MEMO

ARCADIS Design & Consultancy for natural and built assets

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From:
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Date:
June 12, 2020

Arcadis Project No.:
30003608

Subject:
First Quarter 2020 Groundwater Sampling Summary and Groundwater Data Evaluation
Northern Cold Springs Terminal
Hillside Road, Lysander, New York

Arcadis U.S., Inc. (Arcadis), on behalf of the Northern Terminal Group, is pleased to submit this groundwater monitoring memorandum and supporting attachments for the above-referenced site for the first quarter 2020 groundwater sampling event, as well as the data evaluation required by the Northern Terminal Focused Investigation Summary Report dated September 28, 2018. The site location is shown on **Figure 1**.

The groundwater monitoring field event was completed by Arcadis personnel February 17 through 19, 2020. Quarterly groundwater monitoring events at the subject site began in May 2018 and were conducted in compliance with the Arcadis Supplemental Characterization and Interim Remedial Action Work Plan (Work Plan), dated February 21, 2018. Included herein are summaries of the field activities, field observations, and analytical results for groundwater sampling completed during the February 2020 event.

FIELD ACTIVITIES AND OBSERVATIONS

During the February 2020 event, Arcadis completed groundwater monitoring and gauging. An interface probe was used to gauge each monitoring well for NAPL and measure groundwater levels at each monitoring well identified in the Work Plan with an accuracy of approximately 0.01 feet. The following 21 monitoring well locations were scheduled to be sampled: BMW2, BMW3, BMW5, BMW6, BMW7, BMW8, BMW9, BMW13, BMW14R, MW-201, MW-202, MW-203, MW-204, MW-205, MW-206, MW-207, MW-208, MW-209, MW-210, MW-211, PZ106S (shown on **Figure 2**). Sixteen monitoring wells were sampled.

Monitoring well BMW5 was not sampled due to the presence of NAPL. Lesser amounts of NAPL were also identified in BMW13 and BMW14R and the product was removed prior to sampling. Monitoring well MW-201 was not sampled because there was insufficient water column. Monitoring wells BMW-9, MW-206, and MW-209 were obstructed by frozen conditions in their above grade riser pipes. The remaining 16 monitoring wells were purged and sampled using disposable bailers and a three-volume purge technique. Purge water and equipment rinse water was containerized and was sent for off-site disposal at Covanta Environmental Solutions – Mohawk, located at 120 Dry Road in Oriskany, New York (Formerly Industrial Oil Services). Following collection, all samples were packed on ice and submitted to Pace Analytical in accordance with chain-of-custody procedures. Groundwater samples were analyzed for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) via USEPA Methods 8260 and 8270, respectively.

ANALYTICAL RESULTS

Groundwater Flow Conditions

A summary of the groundwater elevation data is provided in **Table 1** and illustrated on **Figure 3**. Groundwater flow across the site was generally towards the south during the data collection event.

Groundwater Analytical Results

Current and historical groundwater laboratory analytical results for benzene, toluene, ethylbenzene, and xylenes (BTEX); total VOCs; and total SVOCs are summarized in **Table 2**. The detailed first quarter 2020 groundwater analytical data are presented in **Table 3**. Current and historical groundwater results and Total VOCs and Total SVOCs are illustrated on **Figure 4**. The complete laboratory report for the sampling event is included as **Attachment A**.

During the February 2020 event, samples collected from four (4) of the 16 sampled monitoring wells (BMW13, BMW14R, MW-208, and PZ106S) exhibited one (1) or more VOC and/or SVOC constituents at concentrations greater than the New York State Department of Environmental Conservation (NYSDEC) ambient water quality standards and guidance values presented in the NYSDEC's Technical and Operational Guidance Series (TOGS) 1.1.1.

The dissolved-phase analytical results from the 2019 sampling events (first, second, third, and fourth quarters) and the 2020 sampling events (first quarter) are generally consistent.

DATA EVALUATION

Groundwater samples were collected from a total of 16 monitoring wells during the first quarter 2020 monitoring event to provide a representation of current dissolved-phase constituent concentrations at the subject Northern Terminal site and to monitor NAPL thicknesses at select locations. One or more individual dissolved-phase VOC and/or SVOC concentrations above the TOGS 1.1.1 quality standards and guidance values were detected at four (4) of the 16 monitoring wells. During the pre-sampling groundwater gauging event, NAPL was detected at monitoring well BMW5, BMW13, and BMW14R. No other monitoring wells gauged during this event indicated the presence of NAPL.

As a result of the site assessment activities completed in the former above ground storage tank (AST) operational area of the Northern Terminal the following conclusions and recommendations are provided. For reference purposes, the site assessment activities are summarized in the Northern Terminal Focused Investigation Summary Report (Arcadis September 28, 2018) as well as the groundwater monitoring completed from May 2018 through February 2020 as reported in this document and respective prior reports.

1. Soil samples collected from MW-201 through MW-211 did not exhibit exceedances of NYSDEC standards, criteria, or guidance values (SCGV) for either VOCs or SVOCs.
2. Groundwater samples collected as part of the monitoring program from May 2018 to February 2020 from the former AST operational area of the Northern Terminal indicated minimal occurrences of dissolved phase exceedances above SCGV (see **Table 2**). The *de minimus* dissolved phase concentrations are not representative of impacts of a magnitude of concern or warranting remediation, additional delineation, or even ongoing monitoring. These data are consistent throughout the groundwater monitoring period noted above.
3. When the soil and groundwater data from the former AST operational area are evaluated in tandem it can be concluded that further environmental investigation and remediation actions are not required in the Northern Terminal former AST operational area (the area assessed by the installation of MW-201 through MW-211).

Now that the quarterly groundwater sampling required by the Supplemental Characterization and Interim Remedial Action Work Plan (Arcadis February 21, 2018) and the Northern Terminal Focused Investigation Summary Report (Arcadis, September 28, 2018), respectively approved by New York State Department of Environmental Conservation email dated February 23, 2018 and letter dated October 24, 2018, has been completed, Arcadis, on behalf of the Northern Terminal Group, proposes ending this quarterly groundwater sampling. The monitoring program was commenced to evaluate groundwater conditions at the Northern Terminal. Based on the data summarized in the Northern Terminal Focused Investigation Summary Report and contained in this document, it is concluded that further monitoring of the former AST operational area of the Northern Terminal is no longer needed and the specific monitoring wells noted below, used exclusively for assessing the Northern Terminal, should be permanently abandoned.

The following 18 wells are no longer necessary and will be proposed to be abandoned in the future via grouting with a bentonite Portland cement mixture and removing the above ground wellhead structures: BMW2, BMW3, BMW6, BMW7, BMW8, BMW9, PZ-106S, MW-201, MW-202, MW-203, MW-204, MW-205, MW-206, MW-207, MW-208, MW-209, MW-210, and MW-211.

This report concludes the Northern Terminal Investigation Activities set forth in the Supplemental Characterization and Interim Remedial Action Work Plan, as well as the groundwater sampling and data evaluation required by the Northern Terminal Focused Investigation Summary Report.

We look forward to discussing this report with you via a remote project meeting to be scheduled.

Please do not hesitate to contact Vin Maresco of Arcadis at 315-671-9256 if you would like to discuss as aspect of the Cold Springs project prior to the proposed (virtual) meeting.

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Attachments:

Tables

Table 1 – 2020 Groundwater Measurements
Table 2 – Historical Summary of Groundwater Constituents of Concern
Table 3 – Groundwater Historical Analytical Data

Figures

Figure 1 – Site Location Map
Figure 2 – Northern Terminal Groundwater Monitoring Well Network
Figure 3 – Groundwater Contour Map
Figure 4 – Total VOC and SVOC Concentrations

Attachments

Attachment A – Laboratory Reports

TABLES

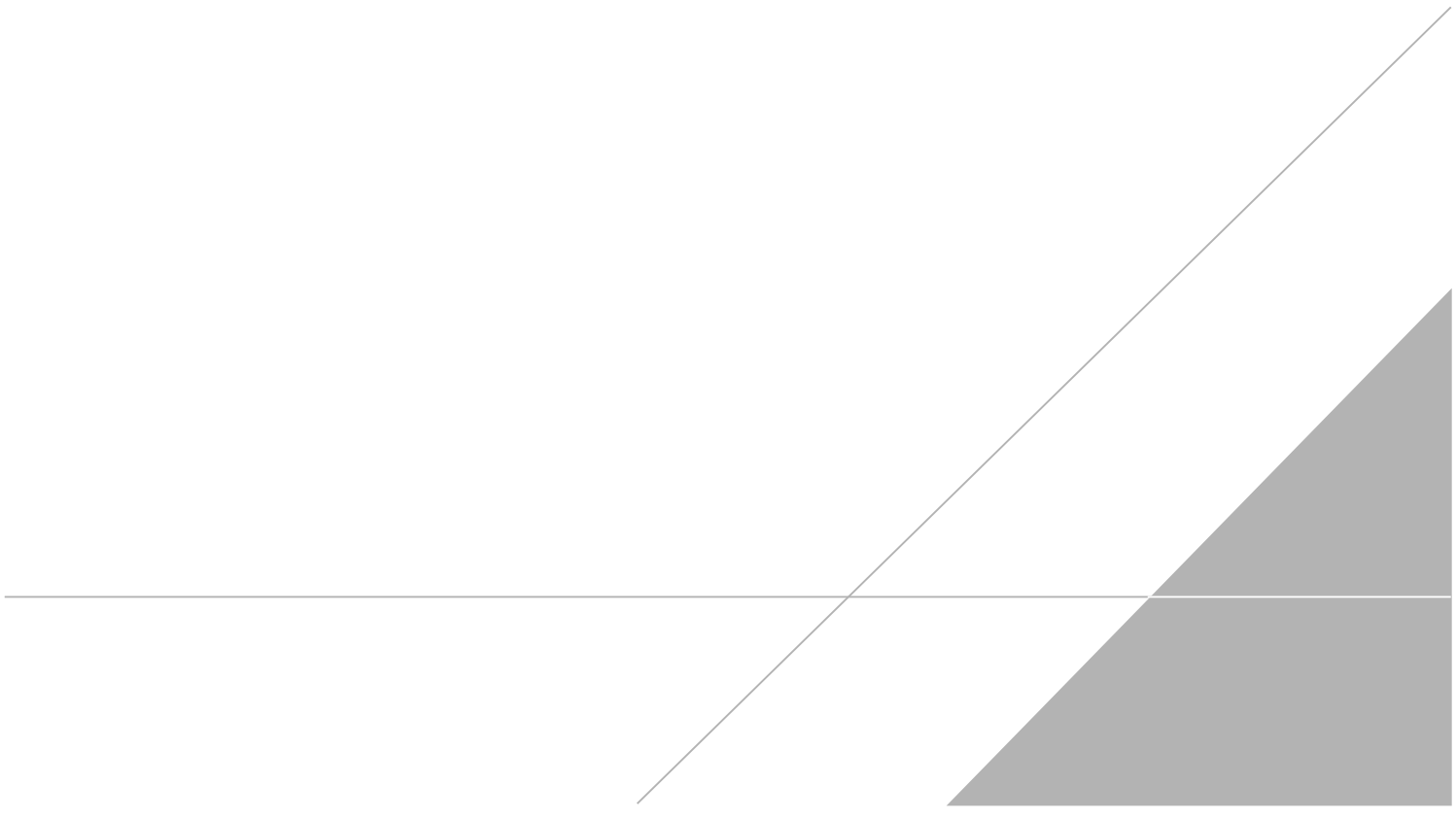


Table 1
2020 Groundwater Measurements

Groundwater Sampling Summary 2020 - First Quarter
Northern Cold Springs Terminal
Lysander, New York

Groundwater Gauging conducted February 17, 2020

Well ID	Northing	Easting	Measuring Point	Diameter (inches)	Screen Interval (ft bgs)	DTP (bmp)	DTW* (bmp)	Apparent Product Thickness	GWE	Corrected GWE	Notes
BMW2	1141472.09	909051.25	396.65	2	15.3-34.0	ND	7.65	ND	389.00	389.00	
BMW3	1141323.86	908969.02	395.30	2	3.5-29.0	ND	12.90	ND	382.40	382.40	
BMW5	1141248.92	908820.46	389.50	2	10.0-30.0	23.88	24.67	0.79	364.83	365.45	No sample collected due to the presence of NAPL.
BMW6	1141286.17	908914.24	394.88	2	10.0-30.0	ND	27.98	ND	366.90	366.90	
BMW7	1141347.84	908824.60	397.61	2	5.0-15.0	ND	7.70	ND	389.91	389.91	
BMW8	1141420.52	908826.55	399.86	2	5.0-20.0	ND	9.40	ND	390.46	390.46	
BMW9	1141334.24	909181.88	380.15	2	5.0-15.0	ND	2.26	ND	377.89	377.89	No sample collected, water was frozen. LL collected
BMW13	1141243.20	909014.31	382.60	4	UK	17.58	17.77	0.19	364.83	364.98	
BMW14R	1141257.52	909096.329	379.82	2	5.0-20.0	14.52	14.57	0.05	365.25	365.29	
MW-201	1141290.74	908861.62	395.24	2	14.0-24.0	ND	25.83	ND	369.41	369.41	No sample collected, insufficient water column to sample. LL collected.
MW-202	1141329.17	908898.17	395.25	2	6.0-16.5	ND	12.33	ND	382.92	382.92	
MW-203	1141307.55	909013.86	394.31	2	5.0-20.0	ND	6.03	ND	388.28	388.28	
MW-204	1141427.24	908980.08	394.95	2	5.0-20.0	ND	3.99	ND	390.96	390.96	
MW-205	1141543.83	908866.84	397.79	2	10.0-20.0	ND	4.55	ND	393.24	393.24	
MW-206	1141541.04	908921.18	397.68	2	5.0-20.0	ND	0.48	ND	397.20	397.20	No sample collected, water was frozen. LL collected
MW-207	1141519.38	908997.73	398.50	2	5.0-20.0	ND	4.40	ND	394.10	394.10	
MW-208	1141526.88	909080.26	397.09	2	5.0-20.0	ND	4.24	ND	392.85	392.85	
MW-209	1141600.72	909076.11	399.62	2	5.0-20.0	ND	1.31	ND	398.31	398.31	No sample collected, water was frozen. LL collected
MW-210	1141345.09	909129.64	386.60	2	8.0-18.0	ND	6.70	ND	379.90	379.90	
MW-211	1141377.65	909200.72	387.45	2	5.0-15.0	ND	9.39	ND	378.06	378.06	
PZ106S	1141279.48	909152.97	374.02	2	5.5-15.5	ND	3.10	ND	370.92	370.92	

Notes:

* DTW was above the screened interval for the following wells: BMW2, BMW9, MW-203, MW-204, MW-205, MW-206, MW-207, MW-208, MW-209, MW-210, and PZ106S.
Corrected GWE = GWE + (NAPL Specific density (0.79) x Product thickness)
DTP = Depth to product
DTW = Depth to water
ft bgs = Feet below ground surface
GWE = Groundwater elevation
ID = Identification
LL = Liquid level
NA = Not applicable
NAPL = Nonaqueous phase liquid
ND = No detection
UK = Unknown

Table 2
Historical Summary of Groundwater Constituents of Concern

ARCADIS Design & Consultancy for natural and built assets

Groundwater Sampling Summary 2020 - First Quarter
Northern Cold Springs Terminal
Lysander, New York

Location ID	Date Collected	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m&p-Xylene (µg/L)	Total VOCs (µg/L)	Total SVOCs (µg/L)
NYSDEC TOGS 1.1.1 (GA Groundwater):		1	5	5	5	---	---
BMW2	5/17/2018	1 U	1 U	1 U	2 U	200 U	0.099 U
BMW2	9/25/2018	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW2	12/4/2018	1 U	1 U	1 U	2 U	200 U	0.098 U
BMW2	2/20/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW2	5/22/2019	1 U	1 U	1 U	2 U	200 U	0.14 U
BMW2	8/28/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW2	10/30/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW2	2/19/2020	1 U	1 U	1 U	2 U	200 U	0.097 U
BMW3	5/15/2018	1 U	1 U	1 U	2 U	200 U	0.099 U
BMW3	9/25/2018	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW3	12/4/2018	1 U	1 U	1 U	2 U	200 U	0.11 U
BMW3	2/19/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW3	5/22/2019	1 U	1 U	1 U	2 U	200 U	0.11 U
BMW3	8/29/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW3	10/29/2019	1 U	1 U	1.4	4.4	9.4	0.1 U
BMW3	2/18/2020	1 U	1 U	1 U	2 U	200 U	0.099 U
BMW5	5/15/2018	NAPL Present					
BMW5	9/25/2018	NAPL Present					
BMW5	12/3/2018	NAPL Present					
BMW5	2/18/2019	NAPL Present					
BMW5	5/20/2019	NAPL Present					
BMW5	8/27/2019	NAPL Present					
BMW5	10/28/2019	NAPL Present					
BMW5	2/17/2020	NAPL Present					
BMW6	5/16/2018	1 U	2.2	1 U	2 U	4.8	26.2
BMW6	9/25/2018	Dry					
BMW6	12/3/2019	Dry					
BMW6	2/18/2019	Dry					
BMW6	5/20/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW6	8/27/2019	Dry					
BMW6	10/28/2019	Dry					
BMW6	2/18/2020	1 U	1 U	1 U	2 U	200 U	0.11 U
BMW7	5/14/2018	1 U	1 U	1 U	2 U	200 U	0.099 U
BMW7	9/25/2018	Dry					
BMW7	12/3/2019	Dry					
BMW7	2/19/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW7	5/20/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW7	8/27/2019	Dry					
BMW7	10/28/2019	Dry					
BMW7	2/17/2020	1 U	1 U	1 U	2 U	200 U	0.098 U
BMW8	5/14/2018	1 U	1 U	1 U	2 U	200 U	0.099 U
BMW8	9/25/2018	1 U	1 U	1 U	2 U	200 U	0.098 U
BMW8	12/4/2018	1 U	1 U	1 U	2 U	200 U	0.099 U
BMW8	2/19/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW8	5/20/2019	1 U	1 U	1 U	2 U	200 U	0.099 U
BMW8	8/28/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW8	10/29/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW8	2/17/2020	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW9	5/17/2018	1 U	1 U	1 U	2 U	1.3	0.097 U
BMW9	9/25/2018	Dry					
BMW9	12/4/2018	1 U	1 U	1 U	2 U	200 U	0.098 U
BMW9	2/18/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW9	5/21/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW9	8/28/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
BMW9	10/30/2019	1 U	1 U	1 U	2 U	200 U	0.58
BMW9	2/17/2020	Frozen					
BMW13	5/17/2018	**4,890**	**14,600**	**1,390**	**7,340**	25,838	8.8
BMW13	9/25/2018	NAPL Present					
BMW13	12/5/2018	**6,220**	**17,300**	**1,250**	**7,130**	38,276.9	2.05
BMW13	2/18/2019	NAPL Present					
BMW13	5/20/2019	NAPL Present					

See Notes on Page 3.

