SITE MANAGEMENT PLAN STATUS REPORT
REPORT PERIOD: SEPTEMBER 1, 2018 THROUGH NOVEMBER 30, 2018

HARMON RAILROAD YARD
OU-I AND OU-II
WESTCHESTER COUNTY, NEW YORK
SITE NO. 3-60-010

SUMMARY OF WORK COMPLETED DURING THE REPORTING PERIOD: This report summarizes the remedial actions and monitoring completed between September 1, 2018 and November 30, 2018 (i.e., the 28th Quarter of operation) at the Harmon Railroad Yard OU-I and OU-II, Westchester County, New York, NYSDEC Site No. 3-60-010 (the Site). This document was prepared in accordance with the provisions of the document tilted *Metro-North Railroad, Harmon Railroad Yard, Westchester, County, New York, Site Management Plan OU-I and OU-II, NYSDEC Site Number: 3-60-010* dated December 2011 as revised November 11, 2012, January 31, 2015 and January 31, 2016 (the SMP). During this report period, depth to free product and groundwater measurements were conducted as outlined in the SMP and free product was removed from select wells. Depth to free product and static water level measurements were also made in off-site monitoring wells that were installed in September 2016. The results of the work completed during the report period are summarized below. In addition to the completion of the long-term groundwater sampling event, groundwater samples were collected form select monitoring wells and tested for emerging contaminants.

DEPTH TO GROUNDWATER AND FREE PRODUCT MEASUREMENTS: This monitoring included the measurement of static water levels and free product thicknesses (if present) in select functioning wells within OU-I and OU-II (and off-site monitoring wells designated OUII-A through OUII-F). The wells monitored and the results of this monitoring are presented on the logs included in Attachment A. A groundwater contour map developed using static water levels measured on November 6, 2018 is included as Figure 1.

FREE PRODUCT REMOVAL RECORDS: The logs included in Attachment A also summarize the amount of free product removed (if any) from wells during this report period. [Note: During the report period, free product was removed from wells AI2-3, RW-1, FA4-8, and FA4-17 using a Spill Buster™ system (i.e., a system installed within the well that continuously monitors/removes free product) and from other locations using a portable Spill Buddy™.] The free product removed was placed in 55-gallon drums, which were stored in a waste accumulation area. During the current report period (i.e., September 1, 2018 through November 30, 2018), drums were not transported off-site for disposal.

A summary of the amount of free product removed from each well during the current report period is presented on Table 1. A summary of the total amount of free product removed from each well during prior report periods (i.e., between December 1, 2012 and August 31, 2018) is presented on Table 2. A spider diagram presenting the maximum free product thicknesses, and the amount of free product removed from the wells at the Site during the current report period (i.e., between September 1, 2018 and November 30, 2018) and the preceding report period (i.e., between June 1, 2018 and August 31, 2018) is included as Figure 2.

REQUEST TO MODIFY DISPOSAL OF FREE PRODUCT DRUMS: On November 2, 2018, d a request was submitted to the NYSDEC to change the disposal requirements of the collected free product. Specifically, since polychlorinated biphenyls (PCBs) have not been detected in samples of free product removed from OU-II wells since August 26, 2002, DAY requested that further disposal of free product collected from OU-II wells should be disposed of as non-hazardous petroleum waste provided that waste characterization testing confirms PCB concentrations below 50 parts per million (ppm). If a PCB concentration in excess

of 50 ppm is detected in a free product accumulation drum, the contents of the drum should be disposed of as a TSCA regulated waste. NYSDEC is currently in the process of reviewing this request, and free product will continue to be disposed as a TSCA regulated waste in the interim.

GROUNDWATER SAMPLING AND TESTING: Groundwater samples were collected from monitoring wells VE 1-2, VE 1-4, VE 2-1, VE 3-1, VE 4-11, and DAY-1 on November 27, 2018 and November 28, 2018 as part of the long-term monitoring plan identified in the SMP. The groundwater samples were submitted to York Analytical Laboratories, Inc. (York) for testing of the following parameters:

- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Polychlorinated Biphenyls (PCBs)
- Metals

In addition, per NYSDEC request, groundwater samples collected from monitoring wells VE1-4, VE2-1, and VE4-11 were tested for emerging contaminants:

- Per- & Polyfluorinated Alkyl Substances (PFAS)*
- 1,4-Dioxane

*These samples were sub-contracted by York to Con-Test Analytical Laboratory (con-test) for analysis.

Test results for the groundwater samples collected in November 2018 as well as those collected between March 2012 (i.e., the initial quarter completed under the SMP) and August 2017 (the most recent sampling event) per the requirements of the long-term monitoring plan, are included on Table 3 through Table 6 for reference purposes. The groundwater test results include volatile organic compounds (i.e., Table 3), semi-volatile organic compounds (i.e., Table 4), polychlorinated biphenyls (i.e., Table 5), and metals (i.e., Table 6). The test results from the current report period and previous report periods are also shown on Figure 3 and Figure 3A.

- As shown on Table 3, VOCs were not detected in the groundwater samples collected from monitoring wells VE 1-2, VE 1-4, and VE 2-1 in November 2018. The samples collected from monitoring wells VE 3-1, VE 4-11, and DAY 1 in November 2018 did contain detectable concentrations of various VOCs (e.g., 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, isopropylbenzene, naphthalene, n-propylbenzene, o-xylene, sec-butylbenzene, and toluene); however, the concentrations detected were below the groundwater standard or guidance value as referenced in NYSDEC TOGS 1.1.1 dated June 1998 as amended in January 1999, April 2000, and June 2004 (TOGS 1.1.1).

- As shown on Table 4, SVOCs were not detected in the groundwater samples collected from monitoring wells VE 2-1 and VE 4-11in November 2018. The samples collected from monitoring wells VE 1-2, VE 1-4, VE 3-1, and DAY 1 contained detectable concentrations of various SVOCs (e.g., 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene), howeverthe concentrations of the detected SVOCs were below the TOGS 1.1.1 groundwater standards or guidance values with the following exceptions:

- The groundwater sample collected from monitoring well VE 1-4 had benzo(b)fluoranthene detected at a concentration of 0.0615 microgram per liter (µg/L) or parts per billion (ppb) which exceeded the TOGS 1.1.1 groundwater standard or guidance value of 0.002 ppb; chrysene detected at a concentration of 0.133 ppb which exceeded the TOGS 1.1.1 groundwater standard or guidance value of 0.002 ppb
- The groundwater sample collected from monitoring well VE 3-1 had benzo(a)anthracene detected at a concentration of 0.0821 ppb which exceeded the TOGS 1.1.1 groundwater standard or guidance value of 0.002 ppb, benzo(b)fluoranthene detected at a concentration of 0.0718 ppb which exceeded the TOGS 1.1.1 groundwater standard or guidance value of 0.002 ppb, benzo(k)fluoranthene detected at a concentration of 0.0718 ppb which exceeded the TOGS 1.1.1 groundwater standard or guidance value of 0.002 ppb, chrysene detected at a concentration of 0.185 ppb which exceeded the TOGS 1.1.1 groundwater standard or guidance value of 0.002 ppb)

[Note: the reporting limit for various SVOCs (i.e., benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene) exceeded the TOGS 1.1.1 groundwater standard or guidance values.]

- As shown on Table 5, PCBs were not detected in the groundwater samples collected from monitoring wells VE 1-2, VE 1-4, VE 2-1, VE 3-1, and DAY-1 in November 2018. Aroclor 1268 was detected in the groundwater sample collected from monitoring well VE 4-1 in November 2018 at a concentration below the TOGS 1.1.1 groundwater standard or guidance value.

- As shown on Table 6, one or more metals (e.g., arsenic, chromium, copper, and lead) were detected in the groundwater samples collected in November 2018 from monitoring wells VE 1-2, VE 1-4, VE 2-1, VE 31 and DAY 1; however, the concentrations detected were below the TOGS 1.1.1 groundwater standards or guidance values. Metals were not detected in the groundwater sample collected from monitoring well VE 4-11.

The test results for the emerging contaminants samples collected in November 2018 as well as those collected in August 2017 (i.e., the only other time emerging contaminant testing was completed) are included on Table 7. The groundwater test results on Table 7 include PFAS and 1,4-Dioxane. The NYSDEC does not have groundwater standard or guidance values for PFAS, perfluorooctanoic acid (PFOA) or prefluorooctanesulfonic acid (PFOS); however, in 2016 the United States Environmental Protection Agency (USEPA) issued a health advisory level of 70 nanograms per liter (ng/l) or parts per trillion (ppt) for the combined concentration of PFOA and PFOS in drinking water. As shown on Table 7, the samples collected in November 2018 from monitoring well VE1-4 exceeded 70 ng/l for combined PFOA and PFOS.

Laboratory analytical reports are provided as Attachment B.

OFF-SITE MONITORING WELLS: Off-Site monitoring wells designated OUII-A through OUII-F were installed between September 20 and 22, 2016 (refer to Figure 1 for locations). Weekly monitoring of these monitoring wells commenced on October 4, 2016 to assess static water levels and free product thicknesses. The results of the monitoring during this report period for these wells are provided in Attachment A. As shown, during the weekly monitoring completed during the report period, free product was observed in monitoring wells OUII-A, OUII-B, OUII-D, and OUII-F. Table 8 shows the range of static water levels

(SWLs) and the free product thickness measured in each well during the monitoring events completed to date. Free product was not detected in wells OUII-C and OUII-E in either the current or past report periods.

AREA L1 SHEET PILE WALL WELLS: Monitoring well WB-9 is located at the southern terminus of the sheet pile wall installed along the western boundary of Area L1. Monitoring well SP-North is located at the northern terminus of the sheet pile wall in Area L1 (refer to Figure 1). Routine monitoring of WB-9 commenced on November 16, 2016, and on October 4, 2016 for SP-North to evaluate the potential for free product to migrate around the sheet pile wall. To date, free product has been detected on one occasion in SP-North (reported thickness of 0.03 ft. on March 15, 2017); however, the depth to free product was reported as 'suspect', as it was not identified during subsequent monitoring events. Free product has not been detected in WB-9. The static water level and free product thickness records completed during this report period for these wells are provided in Attachment A.

BI-ANNUAL OU-I AND OU-II INSPECTION: The most recent inspection of OU-I and OU-II was completed on October 30, 2018 and the next inspection is tentatively scheduled for April 2019. A copy of the inspection report is provided in Attachment C.

PROBLEMS ENCOUNTERED/RESOLUTION: During the October 30, 2018 inspection of the OU-I and OU-II areas, the following items requiring corrective actions were identified.

- Although some work was completed during the current and previous report periods, additional scrap and surplus equipment needs to be removed from locations within OU-II on top of the capped area;
- A curb box is required to be installed at well AI-1-16.

No other problems associated with the remedial systems or ECs requiring repair/modification were identified during the report period.

WORK ANTICIPATED FOR THE UPCOMING REPORT PERIOD AND SCHEDULE: During the upcoming reporting period (i.e., between December 1, 2018 and February 28, 2019), it is anticipated that free product and groundwater monitoring will continue in accordance with the schedule presented in the SMP (i.e., as modified by the schedule presented in the March 2014 CAP). Free product will be removed from wells RW-1, AI2-3, FA4-8, and FA4-17 using the Spill Buster™ system, and potentially other locations (e.g., FA4-13 and/or FA4-15 depending on the quantity of free product detected). If 0.5 ft. or more of free product is measured in a two-inch inner diameter (ID) well or 0.3 ft. or more of free product is measured in a four-inch ID well, it will be removed from other wells using a Spill Buddy™ (or similar). [Note: In the event that between 0.2 ft. and 0.5 ft. of free product is detected in a two-inch ID well or between 0.2 ft. and 0.3 ft. of free product is detected in a four-inch ID well during monitoring events, the free product will be removed from this location at least two times per year (i.e., in the spring and fall quarters when free product levels typically increase) using a Spill Buddy™ and/or bailer.]

If full drums are generated during the upcoming quarter, samples of free product should be collected and tested, as outlined in the SMP. The full free product drums, including any currently full free product drums, should subsequently be transported off the Site and disposed of in accordance with applicable regulations. [Note, if concurrence is received from the NYSDEC, free product drums collected from OU-II wells should be disposed of as non-hazardous petroleum waste provided that waste characterization testing confirms PCB concentrations below 50 parts per million (ppm). If a PCB concentration in excess of 50 ppm is detected in a free product accumulation drum, the contents of the free product drum should be disposed of as a TSCA regulated waste.]

The off-site monitoring wells should continue to be monitored on a weekly basis. During the upcoming reporting period, if sufficient free product is detected in these wells, samples of free product will be collected and submitted to an analytical laboratory for testing of PCBs.

The next OU-I/OU-II inspection is due on or about April 30, 2019.

A SMP status report for the work completed during the upcoming period (i.e., December 1, 2018 through February 28, 2019) will be submitted in March 2019. The next groundwater sampling and testing will be completed on, or about, April 30, 2019.

A Periodic Review Report (PRR) for the reporting period January 1, 2016 through January 1, 2019, will be submitted on, or before January 31, 2019. At that time, the SMP will be revised if deemed necessary.

Tables

Figures

Attachments

S:\Project PDFs\MNR\Harmon Yard\Remediation (46) Reports\OU I & OU II\OUI-OUII Status Reports\2018-12 SMP Status Report Qtr 4 2018\TEXT PC.5063M-15 Harmon OUI-OUII - SMP STATUS REPORT Qt 4 2018.docx

TABLES

Table 1

Harmon Railroad Yard
OU-I and OU-II
Westchester County, New York
Site No. 3-60-010

Free Product Removal Totals
Current Report Period: September 1, 2018 to November 30, 2018

OU I	
Well ID	Gallons Removed
V1	0
V2	0
V3	0
V4	8
Total	**8**

OU II	
Free Product AREA L1	
Well ID	Gallons Removed
AI1-1	0
AI1-4	0
AI1-8	0
AI1-11	0
AI1-12	0
AI1-15	0
AI1-16	0
SP-North	0
VE1-1	1
VE1-2	0
VE1-3	0
VE1-4	0
WB-9	0
Total	**0.88**

Free Product AREA L2	
Well ID	Gallons Removed
AI2-2	0
AI2-3	15
VE2-1	0
Total	**15.4**

Free Product AREA L3	
AI3-4	0
AI3-5	NM
AI3-6	0
VE3-1	0
Total	**0.13**

Free Product AREA L4	
Well ID	Gallons Removed
DAY-1	0
FA4-8	35.6
FA4-9	0
FA4-10	NM
FA4-11	0
FA4-12	0.88
FA4-13	6.76
FA4-14	6.77
FA4-15	0.75
FA4-16	0.75
FA4-17	11.40
FA4-18	0.88
FA4-19	0
FA4-20	0
FA4-21	0
FA4-23	0
PGW-2	0.25
RW-1	2.80
VE4-1	0
VE4-5	1.75
VE4-6	0
VE4-7	0
VE4-8	0
VE4-9	0
VE4-10	0
VE4-11	0
VE4-12	0
VE4-13	NM
Total	**68.59**

NM = Not measured

Table 2

Harmon Railroad Yard
OU-I and OU-II
Westchester County, New York
Site No. 3-60-010

Free Product Removal Totals Prior to Current Report Period
December 1, 2012 - August 31, 2018

OU I	
Well ID	Gallons Removed
V1	5.18
V2	4.01
V3	19.08
V4	108.24
Total	**136.51**

OU II

Free Product AREA L1	
Well ID	Gallons Removed
AI1-1	0.03
AI1-4	0.04
AI1-8	0.06
AI1-11	0.122
AI1-12	0.18
AI1-15	0.38
AI1-16	0
VE1-1	9.72
VE1-2	0.01
VE1-3	0.1
VE1-4	0
Total	**10.572**

Free Product AREA L2	
Well ID	Gallons Removed
AI2-2	1.63
AI2-3	718.43
VE2-1	0
Total	**720.06**

Free Product AREA L3	
AI3-4	0.34
AI3-6	0.5
VE3-1	15.88
Total	**16.72**

Free Product AREA L4	
Well ID	Gallons Removed
DAY-1	0
FA4-8	244.16
FA4-9	0.73
FA4-10	0.13
FA4-11	130
FA4-12	8.79
FA4-13	94.54
FA4-14	208.13
FA4-15	64.01
FA4-16	54.67
FA4-17	42.77
FA4-18	71.02
FA4-19	0
FA4-20	0
FA4-21	0.54
FA4-23	1.04
PGW-2	21.7
RW-1	1306.74
VE4-1	0
VE4-5	174.44
VE4-6	2.26
VE4-7	0.08
VE4-8	2.92
VE4-9	9.41
VE4-10	4.93
VE4-11	0
VE4-12	0
VE4-13	0
Total	**2443.01**

Table 3
NYSDEC Site #360010
Harmon Yard Waste Water Area
OU II

Summary of Volatile Organic Compounds
Groundwater Samples

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date																										
		VE 1-2									VE 1-4										VE 2-1								
		3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/17/16	8/2/17	11/27/18	3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/18/16	8/2/17	11/27/18	3/28/12	9/12/12	4/2/13	9/24/13	5/28/14	5/20/15	5/18/16	8/3/17	11/28/18
1,2,4-Trimethylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
1,3,5-Trimethylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Benzene	1	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Chlorobenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	NT	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	NT	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	NT
Ethylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Isopropylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Methyl tert-butyl ether (MTBE)	10	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Naphthalene	10	1.7 J, B	ND [10]	1.4 J	ND [10]	ND [10]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	0.93 J, B	ND [10]	ND [10]	ND [10]	ND [10]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [10]	ND [10]	ND [10]	1.3 J,B	1.3 J,B	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
n-Butylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
n-Propylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
o-Xylene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
p- & m- Xylenes	NS	ND [10]	ND [10]	ND [10]	ND [10]	ND [10]	ND [2.0]	ND [1.0]	ND [2.0]	ND [0.50]	ND [10]	ND [10]	ND [10]	ND [10]	ND [10]	ND [2.0]	ND [2.0]	ND [2.0]	ND [0.50]	ND [10]	ND [10]	ND [10]	ND [10]	ND [10]	ND [2.0]	ND [2.0]	ND [2.0]	ND [0.50]
p-Isopropyltoluene	NS	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
sec-Butylbenzene	5	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
tert-Butylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Toluene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	2.1	0.48 J	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	**23.7**	ND [1.0]	ND [0.20]
Xylenes, Total	5	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	ND [3.0]	ND [3.0]	ND [3.0]	ND [0.60]	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	ND [3.0]	ND [3.0]	ND [3.0]	ND [0.60]	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	ND [3.0]	ND [3.0]	ND [3.0]	ND [0.60]

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date																										
		VE 3-1									VE 4-11										DAY 1								
		3/27/12	9/11/12	4/2/13	9/25/13	5/28/14	5/19/15	5/18/16	8/3/17	11/28/18	3/27/12	9/11/12	9/11/12 DUP	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18	3/27/12	9/11/12	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18
1,2,4-Trimethylbenzene	5	3.4 J	2.6 J	ND [5.0]	**5.1**	**5.1**	3.60	**6.4**	3.9	4.5	1.1 J	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	0.78	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	0.43 J	0.42 J	ND [1.0]	0.35 J
1,3,5-Trimethylbenzene	5	1.9 J	1.2 J	ND [5.0]	2.0 J	2.2 J	1.70	2.7	1.9	2	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Benzene	1	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.40]	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	**ND [5.0]**	0.82 J	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	0.53 J	0.62 J	0.32 J	0.61
Chlorobenzene	5	2.6 J	2.4 J	ND [5.0]	3.6 J	2.5 J	2.70	3.6	3.5	NT	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	NT	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	NT
Ethylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	0.81 J	0.40 J	0.48 J	0.34 J	0.62 J	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	0.27 J	ND [1.0]	ND [1.0]	0.28 J
Isopropylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	0.46 J	0.31 J	0.42 EJ	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	0.39 J	0.22 J	0.41 EJ
Methyl tert-butyl ether (MTBE)	10	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.40]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Naphthalene	10	5.6 J, B	6.6 J	ND [10]	9.3 J	10	9.00	9.4	6.2	8	4.0 J, B	ND [10]	ND [10]	ND [10]	ND [10]	ND [10]	ND [1.0]	ND [1.0]	ND [1.0]	2.9	1.9 J, B	ND [10]	ND [10]	ND [10]	1.9 J	2.00	3.50	ND [1.0]	1.8 J
n-Butylbenzene	5	1.1 J	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	0.52 J	ND [0.40]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	0.37 J	0.79 J	0.31 J	0.40 J
n-Propylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	0.42 J	0.76 J	0.53 J	0.74 J	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	0.22 J	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	0.48 J	ND [1.0]	0.25 J	0.59
o-Xylene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	1.0 J	0.97 J	1.3	0.96 J	1.3	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
p- & m- Xylenes	NS	ND [10]	ND [10]	ND [10]	ND [10]	1.1 J	0.56 J	0.75 J	0.55 J	ND [1.0]	ND [10]	ND [10]	ND [10]	ND [10]	ND [10]	ND [10]	ND [2.0]	ND [2.0]	ND [2.0]	ND [0.50]	ND [10]	ND [10]	ND [10]	ND [10]	ND [10]	ND [2.0]	ND [2.0]	ND [2.0]	ND [0.50]
p-Isopropyltoluene	NS	1.5 J	ND [5.0]	ND [5.0]	0.89 J	1.6 J	0.79 J	ND [1.0]	0.69 J	ND [0.40]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
sec-Butylbenzene	5	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	0.6 J	0.45 J	0.50 J	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	0.42 J	0.21 J	0.43 J
tert-Butylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.40]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]
Toluene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	1.0 J	0.97 J	1.3	0.96 J	1.3	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	0.48 J	ND [1.0]	0.25 J	0.59
Xylenes, Total	5	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	2.1 J	1.35 J	2.05	1.51 J	2.2 J	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	ND [3.0]	ND [3.0]	ND [3.0]	ND [0.60]	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	0.48 J	ND [3.0]	ND [3.0]	0.85 J

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date											
		Field Blank						Trip Blank					
		3/28/12	9/12/12	4/2/13	9/25/13	5/20/15	11/28/18	9/12/12	4/2/13	9/25/13	5/18/16	8/3/17	11/28/18
1,2,4-Trimethylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
1,3,5-Trimethylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
Benzene	1	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	ND [1.0]	ND [0.20]	**ND [5.0]**	**ND [5.0]**	**ND [5.0]**	ND [1.0]	ND [1.0]	ND [0.20]
Chlorobenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
Ethylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
Isopropylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
Methyl tert-butyl ether (MTBE)	10	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
Naphthalene	10	ND [10]	ND [10]	ND [10]	ND [10]	ND [1.0]	ND [1.0]	ND [10]	ND [10]	ND [10]	ND [1.0]	ND [1.0]	ND [1.0]
n-Butylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
n-Propylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
o-Xylene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
p- & m- Xylenes	NS	ND [10]	ND [10]	ND [10]	ND [10]	ND [2.0]	ND [0.50]	ND [10]	ND [10]	ND [10]	ND [2.0]	ND [2.0]	ND [0.50]
p-Isopropyltoluene	NS	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
sec-Butylbenzene	5	ND[5.0]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	ND [0.20]	ND[5.0]	ND[5.0]	ND[5.0]	ND [1.0]	ND [1.0]	ND [0.20]
tert-Butylbenzene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	ND [0.20]
Toluene	5	ND [5.0]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [0.20]	ND [5.0]	ND [5.0]	ND [5.0]	ND [1.0]	ND [1.0]	0.25 J
Xylenes, Total	5	**ND [15]**	**ND [15]**	**ND [15]**	**ND [15]**	ND [3.0]	ND [0.60]	**ND [15]**	**ND [15]**	**ND [15]**	ND [3.0]	ND [3.0]	ND [0.60]

Notes:
All results and groundwater standards/guidance values are in parts per billion (ppb)
(1) = Groundwater standard or guidance value as referenced in NYSDEC TOGS 1.1.1 dated June 1998 as amended in January 1999, April 2000,and June 200
ND [Reporting Limit] = Not Detected at a concentation greater than the reporting limit shown in bracket
NS = No Standard
J = Estimated concentration.
B = Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
BOLD TYPE indicates the reported concentration or reporting limit exceeds the groundwater standard or guidance value

