A6969.D	10/18/2018	16:58
ERL-MW-2	E18-08284-003	A6970.D	10/18/2018	17:14

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: A6943.D

DFTPP Injection Date : 10/18/2018

Inst ID: MSDA

DFTPP Injection Time: 10:07

m/z	Ion Abudance Criteria	%Relative Abundance	
51	30.0 - 60.0% of mass 198	43.7	
68	Less than 2.0% of mass 69	0.8	(1.7)1
69	Mass 69 relative abundance	48.5	
70	Less than 2.0% of mass 69	0.2	(0.4)1
127	40.0 - 60.0% of mass 198	53.0	
197	Less than 1.0% of mass 198	0.4	
198	Base peak, 100% relative abundance	100.0	
199	5.0 - 9.0% of mass 198	6.7	
275	10.0 - 30.0% of mass 198	24.5	
365	Greater than 1.0% of mass 198	2.1	
441	Present, but less than mass 443	15.11	(78.6)3
442	40.0 - 100.0% of mass 198	98.6	
443	17.0 - 23.0% of mass 442	19.2	(19.5)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
MW-6	E18-08236-001	A6984.D	10/18/2018	20:32
MW-8	E18-08236-002	A6985.D	10/18/2018	20:48
MW-20	E18-08236-006DL	A6986.D	10/18/2018	21:04
RW-4	E18-08236-009	A6987.D	10/18/2018	21:20
ERL-MW-2	E18-08284-003DL	A6988.D	10/18/2018	21:36

Response Factor Report MSD_A

Method Path : C:\msdchem\1\methods\
Method File : AD1218.M
Title : BNA CALIBRATION METHOD
Last Update : Tue Oct 09 16:56:52 2018
Response Via : Initial Calibration

Calibration Files
1 =A6651.D 10 =A6652.D 20 =A6653.D 40 =A6654.D 80 =A6655.D 160 =A6656.D

		Compound	1	10	20	40	80	160	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------							
2)	T	N-Nitrosodimet...	0.564	0.435	0.443	0.440	0.439	0.598	0.486	15.21
3)	T	Pyridine	0.519	0.527	0.507	0.548	0.532	0.481	0.519	4.42
4)	S	2-Fluorophenol	1.050	0.975	0.959	1.018	0.965	0.996	0.994	3.51
5)	T	Benzaldehyde	0.712	0.755	0.873	0.642	0.582	0.525	0.682	18.44
6)	S	Phenol-d5	1.300	1.256	1.238	1.263	1.204	1.180	1.240	3.48
7)	MC	Phenol	1.943	1.358	1.321	1.291	1.334	1.223	1.412	18.72
8)	T	Aniline	0.737	0.552	0.596	0.603	0.588	0.554	0.605	11.29
9)	T	Bis(2-chloroet...	0.802	0.605	0.659	0.705	0.680	0.660	0.685	9.64
10)	M	2-Chlorophenol	1.394	1.025	1.036	0.985	1.045	0.966	1.075	14.84
11)	T	1,3-Dichlorobe...	1.443	0.982	1.092	1.171	1.165	1.133	1.164	13.12
12)	MC	1,4-Dichlorobe...	1.443	0.982	1.092	1.171	1.165	1.133	1.164	13.12
13)	T	Benzyl alcohol	0.851	0.659	0.673	0.722	0.702	0.655	0.710	10.32
14)	T	1,2-Dichlorobe...	1.313	0.962	1.060	1.101	1.102	1.043	1.097	10.73
15)	T	2-Methylphenol	1.175	0.866	0.866	0.900	0.903	0.820	0.922	13.84
16)	T	2,2'-Oxybis(1-...	1.423	1.073	1.167	1.230	1.186	1.146	1.204	9.87
17)	T	4-Methylphenol	1.259	0.978	0.995	1.032	1.011	0.942	1.036	10.96
18)	MP	N-Nitrosodi-n-...	0.942	0.687	0.771	0.771	0.752	0.696	0.770	11.96
19)	T	Acetophenone	1.644	1.586	1.437	1.325	1.419	1.186	1.433	11.72
20)	T	3-Methylphenol	1.259	0.978	0.995	1.032	1.011	0.942	1.036	10.96
21)	T	Hexachloroethane	0.425	0.332	0.377	0.404	0.423	0.383	0.391	8.94
22)	S	1,4-Dioxane-d8	0.340	0.304	0.289	0.267	0.248	0.230	0.280	14.22
23)	I	Naphthalene-d8	----------ISTD----------							
24)	S	Nitrobenzene-d5	0.260	0.250	0.252	0.258	0.278	0.308	0.268	8.21
25)	T	Nitrobenzene	0.327	0.227	0.237	0.244	0.245	0.245	0.254	14.31
26)	T	Isophorone	0.418	0.324	0.348	0.365	0.360	0.357	0.362	8.59
27)	TC	2-Nitrophenol	0.144	0.109	0.114	0.112	0.125	0.124	0.121	10.64
28)	T	2,4-Dimethylph...	0.308	0.222	0.224	0.218	0.224	0.213	0.235	15.29
29)	T	Bis(2-chloroet...	0.332	0.251	0.253	0.276	0.273	0.265	0.275	10.75
30)	T	Benzoic acid		0.047	0.050	0.064	0.061	0.044	0.053	16.70
31)	T	2,4-Dimethylan...	0.338	0.298	0.283	0.300	0.285	0.265	0.295	8.35
32)	TC	2,4-Dichloroph...	0.226	0.178	0.172	0.175	0.183	0.175	0.185	11.00
33)	M	1,2,4-Trichlor...	0.239	0.174	0.197	0.203	0.202	0.205	0.203	10.32
34)	T	Naphthalene	0.872	0.763	0.751	0.759	0.762	0.714	0.770	6.91
35)	T	4-Chloroaniline	0.477	0.395	0.381	0.392	0.388	0.369	0.400	9.70
36)	T	4-Aminotoluene	0.558	0.433	0.414	0.480	0.446	0.416	0.458	11.97
37)	TC	Hexachlorobuta...	0.112	0.087	0.098	0.104	0.102	0.104	0.101	8.08
38)	T	Caprolactam	0.104	0.079	0.084	0.069	0.073	0.068	0.079	16.61
39)	T	2-Aminotoluene	0.558	0.433	0.414	0.480	0.446	0.416	0.458	11.97
40)	MC	4-Chloro-3-met...	0.239	0.179	0.185	0.178	0.180	0.174	0.189	13.01
41)	T	2-Methylnaphth...	0.586	0.466	0.481	0.476	0.466	0.467	0.490	9.62
42)	T	1-Methylnaphth...	0.541	0.380	0.436	0.412	0.398	0.397	0.427	13.77
43)	I	Acenaphthene-d10	----------ISTD----------							
44)	TP	Hexachlorocycl...	0.178	0.187	0.166	0.210	0.215	0.253	0.202	15.57
45)	TC	2,4,6-Trichlor...	0.260	0.229	0.234	0.265	0.261	0.275	0.254	7.14#
46)	T	2,4,5-Trichlor...	0.260	0.229	0.234	0.265	0.261	0.275	0.254	7.14
47)	S	2-Fluorobiphenyl	1.005	0.962	0.993	1.010	1.014	1.049	1.005	2.81
48)	T	1,1'-Biphenyl	1.335	1.158	1.075	1.091	1.082	1.077	1.136	8.99
49)	T	2-Chloronaphth...	0.920	0.733	0.796	0.881	0.845	0.836	0.835	7.82
50)	T	2-Nitroaniline	0.201	0.161	0.183	0.211	0.221	0.223	0.200	12.04
51)	T	Dimethyl phtha...	0.926	0.723	0.833	0.871	0.826	0.821	0.834	8.03
52)	T	2,6-Dinitrotol...	0.162	0.141	0.173	0.188	0.197	0.192	0.176	12.13

53)	T	Acenaphthylene	1.336	1.265	1.278	1.348	1.316	1.296	1.307	2.50
54)	T	3-Nitroaniline	0.205	0.178	0.201	0.216	0.215	0.212	0.205	6.94
55)	MC	Acenaphthene	0.915	0.829	0.831	0.859	0.841	0.809	0.847	4.35
56)	TP	2,4-Dinitrophenol	0.066	0.068	0.056	0.052	0.061	0.065	0.061	10.23
57)	MP	4-Nitrophenol	0.126	0.131	0.137	0.134	0.143	0.138	0.135	4.23
58)	M	2,4-Dinitrotol...	0.174	0.169	0.215	0.236	0.241	0.254	0.215	16.68
59)	T	Dibenzofuran	1.448	1.092	1.153	1.188	1.155	1.111	1.191	10.94
60)	T	Diethyl phthalate	0.887	0.684	0.783	0.832	0.793	0.783	0.794	8.43
61)	T	Fluorene	0.939	0.865	0.919	0.892	0.866	0.839	0.887	4.21
62)	T	4-Chlorophenyl...	0.493	0.364	0.409	0.427	0.398	0.402	0.416	10.44
63)	T	4-Nitroaniline	0.218	0.186	0.212	0.214	0.228	0.212	0.212	6.53
64)		1,2,4,5-Tetrac...	0.422	0.372	0.363	0.361	0.372	0.378	0.378	5.97
65)	T	2,3,4,6-Tetrac...	0.162	0.146	0.164	0.190	0.176	0.182	0.170	9.28
66)	I	Phenanthrene-d10	----------	ISTD	----------					
67)	T	4,6-Dinitro-2-...	0.048	0.048	0.047	0.062	0.047	0.058	0.052	12.45
68)	TC	N-Nitrosodiphe...	0.391	0.346	0.386	0.420	0.417	0.417	0.396	7.22
69)	T	1,2-Diphenylhy...	0.604	0.531	0.547	0.623	0.628	0.609	0.590	6.93
70)	S	2,4,6-Tribromo...	0.081	0.076	0.079	0.083	0.079	0.085	0.080	4.02
71)	T	4-Bromophenyl ...	0.159	0.124	0.142	0.157	0.148	0.155	0.147	9.06
72)	T	Hexachlorobenzene	0.195	0.139	0.156	0.171	0.162	0.165	0.165	11.15
73)	T	Atrazine	0.126	0.124	0.122	0.118	0.124	0.123	0.123	2.18
74)	MC	Pentachlorophenol	0.062	0.064	0.078	0.084	0.096	0.085	0.078	17.07
75)	T	Phenanthrene	0.874	0.727	0.770	0.765	0.751	0.739	0.771	6.85
76)	T	Anthracene	0.779	0.707	0.750	0.768	0.769	0.764	0.756	3.40
77)	T	Carbazole	0.782	0.610	0.690	0.709	0.705	0.712	0.701	7.87
78)	T	Di-n-butyl pht...	0.724	0.645	0.693	0.768	0.793	0.775	0.733	7.73
79)	TC	Fluoranthene	0.672	0.610	0.670	0.665	0.692	0.687	0.666	4.39
80)	T	Benzidine		0.121	0.186	0.167	0.179	0.208	0.172	18.63
82)	I	Chrysene-d12	----------	ISTD	----------					
83)	M	Pyrene	1.188	1.147	1.119	1.181	1.218	1.109	1.160	3.65
84)	S	Terphenyl-d14	1.018	0.943	0.915	0.933	0.897	0.857	0.927	5.82
85)	T	3,3'-Dimethylb...		0.293	0.329	0.398	0.422	0.401	0.369	14.89
86)	T	Butyl benzyl p...	0.409	0.356	0.384	0.447	0.481	0.477	0.426	12.04
87)	T	3,3'-Dichlorob...	0.122	0.155	0.167	0.192	0.186	0.177	0.167	15.40
88)	T	Benzo[a]anthra...	1.045	0.910	0.897	0.930	0.989	0.953	0.954	5.78
89)	T	Chrysene	1.138	0.948	0.899	0.960	0.961	0.900	0.968	9.10
90)	T	Bis(2-ethylhex...	0.517	0.486	0.513	0.602	0.651	0.631	0.567	12.33
92)	I	Perylene-d12	----------	ISTD	----------					
93)	TC	Di-n-octyl pht...	1.748	1.365	1.381	1.609	1.639	1.742	1.580	10.77
94)	T	Benzo[b]fluora...	1.283	1.340	1.258	1.284	1.495	1.491	1.359	7.91
95)	T	Benzo[k]fluora...	1.583	1.398	1.530	1.642	1.453	1.385	1.499	6.93
96)	TC	Benzo[a]pyrene	1.295	1.286	1.417	1.458	1.477	1.477	1.402	6.34
97)	T	Indeno[1,2,3-c...	1.064	1.206	1.478	1.633	1.747	1.745	1.479	19.42
98)	T	Dibenz[a,h]ant...	0.865	1.035	1.199	1.382	1.090	1.302	1.145	16.43
99)	T	Benzo[g,h,i]pe...	0.940	1.146	1.351	1.397	1.450	1.474	1.293	16.12
100)	I	1,4-Dioxane-d8[ISTD]	----------	ISTD	----------					
101)	T	1,4-Dioxane	1.652	1.256	1.493	1.231	1.321	1.672	1.438	13.68

(#) = Out of Range

AD1218.M Tue Oct 09 16:57:04 2018 MSD-A

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\18-10-09AD\
Data File : A6663.D
Acq On : 9 Oct 2018 12:40
Operator : dp
Sample : ABN116-18,ICV040BNA1,A,1000ml,100,1
Misc : NA,NA,NA,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 09 16:59:56 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 13:09:39 2018
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 5.00min
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	87	0.00
2	T	N-Nitrosodimethylamine	0.486	0.541	-11.3	108	-0.02
3	T	Pyridine	0.519	0.589	-13.5	94	-0.01
4	S	2-Fluorophenol	0.994	0.950	4.4	82	0.00
5	T	Benzaldehyde	0.682	0.812	-19.1	105	0.00
6	S	Phenol-d5	1.240	1.206	2.7	83	0.00
7	MC	Phenol	1.412	1.272	9.9	86	0.00
8	T	Aniline	0.605	0.563	6.9	82	0.00
9	T	Bis(2-chloroethyl) ether	0.685	0.666	2.8	83	0.00
10	M	2-Chlorophenol	1.075	0.990	7.9	88	0.00
11	T	1,3-Dichlorobenzene	1.164	1.103	5.2	82	0.00
12	MC	1,4-Dichlorobenzene	1.164	1.103	5.2	82	0.00
13	T	Benzyl alcohol	0.710	0.673	5.2	82	0.00
14	T	1,2-Dichlorobenzene	1.097	1.047	4.6	83	0.00
15	T	2-Methylphenol	0.922	0.838	9.1	81	0.00
16	T	2,2'-Oxybis(1-Chloropropane	1.204	1.174	2.5	83	0.00
17	T	4-Methylphenol	1.036	0.973	6.1	82	-0.01
18	MP	N-Nitrosodi-n-propylamine	0.770	0.732	4.9	83	-0.01
19	T	Acetophenone	1.433	1.368	4.5	90	0.00
20	T	3-Methylphenol	1.036	0.973	6.1	82	-0.01
21	T	Hexachloroethane	0.391	0.342	12.5	74	0.00
22	S	1,4-Dioxane-d8	0.280	0.343	-22.5	112	-0.02
23	I	Naphthalene-d8	1.000	1.000	0.0	85	0.00
24	S	Nitrobenzene-d5	0.268	0.241	10.1	79	0.00
25	T	Nitrobenzene	0.254	0.233	8.3	81	-0.01
26	T	Isophorone	0.362	0.360	0.6	84	-0.01
27	TC	2-Nitrophenol	0.121	0.104	14.0	79	0.00
28	T	2,4-Dimethylphenol	0.235	0.223	5.1	87	0.00
29	T	Bis(2-chloroethoxy) methane	0.275	0.271	1.5	83	0.00
30	T	Benzoic acid	0.053	0.061	-15.1	81	-0.03
31	T	2,4-Dimethylaniline	0.295	0.311	-5.4	88	-0.01
32	TC	2,4-Dichlorophenol	0.185	0.179	3.2	87	0.00
33	M	1,2,4-Trichlorobenzene	0.203	0.202	0.5	85	0.00
34	T	Naphthalene	0.770	0.757	1.7	85	0.00
35	T	4-Chloroaniline	0.400	0.388	3.0	84	0.00
36	T	4-Aminotoluene	0.458	0.480	-4.8	85	0.00
37	TC	Hexachlorobutadiene	0.101	0.102	-1.0	83	0.00
38	T	Caprolactam	0.079	0.077	2.5	95	-0.03
39	T	2-Aminotoluene	0.458	0.480	-4.8	85	0.00
40	MC	4-Chloro-3-methylphenol	0.189	0.182	3.7	87	0.00
41	T	2-Methylnaphthalene	0.490	0.473	3.5	85	0.00
42	T	1-Methylnaphthalene	0.427	0.423	0.9	87	0.00
43	I	Acenaphthene-d10	1.000	1.000	0.0	92	0.00
44	TP	Hexachlorocyclopentadiene	0.202	0.173	14.4	76	0.00