Table 2
Historical Summary of Groundwater Constituents of Concern

Groundwater Sampling Summary 2020 - First Quarter
Northern Cold Springs Terminal
Lysander, New York

Location ID	Date Collected	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m&p-Xylene (µg/L)	Total VOCs (µg/L)	Total SVOCs (µg/L)
NYSDEC TOGS 1.1.1 (GA Groundwater):		**1**	**5**	**5**	**5**	**---**	**---**
BMW13	8/27/2019	NAPL Present					
BMW13	10/28/2019	NAPL Present					
BMW13	2/18/2020	**6,730**	**19,000**	**1,260**	**7,590**	40,612.2	8.86
BMW14R	8/6/2018	1 U	1.2	**229**	**843**	2,979.7	1.53
BMW14R	9/25/2018	1 U	1.1	**187**	**796**	4,757.6	6.82
BMW14R	12/5/2018	**2.5**	**17.6**	**149**	**678**	4,345.8	0.93
BMW14R	2/20/2019	1 U	1 U	**202**	**762**	4,156.0	1.92
BMW14R	5/20/2019	NAPL Present					
BMW14R	8/28/2019	1 U	1.6	**101**	**437**	3,422.8	1.24
BMW14R	10/30/2019	1 U	1.9	**64.9**	**372**	3,499.2	0.84
BMW14R	2/19/2020	1 U	2.2	**179**	**592**	3,783.8	1.37
MW-201	5/15/2018	Not Installed					
MW-201	9/25/2018	Dry					
MW-201	12/3/2018	Dry					
MW-201	2/18/2019	Dry					
MW-201	5/20/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-201	8/27/2019	Dry					
MW-201	10/28/2019	Dry					
MW-201	2/17/2020	Dry					
MW-202	5/15/2018	Not Installed					
MW-202	9/25/2018	Dry					
MW-202	12/3/2018	Dry					
MW-202	2/19/2019	1 U	1 U	1 U	2 U	200 U	0.11 U
MW-202	5/20/2019	1 U	1 U	1 U	2 U	200 U	0.098 U
MW-202	8/27/2019	Dry					
MW-202	10/28/2019	Dry					
MW-202	2/18/2020	1 U	1	1.1	4.3	13.2	0.14 U
MW-203	5/15/2018	Not Installed					
MW-203	9/25/2018	Dry					
MW-203	12/3/2018	Dry					
MW-203	2/19/2019	1 U	1 U	1 U	2 U	200 U	0.11 U
MW-203	5/20/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-203	8/27/2019	Dry					
MW-203	10/28/2019	Dry					
MW-203	2/18/2020	1 U	1 U	1 U	2 U	200 U	0.098 U
MW-204	5/15/2018	Not Installed					
MW-204	9/25/2018	**6.3**	**11.9**	**17.3**	**42.7**	138.5	0.099 U
MW-204	12/3/2018	1 U	1 U	1.2	2.1	5.3	0.083 U
MW-204	2/18/2019	**4.6**	2.4	4.2	**8.2**	36.1	0.1 U
MW-204	5/22/2019	**1.3**	1 U	1 U	2.4	10.6	0.098 U
MW-204	8/27/2019	**2.4**	**6.1**	**16.7**	**40.5**	103.8	0.099 U
MW-204	10/29/2019	**2.9**	**7.1**	**16.3**	**30.6**	126	0.1 U
MW-204	2/17/2020	1 U	2.9	1 U	2.8	11.3	0.098 U
MW-205	5/15/2018	Not Installed					
MW-205	9/24/2018	1 U	1.6	1 U	2.3	6	0.1 U
MW-205	12/3/2018	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-205	2/18/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-205	5/21/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-205	8/27/2019	1 U	1 U	1 U	2 U	200 U	0.098 U
MW-205	10/28/2019	1 U	1 U	1 U	2 U	200 U	0.099 U
MW-205	2/17/2020	1 U	1 U	1 U	2 U	200 U	0.097 U
MW-206	5/15/2018	Not Installed					
MW-206	9/24/2018	1 U	1 U	1 U	2 U	200 U	0.098 U
MW-206	12/3/2018	1 U [1 U]	1 U [1 U]	1 U [1 U]	2 U [2 U]	200 U [200 U]	0.1 U [0.1 U]
MW-206	2/18/2019	Frozen					
MW-206	5/21/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-206	8/27/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-206	10/28/2019	1 U [1 U]	1 U [1 U]	1 U [1 U]	2 U [2 U]	200 U [200 U]	7.72 [0.76]
MW-206	2/17/2020	Frozen					
MW-207	5/15/2018	Not Installed					
MW-207	9/24/2018	1 U	1 U	1 U	2 U	200 U	0.1 U

See Notes on Page 3.

Table 2
Historical Summary of Groundwater Constituents of Concern

Groundwater Sampling Summary 2020 - First Quarter
Northern Cold Springs Terminal
Lysander, New York

Location ID	Date Collected	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m&p-Xylene (µg/L)	Total VOCs (µg/L)	Total SVOCs (µg/L)
NYSDEC TOGS 1.1.1 (GA Groundwater):		1	5	5	5	---	---
MW-207	12/3/2018	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-207	2/18/2019	1 U [1 U]	1 U [1 U]	1 U [1 U]	2 U [2 U]	200 U [200 U]	0.1 U [0.12 U]
MW-207	5/21/2019	1 U [1 U]	1 U [1 U]	1 U [1 U]	2 U [2 U]	200 U [200 U]	0.1 U [0.099 U]
MW-207	8/27/2019	1 U [1 U]	1 U [1 U]	1 U [1 U]	2 U [2 U]	200 U [200 U]	0.1 U [0.1 U]
MW-207	10/28/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-207	2/17/2020	1 U	1 U	1 U	2 U	200 U	0.097 U
MW-208	5/15/2018	Not Installed					
MW-208	9/24/2018	**2**	1.3	**6.7**	**17.8**	202.1	0.099 U
MW-208	12/3/2018	1 U	1 U	4	**11.4**	58.6	0.091 U
MW-208	2/18/2019	1 U	1 U	4.7	**15.6**	94.6	0.1 U
MW-208	5/21/2019	1 U	1 U	3.9	**10.7**	86.8	0.1 U
MW-208	8/27/2019	**1.4**	1	**17.3**	**59.9**	371.5	0.1 U
MW-208	10/29/2019	1 U	1 U	1 U	2 U	11.7	1.07
MW-208	2/17/2020	1 U	3.8	3.8	**12.7**	69.1	0.1 U
MW-209	5/15/2018	Not Installed					
MW-209	9/24/2018	1 U [1 U]	1.1 [1]	1 U [1 U]	2 U [2 U]	1.1 [1]	0.099 U [0.099 U]
MW-209	12/3/2018	1 U	1 U	1 U	2 U	200 U	0.091 U
MW-209	2/18/2019	Frozen					
MW-209	5/22/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-209	8/27/2019	1 U	1 U	1 U	2 U	200 U	0.099 UR1
MW-209	10/29/2019	1 U	1 U	1 U	2 U	200 U	1.63
MW-209	2/17/2020	Frozen					
MW-210	5/15/2018	Not Installed					
MW-210	9/26/2018	1 U	1 U	1 U	2 U	200 U	0.13
MW-210	12/5/2018	1 U	1 U	1 U	2 U	200 U	0.098 U
MW-210	2/20/2019	1 U	1 U	1 U	3.7	20.3	0.1 U
MW-210	5/21/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-210	8/28/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-210	10/30/2019	1 U	1 U	1 U	2 U	200 U	0.12
MW-210	2/19/2020	1 U [1 U]	1 U [1 U]	1 U [1 U]	2 U [2 U]	1.9 [1.4]	0.098 U [0.098 U]
MW-211	5/15/2018	Not Installed					
MW-211	9/25/2018	1 U	1 U	1 U	2 U	200 U	0.29 U
MW-211	12/4/2018	1 U	1 U	1 U	2 U	200 U	0.098 U
MW-211	2/18/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-211	5/21/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
MW-211	8/29/2019	1 U	1 U	1 U	2 U	200 U	0.11 U
MW-211	10/30/2019	1 U	1 U	1 U	2 U	200 U	2.68
MW-211	2/18/2020	1 U	1 U	1 U	2 U	200 U	0.099 U
PZ106S	5/17/2018	1 U	1 U	1 U	2 U	200 U	0.097 U
PZ106S	9/26/2018	1 U	1 U	1 U	2 U	200 U	0.11 U
PZ106S	12/5/2018	1 U	1 U	1 U	2 U	200 U	0.097 U
PZ106S	2/20/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
PZ106S	5/21/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
PZ106S	8/29/2019	1 U	1 U	1 U	2 U	200 U	0.1 U
PZ106S	10/30/2019	1 U	1 U	1 U	2 U	200 U	0.11 U
PZ106S	2/19/2020	1 U	1 U	1 U	2.2	10.4	0.1 U

Notes:
1. Shaded and bold values indicate a criteria exceedance.
2. Field duplicate sample results are presented in brackets.
3. Total VOCs represents all VOCs analyzed.

ID = Identification
NAPL = Non-aqueous phase liquid
NYSDEC = New York State Department of Environmental Conservation
R1 = RPD value was outside control limits.
SVOC = Semivolatile organic compound
TOGS = Technical and Operational Guidance Series
U = Compound was analyzed for, but not detected.
µg/L = Micrograms per liter
VOC = Volatile organic compound

Table 3
Groundwater Analytical Data

Groundwater Sampling Summary 2020 - First Quarter
Northern Cold Springs Terminal
Lysander, New York

Location ID: Date Collected: SDG:	NYSDEC TOGS 1.1.1 (GA Groundwater)	Units	BMW2 02/19/20 30350924	BMW3 02/18/20 30350924	BMW6 02/18/20 30350924	BMW7 02/17/20 30350924	BMW8 02/17/20 30350924	BMW13 02/18/20 30350924	BMW14R 02/19/20 30350924	MW-202 02/18/20 30350924
VOCs (EPA 8260C)										
1,2,4-Trimethylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**1,620**	**1,830**	3.9
1,3,5-Trimethylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**452**	**471**	1.3
Benzene	1	ug/L	1 U	1 U	1 U	1 U	1 U	**6,730**	1 U	1 U
Ethanol	- -	ug/L	200 U2c	200 U2c	200 U2c	200 U2c	200 U2c	200 U2c	200 U2c	200 U2c
Ethylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**1,260**	**179**	1.1
Isopropylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**73.6**	**96.5**	1 U
m&p-Xylene	5	ug/L	2 U	2 U	2 U	2 U	2 U	**7,590**	**592**	4.3
Methyl-Tert-Butyl-Ether	10	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	10	ug/L	2 U	2 U	2 U	2 U	2 U	**289**	**360**	2 U
n-Butylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**29.7**	**17.4**	1 U
n-Propylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**144**	**208**	1 U
o-Xylene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**3,390**	4.5	1.6
p-Isopropyltoluene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**15.2**	**9.8**	1 U
sec-Butylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**16.5**	**11.7**	1 U
Tert-Butylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	2.2	1.7	1 U
Toluene	5	ug/L	1 U	1 U	1 U	1 U	1 U	**19,000**	2.2	1
Total VOCs	- -	ug/L	200 U	200 U	200 U	200 U	200 U	40,612.2	3,783.8	13.2
SVOCs (EPA 8270D by SIM)										
Acenaphthene	20	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	2.3	0.5	0.14 U
Acenaphthylene	- -	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	1.3	0.13	0.14 U
Anthracene	50	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.25	0.11 U	0.14 U
Benz(a)Anthracene	0.002	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	**0.19**	0.11 U	0.14 U
Benzo(a)Pyrene	- -	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.1 U	0.11 U	0.14 U
Benzo(b)Fluoranthene	0.002	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	**0.12**	0.11 U	0.14 U
Benzo(g,h,i)Perylene	- -	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.1 U	0.11 U	0.14 U
Benzo(k)Fluoranthene	0.002	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.1 U	0.11 U	0.14 U
Chrysene	0.002	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	**0.16**	0.11 U	0.14 U
Dibenzo(a,h)Anthracene	- -	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.1 U	0.11 U	0.14 U
Fluoranthene	50	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.43	0.11 U	0.14 U
Fluorene	50	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	1.8	0.56	0.14 U
Indeno(1,2,3-cd)Pyrene	0.002	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.1 U	0.11 U	0.14 U
Phenanthrene	50	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	1.8	0.18	0.14 U
Pyrene	50	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	0.51	0.11 U	0.14 U
Total SVOCs	- -	ug/L	0.097 U	0.099 U	0.11 U	0.098 U	0.1 U	8.86	1.37	0.14 U
Field Parameters										
pH	- -		7.74	7.15	6.44	6.27	6.86	6.32	6.90	6.24
Temperature	- -	C	7.01	5.09	4.34	5.15	4.56	7.46	6.31	2.20
Conductivity	- -	mS/cm	0.327	0.522	0.006	0.522	0.546	0.011	0.011	0.554
Dissolved Oxygen	- -	mg/L	5.81	5.61	163.8	121.9	163.2	103.2	108.5	94.2
ORP	- -	mV	8.3	5.28	-11.3	5.4	-7.8	-41.2	-31.9	-4.4
Turbidity	- -	NTU	57.4	119	56.2	21.1	24.2	92.1	18.72	7.06

See Notes on Page 3.

Table 3
Groundwater Analytical Data

Groundwater Sampling Summary 2020 - First Quarter
Northern Cold Springs Terminal
Lysander, New York

Location ID: Date Collected: SDG:	NYSDEC TOGS 1.1.1 (GA Groundwater)	Units	MW-203 02/18/20 30350924	MW-204 02/17/20 30350924	MW-205 02/17/20 30350924	MW-207 02/17/20 30350924	MW-208 02/17/20 30350924	MW-210 02/19/20 30350924	MW-211 02/18/20 30350924	PZ106S 02/19/20 30350924
VOCs (EPA 8260C)										
1,2,4-Trimethylbenzene	5	ug/L	1 U	2.6	1 U	1 U	**18.2**	1.9 [1.4]	1 U	**6.5**
1,3,5-Trimethylbenzene	5	ug/L	1 U	1 U	1 U	1 U	**10**	1 U [1 U]	1 U	1.7
Benzene	1	ug/L	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Ethanol	- -	ug/L	200 U2c	200 U2c	200 U2c	200 U2c	200 U2c	200 U2c [200 UL11c]	200 U2c	200 U2c
Ethylbenzene	5	ug/L	1 U	1 U	1 U	1 U	3.8	1 U [1 U]	1 U	1 U
Isopropylbenzene	5	ug/L	1 U	1 U	1 U	1 U	3.8	1 U [1 U]	1 U	1 U
m&p-Xylene	5	ug/L	2 U	2.8	2 U	2 U	**12.7**	2 U [2 U]	2 U	2.2
Methyl-Tert-Butyl-Ether	10	ug/L	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Naphthalene	10	ug/L	2 U	3	2 U	2 U	8	2 U [2 U]	2 U	2 U
n-Butylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
n-Propylbenzene	5	ug/L	1 U	1 U	1 U	1 U	4.2	1 U [1 U]	1 U	1 U
o-Xylene	5	ug/L	1 U	1 U	1 U	1 U	3.4	1 U [1 U]	1 U	1 U
p-Isopropyltoluene	5	ug/L	1 U	1 U	1 U	1 U	1.2	1 U [1 U]	1 U	1 U
sec-Butylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Tert-Butylbenzene	5	ug/L	1 U	1 U	1 U	1 U	1 U	1 U [1 U]	1 U	1 U
Toluene	5	ug/L	1 U	2.9	1 U	1 U	3.8	1 U [1 U]	1 U	1 U
Total VOCs	- -	ug/L	200 U	11.3	200 U	200 U	69.1	1.9 [1.4]	200 U	10.4
SVOCs (EPA 8270D by SIM)										
Acenaphthene	20	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Acenaphthylene	- -	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Anthracene	50	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 UR1	0.1 U
Benz(a)Anthracene	0.002	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Benzo(a)Pyrene	- -	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Benzo(b)Fluoranthene	0.002	ug/L	0.098 U	0.098 U	0.097 Uip	0.097 U	0.1 Uip	0.098 Uip [0.098 U]	0.099 U	0.1 U
Benzo(g,h,i)Perylene	- -	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Benzo(k)Fluoranthene	0.002	ug/L	0.098 U	0.098 U	0.097 Uip	0.097 U	0.1 Uip	0.098 Uip [0.098 U]	0.099 U	0.1 U
Chrysene	0.002	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Dibenzo(a,h)Anthracene	- -	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Fluoranthene	50	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Fluorene	50	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Indeno(1,2,3-cd)Pyrene	0.002	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 UR1	0.1 U
Phenanthrene	50	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Pyrene	50	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Total SVOCs	- -	ug/L	0.098 U	0.098 U	0.097 U	0.097 U	0.1 U	0.098 U [0.098 U]	0.099 U	0.1 U
Field Parameters										
pH	- -		7.31	6.89	7.14	7.76	6.68	7.36	7.13	7.16
Temperature	- -	C	1.81	6.49	8.36	6.67	7.07	3.63	6.77	6.88
Conductivity	- -	mS/cm	0.385	0.549	0.821	0.312	0.922	0.363	39.8	0.007
Dissolved Oxygen	- -	mg/L	38.4	31.0	7.8	73.4	240.8	46.0	87.6	139.9
ORP	- -	mV	5.4	-74.5	-48.4	7.9	-15.0	-0.3	88.5	-12.4
Turbidity	- -	NTU	2.93	4.83	12.3	10.9	5.58	12.9	10.6	78.8

See Notes on Page 3.