Table 4
NYSDEC Site #360010
Harmon Yard Waste Water Area
OU II

Summary of Semi-Volatile Organic Compounds
Groundwater Samples

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date																										
		VE 1-2									VE 1-4									VE 2-1								
		3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/17/16	8/2/17	11/27/18	3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/18/16	8/2/17	11/27/18	3/28/12	9/12/12	4/2/13	9/24/13	5/28/14	5/20/15	5/18/16	8/3/17	11/28/18
2-Methylnaphthalene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [5.88]	ND [10.1]	ND [10.2]	ND [10.1]	ND [2.91]	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [6.67]	ND [10.2]	ND [10.2]	ND [10.1]	ND [2.83]	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [5.88]	ND [10.1]	ND [10]	ND [10.1]	ND [2.83]
Acenaphthene	20	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	0.663	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.554	ND [5.13]	ND [6.25]	**ND [26.3]**	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Acenaphthylene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	0.0947	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.164	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Anthracene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	0.189	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.0821	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Benzo(a)anthracene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [6.25]**	**ND [0.06]**	**ND [10.1]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0526]**	**ND [5.13]**	**ND [5.71]**	**ND [5.26]**	**ND [5.88]**	**ND [0.07]**	**ND [10.2]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [6.25]**	**ND [26.3]**	**ND [5.56]**	**ND [0.06]**	**ND [10.1]**	**ND [10]**	**ND [10.1]**	**ND [0.0513]**
Benzo(a)pyrene	ND	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	ND [0.0526]	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.0513 J	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Benzo(b)fluoranthene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [6.25]**	**ND [0.06]**	**ND [10.1]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0526]**	**ND [5.13]**	**ND [5.71]**	**ND [5.26]**	**ND [5.88]**	**ND [0.07]**	**ND [10.2]**	**ND [10.2]**	**ND [10.1]**	**0.0615**	**ND [5.13]**	**ND [6.25]**	**ND [26.3]**	**ND [5.56]**	**ND [0.06]**	**ND [10.1]**	**ND [10]**	**ND [10.1]**	**ND [0.0513]**
Benzo(g,h,i)perylene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	ND [0.0526]	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.0513 J	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Benzo(k)fluoranthene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [6.25]**	**ND [0.06]**	**ND [10.1]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0526]**	**ND [5.13]**	**ND [5.71]**	**ND [5.26]**	**ND [5.88]**	**ND [0.07]**	**ND [10.2]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [6.25]**	**ND [26.3]**	**ND [5.56]**	**ND [0.06]**	**ND [10.1]**	**ND [10]**	**ND [10.1]**	**ND [0.0513]**
Chrysene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [6.25]**	**ND [0.06]**	**ND [10.1]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0526]**	**ND [5.13]**	**ND [5.71]**	**ND [5.26]**	**ND [5.88]**	**ND [0.07]**	**ND [10.2]**	**ND [10.2]**	**ND [10.1]**	**0.133**	**ND [5.13]**	**ND [6.25]**	**ND [26.3]**	**ND [5.56]**	**ND [0.06]**	**ND [10.1]**	**ND [10]**	**ND [10.1]**	**ND [0.0513]**
Dibenzo(a,h)anthracene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	ND [0.0526]	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	ND [0.0513]	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Fluoranthene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	0.0842	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.256	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Fluorene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	1.47	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.451	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Indeno(1,2,3-cd)pyrene	0.002	**ND [5.13]**	ND [5.56]	**ND [5.13]**	**ND [6.25]**	**ND [0.06]**	**ND [10.1]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0526]**	**ND [5.13]**	**ND [5.71]**	**ND [5.26]**	**ND [5.88]**	**ND [0.07]**	**ND [10.2]**	**ND [10.2]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [6.25]**	**ND [26.3]**	ND [5.56]	**ND [0.06]**	**ND [10.1]**	**ND [10]**	ND [10.1]	ND [0.0513]
Naphthalene	10	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	**ND [10.1]**	NT	ND [10.1]	0.0526 J	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	**ND [10.2]**	**NT**	ND [10.1]	ND [0.0513]	ND [5.13]	ND [6.25]	**ND [26.3]**	ND [5.56]	ND [0.06]	**ND [10.1]**	**NT**	NT	ND [0.0513]
Phenanthrene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	0.0842	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	ND [10.2]	ND [10.1]	0.503	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]
Pyrene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [6.25]	ND [0.06]	ND [10.1]	ND [10.2]	ND [10.1]	0.295	ND [5.13]	ND [5.71]	ND [5.26]	ND [5.88]	ND [0.07]	ND [10.2]	2.8 J	ND [10.1]	1.10	ND [5.13]	ND [6.25]	ND [26.3]	ND [5.56]	ND [0.06]	ND [10.1]	ND [10]	ND [10.1]	ND [0.0513]

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date																			
		VE 3-1										VE 4-11									
		3/27/12	9/11/12	4/2/13	9/25/13	5/28/14	5/19/15	5/18/16	8/3/17	8/3/17	11/28/18	3/27/12	9/11/12	/11/12 DU	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18
2-Methylnaphthalene	NS	ND [5.13]	ND [5.26]	ND [5.13]	12	4.30 J	ND [10]	34.7	30.1	30.1	36.3	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [6.06]	ND [10.3]	ND [10]	ND [10]	ND [2.91]
Acenaphthene	20	ND [5.13]	ND [5.26]	ND [5.13]	9.26	ND [0.06]	3.600 J	4.7 J	5.9 J	5.9 J	6.66	ND [5.13]	ND [5.71]	ND [6.06]	**ND [25.0]**	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Acenaphthylene	NS	ND [5.13]	ND [5.26]	ND [5.13]	ND [5.88]	ND [0.06]	ND [10]	ND [10]	ND [10.1]	ND [10.1]	1.29	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Anthracene	50	ND [5.13]	ND [5.26]	ND [5.13]	3.44 J	ND [0.06]	ND [10]	ND [10]	ND [10.1]	ND [10.1]	2.35	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Benzo(a)anthracene	0.002	**ND [5.13]**	**ND [5.26]**	**ND [5.13]**	**ND [5.88]**	**0.238**	**ND [10]**	**ND [10]**	**ND [10.1]**	**ND [10.1]**	**0.0821**	**ND [5.13]**	**ND [5.71]**	**ND [6.06]**	**ND [25.0]**	**ND [6.67]**	**ND [0.06]**	**ND [10.3]**	**ND [10]**	**ND [10]**	**ND [0.0526]**
Benzo(a)pyrene	ND	ND [5.13]	ND [5.26]	ND [5.13]	ND [5.88]	**0.112**	ND [10]	ND [10]	ND [10.1]	ND [10.1]	ND [0.0513]	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Benzo(b)fluoranthene	0.002	**ND [5.13]**	**ND [5.26]**	**ND [5.13]**	**ND [5.88]**	**0.275**	**ND [10]**	**ND [10]**	**ND [10.1]**	**ND [10.1]**	**0.0718**	**ND [5.13]**	**ND [5.71]**	**ND [6.06]**	**ND [25.0]**	**ND [6.67]**	**ND [0.06]**	**ND [10.3]**	**ND [10]**	**ND [10]**	**ND [0.0526]**
Benzo(g,h,i)perylene	NS	ND [5.13]	ND [5.26]	ND [5.13]	ND [5.88]	0.100	ND [10]	ND [10]	ND [10.1]	ND [10.1]	ND [0.0513]	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Benzo(k)fluoranthene	0.002	**ND [5.13]**	**ND [5.26]**	**ND [5.13]**	**ND [5.88]**	**0.262**	**ND [10]**	**ND [10]**	**ND [10.1]**	**ND [10.1]**	**0.0718**	**ND [5.13]**	**ND [5.71]**	**ND [6.06]**	**ND [25.0]**	**ND [6.67]**	**ND [0.06]**	**ND [10.3]**	**ND [10]**	**ND [10]**	**ND [0.0526]**
Chrysene	0.002	**ND [5.13]**	**ND [5.26]**	**ND [5.13]**	**ND [5.88]**	**0.250**	**ND [10]**	**ND [10]**	**ND [10.1]**	**ND [10.1]**	**0.185**	**ND [5.13]**	**ND [5.71]**	**ND [6.06]**	**ND [25.0]**	**ND [6.67]**	**ND [0.06]**	**ND [10.3]**	**ND [10]**	**ND [10]**	**ND [0.0526]**
Dibenzo(a,h)anthracene	NS	ND [5.13]	ND [5.26]	ND [5.13]	ND [5.88]	ND [0.06]	ND [10]	ND [10]	ND [10.1]	ND [10.1]	ND [0.0513]	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Fluoranthene	50	ND [5.13]	ND [5.26]	ND [5.13]	1.94 J	ND [0.06]	ND [10]	ND [10]	ND [10.1]	ND [10.1]	0.697	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Fluorene	50	ND [5.13]	2.85 J	ND [5.13]	12.3	6.75	3.200 J	6.4 J	7.8 J	7.8 J	9.31	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Indeno(1,2,3-cd)pyrene	0.002	**ND [5.13]**	**ND [5.26]**	**ND [5.13]**	**ND [5.88]**	**0.112**	**ND [10]**	**ND [10]**	**ND [10.1]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [5.71]**	**ND [6.06]**	**ND [25.0]**	**ND [6.67]**	**ND [0.06]**	**ND [10.3]**	**ND [10]**	ND [10]	ND [0.0526]
Naphthalene	10	ND [5.13]	ND [5.26]	ND [5.13]	ND [5.88]	ND [0.06]	ND [10]	NT	NT	NT	0.974	ND [5.13]	ND [5.71]	ND [6.06]	**ND [25.0]**	ND [6.67]	ND [0.06]	**ND [10.3]**	**NT**	NT	ND [0.0526]
Phenanthrene	50	ND [5.13]	2.41 J	1.87 J	23	10.8	2.600 J	12.2	11.1	11.1	16.8	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]
Pyrene	50	ND [5.13]	ND [5.26]	ND [5.13]	2.08 J	3.28	ND [10]	ND [10]	ND [10.1]	ND [10.1]	1.42	ND [5.13]	ND [5.71]	ND [6.06]	ND [25.0]	ND [6.67]	ND [0.06]	ND [10.3]	ND [10]	ND [10]	ND [0.0526]

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date														
		DAY 1									Field Blank					
		3/27/12	9/11/12	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18	3/28/12	9/12/12	4/2/13	9/25/13	5/20/15	11/28/18
2-Methylnaphthalene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [5.88]	ND [10.2]	2.4 J	ND [10.1]	ND [2.83]	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [2.83]
Acenaphthene	20	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	2.500 J	3.3 J	4.3 J	3.64	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Acenaphthylene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	ND [10.2]	ND [10.1]	ND [10.1]	0.667	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Anthracene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	ND [10.2]	ND [10.1]	ND [10.1]	0.708	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Benzo(a)anthracene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [12.1]**	**ND [0.06]**	**ND [10.2]**	**ND [10.1]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [5.26]**	**ND [5.26]**	ND [5.56]	**ND [10.1]**	**ND [0.0513]**
Benzo(a)pyrene	ND	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	ND [10.2]	ND [10.1]	ND [10.1]	ND [0.0513]	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Benzo(b)fluoranthene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [12.1]**	**ND [0.06]**	**ND [10.2]**	**ND [10.1]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [5.26]**	**ND [5.26]**	ND [5.56]	**ND [10.1]**	**ND [0.0513]**
Benzo(g,h,i)perylene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	ND [10.2]	ND [10.1]	ND [10.1]	ND [0.0513]	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Benzo(k)fluoranthene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [12.1]**	**ND [0.06]**	**ND [10.2]**	**ND [10.1]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [5.26]**	**ND [5.26]**	ND [5.56]	**ND [10.1]**	**ND [0.0513]**
Chrysene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [12.1]**	**ND [0.06]**	**ND [10.2]**	**ND [10.1]**	**ND [10.1]**	**ND [0.0513]**	**ND [5.13]**	**ND [5.26]**	**ND [5.26]**	ND [5.56]	**ND [10.1]**	**ND [0.0513]**
Dibenzo(a,h)anthracene	NS	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	ND [10.2]	ND [10.1]	ND [10.1]	ND [0.0513]	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Fluoranthene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	ND [10.2]	ND [10.1]	ND [10.1]	0.0821	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Fluorene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	3.300 J	5.8 J	9.5 J	6.96	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Indeno(1,2,3-cd)pyrene	0.002	**ND [5.13]**	**ND [5.56]**	**ND [5.13]**	**ND [12.1]**	**ND [0.06]**	**ND [10.2]**	**ND [10.1]**	**ND [10.1]**	ND [0.0513]	**ND [5.13]**	**ND [5.26]**	**ND [5.26]**	ND [5.56]	**ND [10.1]**	ND [0.0513]
Naphthalene	10	ND [5.13]	ND [5.56]	ND [5.13]	**ND [12.1]**	0.141	**ND [10.2]**	**NT**	NT	0.533	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	**ND [10.1]**	ND [0.0513]
Phenanthrene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	0.471	ND [10.2]	5.3 J	10.7	7.27	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]
Pyrene	50	ND [5.13]	ND [5.56]	ND [5.13]	ND [12.1]	ND [0.06]	ND [10.2]	ND [10.1]	ND [10.1]	0.185	ND [5.13]	ND [5.26]	ND [5.26]	ND [5.56]	ND [10.1]	ND [0.0513]

Notes:
All results and groundwater standards/guidance values are in parts per billion (ppb)
(1) = Groundwater standard or guidance value as referenced in NYSDEC TOGS 1.1.1 dated June 1998 as amended in January 1999, April 2000,and June 2004.
ND [Reporting Limit] = Not Detected at a concentation greater than the reporting limit shown in brackets
NS = No Standard
J = Estimated Concentration
BOLD TYPE indicates the concentration or reporting limit exceeds the groundwater standard or guidance value

Table 5
NYSDEC Site #360010
Harmon Yard Waste Water Area
OU II

Summary of Polychlorinated Biphenyls (PCBs)
Groundwater Samples

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date																									
		VE 1-2									VE 1-4									VE 2-1							
		3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/17/16	8/2/17	11/27/18	3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/18/16	8/2/17	11/27/18	3/28/12	9/12/12	4/2/13	9/24/13	5/28/14	5/20/15	5/18/16	8/3/17	11/28/18
Aroclor 1016	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.096]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.098]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.097]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1221	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.1]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.102]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.101]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1232	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.1]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.0102]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.101]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1242	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.089]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.0091]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.09]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1248	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.1]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.102]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0101]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1254	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.044]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.045]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.044]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1260	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.081]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.083]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.082]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1262	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.081]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.083]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.082]	ND [0.505]	ND [0.507]	ND [0.0513]
Aroclor 1268	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.081]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.083]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.082]	ND [0.505]	ND [0.507]	ND [0.0513]
Total PCBs	0.09	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0606]	ND [0.0588]	ND [0.1]	ND [0.5]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0625]	ND [0.0606]	ND [0.102]	ND [0.51]	ND [0.502]	ND [0.0513]	ND [0.0513]	ND [0.0571]	ND [0.0526]	ND [0.0667]	ND [0.0625]	ND [0.101]	ND [0.505]	ND [0.507]	ND [0.0513]

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date																	
		VE 3-1									VE 4-11								
		3/27/12	9/11/12	4/2/13	9/25/13	5/28/14	5/19/15	5/18/16	8/3/17	11/28/18	3/27/12	9/11/12	9/11/12 DUP	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18
Aroclor 1016	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.096]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.099]	ND [0.5]	ND [0.506]	ND [0.0513]
Aroclor 1221	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.1]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.103]	ND [0.5]	ND [0.506]	ND [0.0513]
Aroclor 1232	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.1]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.103]	ND [0.5]	ND [0.506]	ND [0.0513]
Aroclor 1242	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.089]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.092]	ND [0.5]	ND [0.506]	ND [0.0513]
Aroclor 1248	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.1]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.103]	ND [0.5]	ND [0.506]	ND [0.0513]
Aroclor 1254	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.044]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	0.0805	0.0786	ND [0.0500]	0.0928	ND [0.0588]	ND [0.045]	0.914	0.711	ND [0.0513]
Aroclor 1260	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.081]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.084]	ND [0.5]	ND [0.506]	ND [0.0513]
Aroclor 1262	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.081]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.084]	ND [0.5]	ND [0.506]	ND [0.0513]
Aroclor 1268	NS	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.081]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	ND [0.0625]	ND [0.0690]	ND [0.0500]	ND [0.0667]	ND [0.0588]	ND [0.084]	ND [0.5]	ND [0.506]	0.0747
Total PCBs	0.09	ND [0.0513]	ND [0.0513]	ND [0.0526]	ND [0.0588]	ND [0.0625]	ND [0.1]	ND [0.505]	ND [0.505]	ND [0.0513]	ND [0.0513]	0.0805	0.0786	ND [0.0500]	**0.0928**	ND [0.0588]	ND [0.103]	0.914	0.711	0.0747

Compound	Groundwater Standard or Guidance Value [1]	Test Location and Sample Date														
		DAY 1									Field Blank					
		3/27/12	9/11/12	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18	3/28/12	9/12/12	4/2/13	9/25/13	5/20/15	11/28/18
Aroclor 1016	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.098]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.097]	ND [0.0513]
Aroclor 1221	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.102]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.101]	ND [0.0513]
Aroclor 1232	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.102]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.101]	ND [0.0513]
Aroclor 1242	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.091]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.09]	ND [0.0513]
Aroclor 1248	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.102]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.101]	ND [0.0513]
Aroclor 1254	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.045]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.044]	ND [0.0513]
Aroclor 1260	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.083]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.082]	ND [0.0513]
Aroclor 1262	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.083]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.082]	ND [0.0513]
Aroclor 1268	NS	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.083]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.082]	ND [0.0513]
Total PCBs	0.09	ND [0.0513]	ND [0.0556]	ND [0.0526]	ND [0.0625]	NT	ND [0.102]	ND [0.51]	ND [0.504]	ND [0.0513]	ND [0.0513]	ND [0.0556]	ND [0.0513]	ND [0.0645]	ND [0.101]	ND [0.0513]

Notes:

All results and groundwater standards/guidance values are in parts per billion (ppb)

(1) = Groundwater standard or guidance value as referenced in NYSDEC TOGS 1.1.1 dated June 1998 as amended in January 1999, April 2000,and June 2004.

ND [Reporting Limit] = Not Detected at a concentation greater than the reporting limit shown in brackets

NS = No Standard

BOLD TYPE indicates the concentration exceeds the groundwater standard for total PCBs

Table 6
NYSDEC Site #360010
Harmon Yard Waste Water Area
OU II

Summary of Metals
Groundwater Samples

Compound	Groundwater Standard or Guidance Value[(1)]	Test Location and Sample Date																	
		VE 1-2									VE 1-4								
		3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/17/16	8/2/17	11/27/18	3/27/12	9/12/12	4/2/13	9/25/13	5/27/14	5/20/15	5/18/16	8/2/17	11/27/18
Arsenic	25	ND [10]	ND [4.0]	ND [4.0]	ND [4.0]	ND [4.0]	2.82	4.71	1.57	ND [1.11]	ND [10]	ND [4.0]	ND [4.0]	ND [4.0]	ND [4.0]	3.5	**36.5**	1.21	1.22
Chromium	50	ND [5]	ND [5]	ND [5]	ND [5]	ND [5]	0.969 J	1.71 JN*	0.85 JN	ND [1.11]	ND [5]	ND [5]	ND [5]	ND [5]	ND [5]	0.796 J	**139 N***	1.62 JN	1.26
Copper	200	ND [5]	ND [5]	ND [5]	ND [3]	ND [3]	3.21	21.5 N	4.48	5.52	ND [5]	ND [5]	ND [5]	ND [3]	ND [3]	10.8	**6060 N**	48	57.3
Lead	25	ND [3]	ND [3]	ND [3]	ND [3]	ND [3]	4.34	7.76	1.56*	2.32	ND [3]	ND [3]	ND [3]	ND [3]	ND [3]	3.89	**1690**	14.7*	17.8

Compound	Groundwater Standard or Guidance Value[(1)]	Test Location and Sample Date																	
		VE 2-1									VE 3-1								
		3/28/12	9/12/12	4/2/13	9/24/13	5/28/14	5/20/15	5/18/16	8/3/17	11/28/18	3/27/12	9/11/12	4/2/13	9/25/13	5/28/14	5/19/15	5/18/16	8/3/17	11/28/18
Arsenic	25	ND [10]	ND [4.0]	ND [4.0]	ND [4.0]	ND [4.0]	0.507 J	0.42 J	0.92 J	ND [1.11]	ND [10]	4.71	6.03	ND [4.0]	5.62	9.16	16.5	19.1	26.9
Chromium	50	ND [5]	ND [5]	ND [5]	ND [5]	ND [5]	0.137 J	0.65 JN*	0.73 JN	ND [1.11]	ND [5]	ND [5]	ND [5]	ND [5]	ND [5]	3.07	5.62 N*	5.35 N	6.34
Copper	200	ND [5]	6.72	5.56	4.70	9.00	4.55	3.5 N	3.48	10.70	ND [5]	ND [5]	ND [5]	ND [3]	ND [3]	5.24	6.73 N	9.65	10.50
Lead	25	ND [3]	ND [3]	ND [3]	ND [3]	ND [3]	1.38	0.3 J	0.17 J*	ND [1.11]	ND [3]	ND [3]	ND [3]	ND [3]	ND [3]	3.77	1.44	2.71 *	3.59

Compound	Groundwater Standard or Guidance Value[(1)]	Test Location and Sample Date																							
		VE 4-11										DAY 1									Field Blank					
		3/27/12	9/11/12	/11/2012 DU	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18	3/27/12	9/11/12	4/2/13	9/24/13	5/27/14	5/19/15	5/17/16	8/2/17	11/27/18	3/28/12	9/12/12	4/2/13	9/25/13	5/20/15	11/28/18
Arsenic	25	ND [10]	ND [4.0]	ND [4.0]	ND [4.0]	ND [4.0]	ND [4.0]	2.3	0.76 J	1.67	ND [1.11]	ND [10]	12.5	ND [4.0]	ND [4.0]	ND [4.0]	10.7	10.6	10.8	12.4	ND [10]	ND [4.0]	ND [4.0]	ND [4.0]	ND [1.0]	ND [1.11]
Chromium	50	ND [5]	ND [5]	ND [5]	ND [5]	ND [5]	ND [5]	1.37 J	0.66 JN*	0.81 JN	ND [1.11]	ND [5]	ND [5]	ND [5]	ND [5]	ND [5]	1.31 J	1.44 JN*	0.95 JN	ND [1.11]	ND [5]	ND [5]	ND [5]	ND [5]	0.431 J	ND [1.11]
Copper	200	7.64	10.1	8.7	ND [5]	13.7	4.44	9.24	9.02 N	7.24	ND [1.11]	ND [5]	ND [5]	ND [5]	ND [3]	ND [3]	1.34 J	2.77 N	2.99	1.57	ND [5]	ND [5]	ND [5]	17.3	80	ND [1.11]
Lead	25	ND [3]	ND [3]	ND [3]	ND [3]	ND [3]	ND [3]	1.55	0.19 J	0.66 J*	ND [1.11]	ND [3]	ND [3]	ND [3]	ND [3]	ND [3]	1.75	0.15 J	0.41 J*	ND [1.11]	ND [3]	ND [3]	ND [3]	ND [3]	1.6	ND [1.11]

Notes:
All results and groundwater standards/guidance values are in parts per billion (ppb)
(1) = Groundwater standard or guidance value as referenced in NYSDEC TOGS 1.1.1 dated June 1998 as amended in January 1999, April 2000,and June 2004.
ND (Method Detection Limit) [Reporting Limit] = Not Detected at a concentration greater than the reporting limit shown in brackets
NS = No Standard
J = Estimated Concentration
N = Indicates the spiked sample recovery is not within control limits
* = Indicates that the duplicate analysis is not within control limits