45	TC	2,4,6-Trichlorophenol	0.254	0.247	2.8	86	0.00
46	T	2,4,5-Trichlorophenol	0.254	0.247	2.8	86	0.00
47	S	2-Fluorobiphenyl	1.005	0.973	3.2	89	0.00
48	T	1,1'-Biphenyl	1.136	1.074	5.5	91	0.00
49	T	2-Chloronaphthalene	0.835	0.814	2.5	85	0.00
50	T	2-Nitroaniline	0.200	0.180	10.0	78	0.00
51	T	Dimethyl phthalate	0.834	0.842	-1.0	89	0.00
52	T	2,6-Dinitrotoluene	0.176	0.158	10.2	77	0.00
53	T	Acenaphthylene	1.307	1.276	2.4	87	0.00
54	T	3-Nitroaniline	0.205	0.191	6.8	81	0.00
55	MC	Acenaphthene	0.847	0.828	2.2	89	0.00
56	TP	2,4-Dinitrophenol	0.061	0.059	3.3	104	0.00
57	MP	4-Nitrophenol	0.135	0.129	4.4	89	0.00
58	M	2,4-Dinitrotoluene	0.215	0.210	2.3	82	0.00
59	T	Dibenzofuran	1.191	1.120	6.0	87	0.00
60	T	Diethyl phthalate	0.794	0.807	-1.6	89	0.00
61	T	Fluorene	0.887	0.905	-2.0	93	0.00
62	T	4-Chlorophenyl phenyl ether	0.416	0.409	1.7	88	0.00
63	T	4-Nitroaniline	0.212	0.207	2.4	89	-0.01
64		1,2,4,5-Tetrachlorobenzene	0.378	0.361	4.5	92	0.00
65	T	2,3,4,6-Tetrachlorophenol	0.170	0.188	-10.6	91	0.00
66	I	Phenanthrene-d10	1.000	1.000	0.0	95	0.00
67	T	4,6-Dinitro-2-methylphenol	0.052	0.052	0.0	80	-0.01
68	TC	N-Nitrosodiphenylamine	0.396	0.401	-1.3	91	0.00
69	T	1,2-Diphenylhydrazine	0.590	0.557	5.6	85	0.00
70	S	2,4,6-Tribromophenol	0.080	0.081	-1.3	92	0.00
71	T	4-Bromophenyl phenyl ether	0.147	0.147	0.0	89	0.00
72	T	Hexachlorobenzene	0.165	0.164	0.6	91	0.00
73	T	Atrazine	0.123	0.116	5.7	94	0.00
74	MC	Pentachlorophenol	0.078	0.086	-10.3	97	0.00
75	T	Phenanthrene	0.771	0.759	1.6	94	0.00
76	T	Anthracene	0.756	0.746	1.3	92	0.00
77	T	Carbazole	0.701	0.712	-1.6	95	0.00
78	T	Di-n-butyl phthalate	0.733	0.752	-2.6	93	0.00
79	TC	Fluoranthene	0.666	0.689	-3.5	99	0.00
80	T	Benzidine	0.172	0.152	11.6	91	0.00
82	I	Chrysene-d12	1.000	1.000	0.0	103	0.00
83	M	Pyrene	1.160	1.139	1.8	100	0.00
84	S	Terphenyl-d14	0.927	0.925	0.2	102	0.00
85	T	3,3'-Dimethylbenzidine	0.369	0.299	19.0	123	0.00
86	T	Butyl benzyl phthalate	0.426	0.423	0.7	98	0.00
87	T	3,3'-Dichlorobenzidine	0.167	0.184	-10.2	99	0.00
88	T	Benzo[a]anthracene	0.954	0.938	1.7	104	0.00
89	T	Chrysene	0.968	0.922	4.8	99	0.00
90	T	Bis(2-ethylhexyl) phthalate	0.567	0.559	1.4	96	0.00
92	I	Perylene-d12	1.000	1.000	0.0	102	0.00
93	TC	Di-n-octyl phthalate	1.580	1.456	7.8	92	0.00
94	T	Benzo[b]fluoranthene	1.359	1.484	-9.2	118	0.00
95	T	Benzo[k]fluoranthene	1.499	1.510	-0.7	94	0.00
96	TC	Benzo[a]pyrene	1.402	1.436	-2.4	100	0.00
97	T	Indeno[1,2,3-cd]pyrene	1.479	1.650	-11.6	103	-0.02
98	T	Dibenz[a,h]anthracene	1.145	1.292	-12.8	95	-0.02
99	T	Benzo[g,h,i]perylene	1.293	1.375	-6.3	100	-0.03
100	I	1,4-Dioxane-d8[ISTD]	1.000	1.000	0.0	112	-0.02
101	T	1,4-Dioxane	1.438	1.244	13.5	113	-0.02

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

AD1218.M Tue Oct 09 17:00:00 2018 MSD-A

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6944.D
Acq On : 18 Oct 2018 10:17
Operator : dp
Sample : ABN107-18,CCV040BNA1,A,1000ml,100,1
Misc : NA,NA,NA,1
ALS Vial : 97 Sample Multiplier: 1

Quant Time: Oct 18 10:51:35 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 5.00min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	67	0.00
2	T	N-Nitrosodimethylamine	0.486	0.546	-12.3	83	-0.03
3	T	Pyridine	0.519	0.545	-5.0	67	-0.02
4	S	2-Fluorophenol	0.994	0.936	5.8	62	0.00
5	T	Benzaldehyde	0.682	0.755	-10.7	77	0.00
6	S	Phenol-d5	1.240	1.219	1.7	65	-0.01
7	MC	Phenol	1.412	1.295	8.3	68	-0.01
8	T	Aniline	0.605	0.546	9.8	61	-0.01
9	T	Bis(2-chloroethyl) ether	0.685	0.637	7.0	61	-0.01
10	M	2-Chlorophenol	1.075	0.992	7.7	68	-0.01
11	T	1,3-Dichlorobenzene	1.164	1.081	7.1	62	0.00
12	MC	1,4-Dichlorobenzene	1.164	1.081	7.1	62	0.00
13	T	Benzyl alcohol	0.710	0.651	8.3	61	-0.01
14	T	1,2-Dichlorobenzene	1.097	1.021	6.9	62	0.00
15	T	2-Methylphenol	0.922	0.850	7.8	64	0.00
16	T	2,2'-Oxybis(1-Chloropropane	1.204	1.152	4.3	63	0.00
17	T	4-Methylphenol	1.036	0.987	4.7	64	-0.02
18	MP	N-Nitrosodi-n-propylamine	0.770	0.753	2.2	66	-0.02
19	T	Acetophenone	1.433	1.312	8.4	67	-0.01
20	T	3-Methylphenol	1.036	0.987	4.7	64	-0.02
21	T	Hexachloroethane	0.391	0.374	4.3	62	0.00
22	S	1,4-Dioxane-d8	0.280	0.329	-17.5	83	-0.03
23	I	Naphthalene-d8	1.000	1.000	0.0	64	0.00
24	S	Nitrobenzene-d5	0.268	0.262	2.2	65	0.00
25	T	Nitrobenzene	0.254	0.256	-0.8	67	-0.01
26	T	Isophorone	0.362	0.376	-3.9	65	-0.01
27	TC	2-Nitrophenol	0.121	0.131	-8.3	74	0.00
28	T	2,4-Dimethylphenol	0.235	0.229	2.6	67	0.00
29	T	Bis(2-chloroethoxy) methane	0.275	0.268	2.5	62	-0.01
30	T	Benzoic acid	0.053	0.056	-5.7	55	-0.04
31	T	2,4-Dimethylaniline	0.295	0.298	-1.0	63	-0.01
32	TC	2,4-Dichlorophenol	0.185	0.192	-3.8	70	-0.01
33	M	1,2,4-Trichlorobenzene	0.203	0.207	-2.0	65	0.00
34	T	Naphthalene	0.770	0.751	2.5	63	0.00
35	T	4-Chloroaniline	0.400	0.398	0.5	64	0.00
36	T	4-Aminotoluene	0.458	0.441	3.7	58	-0.01
37	TC	Hexachlorobutadiene	0.101	0.104	-3.0	64	0.00
38	T	Caprolactam	0.079	0.092	-16.5	85	-0.03
39	T	2-Aminotoluene	0.458	0.441	3.7	58	-0.01
40	MC	4-Chloro-3-methylphenol	0.189	0.200	-5.8	72	-0.01
41	T	2-Methylnaphthalene	0.490	0.492	-0.4	66	-0.01
42	T	1-Methylnaphthalene	0.427	0.439	-2.8	68	-0.01
43	I	Acenaphthene-d10	1.000	1.000	0.0	73	0.00
44	TP	Hexachlorocyclopentadiene	0.202	0.174	13.9	61	0.00

45	TC	2,4,6-Trichlorophenol	0.254	0.264	-3.9	73	0.00
46	T	2,4,5-Trichlorophenol	0.254	0.264	-3.9	73	0.00
47	S	2-Fluorobiphenyl	1.005	0.983	2.2	71	0.00
48	T	1,1'-Biphenyl	1.136	1.040	8.5	70	-0.01
49	T	2-Chloronaphthalene	0.835	0.797	4.6	66	0.00
50	T	2-Nitroaniline	0.200	0.219	-9.5	76	0.00
51	T	Dimethyl phthalate	0.834	0.856	-2.6	72	0.00
52	T	2,6-Dinitrotoluene	0.176	0.192	-9.1	75	0.00
53	T	Acenaphthylene	1.307	1.286	1.6	70	0.00
54	T	3-Nitroaniline	0.205	0.222	-8.3	75	-0.01
55	MC	Acenaphthene	0.847	0.835	1.4	71	0.00
56	TP	2,4-Dinitrophenol	0.061	0.072	-18.0	102	-0.01
57	MP	4-Nitrophenol	0.135	0.159	-17.8	87	-0.01
58	M	2,4-Dinitrotoluene	0.215	0.254	-18.1	79	-0.01
59	T	Dibenzofuran	1.191	1.141	4.2	70	0.00
60	T	Diethyl phthalate	0.794	0.822	-3.5	73	-0.01
61	T	Fluorene	0.887	0.919	-3.6	76	0.00
62	T	4-Chlorophenyl phenyl ether	0.416	0.421	-1.2	72	0.00
63	T	4-Nitroaniline	0.212	0.235	-10.8	81	-0.01
64		1,2,4,5-Tetrachlorobenzene	0.378	0.362	4.2	74	0.00
65	T	2,3,4,6-Tetrachlorophenol	0.170	0.196	-15.3	76	0.00
66	I	Phenanthrene-d10	1.000	1.000	0.0	78	0.00
67	T	4,6-Dinitro-2-methylphenol	0.052	0.062	-19.2	78	-0.01
68	TC	N-Nitrosodiphenylamine	0.396	0.416	-5.1	77	0.00
69	T	1,2-Diphenylhydrazine	0.590	0.580	1.7	73	0.00
70	S	2,4,6-Tribromophenol	0.080	0.092	-15.0	86	0.00
71	T	4-Bromophenyl phenyl ether	0.147	0.146	0.7	73	0.00
72	T	Hexachlorobenzene	0.165	0.165	0.0	75	0.00
73	T	Atrazine	0.123	0.102	17.1	68	-0.01
74	MC	Pentachlorophenol	0.078	0.093	-19.2	86	0.00
75	T	Phenanthrene	0.771	0.753	2.3	77	-0.01
76	T	Anthracene	0.756	0.758	-0.3	77	-0.01
77	T	Carbazole	0.701	0.717	-2.3	79	0.00
78	T	Di-n-butyl phthalate	0.733	0.805	-9.8	82	0.00
79	TC	Fluoranthene	0.666	0.734	-10.2	86	0.00
80	T	Benzidine	0.172	0.203	-18.0	100	-0.01
82	I	Chrysene-d12	1.000	1.000	0.0	90	0.00
83	M	Pyrene	1.160	1.135	2.2	87	0.00
84	S	Terphenyl-d14	0.927	0.958	-3.3	92	0.00
85	T	3,3'-Dimethylbenzidine	0.369	0.321	13.0	119	-0.02
86	T	Butyl benzyl phthalate	0.426	0.479	-12.4	96	0.00
87	T	3,3'-Dichlorobenzidine	0.167	0.190	-13.8	89	0.00
88	T	Benzo[a]anthracene	0.954	0.948	0.6	92	0.00
89	T	Chrysene	0.968	0.945	2.4	89	0.00
90	T	Bis(2-ethylhexyl) phthalate	0.567	0.637	-12.3	95	0.00
92	I	Perylene-d12	1.000	1.000	0.0	90	0.00
93	TC	Di-n-octyl phthalate	1.580	1.847	-16.9	103	0.00
94	T	Benzo[b]fluoranthene	1.359	1.259	7.4	88	0.00
95	T	Benzo[k]fluoranthene	1.499	1.593	-6.3	87	0.00
96	TC	Benzo[a]pyrene	1.402	1.427	-1.8	88	0.00
97	T	Indeno[1,2,3-cd]pyrene	1.479	1.538	-4.0	85	-0.03
98	T	Dibenz[a,h]anthracene	1.145	1.331	-16.2	86	-0.03
99	T	Benzo[g,h,i]perylene	1.293	1.332	-3.0	86	-0.03
100	I	1,4-Dioxane-d8[ISTD]	1.000	1.000	0.0	83	-0.03
101	T	1,4-Dioxane	1.438	1.242	13.6	84	-0.02

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

AD1218.M Thu Oct 18 10:51:39 2018 MSD-A

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6651.D

Date Analyzed: 10/09/2018

Instrument ID: MSDA

Time Analyzed: 09:27

		IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
	24 HOUR STD	92997		3.41		410648		4.17		219841		5.18	
	UPPER LIMIT	185994		3.91		821296		4.67		439682		5.68	
	LOWER LIMIT	46499		2.91		205324		3.67		109921		4.68	
	LAB SAMPLE ID												
01	ICC001BNA1	92997		3.41		410648		4.17		219841		5.18	
01	ICC010BNA1	96236		3.42		417147		4.16		222806		5.18	
02	ICC020BNA1	80609		3.42		351939		4.16		187740		5.18	
03	ICC040BNA1	97864		3.42		420438		4.17		203104		5.18	
04	ICC080BNA1	96797		3.42		411416		4.17		195450		5.18	
05	ICC160BNA1	103463		3.42		402927		4.17		184613		5.18	
06	ICC160BNA2	88832		3.42		374038		4.17		196254		5.18	
07	ICC080BNA2	77638		3.42		329432		4.17		174875		5.18	
08	ICC040BNA2	77650		3.42		345691		4.17		179601		5.18	
09	ICC020BNA2	80508		3.42		358077		4.17		192395		5.18	
10	ICC010BNA2	80869		3.42		351857		4.17		190605		5.18	
11	ICC001BNA2	76411		3.42		335356		4.17		177831		5.18	
12	ICV040BNA1	85558		3.42		357727		4.17		186988		5.18	
13	ICV040BNA2	81012		3.42		347404		4.17		187741		5.18	
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6651.D