Table 3
Groundwater Analytical Data

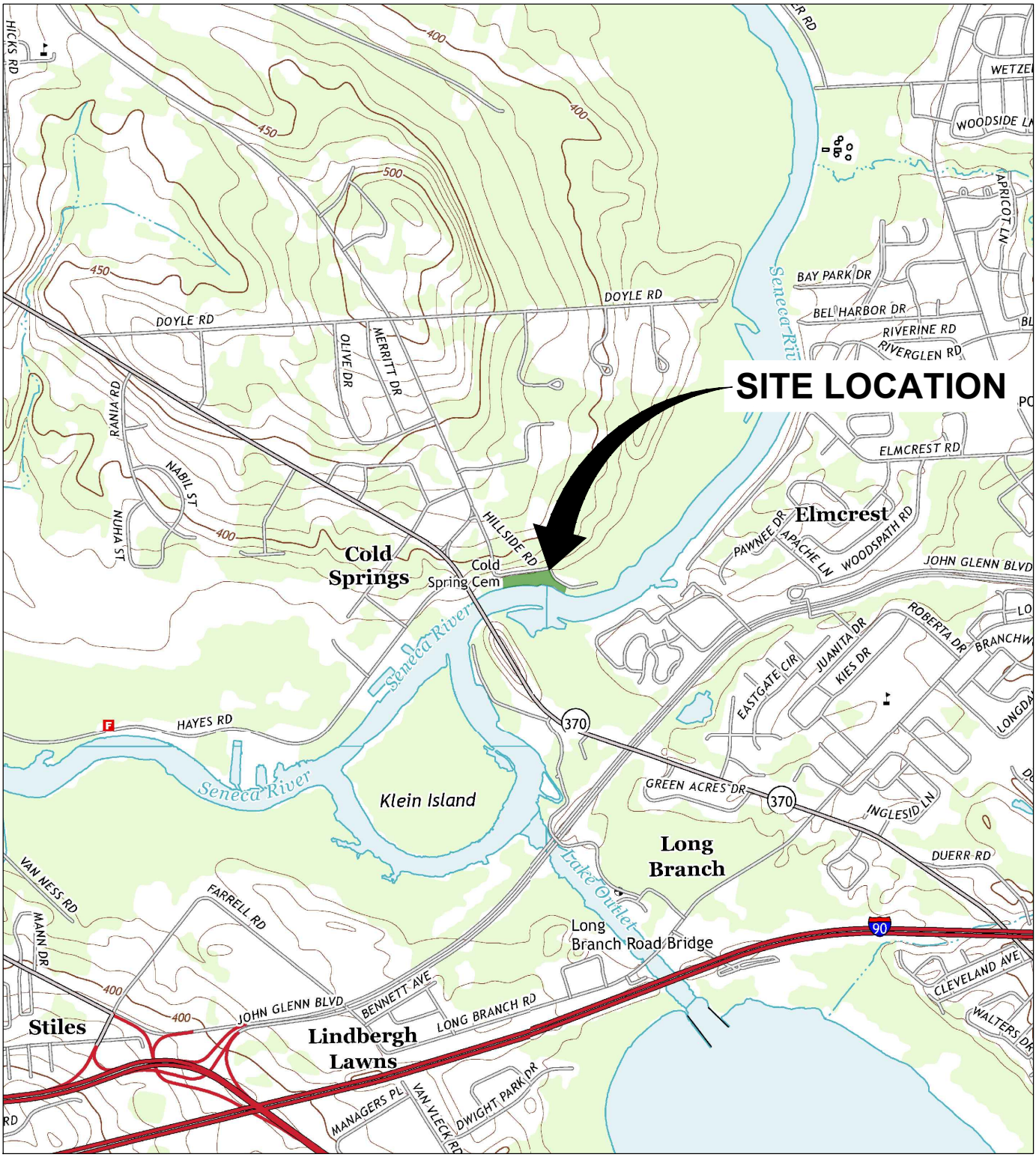
Groundwater Sampling Summary 2020 - First Quarter
Northern Cold Springs Terminal
Lysander, New York

Notes:
1. Field parameters measurements were taken prior to sampling.
2. Shaded and bold values indicate a criteria exceedance.
3. Field duplicate sample results are presented in brackets.

C = Centigrade
ID = Identification
mg/L = Milligrams per liter
mS/cm = Millisiemens per centimeter
mV = Millivolt
NTU = Nephelometric turbidity unit
NYSDEC = New York State Department of Environmental Conservation
SVOC = Semivolatile organic compound
TOGS = Technical and Operational Guidance Series
ug/L = Micrograms per liter
VOC = Volatile organic compound

Lab Qualifiers	Definition
1c	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
2c	Sample pH adjusted to <2 in the lab.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
ip	Benzo(b)fluoranthene and benzo(k)fluoranthene were separated in the check standard but did not meet the resolution criteria in SW846 Method 8270D. Whereas sample results included are reported as individual isomers, the lab and the customer must recognize them as an isomeric pair.
R1	RPD value was outside control limits.
U	Indicates the compound was analyzed for, but not detected.

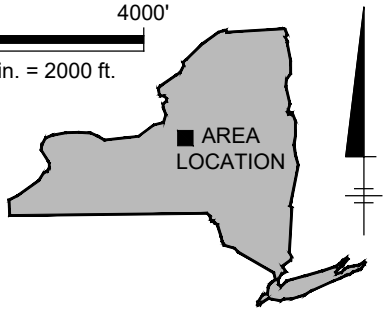
FIGURES



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., BALDWINSVILLE, BREWERTON, CAMILLUS & SYRACUSE WEST, NY, 2013.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



NORTHERN COLD SPRINGS TERMINAL
LYSANDER, NEW YORK

GROUNDWATER SAMPLING SUMMARY
2020 - FIRST QUARTER

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY: SYRACUSE NY DIV/GROUP: ENVCAD DB: E. KRAHMER PIC: PM: V. MARESCO TM: R. HENSEL TR: N. GRIFFITH LYR:(Opt)ON=*;OFF=*REF*
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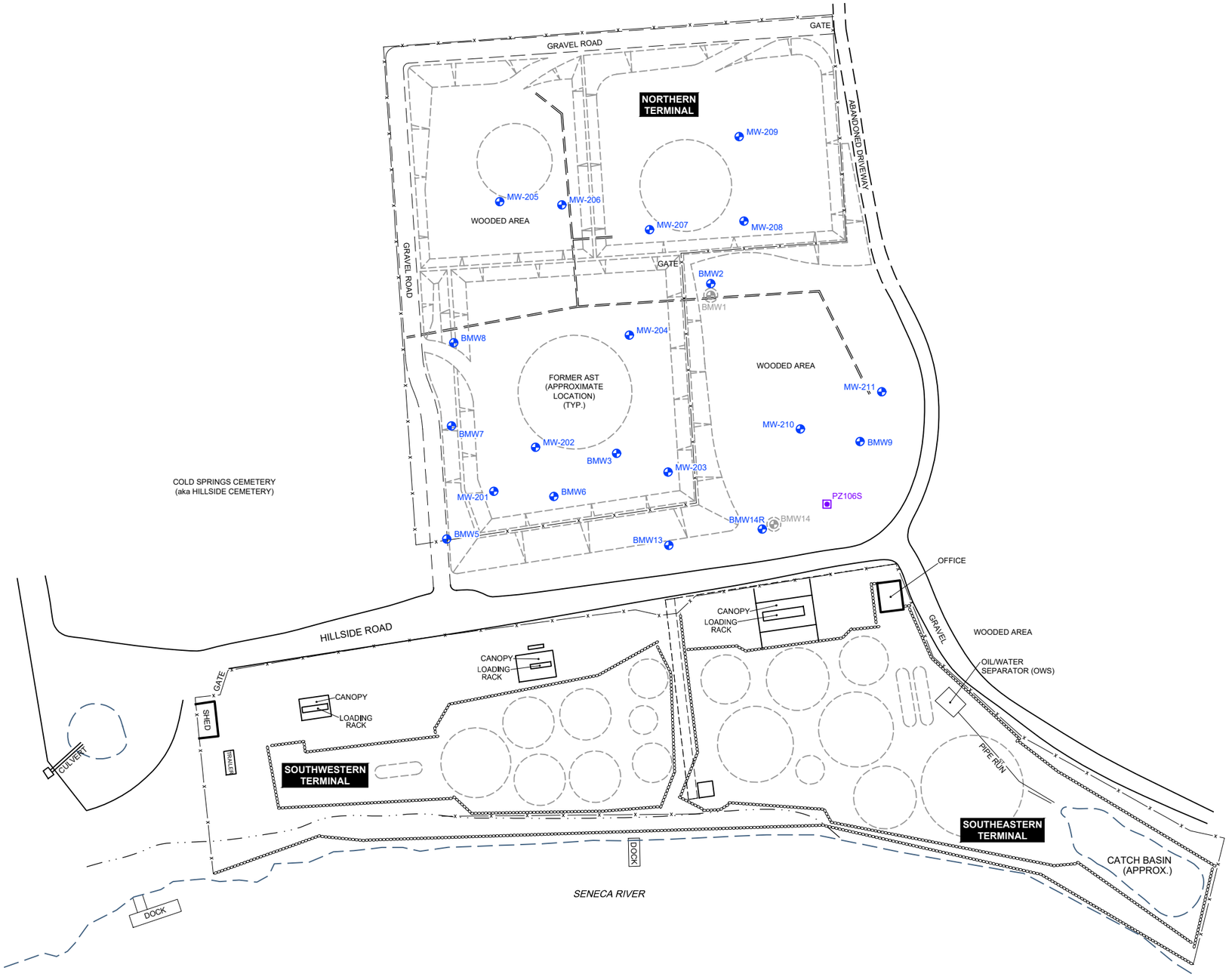

LEGEND:

- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- PIEZOMETER
- FORMER SITE FEATURE
- FENCE
- RETAINING WALL
- EDGE OF WATER
- EDGE OF BANK

NOTES:

1. BASE MAP REFERENCE: "SITE MAP MONITORING WELLS" BY GROUNDWATER & ENVIRONMENTAL SERVICES, INC. (GES), DATED SEPTEMBER 30, 2015.
2. LOCATION OF PIEZOMETER (PZ106S) WAS SURVEYED ON APRIL 26, 2016 BY C.T. MALE. LOCATION OF MONITORING WELLS MW-201 - MW-210 WERE SURVEYED ON JUNE 7, 2018.
3. AST = ABOVE GROUND STORAGE TANK.

0 100' 200'

GRAPHIC SCALE

NORTHERN COLD SPRINGS TERMINAL
LYSANDER, NEW YORK
GROUNDWATER SAMPLING SUMMARY
2020 - FIRST QUARTER

NORTHERN TERMINAL GROUNDWATER MONITORING WELL NETWORK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

CITY: SYRACUSE NY DIV/GROUP: ENVCAD DB: E. KRAHMER PIC: PM: V. MARESCO TM: R. HENSEL TR: N. GRIFFITH LYR:(On|ON=*;OFF=*REF*
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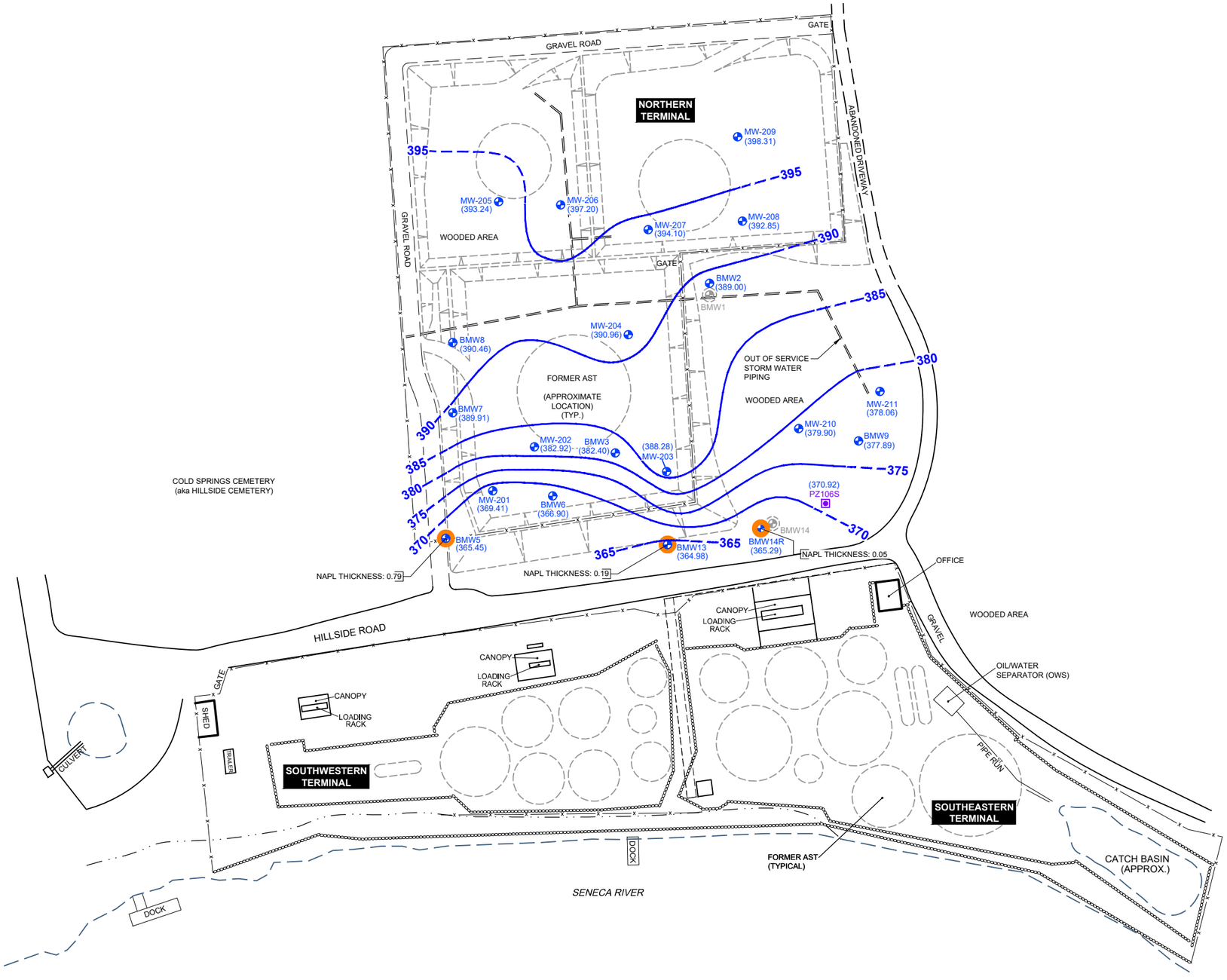

LEGEND:

- MONITORING WELL
- PIEZOMETER
- DECOMMISSIONED MONITORING WELL
- FORMER SITE FEATURE
- FENCE
- RETAINING WALL
- EDGE OF WATER
- EDGE OF BANK
- 375 GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (379.90) GROUNDWATER ELEVATION (FT AMSL)
- NAPL DETECTED

NOTES:

1. BASE MAP REFERENCE: "SITE MAP MONITORING WELLS" BY GROUNDWATER & ENVIRONMENTAL SERVICES, INC. (GES), DATED SEPTEMBER 30, 2015.
2. LOCATION OF PIEZOMETER PZ106S WAS SURVEYED ON APRIL 16, 2016 BY C.T. MALE. LOCATION OF MONITORING WELLS MW-201 - MW-210 WERE SURVEYED ON JUNE 7, 2018.
3. AST = ABOVE GROUND STORAGE TANK
   FT AMSL = FEET ABOVE MEAN SEA LEVEL
   NAPL = NON-AQUEOUS PHASE LIQUIDS
   ND = NO DATA
4. GROUNDWATER ELEVATION WAS CORRECTED, IF APPROPRIATE, USING THE FOLLOWING CALCULATION: CORRECTED GROUNDWATER ELEVATION = GROUNDWATER ELEVATION + (NAPL SPECIFIC DENSITY (0.79) x PRODUCT THICKNESS).
5. GROUNDWATER GAUGING CONDUCTED FEBRUARY 17, 2020