Table 7
Emerging Contaminant Testing
Harmon OU-2

Compound	Test Location and Sample Date											
	VE 1-2	VE 1-4		VE 2-1			VE 3-1	VE 4-11		DAY 1	Field Blank	
	8/2/17	8/2/17	11/27/18	8/2/17	11/28/18	DUP	8/2/17	8/2/17	11/27/18	8/2/17	-	-
Perfluoroheptanoic acid (PFHpA)	ND [0.79]	7.7	45	4	ND [2.0]	ND [2.0]	3.3	ND [0.81]	ND [2.0]	5.4	ND [0.67]	ND [2.0]
Perfluorooctanoic acid (PFOA)	5.2	29	50	7.7	ND [2.0]	ND [2.0]	5.6	ND [0.75]	ND [2.0]	18	ND [0.62]	ND [2.0]
Perfluorononanoic acid (PFNA)	1.3 J	2.8	7.1	2.6	ND [2.0]	ND [2.0]	1.1 J	ND [0.66]	ND [2.0]	2.4	ND [0.54]	ND [2.0]
Perfluorodecanoic acid (PFDA)	ND [0.43]	ND [0.43]	4.1	0.76 J	ND [2.0]	ND [2.0]	ND [0.44]	ND [0.44]	ND [2.0]	ND [0.44]	ND [0.37]	ND [2.0]
Perfluoroundecanoic acid (PFUnA)	ND [0.73]	ND [0.73]	ND [2.0]	ND [0.74]	ND [2.0]	ND [2.0]	ND [0.75]	ND [0.75]	ND [2.0]	ND [0.75]	ND [0.62]	ND [2.0]
Perfluorododecanoic acid (PFDoA)	1.2 J	ND [0.57]	ND [2.0]	ND [0.58]	ND [2.0]	ND [2.0]	ND [0.75]	1.4 J	ND [2.0]	ND [0.58]	ND [0.49]	ND [2.0]
Perfluorotridecanoic acid (PFTriA)	ND [0.54]	ND [0.54]	ND [2.0]	ND [0.54]	ND [2.0]	ND [2.0]	ND [0.59]	ND [0.56]	ND [2.0]	ND [0.55]	ND [0.46]	ND [2.0]
Perfluorotetradecanoic acid (PFTeA)	ND [0.20]	ND [0.19]	ND [2.0]	0.27 J B	ND [2.0]	ND [2.0]	ND [0.55]	ND [0.20	ND [2.0]	ND [0.20]	ND [0.17]	ND [2.0]
Perfluorohexanesulfonic acid (PFHxS)	7.4	9.7	11	24	3.4	5.4	2	39	ND [2.0]	5.0	ND [0.72]	ND [2.0]
Perfluoroheptanesulfonic acid (PFHpS)	ND [0.70]	0.77 J	2.2	ND [0.70]	ND [2.0]	ND [2.0]	ND [0.72]	ND [0.72]	ND [2.0]	ND [0.71]	ND [0.59]	ND [2.0]
Perfluorooctanesulfonic acid (PFOS)	37	62	43	55	16	21	14	7.2	4.2	16	ND [1.1]	ND [2.0]
Perfluorodecanesulfonic acid (PFDS)	ND [1.2]	ND [1.2]	ND [2.0]	ND [1.2]	ND [2.0]	ND [2.0]	ND [1.2]	ND [1.2]	ND [2.0]	ND [1.2]	ND [1.0]	ND [2.0]
Perfluorooctane Sulfonamide (FOSA)	ND [0.63]	ND [0.62]	ND [2.0]	3.9 J	ND [2.0]	ND [2.0]	ND [0.64]	ND [0.64]	ND [2.0]	ND [0.64]	ND [0.53]	ND [2.0]
Perfluorobutanoic acid (PFBA)	ND [22]	ND [22]	10	54 J B Cl	ND [2.0]	ND [2.0]	2200 B Cl	ND [23]	ND [2.0]	2000 B Cl	ND [0.38]	ND [2.0]
Perfluoropentanoic acid (PFPeA)	ND [48]	ND [48]	93	ND [49]	ND [2.0]	ND [2.0]	ND [50]	ND [50]	ND [2.0]	4600 Cl	ND [0.82]	ND [2.0]
Perfluorohexanoic acid (PFHxA)	ND [39]	ND [38]	50	ND [39]	ND [2.0]	ND [2.0]	ND [39]	ND [40]	5.7	ND [39]	ND [0.65]	ND [2.0]
Perfluorobutanesulfonic acid (PFBS)	ND [45]	ND [45]	13	ND [45]	ND [2.0]	ND [2.0]	ND [46]	ND [46]	15	ND [46]	ND [0.76]	ND [2.0]
6:2 Fluorotelomersulfonate (6:2 FTS)	NT	NT	50	NT	ND [2.0]	ND [2.0]	NT	NT	ND [2.0]	NT	NT	ND [2.0]
8:2 Fluorotelomersulfonate (8:2 FTS)	NT	NT	5.3	NT	ND [2.0]	ND [2.0]	NT	NT	ND [2.0]	NT	NT	ND [2.0]
NMeFOSAA	NT	NT	ND [2.0]	NT	ND [2.0]	ND [2.0]	NT	NT	ND [2.0]	NT	NT	ND [2.0]
NEtFOSAA	NT	NT	ND [2.0]	NT	ND [2.0]	ND [2.0]	NT	NT	ND [2.0]	NT	NT	ND [2.0]
PFOA & PFOS	42.2	91	93	62.7	16	21	19.6	7.2	4.2	34	ND	ND
Maximum PFAS (not inc PFOA/PFOS)	7.4	9.7	93	24	3.4	5.4	3.3	39	15	5.4	ND	ND
Total PFAS	49.6	111.2	383.7	93.3	19.4	26.4	24.9	46.2	24.9	46.8	ND	ND
1,4-Dioxane	NT	NT	ND [200]	NT	ND [200]	ND [200]	NT	NT	ND [200]	NT	NT	ND [200]

Notes:

All results are in nanograms per liter (ng/L) or parts per trillion (ppt)

ND (Method Detection Limit) [Reporting Limit] = Not Detected at a concentration greater than the reporting limit shown in brackets

NT = Not Tested

J = Estimated Concentration

B = Compound was found in the blank and samples

Cl = The peak identified in the data system exhibited chromatographic interference that could not be resolved. There is reason to suspect there may be a high bias

The NYSDEC does not have groundwater standard or guidance values for perfluorooctanoic acid (PFOA) or prefluorooctanesulfonic acid (PFOS); however, in 2016 the United States Environmental Protection Agency (USEPA) issued a health advisory level of 70 nanograms per liter (ng/l) or parts per trillion (ppt) for the combined concentration of PFOA and PFOS in drinking water sources.

Table 8
NYSDEC Site #360010
Harmon Yard Waste Water Area

Depth to Static Water Levels and Range of Free Product Thickness

Date Range		OUII-A	OUII-B	OUII-C	OUII-D	OUII-E	OUII-F
October 4, 2016 - November 30, 2016	Depth to Static Water Level	4.58-5.04	4.36-5.04	4.58-5.18	4.40-4.97	4.55-5.05	2.87-5.09
	Range of Free Product Thickness (ft.)	0.7-3.0	1.3-3.2	0	1.9-3.0	0	0.0-1.3
December 1, 2016 - February 28, 2017	Depth to Static Water Level	5.53-6.19	5.58-6.11	5.99-6.76	5.47-5.96	5.56-6.18	5.8-7.02
	Range of Free Product Thickness (ft.)	0.0-0.55	0.0-0.96	0	1.65-2.15	0	0-0.93
March 1, 2017 - May 31, 2017	Depth to Static Water Level	5.56-6.86	5.46-6.89	5.53-7.45	5.3-6.77	5.57-6.89	5.27-8.05
	Range of Free Product Thickness (ft.)	0.0-0.94	0.08-1.97	0.0-1.24	0.0-1.84	0	0.0-0.28
June 1, 2017 - July 31, 2017	Depth to Static Water Level	5.37-6.28	5.12-6.13	4.82-6.31	5.19-6.18	5.28-6.26	4.43-6.69
	Range of Free Product Thickness (ft.)	0.04-1.28	0.68-1.7	0	0.5-1.85	0	0-0.26
September 1, 2017 - November 30, 2017	Depth to Static Water Level	9.36-9.82	9.28-9.84	9.18-9.59	9.57-9.93	9.44-9.82	7.19-7.82
	Range of Free Product Thickness (ft.)	0.67-2.01	1.39-2.36	0-1.82	1.78-2.24	0	0.40-2.78
December 1, 2017 - February 28, 2018	Depth to Static Water Level	8.31-10.00	8.20-10.02	7.25-9.81	8.46-10.18	8.34-10.07	4.18-8.11
	Range of Free Product Thickness (ft.)	0-2.26	0-2.71	0	0.48-2.37	0	0.35-3.19
March 1, 2018 - May 31, 2018	Depth to Static Water Level	7.75-8.54	7.77-9.11	6.85-8.09	7.97-8.76	7.92-8.52	3.87-5.61
	Range of Free Product Thickness (ft.)	0-0.59	0-1.36	0	0.02-1.88	0	0.01-0.24
June 1, 2018 - August 31, 2018	Depth to Static Water Level	8.15-9.15	7.96-9.20	7.41-8.96	8.10-9.32	8.24-9.37	4.43-6.81
	Range of Free Product Thickness (ft.)	0-0.24	0.02-1.38	0	0.1-1.67	0	0-0.04
September 1, 2018 - November 30, 2018	Depth to Static Water Level	7.18-8.63	7.31-8.56	6.56-8.09	7.12-8.81	7.62-8.69	3.29-5.91
	Range of Free Product Thickness (ft.)	0-0.26	0-1.75	0	0-1.37	0	0-0.03

Note:

Depth to Static Water Level in feet above mean sea level corrected for the presence of Free Product based on the following relationship:

Corrected SWL (ft. bgs) = Measured SWL (ft. bgs) – 0.85 x Measured Free Product Thickness (ft.)

FIGURES

N

NOTES:

1. This drawing was prepared from a CAD base file provides by others, from a drawing by ERM, entitled "EXISTING SITE PLAN AND SURVEY CONTROL" sheet No. C-1 dated 7/31/00 and from a drawing by ERM, "SITE PLAN WITH LOCATIONS OF PROPOSED WELLS AND SHEET PILING", sheet No. C-2, dated 7/31/00.
2. Operable Unit II (OU-II) remedy well locations were determined from coordinate values listed on the ERM drawings identified in note No. 1.

LEGEND:

- VE 4-6 (7.48 ft) — Former Vapor Extraction (VE), Air Inlet (AI), Forced Air Injection (FA), or existing monitoring well and designation
- Groundwater elevation for water level measurement made November 6, 2018
- Off-site monitoring well installed September 2016
- Existing monitoring well near the southern terminus of the sheet pile wall in NAPL Area L1
- 4.0 — Groundwater contour
- Apparent groundwater flow direction
- OU-II NAPL area boundaries
- Approximate location of sheet pile wall around remediated former lagoon area (OU-I)
- Approximate location of L1 sheet pile wall
- Extent of OU-I final cover system
- OU-II Boundary

0 40 80 160 Feet

PROJECT MANAGER	RLK
DRAWN BY	CPS
SCALE	As Noted
DATE	12-2018
DATE DRAWN	12-2018
DATE ISSUED	12-17-2018

DAY ENGINEERING, P.C.
ENVIRONMENTAL ENGINEERING CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

Project Title
METRO-NORTH RAIL ROAD
HARMON YARD OPERABLE UNITS OU-I AND OU-II
CROTON-ON-HUDSON, NEW YORK

SITE MANAGEMENT PLAN

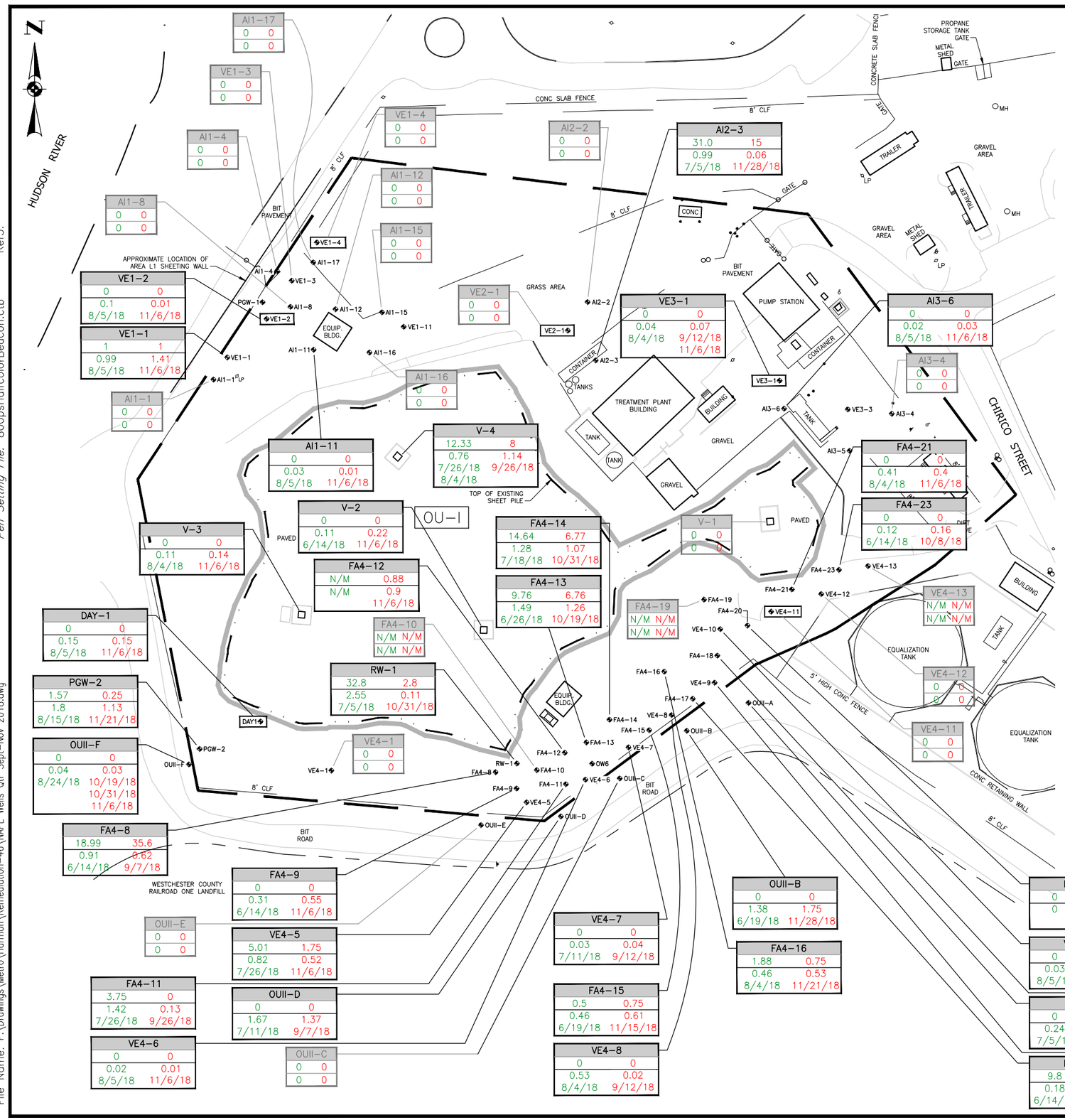
Drawing Title
Groundwater Contour Map: November 6, 2018

Project No.
15-3356M (46)

FIGURE 1

Document Path: \\MNRGIS\MNR_Documents\GIS_Data\MNR\Harmon Yard\OU1_OU2\Remediation_OU1_OUII_20181106.mxd

Last Date Saved: 18 Dec 2018



SITE PLAN
1" = 80'

0' 80' 160' 240'

NOTES:

1. This drawing was prepared from a CAD base file provided by others, from a drawing by ERM, entitled "EXISTING SITE PLAN AND SURVEY CONROL" sheet No. C-1 dated 7/31/00 and from a drawing by ERM, "SITE PLAN WITH LOCATIONS OF PROPOSED WELLS AND SHEET PILING", sheet No. C-2, dated 7/31/00.
2. Operable Unit II (OU-II) remedy well locations were determined from coordinate values listed on the ERM drawings identified in note No. 1, or by reference to site features (e.g., DAY-1, RW-1, etc...)
3. Free Product is removed from RW-1, AI2-3, FA4-8 and FA4-17 using a Spill Buster product removal pump and placed within 55-gallon drums.

LEGEND:

- VE1-3 — Former Vapor Extraction (VE), Air Inlet (AI), Forced Air Injection (FA), Existing Monitoring Well Or Product Recovery Well (RW) and Designation
- VE1-2 — Long-Term Monitoring Well
- Approximate Location Of Sheet Pile Wall Around Remediated Former Lagoon Area (OU-I)
- Extent Of OU-I Final Cover System
- OU-II Boundary
- V-1 — OU-I Contingency Vapor Extraction System Wells
- FA4-8 (18.99 / 35.6 / 0.91 / 0.62 / 6/14/18 / 9/7/18)
  - Long-Term Monitoring Well Identification
  - Free Product Removed (Gallons) During Quarter
  - Maximum Free Product Thickness (Feet) Measured During Quarter With Date Of Measurement
- Measurements Made During The Report Period June 1, 2018 Through August 31, 2018 Shown In Green (Left)
- Measurements Made During The Report Period September 1, 2018 Through November 30, 2018 Shown In Red (Right)
- N/M — Well Not Measured

PROJECT MANAGER	HMM
DATE	12/2018
DRAWN BY	RJM/CPS/TW
DATE DRAWN	12/19/2018
SCALE	As Noted
DATE ISSUED	12/19/2018

day
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ENVIRONMENTAL ENGINEERING CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
METRO-NORTH RAILROAD
HARMON YARD OPERABLE UNITS OU-I AND OU-II
CROTON-ON-HUDSON, NEW YORK
NYSDEC SITE #360010

DRAWING TITLE
Summary Of Free Product Removal For The Quarters
June - August 2018 & September - November 2018

PROJECT NO.
15-3356M (46)

FIGURE 2

Ref1:
Ref2:
Ref3:

Xerox432AnsiB-2; 11 x 17
Layout Name: Layout1
Pen Setting File: 800psHalfcolorBeacon.ctb

Time Plotted: Wednesday, December 19, 2018 9:44:06 AM
File Name: P:\Drawings\Metro\Harmon\Remediation-46\NAPL Wells Qtr Sept-Nov 2018.dwg

VE2-1			
ND	ND	ND	23.7
ND	ND	ND	ND
ND	ND	ND	ND
Cu 9.00	As 0.507 (J)	As 0.42 (J)	As 0.92 (J)
	Cr 0.137 (J)	Cr 0.65 (J)	Cr 0.73 (JN)
	Cu 4.55	Cu 3.5	Cu 3.48
	Pb 1.38	Pb 0.3	Pb 0.17 (J)

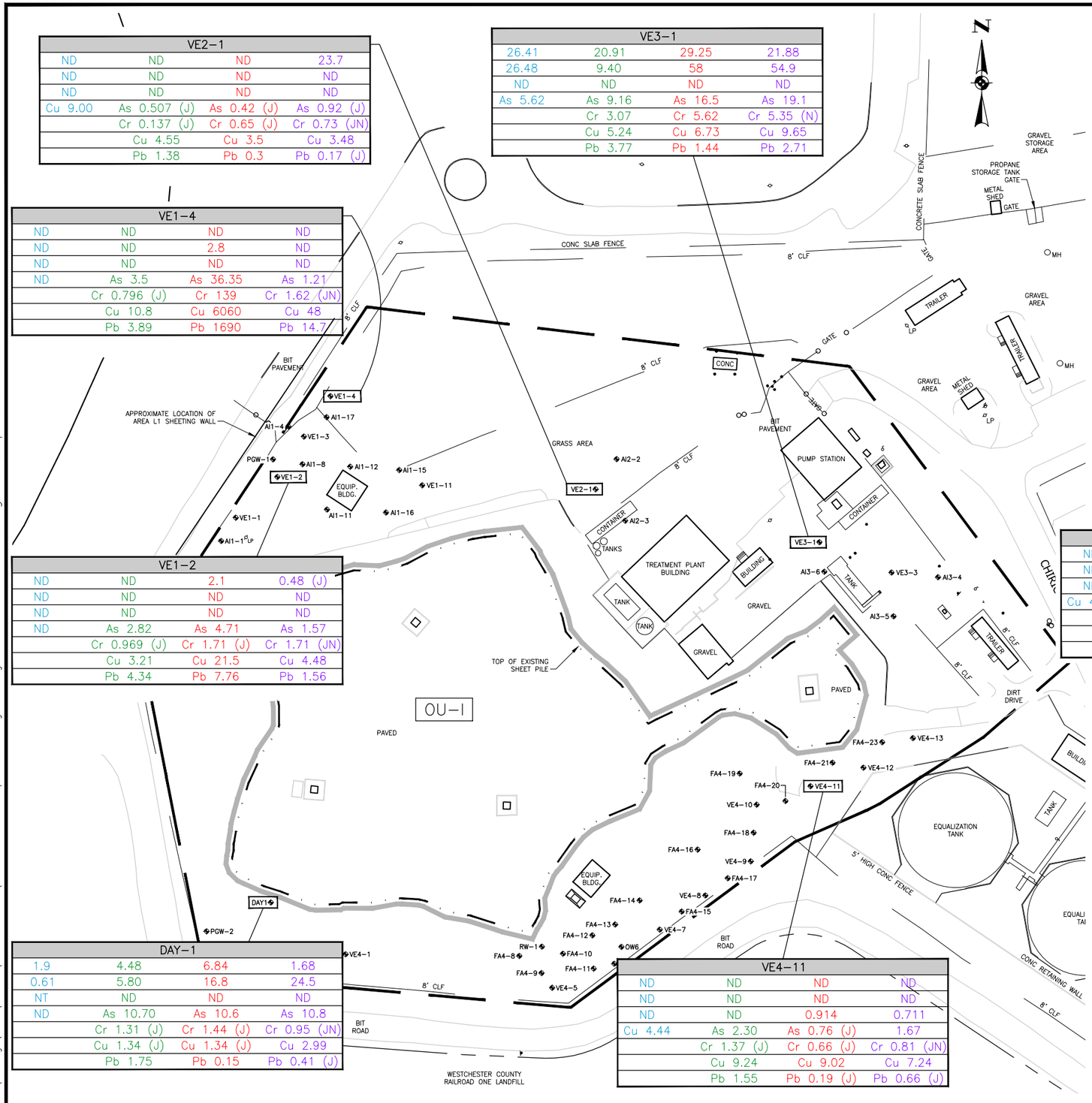
VE3-1			
26.41	20.91	29.25	21.88
26.48	9.40	58	54.9
ND	ND	ND	ND
As 5.62	As 9.16	As 16.5	As 19.1
	Cr 3.07	Cr 5.62	Cr 5.35 (N)
	Cu 5.24	Cu 6.73	Cu 9.65
	Pb 3.77	Pb 1.44	Pb 2.71

VE1-4			
ND	ND	ND	ND
ND	ND	2.8	ND
ND	ND	ND	ND
ND	As 3.5	As 36.35	As 1.21
	Cr 0.796 (J)	Cr 139	Cr 1.62 (JN)
	Cu 10.8	Cu 6060	Cu 48
	Pb 3.89	Pb 1690	Pb 14.7

VE1-2			
ND	ND	2.1	0.48 (J)
ND	ND	ND	ND
ND	ND	ND	ND
ND	As 2.82	As 4.71	As 1.57
	Cr 0.969 (J)	Cr 1.71 (J)	Cr 1.71 (JN)
	Cu 3.21	Cu 21.5	Cu 4.48
	Pb 4.34	Pb 7.76	Pb 1.56

DAY-1			
1.9	4.48	6.84	1.68
0.61	5.80	16.8	24.5
NT	ND	ND	ND
ND	As 10.70	As 10.6	As 10.8
	Cr 1.31 (J)	Cr 1.44 (J)	Cr 0.95 (JN)
	Cu 1.34 (J)	Cu 1.34 (J)	Cu 2.99
	Pb 1.75	Pb 0.15	Pb 0.41 (J)

VE4-11			
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	0.914	0.711
Cu 4.44	As 2.30	As 0.76 (J)	1.67
	Cr 1.37 (J)	Cr 0.66 (J)	Cr 0.81 (JN)
	Cu 9.24	Cu 9.02	Cu 7.24
	Pb 1.55	Pb 0.19 (J)	Pb 0.66 (J)



SITE PLAN
1" = 80'

0' 80' 160' 240'

NOTES:

1. This drawing was prepared from a CAD base file provided by others, from a drawing by ERM, entitled "EXISTING SITE PLAN AND SURVEY CONROL" sheet No. C-1 dated 7/31/00 and from a drawing by ERM, "SITE PLAN WITH LOCATIONS OF PROPOSED WELLS AND SHEET PILING", sheet No. C-2, dated 7/31/00.
2. Operable Unit II (OU-II) remedy well locations were determined from coordinate values listed on the ERM drawings identified in note No. 1, or by reference to site features (e.g., DAY-1, RW-1, etc...)