Date Analyzed: 10/09/2018

Instrument ID: MSDA

Time Analyzed: 09:27

		IS4 AREA	#	RT	#	IS5 AREA	#	RT	#	IS6 AREA	#	RT	#
	24 HOUR STD	362993		6.03		212305		7.68		105477		8.93	
	UPPER LIMIT	725986		6.53		424610		8.18		210954		9.43	
	LOWER LIMIT	181497		5.53		106153		7.18		52739		8.43	
	LAB SAMPLE ID												
01	ICC001BNA1	362993		6.03		212305		7.68		105477		8.93	
01	ICC010BNA1	356248		6.03		202090		7.66		97873		8.91	
02	ICC020BNA1	307632		6.03		190185		7.65		95875		8.89	
03	ICC040BNA1	312592		6.03		177222		7.66		92754		8.90	
04	ICC080BNA1	284839		6.03		165821		7.65		98777		8.89	
05	ICC160BNA1	269940		6.03		167654		7.67		96202		8.91	
06	ICC160BNA2	316094		6.03		267622		7.66		139428		8.90	
07	ICC080BNA2	297292		6.03		270888		7.65		133037		8.89	
08	ICC040BNA2	305445		6.03		287803		7.67		137696		8.92	
09	ICC020BNA2	317014		6.03		286752		7.67		136389		8.92	
10	ICC010BNA2	314384		6.03		290331		7.67		137479		8.92	
11	ICC001BNA2	297167		6.03		263256		7.67		125242		8.92	
12	ICV040BNA1	297137		6.03		182950		7.67		94453		8.91	
13	ICV040BNA2	313287		6.03		290450		7.67		135034		8.91	
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6651.D

Date Analyzed: 10/09/2018

Instrument ID: MSDA

Time Analyzed: 09:27

	20 ppm	IS7 AREA #	RT #	IS8 AREA #	RT #	IS9 AREA #	RT #
	105477	15798	1.36				
	UPPER LIMIT	17378	1.86				
	LOWER LIMIT	2370	0.86				
	LAB SAMPLE ID						
01	ICC001BNA1	15798	1.36				
01	ICC010BNA1	14626	1.36				
02	ICC020BNA1	11653	1.36				
03	ICC040BNA1	13070	1.36				
04	ICC080BNA1	11986	1.37				
05	ICC160BNA1	11917	1.37				
06	ICC160BNA2	NA	NA				
07	ICC080BNA2	NA	NA				
08	ICC040BNA2	NA	NA				
09	ICC020BNA2	NA	NA				
10	ICC010BNA2	NA	NA				
11	ICC001BNA2	NA	NA				
12	ICV040BNA1	14661	1.36				
13	ICV040BNA2	NA	NA				
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS7 = 1,4-Dioxane-d8

AREA UPPER LIMIT = +10% of internal standard area
AREA LOWER LIMIT = -85% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6944.D

Date Analyzed: 10/18/2018

Instrument ID: MSDA

Time Analyzed: 10:17

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	24 HOUR STD	65915	3.41	267250	4.17	149006	5.18
	UPPER LIMIT	131830	3.91	534500	4.67	298012	5.68
	LOWER LIMIT	32958	2.91	133625	3.67	74503	4.68
	LAB SAMPLE ID						
01	CCV040BNA1	65915	3.41	267250	4.17	149006	5.18
01	CCV040BNA2	64425	3.41	278002	4.17	151701	5.18
02	BLKA181017-01	82434	3.41	363994	4.16	195708	5.18
03	LCSA181017-01	83056	3.41	366469	4.16	204936	5.18
04	E18-08270-001MS	76414	3.41	327359	4.16	175004	5.18
05	E18-08270-001MSD	73783	3.41	321910	4.17	175620	5.18
06	E18-08248-001	93278	3.41	415944	4.17	224343	5.18
07	E18-08236-003	97935	3.41	428416	4.17	226933	5.18
08	E18-08236-004	93445	3.41	412462	4.17	222455	5.18
09	E18-08236-005	87249	3.41	385399	4.17	208597	5.18
10	E18-08236-006	74443	3.44	439247	4.23	264989	5.23
11	E18-08236-007	93068	3.42	363155	4.17	194881	5.18
12	E18-08236-008	90847	3.41	362664	4.17	181235	5.19
13	E18-08195-001	72223	3.41	307016	4.16	163381	5.18
14	E18-08195-002	78147	3.41	348170	4.16	190174	5.18
15	E18-08195-003	74310	3.41	319070	4.16	167731	5.18
16	E18-08195-004	66543	3.41	290562	4.17	154360	5.18
17	E18-08195-005	69395	3.41	289654	4.17	155554	5.18
18	E18-08258-001	78788	3.41	334364	4.17	179697	5.18
19	E18-08270-001	97887	3.41	423166	4.17	226085	5.18
20	E18-08284-001	79363	3.41	345144	4.16	178979	5.18
21	E18-08284-002	71388	3.41	298536	4.17	158521	5.18
22	E18-08284-003	73487	3.41	316897	4.17	171012	5.18

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6944.D

Date Analyzed: 10/18/2018

Instrument ID: MSDA

Time Analyzed: 10:17

		IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
	24 HOUR STD	243984	6.03	159516	7.67	83245	8.91
	UPPER LIMIT	487968	6.53	319032	8.17	166490	9.41
	LOWER LIMIT	121992	5.53	79758	7.17	41623	8.41
	LAB SAMPLE ID						
01	CCV040BNA1	243984	6.03	159516	7.67	83245	8.91
01	CCV040BNA2	257882	6.03	261398	7.65	123587	8.89
02	BLKA181017-01	341604	6.03	177424	7.65	85828	8.89
03	LCSA181017-01	327181	6.03	162246	7.65	82169	8.88
04	E18-08270-001MS	279143	6.02	145139	7.63	77786	8.87
05	E18-08270-001MSD	284201	6.03	142925	7.64	77791	8.87
06	E18-08248-001	379354	6.02	204171	7.63	102316	8.87
07	E18-08236-003	372795	6.02	158633	7.63	86780	8.87
08	E18-08236-004	355591	6.03	187472	7.67	114094	8.91
09	E18-08236-005	343047	6.03	172356	7.64	99993	8.88
10	E18-08236-006	406470	6.06	194520	7.63	115689	8.87
11	E18-08236-007	313571	6.02	157122	7.63	90192	8.86
12	E18-08236-008	257653	6.03	135425	7.63	91848	8.86
13	E18-08195-001	253196	6.02	124624	7.62	76903	8.86
14	E18-08195-002	301361	6.03	156772	7.63	92000	8.86
15	E18-08195-003	274244	6.02	145244	7.61	88604	8.85
16	E18-08195-004	259342	6.02	129351	7.61	79196	8.85
17	E18-08195-005	258482	6.02	135477	7.61	81531	8.85
18	E18-08258-001	296660	6.02	154592	7.61	91784	8.85
19	E18-08270-001	370186	6.03	171967	7.61	100548	8.85
20	E18-08284-001	294560	6.02	139817	7.61	78832	8.85
21	E18-08284-002	257395	6.02	134042	7.62	76477	8.85
22	E18-08284-003	269144	6.02	136350	7.61	77146	8.84

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6944.D

Date Analyzed: 10/18/2018

Instrument ID: MSDA

Time Analyzed: 10:17

	20 ppm	IS7 AREA #	RT #	IS8 AREA #	RT #	IS9 AREA #	RT #
	83245	10858	1.35				
	UPPER LIMIT	11944	1.85				
	LOWER LIMIT	1629	0.85				
	LAB SAMPLE ID						
01	CCV040BNA1	10858	1.35				
01	CCV040BNA2	NA	NA				
02	BLKA181017-01	NA	NA				
03	LCSA181017-01	NA	NA				
04	E18-08270-001MS	NA	NA				
05	E18-08270-001MSD	NA	NA				
06	E18-08248-001	NA	NA				
07	E18-08236-003	NA	NA				
08	E18-08236-004	NA	NA				
09	E18-08236-005	NA	NA				
10	E18-08236-006	NA	NA				
11	E18-08236-007	NA	NA				
12	E18-08236-008	NA	NA				
13	E18-08195-001	NA	NA				
14	E18-08195-002	NA	NA				
15	E18-08195-003	NA	NA				
16	E18-08195-004	NA	NA				
17	E18-08195-005	NA	NA				
18	E18-08258-001	NA	NA				
19	E18-08270-001	NA	NA				
20	E18-08284-001	NA	NA				
21	E18-08284-002	NA	NA				
22	E18-08284-003	NA	NA				

IS7 = 1,4-Dioxane-d8

AREA UPPER LIMIT = +10% of internal standard area
AREA LOWER LIMIT = -85% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6944.D

Date Analyzed: 10/18/2018

Instrument ID: MSDA

Time Analyzed: 10:17

		IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
	24 HOUR STD	65915		3.41		267250		4.17		149006		5.18	
	UPPER LIMIT	131830		3.91		534500		4.67		298012		5.68	
	LOWER LIMIT	32958		2.91		133625		3.67		74503		4.68	
	LAB SAMPLE ID												
01	E18-08236-001	123167		3.41		442819		4.16		271215		5.18	
02	E18-08236-002	113014		3.41		489273		4.17		239650		5.18	
03	E18-08236-006DL	111471		3.42		426358		4.18		221194		5.19	
04	E18-08236-009	118143		3.41		470084		4.17		236870		5.18	
05	E18-08284-003DL	84251		3.41		357078		4.17		157524		5.18	
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6944.D

Date Analyzed: 10/18/2018

Instrument ID: MSDA

Time Analyzed: 10:17

		IS4 AREA	#	RT	#	IS5 AREA	#	RT	#	IS6 AREA	#	RT	#
	24 HOUR STD	243984		6.03		159516		7.67		83245		8.91	
	UPPER LIMIT	487968		6.53		319032		8.17		166490		9.41	
	LOWER LIMIT	121992		5.53		79758		7.17		41623		8.41	
	LAB SAMPLE ID												
01	E18-08236-001	398796		6.03		205195		7.61		137216		8.84	
02	E18-08236-002	391950		6.03		234143		7.61		142379		8.85	
03	E18-08236-006DL	306380		6.05		148109		7.75		95354		9.01	
04	E18-08236-009	467670		6.03		229258		7.61		142374		8.84	
05	E18-08284-003DL	344271		6.04		168673		7.75		104939		9.01	
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

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

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): A6944.D

Date Analyzed: 10/18/2018

Instrument ID: MSDA

Time Analyzed: 10:17

	20 ppm	IS7 AREA #	RT #	IS8 AREA #	RT #	IS9 AREA #	RT #
	83245	10858	1.35				
	UPPER LIMIT	11944	1.85				
	LOWER LIMIT	1629	0.85				
	LAB SAMPLE ID						
01	E18-08236-001	NA	NA				
02	E18-08236-002	NA	NA				
03	E18-08236-006DL	NA	NA				
04	E18-08236-009	NA	NA				
05	E18-08284-003DL	NA	NA				
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS7 = 1,4-Dioxane-d8

AREA UPPER LIMIT = +10% of internal standard area
AREA LOWER LIMIT = -85% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMI-VOLATILE ORGANICS SAMPLE DATA

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6961.D
Acq On : 18 Oct 2018 14:51
Operator : dp
Sample : MW_3,E18-08195-001,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 18 16:02:48 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration

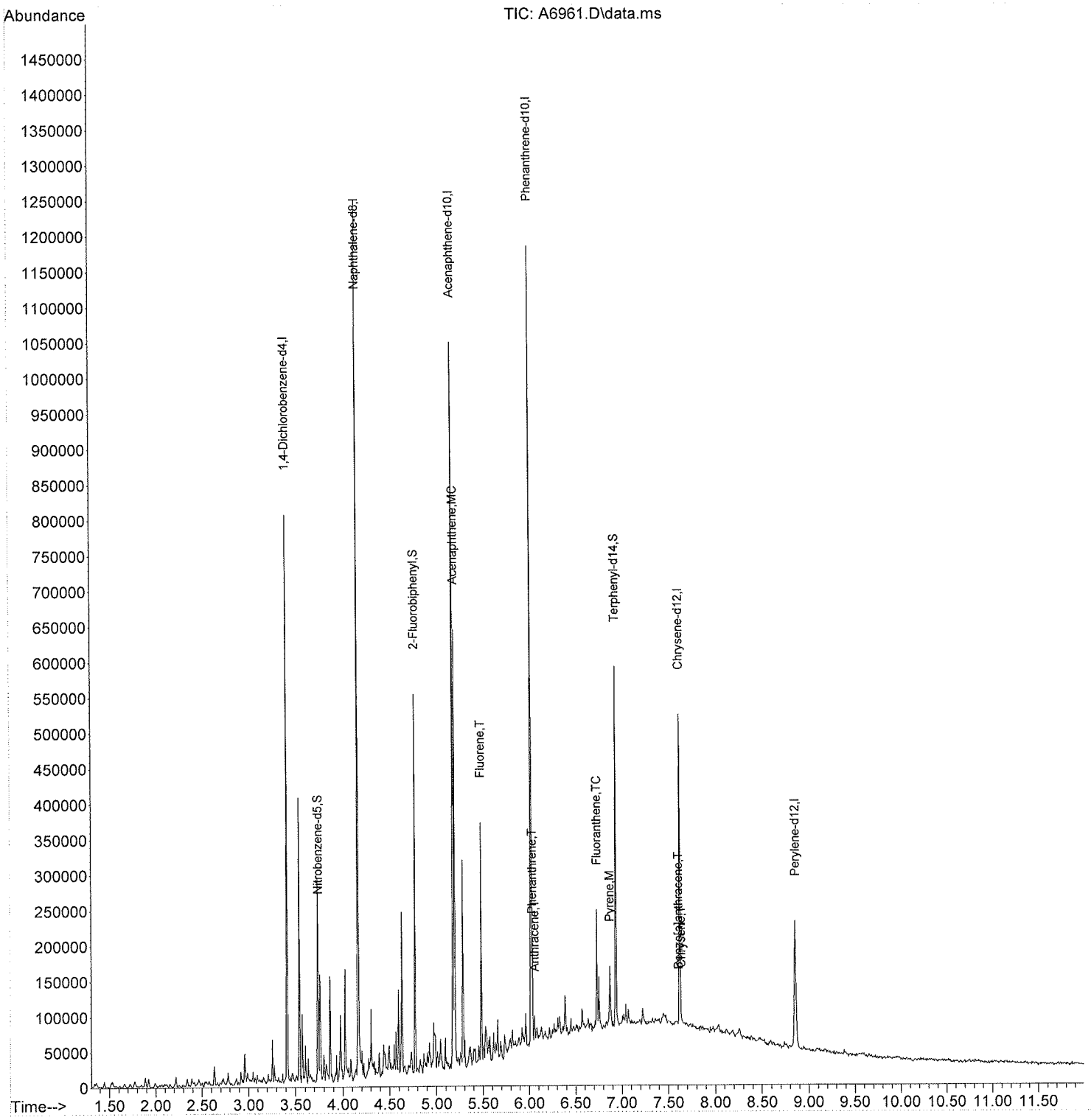
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	3.411	152	72223	40.00	UG		0.00
23) Naphthalene-d8	4.165	136	307016	40.00	UG		0.00
43) Acenaphthene-d10	5.176	164	163381	40.00	UG		0.00
66) Phenanthrene-d10	6.021	188	253196	40.00	UG		-0.01
82) Chrysene-d12	7.620	240	124624	40.00	UG		-0.05
92) Perylene-d12	8.856	264	76903	40.00	UG		-0.05
100) 1,4-Dioxane-d8[ISTD]	0.000	64	0	0.00	UG		-1.37
System Monitoring Compounds							
4) 2-Fluorophenol	0.000	112	0d	0.00	UG		
Spiked Amount 100.000	Range 25 - 100		Recovery = 0.00%#				
6) Phenol-d5	0.000	99	0d	0.00	UG		
Spiked Amount 100.000	Range 25 - 1080		Recovery = 0.00%#				
22) 1,4-Dioxane-d8	0.000	64	0	0.00	UG		
Spiked Amount 20.000	Range 15 - 110		Recovery = 0.00%#				
24) Nitrobenzene-d5	3.742	82	41951	20.42	UG		0.00
Spiked Amount 50.000	Range 24 - 91		Recovery = 40.84%				
47) 2-Fluorobiphenyl	4.775	172	94971	23.13	UG		0.00
Spiked Amount 50.000	Range 33 - 91		Recovery = 46.26%				
70) 2,4,6-Tribromophenol	0.000	330	0	0.00	UG		
Spiked Amount 100.000	Range 37 - 115		Recovery = 0.00%#				
84) Terphenyl-d14	6.936	244	128661	44.53	UG		-0.02
Spiked Amount 50.000	Range 15 - 122		Recovery = 89.06%				
Target Compounds							Qvalue
55) Acenaphthene	5.197	153	93580	27.04	UG		93
61) Fluorene	5.481	166	54604	15.07	UG		97
75) Phenanthrene	6.037	178	29790	6.11	UG		94
76) Anthracene	6.058	178	9834m	2.05	UG		
79) Fluoranthene	6.732	202	38961	9.24	UG		97
83) Pyrene	6.871	202	22976	6.36	UG		99
88) Benzo[a]anthracene	7.609	228	1299	0.44	UG	#	65
89) Chrysene	7.636	228	1732	0.57	UG	#	43

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6961.D
Acq On : 18 Oct 2018 14:51
Operator : dp
Sample : MW_3,E18-08195-001,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 18 16:02:48 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6962.D
Acq On : 18 Oct 2018 15:06
Operator : dp
Sample : MW_2,E18-08195-002,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 18 16:04:32 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration

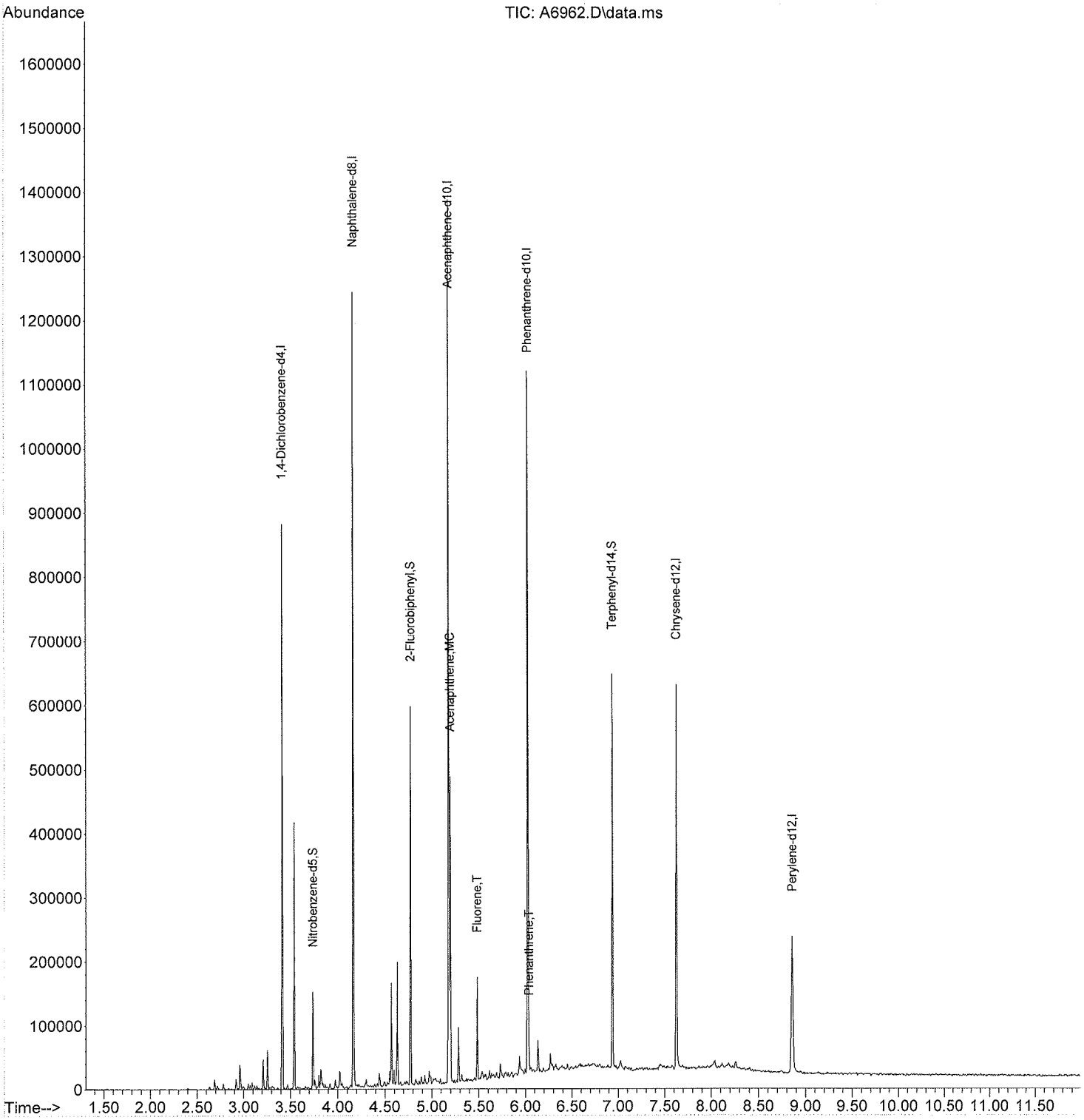
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.411	152	78147	40.00	UG	0.00
23) Naphthalene-d8	4.165	136	348170	40.00	UG	0.00
43) Acenaphthene-d10	5.181	164	190174	40.00	UG	0.00
66) Phenanthrene-d10	6.026	188	301361	40.00	UG	0.00
82) Chrysene-d12	7.625	240	156772	40.00	UG	-0.04
92) Perylene-d12	8.856	264	92000	40.00	UG	-0.05
100) 1,4-Dioxane-d8[ISTD]	0.000	64	0	0.00	UG	-1.37
System Monitoring Compounds						
4) 2-Fluorophenol	0.000	112	0d	0.00	UG	
Spiked Amount 100.000	Range 25 - 100		Recovery = 0.00%#			
6) Phenol-d5	0.000	99	0d	0.00	UG	
Spiked Amount 100.000	Range 25 - 1080		Recovery = 0.00%#			
22) 1,4-Dioxane-d8	0.000	64	0	0.00	UG	
Spiked Amount 20.000	Range 15 - 110		Recovery = 0.00%#			
24) Nitrobenzene-d5	3.737	82	43603m	18.72	UG	-0.01
Spiked Amount 50.000	Range 24 - 91		Recovery = 37.44%			
47) 2-Fluorobiphenyl	4.775	172	116773	24.43	UG	0.00
Spiked Amount 50.000	Range 33 - 91		Recovery = 48.86%			
70) 2,4,6-Tribromophenol	0.000	330	0	0.00	UG	
Spiked Amount 100.000	Range 37 - 115		Recovery = 0.00%#			
84) Terphenyl-d14	6.936	244	136466	37.55	UG	-0.02
Spiked Amount 50.000	Range 15 - 122		Recovery = 75.10%			
Target Compounds						Qvalue
55) Acenaphthene	5.197	153	65903	16.36	UG	96
61) Fluorene	5.481	166	27270	6.47	UG	98
75) Phenanthrene	6.037	178	8608	1.48	UG #	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6962.D
Acq On : 18 Oct 2018 15:06
Operator : dp
Sample : MW_2,E18-08195-002,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 18 16:04:32 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6963.D
Acq On : 18 Oct 2018 15:22
Operator : dp
Sample : MW_2_DUP,E18-08195-003,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 18 16:11:04 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration

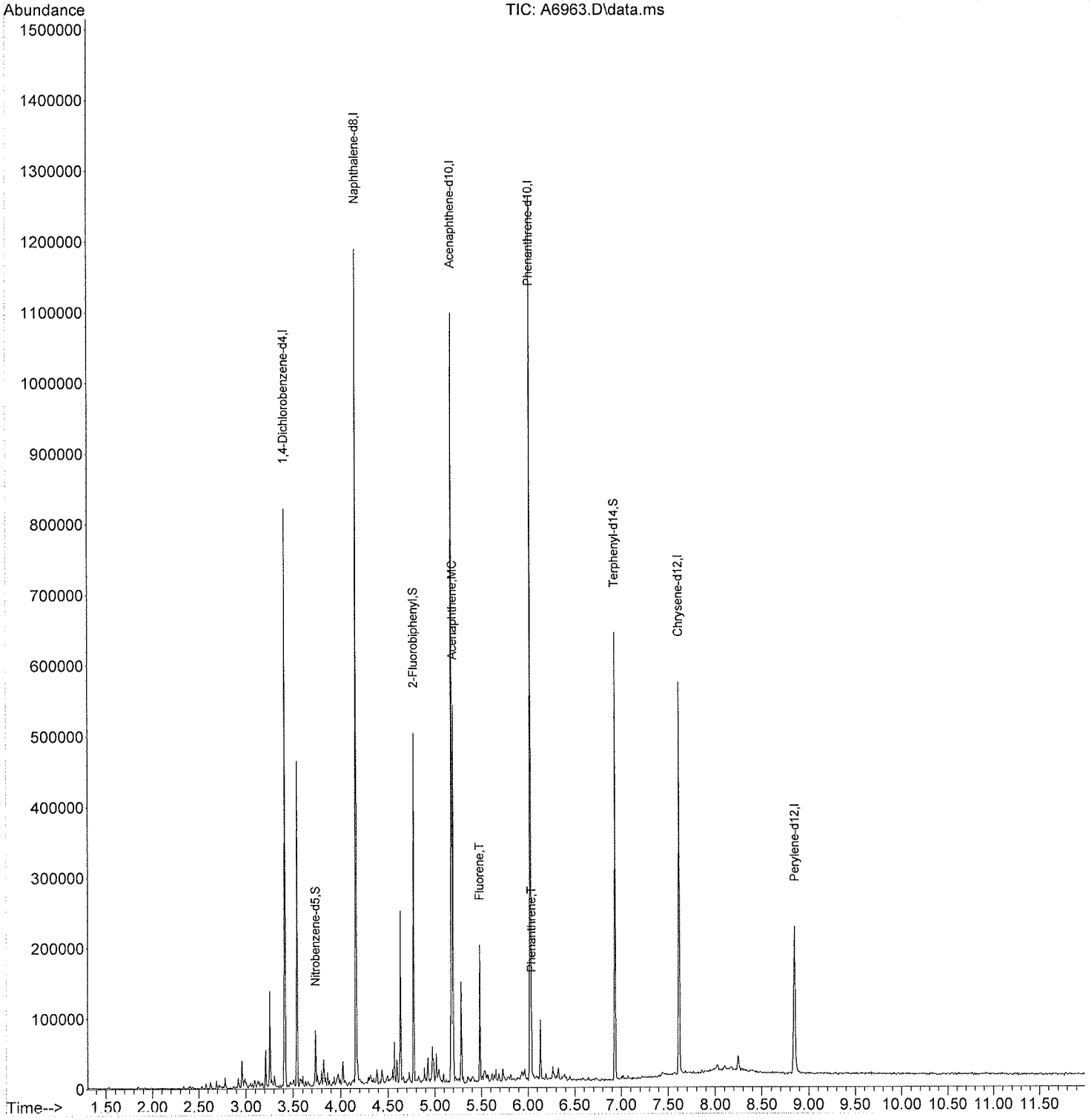
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.411	152	74310	40.00	UG	0.00
23) Naphthalene-d8	4.165	136	319070	40.00	UG	0.00
43) Acenaphthene-d10	5.181	164	167731	40.00	UG	0.00
66) Phenanthrene-d10	6.021	188	274244	40.00	UG	-0.01
82) Chrysene-d12	7.615	240	145244	40.00	UG	-0.05
92) Perylene-d12	8.850	264	88604	40.00	UG	-0.06
100) 1,4-Dioxane-d8[ISTD]	0.000	64	0	0.00	UG	-1.37
System Monitoring Compounds						
4) 2-Fluorophenol	0.000	112	0d	0.00	UG	
Spiked Amount 100.000	Range 25 - 100		Recovery = 0.00%#			
6) Phenol-d5	0.000	99	0d	0.00	UG	
Spiked Amount 100.000	Range 25 - 1080		Recovery = 0.00%#			
22) 1,4-Dioxane-d8	0.000	64	0	0.00	UG	
Spiked Amount 20.000	Range 15 - 110		Recovery = 0.00%#			
24) Nitrobenzene-d5	3.737	82	24064m	11.27	UG	-0.01
Spiked Amount 50.000	Range 24 - 91		Recovery = 22.54%#			
47) 2-Fluorobiphenyl	4.775	172	97455	23.12	UG	0.00
Spiked Amount 50.000	Range 33 - 91		Recovery = 46.24%			
70) 2,4,6-Tribromophenol	0.000	330	0	0.00	UG	
Spiked Amount 100.000	Range 37 - 115		Recovery = 0.00%#			
84) Terphenyl-d14	6.930	244	137778	40.92	UG	-0.03
Spiked Amount 50.000	Range 15 - 122		Recovery = 81.84%			
Target Compounds						Qvalue
55) Acenaphthene	5.197	153	79418	22.36	UG	95
61) Fluorene	5.481	166	33817	9.09	UG	99
75) Phenanthrene	6.037	178	23486	4.44	UG #	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6963.D
Acq On : 18 Oct 2018 15:22
Operator : dp
Sample : MW_2_DUP,E18-08195-003,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 18 16:11:04 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6964.D
Acq On : 18 Oct 2018 15:38
Operator : dp
Sample : MW_5,E18-08195-004,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 18 Sample Multiplier: 1

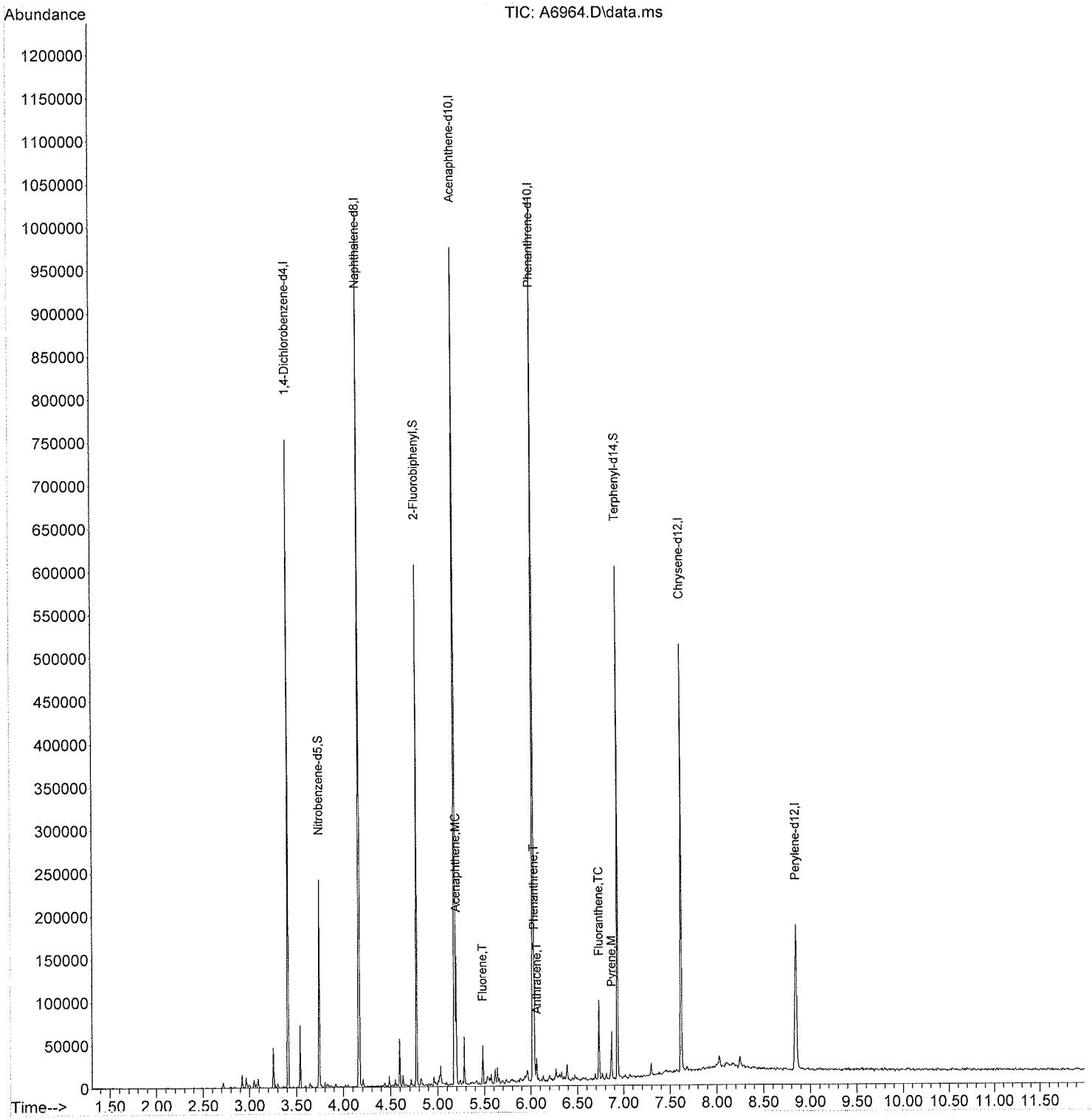
Quant Time: Oct 18 16:12:23 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	3.411	152	66543	40.00	UG		0.00
23) Naphthalene-d8	4.165	136	290562	40.00	UG		0.00
43) Acenaphthene-d10	5.176	164	154360	40.00	UG		0.00
66) Phenanthrene-d10	6.021	188	259342	40.00	UG		-0.01
82) Chrysene-d12	7.615	240	129351	40.00	UG		-0.05
92) Perylene-d12	8.845	264	79196	40.00	UG		-0.06
100) 1,4-Dioxane-d8[ISTD]	0.000	64	0	0.00	UG		-1.37
System Monitoring Compounds							
4) 2-Fluorophenol	2.716	112	115	0.07	UG		0.09
Spiked Amount 100.000	Range 25 - 100		Recovery = 0.07%#				
6) Phenol-d5	0.000	99	0d	0.00	UG		
Spiked Amount 100.000	Range 25 - 1080		Recovery = 0.00%#				
22) 1,4-Dioxane-d8	0.000	64	0	0.00	UG		
Spiked Amount 20.000	Range 15 - 110		Recovery = 0.00%#				
24) Nitrobenzene-d5	3.742	82	55438	28.51	UG		0.00
Spiked Amount 50.000	Range 24 - 91		Recovery = 57.02%				
47) 2-Fluorobiphenyl	4.775	172	111368	28.71	UG		0.00
Spiked Amount 50.000	Range 33 - 91		Recovery = 57.42%				
70) 2,4,6-Tribromophenol	0.000	330	0	0.00	UG		
Spiked Amount 100.000	Range 37 - 115		Recovery = 0.00%#				
84) Terphenyl-d14	6.930	244	139943	46.67	UG		-0.03
Spiked Amount 50.000	Range 15 - 122		Recovery = 93.34%				
Target Compounds							Qvalue
55) Acenaphthene	5.197	153	22212	6.79	UG		95
61) Fluorene	5.481	166	7628	2.23	UG	#	98
75) Phenanthrene	6.037	178	27103	5.42	UG		99
76) Anthracene	6.064	178	7503m	1.53	UG		
79) Fluoranthene	6.732	202	21745	5.04	UG		95
83) Pyrene	6.871	202	14320	3.82	UG		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6964.D
Acq On : 18 Oct 2018 15:38
Operator : dp
Sample : MW_5,E18-08195-004,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 18 16:12:23 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6965.D
Acq On : 18 Oct 2018 15:54
Operator : dp
Sample : FIELD_BL,E18-08195-005,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 18 16:13:00 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration

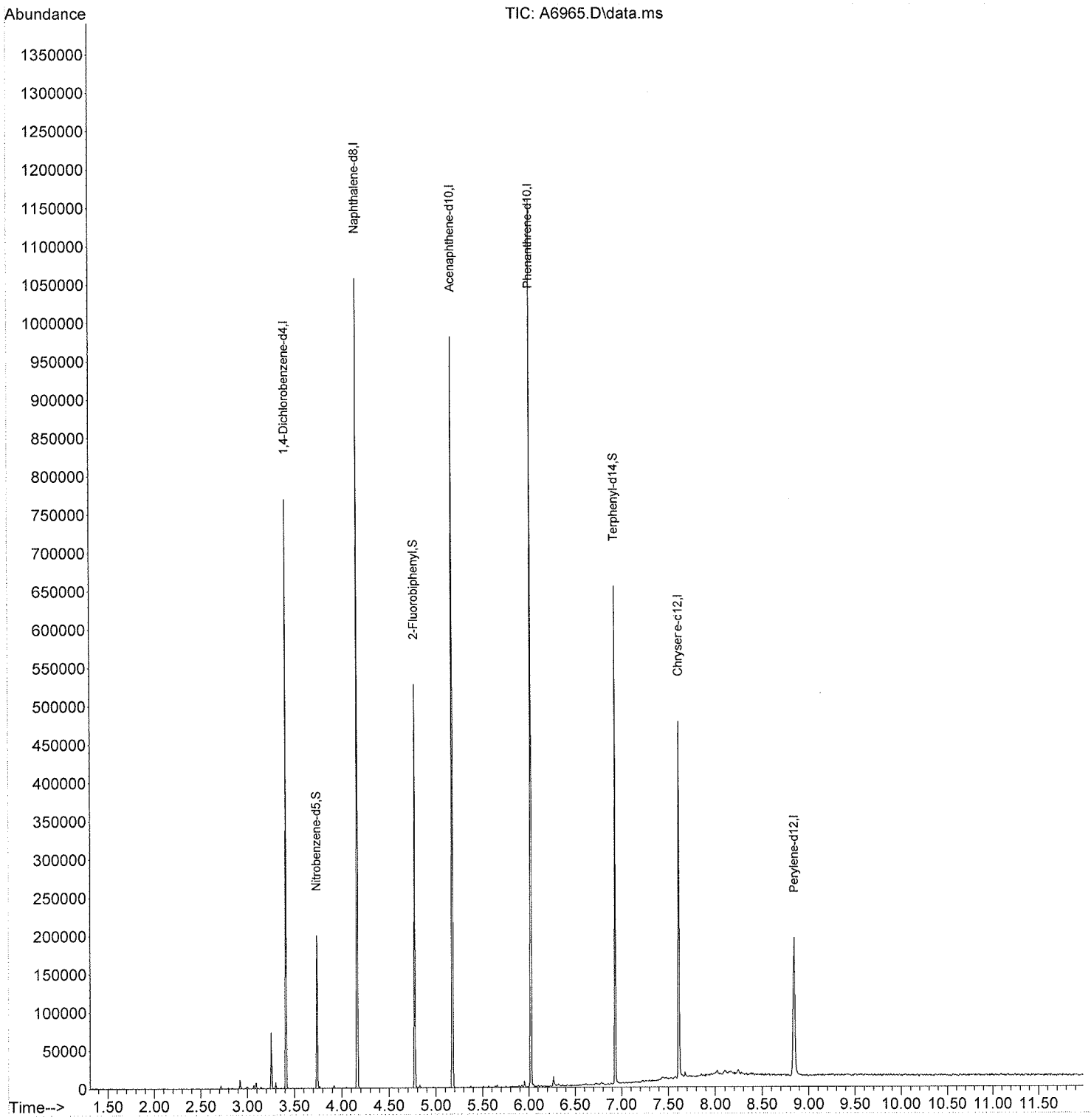
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.411	152	69395	40.00	UG	0.00
23) Naphthalene-d8	4.165	136	289654	40.00	UG	0.00
43) Acenaphthene-d10	5.181	164	155554	40.00	UG	0.00
66) Phenanthrene-d10	6.021	188	258482	40.00	UG	-0.01
82) Chrysene-d12	7.615	240	135477	40.00	UG	-0.05
92) Perylene-d12	8.845	264	81531	40.00	UG	-0.06
100) 1,4-Dioxane-d8[ISTD]	0.000	64	0	0.00	UG	-1.37
System Monitoring Compounds						
4) 2-Fluorophenol	2.716	112	55	0.03	UG	0.09
Spiked Amount 100.000	Range 25 - 100		Recovery = 0.03%#			
6) Phenol-d5	0.000	99	0d	0.00	UG	
Spiked Amount 100.000	Range 25 - 1080		Recovery = 0.00%#			
22) 1,4-Dioxane-d8	0.000	64	0	0.00	UG	
Spiked Amount 20.000	Range 15 - 110		Recovery = 0.00%#			
24) Nitrobenzene-d5	3.737	82	47568	24.54	UG	-0.01
Spiked Amount 50.000	Range 24 - 91		Recovery = 49.08%			
47) 2-Fluorobiphenyl	4.775	172	101055	25.85	UG	0.00
Spiked Amount 50.000	Range 33 - 91		Recovery = 51.70%			
70) 2,4,6-Tribromophenol	0.000	330	0	0.00	UG	
Spiked Amount 100.000	Range 37 - 115		Recovery = 0.00%#			
84) Terphenyl-d14	6.930	244	138746	44.17	UG	-0.03
Spiked Amount 50.000	Range 15 - 122		Recovery = 88.34%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6965.D
Acq On : 18 Oct 2018 15:54
Operator : dp
Sample : FIELD_BL,E18-08195-005,A,500ml,100,0.5
Misc : 181017-01,10/17/18,10/11/18,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 18 16:13:00 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration



INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: BLKA181017-01
Client ID: .
Date Received: NA
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6947.D 10/18/2018 11:04

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
N-Nitrosodimethylamine	ND		1.00	0.150
Pyridine	ND		1.00	0.196
Benzaldehyde	ND		1.00	0.324
Phenol	ND		1.00	0.147
Aniline	ND		1.00	0.212
Bis(2-chloroethyl) ether	ND		1.00	0.338
2-Chlorophenol	ND		1.00	0.252
1,3-Dichlorobenzene	ND		1.00	0.275
1,4-Dichlorobenzene	ND		1.00	0.302
Benzyl alcohol	ND		1.00	0.258
1,2-Dichlorobenzene	ND		1.00	0.275
2-Methylphenol	ND		1.00	0.250
2,2'-Oxybis(1-Chloropropane)	ND		1.00	0.472
4-Methylphenol **	ND		1.00	0.204
N-Nitrosodi-n-propylamine	ND		1.00	0.220
Acetophenone	ND		1.00	0.282
3-Methylphenol	ND		1.00	0.204
Hexachloroethane	ND		1.00	0.226
Nitrobenzene	ND		1.00	0.428
Isophorone	ND		1.00	0.227
2-Nitrophenol	ND		1.00	0.163
2,4-Dimethylphenol	ND		1.00	0.253
Bis(2-chloroethoxy) methane	ND		1.00	0.304
Benzoic acid	ND		10.0	0.298
2,4-Dimethylaniline	ND		1.00	0.221
2,4-Dichlorophenol	ND		1.00	0.254
1,2,4-Trichlorobenzene	ND		1.00	0.215
Naphthalene	ND		1.00	0.275
4-Chloroaniline	ND		1.00	0.299
4-Aminotoluene	ND		1.00	0.300
Hexachlorobutadiene	ND		1.00	0.183
Caprolactam	ND		1.00	0.187
2-Aminotoluene	ND		1.00	0.298
4-Chloro-3-methylphenol	ND		1.00	0.182
2-Methylnaphthalene	ND		1.00	0.150
Hexachlorocyclopentadiene	ND		1.00	0.193
2,4,6-Trichlorophenol	ND		1.00	0.179
2,4,5-Trichlorophenol	ND		1.00	0.184
1,1'-Biphenyl	ND		1.00	0.351
2-Chloronaphthalene	ND		1.00	0.227
2-Nitroaniline	ND		1.00	0.198
Dimethyl phthalate	ND		1.00	0.242

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: BLKA181017-01
Client ID: .
Date Received: NA
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6947.D 10/18/2018 11:04

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
% Moisture: 100
Dilution Factor: 1

Compound	Concentration	Q	RL	MDL
2,6-Dinitrotoluene	ND		1.00	0.153
Acenaphthylene	ND		1.00	0.160
3-Nitroaniline	ND		1.00	0.201
Acenaphthene	ND		1.00	0.326
2,4-Dinitrophenol	ND		1.00	0.109
4-Nitrophenol	ND		1.00	0.901
2,4-Dinitrotoluene	ND		1.00	0.142
Dibenzofuran	ND		1.00	0.341
Diethyl phthalate	ND		1.00	0.265
Fluorene	ND		1.00	0.282
4-Chlorophenyl phenyl ether	ND		1.00	0.285
4-Nitroaniline	ND		1.00	0.176
1,2,4,5-Tetrachlorobenzene	ND		1.00	0.490
2,3,4,6-Tetrachlorophenol	ND		1.00	0.146
4,6-Dinitro-2-methylphenol	ND		1.00	0.159
N-Nitrosodiphenylamine	ND		1.00	0.135
1,2-Diphenylhydrazine	ND		1.00	0.188
4-Bromophenyl phenyl ether	ND		1.00	0.237
Hexachlorobenzene	ND		1.00	0.249
Atrazine	ND		1.00	0.288
Pentachlorophenol	ND		1.00	0.184
Phenanthrene	ND		1.00	0.289
Anthracene	ND		1.00	0.245
Carbazole	ND		1.00	0.227
Di-n-butyl phthalate	ND		1.00	0.142
Fluoranthene	ND		1.00	0.235
Benzidine	ND		10.0	0.150
Pyrene	ND		1.00	0.366
3,3'-Dimethylbenzidine	ND		10.0	0.114
Butyl benzyl phthalate	ND		1.00	0.407
3,3'-Dichlorobenzidine	ND		1.00	0.270
Benzo[a]anthracene	ND		1.00	0.181
Chrysene	ND		1.00	0.462
Bis(2-ethylhexyl) phthalate	ND		1.00	0.493
Di-n-octyl phthalate	ND		1.00	0.554
Benzo[b]fluoranthene	ND		1.00	0.224
Benzo[k]fluoranthene	ND		1.00	0.326
Benzo[a]pyrene	ND		1.00	0.138
Indeno[1,2,3-cd]pyrene	ND		1.00	0.111
Dibenz[a,h]anthracene	ND		1.00	0.146
Benzo[g,h,i]perylene	ND		1.00	0.367

Total Target Compounds (83): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

** - represents the total of 3+4-Methylphenol
B --- Compound detected in Blank
Q --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS
Tentatively Identified Compounds

Lab ID: BLKA181017-01
Client ID: .
Date Received: NA
Date Extracted: 10/17/2018
Date Analyzed: 10/18/2018
Data file: A6947.D 10/18/2018 11:04

GC/MS Column: DB-5
Sample wt/vol: 500ml
Matrix-Units: Aqueous-µg/L
Dilution Factor: 1
% Moisture: 100

CAS #	Compound	Estimated Concentration	Q	Retention Time

No peaks detected

Total TICs = 0

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6947.D
Acq On : 18 Oct 2018 11:04
Operator : dp
Sample : .,BLKA181017-01,A,500ml,100,0.5
Misc : 181017-01,10/17/18,NA,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 18 12:33:23 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.411	152	82434	40.00	UG	0.00
23) Naphthalene-d8	4.165	136	363994	40.00	UG	0.00
43) Acenaphthene-d10	5.176	164	195708	40.00	UG	0.00
66) Phenanthrene-d10	6.026	188	341604	40.00	UG	0.00
82) Chrysene-d12	7.647	240	177424	40.00	UG	-0.02
92) Perylene-d12	8.888	264	85828	40.00	UG	-0.02
100) 1,4-Dioxane-d8[ISTD]	0.000	64	0	0.00	UG	-1.37
System Monitoring Compounds						
4) 2-Fluorophenol	2.619	112	111780	54.58	UG	0.00
Spiked Amount 100.000	Range 25 - 100		Recovery = 54.58%			
6) Phenol-d5	3.175	99	151702	59.37	UG	-0.01
Spiked Amount 100.000	Range 25 - 1080		Recovery = 59.37%			
22) 1,4-Dioxane-d8	0.000	64	0	0.00	UG	
Spiked Amount 20.000	Range 15 - 110		Recovery = 0.00%#			
24) Nitrobenzene-d5	3.737	82	65568	26.92	UG	-0.01
Spiked Amount 50.000	Range 24 - 91		Recovery = 53.84%			
47) 2-Fluorobiphenyl	4.775	172	152107	30.92	UG	0.00
Spiked Amount 50.000	Range 33 - 91		Recovery = 61.84%			
70) 2,4,6-Tribromophenol	5.630	330	40800	59.43	UG	0.00
Spiked Amount 100.000	Range 37 - 115		Recovery = 59.43%			
84) Terphenyl-d14	6.946	244	187069	45.48	UG	-0.01
Spiked Amount 50.000	Range 15 - 122		Recovery = 90.96%			

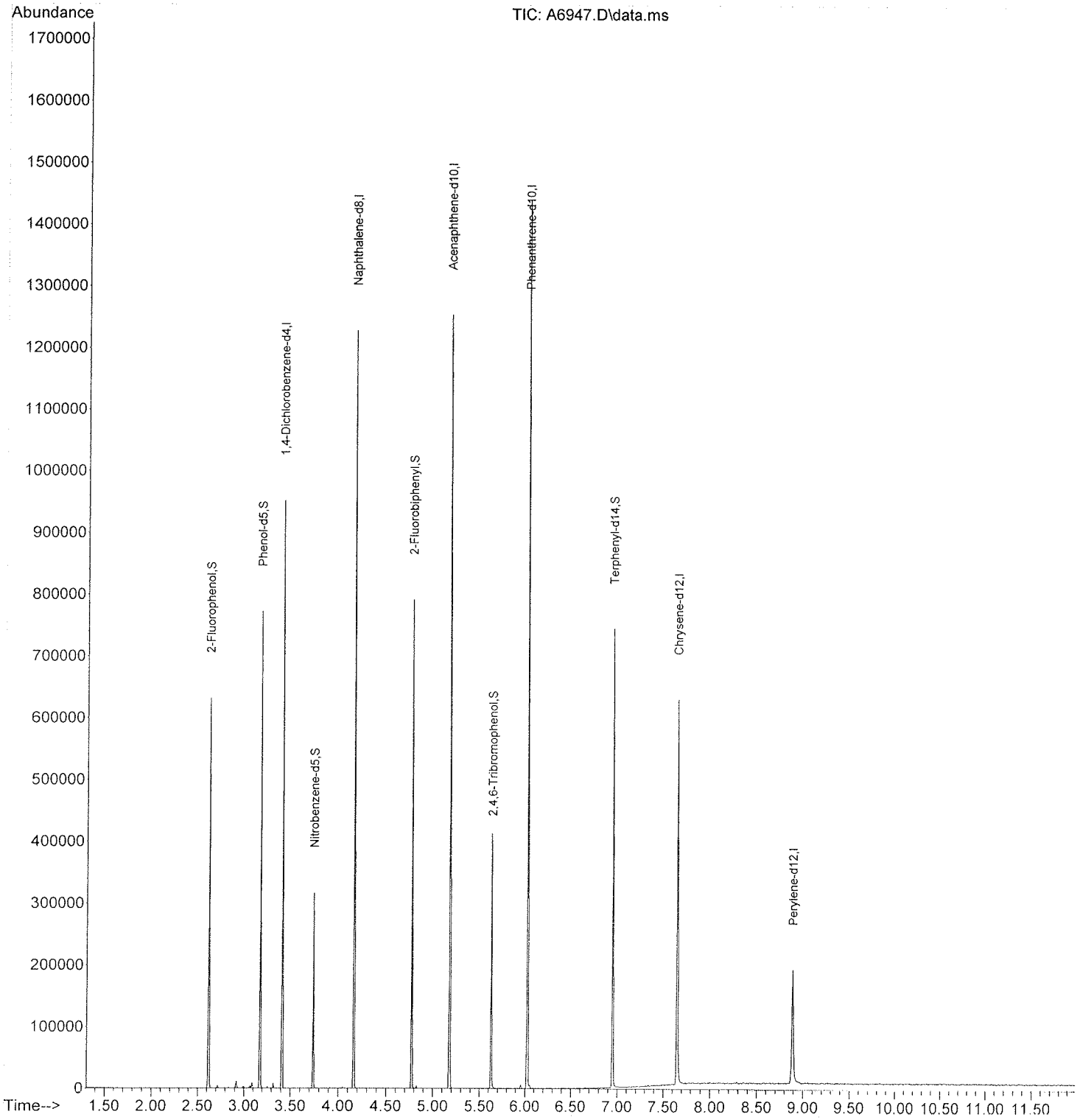
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6947.D
Acq On : 18 Oct 2018 11:04
Operator : dp
Sample : .,BLKA181017-01,A,500ml,100,0.5
Misc : 181017-01,10/17/18,NA,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 18 12:33:23 2018
Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Tue Oct 09 16:56:52 2018
Response via : Initial Calibration



Library Search Compound Report

Data Path : C:\msdchem\1\data\18-10-18A\
Data File : A6947.D
Acq On : 18 Oct 2018 11:04
Operator : dp
Sample : .,BLKA181017-01,A,500ml,100,0.5
Misc : 181017-01,10/17/18,NA,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\AD1218.M
Quant Title : BNA CALIBRATION METHOD

TIC Library : C:\Database\NIST05a.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

AD1218.M Thu Oct 18 12:33:41 2018 MSD-A

METALS

METALS
QC SUMMARY

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION VERIFICATION

Batch (Page) #: 604

SDG #: E18-08133, E18-08159, E18-08256, E18-08162, E18-08195, E18-08128

Matrix: Aqueous Method: 6020B/7470A Units: ppb (ug/L)

		10/17/18 13:27		10/17/18 14:44		10/17/18 15:49		10/17/18 16:49	
ANALYTE	ICV & CCV Ture Value	ICV		CCV		CCV		CCV	
		FOUND	% R	FOUND	% R	FOUND	% R	FOUND	% R
Aluminum	25.0	25.2	101	24.9	99.6	26.6	106	27.3	109
Antimony	25.0	24.2	96.8	25.5	102	25.5	102	25.8	103
Arsenic	25.0	25.5	102	26.3	105	27.0	108	27.0	108
Barium	25.0	25.6	102	27.1	108	27.4	110	27.0	108
Beryllium	25.0	25.4	102	26.3	105	26.0	104	25.7	103
Cadmium	25.0	25.2	101	26.3	105	26.5	106	26.6	106
Calcium	250	261	104	266	106	269	108	265	106
Chromium	25.0	25.7	103	26.7	107	27.2	109	26.9	108
Cobalt	25.0	25.2	101	26.4	106	26.9	108	27.3	109
Copper	25.0	25.3	101	27.2	109	26.9	108	27.4	110
Iron	250	260	104	267	107	275	110	270	108
Lead	25.0	24.7	98.8	26.0	104	26.2	105	26.8	107
Magnesium	250	264	106	264	106	270	108	273	109
Manganese	25.0	25.5	102	25.8	103	26.8	107	27.4	110
Mercury	5.00	5.15	103	5.07	101				
Nickel	25.0	25.8	103	27.0	108	27.4	110	26.7	107
Potassium	250	258	103	262	105	272	109	266	106
Selenium	25.0	24.4	97.6	23.9	95.6	24.4	97.6	27.1	108
Silver	25.0	26.1	104	26.1	104	26.3	105	27.0	108
Sodium	250	258	103	238	95.2	240	96.0	269	108
Thallium	25.0	23.9	95.6	24.8	99.2	25.4	102	25.7	103
Vanadium	25.0	25.7	103	26.7	107	27.1	108	27.3	109
Zinc	25.0	24.1	96.4	24.8	99.2	25.4	102	25.8	103

(1) Control Limits: 90-110%

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION VERIFICATION

Batch (Page) #: 604
SDG #: E18-08133, E18-08159, E18-08256, E18-08162, E18-08195, E18-08128

Matrix: Aqueous Method: 6020B/7470A Units: ppb (ug/L)

		10/18/18 10:59		10/18/18 11:54					
ANALYTE	ICV & CCV Ture Value	CCV FOUND	CCV % R	CCV FOUND	CCV % R	FOUND	% R	FOUND	% R
Aluminum	25.0	25.9	104	26.9	108				
Antimony	25.0	24.6	98.4	25.7	103				
Arsenic	25.0	25.9	104	26.6	106				
Barium	25.0	25.8	103	26.7	107				
Beryllium	25.0	25.0	100	25.3	101				
Cadmium	25.0	25.1	100	25.6	102				
Calcium	250	261	104	264	106				
Chromium	25.0	26.7	107	27.3	109				
Cobalt	25.0	26.4	106	26.8	107				
Copper	25.0	25.9	104	26.3	105				
Iron	250	260	104	266	106				
Lead	25.0	25.5	102	25.8	103				
Magnesium	250	263	105	271	108				
Manganese	25.0	26.3	105	27.0	108				
Nickel	25.0	26.1	104	26.7	107				
Potassium	250	260	104	270	108				
Selenium	25.0	26.0	104	25.6	102				
Silver	25.0	24.9	99.6	25.8	103				
Sodium	250	256	102	265	106				
Thallium	25.0	24.1	96.4	24.6	98.4				
Vanadium	25.0	26.4	106	26.8	107				
Zinc	25.0	24.4	97.6	25.2	101				

(1) Control Limits: 90-110%

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION BLANKS VERIFICATION

Batch (Page) #: 604
SDG #: E18-08133, E18-08159, E18-08256, E18-08162, E18-08195, E18-08128

Matrix: Aqueous Method: 6020B/7470A Units: ppb (ug/L)

		10/17/18 13:44		10/17/18 14:50	10/17/18 15:55	10/17/18 16:55	10/18/18 11:05
ANALYTE	1/2 INST. RL	ICB	INST. RL	CCB	CCB	CCB	CCB
Aluminum	2.50	ND	5.00	ND	ND	ND	ND
Antimony	0.250	ND	0.500	ND	ND	ND	ND
Arsenic	0.250	ND	0.500	ND	ND	ND	ND
Barium	0.250	ND	0.500	ND	ND	ND	ND
Beryllium	0.125	ND	0.250	ND	ND	ND	ND
Cadmium	0.250	ND	0.500	ND	ND	ND	ND
Calcium	25.0	ND	50.0	ND	ND	ND	ND
Chromium	0.250	ND	0.500	ND	ND	ND	ND
Cobalt	0.250	ND	0.500	ND	ND	ND	ND
Copper	0.250	ND	0.500	ND	ND	ND	ND
Iron	25.0	ND	50.0	ND	ND	ND	ND
Lead	0.250	ND	0.500	ND	ND	ND	ND
Magnesium	25.0	ND	50.0	ND	ND	ND	ND
Manganese	0.250	ND	0.500	ND	ND	ND	ND
Mercury	0.125	ND	0.250	ND			
Nickel	0.250	ND	0.500	ND	ND	ND	ND
Potassium	25.0	ND	50.0	ND	ND	ND	ND
Selenium	2.50	ND	5.00	ND	ND	ND	ND
Silver	0.250	ND	0.500	ND	ND	ND	ND
Sodium	25.0	ND	50.0	ND	ND	ND	ND
Thallium	0.250	ND	0.500	ND	ND	ND	ND
Vanadium	0.250	ND	0.500	ND	ND	ND	ND
Zinc	2.50	ND	5.00	ND	ND	ND	ND

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION BLANKS VERIFICATION

Batch (Page) #: 604
SDG #: E18-08133, E18-08159, E18-08256, E18-08162, E18-08195, E18-08128

Matrix: Aqueous Method: 6020B/7470A Units: ppb (ug/L)

		10/18/18 12:00					
ANALYTE	INST. RL	CCB					
Aluminum	5.00	ND					
Antimony	0.500	ND					
Arsenic	0.500	ND					
Barium	0.500	ND					
Beryllium	0.250	ND					
Cadmium	0.500	ND					
Calcium	50.0	ND					
Chromium	0.500	ND					
Cobalt	0.500	ND					
Copper	0.500	ND					
Iron	50.0	ND					
Lead	0.500	ND					
Magnesium	50.0	ND					
Manganese	0.500	ND					
Nickel	0.500	ND					
Potassium	50.0	ND					
Selenium	5.00	ND					
Silver	0.500	ND					
Sodium	50.0	ND					
Thallium	0.500	ND					
Vanadium	0.500	ND					
Zinc	5.00	ND					

METALS QUALITY CONTROL

BLANK 1 RESULTS SUMMARY

10/17/2018 02:28 PM

Batch (Page) #: 604
Associated Lab Case for Blank 1: E18-08128, E18-08133, E18-08159, E18-08162, E18-08195, E18-08256

Matrix: Aqueous Unit: ppb (µg/L) Method: 6020B/7470A

ANALYTE	1/2 Sample RL	REAGENT BLANK BLKA181016-01
Aluminum	10.0	ND
Antimony	1.00	ND
Arsenic	1.00	ND
Barium	1.00	ND
Beryllium	0.500	ND
Cadmium	1.00	ND
Calcium	100	ND
Chromium	1.00	ND
Cobalt	1.00	ND
Copper	1.00	ND
Iron	100	ND
Lead	1.00	ND
Magnesium	100	ND
Manganese	1.00	ND
Mercury	0.250	ND
Nickel	1.00	ND
Potassium	100	ND
Selenium	10.0	ND
Silver	1.00	ND
Sodium	100	ND
Thallium	1.00	ND
Vanadium	1.00	ND
Zinc	10.0	ND

Associated Sample for Blank 1:
08128-001~003; 08133-002; 08159-009~011; 08162-001
08162-002; 08195-001,004~005; 08256-001~003,005
08256-006~007

METALS QUALITY CONTROL

ICP-MS ICSAB RESULTS SUMMARY

Instrument: Agilent7700
Batch (Page) #: 604
SDG #: E18-08133, E18-08159, E18-08256, E18-08162, E18-08195, E18-08128

Matrix: Aqueous Concentration/Units: ppb (µg/L)

Interferents	ICS A				ICS A+B			
	True Value	Result	% Recovery	LDR	True Value	Result	% Recovery	LDR
Aluminum	100000	98000	98.0	100000	100000	101000	101	100000
Calcium	100000	99700	99.7	100000	100000	102000	102	100000
Iron	100000	95500	95.5	100000	100000	97700	97.7	100000
Magnesium	100000	98400	98.4	100000	100000	102000	102	100000
Molybdenum	2000	2290	115	5000	2000	2410	121	5000
Potassium	100000	97600	97.6	100000	100000	100000	100	100000
Sodium	100000	97800	97.8	100000	100000	101000	101	100000
Titanium	2000	1970	98.5	5000	2000	2010	101	5000

Analytes	ICS A			ICS A+B			
	Limit	Result	Control Limit	True Value	Result	% Recovery	Control Limit % R
Arsenic	1	0.412	< 1	20	22.4	112	80-120
Cadmium	1	0.883	< 1	20	21.1	106	80-120
Chromium	1	0.911	< 1	20	22.4	112	80-120
Cobalt	1	0.237	< 1	20	20.8	104	80-120
Copper	1	0.049	< 1	20	21.5	108	80-120
Manganese	1	0.544	< 1	20	22.6	113	80-120
Nickel	1	0.198	< 1	20	22.9	115	80-120
Silver	1	0.026	< 1	20	23.7	119	80-120
Zinc	10	1.46	< 10	20	21.0	105	80-120

%R = Percent Recovery
Control Limit of ICS A = 2X Instrument RL of analyte
LDR= Linear Dynamic Range of Test Method

METALS QUALITY CONTROL

LABORATORY CONTROL SAMPLE

Batch (Page) #: 604
SDG #: E18-08128, E18-08133, E18-08159, E18-08162, E18-08195, E18-08256

Matrix: Aqueous Unit: ppb (µg/L)

ANALYTE	LCSA181016-01 TRUE	FOUND	%R(1)	TRUE	FOUND	%R(1)
Aluminum	400	432	108			
Antimony	400	421	105			
Arsenic	400	426	107			
Barium	400	436	109			
Beryllium	400	422	106			
Cadmium	400	420	105			
Calcium	8000	8360	105			
Chromium	400	438	110			
Cobalt	400	448	112			
Copper	400	429	107			
Iron	8000	8620	108			
Lead	400	437	109			
Magnesium	8000	8990	112			
Manganese	400	423	106			
Mercury	10.0	10.1	101			
Nickel	400	437	109			
Potassium	8000	8630	108			
Selenium	400	408	102			
Silver	400	442	111			
Sodium	8000	8880	111			
Thallium	400	440	110			
Vanadium	400	443	111			
Zinc	400	416	104			

(1) Control Limits % Recovery = 80-120%

LCSA181016-01 10/17/18 15:00
08128-001~003; 08133-002; 08159-009~011; 08162-001
08162-002; 08195-001,004~005; 08256-001~003,005
08256-006~007

METALS QUALITY CONTROL

LOW LEVEL INITIAL CALIBRATION VERIFICATION

Batch (Page) #: 604
SDG #: E18-08133, E18-08159, E18-08256, E18-08162, E18-08195, E18-08128

Matrix: Aqueous Method: 6020B/7470A Units: ppb (ug/L)

10/17/18 13:33

ANALYTE	LLICV True Value	LLICV FOUND	LLICV % R
Aluminum	0.500	0.490	98.0
Antimony	0.500	0.534	107
Arsenic	0.500	0.539	108
Barium	0.500	0.533	107
Beryllium	0.500	0.531	106
Cadmium	0.500	0.537	107
Calcium	50.0	52.8	106
Chromium	0.500	0.513	103
Cobalt	0.500	0.519	104
Copper	0.500	0.443	88.6
Iron	50.0	53.7	107
Lead	0.500	0.538	108
Magnesium	50.0	55.2	110
Manganese	0.500	0.523	105
Nickel	0.500	0.503	101
Potassium	50.0	59.9	120
Selenium	0.500	0.474	94.8
Silver	0.500	0.518	104
Sodium	50.0	55.2	110
Thallium	0.500	0.484	96.8
Vanadium	0.500	0.487	97.4
Zinc	0.500	0.467	93.4

(1) Control Limits: 80-120

METALS QUALITY CONTROL

MID LEVEL INITIAL CALIBRATION VERIFICATION

Batch (Page) #: 604
SDG #: E18-08133, E18-08159, E18-08256, E18-08162, E18-08195, E18-08128

Matrix: Aqueous Method: 6020B/7470A Units: ppb (ug/L)

10/17/18 13:38

ANALYTE	MLICV True Value	MLICV FOUND	MLICV % R
Aluminum	25.0	25.6	102
Antimony	25.0	24.0	96.0
Arsenic	25.0	25.1	100
Barium	25.0	25.8	103
Beryllium	25.0	25.3	101
Cadmium	25.0	26.0	104
Calcium	500	497	99.4
Chromium	25.0	25.3	101
Cobalt	25.0	24.8	99.2
Copper	25.0	24.8	99.2
Iron	500	504	101
Lead	25.0	24.5	98.0
Magnesium	500	509	102
Manganese	25.0	25.2	101
Nickel	25.0	25.4	102
Potassium	500	500	100
Selenium	25.0	24.9	99.6
Silver	25.0	24.5	98.0
Sodium	500	495	99.0
Thallium	25.0	24.3	97.2
Vanadium	25.0	25.1	100
Zinc	25.0	25.1	100

(1) Control Limits: 90-110

METALS QUALITY CONTROL
SPIKE SAMPLE RECOVERY

Batch (Page) #: 604
SDG #: E18-08128, E18-08133, E18-08159, E18-08162, E18-08195, E18-08256

Matrix: Aqueous Concentration/Units: ppb (µg/L)

ANALYTE	10/17/18 15:06 SSR1	10/17/18 14:33 SR1	%R1	SA1	SSR2	SR2	%R2	SA2	CONTROL LIMIT %R
Aluminum	466	ND	117	400					75-125
Antimony	436	ND	109	400					75-125
Arsenic	440	ND	110	400					75-125
Barium	476	12.7	116	400					75-125
Beryllium	439	ND	110	400					75-125
Cadmium	432	ND	108	400					75-125
Calcium	38200	30300	98.8	8000					75-125
Chromium	448	ND	112	400					75-125
Cobalt	455	1.10	113	400					75-125
Copper	442	10.7	108	400					75-125
Iron	8930	ND	112	8000					75-125
Lead	455	ND	114	400					75-125
Magnesium	18100	9080	113	8000					75-125
Manganese	448	13.5	109	400					75-125
Mercury	8.62	ND	86.2	10.0					75-125
Nickel	447	1.55	111	400					75-125
Potassium	11000	2180	110	8000					75-125
Selenium	418	ND	105	400					75-125
Silver	464	ND	116	400					75-125
Sodium	37000	28400	108	8000					75-125
Thallium	416	ND	104	400					75-125
Vanadium	453	ND	113	400					75-125
Zinc	456	31.0	106	400					75-125

SSR = Spike Sample Result
SA = Spike Added
SR = Sample Result
%R = Percent Recovery
NC = Non-calculable % R; Spike sample concentration > 4 x Spike Concentration.

QC Sample 1: E18-08133-002
% Solids: 0
QC Sample 1 for following samples:
08128-001~003; 08133-002; 08159-009~011; 08162-001
08162-002; 08195-001,004~005; 08256-001~003,005
08256-006~007

QC Sample 2: _____
% Solids: _____
QC Sample 2 for following samples:

METALS QUALITY CONTROL
DUPLICATE SAMPLE RECOVERY

Batch (Page) #: 604
SDG #: E18-08128, E18-08133, E18-08159, E18-08162, E18-08195, E18-08256

Matrix: Aqueous Concentration/Units: ppb (µg/L)

ANALYTE	CONTROL LIMIT 1	10/17/18 14:33 S1	10/17/18 14:39 D1	RPD1	CONTROL LIMIT 2	S2	D2	RPD2
Aluminum	NA	ND	ND	NC				
Antimony	NA	ND	ND	NC				
Arsenic	NA	ND	ND	NC				
Barium	20	12.7	12.5	1.59				
Beryllium	NA	ND	ND	NC				
Cadmium	NA	ND	ND	NC				
Calcium	20	30300	29300	3.36				
Chromium	NA	ND	ND	NC				
Cobalt	20	1.10	1.08	1.83				
Copper	20	10.7	9.46	12.3				
Iron	NA	ND	ND	NC				
Lead	NA	ND	ND	NC				
Magnesium	20	9080	8790	3.25				
Manganese	20	13.5	13.3	1.49				
Mercury	NA	ND	ND	NC				
Nickel	20	1.55	1.48	4.62				
Potassium	20	2180	2100	3.74				
Selenium	NA	ND	ND	NC				
Silver	NA	ND	ND	NC				
Sodium	20	28400	27500	3.22				
Thallium	NA	ND	ND	NC				
Vanadium	NA	ND	ND	NC				
Zinc	20	31.0	29.8	3.95				

S1 = Sample 1
D1 = Duplicate 1
NA = Not Applicable
NC = Non-calculable RPD due to result (s) less than the detection limit.

S2 = Sample 2
D2 = Duplicate 2

QC Sample 1: E18-08133-002
% Solids: 0
QC Sample 1 for following samples:
08128-001~003; 08133-002; 08159-009~011; 08162-001
08162-002; 08195-001,004~005; 08256-001~003,005
08256-006~007

QC Sample 2: _____
% Solids: _____
QC Sample 2 for following samples:

METALS QUALITY CONTROL
SERIAL DILUTIONS & POST SPIKES 1

Batch (Page) #: 604
SDG #: E18-08128, E18-08133, E18-08159, E18-08162, E18-08195, E18-08256

Matrix: Aqueous Concentration/Units: ppb (µg/L) Method: 6020B/7470A

ANALYTE	SERIAL DILUTION 10/17/18 14:33 MS	SERIAL DILUTION 10/17/18 14:55 SDR	% Difference
Aluminum	466	462	0.862
Antimony	436	395	9.87
Arsenic	440	411	6.82
Barium	476	445	6.73
Beryllium	439	413	6.10
Cadmium	432	419	3.06
Calcium	38200	36300	5.10
Chromium	448	422	5.98
Cobalt	455	417	8.72
Copper	442	431	2.52
Iron	8930	8460	5.41
Lead	455	408	10.9
Magnesium	18100	16700	8.05
Manganese	448	419	6.69
Nickel	447	425	5.05
Potassium	11000	10100	8.53
Selenium	418	383	8.74
Silver	464	407	13.1
Sodium	37000	35200	4.99
Thallium	416	361	14.2
Vanadium	453	423	6.85
Zinc	456	425	7.04

MS = Matrix Spike Result
SDR = Sample Dilution Result
SPR = Sample Post Spike Result
SA = Spike Added

Control Limits: (+) or (-) 20% Difference.

QC Sample1: E18-08133-002
QC Sample 1 for following samples:
08128-001~003; 08133-002; 08159-009~011; 08162-001
08162-002; 08195-001,004~005; 08256-001~003,005
08256-006~007

METALS INTERNAL STANDARD AREA SUMMARY
2018 PG604
October 17, 2018
Method: 6020B

	ISTD	Li-6 [2]		Ge-72 [1]		Ge-72 [2]		Rh-103 [2]		Tb-159 [2]		Bi-209 [2]		
003CALB.d	BLANK	1233502		85191		570395		3277283		3219356		1574595		
		Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	
	Lower Limit	863451	70	59634	70	399276	70	2294098	70	2253549	70	1102216	70	
	Upper Limit	1603553	130	110748	130	741514	130	4260468	130	4185163	130	2046974	130	
004CALS.d	STD1	1236045	100	85964	101	569526	100	3295683	101	3234223	100	1571126	100	
005CALS.d	STD2	1224684	99	85918	101	566110	99	3232099	99	3209459	100	1551275	99	
006CALS.d	STD3	1218649	99	84633	99	552767	97	3183258	97	3204299	100	1556882	99	
007CALS.d	STD4	1220039	99	83231	98	553611	97	3255447	99	3243469	101	1573607	100	
008CALS.d	STD5	1227106	99	83600	98	551912	97	3183877	97	3137515	97	1535763	98	
010_CCV.d	ICV	1225617	99	82243	97	551469	97	3227137	98	3225052	100	1552454	99	
011LCCV.d	LLICV	1126287	91	78208	92	509605	89	2961651	90	2884253	90	1428528	91	
012_QC1.d	MLICV	1196256	97	82300	97	538675	94	3173673	97	3179529	99	1572385	100	
013_ICB.d	ICB	1174392	95	78529	92	536944	94	3114150	95	3083448	96	1511154	96	
014ICSA.d	ICSA	1127124	91	75605	89	567505	99	2725421	83	3050731	95	1315355	84	
015ICSB.d	ICSAB	1138032	92	76253	90	564157	99	2696036	82	2989673	93	1302125	83	
018SMPL.d	E18-08159-011	1263352	102	78639	92	560932	98	3278239	100	3263129	101	1601244	102	
019SMPL.d	E18-08162-002	1279398	104	78115	92	553901	97	3231998	99	3246207	101	1572762	100	
020SMPL.d	E18-08195-005	1265356	103	77632	91	556122	97	3220397	98	3233506	100	1577016	100	
021SMPL.d	BLKA181016-01	1279360	104	77603	91	554742	97	3241562	99	3219320	100	1568028	100	
022SMPL.d	E18-08133-002	1216796	99	74331	87	534732	94	3009077	92	3055119	95	1478916	94	
023SMPL.d	E18-08133-002DUP	1248492	101	77914	91	541350	95	3087599	94	3152910	98	1521518	97	
024_CCV.d	CCV	1230472	100	76966	90	541883	95	3152890	96	3169178	98	1558995	99	
025_CCB.d	CCB	1247428	101	76251	90	546157	96	3200083	98	3224940	100	1565921	99	
026SMPL.d	E18-08133-002SD	1231904	100	76583	90	540635	95	3142305	96	3214467	100	1544768	98	
027SMPL.d	LCSA181016-01	1235172	100	75546	89	539954	95	3111956	95	3177072	99	1534550	97	
028SMPL.d	E18-08133-002MS	1197480	97	73188	86	523135	92	2964246	90	3098972	96	1490382	95	
031SMPL.d	E18-08159-009	1371634	111	90775	107	646115	113	2908537	89	3524205	109	1456140	92	
032SMPL.d	E18-08159-010	1280394	104	77936	91	566152	99	3013657	92	3272410	102	1481559	94	
033SMPL.d	E18-08256-005	1230873	100	76743	90	531877	93	3004458	92	3141606	98	1469749	93	
034SMPL.d	E18-08256-006	1228082	100	77270	91	530976	93	3091897	94	3115633	97	1523054	97	
035SMPL.d	E18-08256-007	1202272	97	75662	89	527271	92	2990791	91	2999210	93	1442314	92	
036_CCV.d	CCV	1230271	100	75445	89	528786	93	3059080	93	3112153	97	1507164	96	
037_CCB.d	CCB	1223983	99	73520	86	532731	93	3098290	95	3072844	95	1518822	96	
038SMPL.d	E18-08256-001	1224044	99	73686	86	512572	90	2901734	89	3079321	96	1410151	90	

A* in last column indicates the analysis has failed QC criteria
Sample Limits = 70-130% of reference Standard (CAL BLANK L1)
QC Sample Limits = 70-130% of reference Standard (CAL BLANK L1)

[1] = [He]; [2] = [No Gas]
Ge-72 [1] = Na,Mg,Al,Si,K,Ca,Ti,V,Cr,Mn,Fe,Co,Ni,Cu,Zn,As,Se
Li-6 [2] = Be,B; Ge-72 [2] = Cd; Rh-103 [2] = Mo,Ag,Sn; Tb-159 [2] = Sb,Ba

METALS INTERNAL STANDARD AREA SUMMARY
2018 PG604
October 17, 2018
Method: 6020B

	ISTD	Li-6 [2]		Ge-72 [1]		Ge-72 [2]		Rh-103 [2]		Tb-159 [2]		Bi-209 [2]		
003CALB.d	BLANK	1233502		85191		570395		3277283		3219356		1574595		
		Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	
	Lower Limit	863451	70	59634	70	399276	70	2294098	70	2253549	70	1102216	70	
	Upper Limit	1603553	130	110748	130	741514	130	4260468	130	4185163	130	2046974	130	
039SMPL.d	E18-08256-002	1254368	102	75834	89	540115	95	3113576	95	3190129	99	1512373	96	
040SMPL.d	E18-08256-003	1269059	103	76174	89	538462	94	3083631	94	3159035	98	1496541	95	
041SMPL.d	E18-08128-001	1223093	99	74509	87	523380	92	2934637	90	3086072	96	1445283	92	
042SMPL.d	E18-08128-002	1226909	99	74186	87	522053	92	2953886	90	3107234	97	1450402	92	
043SMPL.d	E18-08128-003	1232062	100	74421	87	523504	92	2973816	91	3088667	96	1454687	92	
044SMPL.d	E18-08162-001	1242153	101	74263	87	529560	93	3071983	94	3081040	96	1510480	96	
045SMPL.d	E18-08195-001	1155561	94	72878	86	477301	84	2521061	77	2788103	87	1192460	76	
046SMPL.d	E18-08195-004	1132891	92	73235	86	468771	82	2552398	78	2791222	87	1224686	78	
047_CCV.d	FINAL CCV	1178316	96	75077	88	508313	89	2981073	91	3023288	94	1501311	95	
048_CCB.d	FINAL CCB	1220037	99	76926	90	523259	92	3069821	94	3114222	97	1506293	96	

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METALS INTERNAL STANDARD AREA SUMMARY
2018 PG604
October 17, 2018
Method: 6020B

	ISTD	Li-6 [2]		Ge-72 [1]		Ge-72 [2]		Rh-103 [2]		Tb-159 [2]		Bi-209 [2]		
003CALB.d	BLANK	1313289		65838		569747		3314674		3309941		1593929		
		Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	
	Lower Limit	919302	70	46087	70	398823	70	2320272	70	2316959	70	1115750	70	
	Upper Limit	1707276	130	85589	130	740671	130	4309076	130	4302923	130	2072108	130	
004CALS.d	STD1	1321773	101	67888	103	568654	100	3360479	101	3367468	102	1609221	101	
005CALS.d	STD2	1246992	95	62630	95	540893	95	3115309	94	3119275	94	1520234	95	
006CALS.d	STD3	1328763	101	65991	100	571647	100	3357142	101	3408166	103	1643616	103	
007CALS.d	STD4	1265238	96	64391	98	560178	98	3221555	97	3255997	98	1566257	98	
008CALS.d	STD5	1317412	100	66994	102	566144	99	3322419	100	3314783	100	1576773	99	
010_CCV.d	CCV	1349240	103	64166	97	576732	101	3368113	102	3349962	101	1561971	98	
011_ICB.d	CCB	1329651	101	62403	95	557295	98	3205618	97	3176531	96	1481377	93	
012SMPL.d	E18-08159-009	1396414	106	65590	100	578896	102	3287320	99	3313714	100	1520338	95	
013SMPL.d	E18-08159-010	1340759	102	65073	99	556459	98	3213826	97	3234765	98	1495596	94	
020_CCV.d	FINAL CCV	1337698	102	63876	97	555605	98	3210024	97	3157530	95	1485015	93	
021_CCB.d	FINAL CCB	1350916	103	62998	96	559222	98	3258238	98	3160026	95	1486170	93	

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Li-6 [2] = Be,B; Ge-72 [2] = Cd; Rh-103 [2] = Mo,Ag,Sn; Tb-159 [2] = Sb,Ba

SAMPLE TRACKING

IAL
Integrated Analytical Laboratories LLC

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Chain of Custody Record

Contact Us: 973-361-4252
Fax: 973-989-5288
Web: www.ialonline.com

Customer Information	Reporting Information	**Rush TAT Charge	Deliverables		EDDs	Concentrations Expected:
Company: EWMA	REPORT TO:	24 hr - 100%...	NJ, CT, PA	NY	☐ NJ SRP	Low Med High
Address:	Address: SAME	48 hr - 75%....	☐ Results Only	☐ ASP Category A	☐ NYSDEC EQuIS	These samples have been previously analyzed by IAL
		72 hr - 50%....	☐ Reduced		☐ lab approved custom EDD	☐ YES ☐ NO
Telephone #:	Attn:	96 hr - 35%....	☐ Regulatory/ Full*	☐ ASP Category B*	☐ NO EDD REQ'D	
Fax #:	FAX #	5 day - 25%....				
Project Manager: Frank. Rooney	INVOICE TO:	6-9 day - 10%				
EMAIL Address: Frank.Rooney@EwmA.com	Address: SAME					
Project Name: 1 warehouse Lane	Attn:					
Project Location (State): NY	PO #					
Bottle Order #: BO 2585	Quote # Job# 207930					
☐ "Report to"/"Invoice To" same as above						
Sampled by: Matt Gower	Sample Matrix					
COMPLETED BY IAL: ____ Field Sampling ____ Equipment Rental	DW - Drinking Water; WW - Waste Water; GW - Groundwater; SW - Surface Water; LIQ - Liquid (Specify); OI - Oil; S - Soil; SOL - Solid; SL - Sludge; W - Wipe; B - Biphasic					

Turn-Around Time (TAT)

Standard (10 business days) Verbal
Rush/date needed (*only* if pre-approved)** _____
Hard Copy: Std 3 week — Other - call for price

Petroleum Hydrocarbons - Selection is REQUIRED

☐ NJ EPH-DRO - Category 1
☐ NJ EPH-C40 - Category 2
☐ NJ EPH-Fractionated - Cat 2 ☐ DRO-8015

TAT for PHC (if other than 2 weeks):

Regulatory Requirement

New Jersey	New York
☐ GWQS	☐ AWQS (TOGS Table 1)
☐ IGW	☐ GWEL (TOGS Table 5)
☐ SRS	☐ Part 375-6.8(a) - Unrestricted
☐ Ecological	☐ Part 375-6.8(b) - Restricted
☐ DW	☐ CP-51 Table 2 or 3 (selection required)
☐ SPLP	OTHER Reg. Req. (specify)

SAMPLE INFORMATION

ANALYTICAL PARAMETERS (please note if contingent)

Client ID	Depth (ft only)	Sampling Date	Sampling Time	Matrix	# containers	IAL #	NY STARS Volatiles	NY STARS Semivolatiles	Lead	VOC's						Sample Specific Notes:
MW 3		10/11/18	10:43	GW	5	1	X	X	X							
MW 2			11:30		4	2	X	X								
MW 2 Dup			11:40		4	3	X	X								
MW 5			1:30		5	4	X	X	X							
Field Blank			11:60	LIQ	5	5	X	X	X							
Trip Blank			8:00	LIQ	2	6				X						
Preservative (use code)							2	1	3	2						
Container Type (use code)							C	A	R	C						

Known Hazard: YES / NO
Describe:

Preservative Code: 1 = None; 2 = HCl; 3 = HNO3; 4 = MeOH; 5 = NaOH; 6 = H2SO4; 7 = Other

Container Code: A = Amber Glass; B = Plastic; C = Vial; D = Glass; E = EnCore; T = Terracore

Special Instructions/QC Requirements & Comments:

FOR LAB USE ONLY
SDG #: 8195
Cooler Temp: 5 °C

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time (TAT) will not start until any ambiguities have been resolved. TAT starts the following day if samples rec'd at lab > 5PM. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY IAL'S TERMS & CONDITIONS (found on rear of pink copy).

Carrier (check one :
☐ IAL Courier
☐ Client Courier
☐ FedEx/UPS***
***Tracking #:

Relinquished by (Signature and Company)	Date	Time	Received by (Signature and Company)	Date	Time
Matt Gower	10/11/18	1545	Jamar Ellis	10/11/18	1545
Jamar Ellis	10/11/18	1610		10/11/18	1610

IAL Rev 2/2014

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

Certification IDs: TNI (TNI01284); CT (PH-0699); NJ (14751); NY (11402); PA (68-00773).

PAGE: of

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Integrated Analytical Laboratories LLC

PROJECT INFORMATION

E18-08195: 1 WAREHOUSE LANE - #207930

To: Frank Rooney
EWMA - HQ
Fax: 1(973) 560-0400
EMail: Frank.Rooney@ewma.com

Report To

EWMA - HQ
Lanidex Center
100 Misty Lane
Parsippany, NJ 07054
Attn: Frank Rooney

Bill To

EWMA - HQ
Lanidex Center
100 Misty Lane
Parsippany, NJ 07054
Attn: Frank Rooney

Report Format	P.O. #	Received At Lab	TPHC Due	Verbal Due	Hardcopy Due
Reduced		Oct 11, 2018 @ 16:10	NA	Oct 25, 2018	Nov 01, 2018 *

* Any ***Conditional or Hold*** status will delay final hardcopy report sent date.

Diskette Req. NYSDEC

** **QC Requirement (must meet):** NY CP-51 Tbl3 (fuel oil)

Lab ID	Client Sample ID	Depth	Sampling Time	Matrix	Unit	Field pH/Temp
08195-001	MW 3	NA	10/11/18@10:43	Aqueous	ug/L (ppb)	
08195-002	MW 2	NA	10/11/18@11:30	Aqueous	ug/L (ppb)	
08195-003	MW 2 DUP	NA	10/11/18@11:40	Aqueous	ug/L (ppb)	
08195-004	MW 5	NA	10/11/18@13:30	Aqueous	ug/L (ppb)	
08195-005	FIELD BLANK	NA	10/11/18@11:50	Aqueous	ug/L (ppb)	
08195-006	TRIP BLANK	NA	10/11/18	Aqueous	ug/L (ppb)	

Sample #	Test	Status	QA Method	TAT	Holding Time Expires
001	NYCP51T3	Analyze	8260C	STD/2 WKS	10/25/2018
	NYCP51T3BN	Analyze	8270D	STD/2 WKS	10/25/2018
	Lead - Pb	Analyze	6020B	STD/2 WKS	4/9/2019
002	NYCP51T3	Analyze	8260C	STD/2 WKS	10/25/2018
	NYCP51T3BN	Analyze	8270D	STD/2 WKS	10/25/2018
003	NYCP51T3	Analyze	8260C	STD/2 WKS	10/25/2018
	NYCP51T3BN	Analyze	8270D	STD/2 WKS	10/25/2018
004	NYCP51T3	Analyze	8260C	STD/2 WKS	10/25/2018
	NYCP51T3BN	Analyze	8270D	STD/2 WKS	10/25/2018
	Lead - Pb	Analyze	6020B	STD/2 WKS	4/9/2019
005	NYCP51T3	Analyze	8260C	STD/2 WKS	10/25/2018
	NYCP51T3BN	Analyze	8270D	STD/2 WKS	10/25/2018
	Lead - Pb	Analyze	6020B	STD/2 WKS	4/9/2019
006	TCL VO	Analyze	8260C	STD/2 WKS	10/25/2018

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

IAL
Integrated Analytical Laboratories LLC

PROJECT INFORMATION

E18-08195: 1 WAREHOUSE LANE - #207930

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E 18** **08195** CLIENT: EWMA

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

Comments

COC: (COMPLETE) / INCOMPLETE

KEY

✓ = YES/NA
X = NO

VOA received: ☐ Encore ☐ IGW - Methanol
(check one) ☐ Terra Core ☐ No Preservative

✓	Bottles Intact	
✓	no-Missing Bottles	
✓	no-Extra Bottles	
✓	Sufficient Sample Volume	
✓	no-headspace/bubbles in VOs	
✓	Labels intact/correct	
✓	pH Check (exclude VOs)[1]	
✓	Correct bottles/preservative	
✓	Sufficient Holding/Prep Time[1]	
☐	Multiphasic Sample	
☐	Sample to be Subcontracted	
✓	**Chain of Custody is Clear**	

[1] All samples with "Analyze Immediately" holding times will be analyzed by this laboratory past the holding time. This includes but is not limited to the following tests: pH, Temperature, Free Residual Chlorine, Total Residual Chlorine, Dissolved Oxygen, Sulfite.

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL AP DATE 10/11/18

CORRECTIVE ACTION REQUIRED: **YES** ☐ (SEE BELOW) **NO** X

If COC is **NOT** clear, ***STOP*** until you get client to authorize/clarify work.

CLIENT NOTIFIED: YES ☐ Date/ Time: _____ NO ☐

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL KF DATE 10/12/18

Laboratory Custody Chronicle

IAL Case No.

E18-08195

Client EWMA - HQ

Project 1 WAREHOUSE LANE - #207930

Received On 10/11/2018@16:10

Department: Volatiles			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
NYCP51T3	08195-001	Aqueous	n/a	n/a	10/23/18	Sylvia
"	-002	"	n/a	n/a	10/23/18	Sylvia
"	-003	"	n/a	n/a	10/23/18	Sylvia
"	-004	"	n/a	n/a	10/23/18	Sylvia
"	-005	"	n/a	n/a	10/23/18	Sylvia
TCL VO	-006	Aqueous	n/a	n/a	10/23/18	Sylvia

Department: Semivolatiles			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
NYCP51T3BN	-001	Aqueous	10/17/18	Frank L.	10/18/18	Donnie
"	-002	"	10/17/18	Frank L.	10/18/18	Donnie
"	-003	"	10/17/18	Frank L.	10/18/18	Donnie
"	-004	"	10/17/18	Frank L.	10/18/18	Donnie
"	-005	"	10/17/18	Frank L.	10/18/18	Donnie

Department: Metals			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
Lead - Pb	-001	Aqueous	10/16/18	Frank R.	10/17/18	Danielle
"	-004	"	10/16/18	Frank R.	10/17/18	Danielle
"	-005	"	10/16/18	Frank R.	10/17/18	Danielle

NOTE: All soil, sediment, sludge, and solid samples are reported on a dry-weight basis.

Integrated Analytical Labs ~ 273 Franklin Road, Randolph, NJ 07869 ~ (973) 361-4252 ~ Fax (973) 989-5288

LAST PAGE OF DOCUMENT