0 100' 200'

GRAPHIC SCALE

NORTHERN COLD SPRINGS TERMINAL
LYSANDER, NEW YORK

GROUNDWATER SAMPLING SUMMARY
2020 - FIRST QUARTER

GROUNDWATER CONTOUR MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

CITY: SYRACUSE NY DIV/GROUP: ENVCAD DB: E. KRAHMER PIC: PM: V. MARESCO TM: R. HENSEL TR: K. ROSKOFF LYR:(On)ON=*;OFF=*REF*
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2020Q1-Title Block
X-Base Map

MW-206

Date	12/3/18	2/18/19	5/21/19	8/27/19	10/28/19	2/17/20
Total VOC (ppb)	200 U [200 U]	Frozen	200 U	200 U	200 U [200 U]	Frozen
Total SVOC (ppb)	0.1 U [0.1 U]	Frozen	0.1 U	0.1 U	7.72 [0.76]	Frozen

MW-205

Date	12/3/18	2/18/19	5/21/19	8/27/19	10/28/19	2/17/20
Total VOC (ppb)	200 U	200 U	200 U	200 U	200 U	200 U
Total SVOC (ppb)	0.1 U	0.1 U	0.1 U	0.098 U	0.099 U	0.097 U

BMW8

Date	12/4/18	2/19/19	5/20/19	8/28/19	10/29/19	2/17/20
Total VOC (ppb)	200 U	200 U	200 U	200 U	200 U	200 U
Total SVOC (ppb)	0.099 U	0.1 U	0.099 U	0.1 U	0.1 U	0.1 U

MW-202

Date	12/3/18	2/19/19	5/20/19	8/27/19	10/28/19	2/18/20
Total VOC (ppb)	Dry	200 U	200 U	Dry	Dry	13.2
Total SVOC (ppb)	Dry	0.11 U	0.098 U	Dry	Dry	0.14 U

BMW7

Date	12/3/18	2/19/19	5/20/19	8/27/19	10/28/19	2/17/20
Total VOC (ppb)	Dry	200 U	200 U	Dry	Dry	200 U
Total SVOC (ppb)	Dry	0.1 U	0.1 U	Dry	Dry	0.098 U

MW-201

Date	12/3/18	2/18/19	5/20/19	8/27/19	10/28/19	2/17/20
Total VOC (ppb)	Dry	Dry	200 U	Dry	Dry	Dry
Total SVOC (ppb)	Dry	Dry	0.1 U	Dry	Dry	Dry

MW-207

Date	12/3/18	2/18/19	5/21/19	8/27/19	10/28/19	2/17/20
Total VOC (ppb}	200 U	200 U [200 U]	200 U [200 U]	200 U [200 U]	200 U	200 U
Total SVOC (ppb)	0.1 U	0.1 U [0.12 U]	0.1 U [0.099 U]	0.1 U [0.1 U]	0.1 U	0.097 U

MW-209

Date	12/3/18	2/18/19	5/22/19	8/27/19	10/29/19	2/17/20
Total VOC (ppb)	200 U	Frozen	200 U	200 U	200 U	Frozen
Total SVOC (ppb)	0.091 U	Frozen	0.1 U	0.1 UR1	1.63	Frozen

MW-208

Date	12/3/18	2/18/19	5/21/19	8/27/19	10/29/19	2/17/20
Total VOC (ppb)	58.6	94.6	86.8	371.5	11.7	69.1
Total SVOC (ppb)	0.091 U	0.1 U	0.1 U	0.1 U	1.07	0.1 U

BMW2

Date	12/4/18	2/20/19	5/22/19	8/28/19	10/30/19	2/19/20
Total VOC (ppb)	200 U	200 U	200 U	200 U	200 U	200 U
Total SVOC (ppb)	0.098 U	0.1 U	0.14 U	0.1 U	0.1 U	0.097 U

MW-210

Date	12/5/18	2/20/19	5/21/19	8/28/19	10/30/19	2/20/19
Total VOC (ppb)	200 U	20.3	200	200 U	200 U	200 U
Total SVOC (ppb)	0.098 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 [0.098 U]

MW-211

Date	12/4/18	2/18/19	5/21/19	8/29/19	10/30/19	2/18/20
Total VOC (ppb)	200 U	200 U	200 U	200 U	200 U	200 U
Total SVOC (ppb)	0.098 U	0.1 U	0.1 U	0.11 U	2.68	0.099 U

BMW9

Date	12/4/18	2/18/19	5/21/19	8/28/19	10/30/19	2/17/20
Total VOC (ppb)	200 U	200 U	200 U	200 U	200 U	Frozen
Total SVOC (ppb)	0.098 U	0.1 U	0.1 U	0.1 U	0.58	Frozen

BMW5

Date	12/3/18	2/18/19	5/20/19	8/27/19	10/28/19	2/17/20
Total VOC (ppb)	NP	NP	NP	NP	NP	NP
Total SVOC (ppb)	NP	NP	NP	NP	NP	NP

PZ106S

Date	12/5/18	2/20/19	5/21/19	8/29/19	10/30/19	2/19/20
Total VOC (ppb)	200 U	200 U	200 U	200 U	200 U	200 U
Total SVOC (ppb)	0.097 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U

BMW14R

Date	12/5/18	2/20/19	5/20/19	8/28/19	10/30/19	2/19/20
Total VOC (ppb)	4,345.8	4,156.0	NP	3,422.8	3,499.2	3,783.8
Total SVOC (ppb)	0.93	1.92	NP	1.24	0.84	1.37

BMW6

Date	12/3/18	2/18/19	5/20/19	8/27/19	10/28/19	2/17/20
Total VOC (ppb)	Dry	Dry	200 U	Dry	Dry	200 U
Total SVOC (ppb)	Dry	Dry	0.1 U	Dry	Dry	0.11 U

BMW3

Date	12/4/18	2/19/19	5/22/19	8/29/19	10/29/19	2/18/20
Total VOC (ppb)	200 U	200 U	200 U	200 U	9.4	200 U
Total SVOC (ppb)	0.11 U	0.1 U	0.11 U	0.1 U	0.1 U	0.099 U

MW-203

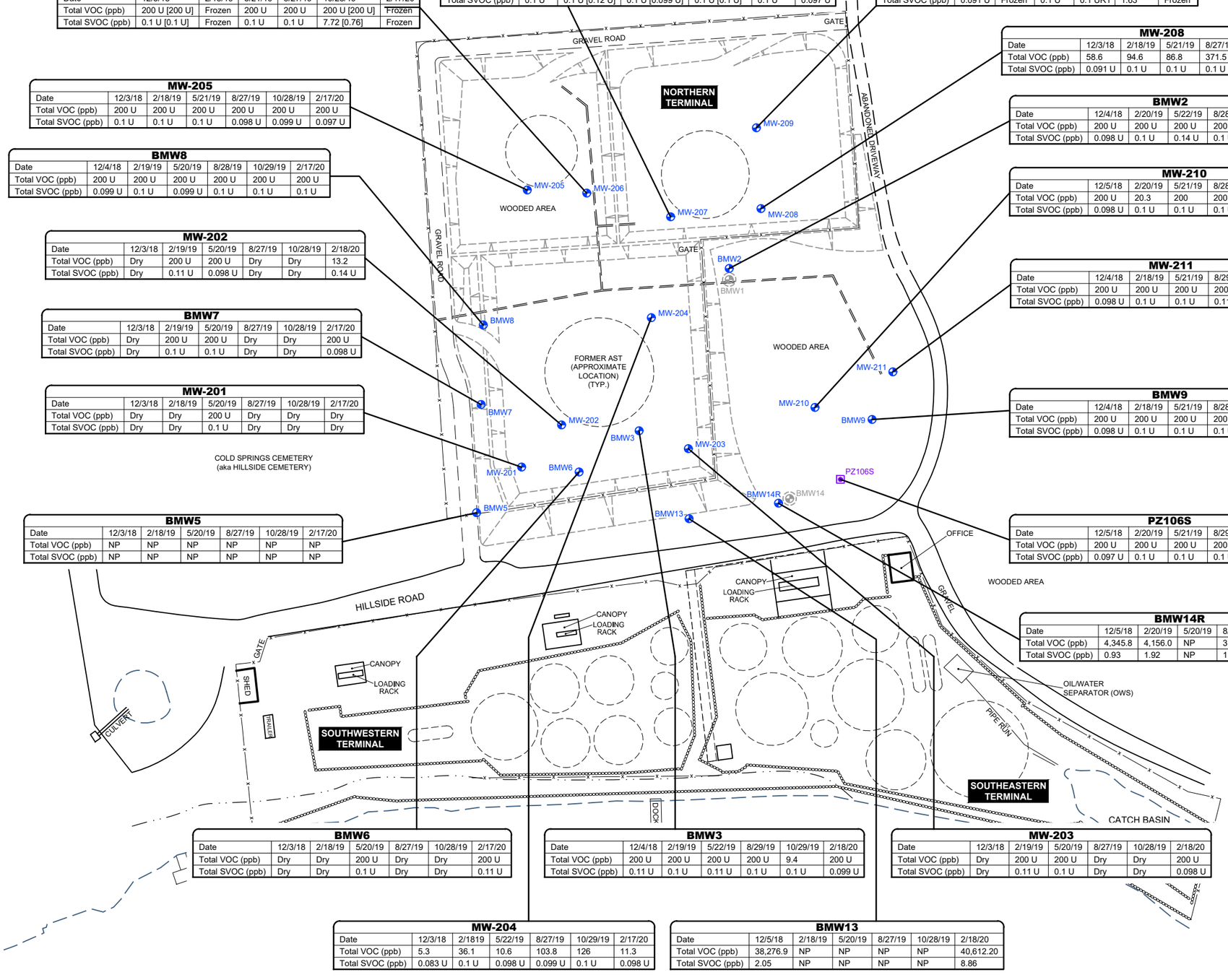
Date	12/3/18	2/19/19	5/20/19	8/27/19	10/28/19	2/18/20
Total VOC (ppb)	Dry	200 U	200 U	Dry	Dry	200 U
Total SVOC (ppb)	Dry	0.11 U	0.1 U	Dry	Dry	0.098 U

MW-204

Date	12/3/18	2/1819	5/22/19	8/27/19	10/29/19	2/17/20
Total VOC (ppb)	5.3	36.1	10.6	103.8	126	11.3
Total SVOC (ppb)	0.083 U	0.1 U	0.098 U	0.099 U	0.1 U	0.098 U

BMW13

Date	12/5/18	2/18/19	5/20/19	8/27/19	10/28/19	2/18/20
Total VOC (ppb)	38,276.9	NP	NP	NP	NP	40,612.20
Total SVOC (ppb)	2.05	NP	NP	NP	NP	8.86



LEGEND:

- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- PIEZOMETER
- FORMER SITE FEATURE
- FENCE
- RETAINING WALL
- EDGE OF WATER
- EDGE OF BANK

NOTES:

1. ALL CONCENTRATIONS ARE SHOWN IN PARTS PER BILLION (ppb), WHICH IS EQUIVALENT TO MICROGRAMS PER LITER (µg/L).
2. BASE MAP REFERENCE: "SITE MAP MONITORING WELLS" BY GROUNDWATER & ENVIRONMENTAL SERVICES, INC. (GES), DATED SEPTEMBER 30, 2015.
3. LOCATION OF PIEZOMETER (PZ106S) WAS SURVEYED ON APRIL 26, 2016 BY C.T. MALE. LOCATION OF MONITORING WELLS MW-201 - MW-210 WERE SURVEYED ON JUNE 7, 2018.
4. U = INDICATES THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
5. R1 = RELATIVE PERCENT DIFFERENCE VALUE WAS OUTSIDE CONTROL LIMITS.
6. AST = ABOVE GROUND STORAGE TANK
   NP = NAPL PRESENT
   SVOC = SEMIVOLATILE ORGANIC COMPOUNDS
   VOC = VOLATILE ORGANIC COMPOUNDS
7. Dry/Frozen = INSUFFICIENT WATER TO COLLECT A SAMPLE.
8. FIELD DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS.

0 100' 200'

GRAPHIC SCALE

NORTHERN COLD SPRINGS TERMINAL
LYSANDER, NEW YORK

GROUNDWATER SAMPLING SUMMARY 2020 - FIRST QUARTER

TOTAL VOC AND SVOC CONCENTRATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

ATTACHMENT A

Laboratory Report

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

February 27, 2020

Vin Maresco
Arcadis
6723 Towpath Road
Syracuse, NY 13214

RE: Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Dear Vin Maresco:
Enclosed are the analytical results for sample(s) received by the laboratory on February 20, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rachel D Christner

Rachel Christner
rachel.christner@pacelabs.com
724-850-5611
Project Manager

Enclosures

cc: Mr. P.J. Hart, Arcadis
Mr. Edward Mason, Arcadis
Mr. Mike Teeling, Woodard & Curran
Mr. Andrew Zoanetti, Arcadis

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Florida: Cert E871149 SEKS WET
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30350924001	**MW205-021720**	Water	02/17/20 11:50	02/20/20 09:00
30350924002	**MW207-021720**	Water	02/17/20 14:20	02/20/20 09:00
30350924003	**MW204-021720**	Water	02/17/20 16:10	02/20/20 09:00
30350924004	**MW208-021720**	Water	02/17/20 11:45	02/20/20 09:00
30350924005	**BMW-8-021720**	Water	02/17/20 14:10	02/20/20 09:00
30350924006	**BMW-7-021720**	Water	02/17/20 16:43	02/20/20 09:00
30350924007	**MW-203-021820**	Water	02/18/20 08:58	02/20/20 09:00
30350924008	**BMW3-021820**	Water	02/18/20 10:48	02/20/20 09:00
30350924009	**MW211-021820**	Water	02/18/20 15:33	02/20/20 09:00
30350924010	**TB-021820**	Water	02/18/20 00:01	02/20/20 09:00
30350924011	**BMW-6-021820**	Water	02/18/20 11:30	02/20/20 09:00
30350924012	**MW-202-021820**	Water	02/18/20 10:28	02/20/20 09:00
30350924013	**BMW-13-021820**	Water	02/18/20 16:20	02/20/20 09:00
30350924014	**MW210-021920**	Water	02/19/20 10:00	02/20/20 09:00
30350924015	**BMW2-021920**	Water	02/19/20 10:45	02/20/20 09:00
30350924016	**DUP-021920**	Water	02/19/20 00:00	02/20/20 09:00
30350924017	**TB-021920**	Water	02/19/20 00:00	02/20/20 09:00
30350924018	**BMW-14R-021920**	Water	02/19/20 09:50	02/20/20 09:00
30350924019	**PZ-106S-021920**	Water	02/19/20 11:35	02/20/20 09:00