LEGEND:

- VE1-3 — Former Vapor Extraction (VE), Air Inlet (AI), Forced Air Injection (FA), Existing Monitoring Well Or Product Recovery Well (RW) and Designation
- VE1-2 — Long-Term Monitoring Well
- Approximate Location Of Sheet Pile Wall Around Remediated Former Lagoon Area (OU-I)
- Extent Of OU-I Final Cover System
- OU-II Boundary
- OU-I Contingency Vapor Extraction System Wells
- Long-Term Monitoring Well Identification
- Total Concentration Of CP51-List VOC's and Chlorobenzene
- Total Concentration Of CP51-List SVOC's and 2Methylnapthalene
- Concentration Of Total PCB's
- Concentration Of Detected Metals (As, Cr, Cu, Pb)

(J) Estimated Concentration

(N) Indicates The Spiked Sample Recovery Is Not Within Control Limits

ND Constituents Not Detected

NT Not Tested

Long-Term Monitoring Results For Samples Collected On May 27, 2014 And May 28, 2014 Shown In Blue

Long-Term Monitoring Results For Samples Collected On May 19, 2015 And May 20, 2015 Shown in Green

Long-Term Monitoring Results For Samples Collected On May 17, 2016 And May 18, 2016 Shown In Red

Long-Term Monitoring Results For Samples Collected On August 2, 2017 And August 3, 2017 Shown In Purple

NOTES:

1. All results in ug/L or parts per billion.
2. If metals were detected specific metal and concentration are identified.

PROJECT MANAGER: HMM | DRAWN BY: RJM | SCALE: As Noted | DATE: 9-2017 | DATE DRAWN: 9-22-2017 | DATE ISSUED: 9-22-2017

DAY ENGINEERING, P.C.
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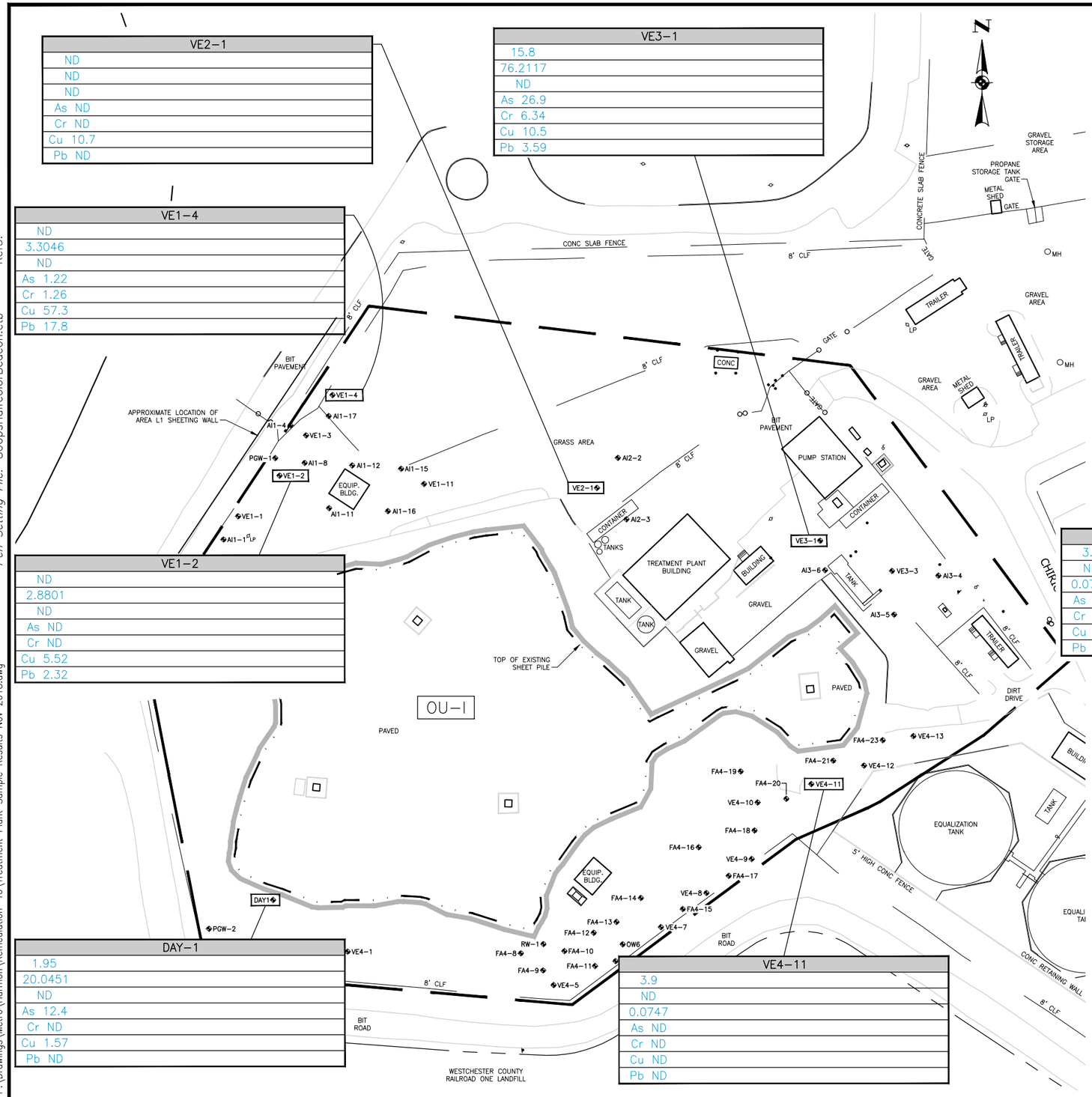
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
METRO-NORTH RAILROAD
HARMON YARD OPERABLE UNITS OU-I AND OU-II
CROTON-ON-HUDSON, NEW YORK
NYSDEC SITE #360010

DRAWING TITLE
Long-Term Monitoring Results Samples Collected May 27 & 28, 2014, May 19 & 20, 2015, May 17 & 18, 2016 & August 2 & 3, 2017

PROJECT NO.
15-3356M (46)

FIGURE 3



SITE PLAN
1" = 80'

0' 80' 160' 240'

NOTES:

1. This drawing was prepared from a CAD base file provided by others, from a drawing by ERM, entitled "EXISTING SITE PLAN AND SURVEY CONROL" sheet No. C-1 dated 7/31/00 and from a drawing by ERM, "SITE PLAN WITH LOCATIONS OF PROPOSED WELLS AND SHEET PILING", sheet No. C-2, dated 7/31/00.
2. Operable Unit II (OU-II) remedy well locations were determined from coordinate values listed on the ERM drawings identified in note No. 1, or by reference to site features (e.g., DAY-1, RW-1, etc...)

LEGEND:

VE1-3	Former Vapor Extraction (VE), Air Inlet (AI), Forced Air Injection (FA), Existing Monitoring Well Or Product Recovery Well (RW) and Designation
VE1-2	Long-Term Monitoring Well
	Approximate Location Of Sheet Pile Wall Around Remediated Former Lagoon Area (OU-I)
	Extent Of OU-I Final Cover System
	OU-II Boundary
	OU-I Contingency Vapor Extraction System Wells

VE4-11
- 3.9 — Long-Term Monitoring Well Identification
- ND — Total Concentration Of CP51-List VOC's and Chlorobenzene
- 0.0747 — Total Concentration Of CP51-List SVOC's and 2Methylnapthalene
- As ND — Concentration Of Total PCB's
- Cr ND — Concentration Of Detected Metals (As, Cr, Cu, Pb)
- Cu ND
- Pb ND

(J)	Estimated Concentration
(N)	Indicates The Spiked Sample Recovery Is Not Within Control Limits
ND	Constituents Not Detected
NT	Not Tested

Long-Term Monitoring Results For Samples Collected On November 27, 2018 And November 28, 2014 Shown In Blue

NOTES:

1. All results in ug/L or parts per billion.
2. If metals were detected specific metal and concentration are identified.

PROJECT MANAGER	HMM
DATE	12/2018
DRAWN BY	RJM
DATE DRAWN	12/19/2018
SCALE	As Noted
DATE ISSUED	12/19/2018

DAY ENGINEERING, P.C.
ENVIRONMENTAL ENGINEERING CONSULTANTS
ROCHESTER, NEW YORK 14606
NEW YORK, NEW YORK 10170

PROJECT TITLE
METRO-NORTH RAILROAD
HARMON YARD OPERABLE UNITS OU-I AND OU-II
CROTON-ON-HUDSON, NEW YORK
NYSDEC SITE #360010

DRAWING TITLE
Long-Term Monitoring Results
Samples Collected November 27 & 28, 2018

PROJECT NO.
15-3356M (46)

FIGURE 3A

Ref1:
Ref2:
Ref3:

Xerox432AnsiB-2; 11 x 17
Layout Name: Layout1
Pen Setting File: 800psHalfcolorBeacon.ctb

Time Plotted: Wednesday, December 19, 2018 10:21:32 AM
File Name: P:\Drawings\Metro\Harmon\Remediation-46\Treatment Plant Sample Results Nov 2018.dwg

ATTACHMENT A

Well Monitoring Logs and Free Product Removal Records
September 1, 2018 through November 30, 2018

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P1 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.12	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P2 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.13	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P3 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.44	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P4 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P5 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.21	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P6 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
Not measured					

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P7 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.64	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P8 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11//6/18	-	13.33	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P9 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.34	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: P10 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.21	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: V-1 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	-	16.13	0	0	
10/8/2018	-	16.04	0	0	
11/6/2018	-	16.06	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: V-2 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	17.11	17.31	0.20	0	
10/8/2018	16.75	16.91	0.16	0	
11/6/2018	16.98	17.2	0.22	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: V-3 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	16.55	16.59	0.04	0	
10/8/2018	16.41	16.51	0.10	0	
11/6/2018	16.68	16.82	0.14	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: V-4 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	16.02	16.85	0.83	1	
9/26/2018	15.62	16.76	1.14	1	
10/5/2018	15.55	16.21	0.66	1.25	
10/8/2018	15.58	16.09	0.51	0.75	
10/19/2018	15.71	16.53	0.82	0.75	
10/24/2018	15.83	16.47	0.64	1	
10/31/2018	15.95	16.67	0.72	0.75	
11/6/2018	15.90	16.45	0.55	0.75	
11/15/2018	15.69	16.28	0.59	0.75	
11/21/2018	15.20	15.43	0.23	0	
11/28/2018	15.1	15.38	0.28	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-1 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	11.03	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-4 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	10.10	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-8 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.18	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-11 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	14.63	14.64	0.01	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-12 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	16.91	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-15 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	18.38	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-16 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.60	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-17 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	11.95	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: SP-North Diameter: 1 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	-	9.59	0	0	
9/26/2018	-	9.32	0	0	
10/5/2018	-	9.08	0	0	
10/8/2018	-	9.11	0	0	
10/19/2018	-	9.43	0	0	
10/24/2018	-	9.47	0	0	
10/31/2018	-	9.58	0	0	
11/6/2018	-	9.36	0	0	
11/15/2018	-	9.38	0	0	
11/21/2018	-	8.84	0	0	
11/28/2018	-	8.62	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE-1-1 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	8.38	9.79	1.41	0.88	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE-1-2 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	9.19	9.20	0.01	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE-1-3 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	8.43	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE-1-4 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	9.97	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: WB-9 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	8.29	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI2-2 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
8/5/2018	-	14.96	0.00	0	

Metro-North Railroad Free Product Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: AI2-3 Diameter: 4 in.

Date	Depth to Free Product (ft)	Depth to Water (ft)	Free Product Thickness (ft)	Free Product Recovered (gal)	Comments*
9/7/2018	15.26	15.27	0.01	0	drum 1.80 ft
9/26/2018	15.35	15.36	0.01	0	drum 1.97 ft
10/5/2018	14.90	14.91	0.01	0	drum 2.05 ft.
10/8/2018	14.90	14.91	0.01	0	drum 2.05 ft
10/19/2018	15.03	15.05	0.02	0	drum 1.98 ft (?)
10/24/2018	15.13	15.15	0.02	0	drum 2.12 ft
10/31/2018	15.28	15.29	0.01	0	drum 2.09 ft
11/6/2018	15.01	15.02	0.01	0	no drum reading
11/15/2018	14.80	14.81	0.01	0	drum 2.30 ft. Started new drum
11/21/2018	14.58	14.59	0.01	0	drum 0.00 ft
11/28/2018	14.45	14.51	0.06	0	drum 0.0 ft

*Measured height of Free Product accumulated in drum. Height of drum is assumed to be 2.5 ft and equal to approximately 50 gallons. Comment on 8/24/2018 stated 'drum 1.73 ft'. Total amount of Free Product Recovered = 15.4 gallons

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE2-1 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	10.81	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI3-4 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	10.38	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI3-5 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
Not measured					

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI3-6 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	16.39	16.42	0.03	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE3-1 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	11.33	11.40	0.07	0	
10/8/2018	10.94	10.99	0.05	0	
11/6/2018	11.04	11.11	0.07	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: DAY-1 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	15.10	15.25	0.15	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-8 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments***
9/7/2018	16.40	17.02	0.62	0	drum 1.60 ft
9/26/2018	16.48	16.67	0.19	0	drum 1.97 ft
10/5/2018	15.90	16.30	0.40	0	drum 2.05 ft.
10/8/2018	16.00	16.51	0.51	0	drum 2.05 ft
10/19/2018	16.17	16.36	0.19	0	drum 2.40 ft. changed drum
10/24/2018	16.44	16.47	0.03	0	drum 0.05 ft
10/31/2018	16.48	16.52	0.04	0	drum 0.08 ft
11/6/2018	16.05	16.06	0.01	0	drum 0.27 ft
11/15/2018	15.69	15.71	0.02	0	drum 0.35 ft.
11/21/2018	15.48	15.71	0.23	0	drum 0.47 ft.
11/28/2018	15.48	15.49	0.01	0	drum 0.61 ft.

*Measured height of Free Product accumulated in drum. Height of drum is assumed to be 2.5 ft and equal to approximately 50 gallons. Comment on 8/24/2018 stated 'drum 1.33 ft'. Total amount of Free Product Recovered = 35.6 gallons from pump

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-9 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	7.88	8.24	0.36	0	
10/8/2018	7.00	7.42	0.42	0	
11/6/2018	6.8	7.35	0.55	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-10 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
Not measured					

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-11 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	11.34	11.39	0.05	0	
9/26/2018	11.07	11.2	0.13	0	
10/5/2018	10.48	10.55	0.07	0	
10/8/2018	10.7	10.75	0.05	0	
10/19/2018	10.89	10.95	0.06	0	
10/24/2018	11.15	11.23	0.08	0	
10/31/2018	11.19	11.2	0.01	0	
11/6/2018	10.57	10.6	0.03	0	
11/15/2018	10.13	10.19	0.06	0	
11/21/2018	9.83	9.84	0.01	0	
11/28/2018	-	9.48	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-12 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	13.65	14.55	0.9	0.88	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-13R Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	10.62	11.75	1.13	1.25	
9/26/2018	10.44	10.87	0.43	0.38	
10/5/2018	9.90	10.62	0.72	0.75	
10/8/2018	10.15	10.38	0.23	0	
10/19/2018	10.16	11.42	1.26	1.25	
10/24/2018	10.42	11.44	1.02	1.25	
10/31/2018	10.45	11.43	0.98	1.13	
11/6/2018	10.00	10.69	0.69	0.75	
11/15/2018	9.53	9.69	0.16	0	
11/21/2018	9.33	9.51	0.18	0	
11/28/2018	9.18	9.25	0.07	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-14 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	13.1	14.11	1.01	0.88	
9/26/2018	12.99	14.03	1.04	0.75	
10/5/2018	12.51	13.41	0.9	0.88	
10/8/2018	12.71	12.79	0.08	0	
10/19/2018	12.74	13.69	0.95	0.63	
10/24/2018	12.94	13.91	0.97	1.25	
10/31/2018	12.95	14.02	1.07	0.75	
11/6/2018	12.61	13.61	1	1	
11/15/2018	12.28	12.8	0.52	0.63	
11/21/2018	12.17	12.24	0.07	0	
11/28/2018	11.85	11.86	0.01	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-15R Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	10.15	10.24	0.09	0	
9/26/2018	9.97	10.03	0.06	0	
10/5/2018	9.5	9.73	0.23	0	
10/8/2018	9.61	9.74	0.13	0	
10/19/2018	9.74	9.94	0.2	0	
10/24/2018	9.96	10.13	0.17	0	
10/31/2018	10.01	10.19	0.18	0	
11/6/2018	9.6	9.74	0.14	0	
11/15/2018	9.21	9.82	0.61	0.75	
11/21/2018	8.93	9.07	0.14	0	
11/28/2018	8.15	8.81	0.66	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-16 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	14.3	14.32	0.02	0	
9/26/2018	14.21	14.38	0.17	0	
10/5/2018	-	13.75	0	0	
10/8/2018	-	13.82	0	0	
10/19/2018	13.88	13.89	0.01	0	
10/24/2018	14.06	14.11	0.05	0	
10/31/2018	14.14	14.28	0.14	0	
11/6/2018	13.82	13.94	0.12	0	
11/15/2018	13.45	13.63	0.18	0	
11/21/2018	13.11	13.64	0.53	0.75	
11/28/2018	13.05	13.25	0.2	0	

Metro-North Railroad Free Product Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-17R Diameter: 4 in.

Date	Depth to Free Product (ft)	Depth to Water (ft)	Free Product Thickness (ft)	Free Product Recovered (gal)	Comments
9/7/2018	10.4	10.41	0.01	0	
9/26/2018	10.2	10.27	0.07	0	drum 1.49 ft.
10/5/2018	9.79	9.8	0.01	0	
10/8/2018	9.89	9.91	0.02	0	drum 1.59 ft
10/19/2018	9.96	10.11	0.15	0	drum 1.62 ft
10/24/2018	10.17	10.34	0.17	0	drum 1.71 ft
10/31/2018	12.22	12.46	0.24	0	drum 1.67 ft
11/6/2018	9.89	9.91	0.02	0	drum 1.78 ft
11/15/2018	9.47	9.49	0.02	0	drum 1.80 ft
11/21/2018	9.15	9.18	0.03	0	drum 1.76 ft
11/28/2018	8.8	8.81	0.01	0	drum 1.75

*Measured height of Free Product accumulated in drum. Height of drum is assumed to be 2.5 ft and equal to approximately 50 gallons. Comment on 8/24/2018 stated 'drum 1.23 ft'. Total amount of Free Product Recovered = 11.4 gallons

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-18 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	12.82	12.86	0.04	0	
9/26/2018	12.68	13.03	0.35	0.38	
10/5/2018	12.3	12.31	0.01	0	
10/8/2018	12.27	12.5	0.23	0	
10/19/2018	12.3	12.93	0.63	0.5	
10/24/2018	12.55	12.66	0.11	0	
10/31/2018	12.65	12.79	0.14	0	
11/6/2018	12.36	12.46	0.1	0	
11/15/2018	11.96	12.08	0.12	0	
11/21/2018	11.63	11.9	0.27	0	
11/28/2018	11.51	11.75	0.24	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-19 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
Not measured					

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-20 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	12.60	12.61	0.01	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-21 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	13.66	14.01	0.35	0	
10/8/2018	13.17	13.44	0.27	0	
11/6/2018	13.35	13.75	0.40	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-23 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	12.99	13.03	0.04	0	
10/8/2018	12.59	12.75	0.16	0	
11/6/2018	12.69	12.81	0.12	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: PGW-2 Diameter: 2 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	6.52	6.95	0.43	0	
9/26/2018	5.99	6.42	0.43	0	
10/5/2018	4.91	5.32	0.41	0	
10/8/2018	5.11	5.51	0.4	0	
10/19/2018	5.58	6.02	0.44	0	
10/24/2018	6.1	6.36	0.26	0	
10/31/2018	6	6.36	0.36	0	
11/6/2018	4.92	5.4	0.48	0	
11/15/2018	4.45	4.81	0.36	0	
11/21/2018	4.27	5.4	1.13	0.25	
11/28/2018	4.45	4.81	0.36	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: RW-1 Diameter: 6 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments***
9/7/2018	14.62	14.63	0.01	0	drum 1.70 ft
9/26/2018	14.64	14.68	0.04	0	drum 2.32 ft. changed drum
10/5/2018	14	14.01	0.01	0	drum full
10/8/2018	15.19	15.2	0.01	0	drum 0.00 ft
10/19/2018	14.28	14.29	0.01	0	drum 0.00 ft
10/24/2018	14.48	14.53	0.05	0	drum 0.0 ft
10/31/2018	14.53	14.64	0.11	0	drum 0.0 ft
11/6/2018	14.04	14.06	0.02	0	drum 0.14 ft
11/15/2018	13.84	13.86	0.02	0	drum 0.12 ft
11/21/2018	13.57	13.6	0.03	0	drum 0.11 ft
11/28/2018	13.5	13.51	0.01	0	drum 0.0 ft

*Measured height of Free Product accumulated in drum. Height of drum is assumed to be 2.5 ft and equal to approximately 50 gallons. Comment on 8/24/2018 stated 'drum 1.64 ft'. Total amount of Free Product Recovered = 2.8 gallons

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-1 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	6.88	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-5 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	9.51	9.86	0.35	0	
9/26/2018	9.41	9.76	0.35	0.5	
10/5/2018	8.95	9.05	0.1	0	
10/8/2018	9	9.25	0.25	0	
10/19/2018	9.1	9.7	0.6	0.5	
10/24/2018	9.39	9.46	0.07	0	
10/31/2018	9.58	9.81	0.23	0	
11/6/2018	8.98	9.5	0.52	0.75	
11/15/2018	8.79	8.88	0.09	0	
11/21/2018	8.5	8.57	0.07	0	
11/28/2018	8.4	8.62	0.22	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-6 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	7.05	7.06	0.01	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-8 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	8.05	8.07	0.02	0	
10/8/2018	7.25	7.26	0.01	0	
11/6/2018	7.34	7.35	0.01	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-7 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	7.73	7.77	0.04	0	
10/8/2018	-	6.55	0	0	
11/6/2018	-	6.61	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-9 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/12/2018	8.38	8.41	0.03	0	
10/8/2018	7.7	7.72	0.02	0	
11/6/2018	7.85	7.88	0.03	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-10 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	11.60	11.62	0.02	0.0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-11 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	12.58	0.00	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-12 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
11/6/2018	-	13.45	0.00	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-13 Diameter: 4 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
Not measured					

OFF-SITE WELLS

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU II) Well ID: OUII-A Diameter: 1 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	-	8.63	0	0	
9/26/2018	-	8.48	0	0	
10/5/2018	-	7.95	0	0	
10/8/2018	-	8.1	0	0	
10/19/2018	-	8.21	0	0	
10/24/2018	-	8.43	0	0	
10/31/2018	-	8.33	0	0	
11/6/2018	-	8.1	0	0	
11/15/2018	-	7.73	0	0	
11/21/2018	7.39	7.64	0.26	0	
11/28/2018	7.15	7.36	0.21	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU II) Well ID: OUII-B Diameter: 1 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	8.45	8.52	0.07	0	
9/26/2018	-	8.43	0	0	
10/5/2018	-	7.8	0	0	
10/8/2018	-	8.15	0	0	
10/19/2018	8.05	8.43	0.38	0	
10/24/2018	8.38	8.83	0.45	0	
10/31/2018	8.48	8.98	0.5	0	
11/6/2018	7.92	8.15	0.23	0	
11/15/2018	7.65	7.89	0.24	0	
11/21/2018	7.20	8.39	1.19	0	
11/28/2018	7.05	8.80	1.75	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU II) Well ID: OUII-C Diameter: 1 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	-	8.26	0	0	
9/26/2018	-	8.09	0	0	
10/5/2018	-	7.15	0	0	
10/8/2018	-	7.42	0	0	
10/19/2018	-	7.69	0	0	
10/24/2018	-	7.97	0	0	
10/31/2018	-	7.83	0	0	
11/6/2018	-	7.33	0	0	
11/15/2018	-	6.95	0	0	
11/21/2018	-	6.71	0	0	
11/28/2018	-	6.56	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU II) Well ID: OUII-D Diameter: 1 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	8.6	9.97	1.37	0	
9/26/2018	8.29	8.89	0.6	0	
10/5/2018	7.38	8.22	0.84	0	
10/8/2018	8.16	8.29	0.13	0	
10/19/2018	8.14	8.39	0.25	0	
10/24/2018	8.41	8.92	0.51	0	
10/31/2018	8.46	8.85	0.39	0	
11/6/2018	8.02	8.03	0.01	0	
11/15/2018	-	7.71	0	0	
11/21/2018	7.33	7.34	0.01	0	
11/28/2018	-	7.12	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU II) Well ID: OUII-E Diameter: 1 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	-	8.68	0	0	
9/26/2018	-	8.56	0	0	
10/5/2018	-	8.09	0	0	
10/8/2018	-	8.24	0	0	
10/19/2018	-	8.29	0	0	
10/24/2018	-	8.53	0	0	
10/31/2018	-	8.69	0	0	
11/6/2018	-	8.18	0	0	
11/15/2018	-	7.98	0	0	
11/21/2018	-	7.65	0	0	
11/28/2018	-	7.62	0	0	

Metro-North Railroad Free Product Recovery Report					
Metro-North Yard: Harmon (OU II) Well ID: OUII-F Diameter: 1 in.					
Date	**Depth to Free Product (ft)**	**Depth to Water (ft)**	**Free Product Thickness (ft)**	**Free Product Recovered (gal)**	**Comments**
9/7/2018	5.91	5.92	0.01	0	
9/26/2018	-	5.46	0	0	
10/5/2018	4.01	4.02	0.01	0	
10/8/2018	4.34	4.35	0.01	0	
10/19/2018	4.86	4.89	0.03	0	
10/24/2018	5.44	5.45	0.01	0	
10/31/2018	5.28	5.31	0.03	0	
11/6/2018	4.25	4.28	0.03	0	
11/15/2018	-	3.74	0	0	
11/21/2018	-	3.6	0	0	
11/28/2018	-	3.29	0	0	

ATTACHMENT B

ANALYTICAL LABORATORY REPORTS

Technical Report

prepared for:

Metro North Commuter Railroad
525 North Broadway
White Plains NY, 10603
Attention: Joanne Reilly

Report Date: 12/12/2018
Client Project ID: MNR Harmon OU 2
York Project (SDG) No.: 18K1072

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

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

Report Date: 12/12/2018
Client Project ID: MNR Harmon OU 2
York Project (SDG) No.: 18K1072

Metro North Commuter Railroad
525 North Broadway
White Plains NY, 10603
Attention: Joanne Reilly

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on November 29, 2018 and listed below. The project was identified as your project: **MNR Harmon OU 2**.