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30350924001	MW205-021720	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924002	MW207-021720	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924003	MW204-021720	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924004	MW208-021720	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924005	BMW-8-021720	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924006	BMW-7-021720	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924007	MW-203-021820	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924008	BMW3-021820	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924009	MW211-021820	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924010	TB-021820	EPA 8260C	JAS	21	PASI-PA
30350924011	BMW-6-021820	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924012	MW-202-021820	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924013	BMW-13-021820	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924014	MW210-021920	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924015	BMW2-021920	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924016	DUP-021920	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924017	TB-021920	EPA 8260C	JAS	21	PASI-PA
30350924018	BMW-14R-021920	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA
30350924019	PZ-106S-021920	EPA 8270D by SIM	AJC	17	PASI-PA
		EPA 8260C	JAS	20	PASI-PA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW205-021720 **Lab ID: 30350924001** Collected: 02/17/20 11:50 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.097	0.028	1	02/24/20 13:35	02/26/20 18:44	83-32-9	
Acenaphthylene	ND	ug/L	0.097	0.033	1	02/24/20 13:35	02/26/20 18:44	208-96-8	
Anthracene	ND	ug/L	0.097	0.027	1	02/24/20 13:35	02/26/20 18:44	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.097	0.038	1	02/24/20 13:35	02/26/20 18:44	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.097	0.012	1	02/24/20 13:35	02/26/20 18:44	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.097	0.026	1	02/24/20 13:35	02/26/20 18:44	205-99-2	ip
Benzo(g,h,i)perylene	ND	ug/L	0.097	0.034	1	02/24/20 13:35	02/26/20 18:44	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.097	0.022	1	02/24/20 13:35	02/26/20 18:44	207-08-9	ip
Chrysene	ND	ug/L	0.097	0.039	1	02/24/20 13:35	02/26/20 18:44	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.097	0.027	1	02/24/20 13:35	02/26/20 18:44	53-70-3	
Fluoranthene	ND	ug/L	0.097	0.031	1	02/24/20 13:35	02/26/20 18:44	206-44-0	
Fluorene	ND	ug/L	0.097	0.030	1	02/24/20 13:35	02/26/20 18:44	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.097	0.029	1	02/24/20 13:35	02/26/20 18:44	193-39-5	
Phenanthrene	ND	ug/L	0.097	0.043	1	02/24/20 13:35	02/26/20 18:44	85-01-8	
Pyrene	ND	ug/L	0.097	0.035	1	02/24/20 13:35	02/26/20 18:44	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	57	%.	19-92		1	02/24/20 13:35	02/26/20 18:44	321-60-8	
Terphenyl-d14 (S)	64	%.	55-109		1	02/24/20 13:35	02/26/20 18:44	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 17:40	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 17:40	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 17:40	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 17:40	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 17:40	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 17:40	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 17:40	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 17:40	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 17:40	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 17:40	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 17:40	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 17:40	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 17:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 17:40	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 17:40	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 17:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%.	70-130		1		02/20/20 17:40	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%.	70-130		1		02/20/20 17:40	17060-07-0	
Toluene-d8 (S)	104	%.	70-130		1		02/20/20 17:40	2037-26-5	
Dibromofluoromethane (S)	93	%.	70-130		1		02/20/20 17:40	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW207-021720 **Lab ID: 30350924002** Collected: 02/17/20 14:20 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.097	0.028	1	02/24/20 13:35	02/26/20 19:02	83-32-9	
Acenaphthylene	ND	ug/L	0.097	0.033	1	02/24/20 13:35	02/26/20 19:02	208-96-8	
Anthracene	ND	ug/L	0.097	0.027	1	02/24/20 13:35	02/26/20 19:02	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.097	0.038	1	02/24/20 13:35	02/26/20 19:02	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.097	0.012	1	02/24/20 13:35	02/26/20 19:02	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.097	0.026	1	02/24/20 13:35	02/26/20 19:02	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.097	0.034	1	02/24/20 13:35	02/26/20 19:02	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.097	0.022	1	02/24/20 13:35	02/26/20 19:02	207-08-9	
Chrysene	ND	ug/L	0.097	0.039	1	02/24/20 13:35	02/26/20 19:02	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.097	0.027	1	02/24/20 13:35	02/26/20 19:02	53-70-3	
Fluoranthene	ND	ug/L	0.097	0.031	1	02/24/20 13:35	02/26/20 19:02	206-44-0	
Fluorene	ND	ug/L	0.097	0.030	1	02/24/20 13:35	02/26/20 19:02	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.097	0.029	1	02/24/20 13:35	02/26/20 19:02	193-39-5	
Phenanthrene	ND	ug/L	0.097	0.043	1	02/24/20 13:35	02/26/20 19:02	85-01-8	
Pyrene	ND	ug/L	0.097	0.035	1	02/24/20 13:35	02/26/20 19:02	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	47	%.	19-92		1	02/24/20 13:35	02/26/20 19:02	321-60-8	
Terphenyl-d14 (S)	85	%.	55-109		1	02/24/20 13:35	02/26/20 19:02	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 18:06	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 18:06	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 18:06	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 18:06	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 18:06	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 18:06	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 18:06	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 18:06	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 18:06	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 18:06	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 18:06	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 18:06	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 18:06	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 18:06	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 18:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 18:06	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%.	70-130		1		02/20/20 18:06	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%.	70-130		1		02/20/20 18:06	17060-07-0	
Toluene-d8 (S)	104	%.	70-130		1		02/20/20 18:06	2037-26-5	
Dibromofluoromethane (S)	97	%.	70-130		1		02/20/20 18:06	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW204-021720 **Lab ID: 30350924003** Collected: 02/17/20 16:10 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.098	0.028	1	02/24/20 13:35	02/26/20 19:19	83-32-9	
Acenaphthylene	ND	ug/L	0.098	0.033	1	02/24/20 13:35	02/26/20 19:19	208-96-8	
Anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/26/20 19:19	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.098	0.038	1	02/24/20 13:35	02/26/20 19:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.098	0.012	1	02/24/20 13:35	02/26/20 19:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.098	0.026	1	02/24/20 13:35	02/26/20 19:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/26/20 19:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.098	0.023	1	02/24/20 13:35	02/26/20 19:19	207-08-9	
Chrysene	ND	ug/L	0.098	0.039	1	02/24/20 13:35	02/26/20 19:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/26/20 19:19	53-70-3	
Fluoranthene	ND	ug/L	0.098	0.031	1	02/24/20 13:35	02/26/20 19:19	206-44-0	
Fluorene	ND	ug/L	0.098	0.030	1	02/24/20 13:35	02/26/20 19:19	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.098	0.029	1	02/24/20 13:35	02/26/20 19:19	193-39-5	
Phenanthrene	ND	ug/L	0.098	0.043	1	02/24/20 13:35	02/26/20 19:19	85-01-8	
Pyrene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/26/20 19:19	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	55	%.	19-92		1	02/24/20 13:35	02/26/20 19:19	321-60-8	
Terphenyl-d14 (S)	70	%.	55-109		1	02/24/20 13:35	02/26/20 19:19	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/21/20 00:02	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/21/20 00:02	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/21/20 00:02	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/21/20 00:02	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/21/20 00:02	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/21/20 00:02	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/21/20 00:02	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/21/20 00:02	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/21/20 00:02	1634-04-4	
Naphthalene	**3.0**	ug/L	2.0	0.82	1		02/21/20 00:02	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/21/20 00:02	103-65-1	
Toluene	**2.9**	ug/L	1.0	0.32	1		02/21/20 00:02	108-88-3	
1,2,4-Trimethylbenzene	**2.6**	ug/L	1.0	0.63	1		02/21/20 00:02	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/21/20 00:02	108-67-8	
m&p-Xylene	**2.8**	ug/L	2.0	0.94	1		02/21/20 00:02	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/21/20 00:02	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%.	70-130		1		02/21/20 00:02	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%.	70-130		1		02/21/20 00:02	17060-07-0	
Toluene-d8 (S)	107	%.	70-130		1		02/21/20 00:02	2037-26-5	
Dibromofluoromethane (S)	97	%.	70-130		1		02/21/20 00:02	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW208-021720 **Lab ID: 30350924004** Collected: 02/17/20 11:45 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.10	0.030	1	02/24/20 13:35	02/26/20 19:37	83-32-9	
Acenaphthylene	ND	ug/L	0.10	0.035	1	02/24/20 13:35	02/26/20 19:37	208-96-8	
Anthracene	ND	ug/L	0.10	0.028	1	02/24/20 13:35	02/26/20 19:37	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	0.040	1	02/24/20 13:35	02/26/20 19:37	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	0.013	1	02/24/20 13:35	02/26/20 19:37	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	0.028	1	02/24/20 13:35	02/26/20 19:37	205-99-2	ip
Benzo(g,h,i)perylene	ND	ug/L	0.10	0.036	1	02/24/20 13:35	02/26/20 19:37	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	0.024	1	02/24/20 13:35	02/26/20 19:37	207-08-9	ip
Chrysene	ND	ug/L	0.10	0.041	1	02/24/20 13:35	02/26/20 19:37	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	0.028	1	02/24/20 13:35	02/26/20 19:37	53-70-3	
Fluoranthene	ND	ug/L	0.10	0.033	1	02/24/20 13:35	02/26/20 19:37	206-44-0	
Fluorene	ND	ug/L	0.10	0.032	1	02/24/20 13:35	02/26/20 19:37	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	0.031	1	02/24/20 13:35	02/26/20 19:37	193-39-5	
Phenanthrene	ND	ug/L	0.10	0.045	1	02/24/20 13:35	02/26/20 19:37	85-01-8	
Pyrene	ND	ug/L	0.10	0.037	1	02/24/20 13:35	02/26/20 19:37	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	40	%.	19-92		1	02/24/20 13:35	02/26/20 19:37	321-60-8	
Terphenyl-d14 (S)	77	%.	55-109		1	02/24/20 13:35	02/26/20 19:37	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 23:36	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 23:36	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 23:36	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 23:36	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 23:36	64-17-5	2c
Ethylbenzene	**3.8**	ug/L	1.0	0.40	1		02/20/20 23:36	100-41-4	
Isopropylbenzene (Cumene)	**3.8**	ug/L	1.0	0.47	1		02/20/20 23:36	98-82-8	
p-Isopropyltoluene	**1.2**	ug/L	1.0	0.66	1		02/20/20 23:36	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 23:36	1634-04-4	
Naphthalene	**8.0**	ug/L	2.0	0.82	1		02/20/20 23:36	91-20-3	
n-Propylbenzene	**4.2**	ug/L	1.0	0.51	1		02/20/20 23:36	103-65-1	
Toluene	**3.8**	ug/L	1.0	0.32	1		02/20/20 23:36	108-88-3	
1,2,4-Trimethylbenzene	**18.2**	ug/L	1.0	0.63	1		02/20/20 23:36	95-63-6	
1,3,5-Trimethylbenzene	**10.0**	ug/L	1.0	0.45	1		02/20/20 23:36	108-67-8	
m&p-Xylene	**12.7**	ug/L	2.0	0.94	1		02/20/20 23:36	179601-23-1	
o-Xylene	**3.4**	ug/L	1.0	0.41	1		02/20/20 23:36	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%.	70-130		1		02/20/20 23:36	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%.	70-130		1		02/20/20 23:36	17060-07-0	
Toluene-d8 (S)	102	%.	70-130		1		02/20/20 23:36	2037-26-5	
Dibromofluoromethane (S)	99	%.	70-130		1		02/20/20 23:36	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: BMW-8-021720 **Lab ID: 30350924005** Collected: 02/17/20 14:10 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.10	0.029	1	02/24/20 13:35	02/26/20 19:55	83-32-9	
Acenaphthylene	ND	ug/L	0.10	0.034	1	02/24/20 13:35	02/26/20 19:55	208-96-8	
Anthracene	ND	ug/L	0.10	0.028	1	02/24/20 13:35	02/26/20 19:55	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	0.039	1	02/24/20 13:35	02/26/20 19:55	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	0.012	1	02/24/20 13:35	02/26/20 19:55	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	0.027	1	02/24/20 13:35	02/26/20 19:55	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	0.035	1	02/24/20 13:35	02/26/20 19:55	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	0.023	1	02/24/20 13:35	02/26/20 19:55	207-08-9	
Chrysene	ND	ug/L	0.10	0.040	1	02/24/20 13:35	02/26/20 19:55	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	0.028	1	02/24/20 13:35	02/26/20 19:55	53-70-3	
Fluoranthene	ND	ug/L	0.10	0.032	1	02/24/20 13:35	02/26/20 19:55	206-44-0	
Fluorene	ND	ug/L	0.10	0.031	1	02/24/20 13:35	02/26/20 19:55	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	0.030	1	02/24/20 13:35	02/26/20 19:55	193-39-5	
Phenanthrene	ND	ug/L	0.10	0.044	1	02/24/20 13:35	02/26/20 19:55	85-01-8	
Pyrene	ND	ug/L	0.10	0.036	1	02/24/20 13:35	02/26/20 19:55	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	59	%.	19-92		1	02/24/20 13:35	02/26/20 19:55	321-60-8	
Terphenyl-d14 (S)	89	%.	55-109		1	02/24/20 13:35	02/26/20 19:55	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 21:05	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 21:05	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 21:05	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 21:05	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 21:05	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 21:05	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 21:05	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 21:05	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 21:05	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 21:05	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 21:05	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 21:05	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 21:05	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 21:05	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 21:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 21:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%.	70-130		1		02/20/20 21:05	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%.	70-130		1		02/20/20 21:05	17060-07-0	
Toluene-d8 (S)	102	%.	70-130		1		02/20/20 21:05	2037-26-5	
Dibromofluoromethane (S)	95	%.	70-130		1		02/20/20 21:05	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: BMW-7-021720 **Lab ID: 30350924006** Collected: 02/17/20 16:43 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.098	0.028	1	02/24/20 13:35	02/26/20 20:12	83-32-9	
Acenaphthylene	ND	ug/L	0.098	0.033	1	02/24/20 13:35	02/26/20 20:12	208-96-8	
Anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/26/20 20:12	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.098	0.038	1	02/24/20 13:35	02/26/20 20:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.098	0.012	1	02/24/20 13:35	02/26/20 20:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.098	0.026	1	02/24/20 13:35	02/26/20 20:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/26/20 20:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.098	0.023	1	02/24/20 13:35	02/26/20 20:12	207-08-9	
Chrysene	ND	ug/L	0.098	0.039	1	02/24/20 13:35	02/26/20 20:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/26/20 20:12	53-70-3	
Fluoranthene	ND	ug/L	0.098	0.031	1	02/24/20 13:35	02/26/20 20:12	206-44-0	
Fluorene	ND	ug/L	0.098	0.030	1	02/24/20 13:35	02/26/20 20:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.098	0.029	1	02/24/20 13:35	02/26/20 20:12	193-39-5	
Phenanthrene	ND	ug/L	0.098	0.043	1	02/24/20 13:35	02/26/20 20:12	85-01-8	
Pyrene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/26/20 20:12	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	63	%.	19-92		1	02/24/20 13:35	02/26/20 20:12	321-60-8	
Terphenyl-d14 (S)	102	%.	55-109		1	02/24/20 13:35	02/26/20 20:12	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 20:39	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 20:39	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 20:39	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 20:39	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 20:39	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 20:39	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 20:39	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 20:39	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 20:39	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 20:39	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 20:39	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 20:39	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 20:39	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 20:39	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 20:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 20:39	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%.	70-130		1		02/20/20 20:39	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%.	70-130		1		02/20/20 20:39	17060-07-0	
Toluene-d8 (S)	101	%.	70-130		1		02/20/20 20:39	2037-26-5	
Dibromofluoromethane (S)	99	%.	70-130		1		02/20/20 20:39	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW-203-021820 **Lab ID: 30350924007** Collected: 02/18/20 08:58 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.098	0.028	1	02/24/20 13:35	02/26/20 20:30	83-32-9	
Acenaphthylene	ND	ug/L	0.098	0.033	1	02/24/20 13:35	02/26/20 20:30	208-96-8	
Anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/26/20 20:30	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.098	0.038	1	02/24/20 13:35	02/26/20 20:30	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.098	0.012	1	02/24/20 13:35	02/26/20 20:30	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.098	0.026	1	02/24/20 13:35	02/26/20 20:30	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/26/20 20:30	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.098	0.023	1	02/24/20 13:35	02/26/20 20:30	207-08-9	
Chrysene	ND	ug/L	0.098	0.039	1	02/24/20 13:35	02/26/20 20:30	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/26/20 20:30	53-70-3	
Fluoranthene	ND	ug/L	0.098	0.031	1	02/24/20 13:35	02/26/20 20:30	206-44-0	
Fluorene	ND	ug/L	0.098	0.030	1	02/24/20 13:35	02/26/20 20:30	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.098	0.029	1	02/24/20 13:35	02/26/20 20:30	193-39-5	
Phenanthrene	ND	ug/L	0.098	0.043	1	02/24/20 13:35	02/26/20 20:30	85-01-8	
Pyrene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/26/20 20:30	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	39	%.	19-92		1	02/24/20 13:35	02/26/20 20:30	321-60-8	
Terphenyl-d14 (S)	72	%.	55-109		1	02/24/20 13:35	02/26/20 20:30	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 18:32	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 18:32	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 18:32	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 18:32	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 18:32	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 18:32	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 18:32	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 18:32	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 18:32	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 18:32	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 18:32	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 18:32	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 18:32	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 18:32	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 18:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 18:32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%.	70-130		1		02/20/20 18:32	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%.	70-130		1		02/20/20 18:32	17060-07-0	
Toluene-d8 (S)	103	%.	70-130		1		02/20/20 18:32	2037-26-5	
Dibromofluoromethane (S)	97	%.	70-130		1		02/20/20 18:32	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: BMW3-021820 **Lab ID: 30350924008** Collected: 02/18/20 10:48 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.099	0.029	1	02/24/20 13:35	02/26/20 20:47	83-32-9	
Acenaphthylene	ND	ug/L	0.099	0.033	1	02/24/20 13:35	02/26/20 20:47	208-96-8	
Anthracene	ND	ug/L	0.099	0.027	1	02/24/20 13:35	02/26/20 20:47	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.099	0.038	1	02/24/20 13:35	02/26/20 20:47	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.099	0.012	1	02/24/20 13:35	02/26/20 20:47	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.099	0.027	1	02/24/20 13:35	02/26/20 20:47	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.099	0.035	1	02/24/20 13:35	02/26/20 20:47	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.099	0.023	1	02/24/20 13:35	02/26/20 20:47	207-08-9	
Chrysene	ND	ug/L	0.099	0.040	1	02/24/20 13:35	02/26/20 20:47	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.099	0.027	1	02/24/20 13:35	02/26/20 20:47	53-70-3	
Fluoranthene	ND	ug/L	0.099	0.032	1	02/24/20 13:35	02/26/20 20:47	206-44-0	
Fluorene	ND	ug/L	0.099	0.031	1	02/24/20 13:35	02/26/20 20:47	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.099	0.030	1	02/24/20 13:35	02/26/20 20:47	193-39-5	
Phenanthrene	ND	ug/L	0.099	0.043	1	02/24/20 13:35	02/26/20 20:47	85-01-8	
Pyrene	ND	ug/L	0.099	0.036	1	02/24/20 13:35	02/26/20 20:47	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%.	19-92		1	02/24/20 13:35	02/26/20 20:47	321-60-8	
Terphenyl-d14 (S)	81	%.	55-109		1	02/24/20 13:35	02/26/20 20:47	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 21:30	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 21:30	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 21:30	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 21:30	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 21:30	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 21:30	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 21:30	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 21:30	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 21:30	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 21:30	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 21:30	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 21:30	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 21:30	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 21:30	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 21:30	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 21:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%.	70-130		1		02/20/20 21:30	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%.	70-130		1		02/20/20 21:30	17060-07-0	
Toluene-d8 (S)	104	%.	70-130		1		02/20/20 21:30	2037-26-5	
Dibromofluoromethane (S)	97	%.	70-130		1		02/20/20 21:30	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW211-021820 **Lab ID: 30350924009** Collected: 02/18/20 15:33 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.099	0.029	1	02/24/20 13:35	02/25/20 20:20	83-32-9	
Acenaphthylene	ND	ug/L	0.099	0.033	1	02/24/20 13:35	02/25/20 20:20	208-96-8	
Anthracene	ND	ug/L	0.099	0.027	1	02/24/20 13:35	02/25/20 20:20	120-12-7	R1
Benzo(a)anthracene	ND	ug/L	0.099	0.038	1	02/24/20 13:35	02/25/20 20:20	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.099	0.012	1	02/24/20 13:35	02/25/20 20:20	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.099	0.027	1	02/24/20 13:35	02/25/20 20:20	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.099	0.035	1	02/24/20 13:35	02/25/20 20:20	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.099	0.023	1	02/24/20 13:35	02/25/20 20:20	207-08-9	
Chrysene	ND	ug/L	0.099	0.040	1	02/24/20 13:35	02/25/20 20:20	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.099	0.027	1	02/24/20 13:35	02/25/20 20:20	53-70-3	
Fluoranthene	ND	ug/L	0.099	0.032	1	02/24/20 13:35	02/25/20 20:20	206-44-0	
Fluorene	ND	ug/L	0.099	0.031	1	02/24/20 13:35	02/25/20 20:20	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.099	0.030	1	02/24/20 13:35	02/25/20 20:20	193-39-5	R1
Phenanthrene	ND	ug/L	0.099	0.043	1	02/24/20 13:35	02/25/20 20:20	85-01-8	
Pyrene	ND	ug/L	0.099	0.036	1	02/24/20 13:35	02/25/20 20:20	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	49	%.	19-92		1	02/24/20 13:35	02/25/20 20:20	321-60-8	
Terphenyl-d14 (S)	68	%.	55-109		1	02/24/20 13:35	02/25/20 20:20	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 17:15	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 17:15	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 17:15	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 17:15	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 17:15	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 17:15	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 17:15	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 17:15	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 17:15	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 17:15	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 17:15	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 17:15	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 17:15	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 17:15	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 17:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 17:15	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%.	70-130		1		02/20/20 17:15	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%.	70-130		1		02/20/20 17:15	17060-07-0	
Toluene-d8 (S)	105	%.	70-130		1		02/20/20 17:15	2037-26-5	
Dibromofluoromethane (S)	95	%.	70-130		1		02/20/20 17:15	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: TB-021820 **Lab ID: 30350924010** Collected: 02/18/20 00:01 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 16:23	71-43-2	
tert-Butyl Alcohol	ND	ug/L	5.0	4.3	1		02/20/20 16:23	75-65-0	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 16:23	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 16:23	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 16:23	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 16:23	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 16:23	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 16:23	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 16:23	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 16:23	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 16:23	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 16:23	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 16:23	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 16:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 16:23	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 16:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 16:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%.	70-130		1		02/20/20 16:23	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%.	70-130		1		02/20/20 16:23	17060-07-0	
Toluene-d8 (S)	102	%.	70-130		1		02/20/20 16:23	2037-26-5	
Dibromofluoromethane (S)	99	%.	70-130		1		02/20/20 16:23	1868-53-7	