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

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

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

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

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

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
18K1072-01	VE 4-11	Water	11/27/2018	11/29/2018
18K1072-02	Day 1	Water	11/27/2018	11/29/2018
18K1072-03	VE 1-4	Water	11/27/2018	11/29/2018
18K1072-04	VE 1-2	Water	11/27/2018	11/29/2018
18K1072-05	VE 3-1	Water	11/28/2018	11/29/2018
18K1072-06	VE 2-1	Water	11/28/2018	11/29/2018
18K1072-07	Field Blank	Water	11/28/2018	11/29/2018
18K1072-08	Trip Blank	Water	11/28/2018	11/29/2018

General Notes for York Project (SDG) No.: 18K1072

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

Approved By: 

Date: 12/12/2018

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: VE 4-11 **York Sample ID:** 18K1072-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 9:30 am	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**0.78**		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
91-20-3	**Naphthalene**	**2.9**		ug/L	1.0	2.0	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
104-51-8	n-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
103-65-1	**n-Propylbenzene**	**0.22**	J	ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
135-98-8	sec-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-88-3	Toluene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C	12/04/2018 09:00	12/04/2018 17:50	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*106 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.6 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*98.4 %*	*81-117*

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

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

Sample Information

Client Sample ID: VE 4-11 **York Sample ID:** 18K1072-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 9:30 am	11/29/2018

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	2-Methylnaphthalene	ND		ug/L	2.91	5.26	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:26	OW
83-32-9	Acenaphthene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
208-96-8	Acenaphthylene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
120-12-7	Anthracene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
205-99-2	Benzo(b)fluoranthene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
218-01-9	Chrysene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
206-44-0	Fluoranthene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
86-73-7	Fluorene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
91-20-3	Naphthalene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
85-01-8	Phenanthrene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW
129-00-0	Pyrene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 17:10	OW

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*63.8 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*54.1 %*	*39.9-105*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*55.6 %*	*30.7-106*

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA SW846-3510C Low Level

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

Sample Information

Client Sample ID: VE 4-11 **York Sample ID:** 18K1072-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 9:30 am	11/29/2018

Polychlorinated Biphenyls (PCB)

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

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 00:38	TJD
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 00:38	TJD
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 00:38	TJD
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 00:38	TJD
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 00:38	TJD
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 00:38	TJD
11096-82-5	**Aroclor 1260**	**0.0747**		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 00:38	TJD
1336-36-3	*** Total PCBs**	**0.0747**		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14	12/05/2018 00:38	TJD

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*90.6 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*82.6 %*	*30-120*

Arsenic by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 13:30	BML

Chromium by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-47-3	Chromium	ND		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 13:30	BML

Copper by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	**Copper**	**6.13**		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 13:30	BML

Lead by EPA 6020

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

Sample Information

Client Sample ID: VE 4-11 **York Sample ID:** 18K1072-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 9:30 am	11/29/2018

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	Lead	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:30	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: Day 1 **York Sample ID:** 18K1072-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 11:10 am	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**0.35**	J	ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
71-43-2	**Benzene**	**0.61**		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-41-4	**Ethyl Benzene**	**0.28**	J	ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-82-8	**Isopropylbenzene**	**0.41**	SCAL-E, J	ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
91-20-3	**Naphthalene**	**1.8**	J	ug/L	1.0	2.0	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
104-51-8	**n-Butylbenzene**	**0.40**	J	ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
103-65-1	**n-Propylbenzene**	**0.75**		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
95-47-6	**o-Xylene**	**0.59**		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
135-98-8	**sec-Butylbenzene**	**0.43**	J	ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		

Sample Information

Client Sample ID: Day 1 **York Sample ID:** 18K1072-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 11:10 am	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-88-3	**Toluene**	**0.26**	J	ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1330-20-7	**Xylenes, Total**	**0.85**	J	ug/L	0.60	1.5	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:16	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*108 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*99.1 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*100 %*	*81-117*

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	2-Methylnaphthalene	ND		ug/L	2.83	5.13	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:01	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
83-32-9	**Acenaphthene**	**3.64**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	**Acenaphthylene**	**0.667**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	**Anthracene**	**0.708**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**0.0821**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	**Fluorene**	**6.96**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**0.533**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: Day 1 **York Sample ID:** 18K1072-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 11:10 am	11/29/2018

Semi-Volatiles, PAH Target List

Log-in Notes: **Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	**Phenanthrene**	**7.27**		ug/L	5.13	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:01	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**0.185**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 17:41	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*75.2 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*65.2 %*	*39.9-105*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*49.8 %*	*30.7-106*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:** EXT-EM

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11096-82-5	Aroclor 1260	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
1336-36-3	* Total PCBs	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:31	TJD
							Certifications:			

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*85.1 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*44.8 %*	*30-120*

Arsenic by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**12.4**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:45	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Chromium by EPA 6020

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

Sample Information

Client Sample ID: Day 1 **York Sample ID:** 18K1072-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 11:10 am	11/29/2018

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-47-3	Chromium	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:45	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Copper by EPA 6020 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	**Copper**	**1.57**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:45	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Lead by EPA 6020 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	Lead	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:45	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: VE 1-4 **York Sample ID:** 18K1072-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 1:40 pm	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
91-20-3	Naphthalene	ND		ug/L	1.0	2.0	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
104-51-8	n-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
103-65-1	n-Propylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 18:42	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		

Sample Information

Client Sample ID: VE 1-4 **York Sample ID:** 18K1072-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 1:40 pm	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	12/04/2018 18:42	LLJ
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	12/04/2018 18:42	LLJ
99-87-6	p-Isopropyltoluene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 18:42	LLJ
135-98-8	sec-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 18:42	LLJ
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 18:42	LLJ
98-06-6	tert-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 18:42	LLJ
108-88-3	Toluene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 18:42	LLJ
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058	12/04/2018 18:42	LLJ

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*109 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*98.5 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*101 %*	*81-117*

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	2-Methylnaphthalene	ND		ug/L	2.83	5.13	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 19:33	OW
83-32-9	**Acenaphthene**	**0.554**		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW
208-96-8	**Acenaphthylene**	**0.164**		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW
120-12-7	**Anthracene**	**0.0821**		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW
50-32-8	**Benzo(a)pyrene**	**0.0513**	J	ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW
205-99-2	**Benzo(b)fluoranthene**	**0.0615**		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW
191-24-2	**Benzo(g,h,i)perylene**	**0.0513**	J	ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:12	OW

Sample Information

Client Sample ID: VE 1-4 **York Sample ID:** 18K1072-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 1:40 pm	11/29/2018

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
218-01-9	**Chrysene**	**0.133**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**0.256**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	**Fluorene**	**0.451**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	**Phenanthrene**	**0.503**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**1.10**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 18:12	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*73.8 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*77.1 %*	*39.9-105*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*58.9 %*	*30.7-106*

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11096-82-5	Aroclor 1260	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
1336-36-3	* Total PCBs	ND		ug/L	0.0513	1	EPA 8082A	12/04/2018 08:14	12/05/2018 14:45	TJD
							Certifications:			

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*80.2 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*75.1 %*	*30-120*

Sample Information

Client Sample ID: VE 1-4 **York Sample ID:** 18K1072-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 1:40 pm	11/29/2018

Arsenic by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**1.22**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Chromium by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-47-3	**Chromium**	**1.26**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Copper by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	**Copper**	**57.3**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Lead by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	**Lead**	**17.8**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 13:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: VE 1-2 **York Sample ID:** 18K1072-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 2:30 pm	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:08	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:08	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:08	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		

Sample Information

Client Sample ID: VE 1-2 **York Sample ID:** 18K1072-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 2:30 pm	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
91-20-3	Naphthalene	ND		ug/L	1.0	2.0	1	EPA 8260C Certifications:	12/04/2018 09:00 NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
104-51-8	n-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
103-65-1	n-Propylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
99-87-6	p-Isopropyltoluene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
135-98-8	sec-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
98-06-6	tert-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
108-88-3	Toluene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 19:08	LLJ
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058	12/04/2018 19:08	LLJ

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*108 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*98.7 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*83.8 %*	*81-117*

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	2-Methylnaphthalene	ND		ug/L	2.91	5.26	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 20:05	OW
83-32-9	**Acenaphthene**	**0.663**		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
208-96-8	**Acenaphthylene**	**0.0947**		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
120-12-7	**Anthracene**	**0.189**		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW

Sample Information

Client Sample ID: VE 1-2 **York Sample ID:** 18K1072-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 2:30 pm	11/29/2018

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
205-99-2	Benzo(b)fluoranthene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
218-01-9	Chrysene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
206-44-0	**Fluoranthene**	**0.0842**		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
86-73-7	**Fluorene**	**1.47**		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
91-20-3	**Naphthalene**	**0.0526**	J	ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
85-01-8	**Phenanthrene**	**0.0842**		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW
129-00-0	**Pyrene**	**0.295**		ug/L	0.0526	0.0526	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 18:44	OW

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*59.6 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*67.0 %*	*39.9-105*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*51.4 %*	*30.7-106*

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14 NELAC-NY10854,CTDOH,NJDEP,PADEP	12/05/2018 14:58	TJD
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14 NELAC-NY10854,CTDOH,NJDEP,PADEP	12/05/2018 14:58	TJD
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14 NELAC-NY10854,CTDOH,NJDEP,PADEP	12/05/2018 14:58	TJD
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14 NELAC-NY10854,CTDOH,NJDEP,PADEP	12/05/2018 14:58	TJD

Sample Information

Client Sample ID: VE 1-2 **York Sample ID:** 18K1072-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 27, 2018 2:30 pm	11/29/2018

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:** EXT-EM

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 14:58	TJD
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 14:58	TJD
11096-82-5	Aroclor 1260	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 14:58	TJD
1336-36-3	* Total PCBs	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14	12/05/2018 14:58	TJD

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*64.4 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*37.3 %*	*30-120*

Arsenic by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:04	BML

Chromium by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-47-3	Chromium	ND		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:04	BML

Copper by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	**Copper**	**5.52**		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:04	BML

Lead by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	**Lead**	**2.32**		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:04	BML

Sample Information

Client Sample ID: VE 3-1 **York Sample ID:** 18K1072-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**4.5**		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-67-8	**1,3,5-Trimethylbenzene**	**2.0**		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
71-43-2	Benzene	ND		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-41-4	**Ethyl Benzene**	**0.62**	J	ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-82-8	**Isopropylbenzene**	**0.42**	SCAL-E, J	ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
91-20-3	**Naphthalene**	**8.0**		ug/L	2.0	4.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
104-51-8	n-Butylbenzene	ND		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
103-65-1	**n-Propylbenzene**	**0.74**	J	ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
95-47-6	**o-Xylene**	**1.3**		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	1.0	2.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
135-98-8	**sec-Butylbenzene**	**0.50**	J	ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-42-5	Styrene	ND		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-88-3	**Toluene**	**0.92**	J	ug/L	0.40	1.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1330-20-7	**Xylenes, Total**	**2.2**	J	ug/L	1.2	3.0	2	EPA 8260C	12/03/2018 12:00	12/04/2018 06:59	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*111 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*97.9 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*93.5 %*	*81-117*

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Information

Client Sample ID: VE 3-1 **York Sample ID:** 18K1072-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	**2-Methylnaphthalene**	**36.3**		ug/L	2.83	5.13	1	EPA 8270D	12/04/2018 08:19	12/04/2018 20:37	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
83-32-9	**Acenaphthene**	**6.66**		ug/L	2.56	5.13	1	EPA 8270D	12/04/2018 08:19	12/04/2018 20:37	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	**Acenaphthylene**	**1.29**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	**Anthracene**	**2.35**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	**Benzo(a)anthracene**	**0.0821**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	**Benzo(b)fluoranthene**	**0.0718**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	**Benzo(k)fluoranthene**	**0.0718**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	**Chrysene**	**0.185**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**0.697**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	**Fluorene**	**9.31**		ug/L	2.56	5.13	1	EPA 8270D	12/04/2018 08:19	12/04/2018 20:37	OW
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**0.974**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	**Phenanthrene**	**16.8**		ug/L	2.56	5.13	1	EPA 8270D	12/04/2018 08:19	12/04/2018 20:37	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**1.42**		ug/L	0.0513	0.0513	1	EPA 8270D	12/04/2018 08:19	12/04/2018 19:15	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*63.7 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*50.7 %*	*39.9-105*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*32.4 %*	*30.7-106*

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA SW846-3510C Low Level

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

Sample Information

Client Sample ID: VE 3-1 **York Sample ID:** 18K1072-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:** EXT-EM

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/06/2018 11:57	12/07/2018 00:30	TJD
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/06/2018 11:57	12/07/2018 00:30	TJD
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/06/2018 11:57	12/07/2018 00:30	TJD
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/06/2018 11:57	12/07/2018 00:30	TJD
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/06/2018 11:57	12/07/2018 00:30	TJD
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/06/2018 11:57	12/07/2018 00:30	TJD
11096-82-5	Aroclor 1260	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/06/2018 11:57	12/07/2018 00:30	TJD
1336-36-3	* Total PCBs	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/06/2018 11:57	12/07/2018 00:30	TJD

	Surrogate Recoveries	Result		Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*17.8 %*	S-09	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*9.95 %*	S-09	*30-120*

Arsenic by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**26.9**		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:09	BML

Chromium by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-47-3	**Chromium**	**6.34**		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:09	BML

Copper by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	**Copper**	**10.5**		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:09	BML

Lead by EPA 6020

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

Sample Information

Client Sample ID: VE 3-1 **York Sample ID:** 18K1072-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	**Lead**	**3.59**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 14:09	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: VE 2-1 **York Sample ID:** 18K1072-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
91-20-3	Naphthalene	ND		ug/L	1.0	2.0	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
104-51-8	n-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
103-65-1	n-Propylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
135-98-8	sec-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-88-3	Toluene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/04/2018 09:00	12/04/2018 19:34	LLJ
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		

Sample Information

Client Sample ID: VE 2-1 **York Sample ID:** 18K1072-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C Certifications:	12/04/2018 09:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058	12/04/2018 19:34	LLJ

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*108 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*99.1 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*101 %*	*81-117*

Semi-Volatiles, PAH Target List

Log-in Notes:

Sample Notes: EXT-EM

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	2-Methylnaphthalene	ND		ug/L	2.83	5.13	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 21:08	OW
83-32-9	Acenaphthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
208-96-8	Acenaphthylene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
120-12-7	Anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
205-99-2	Benzo(b)fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
218-01-9	Chrysene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
206-44-0	Fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
86-73-7	Fluorene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
91-20-3	Naphthalene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
85-01-8	Phenanthrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW
129-00-0	Pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:10	OW

Sample Information

Client Sample ID: VE 2-1 **York Sample ID:** 18K1072-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Semi-Volatiles, PAH Target List

Log-in Notes: **Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

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

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*82.3 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*80.2 %*	*39.9-105*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*72.4 %*	*30.7-106*

Polychlorinated Biphenyls (PCB)

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

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:25	TJD
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:25	TJD
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:25	TJD
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:25	TJD
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:25	TJD
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:25	TJD
11096-82-5	Aroclor 1260	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:25	TJD
1336-36-3	* Total PCBs	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14	12/05/2018 15:25	TJD

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*58.9 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*53.2 %*	*30-120*

Arsenic by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:14	BML

Chromium by EPA 6020

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

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-47-3	Chromium	ND		ug/L	1.11	1	EPA 6020B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	11/30/2018 18:25	12/05/2018 14:14	BML

Sample Information

Client Sample ID: VE 2-1 **York Sample ID:** 18K1072-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Copper by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	**Copper**	**10.7**		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 14:14	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Lead by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	Lead	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 14:14	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: Field Blank **York Sample ID:** 18K1072-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 11:11 am	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
91-20-3	Naphthalene	ND		ug/L	1.0	2.0	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
104-51-8	n-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
103-65-1	n-Propylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP		
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C	12/10/2018 12:00	12/11/2018 13:21	PP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		

Sample Information

Client Sample ID: **Field Blank** **York Sample ID:** **18K1072-07**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 11:11 am	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

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

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
99-87-6	p-Isopropyltoluene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/10/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/11/2018 13:21	PP
135-98-8	sec-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/10/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/11/2018 13:21	PP
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/10/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/11/2018 13:21	PP
98-06-6	tert-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/10/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/11/2018 13:21	PP
108-88-3	Toluene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/10/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/11/2018 13:21	PP
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C Certifications:	12/10/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058	12/11/2018 13:21	PP

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*98.2 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*111 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*102 %*	*81-117*

Semi-Volatiles, PAH Target List

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

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	2-Methylnaphthalene	ND		ug/L	2.83	5.13	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 21:40	OW
83-32-9	Acenaphthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
208-96-8	Acenaphthylene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
120-12-7	Anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
205-99-2	Benzo(b)fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
218-01-9	Chrysene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW
206-44-0	Fluoranthene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications:	12/04/2018 08:19 CTDOH,NELAC-NY10854,NJDEP,PADEP	12/06/2018 09:41	OW

Sample Information

Client Sample ID: **Field Blank** **York Sample ID:** **18K1072-07**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 11:11 am	11/29/2018

Semi-Volatiles, PAH Target List

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

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	Fluorene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	12/04/2018 08:19	12/06/2018 09:41	OW
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 08:19	12/06/2018 09:41	OW
91-20-3	Naphthalene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 08:19	12/06/2018 09:41	OW
85-01-8	Phenanthrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 08:19	12/06/2018 09:41	OW
129-00-0	Pyrene	ND		ug/L	0.0513	0.0513	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	12/04/2018 08:19	12/06/2018 09:41	OW

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*80.2 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*83.8 %*	*39.9-105*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*84.8 %*	*30.7-106*

Polychlorinated Biphenyls (PCB)

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

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:39	TJD
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:39	TJD
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:39	TJD
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:39	TJD
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:39	TJD
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:39	TJD
11096-82-5	Aroclor 1260	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	12/04/2018 08:14	12/05/2018 15:39	TJD
1336-36-3	* Total PCBs	ND		ug/L	0.0513	1	EPA 8082A Certifications:	12/04/2018 08:14	12/05/2018 15:39	TJD

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*88.6 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*66.2 %*	*30-120*

Arsenic by EPA 6020

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

Sample Prepared by Method: EPA 3015A

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

Sample Information

Client Sample ID: **Field Blank** **York Sample ID:** **18K1072-07**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 11:11 am	11/29/2018

Arsenic by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 14:19	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Chromium by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-47-3	Chromium	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 14:19	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Copper by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-50-8	Copper	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 14:19	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Lead by EPA 6020

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	Lead	ND		ug/L	1.11	1	EPA 6020B	11/30/2018 18:25	12/05/2018 14:19	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: **Trip Blank** **York Sample ID:** **18K1072-08**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 12:00 am	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/03/2018 12:00	12/04/2018 03:28	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/03/2018 12:00	12/04/2018 03:28	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP			
71-43-2	Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/03/2018 12:00	12/04/2018 03:28	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP			
100-41-4	Ethyl Benzene	ND		ug/L	0.20	0.50	1	EPA 8260C	12/03/2018 12:00	12/04/2018 03:28	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP			

Sample Information

Client Sample ID: **Trip Blank** **York Sample ID:** **18K1072-08**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1072	MNR Harmon OU 2	Water	November 28, 2018 12:00 am	11/29/2018

Volatile Organics, 8260 Aromatics - Low Level

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
98-82-8	Isopropylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
91-20-3	Naphthalene	ND		ug/L	1.0	2.0	1	EPA 8260C Certifications:	12/03/2018 12:00 NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
104-51-8	n-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
103-65-1	n-Propylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
95-47-6	o-Xylene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
179601-23-1	p- & m- Xylenes	ND		ug/L	0.50	1.0	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
99-87-6	p-Isopropyltoluene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
135-98-8	sec-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
100-42-5	Styrene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
98-06-6	tert-Butylbenzene	ND		ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
108-88-3	**Toluene**	**0.25**	J	ug/L	0.20	0.50	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058,PADEP	12/04/2018 03:28	LLJ
1330-20-7	Xylenes, Total	ND		ug/L	0.60	1.5	1	EPA 8260C Certifications:	12/03/2018 12:00 CTDOH,NELAC-NY10854,NJDEP,NELAC-NY12058	12/04/2018 03:28	LLJ

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*113 %*	*69-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*102 %*	*79-122*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*93.9 %*	*81-117*

Analytical Batch Summary

Batch ID: BK81619 **Preparation Method:** EPA 3015A **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
18K1072-01	VE 4-11	11/30/18
18K1072-02	Day 1	11/30/18
18K1072-03	VE 1-4	11/30/18
18K1072-04	VE 1-2	11/30/18
18K1072-05	VE 3-1	11/30/18
18K1072-06	VE 2-1	11/30/18
18K1072-07	Field Blank	11/30/18
BK81619-BLK1	Blank	11/30/18
BK81619-BS1	LCS	11/30/18
BK81619-DUP1	Duplicate	11/30/18
BK81619-MS1	Matrix Spike	11/30/18

Batch ID: BL80052 **Preparation Method:** EPA 5030B **Prepared By:** RDS

YORK Sample ID	Client Sample ID	Preparation Date
18K1072-05	VE 3-1	12/03/18
18K1072-08	Trip Blank	12/03/18
BL80052-BLK1	Blank	12/03/18
BL80052-BS1	LCS	12/03/18
BL80052-BSD1	LCS Dup	12/03/18

Batch ID: BL80088 **Preparation Method:** EPA SW846-3510C Low Level **Prepared By:** KNK

YORK Sample ID	Client Sample ID	Preparation Date
18K1072-01	VE 4-11	12/04/18
18K1072-02	Day 1	12/04/18
18K1072-03	VE 1-4	12/04/18
18K1072-04	VE 1-2	12/04/18
18K1072-06	VE 2-1	12/04/18
18K1072-07	Field Blank	12/04/18
BL80088-BLK2	Blank	12/04/18
BL80088-BS2	LCS	12/04/18
BL80088-BSD2	LCS Dup	12/04/18

Batch ID: BL80089 **Preparation Method:** EPA 3510C **Prepared By:** KNK

YORK Sample ID	Client Sample ID	Preparation Date
18K1072-01	VE 4-11	12/04/18
18K1072-02	Day 1	12/04/18
18K1072-03	VE 1-4	12/04/18
18K1072-04	VE 1-2	12/04/18
18K1072-05	VE 3-1	12/04/18
18K1072-06	VE 2-1	12/04/18
18K1072-07	Field Blank	12/04/18

BL80089-BLK1	Blank	12/04/18
BL80089-BLK2	Blank	12/04/18
BL80089-BS1	LCS	12/04/18
BL80089-BS2	LCS	12/04/18
BL80089-MS1	Matrix Spike	12/04/18
BL80089-MSD1	Matrix Spike Dup	12/04/18

Batch ID: BL80126 **Preparation Method:** EPA 5030B **Prepared By:** RDS

YORK Sample ID	Client Sample ID	Preparation Date
18K1072-01	VE 4-11	12/04/18
18K1072-02	Day 1	12/04/18
18K1072-03	VE 1-4	12/04/18
18K1072-04	VE 1-2	12/04/18
18K1072-06	VE 2-1	12/04/18
BL80126-BLK1	Blank	12/04/18
BL80126-BS1	LCS	12/04/18
BL80126-BSD1	LCS Dup	12/04/18

Batch ID: BL80302 **Preparation Method:** EPA SW846-3510C Low Level **Prepared By:** KNK

YORK Sample ID	Client Sample ID	Preparation Date
18K1072-05	VE 3-1	12/06/18
BL80302-BLK2	Blank	12/06/18
BL80302-BS2	LCS	12/06/18
BL80302-BSD2	LCS Dup	12/06/18

Batch ID: BL80463 **Preparation Method:** EPA 5030B **Prepared By:** AS

YORK Sample ID	Client Sample ID	Preparation Date
18K1072-07	Field Blank	12/10/18
BL80463-BLK1	Blank	12/10/18
BL80463-BS1	LCS	12/10/18
BL80463-BSD1	LCS Dup	12/10/18

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80052 - EPA 5030B											
Blank (BL80052-BLK1)								Prepared: 12/03/2018 Analyzed: 12/04/2018			
1,2,4-Trimethylbenzene	ND	0.50	ug/L								
1,3,5-Trimethylbenzene	ND	0.50	"								
Benzene	ND	0.50	"								
Ethyl Benzene	ND	0.50	"								
Isopropylbenzene	ND	0.50	"								
Methyl tert-butyl ether (MTBE)	ND	0.50	"								
Naphthalene	ND	2.0	"								
n-Butylbenzene	ND	0.50	"								
n-Propylbenzene	ND	0.50	"								
o-Xylene	ND	0.50	"								
p- & m- Xylenes	ND	1.0	"								
p-Isopropyltoluene	ND	0.50	"								
sec-Butylbenzene	ND	0.50	"								
Styrene	ND	0.50	"								
tert-Butylbenzene	ND	0.50	"								
Toluene	ND	0.50	"								
Xylenes, Total	ND	1.5	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*11.1*		*"*	*10.0*		*111*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*10.1*		*"*	*10.0*		*101*	*79-122*				
Surrogate: SURR: Toluene-d8	*9.35*		*"*	*10.0*		*93.5*	*81-117*				
LCS (BL80052-BS1)								Prepared: 12/03/2018 Analyzed: 12/04/2018			
1,2,4-Trimethylbenzene	8.3		ug/L	10.0		82.6	82-132				
1,3,5-Trimethylbenzene	8.5		"	10.0		84.9	80-131				
Benzene	9.3		"	10.0		92.6	85-126				
Ethyl Benzene	8.8		"	10.0		88.0	80-131				
Isopropylbenzene	8.5		"	10.0		84.6	76-140				
Methyl tert-butyl ether (MTBE)	10		"	10.0		104	76-135				
Naphthalene	9.4		"	10.0		94.5	70-147				
n-Butylbenzene	8.3		"	10.0		82.9	79-132				
n-Propylbenzene	8.6		"	10.0		86.2	78-133				
o-Xylene	8.8		"	10.0		87.8	78-130				
p- & m- Xylenes	17		"	20.0		86.2	77-133				
p-Isopropyltoluene	8.3		"	10.0		82.8	81-136				
sec-Butylbenzene	8.8		"	10.0		87.9	79-137				
Styrene	8.6		"	10.0		85.8	67-132				
tert-Butylbenzene	8.4		"	10.0		84.5	77-138				
Toluene	8.1		"	10.0		80.8	80-127				
Surrogate: SURR: 1,2-Dichloroethane-d4	*11.0*		*"*	*10.0*		*110*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*10.3*		*"*	*10.0*		*103*	*79-122*				
Surrogate: SURR: Toluene-d8	*9.22*		*"*	*10.0*		*92.2*	*81-117*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80052 - EPA 5030B											
LCS Dup (BL80052-BSD1)								Prepared: 12/03/2018 Analyzed: 12/04/2018			
1,2,4-Trimethylbenzene	8.1		ug/L	10.0		80.9	82-132	Low Bias	2.08	30	
1,3,5-Trimethylbenzene	8.2		"	10.0		82.5	80-131		2.87	30	
Benzene	9.2		"	10.0		92.5	85-126		0.108	30	
Ethyl Benzene	8.7		"	10.0		86.8	80-131		1.37	30	
Isopropylbenzene	8.4		"	10.0		84.4	76-140		0.237	30	
Methyl tert-butyl ether (MTBE)	10		"	10.0		101	76-135		2.15	30	
Naphthalene	9.1		"	10.0		91.3	70-147		3.44	30	
n-Butylbenzene	8.2		"	10.0		81.5	79-132		1.70	30	
n-Propylbenzene	8.3		"	10.0		83.4	78-133		3.30	30	
o-Xylene	8.6		"	10.0		86.4	78-130		1.61	30	
p- & m- Xylenes	17		"	20.0		85.8	77-133		0.407	30	
p-Isopropyltoluene	8.3		"	10.0		83.4	81-136		0.722	30	
sec-Butylbenzene	8.6		"	10.0		86.4	79-137		1.72	30	
Styrene	8.5		"	10.0		85.2	67-132		0.702	30	
tert-Butylbenzene	8.3		"	10.0		82.8	77-138		2.03	30	
Toluene	8.0		"	10.0		80.1	80-127		0.870	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*11.0*		*"*	*10.0*		*110*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*10.1*		*"*	*10.0*		*101*	*79-122*				
Surrogate: SURR: Toluene-d8	*9.08*		*"*	*10.0*		*90.8*	*81-117*				
Batch BL80126 - EPA 5030B											
Blank (BL80126-BLK1)								Prepared & Analyzed: 12/04/2018			
1,2,4-Trimethylbenzene	ND	0.50	ug/L								
1,3,5-Trimethylbenzene	ND	0.50	"								
Benzene	ND	0.50	"								
Ethyl Benzene	ND	0.50	"								
Isopropylbenzene	ND	0.50	"								
Methyl tert-butyl ether (MTBE)	ND	0.50	"								
Naphthalene	ND	2.0	"								
n-Butylbenzene	ND	0.50	"								
n-Propylbenzene	ND	0.50	"								
o-Xylene	ND	0.50	"								
p- & m- Xylenes	ND	1.0	"								
p-Isopropyltoluene	ND	0.50	"								
sec-Butylbenzene	ND	0.50	"								
Styrene	ND	0.50	"								
tert-Butylbenzene	ND	0.50	"								
Toluene	ND	0.50	"								
Xylenes, Total	ND	1.5	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*10.4*		*"*	*10.0*		*104*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*9.59*		*"*	*10.0*		*95.9*	*79-122*				
Surrogate: SURR: Toluene-d8	*10.0*		*"*	*10.0*		*100*	*81-117*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80126 - EPA 5030B											
LCS (BL80126-BS1)							Prepared & Analyzed: 12/04/2018				
1,2,4-Trimethylbenzene	9.4		ug/L	10.0		93.7	82-132				
1,3,5-Trimethylbenzene	9.5		"	10.0		95.1	80-131				
Benzene	9.3		"	10.0		93.4	85-126				
Ethyl Benzene	9.2		"	10.0		92.4	80-131				
Isopropylbenzene	9.4		"	10.0		94.0	76-140				
Methyl tert-butyl ether (MTBE)	8.1		"	10.0		81.4	76-135				
Naphthalene	10		"	10.0		103	70-147				
n-Butylbenzene	9.8		"	10.0		97.6	79-132				
n-Propylbenzene	9.6		"	10.0		96.0	78-133				
o-Xylene	9.3		"	10.0		92.8	78-130				
p- & m- Xylenes	19		"	20.0		92.8	77-133				
p-Isopropyltoluene	9.4		"	10.0		93.7	81-136				
sec-Butylbenzene	9.6		"	10.0		95.7	79-137				
Styrene	9.1		"	10.0		91.1	67-132				
tert-Butylbenzene	9.3		"	10.0		93.0	77-138				
Toluene	9.2		"	10.0		91.9	80-127				
Surrogate: SURR: 1,2-Dichloroethane-d4	*10.7*		*"*	*10.0*		*107*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*9.73*		*"*	*10.0*		*97.3*	*79-122*				
Surrogate: SURR: Toluene-d8	*9.96*		*"*	*10.0*		*99.6*	*81-117*				
LCS Dup (BL80126-BSD1)							Prepared & Analyzed: 12/04/2018				
1,2,4-Trimethylbenzene	9.8		ug/L	10.0		97.9	82-132		4.38	30	
1,3,5-Trimethylbenzene	10		"	10.0		104	80-131		8.75	30	
Benzene	10		"	10.0		103	85-126		9.87	30	
Ethyl Benzene	10		"	10.0		102	80-131		9.48	30	
Isopropylbenzene	10		"	10.0		102	76-140		8.07	30	
Methyl tert-butyl ether (MTBE)	11		"	10.0		113	76-135		32.2	30	Non-dir.
Naphthalene	11		"	10.0		115	70-147		10.7	30	
n-Butylbenzene	10		"	10.0		101	79-132		3.62	30	
n-Propylbenzene	11		"	10.0		110	78-133		13.2	30	
o-Xylene	10		"	10.0		101	78-130		8.66	30	
p- & m- Xylenes	20		"	20.0		101	77-133		8.81	30	
p-Isopropyltoluene	10		"	10.0		99.5	81-136		6.00	30	
sec-Butylbenzene	10		"	10.0		102	79-137		6.47	30	
Styrene	9.9		"	10.0		98.6	67-132		7.91	30	
tert-Butylbenzene	9.9		"	10.0		98.9	77-138		6.15	30	
Toluene	9.3		"	10.0		93.2	80-127		1.40	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*11.6*		*"*	*10.0*		*116*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*10.1*		*"*	*10.0*		*101*	*79-122*				
Surrogate: SURR: Toluene-d8	*9.59*		*"*	*10.0*		*95.9*	*81-117*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80463 - EPA 5030B											
Blank (BL80463-BLK1)								Prepared: 12/10/2018 Analyzed: 12/11/2018			
1,2,4-Trimethylbenzene	ND	0.50	ug/L								
1,3,5-Trimethylbenzene	ND	0.50	"								
Benzene	ND	0.50	"								
Ethyl Benzene	ND	0.50	"								
Isopropylbenzene	ND	0.50	"								
Methyl tert-butyl ether (MTBE)	ND	0.50	"								
Naphthalene	ND	2.0	"								
n-Butylbenzene	ND	0.50	"								
n-Propylbenzene	ND	0.50	"								
o-Xylene	ND	0.50	"								
p- & m- Xylenes	ND	1.0	"								
p-Isopropyltoluene	ND	0.50	"								
sec-Butylbenzene	ND	0.50	"								
Styrene	ND	0.50	"								
tert-Butylbenzene	ND	0.50	"								
Toluene	ND	0.50	"								
Xylenes, Total	ND	1.5	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*10.5*		*"*	*10.0*		*105*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*9.86*		*"*	*10.0*		*98.6*	*79-122*				
Surrogate: SURR: Toluene-d8	*9.94*		*"*	*10.0*		*99.4*	*81-117*				
LCS (BL80463-BS1)								Prepared: 12/10/2018 Analyzed: 12/11/2018			
1,2,4-Trimethylbenzene	7.6		ug/L	10.0		76.5	82-132	Low Bias			
1,3,5-Trimethylbenzene	8.1		"	10.0		80.9	80-131				
Benzene	9.1		"	10.0		91.2	85-126				
Ethyl Benzene	8.4		"	10.0		84.2	80-131				
Isopropylbenzene	8.0		"	10.0		80.1	76-140				
Methyl tert-butyl ether (MTBE)	10		"	10.0		100	76-135				
Naphthalene	11		"	10.0		109	70-147				
n-Butylbenzene	8.0		"	10.0		80.0	79-132				
n-Propylbenzene	8.4		"	10.0		83.7	78-133				
o-Xylene	8.5		"	10.0		85.0	78-130				
p- & m- Xylenes	18		"	20.0		87.9	77-133				
p-Isopropyltoluene	8.1		"	10.0		80.8	81-136	Low Bias			
sec-Butylbenzene	8.8		"	10.0		87.7	79-137				
Styrene	8.4		"	10.0		83.7	67-132				
tert-Butylbenzene	8.1		"	10.0		80.7	77-138				
Toluene	8.6		"	10.0		86.1	80-127				
Surrogate: SURR: 1,2-Dichloroethane-d4	*10.7*		*"*	*10.0*		*107*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*9.26*		*"*	*10.0*		*92.6*	*79-122*				
Surrogate: SURR: Toluene-d8	*9.97*		*"*	*10.0*		*99.7*	*81-117*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80463 - EPA 5030B											
LCS Dup (BL80463-BSD1)								Prepared: 12/10/2018 Analyzed: 12/11/2018			
1,2,4-Trimethylbenzene	8.0		ug/L	10.0		80.0	82-132	Low Bias	4.47	30	
1,3,5-Trimethylbenzene	8.1		"	10.0		81.3	80-131		0.493	30	
Benzene	8.3		"	10.0		83.3	85-126	Low Bias	9.05	30	
Ethyl Benzene	8.1		"	10.0		81.2	80-131		3.63	30	
Isopropylbenzene	8.2		"	10.0		81.5	76-140		1.73	30	
Methyl tert-butyl ether (MTBE)	12		"	10.0		124	76-135		21.7	30	
Naphthalene	11		"	10.0		106	70-147		2.88	30	
n-Butylbenzene	8.2		"	10.0		82.3	79-132		2.83	30	
n-Propylbenzene	8.7		"	10.0		87.2	78-133		4.10	30	
o-Xylene	7.7		"	10.0		77.4	78-130	Low Bias	9.36	30	
p- & m- Xylenes	16		"	20.0		81.7	77-133		7.31	30	
p-Isopropyltoluene	8.3		"	10.0		83.1	81-136		2.81	30	
sec-Butylbenzene	9.1		"	10.0		91.1	79-137		3.80	30	
Styrene	7.6		"	10.0		75.9	67-132		9.77	30	
tert-Butylbenzene	8.2		"	10.0		81.9	77-138		1.48	30	
Toluene	8.0		"	10.0		80.3	80-127		6.97	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.87*		*"*	*10.0*		*98.7*	*69-130*				
Surrogate: SURR: p-Bromofluorobenzene	*10.4*		*"*	*10.0*		*104*	*79-122*				
Surrogate: SURR: Toluene-d8	*10.1*		*"*	*10.0*		*101*	*81-117*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80089 - EPA 3510C											
Blank (BL80089-BLK1)									Prepared & Analyzed: 12/04/2018		
2-Methylnaphthalene	ND	5.00	ug/L								
Acenaphthene	ND	0.0500	"								
Acenaphthylene	ND	0.0500	"								
Anthracene	ND	0.0500	"								
Benzo(a)anthracene	ND	0.0500	"								
Benzo(a)pyrene	ND	0.0500	"								
Benzo(b)fluoranthene	ND	0.0500	"								
Benzo(g,h,i)perylene	ND	0.0500	"								
Benzo(k)fluoranthene	ND	0.0500	"								
Chrysene	ND	0.0500	"								
Dibenzo(a,h)anthracene	ND	0.0500	"								
Fluoranthene	ND	0.0500	"								
Fluorene	ND	0.0500	"								
Indeno(1,2,3-cd)pyrene	ND	0.0500	"								
Naphthalene	ND	0.0500	"								
Phenanthrene	ND	0.0500	"								
Pyrene	ND	0.0500	"								
Surrogate: SURR: Nitrobenzene-d5	*19.6*		*"*	*25.0*		*78.3*	*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*18.1*		*"*	*25.0*		*72.4*	*39.9-105*				
Surrogate: SURR: Terphenyl-d14	*21.7*		*"*	*25.0*		*86.8*	*30.7-106*				
Blank (BL80089-BLK2)									Prepared & Analyzed: 12/04/2018		
2-Methylnaphthalene	ND	5.00	ug/L								
Acenaphthene	ND	0.0500	"								
Acenaphthylene	ND	0.0500	"								
Anthracene	ND	0.0500	"								
Benzo(a)anthracene	ND	0.0500	"								
Benzo(a)pyrene	ND	0.0500	"								
Benzo(b)fluoranthene	ND	0.0500	"								
Benzo(g,h,i)perylene	ND	0.0500	"								
Benzo(k)fluoranthene	ND	0.0500	"								
Chrysene	ND	0.0500	"								
Dibenzo(a,h)anthracene	ND	0.0500	"								
Fluoranthene	ND	0.0500	"								
Fluorene	ND	0.0500	"								
Indeno(1,2,3-cd)pyrene	ND	0.0500	"								
Naphthalene	ND	0.0500	"								
Phenanthrene	ND	0.0500	"								
Pyrene	ND	0.0500	"								
Surrogate: SURR: Nitrobenzene-d5	*0.00*		*"*	*25.0*			*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.00*		*"*	*25.0*			*39.9-105*				
Surrogate: SURR: Terphenyl-d14	*0.00*		*"*	*25.0*			*30.7-106*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80089 - EPA 3510C											
LCS (BL80089-BS1)								Prepared & Analyzed: 12/04/2018			
2-Methylnaphthalene	19.4	5.00	ug/L	25.0		77.6	33-101				
Acenaphthene	18.4	0.0500	"	25.0		73.5	24-114				
Acenaphthylene	18.1	0.0500	"	25.0		72.3	26-112				
Anthracene	19.6	0.0500	"	25.0		78.2	35-114				
Benzo(a)anthracene	19.5	0.0500	"	25.0		77.8	38-127				
Benzo(a)pyrene	20.4	0.0500	"	25.0		81.7	30-146				
Benzo(b)fluoranthene	21.1	0.0500	"	25.0		84.4	36-145				
Benzo(g,h,i)perylene	22.8	0.0500	"	25.0		91.2	10-163				
Benzo(k)fluoranthene	21.1	0.0500	"	25.0		84.5	16-149				
Chrysene	20.2	0.0500	"	25.0		80.9	33-120				
Dibenzo(a,h)anthracene	21.8	0.0500	"	25.0		87.1	10-149				
Fluoranthene	20.0	0.0500	"	25.0		80.1	33-126				
Fluorene	19.2	0.0500	"	25.0		76.7	28-117				
Indeno(1,2,3-cd)pyrene	24.3	0.0500	"	25.0		97.2	10-150				
Naphthalene	16.0	0.0500	"	25.0		64.2	30-99				
Phenanthrene	19.4	0.0500	"	25.0		77.6	31-112				
Pyrene	18.5	0.0500	"	25.0		74.2	42-125				
Surrogate: SURR: Nitrobenzene-d5	*18.5*		*"*	*25.0*		*74.2*	*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*20.1*		*"*	*25.0*		*80.3*	*39.9-105*				
Surrogate: SURR: Terphenyl-d14	*20.0*		*"*	*25.0*		*79.8*	*30.7-106*				
LCS (BL80089-BS2)								Prepared & Analyzed: 12/04/2018			
2-Methylnaphthalene	ND	5.00	ug/L	1.00			33-101	Low Bias			
Acenaphthene	0.690	0.0500	"	1.00		69.0	24-114				
Acenaphthylene	0.650	0.0500	"	1.00		65.0	26-112				
Anthracene	0.780	0.0500	"	1.00		78.0	35-114				
Benzo(a)anthracene	0.810	0.0500	"	1.00		81.0	38-127				
Benzo(a)pyrene	0.830	0.0500	"	1.00		83.0	30-146				
Benzo(b)fluoranthene	0.890	0.0500	"	1.00		89.0	36-145				
Benzo(g,h,i)perylene	0.670	0.0500	"	1.00		67.0	10-163				
Benzo(k)fluoranthene	0.870	0.0500	"	1.00		87.0	16-149				
Chrysene	0.830	0.0500	"	1.00		83.0	33-120				
Dibenzo(a,h)anthracene	0.630	0.0500	"	1.00		63.0	10-149				
Fluoranthene	0.820	0.0500	"	1.00		82.0	33-126				
Fluorene	0.730	0.0500	"	1.00		73.0	28-117				
Indeno(1,2,3-cd)pyrene	0.670	0.0500	"	1.00		67.0	10-150				
Naphthalene	0.700	0.0500	"	1.00		70.0	30-99				
Phenanthrene	0.810	0.0500	"	1.00		81.0	31-112				
Pyrene	0.930	0.0500	"	1.00		93.0	42-125				
Surrogate: SURR: Nitrobenzene-d5	*0.00*		*"*	*25.0*			*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.00*		*"*	*25.0*			*39.9-105*				
Surrogate: SURR: Terphenyl-d14	*0.00*		*"*	*25.0*			*30.7-106*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80089 - EPA 3510C											
Matrix Spike (BL80089-MS1)	*Source sample: 18K1072-01 (VE 4-11)							Prepared & Analyzed: 12/04/2018			
2-Methylnaphthalene	15.8	5.13	ug/L	25.6	ND	61.6	29-102				
Acenaphthene	13.4	0.0513	"	25.6	ND	52.1	17-132				
Acenaphthylene	14.2	0.0513	"	25.6	ND	55.4	13-124				
Anthracene	14.3	0.0513	"	25.6	ND	55.7	40-105				
Benzo(a)anthracene	12.7	0.0513	"	25.6	ND	49.6	23-141				
Benzo(a)pyrene	14.1	0.0513	"	25.6	ND	55.2	46-118				
Benzo(b)fluoranthene	13.0	0.0513	"	25.6	ND	50.6	22-133				
Benzo(g,h,i)perylene	15.5	0.0513	"	25.6	ND	60.4	10-126				
Benzo(k)fluoranthene	13.2	0.0513	"	25.6	ND	51.4	18-152				
Chrysene	13.1	0.0513	"	25.6	ND	51.0	30-127				
Dibenzo(a,h)anthracene	13.1	0.0513	"	25.6	ND	51.2	10-131				
Fluoranthene	13.9	0.0513	"	25.6	ND	54.0	29-123				
Fluorene	14.6	0.0513	"	25.6	ND	57.0	20-133				
Indeno(1,2,3-cd)pyrene	14.6	0.0513	"	25.6	ND	56.9	10-130				
Naphthalene	16.1	0.0513	"	25.6	ND	62.9	26-104				
Phenanthrene	14.9	0.0513	"	25.6	ND	58.0	29-121				
Pyrene	13.0	0.0513	"	25.6	ND	50.5	34-129				
Surrogate: SURR: Nitrobenzene-d5	*17.2*		*"*	*25.6*		*67.2*	*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*15.5*		*"*	*25.6*		*60.4*	*39.9-105*				
Surrogate: SURR: Terphenyl-d14	*12.9*		*"*	*25.6*		*50.2*	*30.7-106*				
Matrix Spike Dup (BL80089-MSD1)	*Source sample: 18K1072-01 (VE 4-11)							Prepared & Analyzed: 12/04/2018			
2-Methylnaphthalene	16.6	5.13	ug/L	25.6	ND	64.8	29-102		5.00	20	
Acenaphthene	14.8	0.0513	"	25.6	ND	57.9	17-132		10.5	20	
Acenaphthylene	14.0	0.0513	"	25.6	ND	54.7	13-124		1.31	20	
Anthracene	14.4	0.0513	"	25.6	ND	56.0	40-105		0.501	20	
Benzo(a)anthracene	13.0	0.0513	"	25.6	ND	50.5	23-141		1.76	20	
Benzo(a)pyrene	14.1	0.0513	"	25.6	ND	55.1	46-118		0.145	20	
Benzo(b)fluoranthene	13.7	0.0513	"	25.6	ND	53.4	22-133		5.46	20	
Benzo(g,h,i)perylene	14.2	0.0513	"	25.6	ND	55.6	10-126		8.41	20	
Benzo(k)fluoranthene	14.0	0.0513	"	25.6	ND	54.4	18-152		5.82	20	
Chrysene	13.9	0.0513	"	25.6	ND	54.2	30-127		6.01	20	
Dibenzo(a,h)anthracene	14.8	0.0513	"	25.6	ND	57.6	10-131		11.8	20	
Fluoranthene	14.5	0.0513	"	25.6	ND	56.6	29-123		4.63	20	
Fluorene	14.5	0.0513	"	25.6	ND	56.4	20-133		1.20	20	
Indeno(1,2,3-cd)pyrene	15.7	0.0513	"	25.6	ND	61.4	10-130		7.64	20	
Naphthalene	16.4	0.0513	"	25.6	ND	63.8	26-104		1.45	20	
Phenanthrene	15.6	0.0513	"	25.6	ND	60.7	29-121		4.51	20	
Pyrene	12.9	0.0513	"	25.6	ND	50.5	34-129		0.0792	20	
Surrogate: SURR: Nitrobenzene-d5	*17.5*		*"*	*25.6*		*68.3*	*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*16.4*		*"*	*25.6*		*64.1*	*39.9-105*				
Surrogate: SURR: Terphenyl-d14	*14.3*		*"*	*25.6*		*55.8*	*30.7-106*				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80088 - EPA SW846-3510C Low Level											
Blank (BL80088-BLK2)								Prepared & Analyzed: 12/04/2018			
Aroclor 1016	ND	0.0500	ug/L								
Aroclor 1221	ND	0.0500	"								
Aroclor 1232	ND	0.0500	"								
Aroclor 1242	ND	0.0500	"								
Aroclor 1248	ND	0.0500	"								
Aroclor 1254	ND	0.0500	"								
Aroclor 1260	ND	0.0500	"								
Total PCBs	ND	0.0500	"								
Surrogate: Tetrachloro-m-xylene	*0.228*		*"*	*0.202*		*113*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.182*		*"*	*0.201*		*90.5*	*30-120*				
LCS (BL80088-BS2)								Prepared & Analyzed: 12/04/2018			
Aroclor 1016	1.02	0.0500	ug/L	1.00		102	40-120				
Aroclor 1260	1.11	0.0500	"	1.00		111	40-120				
Surrogate: Tetrachloro-m-xylene	*0.224*		*"*	*0.202*		*111*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.171*		*"*	*0.201*		*85.1*	*30-120*				
LCS Dup (BL80088-BSD2)								Prepared & Analyzed: 12/04/2018			
Aroclor 1016	0.997	0.0500	ug/L	1.00		99.7	40-120		2.22	30	
Aroclor 1260	1.05	0.0500	"	1.00		105	40-120		5.79	30	
Surrogate: Tetrachloro-m-xylene	*0.220*		*"*	*0.202*		*109*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.163*		*"*	*0.201*		*81.1*	*30-120*				
Batch BL80302 - EPA SW846-3510C Low Level											
Blank (BL80302-BLK2)								Prepared & Analyzed: 12/06/2018			
Aroclor 1016	ND	0.0500	ug/L								
Aroclor 1221	ND	0.0500	"								
Aroclor 1232	ND	0.0500	"								
Aroclor 1242	ND	0.0500	"								
Aroclor 1248	ND	0.0500	"								
Aroclor 1254	ND	0.0500	"								
Aroclor 1260	ND	0.0500	"								
Total PCBs	ND	0.0500	"								
Surrogate: Tetrachloro-m-xylene	*0.256*		*"*	*0.202*		*127*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.215*		*"*	*0.201*		*107*	*30-120*				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BL80302 - EPA SW846-3510C Low Level											
LCS (BL80302-BS2)								Prepared & Analyzed: 12/06/2018			
Aroclor 1016	0.999	0.0500	ug/L	1.00		99.9	40-120				
Aroclor 1260	1.13	0.0500	"	1.00		113	40-120				
Surrogate: Tetrachloro-m-xylene	*0.226*		*"*	*0.202*		*112*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.197*		*"*	*0.201*		*98.0*	*30-120*				
LCS Dup (BL80302-BSD2)								Prepared & Analyzed: 12/06/2018			
Aroclor 1016	1.02	0.0500	ug/L	1.00		102	40-120		1.77	30	
Aroclor 1260	1.16	0.0500	"	1.00		116	40-120		3.04	30	
Surrogate: Tetrachloro-m-xylene	*0.233*		*"*	*0.202*		*115*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.204*		*"*	*0.201*		*101*	*30-120*				

Metals by ICP/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BK81619 - EPA 3015A											
Blank (BK81619-BLK1)										Prepared: 11/30/2018 Analyzed: 12/05/2018	
Arsenic	ND	1.11	ug/L								
Chromium	ND	1.11	"								
Copper	ND	1.11	"								
Lead	ND	1.11	"								
LCS (BK81619-BS1)										Prepared: 11/30/2018 Analyzed: 12/05/2018	
Arsenic	49.6		ug/L	50.0		99.2	80-120				
Chromium	53.4		"	50.0		107	80-120				
Copper	53.0		"	50.0		106	80-120				
Lead	48.4		"	50.0		96.7	80-120				
Duplicate (BK81619-DUP1)	*Source sample: 18K1072-01 (VE 4-11)									Prepared: 11/30/2018 Analyzed: 12/05/2018	
Arsenic	ND	1.11	ug/L		ND					20	
Chromium	ND	1.11	"		ND					20	
Copper	6.13	1.11	"		6.13				0.137	20	
Lead	ND	1.11	"		ND					20	
Matrix Spike (BK81619-MS1)	*Source sample: 18K1072-01 (VE 4-11)									Prepared: 11/30/2018 Analyzed: 12/05/2018	
Arsenic	48.0		ug/L	50.0	0.240	95.5	75-125				
Chromium	56.8		"	50.0	0.180	113	75-125				
Copper	58.0		"	50.0	5.51	105	75-125				
Lead	44.6		"	50.0	0.035	89.1	75-125				

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
18K1072-01	VE 4-11	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
18K1072-02	Day 1	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
18K1072-03	VE 1-4	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
18K1072-04	VE 1-2	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
18K1072-05	VE 3-1	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
18K1072-06	VE 2-1	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
18K1072-07	Field Blank	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
18K1072-08	Trip Blank	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C

Sample and Data Qualifiers Relating to This Work Order

SCAL-E	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%).
S-09	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect confirmed by re-extraction and re-analysis of the sample.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
M-SRD1	The serial dilution for this element was outside control limits.
M-ICV2	The recovery for this element in the ICV was outside the 90-110% recovery criteria.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
EXT-EM	The sample exhibited emulsion formation during the extraction process. This may affect surrogate recoveries.