Sample: BMW-6-021820 **Lab ID: 30350924011** Collected: 02/18/20 11:30 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.11	0.032	1	02/24/20 13:35	02/25/20 21:13	83-32-9	
Acenaphthylene	ND	ug/L	0.11	0.038	1	02/24/20 13:35	02/25/20 21:13	208-96-8	
Anthracene	ND	ug/L	0.11	0.031	1	02/24/20 13:35	02/25/20 21:13	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.11	0.043	1	02/24/20 13:35	02/25/20 21:13	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.11	0.014	1	02/24/20 13:35	02/25/20 21:13	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.11	0.030	1	02/24/20 13:35	02/25/20 21:13	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.11	0.040	1	02/24/20 13:35	02/25/20 21:13	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.11	0.026	1	02/24/20 13:35	02/25/20 21:13	207-08-9	
Chrysene	ND	ug/L	0.11	0.045	1	02/24/20 13:35	02/25/20 21:13	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.11	0.031	1	02/24/20 13:35	02/25/20 21:13	53-70-3	
Fluoranthene	ND	ug/L	0.11	0.036	1	02/24/20 13:35	02/25/20 21:13	206-44-0	
Fluorene	ND	ug/L	0.11	0.035	1	02/24/20 13:35	02/25/20 21:13	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.11	0.034	1	02/24/20 13:35	02/25/20 21:13	193-39-5	
Phenanthrene	ND	ug/L	0.11	0.049	1	02/24/20 13:35	02/25/20 21:13	85-01-8	
Pyrene	ND	ug/L	0.11	0.040	1	02/24/20 13:35	02/25/20 21:13	129-00-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: BMW-6-021820 **Lab ID: 30350924011** Collected: 02/18/20 11:30 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Surrogates									
2-Fluorobiphenyl (S)	47	%.	19-92		1	02/24/20 13:35	02/25/20 21:13	321-60-8	
Terphenyl-d14 (S)	69	%.	55-109		1	02/24/20 13:35	02/25/20 21:13	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 21:56	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 21:56	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 21:56	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 21:56	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 21:56	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 21:56	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 21:56	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 21:56	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 21:56	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 21:56	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 21:56	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 21:56	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 21:56	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 21:56	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 21:56	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 21:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%.	70-130		1		02/20/20 21:56	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%.	70-130		1		02/20/20 21:56	17060-07-0	
Toluene-d8 (S)	103	%.	70-130		1		02/20/20 21:56	2037-26-5	
Dibromofluoromethane (S)	99	%.	70-130		1		02/20/20 21:56	1868-53-7	

Sample: MW-202-021820 **Lab ID: 30350924012** Collected: 02/18/20 10:28 Received: 02/20/20 09:00 Matrix: Water

Comments: • 1L bottles have an ID of MW-203.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.14	0.041	1	02/24/20 13:35	02/25/20 21:31	83-32-9	
Acenaphthylene	ND	ug/L	0.14	0.048	1	02/24/20 13:35	02/25/20 21:31	208-96-8	
Anthracene	ND	ug/L	0.14	0.039	1	02/24/20 13:35	02/25/20 21:31	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.14	0.055	1	02/24/20 13:35	02/25/20 21:31	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.14	0.018	1	02/24/20 13:35	02/25/20 21:31	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.14	0.038	1	02/24/20 13:35	02/25/20 21:31	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.14	0.051	1	02/24/20 13:35	02/25/20 21:31	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.14	0.033	1	02/24/20 13:35	02/25/20 21:31	207-08-9	
Chrysene	ND	ug/L	0.14	0.057	1	02/24/20 13:35	02/25/20 21:31	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.14	0.039	1	02/24/20 13:35	02/25/20 21:31	53-70-3	
Fluoranthene	ND	ug/L	0.14	0.046	1	02/24/20 13:35	02/25/20 21:31	206-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW-202-021820 **Lab ID: 30350924012** Collected: 02/18/20 10:28 Received: 02/20/20 09:00 Matrix: Water

Comments: • 1L bottles have an ID of MW-203.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Fluorene	ND	ug/L	0.14	0.044	1	02/24/20 13:35	02/25/20 21:31	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.14	0.043	1	02/24/20 13:35	02/25/20 21:31	193-39-5	
Phenanthrene	ND	ug/L	0.14	0.063	1	02/24/20 13:35	02/25/20 21:31	85-01-8	
Pyrene	ND	ug/L	0.14	0.051	1	02/24/20 13:35	02/25/20 21:31	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	47	%.	19-92		1	02/24/20 13:35	02/25/20 21:31	321-60-8	
Terphenyl-d14 (S)	63	%.	55-109		1	02/24/20 13:35	02/25/20 21:31	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 22:21	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 22:21	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 22:21	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 22:21	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 22:21	64-17-5	2c
Ethylbenzene	**1.1**	ug/L	1.0	0.40	1		02/20/20 22:21	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 22:21	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 22:21	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 22:21	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 22:21	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 22:21	103-65-1	
Toluene	**1.0**	ug/L	1.0	0.32	1		02/20/20 22:21	108-88-3	
1,2,4-Trimethylbenzene	**3.9**	ug/L	1.0	0.63	1		02/20/20 22:21	95-63-6	
1,3,5-Trimethylbenzene	**1.3**	ug/L	1.0	0.45	1		02/20/20 22:21	108-67-8	
m&p-Xylene	**4.3**	ug/L	2.0	0.94	1		02/20/20 22:21	179601-23-1	
o-Xylene	**1.6**	ug/L	1.0	0.41	1		02/20/20 22:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%.	70-130		1		02/20/20 22:21	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%.	70-130		1		02/20/20 22:21	17060-07-0	
Toluene-d8 (S)	104	%.	70-130		1		02/20/20 22:21	2037-26-5	
Dibromofluoromethane (S)	100	%.	70-130		1		02/20/20 22:21	1868-53-7	

Sample: BMW-13-021820 **Lab ID: 30350924013** Collected: 02/18/20 16:20 Received: 02/20/20 09:00 Matrix: Water

Comments: • Sample collection time on containers does not match COC; time on container is 16:30.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	**2.3**	ug/L	0.10	0.030	1	02/24/20 13:35	02/25/20 21:48	83-32-9	
Acenaphthylene	**1.3**	ug/L	0.10	0.035	1	02/24/20 13:35	02/25/20 21:48	208-96-8	
Anthracene	**0.25**	ug/L	0.10	0.028	1	02/24/20 13:35	02/25/20 21:48	120-12-7	
Benzo(a)anthracene	**0.19**	ug/L	0.10	0.040	1	02/24/20 13:35	02/25/20 21:48	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	0.013	1	02/24/20 13:35	02/25/20 21:48	50-32-8	
Benzo(b)fluoranthene	**0.12**	ug/L	0.10	0.028	1	02/24/20 13:35	02/25/20 21:48	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	0.036	1	02/24/20 13:35	02/25/20 21:48	191-24-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
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ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: BMW-13-021820 **Lab ID: 30350924013** Collected: 02/18/20 16:20 Received: 02/20/20 09:00 Matrix: Water

Comments: • Sample collection time on containers does not match COC; time on container is 16:30.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Benzo(k)fluoranthene	ND	ug/L	0.10	0.024	1	02/24/20 13:35	02/25/20 21:48	207-08-9	
Chrysene	**0.16**	ug/L	0.10	0.041	1	02/24/20 13:35	02/25/20 21:48	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	0.028	1	02/24/20 13:35	02/25/20 21:48	53-70-3	
Fluoranthene	**0.43**	ug/L	0.10	0.033	1	02/24/20 13:35	02/25/20 21:48	206-44-0	
Fluorene	**1.8**	ug/L	0.10	0.032	1	02/24/20 13:35	02/25/20 21:48	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	0.031	1	02/24/20 13:35	02/25/20 21:48	193-39-5	
Phenanthrene	**1.8**	ug/L	0.10	0.045	1	02/24/20 13:35	02/25/20 21:48	85-01-8	
Pyrene	**0.51**	ug/L	0.10	0.037	1	02/24/20 13:35	02/25/20 21:48	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%.	19-92		1	02/24/20 13:35	02/25/20 21:48	321-60-8	
Terphenyl-d14 (S)	70	%.	55-109		1	02/24/20 13:35	02/25/20 21:48	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	**6730**	ug/L	100	33.8	100		02/21/20 21:51	71-43-2	
n-Butylbenzene	**29.7**	ug/L	1.0	0.84	1		02/20/20 22:46	104-51-8	
sec-Butylbenzene	**16.5**	ug/L	1.0	0.57	1		02/20/20 22:46	135-98-8	
tert-Butylbenzene	**2.2**	ug/L	1.0	0.60	1		02/20/20 22:46	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 22:46	64-17-5	2c
Ethylbenzene	**1260**	ug/L	100	39.8	100		02/21/20 21:51	100-41-4	
Isopropylbenzene (Cumene)	**73.6**	ug/L	1.0	0.47	1		02/20/20 22:46	98-82-8	
p-Isopropyltoluene	**15.2**	ug/L	1.0	0.66	1		02/20/20 22:46	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 22:46	1634-04-4	
Naphthalene	**289**	ug/L	2.0	0.82	1		02/20/20 22:46	91-20-3	
n-Propylbenzene	**144**	ug/L	1.0	0.51	1		02/20/20 22:46	103-65-1	
Toluene	**19000**	ug/L	100	31.7	100		02/21/20 21:51	108-88-3	
1,2,4-Trimethylbenzene	**1620**	ug/L	100	63.0	100		02/21/20 21:51	95-63-6	
1,3,5-Trimethylbenzene	**452**	ug/L	100	44.6	100		02/21/20 21:51	108-67-8	
m&p-Xylene	**7590**	ug/L	200	94.2	100		02/21/20 21:51	179601-23-1	
o-Xylene	**3390**	ug/L	100	40.9	100		02/21/20 21:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%.	70-130		1		02/20/20 22:46	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%.	70-130		1		02/20/20 22:46	17060-07-0	
Toluene-d8 (S)	91	%.	70-130		1		02/20/20 22:46	2037-26-5	
Dibromofluoromethane (S)	81	%.	70-130		1		02/20/20 22:46	1868-53-7	

Sample: MW210-021920 **Lab ID: 30350924014** Collected: 02/19/20 10:00 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.098	0.028	1	02/24/20 13:35	02/25/20 22:06	83-32-9	
Acenaphthylene	ND	ug/L	0.098	0.033	1	02/24/20 13:35	02/25/20 22:06	208-96-8	
Anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/25/20 22:06	120-12-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: MW210-021920 **Lab ID: 30350924014** Collected: 02/19/20 10:00 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Benzo(a)anthracene	ND	ug/L	0.098	0.038	1	02/24/20 13:35	02/25/20 22:06	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.098	0.012	1	02/24/20 13:35	02/25/20 22:06	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.098	0.026	1	02/24/20 13:35	02/25/20 22:06	205-99-2	ip
Benzo(g,h,i)perylene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/25/20 22:06	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.098	0.023	1	02/24/20 13:35	02/25/20 22:06	207-08-9	ip
Chrysene	ND	ug/L	0.098	0.039	1	02/24/20 13:35	02/25/20 22:06	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/25/20 22:06	53-70-3	
Fluoranthene	ND	ug/L	0.098	0.031	1	02/24/20 13:35	02/25/20 22:06	206-44-0	
Fluorene	ND	ug/L	0.098	0.030	1	02/24/20 13:35	02/25/20 22:06	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.098	0.029	1	02/24/20 13:35	02/25/20 22:06	193-39-5	
Phenanthrene	ND	ug/L	0.098	0.043	1	02/24/20 13:35	02/25/20 22:06	85-01-8	
Pyrene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/25/20 22:06	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	6	%.	19-92		1	02/24/20 13:35	02/25/20 22:06	321-60-8	S5, SR
Terphenyl-d14 (S)	64	%.	55-109		1	02/24/20 13:35	02/25/20 22:06	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 19:23	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 19:23	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 19:23	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 19:23	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 19:23	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 19:23	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 19:23	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 19:23	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 19:23	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 19:23	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 19:23	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 19:23	108-88-3	
1,2,4-Trimethylbenzene	**1.9**	ug/L	1.0	0.63	1		02/20/20 19:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 19:23	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 19:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 19:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%.	70-130		1		02/20/20 19:23	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%.	70-130		1		02/20/20 19:23	17060-07-0	
Toluene-d8 (S)	103	%.	70-130		1		02/20/20 19:23	2037-26-5	
Dibromofluoromethane (S)	95	%.	70-130		1		02/20/20 19:23	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: BMW2-021920 **Lab ID: 30350924015** Collected: 02/19/20 10:45 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.097	0.028	1	02/24/20 13:35	02/25/20 22:23	83-32-9	
Acenaphthylene	ND	ug/L	0.097	0.033	1	02/24/20 13:35	02/25/20 22:23	208-96-8	
Anthracene	ND	ug/L	0.097	0.027	1	02/24/20 13:35	02/25/20 22:23	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.097	0.038	1	02/24/20 13:35	02/25/20 22:23	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.097	0.012	1	02/24/20 13:35	02/25/20 22:23	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.097	0.026	1	02/24/20 13:35	02/25/20 22:23	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.097	0.034	1	02/24/20 13:35	02/25/20 22:23	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.097	0.022	1	02/24/20 13:35	02/25/20 22:23	207-08-9	
Chrysene	ND	ug/L	0.097	0.039	1	02/24/20 13:35	02/25/20 22:23	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.097	0.027	1	02/24/20 13:35	02/25/20 22:23	53-70-3	
Fluoranthene	ND	ug/L	0.097	0.031	1	02/24/20 13:35	02/25/20 22:23	206-44-0	
Fluorene	ND	ug/L	0.097	0.030	1	02/24/20 13:35	02/25/20 22:23	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.097	0.029	1	02/24/20 13:35	02/25/20 22:23	193-39-5	
Phenanthrene	ND	ug/L	0.097	0.043	1	02/24/20 13:35	02/25/20 22:23	85-01-8	
Pyrene	ND	ug/L	0.097	0.035	1	02/24/20 13:35	02/25/20 22:23	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	56	%.	19-92		1	02/24/20 13:35	02/25/20 22:23	321-60-8	
Terphenyl-d14 (S)	76	%.	55-109		1	02/24/20 13:35	02/25/20 22:23	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 19:48	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 19:48	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 19:48	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 19:48	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 19:48	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 19:48	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 19:48	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 19:48	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 19:48	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 19:48	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 19:48	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 19:48	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 19:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 19:48	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 19:48	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 19:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%.	70-130		1		02/20/20 19:48	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%.	70-130		1		02/20/20 19:48	17060-07-0	
Toluene-d8 (S)	105	%.	70-130		1		02/20/20 19:48	2037-26-5	
Dibromofluoromethane (S)	96	%.	70-130		1		02/20/20 19:48	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: DUP-021920 **Lab ID: 30350924016** Collected: 02/19/20 00:00 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.098	0.028	1	02/24/20 13:35	02/25/20 22:41	83-32-9	
Acenaphthylene	ND	ug/L	0.098	0.033	1	02/24/20 13:35	02/25/20 22:41	208-96-8	
Anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/25/20 22:41	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.098	0.038	1	02/24/20 13:35	02/25/20 22:41	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.098	0.012	1	02/24/20 13:35	02/25/20 22:41	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.098	0.026	1	02/24/20 13:35	02/25/20 22:41	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/25/20 22:41	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.098	0.023	1	02/24/20 13:35	02/25/20 22:41	207-08-9	
Chrysene	ND	ug/L	0.098	0.039	1	02/24/20 13:35	02/25/20 22:41	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.098	0.027	1	02/24/20 13:35	02/25/20 22:41	53-70-3	
Fluoranthene	ND	ug/L	0.098	0.031	1	02/24/20 13:35	02/25/20 22:41	206-44-0	
Fluorene	ND	ug/L	0.098	0.030	1	02/24/20 13:35	02/25/20 22:41	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.098	0.029	1	02/24/20 13:35	02/25/20 22:41	193-39-5	
Phenanthrene	ND	ug/L	0.098	0.043	1	02/24/20 13:35	02/25/20 22:41	85-01-8	
Pyrene	ND	ug/L	0.098	0.035	1	02/24/20 13:35	02/25/20 22:41	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	45	%.	19-92		1	02/24/20 13:35	02/25/20 22:41	321-60-8	
Terphenyl-d14 (S)	65	%.	55-109		1	02/24/20 13:35	02/25/20 22:41	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/21/20 21:25	71-43-2	M5
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/21/20 21:25	104-51-8	M5
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/21/20 21:25	135-98-8	M5
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/21/20 21:25	98-06-6	M5
Ethanol	ND	ug/L	200	73.5	1		02/21/20 21:25	64-17-5	1c,L1, M5
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/21/20 21:25	100-41-4	M5
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/21/20 21:25	98-82-8	M5
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/21/20 21:25	99-87-6	M5
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/21/20 21:25	1634-04-4	M5
Naphthalene	ND	ug/L	2.0	0.82	1		02/21/20 21:25	91-20-3	M5
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/21/20 21:25	103-65-1	M5
Toluene	ND	ug/L	1.0	0.32	1		02/21/20 21:25	108-88-3	M5
1,2,4-Trimethylbenzene	**1.4**	ug/L	1.0	0.63	1		02/21/20 21:25	95-63-6	M5
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/21/20 21:25	108-67-8	M5
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/21/20 21:25	179601-23-1	M5
o-Xylene	ND	ug/L	1.0	0.41	1		02/21/20 21:25	95-47-6	M5
Surrogates									
4-Bromofluorobenzene (S)	99	%.	70-130		1		02/21/20 21:25	460-00-4	M5
1,2-Dichloroethane-d4 (S)	98	%.	70-130		1		02/21/20 21:25	17060-07-0	M5
Toluene-d8 (S)	102	%.	70-130		1		02/21/20 21:25	2037-26-5	M5
Dibromofluoromethane (S)	97	%.	70-130		1		02/21/20 21:25	1868-53-7	M5