Definitions and Other Explanations

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

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

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

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

Certification for pH is no longer offered by NYDOH ELAP.

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

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

Corrective Action: Only two 1 liter amber containers were received for sample Field Blank not four as indicated on the COC.

York Analytical Laboratories, Inc.
120 Research Drive, Stratford, CT 06615 | 132-02 89th Ave, Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record

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

YORK Project No. 18K1072

Page ____ of ____

YOUR Information	Report To:	Invoice To:	YOUR Project Number	Turn-Around Time
Company: MNR	Company: MNR +	Company: MNR		RUSH - Next Day
Address:	Address: Tom Roszak DAY ENGINEERING	Address:	YOUR Project Name: MNR Harman OU 2	RUSH - Two Day
Phone.:	Phone.:	Phone.:		RUSH - Three Day
Contact:	Contact:	Contact:		RUSH - Four Day
E-mail:	E-mail:	E-mail:	YOUR PO#:	Standard (5-7 Day) X

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

T Roszak S Reese

Samples Collected by: (print your name above and sign below)

T Roszak

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

Samples From
New York X
New Jersey
Connecticut
Pennsylvania
Other

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

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

Sample Identification	Sample Matrix	Date/Time Sampled	Analysis Requested	Container Description
VE 4-11	GW	11/27/18 930	CP51 VOCs + chlorobenzene (8260)	(3) 40ml VOA / HCl
DAY 1		1110	CP51 SVOCs + 2 methylnapthalene (8270)	(2) 1L amber / unpres.
VE 1-4		1340	PCBs (8080)	(2) 1L amber / unpres.
VE 1-2		1430	As, Cr, Pb, Cu	(1) 250ml / HNO_3
VE 3-1		11/28/18		
VE 2-1		↓		
VE 4-11 MS		11/27/18 930		
VE 4-11 MSD		↓ ↓		
FIELD BLANK		11/28/18 1111		

Comments:

Preservation: (check all that apply)
HCl ✓ MeOH ___ HNO_3 ✓ H_2SO_4 ___ NaOH ___ ZnAc ___
Ascorbic Acid ___ Other: Ice

Special Instruction
Field Filtered ___
Lab to Filter ___

Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time
T Roszak/Day Engineering	11/28/18 1130		11-29-18 7:00		11-29-18 1458
Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time
Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Received in LAB by	Date/Time / Temp. Received at Lab
				TC	11/29/18 1458 / 1.9 Degrees C

Technical Report

prepared for:

Metro North Commuter Railroad
525 North Broadway
White Plains NY, 10603
Attention: Joanne Reilly

Report Date: 12/12/2018
Client Project ID: MNR Harmon OU2
York Project (SDG) No.: 18K1075

Report Date: 12/12/2018
Client Project ID: MNR Harmon OU2
York Project (SDG) No.: 18K1075

Metro North Commuter Railroad
525 North Broadway
White Plains NY, 10603
Attention: Joanne Reilly

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on November 29, 2018 and listed below. The project was identified as your project: **MNR Harmon OU2**.

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

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

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

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

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

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
18K1075-01	VE 4-11	Water	11/27/2018	11/29/2018
18K1075-02	VE 1-4	Water	11/27/2018	11/29/2018
18K1075-03	VE 2-1	Water	11/28/2018	11/29/2018
18K1075-04	VE 2-1 DUP	Water	11/28/2018	11/29/2018
18K1075-05	Field Blank	Water	11/28/2018	11/29/2018
18K1075-06	Equipment Blank	Water	11/28/2018	11/29/2018

General Notes for York Project (SDG) No.: 18K1075

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

Approved By: 

Date: 12/12/2018

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: VE 4-11 **York Sample ID:** 18K1075-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1075	MNR Harmon OU2	Water	November 27, 2018 9:30 am	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

PFAS in Water by EPA 537

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Perfluoropentanoic acid (PFPeA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-24-4	Perfluorohexanoic acid (PFHxA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-85-9	Perfluoroheptanoic acid (PFHpA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-67-1	Perfluorooctanoic acid (PFOA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-95-1	Perfluorononanoic acid (PFNA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-76-2	Perfluorodecanoic acid (PFDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NMeFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NEtFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-55-1	Perfluorododecanoic acid (PFDoA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
376-06-7	Perfluorotetradecanoic acid (PFTA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	

Surrogate Recoveries	Result	Acceptance Range
Surrogate: 13C-PFHxA	*%*	*70-130*
Surrogate: 13C-PFDA	*%*	*70-130*
Surrogate: d5-N-EtFOSAA	*%*	*70-130*

Sample Information

Client Sample ID: VE 1-4 **York Sample ID:** 18K1075-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1075	MNR Harmon OU2	Water	November 27, 2018 1:40 pm	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

PFAS in Water by EPA 537 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Perfluoropentanoic acid (PFPeA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-24-4	Perfluorohexanoic acid (PFHxA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-85-9	Perfluoroheptanoic acid (PFHpA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-67-1	Perfluorooctanoic acid (PFOA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-95-1	Perfluorononanoic acid (PFNA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-76-2	Perfluorodecanoic acid (PFDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NMeFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NEtFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-55-1	Perfluorododecanoic acid (PFDoA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
376-06-7	Perfluorotetradecanoic acid (PFTA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	

Surrogate Recoveries	Result	Acceptance Range
Surrogate: 13C-PFHxA	*%*	*70-130*
Surrogate: 13C-PFDA	*%*	*70-130*
Surrogate: d5-N-EtFOSAA	*%*	*70-130*

Sample Information

Client Sample ID: VE 2-1 **York Sample ID:** 18K1075-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1075	MNR Harmon OU2	Water	November 28, 2018 9:45 am	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

PFAS in Water by EPA 537 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Perfluoropentanoic acid (PFPeA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-24-4	Perfluorohexanoic acid (PFHxA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-85-9	Perfluoroheptanoic acid (PFHpA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-67-1	Perfluorooctanoic acid (PFOA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-95-1	Perfluorononanoic acid (PFNA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-76-2	Perfluorodecanoic acid (PFDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NMeFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NEtFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-55-1	Perfluorododecanoic acid (PFDoA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
376-06-7	Perfluorotetradecanoic acid (PFTA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	

Surrogate Recoveries	Result	Acceptance Range
Surrogate: 13C-PFHxA	*%*	*70-130*
Surrogate: 13C-PFDA	*%*	*70-130*
Surrogate: d5-N-EtFOSAA	*%*	*70-130*

Sample Information

Client Sample ID: VE 2-1 DUP

York Sample ID: 18K1075-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1075	MNR Harmon OU2	Water	November 28, 2018 9:45 am	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

PFAS in Water by EPA 537

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Perfluoropentanoic acid (PFPeA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-24-4	Perfluorohexanoic acid (PFHxA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-85-9	Perfluoroheptanoic acid (PFHpA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-67-1	Perfluorooctanoic acid (PFOA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-95-1	Perfluorononanoic acid (PFNA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-76-2	Perfluorodecanoic acid (PFDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NMeFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NEtFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-55-1	Perfluorododecanoic acid (PFDoA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
376-06-7	Perfluorotetradecanoic acid (PFTA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	

Surrogate Recoveries	Result	Acceptance Range
Surrogate: 13C-PFHxA	*%*	*70-130*
Surrogate: 13C-PFDA	*%*	*70-130*
Surrogate: d5-N-EtFOSAA	*%*	*70-130*

Sample Information

Client Sample ID: **Field Blank** **York Sample ID:** **18K1075-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1075	MNR Harmon OU2	Water	November 28, 2018 11:00 am	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

PFAS in Water by EPA 537 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Perfluoropentanoic acid (PFPeA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-24-4	Perfluorohexanoic acid (PFHxA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-85-9	Perfluoroheptanoic acid (PFHpA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-67-1	Perfluorooctanoic acid (PFOA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-95-1	Perfluorononanoic acid (PFNA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-76-2	Perfluorodecanoic acid (PFDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NMeFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NEtFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-55-1	Perfluorododecanoic acid (PFDoA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
376-06-7	Perfluorotetradecanoic acid (PFTA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	

Surrogate Recoveries	Result	Acceptance Range
Surrogate: 13C-PFHxA	*%*	*70-130*
Surrogate: 13C-PFDA	*%*	*70-130*
Surrogate: d5-N-EtFOSAA	*%*	*70-130*

Sample Information

Client Sample ID: **Equipment Blank** **York Sample ID:** **18K1075-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1075	MNR Harmon OU2	Water	November 28, 2018 11:05 am	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

PFAS in Water by EPA 537 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Perfluoropentanoic acid (PFPeA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-24-4	Perfluorohexanoic acid (PFHxA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-85-9	Perfluoroheptanoic acid (PFHpA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-67-1	Perfluorooctanoic acid (PFOA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
375-95-1	Perfluorononanoic acid (PFNA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
335-76-2	Perfluorodecanoic acid (PFDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NMeFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
2058-94-8	Perfluoroundecanoic acid (PFUnA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
	NEtFOSAA	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
307-55-1	Perfluorododecanoic acid (PFDoA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	
376-06-7	Perfluorotetradecanoic acid (PFTA)	See attached		ng/L	See attacl	1	See attached Certifications:	12/06/2018 00:00	12/12/2018 00:00	

Surrogate Recoveries	Result	Acceptance Range
Surrogate: 13C-PFHxA	*%*	*70-130*
Surrogate: 13C-PFDA	*%*	*70-130*
Surrogate: d5-N-EtFOSAA	*%*	*70-130*

Sample and Data Qualifiers Relating to This Work Order

See attach See attached

Definitions and Other Explanations

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

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

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

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

Certification for pH is no longer offered by NYDOH ELAP.

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

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

York Analytical Laboratories, Inc.
120 Research Drive, Stratford, CT 06615 | 132-02 89th Ave, Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record

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

YORK Project No. 18K1075

Page ____ of ____

YOUR Information	Report To:	Invoice To:	YOUR Project Number	Turn-Around Time
Company: MNR	Company: MNR +	Company: MNR		RUSH - Next Day
Address:	Address: Tom Roszak, Day Engineering	Address:	YOUR Project Name: MNR Harman OU 2	RUSH - Two Day
Phone.:	Phone.:	Phone.:		RUSH - Three Day
Contact:	Contact:	Contact:		RUSH - Four Day
E-mail:	E-mail:	E-mail:	YOUR PO#:	Standard (5-7 Day) X

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

TRoszak SReese

Samples Collected by: (print your name above and sign below)

TRoszak SR

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

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

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

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

Sample Identification	Sample Matrix	Date/Time Sampled	Analysis Requested	Container Description
VE 4-11	GW	11/27/18 0930	PFAS	(2) 250ml / unpres.
VE 4-11 MS	↓	↓	↓	↓
VE 4-11 MSD	↓	↓	↓	↓
VE 1-4	↓	↓ 1340	↓	↓
VE 2-1	↓	11/28/18 0945	↓	↓
VE 2-1 Dup	↓	↓ 0945	↓	↓
Field Blank	DI WATER	↓ 1100	↓	(1) 250ml / unpres.
Equipment Blank	↓	↓ 1105	↓	↓

Comments:

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

Special Instruction: Field Filtered ____ Lab to Filter ____

Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time
TRoszak / Day Engineering	11/28/18 1130		11-29-18 7:00		11-29-18 1458
Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time
Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Received at LAB by	Date/Time / Temp. Received at Lab
				TC Fahle	11/29/18 1458 / 1.8 Degrees C

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 12, 2018

Richard August
York Analytical Labs
120 Research Drive
Stratford, CT 06615

Project Location: 18K1075
Client Job Number:
Project Number: 18K1075
Laboratory Work Order Number: 18K1317

Enclosed are results of analyses for samples received by the laboratory on November 30, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerry K. McGee
Project Manager

Table of Contents

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

York Analytical Labs
120 Research Drive
Stratford, CT 06615
ATTN: Richard August

REPORT DATE: 12/12/2018

PURCHASE ORDER NUMBER: 18K1075

PROJECT NUMBER: 18K1075

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 18K1317

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 18K1075

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
VE 4-11	18K1317-01	Water		SOP 434-PFAAS	
VE 1-4	18K1317-02	Water		SOP 434-PFAAS	
VE 2-1	18K1317-03	Water		SOP 434-PFAAS	
VE 2-1 DUP	18K1317-04	Water		SOP 434-PFAAS	
Field Blank	18K1317-05	Field Blank		SOP 434-PFAAS	
Equipment Blank	18K1317-06	Equipment Blank Water		SOP 434-PFAAS	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Qualifications:

L-03

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Perfluorobutanoic acid (PFBA)
B218622-BS1

MS-07

Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery.Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:

Perfluorohexanoic acid (PFHxA)
B218622-MSD2

MS-08

Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

Perfluorobutanesulfonic acid (PFB
B218622-MSD2

MS-10

Matrix spike recovery is outside of control limits. Compound is classified as a "difficult analyte" and reduced accuracy is anticipated for spike recoveries. Wider limits are used for laboratory fortified blank control samples.

Analyte & Samples(s) Qualified:

Perfluorobutanoic acid (PFBA)
B218622-MS2, B218622-MSD2

MS-11

Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

NEtFOSAA
B218622-MS2

Perfluorobutanesulfonic acid (PFB
B218622-MS2

Perfluorodecanoic acid (PFDA)
B218622-MS2

Perfluoroheptanoic acid (PFHpA)
B218622-MS2

Perfluorohexanoic acid (PFHxA)
B218622-MS2

Perfluorooctanesulfonic acid (PFO
B218622-MS2

MS-12

Matrix spike recovery and matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

8:2 Fluorotelomersulfonate (8:2 FT
B218622-MS2, B218622-MSD2

Perfluorododecanoic acid (PFDoA)
B218622-MS2, B218622-MSD2

Perfluorononanoic acid (PFNA)
B218622-MS2, B218622-MSD2

Perfluorotetradecanoic acid (PFTA
B218622-MS2, B218622-MSD2

Perfluorotridecanoic acid (PFTrDA
B218622-MS2, B218622-MSD2

Perfluoroundecanoic acid (PFUnA)
B218622-MS2, B218622-MSD2

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MS-23

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is outside of the method specified criteria. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

NEtFOSAA
B218622-MSD2

Perfluoroheptanoic acid (PFHpA)
B218622-MSD2

R-02

Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.

Analyte & Samples(s) Qualified:

6:2 Fluorotelomersulfonate (6:2 FT
B218622-MSD2

S-03

Surrogate recovery outside of control limits due to suspected sample matrix interference.

Analyte & Samples(s) Qualified:

13C-PFHxA
18K1317-01[VE 4-11], B218622-MS2, B218622-MSD2

V-17

Internal standard area <50% of associated calibration standard internal standard area. Reanalysis yielded similar internal standard non-conformance.

Analyte & Samples(s) Qualified:

13C-PFOA
18K1317-01[VE 4-11], B218622-MS2, B218622-MSD2

d3-NMeFOSAA
B218622-MS2

V-18

Internal standard area >200% of associated calibration standard internal standard area.

Analyte & Samples(s) Qualified:

6:2 Fluorotelomersulfonate (6:2 FT
B218622-MS2, B218622-MSD2

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18K1075 Sample Description: Work Order: 18K1317

Date Received: 11/30/2018

Field Sample #: VE 4-11 Sampled: 11/27/2018 09:30

Sample ID: 18K1317-01

Sample Matrix: Water

Semivolatile Organic Compounds by - GC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	15	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorohexanoic acid (PFHxA)	5.7	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
6:2 Fluorotelomersulfonate (6:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
8:2 Fluorotelomersulfonate (8:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorooctanesulfonic acid (PFOS)	4.2	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
NMeFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
NEtFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:10	KAF

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
13C-PFHxA	**49.9**	*	70-130	S-03	12/12/18	1:10
13C-PFDA	98.5		70-130		12/12/18	1:10
d5-NEtFOSAA	96.1		70-130		12/12/18	1:10

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18K1075 Sample Description: Work Order: 18K1317

Date Received: 11/30/2018

Field Sample #: VE 1-4 Sampled: 11/27/2018 13:40

Sample ID: 18K1317-02

Sample Matrix: Water

Semivolatile Organic Compounds by - GC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	13	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorohexanoic acid (PFHxA)	50	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluoroheptanoic acid (PFHpA)	45	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorobutanoic acid (PFBA)	10	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluoroheptanesulfonic acid (PFHpS)	2.2	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluoropentanoic acid (PFPeA)	93	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
6:2 Fluorotelomersulfonate (6:2 FTS)	50	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
8:2 Fluorotelomersulfonate (8:2 FTS)	5.3	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorohexanesulfonic acid (PFHxS)	11	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorooctanoic acid (PFOA)	50	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorooctanesulfonic acid (PFOS)	43	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorononanoic acid (PFNA)	7.1	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorodecanoic acid (PFDA)	4.1	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
NMeFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
NEtFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:23	KAF

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
13C-PFHxA	70.7	70-130			12/12/18 1:23
13C-PFDA	109	70-130			12/12/18 1:23
d5-NEtFOSAA	93.6	70-130			12/12/18 1:23

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18K1075 Sample Description: Work Order: 18K1317

Date Received: 11/30/2018

Field Sample #: VE 2-1 Sampled: 11/28/2018 09:45

Sample ID: 18K1317-03

Sample Matrix: Water

Semivolatile Organic Compounds by - GC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
6:2 Fluorotelomersulfonate (6:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
8:2 Fluorotelomersulfonate (8:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorohexanesulfonic acid (PFHxS)	3.4	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorooctanesulfonic acid (PFOS)	16	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
NMeFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
NEtFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:36	KAF

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
13C-PFHxA	76.2	70-130			12/12/18 1:36
13C-PFDA	86.4	70-130			12/12/18 1:36
d5-NEtFOSAA	85.9	70-130			12/12/18 1:36

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18K1075 Sample Description: Work Order: 18K1317

Date Received: 11/30/2018

Field Sample #: VE 2-1 DUP Sampled: 11/28/2018 09:45

Sample ID: 18K1317-04

Sample Matrix: Water

Semivolatile Organic Compounds by - GC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
6:2 Fluorotelomersulfonate (6:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
8:2 Fluorotelomersulfonate (8:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorohexanesulfonic acid (PFHxS)	5.4	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorooctanesulfonic acid (PFOS)	21	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
NMeFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
NEtFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 1:48	KAF

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
13C-PFHxA	82.5	70-130		12/12/18	1:48
13C-PFDA	71.3	70-130		12/12/18	1:48
d5-NEtFOSAA	89.0	70-130		12/12/18	1:48

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18K1075 Sample Description: Work Order: 18K1317

Date Received: 11/30/2018

Field Sample #: Field Blank Sampled: 11/28/2018 11:00

Sample ID: 18K1317-05

Sample Matrix: Field Blank

Semivolatile Organic Compounds by - GC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
6:2 Fluorotelomersulfonate (6:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
8:2 Fluorotelomersulfonate (8:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorooctanesulfonic acid (PFOS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
NMeFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
NEtFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:01	KAF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	90.8	70-130		12/12/18 2:01
13C-PFDA	78.2	70-130		12/12/18 2:01
d5-NEtFOSAA	99.8	70-130		12/12/18 2:01

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 18K1075 Sample Description: Work Order: 18K1317

Date Received: 11/30/2018

Field Sample #: Equipment Blank Sampled: 11/28/2018 11:05

Sample ID: 18K1317-06

Sample Matrix: Equipment Blank Water

Semivolatile Organic Compounds by - GC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
6:2 Fluorotelomersulfonate (6:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
8:2 Fluorotelomersulfonate (8:2 FTS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorooctanesulfonic acid (PFOS)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
NMeFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
NEtFOSAA	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L	1		SOP 434-PFAAS	12/6/18	12/12/18 2:14	KAF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	92.7	70-130		12/12/18 2:14
13C-PFDA	93.7	70-130		12/12/18 2:14
d5-NEtFOSAA	83.2	70-130		12/12/18 2:14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: EPA 537-SOP 434-PFAAS

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18K1317-01 [VE 4-11]	B218622	250	1.00	12/06/18
18K1317-02 [VE 1-4]	B218622	250	1.00	12/06/18
18K1317-03 [VE 2-1]	B218622	250	1.00	12/06/18
18K1317-04 [VE 2-1 DUP]	B218622	250	1.00	12/06/18
18K1317-05 [Field Blank]	B218622	250	1.00	12/06/18
18K1317-06 [Equipment Blank]	B218622	250	1.00	12/06/18

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B218622 - EPA 537											
Blank (B218622-BLK1)				Prepared: 12/06/18 Analyzed: 12/11/18							
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L								
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L								
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L								
Perfluorobutanoic acid (PFBA)	ND	2.0	ng/L								
Perfluorodecanesulfonic acid (PFDS)	ND	2.0	ng/L								
Perfluoroheptanesulfonic acid (PFHpS)	ND	2.0	ng/L								
Perfluorooctanesulfonamide (FOSA)	ND	2.0	ng/L								
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L								
6:2 Fluorotelomersulfonate (6:2 FTS)	ND	2.0	ng/L								
8:2 Fluorotelomersulfonate (8:2 FTS)	ND	2.0	ng/L								
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L								
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L								
Perfluorooctanesulfonic acid (PFOS)	ND	2.0	ng/L								
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L								
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L								
NMeFOSAA	ND	2.0	ng/L								
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L								
NEtFOSAA	ND	2.0	ng/L								
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L								
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L								
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L								
Surrogate: 13C-PFHxA	*35.0*		ng/L	40.0		87.4		70-130			
Surrogate: 13C-PFDA	*37.5*		ng/L	40.0		93.7		70-130			
Surrogate: d5-NEtFOSAA	*147*		ng/L	160		91.7		70-130			
LCS (B218622-BS1)				Prepared: 12/06/18 Analyzed: 12/11/18							
Perfluorobutanesulfonic acid (PFBS)	9.16	2.0	ng/L	8.85		104		70-130			
Perfluorohexanoic acid (PFHxA)	11.1	2.0	ng/L	10.0		111		70-130			
Perfluoroheptanoic acid (PFHpA)	11.4	2.0	ng/L	10.0		114		70-130			
Perfluorobutanoic acid (PFBA)	2.85	2.0	ng/L	10.0		**28.5**	*	30-110			L-03
Perfluorodecanesulfonic acid (PFDS)	12.4	2.0	ng/L	9.65		128		70-130			
Perfluoroheptanesulfonic acid (PFHpS)	9.94	2.0	ng/L	9.50		105		70-130			
Perfluorooctanesulfonamide (FOSA)	4.35	2.0	ng/L	10.0		43.5		30-110			
Perfluoropentanoic acid (PFPeA)	10.0	2.0	ng/L	10.0		100		70-130			
6:2 Fluorotelomersulfonate (6:2 FTS)	12.3	2.0	ng/L	9.50		130		70-130			
8:2 Fluorotelomersulfonate (8:2 FTS)	12.5	2.0	ng/L	9.60		130		70-130			
Perfluorohexanesulfonic acid (PFHxS)	9.65	2.0	ng/L	9.10		106		70-130			
Perfluorooctanoic acid (PFOA)	11.3	2.0	ng/L	10.0		113		70-130			
Perfluorooctanesulfonic acid (PFOS)	11.5	2.0	ng/L	9.25		124		70-130			
Perfluorononanoic acid (PFNA)	12.9	2.0	ng/L	10.0		129		70-130			
Perfluorodecanoic acid (PFDA)	12.1	2.0	ng/L	10.0		121		70-130			
NMeFOSAA	11.0	2.0	ng/L	10.0		110		70-130			
Perfluoroundecanoic acid (PFUnA)	12.3	2.0	ng/L	10.0		123		70-130			
NEtFOSAA	10.3	2.0	ng/L	10.0		103		70-130			
Perfluorododecanoic acid (PFDoA)	13.0	2.0	ng/L	10.0		130		70-130			
Perfluorotridecanoic acid (PFTrDA)	12.8	2.0	ng/L	10.0		128		70-130			
Perfluorotetradecanoic acid (PFTA)	12.6	2.0	ng/L	10.0		126		70-130			
Surrogate: 13C-PFHxA	*41.5*		ng/L	40.0		104		70-130			
Surrogate: 13C-PFDA	*45.0*		ng/L	40.0		113		70-130			
Surrogate: d5-NEtFOSAA	*160*		ng/L	160		99.9		70-130			

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B218622 - EPA 537												
Matrix Spike (B218622-MS2)	**Source: 18K1317-01**			Prepared: 12/06/18 Analyzed: 12/11/18								
Perfluorobutanesulfonic acid (PFBS)	24.1	2.0	ng/L	8.85	15.1	101		70-130				MS-11
Perfluorohexanoic acid (PFHxA)	14.7	2.0	ng/L	10.0	5.66	90.1		70-130				MS-11
Perfluoroheptanoic acid (PFHpA)	18.9	2.0	ng/L	10.0	ND	**189**	*	70-130				MS-11
Perfluorobutanoic acid (PFBA)	2.68	2.0	ng/L	10.0	ND	**26.8**	*	30-110				MS-10
Perfluorodecanesulfonic acid (PFDS)	12.3	2.0	ng/L	9.65	ND	127		70-130				
Perfluoroheptanesulfonic acid (PFHpS)	9.38	2.0	ng/L	9.50	ND	98.8		70-130				
Perfluorooctanesulfonamide (FOSA)	5.15	2.0	ng/L	10.0	ND	51.5		30-110				
Perfluoropentanoic acid (PFPeA)	7.87	2.0	ng/L	10.0	ND	78.7		70-130				
6:2 Fluorotelomersulfonate (6:2 FTS)	36.3	2.0	ng/L	9.50	ND	**382**	*	70-130				V-18
8:2 Fluorotelomersulfonate (8:2 FTS)	40.1	2.0	ng/L	9.60	ND	**417**	*	70-130				MS-12
Perfluorohexanesulfonic acid (PFHxS)	11.3	2.0	ng/L	9.10	ND	124		70-130				
Perfluorooctanoic acid (PFOA)	11.5	2.0	ng/L	10.0	ND	115		70-130				
Perfluorooctanesulfonic acid (PFOS)	15.4	2.0	ng/L	9.25	4.24	121		70-130				MS-11
Perfluorononanoic acid (PFNA)	16.7	2.0	ng/L	10.0	ND	**167**	*	70-130				MS-12
Perfluorodecanoic acid (PFDA)	15.3	2.0	ng/L	10.0	ND	**153**	*	70-130				MS-11
NMeFOSAA	11.6	2.0	ng/L	10.0	ND	116		70-130				
Perfluoroundecanoic acid (PFUnA)	19.4	2.0	ng/L	10.0	ND	**194**	*	70-130				MS-12
NEtFOSAA	16.1	2.0	ng/L	10.0	ND	**161**	*	70-130				MS-11
Perfluorododecanoic acid (PFDoA)	21.7	2.0	ng/L	10.0	ND	**217**	*	70-130				MS-12
Perfluorotridecanoic acid (PFTrDA)	22.6	2.0	ng/L	10.0	ND	**226**	*	70-130				MS-12
Perfluorotetradecanoic acid (PFTA)	21.6	2.0	ng/L	10.0	ND	**216**	*	70-130				MS-12
Surrogate: 13C-PFHxA	*26.6*		ng/L	40.0		**66.6**	*	70-130				S-03
Surrogate: 13C-PFDA	*51.4*		ng/L	40.0		128		70-130				
Surrogate: d5-NEtFOSAA	*192*		ng/L	160		120		70-130				
Matrix Spike Dup (B218622-MSD2)	**Source: 18K1317-01**			Prepared: 12/06/18 Analyzed: 12/11/18								
Perfluorobutanesulfonic acid (PFBS)	20.3	2.0	ng/L	8.85	15.1	**58.4**	*	70-130	17.2		30	MS-08
Perfluorohexanoic acid (PFHxA)	10.9	2.0	ng/L	10.0	5.66	**52.7**	*	70-130	29.2		30	MS-07
Perfluoroheptanoic acid (PFHpA)	8.79	2.0	ng/L	10.0	ND	87.9		70-130	**73.2**	*	30	MS-23
Perfluorobutanoic acid (PFBA)	2.56	2.0	ng/L	10.0	ND	**25.6**	*	30-110	4.81		30	MS-10
Perfluorodecanesulfonic acid (PFDS)	12.6	2.0	ng/L	9.65	ND	130		70-130	2.45		30	
Perfluoroheptanesulfonic acid (PFHpS)	7.60	2.0	ng/L	9.50	ND	80.0		70-130	21.0		30	
Perfluorooctanesulfonamide (FOSA)	4.81	2.0	ng/L	10.0	ND	48.1		30-110	6.96		30	
Perfluoropentanoic acid (PFPeA)	8.09	2.0	ng/L	10.0	ND	80.9		70-130	2.76		30	
6:2 Fluorotelomersulfonate (6:2 FTS)	26.3	2.0	ng/L	9.50	ND	**277**	*	70-130	**31.9**	*	30	R-02, V-18
8:2 Fluorotelomersulfonate (8:2 FTS)	29.8	2.0	ng/L	9.60	ND	**311**	*	70-130	29.2		30	MS-12
Perfluorohexanesulfonic acid (PFHxS)	10.8	2.0	ng/L	9.10	ND	118		70-130	5.01		30	
Perfluorooctanoic acid (PFOA)	8.74	2.0	ng/L	10.0	ND	87.4		70-130	27.5		30	
Perfluorooctanesulfonic acid (PFOS)	12.7	2.0	ng/L	9.25	4.24	91.1		70-130	19.4		30	
Perfluorononanoic acid (PFNA)	13.6	2.0	ng/L	10.0	ND	**136**	*	70-130	20.0		30	MS-12
Perfluorodecanoic acid (PFDA)	11.4	2.0	ng/L	10.0	ND	114		70-130	29.1		30	
NMeFOSAA	8.59	2.0	ng/L	10.0	ND	85.9		70-130	29.7		30	
Perfluoroundecanoic acid (PFUnA)	14.6	2.0	ng/L	10.0	ND	**146**	*	70-130	28.3		30	MS-12
NEtFOSAA	10.7	2.0	ng/L	10.0	ND	107		70-130	**40.5**	*	30	MS-23
Perfluorododecanoic acid (PFDoA)	16.3	2.0	ng/L	10.0	ND	**163**	*	70-130	28.6		30	MS-12
Perfluorotridecanoic acid (PFTrDA)	17.1	2.0	ng/L	10.0	ND	**171**	*	70-130	27.7		30	MS-12
Perfluorotetradecanoic acid (PFTA)	17.3	2.0	ng/L	10.0	ND	**173**	*	70-130	21.9		30	MS-12
Surrogate: 13C-PFHxA	*20.9*		ng/L	40.0		**52.2**	*	70-130				S-03
Surrogate: 13C-PFDA	*41.0*		ng/L	40.0		102		70-130				
Surrogate: d5-NEtFOSAA	*157*		ng/L	160		97.9		70-130				

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.

L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
MS-07	Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery.Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.
MS-08	Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-10	Matrix spike recovery is outside of control limits. Compound is classified as a "difficult analyte" and reduced accuracy is anticipated for spike recoveries. Wider limits are used for laboratory fortified blank control samples.
MS-11	Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-12	Matrix spike recovery and matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-23	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is outside of the method specified criteria. Reduced precision anticipated for any reported result for this compound.
R-02	Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
S-03	Surrogate recovery outside of control limits due to suspected sample matrix interference.
V-17	Internal standard area <50% of associated calibration standard internal standard area. Reanalysis yielded similar internal standard non-conformance.
V-18	Internal standard area >200% of associated calibration standard internal standard area.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SOP 434-PFAAS in Water	
Perfluorobutanesulfonic acid (PFBS)	NH-P
Perfluorohexanoic acid (PFHxA)	NH-P
Perfluoroheptanoic acid (PFHpA)	NH-P
Perfluorobutanoic acid (PFBA)	NH-P
Perfluoropentanoic acid (PFPeA)	NH-P
6:2 Fluorotelomersulfonate (6:2 FTS)	NH-P
8:2 Fluorotelomersulfonate (8:2 FTS)	NH-P
Perfluorohexanesulfonic acid (PFHxS)	NH-P
Perfluorooctanoic acid (PFOA)	NH-P
Perfluorooctanesulfonic acid (PFOS)	NH-P
Perfluorononanoic acid (PFNA)	NH-P
Perfluorodecanoic acid (PFDA)	NH-P
NMeFOSAA	NH-P
Perfluoroundecanoic acid (PFUnA)	NH-P
NEtFOSAA	NH-P
Perfluorododecanoic acid (PFDoA)	NH-P
Perfluorotridecanoic acid (PFTrDA)	NH-P
Perfluorotetradecanoic acid (PFTA)	NH-P

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2019
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2019
NC-DW	North Carolina Department of Health	25703	07/31/2019

18K1317

YORK
Analytical Laboratories, Inc.

11/29/2018

SUBCONTRACT Notification, Purchase Order and Chain-of-Custody
York Project No.: 18K1075

This information is being sent to inform you that York intends to subcontract certain samples to another licensed laboratory for specific parameters that we cannot perform in-house. The specific paramters that will be subcontracted are detailed below. Do not contact the subcontract laboratory directly. Please contact the YORK project manager for further information.

Note: E-mail lab reports to: York_Lab_Report@yorklab.com **Mail/Fax Hard Copies to: York Analytical at the address below**

SENDING LABORATORY:

York Analytical Laboratories, Inc.
120 Research Drive
Stratford, CT 06615
Phone: 203.325.1371
Fax: 203.357.0166
Contact: **York Analytical**

RECEIVING LABORATORY:

Con-Test Analytical Laboratory
39 Spruce Street
East Long Meadow, MA 01028
Phone :(413) 525-2332
Fax: (413) 525-6405

York Ref: 18K1075-01

Sample ID: VE 4-11 **Matrix: Water** **Date Sampled : 11/27/2018 09:30**

1

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	**12/13/2018 16:30**	**12/11/2018 09:30**	

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A) 10_250mL Square Plastic Cool to 4° C (B) 10_250mL Square Plastic Cool to 4° C (C)
10_250mL Square Plastic Cool to 4° C (D) 10_250mL Square Plastic Cool to 4° C (E) 10_250mL Square Plastic Cool to 4° C (F)

York Ref: 18K1075-02

Sample ID: VE 1-4 **Matrix: Water** **Date Sampled : 11/27/2018 13:40**

2

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	**12/13/2018 16:30**	**12/11/2018 13:40**	

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A) 10_250mL Square Plastic Cool to 4° C (B)

York Purchase Order No.: 18K1075 Samples from State of: **NY**

Deliverables required: NYSDEC ASP B

EDDs required: NYSDEC EQUiS

Data Pkg DUE: 12/28/2018

Special Info:

Chain-of-Custody Information

Paul Grace	11/29/2018		11/30/18
Released By York Sample Control	Date	Received By	Date
~~Received By~~ Relinquished By	11/30/18 Date	Received in Subcontract Lab By	11/30/18 1656 Date

18K1317

YORK
Analytical Laboratories, Inc.

11/29/2018

SUBCONTRACT Notification, Purchase Order and Chain-of-Custody

York Project No.: 18K1075

This information is being sent to inform you that York intends to subcontract certain samples to another licensed laboratory for specific parameters that we cannot perform in-house. The specific paramters that will be subcontracted are detailed below. Do not contact the subcontract laboratory directly. Please contact the YORK project manager for further information.

Note: E-mail lab reports to: York_Lab_Report@yorklab.com **Mail/Fax Hard Copies to: York Analytical at the address below**

York Ref: 18K1075-03

Sample ID: VE 2-1 **Matrix: Water** **Date Sampled : 11/28/2018 09:45**

3

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	12/13/2018 16:30	12/12/2018 09:45	

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A) 10_250mL Square Plastic Cool to 4° C (B)

York Ref: 18K1075-04

Sample ID: VE 2-1 DUP **Matrix: Water** **Date Sampled : 11/28/2018 09:45**

4

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	12/13/2018 16:30	12/12/2018 09:45	

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A) 10_250mL Square Plastic Cool to 4° C (B)

York Ref: 18K1075-05

Sample ID: Field Blank **Matrix: Water** **Date Sampled : 11/28/2018 11:00**

5

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	12/13/2018 16:30	12/12/2018 11:00	

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A)

York Purchase Order No.: 18K1075

Samples from State of: **NY**

Deliverables required: NYSDEC ASP B

EDDs required: NYSDEC EQUiS

Data Pkg DUE: 12/28/2018

Special Info:

Chain-of-Custody Information

Paul Grace 11/29/2018			11/30/18
Released By York Sample Control	Date	Received By	Date
~~Received By~~ Relinquished By	11/30/18 Date	Received in Subcontract Lab By	2.2/5.7 11/30/18 1056 Date

18K1317

YORK
Analytical Laboratories, Inc.

11/29/2018

SUBCONTRACT Notification, Purchase Order and Chain-of-Custody

York Project No.: 18K1075

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Note: E-mail lab reports to: York_Lab_Report@yorklab.com **Mail/Fax Hard Copies to: York Analytical at the address below**

York Ref: 18K1075-06

Sample ID: Equipment Blank **Matrix: Water** **Date Sampled : 11/28/2018 11:05**

6

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	12/13/2018 16:30	12/12/2018 11:05	

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A)

York Purchase Order No.: 18K1075

Samples from State of: **NY**

Deliverables required: NYSDEC ASP B

EDDs required: NYSDEC EQUiS

Data Pkg DUE: 12/28/2018

Special Info:

Chain-of-Custody Information

Paul Grace 11/29/2018		11/30/18	
Released By York Sample Control	Date	Received By	Date
~~Received By~~ Relinquished By	Date 11/30/18	Received in Subcontract Lab By 2.2/5.7	Date 11/30/18 1056

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client York

Received By RAP Date 11/30/18 Time 1056

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____
Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 1 Actual Temp - 2.2 | 5.7
By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA
Was COC Relinquished ? T Does Chain Agree With Samples? T
Are there broken/leaking/loose caps on any samples? F
Is COC in ink/ Legible? T Were samples received within holding time? T
Did COC include all pertinent Information? Client T Project T Analysis T ID's T Sampler Name F Collection Dates/Times T
Are Sample labels filled out and legible? T
Are there Lab to Filters? F Who was notified? _____
Are there Rushes? F Who was notified? _____
Are there Short Holds? F Who was notified? _____
Is there enough Volume? T
Is there Headspace where applicable? F MS/MSD? NA T
Proper Media/Containers Used? T Is splitting samples required? F
Were trip blanks received? F On COC? F
Do all samples have the proper pH? NA Acid _____ Base _____

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	14	4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

Client sent an email confirming that sample 1 is MS/MSD. Updated COC is attached.

YORK
Analytical Laboratories, Inc.

11/29/2018

SUBCONTRACT Notification, Purchase Order and Chain-of-Custody
York Project No.: 18K1075

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Note: E-mail lab reports to: York_Lab_Report@yorklab.com **Mail/Fax Hard Copies to: York Analytical at the address below**

SENDING LABORATORY:

York Analytical Laboratories, Inc.
120 Research Drive
Stratford, CT 06615
Phone: 203.325.1371
Fax: 203.357.0166
Contact: **York Analytical**

RECEIVING LABORATORY:

Con-Test Analytical Laboratory
39 Spruce Street
East Long Meadow, MA 01028
Phone :(413) 525-2332
Fax: (413) 525-6405

York Ref: 18K1075-01

Sample ID: VE 4-11 **Matrix: Water** **Date Sampled : 11/27/2018 09:30**

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	12/13/2018 16:30	12/11/2018 09:30	MS/MSD

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A) 10_250mL Square Plastic Cool to 4° C (B) 10_250mL Square Plastic Cool to 4° C (C)
10_250mL Square Plastic Cool to 4° C (D) 10_250mL Square Plastic Cool to 4° C (E) 10_250mL Square Plastic Cool to 4° C (F)

York Ref: 18K1075-02

Sample ID: VE 1-4 **Matrix: Water** **Date Sampled : 11/27/2018 13:40**

Analysis Needed	Date Due	Holding Time Expires	Comments
PFAS in Water by EPA 537	12/13/2018 16:30	12/11/2018 13:40	

Containers Supplied:

10_250mL Square Plastic Cool to 4° C (A) 10_250mL Square Plastic Cool to 4° C (B)

York Purchase Order No.: 18K1075 Samples from State of: **NY**

Deliverables required: NYSDEC ASP B **Data Pkg DUE: 12/28/2018**

EDDs required: NYSDEC EQUiS **Special Info:**

Chain-of-Custody Information

Paul Grace 11/29/2018			
Released By York Sample Control	Date	Received By	Date
Received By	Date	Received in Subcontract Lab By	Date

Technical Report

prepared for:

Metro North Commuter Railroad
525 North Broadway
White Plains NY, 10603
Attention: Joanne Reilly

Report Date: 12/11/2018
Client Project ID: MNR Harmon OU 2
York Project (SDG) No.: 18K1076

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

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

Report Date: 12/11/2018
Client Project ID: MNR Harmon OU 2
York Project (SDG) No.: 18K1076

Metro North Commuter Railroad
525 North Broadway
White Plains NY, 10603
Attention: Joanne Reilly

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on November 29, 2018 and listed below. The project was identified as your project: **MNR Harmon OU 2**.

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

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

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

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

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

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
18K1076-01	VE 4-11	Water	11/27/2018	11/29/2018
18K1076-02	VE 1-4	Water	11/27/2018	11/29/2018
18K1076-03	VE 2-1	Water	11/28/2018	11/29/2018
18K1076-04	VE 2-1 DUP	Water	11/28/2018	11/29/2018
18K1076-05	Field Blank	Water	11/28/2018	11/29/2018

General Notes for York Project (SDG) No.: 18K1076

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

Approved By: 

Date: 12/11/2018

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: VE 4-11 **York Sample ID:** 18K1076-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1076	MNR Harmon OU 2	Water	November 27, 2018 9:30 am	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/L	0.2	1	SW-846 8270D Certifications:	12/03/2018 00:00	12/07/2018 00:00	

Sample Information

Client Sample ID: VE 1-4 **York Sample ID:** 18K1076-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1076	MNR Harmon OU 2	Water	November 27, 2018 1:40 pm	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/L	0.2	1	SW-846 8270D Certifications:	12/03/2018 00:00	12/07/2018 00:00	

Sample Information

Client Sample ID: VE 2-1 **York Sample ID:** 18K1076-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1076	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/L	0.2	1	SW-846 8270D Certifications:	12/03/2018 00:00	12/07/2018 00:00	

Sample Information

Client Sample ID: VE 2-1 DUP **York Sample ID:** 18K1076-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1076	MNR Harmon OU 2	Water	November 28, 2018 3:00 pm	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/L	0.2	1	SW-846 8270D	12/03/2018 00:00	12/07/2018 00:00	
							Certifications:			

Sample Information

Client Sample ID: Field Blank **York Sample ID:** 18K1076-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18K1076	MNR Harmon OU 2	Water	November 28, 2018 11:11 am	11/29/2018

Analyzed by: Con-Test Analytical Laboratory

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/L	0.2	1	SW-846 8270D	12/03/2018 00:00	12/07/2018 00:00	
							Certifications:			

Sample and Data Qualifiers Relating to This Work Order

Definitions and Other Explanations

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

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

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

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

Certification for pH is no longer offered by NYDOH ELAP.

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

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

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132-02 89th Ave, Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record

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

YORK Project No. 18K1076

Page ____ of ____

YOUR Information	Report To:	Invoice To:	YOUR Project Number	Turn-Around Time
Company: MNR	Company: MNR +	Company: MNR		RUSH - Next Day
Address:	Address: Tom Roszak Day Engineering	Address:	YOUR Project Name: MNR Harmon OU2	RUSH - Two Day
Phone.:	Phone.:	Phone.:		RUSH - Three Day
Contact:	Contact:	Contact:		RUSH - Four Day
E-mail:	E-mail:	E-mail:	YOUR PO#:	Standard (5-7 Day) X

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

T Roszak S Reese

Samples Collected by: (print your name above and sign below)

T Roszak

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

Samples From
New York X
New Jersey
Connecticut
Pennsylvania
Other

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

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

Sample Identification	Sample Matrix	Date/Time Sampled	Analysis Requested	Container Description
VE 4-11	GW	11/27/18 0930	1,4 Dioxane	(2) 1L amber/unpres.
VE 4-11 MS				
VE 4-11 MSD				
VE 1-4		1340		
VE 2-1		11/28/18		
VE 2-1 DUP				
Field Blank	DI WATER	1111		(1) 1L amber/unpres.

Comments:

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

Special Instruction
Field Filtered ____
Lab to Filter ____

Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time
T Roszak/Day Engineering	11/28/18 1130		11-29-18 7:00		11-29-18 1458
Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time
Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Received in LAB by	Date/Time / Temp. Received at Lab
				TC	11/29/18 1458 / 1.9 Degrees C

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ATTACHMENT C

INSPECTION REPORT

Metro-North Railroad Harmon Yard Operational Unit OU-I and OU-II
Inspection Form
NYSDEC Site Number 3-60-010

Note the location(s) of the inspection findings described below on the attached site sketch. Also attach copies of photographs to document conditions observed at the time of this inspection and show the location/orientation of the photographs taken on the site sketch.

OU-I Asphalt Cover

	Yes	No	Corrective Action Needed?
Are there any cracks in the asphalt cover?		x	
Any geotextile observed?		x	
Is there any surface water ponding on the asphalt cover?		X	
Is there any evidence of settlement?		X	
Is there any elevation difference at the grouted manhole covers?		x	
Settlement or erosion in the area of the perimeter sheet pile wall?		x	

Specify the Recommended Corrective Actions and Other Relevant Observations:

OU-I Contingency Air-Inlet/Vapor Extraction Well Clusters

Describe the condition of the protective covers and the well clusters. Also, provide other relevant observations, and include photographs (if warranted).

Good condition

OU-II Areas Around the Asphalt Cover

Are there any erosion rivulets?		x	
Is there evidence of any washouts or soil slides?		x	
Is the vegetative cover maintained?	X		
Is there debris or other material on the slopes?	X		x
Settlement or erosion in the area of the NAPL Area L1 sheet pile wall?		x	

Specify the Recommended Corrective Actions and Other Relevant Observations:

Significant removal of scrap items on top of the capped area. Work on-going.

OU-II Monitoring and Product Removal Wells

Describe condition of monitoring wells and protective casings noting wells that require repairs. If warranted include photographs of wells and note the location of the photograph and well on the site sketch.

Recommend that L1-AI-1-16 should have a curb box installed

OU-I/OU-II Drainage Channels

Is there any exposed geotextile in the drainage channel?		x	
If so, is the exposed geotextile damaged?		x	
Is there significant sedimentation in the drainage channel?		x	

{The rip rap drainage channel is located adjacent to the asphalt cover so there should be minimal sedimentation, and any significant sedimentation should be investigated to determine its source and cause.]

Specify the Recommended Corrective Actions and Other Relevant Observations:

	Yes	No	Corrective Action Needed?
OU-I/OU-II Waste Accumulation Drums and Tank			
Is the 500-gallon waste oil disposal AST full? **REMOVED – N/A**			
Are the 55-gallon waste oil disposal drums full?		x	
Is the 55-gallon NRD disposal drum full?		x	
Evidence of spillage/leakage in the area of disposal vessels?		x	

Explain when the drums and AST were last sampled, and attach copies of test results (if available). Identify when the drums and AST last emptied/replaced and list disposal facilities/dates (if known). Provide additional information as warranted.

4 Drums sampled and removed – results attached.

OU-I/OU-II Perimeter Fencing

Is there any damaged fencing?		x	
Is there any vegetation close to the exterior of the fence that should be removed to eliminate a means for access to the Site over the fence?		x	
Are the gate locks present and in good working condition?	X		

Specify Correction Actions Needed:

Date of Inspection: 10/30/18 Inspection Completed By: S. Gianazza

cc: Metro-North Department of Environmental Compliance and Services