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: TB-021920 **Lab ID: 30350924017** Collected: 02/19/20 00:00 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 16:49	71-43-2	
tert-Butyl Alcohol	ND	ug/L	5.0	4.3	1		02/20/20 16:49	75-65-0	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 16:49	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 16:49	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 16:49	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 16:49	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 16:49	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 16:49	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 16:49	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 16:49	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 16:49	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 16:49	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 16:49	108-88-3	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	0.63	1		02/20/20 16:49	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	0.45	1		02/20/20 16:49	108-67-8	
m&p-Xylene	ND	ug/L	2.0	0.94	1		02/20/20 16:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 16:49	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%.	70-130		1		02/20/20 16:49	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%.	70-130		1		02/20/20 16:49	17060-07-0	
Toluene-d8 (S)	105	%.	70-130		1		02/20/20 16:49	2037-26-5	
Dibromofluoromethane (S)	98	%.	70-130		1		02/20/20 16:49	1868-53-7	

Sample: BMW-14R-021920 **Lab ID: 30350924018** Collected: 02/19/20 09:50 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	**0.50**	ug/L	0.11	0.031	1	02/24/20 13:35	02/25/20 22:59	83-32-9	
Acenaphthylene	**0.13**	ug/L	0.11	0.036	1	02/24/20 13:35	02/25/20 22:59	208-96-8	
Anthracene	ND	ug/L	0.11	0.029	1	02/24/20 13:35	02/25/20 22:59	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.11	0.041	1	02/24/20 13:35	02/25/20 22:59	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.11	0.013	1	02/24/20 13:35	02/25/20 22:59	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.11	0.029	1	02/24/20 13:35	02/25/20 22:59	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.11	0.038	1	02/24/20 13:35	02/25/20 22:59	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.11	0.024	1	02/24/20 13:35	02/25/20 22:59	207-08-9	
Chrysene	ND	ug/L	0.11	0.042	1	02/24/20 13:35	02/25/20 22:59	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.11	0.029	1	02/24/20 13:35	02/25/20 22:59	53-70-3	
Fluoranthene	ND	ug/L	0.11	0.034	1	02/24/20 13:35	02/25/20 22:59	206-44-0	
Fluorene	**0.56**	ug/L	0.11	0.033	1	02/24/20 13:35	02/25/20 22:59	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.11	0.032	1	02/24/20 13:35	02/25/20 22:59	193-39-5	
Phenanthrene	**0.18**	ug/L	0.11	0.047	1	02/24/20 13:35	02/25/20 22:59	85-01-8	
Pyrene	ND	ug/L	0.11	0.038	1	02/24/20 13:35	02/25/20 22:59	129-00-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: BMW-14R-021920 **Lab ID: 30350924018** Collected: 02/19/20 09:50 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Surrogates									
2-Fluorobiphenyl (S)	54	%.	19-92		1	02/24/20 13:35	02/25/20 22:59	321-60-8	
Terphenyl-d14 (S)	79	%.	55-109		1	02/24/20 13:35	02/25/20 22:59	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/21/20 00:27	71-43-2	
n-Butylbenzene	**17.4**	ug/L	1.0	0.84	1		02/21/20 00:27	104-51-8	
sec-Butylbenzene	**11.7**	ug/L	1.0	0.57	1		02/21/20 00:27	135-98-8	
tert-Butylbenzene	**1.7**	ug/L	1.0	0.60	1		02/21/20 00:27	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/21/20 00:27	64-17-5	2c
Ethylbenzene	**179**	ug/L	1.0	0.40	1		02/21/20 00:27	100-41-4	
Isopropylbenzene (Cumene)	**96.5**	ug/L	1.0	0.47	1		02/21/20 00:27	98-82-8	
p-Isopropyltoluene	**9.8**	ug/L	1.0	0.66	1		02/21/20 00:27	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/21/20 00:27	1634-04-4	
Naphthalene	**360**	ug/L	2.0	0.82	1		02/21/20 00:27	91-20-3	
n-Propylbenzene	**208**	ug/L	1.0	0.51	1		02/21/20 00:27	103-65-1	
Toluene	**2.2**	ug/L	1.0	0.32	1		02/21/20 00:27	108-88-3	
1,2,4-Trimethylbenzene	**1830**	ug/L	10.0	6.3	10		02/21/20 00:52	95-63-6	
1,3,5-Trimethylbenzene	**471**	ug/L	10.0	4.5	10		02/21/20 00:52	108-67-8	
m&p-Xylene	**592**	ug/L	2.0	0.94	1		02/21/20 00:27	179601-23-1	
o-Xylene	**4.5**	ug/L	1.0	0.41	1		02/21/20 00:27	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%.	70-130		1		02/21/20 00:27	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%.	70-130		1		02/21/20 00:27	17060-07-0	
Toluene-d8 (S)	101	%.	70-130		1		02/21/20 00:27	2037-26-5	
Dibromofluoromethane (S)	86	%.	70-130		1		02/21/20 00:27	1868-53-7	

Sample: PZ-106S-021920 **Lab ID: 30350924019** Collected: 02/19/20 11:35 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Acenaphthene	ND	ug/L	0.10	0.030	1	02/24/20 13:35	02/25/20 23:16	83-32-9	
Acenaphthylene	ND	ug/L	0.10	0.035	1	02/24/20 13:35	02/25/20 23:16	208-96-8	
Anthracene	ND	ug/L	0.10	0.029	1	02/24/20 13:35	02/25/20 23:16	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.10	0.040	1	02/24/20 13:35	02/25/20 23:16	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.10	0.013	1	02/24/20 13:35	02/25/20 23:16	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.10	0.028	1	02/24/20 13:35	02/25/20 23:16	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.10	0.037	1	02/24/20 13:35	02/25/20 23:16	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.10	0.024	1	02/24/20 13:35	02/25/20 23:16	207-08-9	
Chrysene	ND	ug/L	0.10	0.041	1	02/24/20 13:35	02/25/20 23:16	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.10	0.029	1	02/24/20 13:35	02/25/20 23:16	53-70-3	
Fluoranthene	ND	ug/L	0.10	0.033	1	02/24/20 13:35	02/25/20 23:16	206-44-0	
Fluorene	ND	ug/L	0.10	0.032	1	02/24/20 13:35	02/25/20 23:16	86-73-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Sample: PZ-106S-021920 **Lab ID: 30350924019** Collected: 02/19/20 11:35 Received: 02/20/20 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C								
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	0.031	1	02/24/20 13:35	02/25/20 23:16	193-39-5	
Phenanthrene	ND	ug/L	0.10	0.045	1	02/24/20 13:35	02/25/20 23:16	85-01-8	
Pyrene	ND	ug/L	0.10	0.037	1	02/24/20 13:35	02/25/20 23:16	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	64	%.	19-92		1	02/24/20 13:35	02/25/20 23:16	321-60-8	
Terphenyl-d14 (S)	83	%.	55-109		1	02/24/20 13:35	02/25/20 23:16	1718-51-0	
8260C MSV	Analytical Method: EPA 8260C								
Benzene	ND	ug/L	1.0	0.34	1		02/20/20 20:14	71-43-2	
n-Butylbenzene	ND	ug/L	1.0	0.84	1		02/20/20 20:14	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	0.57	1		02/20/20 20:14	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	0.60	1		02/20/20 20:14	98-06-6	
Ethanol	ND	ug/L	200	73.5	1		02/20/20 20:14	64-17-5	2c
Ethylbenzene	ND	ug/L	1.0	0.40	1		02/20/20 20:14	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.47	1		02/20/20 20:14	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	0.66	1		02/20/20 20:14	99-87-6	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.25	1		02/20/20 20:14	1634-04-4	
Naphthalene	ND	ug/L	2.0	0.82	1		02/20/20 20:14	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	0.51	1		02/20/20 20:14	103-65-1	
Toluene	ND	ug/L	1.0	0.32	1		02/20/20 20:14	108-88-3	
1,2,4-Trimethylbenzene	**6.5**	ug/L	1.0	0.63	1		02/20/20 20:14	95-63-6	
1,3,5-Trimethylbenzene	**1.7**	ug/L	1.0	0.45	1		02/20/20 20:14	108-67-8	
m&p-Xylene	**2.2**	ug/L	2.0	0.94	1		02/20/20 20:14	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.41	1		02/20/20 20:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%.	70-130		1		02/20/20 20:14	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%.	70-130		1		02/20/20 20:14	17060-07-0	
Toluene-d8 (S)	105	%.	70-130		1		02/20/20 20:14	2037-26-5	
Dibromofluoromethane (S)	94	%.	70-130		1		02/20/20 20:14	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

QC Batch: 384781 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30350924001, 30350924002, 30350924003, 30350924004, 30350924005, 30350924006, 30350924007, 30350924008, 30350924009, 30350924010, 30350924011, 30350924012, 30350924013, 30350924014, 30350924015, 30350924017, 30350924018, 30350924019

METHOD BLANK: 1864529 Matrix: Water
Associated Lab Samples: 30350924001, 30350924002, 30350924003, 30350924004, 30350924005, 30350924006, 30350924007, 30350924008, 30350924009, 30350924010, 30350924011, 30350924012, 30350924013, 30350924014, 30350924015, 30350924017, 30350924018, 30350924019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	ND	1.0	0.63	02/20/20 15:58	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	0.45	02/20/20 15:58	
Benzene	ug/L	ND	1.0	0.34	02/20/20 15:58	
Ethanol	ug/L	ND	200	73.5	02/20/20 15:58	2c
Ethylbenzene	ug/L	ND	1.0	0.40	02/20/20 15:58	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	0.47	02/20/20 15:58	
m&p-Xylene	ug/L	ND	2.0	0.94	02/20/20 15:58	
Methyl-tert-butyl ether	ug/L	ND	1.0	0.25	02/20/20 15:58	
n-Butylbenzene	ug/L	ND	1.0	0.84	02/20/20 15:58	
n-Propylbenzene	ug/L	ND	1.0	0.51	02/20/20 15:58	
Naphthalene	ug/L	ND	2.0	0.82	02/20/20 15:58	
o-Xylene	ug/L	ND	1.0	0.41	02/20/20 15:58	
p-Isopropyltoluene	ug/L	ND	1.0	0.66	02/20/20 15:58	
sec-Butylbenzene	ug/L	ND	1.0	0.57	02/20/20 15:58	
tert-Butyl Alcohol	ug/L	ND	5.0	4.3	02/20/20 15:58	
tert-Butylbenzene	ug/L	ND	1.0	0.60	02/20/20 15:58	
Toluene	ug/L	ND	1.0	0.32	02/20/20 15:58	
1,2-Dichloroethane-d4 (S)	%.	94	70-130		02/20/20 15:58	
4-Bromofluorobenzene (S)	%.	100	70-130		02/20/20 15:58	
Dibromofluoromethane (S)	%.	96	70-130		02/20/20 15:58	
Toluene-d8 (S)	%.	104	70-130		02/20/20 15:58	

LABORATORY CONTROL SAMPLE: 1864530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	22.3	111	70-130	
1,3,5-Trimethylbenzene	ug/L	20	22.2	111	70-130	
Benzene	ug/L	20	20.4	102	70-130	
Ethanol	ug/L	200	236	118	10-175	2c
Ethylbenzene	ug/L	20	21.9	110	70-130	
Isopropylbenzene (Cumene)	ug/L	20	23.8	119	70-130	
m&p-Xylene	ug/L	40	44.2	110	70-130	
Methyl-tert-butyl ether	ug/L	20	20.3	102	70-130	
n-Butylbenzene	ug/L	20	21.8	109	70-130	
n-Propylbenzene	ug/L	20	22.3	112	70-130	
Naphthalene	ug/L	20	21.6	108	55-160	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

LABORATORY CONTROL SAMPLE: 1864530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
o-Xylene	ug/L	20	22.3	111	70-130	
p-Isopropyltoluene	ug/L	20	22.5	113	70-130	
sec-Butylbenzene	ug/L	20	22.8	114	70-130	
tert-Butyl Alcohol	ug/L	100	91.9	92	44-175	
tert-Butylbenzene	ug/L	20	22.3	112	70-130	
Toluene	ug/L	20	22.2	111	70-130	
1,2-Dichloroethane-d4 (S)	%.			92	70-130	
4-Bromofluorobenzene (S)	%.			99	70-130	
Dibromofluoromethane (S)	%.			97	70-130	
Toluene-d8 (S)	%.			105	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1864531 1864532

Parameter	Units	30350924009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	ND	20	20	24.9	23.5	124	117	52-151	6	30	
1,3,5-Trimethylbenzene	ug/L	ND	20	20	22.7	22.5	114	112	53-142	1	30	
Benzene	ug/L	ND	20	20	19.7	20.4	98	102	50-149	4	30	
Ethanol	ug/L	ND	200	200	140J	165J	70	82	10-175		30	2c
Ethylbenzene	ug/L	ND	20	20	21.8	22.0	109	110	63-135	1	30	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	24.1	24.3	120	122	50-167	1	30	
m&p-Xylene	ug/L	ND	40	40	44.6	43.3	111	108	63-135	3	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	18.8	19.3	94	97	53-123	3	30	
n-Butylbenzene	ug/L	ND	20	20	21.3	21.3	106	106	51-125	0	30	
n-Propylbenzene	ug/L	ND	20	20	22.4	22.1	112	110	56-135	1	30	
Naphthalene	ug/L	ND	20	20	24.2	21.2	121	106	30-157	13	30	
o-Xylene	ug/L	ND	20	20	22.2	22.0	111	110	57-133	1	30	
p-Isopropyltoluene	ug/L	ND	20	20	22.3	22.6	111	113	56-128	1	30	
sec-Butylbenzene	ug/L	ND	20	20	22.3	22.7	112	113	56-130	2	30	
tert-Butyl Alcohol	ug/L	ND	100	100	79.2	86.0	79	86	37-162	8	30	
tert-Butylbenzene	ug/L	ND	20	20	22.3	22.9	111	114	60-129	3	30	
Toluene	ug/L	ND	20	20	22.1	22.5	111	112	59-139	2	30	
1,2-Dichloroethane-d4 (S)	%.						101	101	70-130			
4-Bromofluorobenzene (S)	%.						102	98	70-130			
Dibromofluoromethane (S)	%.						98	99	70-130			
Toluene-d8 (S)	%.						104	101	70-130			

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REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

QC Batch: 384986 Analysis Method: EPA 8260C
QC Batch Method: EPA 8260C Analysis Description: 8260C MSV
Associated Lab Samples: 30350924016

METHOD BLANK: 1865381 Matrix: Water
Associated Lab Samples: 30350924016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	ND	1.0	0.63	02/21/20 16:45	M5
1,3,5-Trimethylbenzene	ug/L	ND	1.0	0.45	02/21/20 16:45	M5
Benzene	ug/L	ND	1.0	0.34	02/21/20 16:45	M5
Ethanol	ug/L	ND	200	73.5	02/21/20 16:45	1c,M5
Ethylbenzene	ug/L	ND	1.0	0.40	02/21/20 16:45	M5
Isopropylbenzene (Cumene)	ug/L	ND	1.0	0.47	02/21/20 16:45	M5
m&p-Xylene	ug/L	ND	2.0	0.94	02/21/20 16:45	M5
Methyl-tert-butyl ether	ug/L	ND	1.0	0.25	02/21/20 16:45	M5
n-Butylbenzene	ug/L	ND	1.0	0.84	02/21/20 16:45	M5
n-Propylbenzene	ug/L	ND	1.0	0.51	02/21/20 16:45	M5
Naphthalene	ug/L	ND	2.0	0.82	02/21/20 16:45	M5
o-Xylene	ug/L	ND	1.0	0.41	02/21/20 16:45	M5
p-Isopropyltoluene	ug/L	ND	1.0	0.66	02/21/20 16:45	M5
sec-Butylbenzene	ug/L	ND	1.0	0.57	02/21/20 16:45	M5
tert-Butylbenzene	ug/L	ND	1.0	0.60	02/21/20 16:45	M5
Toluene	ug/L	ND	1.0	0.32	02/21/20 16:45	M5
1,2-Dichloroethane-d4 (S)	%.	103	70-130		02/21/20 16:45	M5
4-Bromofluorobenzene (S)	%.	99	70-130		02/21/20 16:45	M5
Dibromofluoromethane (S)	%.	96	70-130		02/21/20 16:45	M5
Toluene-d8 (S)	%.	101	70-130		02/21/20 16:45	M5

LABORATORY CONTROL SAMPLE: 1865382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	21.0	105	70-130	M5
1,3,5-Trimethylbenzene	ug/L	20	20.4	102	70-130	M5
Benzene	ug/L	20	19.9	100	70-130	M5
Ethanol	ug/L	200	844	422	10-175	1c,L1,M5
Ethylbenzene	ug/L	20	19.9	100	70-130	M5
Isopropylbenzene (Cumene)	ug/L	20	22.0	110	70-130	M5
m&p-Xylene	ug/L	40	41.0	102	70-130	M5
Methyl-tert-butyl ether	ug/L	20	20.8	104	70-130	M5
n-Butylbenzene	ug/L	20	20.2	101	70-130	M5
n-Propylbenzene	ug/L	20	20.0	100	70-130	M5
Naphthalene	ug/L	20	24.1	121	55-160	M5
o-Xylene	ug/L	20	20.0	100	70-130	M5
p-Isopropyltoluene	ug/L	20	20.9	105	70-130	M5
sec-Butylbenzene	ug/L	20	20.7	103	70-130	M5
tert-Butylbenzene	ug/L	20	20.6	103	70-130	M5
Toluene	ug/L	20	20.9	105	70-130	M5

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

LABORATORY CONTROL SAMPLE: 1865382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%.			99	70-130	M5
4-Bromofluorobenzene (S)	%.			98	70-130	M5
Dibromofluoromethane (S)	%.			98	70-130	M5
Toluene-d8 (S)	%.			103	70-130	M5

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

QC Batch: 384960 Analysis Method: EPA 8270D by SIM
QC Batch Method: EPA 3510C Analysis Description: 8270D Water PAH by SIM MSSV
Associated Lab Samples: 30350924001, 30350924002, 30350924003, 30350924004, 30350924005, 30350924006, 30350924007, 30350924008, 30350924009, 30350924011, 30350924012, 30350924013, 30350924014, 30350924015, 30350924016, 30350924018, 30350924019

METHOD BLANK: 1865288 Matrix: Water
Associated Lab Samples: 30350924001, 30350924002, 30350924003, 30350924004, 30350924005, 30350924006, 30350924007, 30350924008, 30350924009, 30350924011, 30350924012, 30350924013, 30350924014, 30350924015, 30350924016, 30350924018, 30350924019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.10	0.029	02/25/20 14:27	
Acenaphthylene	ug/L	ND	0.10	0.034	02/25/20 14:27	
Anthracene	ug/L	ND	0.10	0.028	02/25/20 14:27	
Benzo(a)anthracene	ug/L	ND	0.10	0.039	02/25/20 14:27	
Benzo(a)pyrene	ug/L	ND	0.10	0.012	02/25/20 14:27	
Benzo(b)fluoranthene	ug/L	ND	0.10	0.027	02/25/20 14:27	
Benzo(g,h,i)perylene	ug/L	ND	0.10	0.035	02/25/20 14:27	
Benzo(k)fluoranthene	ug/L	ND	0.10	0.023	02/25/20 14:27	
Chrysene	ug/L	ND	0.10	0.040	02/25/20 14:27	
Dibenz(a,h)anthracene	ug/L	ND	0.10	0.028	02/25/20 14:27	
Fluoranthene	ug/L	ND	0.10	0.032	02/25/20 14:27	
Fluorene	ug/L	ND	0.10	0.031	02/25/20 14:27	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.10	0.030	02/25/20 14:27	
Phenanthrene	ug/L	ND	0.10	0.044	02/25/20 14:27	
Pyrene	ug/L	ND	0.10	0.036	02/25/20 14:27	
2-Fluorobiphenyl (S)	%.	56	19-92		02/25/20 14:27	
Terphenyl-d14 (S)	%.	84	55-109		02/25/20 14:27	

LABORATORY CONTROL SAMPLE: 1865289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/L	2	1.4	70	29-110	
Acenaphthylene	ug/L	2	1.4	71	28-121	
Anthracene	ug/L	2	1.5	73	40-115	
Benzo(a)anthracene	ug/L	2	1.6	78	63-119	
Benzo(a)pyrene	ug/L	2	1.5	77	56-121	
Benzo(b)fluoranthene	ug/L	2	1.7	87	61-126	
Benzo(g,h,i)perylene	ug/L	2	1.8	88	53-123	
Benzo(k)fluoranthene	ug/L	2	1.6	80	57-121	
Chrysene	ug/L	2	1.6	81	62-109	
Dibenz(a,h)anthracene	ug/L	2	1.7	86	55-125	
Fluoranthene	ug/L	2	1.7	83	55-121	
Fluorene	ug/L	2	1.5	75	30-119	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.7	87	56-124	
Phenanthrene	ug/L	2	1.5	77	38-112	
Pyrene	ug/L	2	1.7	84	56-119	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

LABORATORY CONTROL SAMPLE: 1865289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Fluorobiphenyl (S)	%.			64	19-92	
Terphenyl-d14 (S)	%.			80	55-109	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1865290 1865291

Parameter	Units	30350924009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/L	ND	2	2	0.98	1.1	49	56	10-125	12	20	
Acenaphthylene	ug/L	ND	2	2	1.2	1.3	59	66	21-116	8	20	
Anthracene	ug/L	ND	2	2	0.83	1.0	41	52	26-114	21	20	R1
Benzo(a)anthracene	ug/L	ND	2	2	1.5	1.6	74	78	39-123	4	20	
Benzo(a)pyrene	ug/L	ND	2	2	1.3	1.3	66	65	24-126	4	20	
Benzo(b)fluoranthene	ug/L	ND	2	2	1.5	1.4	76	72	24-135	7	20	
Benzo(g,h,i)perylene	ug/L	ND	2	2	1.3	1.1	67	56	10-132	20	20	
Benzo(k)fluoranthene	ug/L	ND	2	2	1.7	1.5	86	78	25-123	11	20	
Chrysene	ug/L	ND	2	2	1.6	1.7	82	87	38-113	4	20	
Dibenz(a,h)anthracene	ug/L	ND	2	2	1.4	1.2	72	61	13-122	17	20	
Fluoranthene	ug/L	ND	2	2	1.6	1.7	79	85	32-123	6	20	
Fluorene	ug/L	ND	2	2	1.2	1.3	60	67	10-134	9	20	
Indeno(1,2,3-cd)pyrene	ug/L	ND	2	2	1.5	1.1	74	58	10-132	26	20	R1
Phenanthrene	ug/L	ND	2	2	1.3	1.4	63	70	26-116	10	20	
Pyrene	ug/L	ND	2	2	1.4	1.5	68	77	31-125	12	20	
2-Fluorobiphenyl (S)	%.						52	57	19-92		20	
Terphenyl-d14 (S)	%.						74	78	55-109		20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
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(724)850-5600

QUALIFIERS

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA	Pace Analytical Services - Greensburg

BATCH QUALIFIERS

Batch: 384986

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1c	The analyte did not meet the method recommended minimum RF.
2c	This compound failed to meet the recomended minimum RF.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M5	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
R1	RPD value was outside control limits.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).
SR	Surrogate recovery was below laboratory control limits. Results may be biased low.
ip	Benzo(b)fluoranthene and benzo(k)fluoranthene were separated in the check standard but did not meet the resolution criteria in SW846 Method 8270D. Whereas sample results included are reported as individual isomers, the lab and the customer must recognize them as an isomeric pair.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Liverpool Terminal-Cold Spring
Pace Project No.: 30350924

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30350924001	**MW205-021720**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924002	**MW207-021720**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924003	**MW204-021720**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924004	**MW208-021720**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924005	**BMW-8-021720**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924006	**BMW-7-021720**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924007	**MW-203-021820**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924008	**BMW3-021820**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924009	**MW211-021820**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924011	**BMW-6-021820**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924012	**MW-202-021820**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924013	**BMW-13-021820**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924014	**MW210-021920**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924015	**BMW2-021920**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924016	**DUP-021920**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924018	**BMW-14R-021920**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924019	**PZ-106S-021920**	EPA 3510C	384960	EPA 8270D by SIM	385174
30350924001	**MW205-021720**	EPA 8260C	384781		
30350924002	**MW207-021720**	EPA 8260C	384781		
30350924003	**MW204-021720**	EPA 8260C	384781		
30350924004	**MW208-021720**	EPA 8260C	384781		
30350924005	**BMW-8-021720**	EPA 8260C	384781		
30350924006	**BMW-7-021720**	EPA 8260C	384781		
30350924007	**MW-203-021820**	EPA 8260C	384781		
30350924008	**BMW3-021820**	EPA 8260C	384781		
30350924009	**MW211-021820**	EPA 8260C	384781		
30350924010	**TB-021820**	EPA 8260C	384781		
30350924011	**BMW-6-021820**	EPA 8260C	384781		
30350924012	**MW-202-021820**	EPA 8260C	384781		
30350924013	**BMW-13-021820**	EPA 8260C	384781		
30350924014	**MW210-021920**	EPA 8260C	384781		
30350924015	**BMW2-021920**	EPA 8260C	384781		
30350924016	**DUP-021920**	EPA 8260C	384986		
30350924017	**TB-021920**	EPA 8260C	384781		
30350924018	**BMW-14R-021920**	EPA 8260C	384781		
30350924019	**PZ-106S-021920**	EPA 8260C	384781		

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

WO# : 30350924

30350924

Company: Arcadis	Billing Information:
Address: 110 W. Fayette St.	
Report To: PJ Hart	Email To: Vin.Maresco@Arcadis.com
Copy To: Vin Maresco	Site Collection Info/Address: Lysander, NY
Customer Project Name/Number: Cold Springs Terminal	State: / County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] (ET)
Phone: Email:	Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print):	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	SVOC 8270	VOC 8260							Lab # / Comments
MW205-021720	GW	G	2/17/20	1150					2	3							MS/MSD
MW207-021720	GW	G	2/17/20	1420					2	3							01
MW204-021720	GW	G	2/17/20	1610					2	3							02
MW208-021720	GW	G	2/17/20	1145					2	3							03
BMW-8-021720	GW	G	2/17/20	1410					2	3							04
BMW-7-021720	GW	G	2/17/20	1643					2	3							05
MW203-021820	GW	G	2/18/20	0858					2	3							06
BMW3-021820	GW	G	2/18/20	1048					2	3							07
MW211-021820	GW	G	2/18/20	1533					2	3							08
TB-021820	TB	—	—	—						2							09

Container Preservative Types: (1) nitric (6) methanol, (7) sodium bisulf (C) ammonium hydroxide, (D) TS

Analyses

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips: 10/2/91	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: Ice, Bubble wrap

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #: 7178 0839 0319 2479568

Samples received via: (FEDEX) UPS Client Courier Pace Courier

Lab Sample Temperature Info:

Temp Blank Received: Y (N) NA

Therm ID#: 10

Cooler 1 Temp Upon Receipt: 23.9 6 5.1 oC

Cooler 1 Therm Corr. Factor: 0 oC

Cooler 1 Corrected Temp: 23.4 6 oC

Comments: 5-1

DK 2-20-20

Relinquished by/Company: (Signature) Arcadis Dan Hart	Date/Time: 2/19/20 0800	Received by/Company: (Signature)	Date/Time: 2/19/20 820
Relinquished by/Company: (Signature)	Date/Time: 2/19/20 1700	Received by/Company: (Signature)	Date/Time: 2-20-20 9:00
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #:

Acctnum:

Template:

Prelogin:

PM:

PB:

Trip Blank Received: (Y) N NA

(HCL) MeOH TSP Other

Non Conformance(s): (YES) / NO

Page: of:

CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: Arcadis	Billing Information:
Address: 110 W. Fayette St.	
Report To: PJ Hart	Email To: Vin.Maresco@Arcadis.com
Copy To: Vin Maresco	Site Collection Info/Address: Lysander, NY
Customer Project Name/Number: Cold Springs Terminal	State: / County/City: Time Zone Collected: [ ]PT [ ]MT [ ]CT [ ]ET
Phone: Email:	Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print):	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **

Analyses

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	SVOC 8270	VOC 8260								Lab Profile/Line:
									U	3								#-30350924
BMW-6-021820	GW	G	2/18/20	1130					2	3								01
MW-202-021820	GW	G	2/18/20	1028					2	3								02
BMW-13-021820	GW	G	2/18/20	1620					2	3								03

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY:
Lab Sample # / Comments:

See page 1

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: Ice, Bubble wrap

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #: 7778 0839 0308 2479567

Samples received via: (FEDEX) UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y (N) NA
Therm ID#: 10
Cooler 1 Temp Upon Receipt: page 1 oC
Cooler 1 Therm Corr. Factor: ___ oC
Cooler 1 Corrected Temp: page 1 oC
Comments:
DM 2-20-20

Relinquished by/Company: (Signature) Arcadis	Date/Time: 2/19/20 0800	Received by/Company: (Signature)	Date/Time: 2/19/20 8:20
Relinquished by/Company: (Signature)	Date/Time: 2/19/20 1700	Received by/Company: (Signature)	Date/Time: 2-20-20 9:00
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: (Y) N NA
(HCL) MeOH TSP Other

Non Conformance(s): YES / NO

Page: ___ of: ___

CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: Arcadis	Billing Information:
Address: 110 W. Fayette St.	
Report To: Vin Maresco PJ Hart	Email To: Vin.Maresco@Arcadis.com
Copy To: Vin Maresco	Site Collection Info/Address: Lysander, NY
Customer Project Name/Number: Cold Springs Terminal	State: / County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET
Phone: 315 4363605 Email:	Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print):	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: U | 3

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	SVOC 8270	VOC 8260	Lab Sample # / Comments
MW210-021920	GW	G	2/19/20	1000					2	3	01
BMW2-021920	GW	G	2/19/20	1045					2	3	01
Dup-021920	GW	G	2/19/20	—					2	3	01
TB-021920	TB	—	—	—						2	01
BMW-14R-021920	GW	G	2/19/20	0950					2	3	01
PZ-12S-021920	GW	G	2/19/20	1135					2	3	01

30350924

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:
Lab Sample # / Comments:
See page 1
01
01
01
01
01
01

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: Ice, Bubble wrap

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #: 7778 0839 0319 2479564

Samples received via: (FEDEX) UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y (N) NA
Therm ID#: 10
Cooler 1 Temp Upon Receipt: page 1 oC
Cooler 1 Therm Corr. Factor: 0 oC
Cooler 1 Corrected Temp: page 1 oC
Comments:
DK 2-20-20

Trip Blank Received: (Y) N NA
(HCL) MeOH TSP Other

Non Conformance(s): (YES) / NO

Page: _____ of: _____

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Arcadis / Tom Dutch	2/19/20 1400		2-19-20 1400
	2-19 1700		2-20-20 9:00

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

#-30350924

Pace Analytical
www.pacelabs.com

Sample Receiving Non-Conformance Form (NCF)

Date: 2-20-20	Evaluated by: DJC
Client: Arcadis	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed		Samples listed on COC do not match samples received (missing, additional, etc.)
✓	Sample IDs on COC do not match sample labels		Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:

Organics for MW-202-021820 have ID of MW-203, Time on BMW-13 reads 16:30

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered		Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions: