Gannett Fleming

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April 5, 2018
File #34265.003

John Sager
Wisconsin Department of Natural Resources
1701 North 4th Street
Superior, WI 54880

Re: Remediation Progress Report for Tank Basin 68 Site (July 2015 – Dec. 2017)
Superior Refining Company LLC Refinery, Superior, WI
WDNR BRRTS# 02-16-526812 and Facility ID: 816009590

Dear John:

On behalf of Superior Refining Company LLC (SRC), Gannett Fleming, Inc. (GF) is submitting this remediation progress report for the Murphy Oil (Murphy) Tank Basin 68 site (WDNR BRRTS# 02-16-526812) at the SRC refinery in Superior. The report summarizes remedial and monitoring activities conducted at the site from July 2015 through December 2017. In addition, it includes background information on the refinery and Tank 68 basin for reference. Periodic reporting of remediation site progress to the Wisconsin Department of Natural Resources (WDNR) is required pursuant to ss. NR 700.11(1) and 724.13(3), Wisconsin Administrative Code. A completed certification page for the report is also attached.

Pertinent Site Background and Tank 68 Basin Information

Figure 1 is a location map showing Tank 68, the refinery, its approximate property boundary, and the area around the refinery and was prepared using the most recent USGS topographic map. The Tank 68 basin is in the SW ¼ of the SW ¼ of Section 25, Township 49 North, Range 14 West, Superior Township of Douglas County.

The land surrounding the basin is also owned by SRC and is part of the refinery. The closest surface water is Newton Creek, located approximately 2,000 feet east, as shown on Figure 1. The Tank 68 basin is located on relatively level land in the north-central area of the refinery. The basin's ground surface is unpaved. The basin is underlain by native clay, the depth to groundwater is approximately 3 feet below ground surface (bgs), and the regional direction of shallow groundwater flow below the refinery is to the east.

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The hydraulic conductivity of the native clay underlying the refinery is on the order of 10^{-7} centimeters per second. Assuming a horizontal hydraulic gradient of 0.003 and effective porosity of 0.06, the estimated horizontal groundwater flow velocity is approximately 0.01 foot per year (ft/yr). This does not include contaminant retardation.

In October 2011, Calumet Superior LLC (Calumet) acquired the refinery from Murphy. Effective November 8, 2017, Husky Superior Refining Holding Corp (Husky Superior) purchased Calumet and changed its legal name to Superior Refining Company LLC.

Tank 68 Basin Site Background

The Tank 68 basin monitoring network currently includes MW-5/T66, MW-1/T68, MW-2/T68, MW-4/T68 through MW-6/T68, and monitoring points MP-1/T68 through MP-3/T68, as shown on Figure 2. In 2001, MW-5/T66 was transferred from the Tanks 65/66 release site to the Tank 68 basin site, due to the occurrence of free product in MW-5/T66; and test pits TP-2, TP-3, and TP-4 were abandoned. The free product in MW-5/T66 was first observed in January 2000 during a site investigation associated with the Tank 65/66 basins east of Tank 68 and has not been associated with any known release. In 2008, upgradient monitoring well MW-3/T68 was sealed and abandoned. In 2010-2012, test pit sump TP-1/T68 was lost.

Since February 2000, wells in the network have been routinely monitored for the presence of free product, and if present, it is removed and treated in the refinery's No. 1 API oil/water separator/wastewater treatment plant (WWTP). In addition, based on American Petroleum Institute guidelines, wells in the network have been purged dry following routine gauging events to promote the accumulation of product. This occurs because product preferentially accumulates in a well when the potentiometric surface is low (i.e., as the potentiometric surface drops, product that remains above the water level drains into the well). As the potentiometric surface rises, the product becomes submerged and trapped in the soil pores and subsequently will not accumulate in the well. The purged water is also treated in the refinery's No. 1 API oil/water separator/WWTP.

Remedial and Monitoring Activities (July 2015 through December 2017)

Since the last remediation progress report was submitted to the WDNR on August 6, 2015, work in the Tank 68 basin has included the monitoring and recovery of product from the on-site wells and collection of groundwater samples from select locations.

During the reporting period, measurable product was encountered on 4 occasions in MW-5/T66 and 13 occasions in MW-5/T68, as shown in Table 1, which includes fluid level monitoring data for July 2015 through December 2017. The thickest layer of free product observed in each well was measured as 1.05 feet on 08/07/15 in MW-5/T66 and 1.19 feet on 10/25/17 in MW-5/T68. Otherwise, no measurable thickness of product was observed in MP-1/T68 through MP-3/T68 or any of the other four on-site monitoring wells throughout the entire reporting period.

Through December 2017, approximately 102 gallons of product have been recovered from this tank basin, with almost all (i.e., over 97%) of it coming from MW-2/T68, MW-5/T66, and MW-6/T68. From July 2015 through December 2017, approximately 0.31 and 0.39 gallon was recovered from MW-5/T66 and MW-5/T68, respectively. These are about 2% and 97% of the total volumes recovered from MW-5/T66 and MW-5/T68, respectively, to date. GF's April 2014 report includes a 15-page table summarizing the historical volume of product removed from each well for reference.

SRC will continue to check for free product, but for all practical purposes, we believe free product has been recovered to the extent practical from the Tank 68 basin.

Groundwater samples were collected at the site during the reporting period in October 2015 and May and October 2016 and 2017. Each well was purged dry twice and allowed to recover for at least 7 days, prior to the collection of the samples. Monitoring wells MW-1/T68, MW-2/T68, MW-4/T68, and MW-6/T68 were routinely sampled. Gannett Fleming used a new one-time-use polyethylene bailer with new nylon rope to collect each groundwater sample. The groundwater samples were sent to Pace Analytical of Green Bay (Wisconsin laboratory certification #405132750) and analyzed for volatile organic compounds (VOCs).

Table 2 presents the analytical results of the groundwater samples in micrograms per liter (µg/ℓ). As shown in Table 2:

- All compounds in the samples collected from upgradient well MW-1/T68 were below applicable NR 140 enforcement standards (ESs) for all VOCs.

- Samples collected from the other five Tank 68 monitoring wells contained one or more VOCs at or above applicable NR 140 ESs. However, because of the recovery of product over the years, overall VOC concentrations in the wells have been stable or decreasing. For example, Figure 3 presents trend analysis plots for benzene concentrations in the groundwater at MW-2/T68 and MW-4/T68. Note that the plotted data for each well only includes the time period since free product was most recently removed. In addition, the best-fit exponential trend lines were generated using Excel. As shown on Figure 3, dissolved-phase benzene concentrations have been stable in MW-2/T68 and followed a general downward trend in MW-4/T68. Based on the relatively low groundwater flow velocity of approximately 0.01 ft/yr and stable to decreasing benzene concentrations, results indicate the overall plume remains stable or receding.

- Samples were not collected from:

    - MW-5/T66 on 06/23/15 due to the presence of free product in the well on the day of sampling.

    - MW-5/T68 at all due to the presence of free product in the well on the day of sampling, except on 05/16/17.

    - MW-6/T68 on 05/24/16 due to the presence of discontinuous product globules in the well on the day of sampling.

Attachment A provides copies of the laboratory reports and chain of custody records for the groundwater samples collected from July 2015 through December 2017.

Historically, a groundwater contour map for the Tank 68 release site has not been prepared because groundwater levels in the wells either are influenced by local surface/melt water in the spring or typically do not have sufficient time to reach static levels after they are bailed later in the year. Consequently, a groundwater contour map representing static conditions for the Tank 68 site cannot be created.

Future Work

Due to relatively shallow groundwater, cold weather, and snow, year-round access to wells at the refinery is not practical. During time periods when it's warm enough to allow access (i.e., from April/May through October/November), SRG's work plan for 2018 follows:

- Continue to manually bail product from the six existing monitoring wells (MW-5/T66, MW-1/T68, MW-2/T68, and MW-4/T68 through MW-6/T68) and three monitoring points (MP-1/T68 through MP-3/T68) when free product is present.
- If product is observed, the wells and points will be checked monthly. If product is not observed, the wells and points will be checked quarterly. The purged product/water will continue to be treated in the refinery's No. 1 API oil/water separator/WWTP.
- Collect groundwater samples from those monitoring wells without product biannually, and have the samples analyzed for VOCs by a Wisconsin-certified laboratory using EPA Method 8260. Each monitoring well will be purged dry twice and allowed to recover for at least six days, prior to the collection of the samples.
- Report the results of the 2018 groundwater samples, as well as the results of the recovery of product, in our next remediation progress report to the WDNR by the end of January 2019.

Feel free to contact me and/or Matt Turner at Husky Superior if you have any questions or need additional information.

Sincerely,

GANNETT FLEMING, INC.

Clifford C. Wright, P.E., P.G.
Project Engineer

CCW/jec/Enc.

ecc: Matt Turner (Husky Superior)

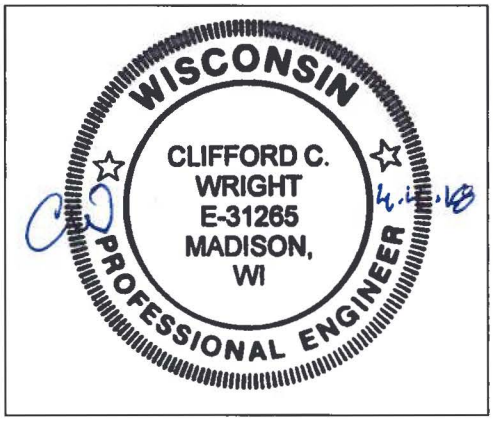
CERTIFICATION

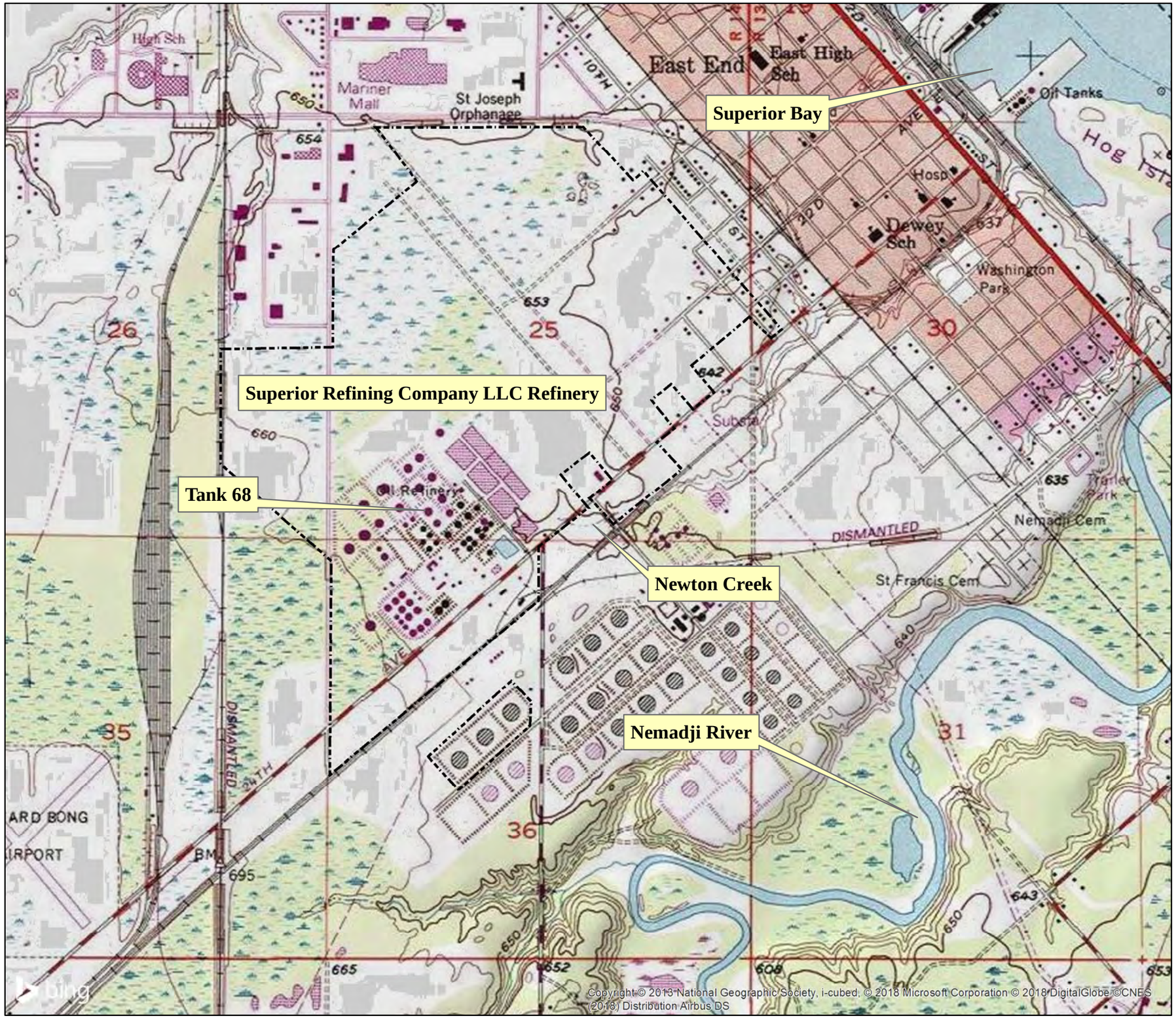
Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form for sites with any ongoing active remediation, monitoring, or an investigation. Other persons may sign this form for sites with no response activities during the six month reporting period.

I hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print Name Clifford C. Wright	Title Project Engineer
Signature Clifford C. Wright	Date 4-4-18

Professional Seal, if applicable:





N
W E
S

Legend

Approximate Property Boundary

Notes:

1. Contour interval = 10ft.
2. Site datum = mean sea level (MSL).
3. Topographic map obtained from ArcGIS USA Topo Map Service. Service includes seamless, scanned image of USGS topographic maps.

0 500 1,000 1,500 2,000
Feet

Site Location Map

SUPERIOR REFINING COMPANY LLC REFINERY
SUPERIOR, WISCONSIN

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Madison WI 53717-1900
(608) 836-1500
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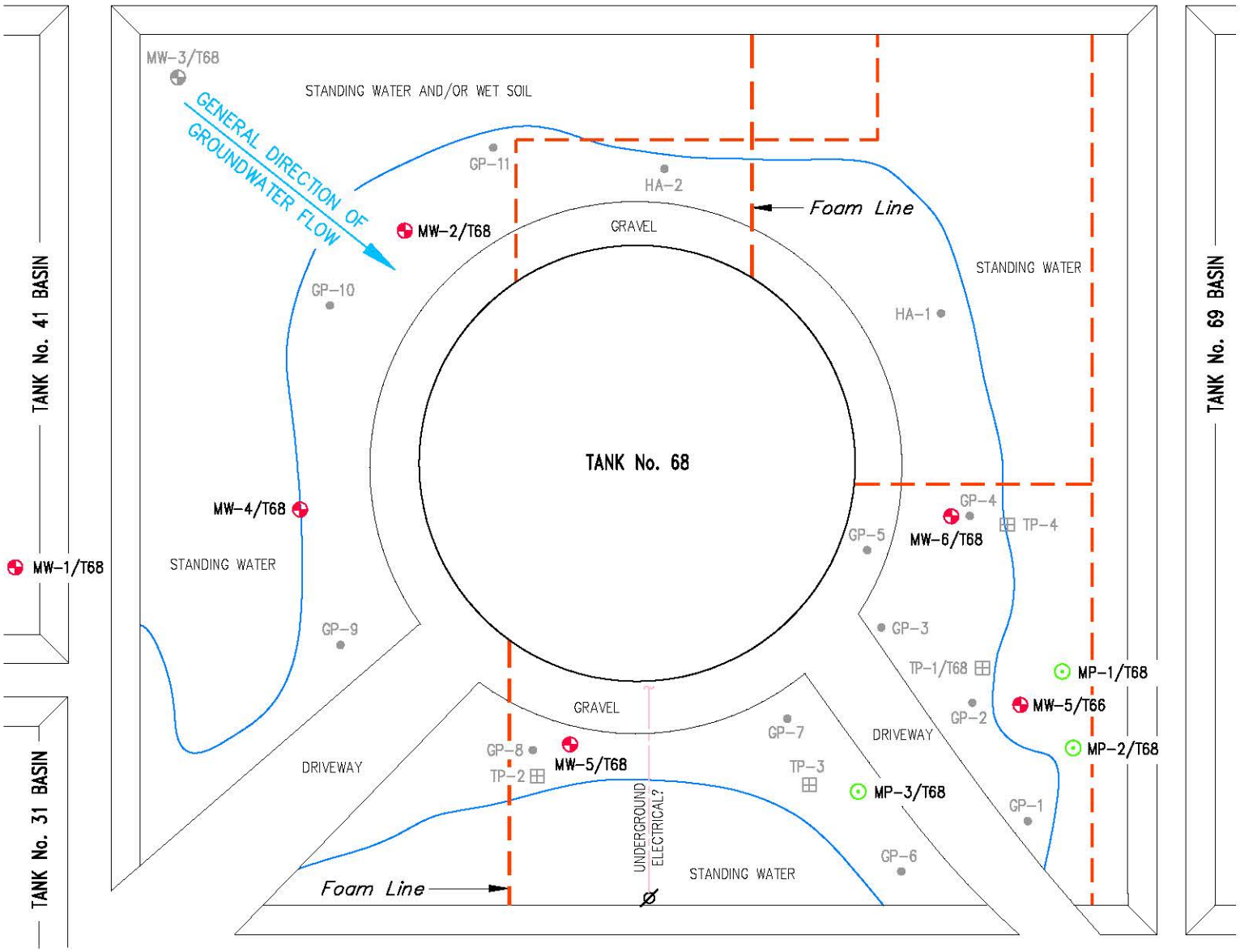
Project No.	34265.003	Date	2/19/18	Figure	1



NOTES

1. *Site Layout And Sample Locations Are Based On Field Measurements And Are Approximate; Site Not Surveyed.*
2. *Each Monitoring Point Is 7 Feet Deep And Consists Of 4"ø PVC With 3 Feet Of Slotted PVC Screen.*
3. *Shaded Well, Test Pit, And Geoprobe And Hand Auger Boring Locations Have Been Abandoned.*

0 40

Approximate Scale In Feet

LEGEND

- *Geoprobe (GP)/Hand Auger (HA) Boring Locations (April/May 2002)*
- *Monitoring Point (July 2001)*
- *Test Pit (June 2000)*
- *Monitoring Well*
- *Aboveground Piping*
- *Utility Pole*

TANK NO. 68
SITE PLAN
SUPERIOR REFINING COMPANY LLC
SUPERIOR, WISCONSIN

021918
ccw_L34265-003_2018_0219_F02

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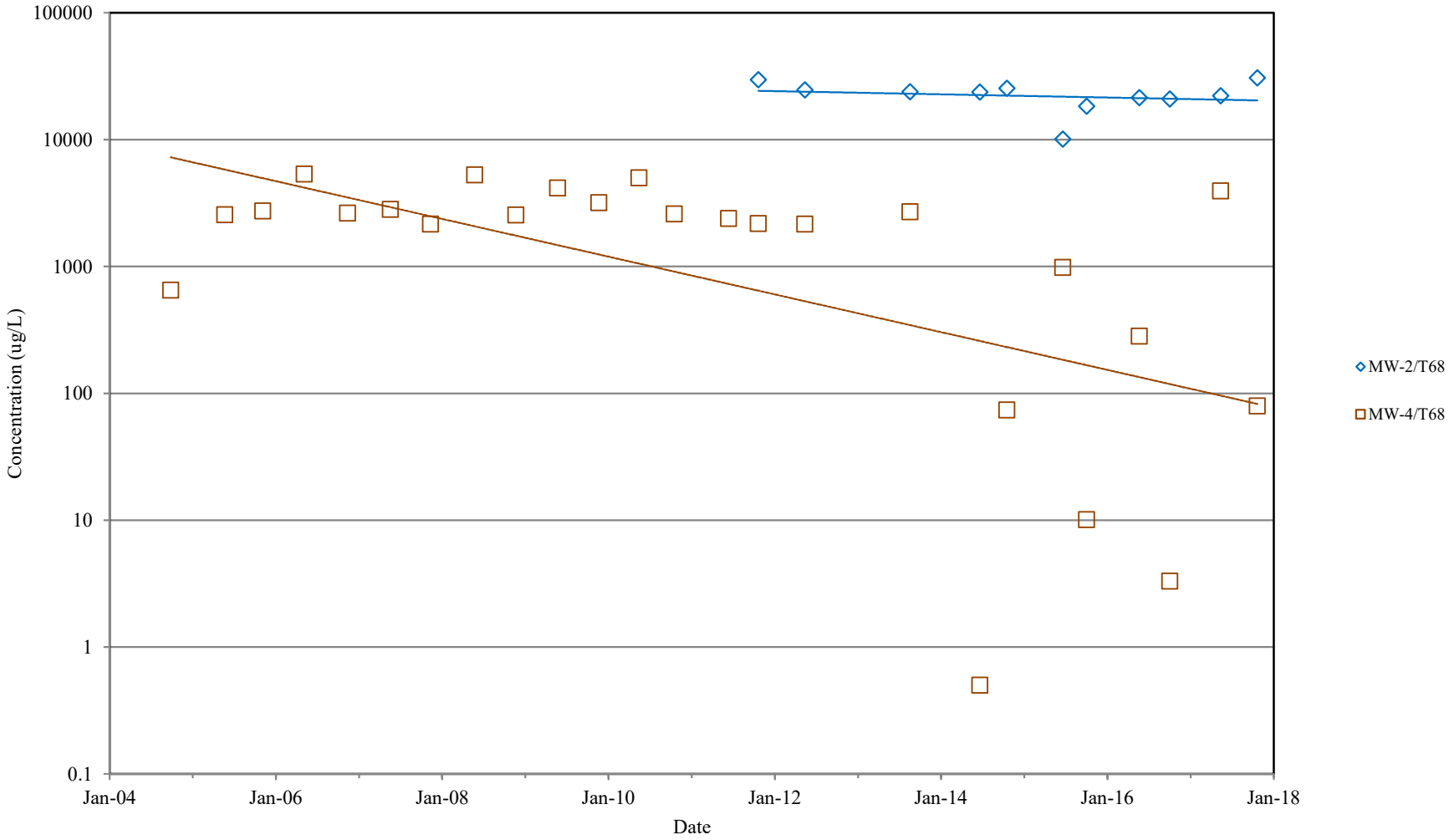
FIGURE 3



Note: Best-fit exponential trend lines generated using Excel and non-detect concentrations (if any) plotted at detection limit.

BENZENE GROUNDWATER CONCENTRATIONS TANK 68 BASIN

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SUPERIOR, WISCONSIN

TABLE 1

FLUID LEVEL MONITORING DATA FOR TANK 68 RELEASE SITE (JULY 2015 - DECEMBER 2017)

Date	MP-1/T68		MP-2/T68		MP-3/T68		MW-1/T68		MW-2/T68		MW-4/T68		MW-5/T66		MW-5/T68		MW-6/T68		Comments/ Footnotes
	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	
		Depth to Fluid from Top of Casing (feet)																	
07/15/15	--	5.48	--	5.95	--	4.20	--	4.38	--	4.48	--	3.83	4.13	4.95	--	9.08	--	3.69	(1)
08/07/15	--	4.69	--	5.19	--	5.44	--	3.74	--	6.14	--	4.72	3.20	4.25	--	7.45	--	4.68	(1)
09/04/15	--	5.95	--	5.63	--	3.30	--	4.35	--	4.89	--	4.40	--	3.91	--	6.15	--	3.80	(2)
09/24/15	--	4.51	--	4.98	--	3.91	--	3.24	--	5.31	--	3.61	--	3.49	--	7.41	--	3.30	(2)
10/06/15	nm	nm	nm	nm	nm	nm	--	5.04	--	7.08	--	4.38	--	4.42	8.88	9.01	--	4.44	(3)
11/24/15	--	4.99	--	5.57	--	4.36	--	4.39	--	5.21	--	3.79	--	3.91	--	4.51	--	3.89	
05/06/16	--	5.20	--	5.70	--	4.19	--	4.90	--	4.50	--	4.20	--	3.95	--	3.35	--	3.80	(2)
05/17/16	nm	nm	nm	nm	nm	nm	--	5.09	--	4.80	--	4.49	--	4.38	7.64	7.65	--	4.81	(4)
05/24/16	--	4.93	--	5.55	--	5.18	--	5.52	--	6.49	--	4.62	--	3.71	9.52	9.55	--	6.88	(5)
06/29/16	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	8.27	8.40	--	3.98	(1)
07/21/16	--	5.02	--	5.34	--	4.53	--	4.41	--	4.16	--	4.31	3.75	3.78	8.41	8.53	--	3.92	(1)
08/18/16	--	5.34	--	5.98	--	4.57	--	5.09	--	4.21	--	3.98	--	4.12	8.16	8.22	--	3.65	(1)
09/08/16	--	4.88	--	5.39	--	4.60	--	4.62	--	4.50	--	4.01	3.63	3.65	8.80	8.96	--	4.81	(6)
09/22/16	--	4.96	--	5.63	--	4.60	--	4.35	--	7.37	--	3.87	--	4.22	9.72	9.90	--	4.15	(4)
10/05/16	--	4.99	--	5.78	--	4.79	--	4.59	--	7.18	--	4.06	--	4.14	10.09	10.10	--	4.40	(3)
11/07/16	--	5.54	--	6.14	--	4.99	--	4.98	--	5.00	--	4.45	--	4.37	8.95	9.10	--	4.25	(1)
04/27/17	--	5.03	--	5.57	--	4.19	--	3.68	--	4.13	--	3.59	--	3.57	--	3.06	--	3.09	(2)
05/09/17	--	5.37	--	6.00	--	4.36	--	4.82	--	4.75	--	3.85	--	4.15	--	8.19	--	3.94	(2)
05/16/17	--	5.05	--	5.04	--	4.55	--	3.22	--	4.89	--	3.92	--	3.48	--	9.34	--	3.96	Sampled (see Table 2)
09/27/17	--	5.29	--	5.71	--	4.48	--	4.04	--	4.16	--	3.80	--	3.71	--	2.45	--	3.21	(2)
10/10/17	--	5.83	--	5.52	--	4.51	--	4.50	--	6.44	--	4.42	--	4.04	8.29	8.35	--	4.35	(4)
10/25/17	--	5.33	--	5.92	--	4.54	--	4.44	--	6.48	--	4.31	--	4.04	9.73	10.92	--	4.33	(3)
11/07/17	--	5.05	--	5.74	--	4.72	--	4.68	--	4.82	--	3.99	--	3.65	10.13	10.30	--	3.68	(1)

NOTES:
DTP = Depth to product.
DTW = Depth to water.
nm = Not measured.
-- = Not applicable/no free product.

TABLE 1

FLUID LEVEL MONITORING DATA FOR TANK 68 RELEASE SITE (JULY 2015 - DECEMBER 2017)

FOOTNOTES:

(1) Bailed MW-5/T66 and/or MW-5/T68 dry to address measured free product.
(2) Bailed those monitoring wells (MWs) without free product dry in preparation for sampling.
(3) Bailed MW-5/T68 dry to address free product and sampled the MWs without free product (see Table 2 for summary of analytical results).
(4) Bailed MW-5/T68 dry to address measured free product and bailed the MWs without free product dry in preparation for sampling.
(5) Bailed MW-5/T68 and MW-6/T68 dry to address free product (discontinuous product globules only observed in MW-6/T68) and sampled the remaining MWs.
(6) Bailed MW-5/T66 and MW-5/T68 dry to address free product and bailed the MWs without free product dry in preparation for sampling.

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SUPERIOR REFINING COMPANY LLC
SUPERIOR, WISCONSIN

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR DETECTED COMPOUNDS - TANK 68 RELEASE SITE[1]

Well ID	Substance																					
Date	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Naphthalene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloromethane	1,2-Dichloroethane	1,1-Dichloropropene	Isopropyl Ether	Isopropylbenzene (Cumene)	p-Isopropyltoluene	n-Propylbenzene	1,1,1-Trichloroethane	Tetrachloroethene	Dissolved Lead
NR 140 PAL	NS	*0.5*	*140*	*160*	*400*	*96*	*12*	*10*	NS	NS	NS	NS	*3*	*0.5*	NS	NS	NS	NS	NS	*40*	*0.5*	*1.5*
NR 140 ES	NS	**5**	**700**	**800**	**2,000**	**480**	**60**	**100**	NS	NS	NS	NS	**30**	**5**	NS	NS	NS	NS	NS	**200**	**5**	**15**
MW-1/T68																						
03/06/02	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
05/17/02	820	<0.43	5.3	7.1	<1.45	13.8	<0.49	<1.4	<0.42	19	4.2	2.7	<0.69	<0.54	<0.30	<0.30	4.6	5.5	5.1	<0.2	<1	na
09/12/02	<50	<0.45	<0.82	<0.68	<2.47	<1.86	<0.43	<0.89	na	na	na	na	na	na	na	na	na	na	na	na	na	na
03/12/03	<50	<0.45	<0.82	<0.68	<2.47	<1.86	<0.43	<0.89	na	na	na	na	na	na	na	na	na	na	na	na	na	na
09/30/04	<50	<0.14	<0.40	<0.36	<1.10	<0.79	<0.36	<0.47	na	na	na	na	na	na	na	na	na	na	na	na	na	na
05/26/05	<50.0	<0.31	<0.5	<0.3	<0.92	<0.71	<0.3	<0.8	<0.41	<0.36	<0.4	<0.4	<0.29	<0.4	na	<0.30	<0.31	<0.5	<0.3	<0.2	<0.3	na
11/09/05	<50.0	<0.31	<0.5	<0.3	<0.92	<0.71	<0.3	<0.8	<0.41	<0.36	<0.4	<0.4	<0.29	<0.4	na	<0.30	<0.31	<0.5	<0.3	<0.2	<0.3	na
05/10/06	<50.0	<0.31	<0.50	<0.30	<0.92	<0.71	<0.30	<0.80	<0.41	<0.36	<0.40	<0.40	<0.29	<0.40	na	<0.30	<0.31	<0.50	<0.30	<0.2	<0.3	na
11/16/06	<50.0	<0.15	<0.10	<0.40	<0.50	<0.30	<0.10	<1.00	<0.10	<0.20	<0.15	<0.15	<0.20	<0.10	0.56 J	<0.30	<0.10	<0.20	<0.10	<0.2	<0.3	na
05/23/07	<50.0	<0.20	<0.10	<0.40	<0.60	<0.40	<0.20	<1.00	<0.20	<0.20	<0.20	<0.20	<0.30	<0.20	<0.30	<0.30	<0.10	<0.20	<0.10	<0.2	<0.3	na
11/15/07	<50.0	<0.20	<0.10	<0.40	<0.60	<0.40	<0.20	<1.00	<0.20	<0.20	<0.20	<0.20	<0.30	<0.20	<0.30	<0.30	<0.10	<0.20	<0.10	<0.2	<0.3	na
05/27/08	68	<0.20	<0.10	<0.40	<0.60	<0.40	<0.20	<1.00	<0.20	<0.20	<0.20	<0.20	<0.30	<0.20	<0.30	<0.30	<0.10	<0.20	<0.10	<0.2	<0.3	na
11/24/08	<50.0	0.42 J	1.55	3.23	10.16	6.97	<0.50	<1.00	<0.20	<0.40	<0.30	<0.30	<0.40	<0.30	<0.50	<0.30	0.16 J	<0.20	<0.10	<0.2	<0.3	na
05/27/09	<50.0	<0.20	<0.20	<0.40	<0.60	<0.40	<0.50	<1.00	<0.30	<0.40	<0.30	<0.30	<0.40	<0.30	<0.80	<0.30	<0.10	<0.40	<0.10	<0.5	<0.3	na
11/23/09	52.6	<2.00	78.0	9.88 J	*514*	90	<5.00	<10.0	<3.00	<4.00	<3.00	<3.00	<4.00	<3.00	<8.00	na	2.48 J	<4.00	<1.00	<5.00	<0.3	na
05/19/10	<50.0	<0.20	<0.20	<0.40	<0.60	<0.40	<0.50	<1.00	<0.30	<0.40	<0.30	<0.30	<0.40	<0.30	<0.80	<0.30	<0.10	<0.40	<0.10	<0.5	<0.3	na
10/21/10	<50.0	<0.20	<0.20	<0.40	<0.60	<0.40	<0.50	<1.00	<0.30	<0.40	<0.30	<0.30	<0.40	<0.30	<0.80	<0.30	<0.10	<0.40	<0.10	<0.50	*0.90* J	na
06/16/11	na	<0.20	<0.20	<0.40	<0.60	<0.40	<0.50	<1.00	<0.30	<0.40	<0.30	<0.30	<0.40	<0.30	<0.80	<0.30	<0.20	<0.40	<0.20	<0.50	<0.30	na
10/25/11	na	<0.20	<0.20	<0.40	<0.60	<0.70	<0.50	<1.00	<0.30	<0.40	<0.30	<0.30	<0.40	<0.30	<0.80	<0.30	<0.20	<0.20	<0.20	<0.50	<0.30	na
05/16/12	na	<0.41	<0.54	<0.67	<2.63	<1.80	<0.61	<0.89	<0.82	<0.93	<0.89	<0.97	<0.24	<0.36	<0.75	na	<0.59	<0.67	<0.81	<0.90	<0.45	na
08/21/13	na	<0.50	<0.50	<0.44	<1.32	<3.07	<0.49	<2.5	<0.48	<0.40	<0.60	<0.42	<0.39	<0.48	<0.51	na	<0.34	<0.40	<0.50	<0.44	<0.47	na
06/24/14	na	<0.50	<0.50	<0.50	<1.50	<1.00	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
10/21/14	na	<0.50	<0.50	<0.50	<1.50	<1.00	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
06/23/15	na	<0.50	0.57 J	2.3	2.92 J	1.36 JU	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
10/06/15	na	<0.50	<0.50	<0.50	<1.50	<1.00	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
05/24/16	na	<0.50	<0.50	<0.50	<1.50	<1.00	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
10/05/16	na	<0.50	<0.50	<0.50	<1.50	<1.00	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
05/16/17	na	<0.50	<0.50	<0.50	<1.50	<1.00	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
10/25/17	na	<0.50	<0.50	2.3	2.38 J	1.08 JU	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
MW-2/T68																						
05/17/02	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/12/02	120,000	**32,000**	**3,000**	**38,000**	**17,400**	**3,170**	<170	**280** J	<150	<130	<120	<190	<54	**2,800**	<160	<300	<130	<120	320 J	<200	<300	na
03/12/03	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
09/30/04	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/26/05	121,000	**25,200**	**1,810**	**29,300**	**20,850**	**5,570**	<300	**1,810**	<410	<360	<400	<400	<290	<600	na	<300	<310	<500	<300	<200	<300	na
11/09/05	85,300	**25,800**	**1,530**	**27,000**	**15,700**	**2,476**	<300	<800	<410	<360	<400	<400	<290	**2,520**	na	<300	<310	<500	<300	<200	<300	na
05/10/06	88,800	**29,700**	**1,300**	**25,600**	**14,830**	**3,529**	<150	<400	<205	<180	<200	<200	<145	**2,680**	na	<300	<155	<250	<150	<200	<300	na
11/16/06	95,800	**29,100**	**1,570**	**26,300**	**16,440**	**3,212**	<100	<1,000	<100	<200	<150	<150	<200	**2,370**	544 J	<300	<100	<200	<100	<200	<300	na
05/23/07	124,000	**30,000**	**2,440**	**34,700**	**18,820**	**5,500**	<200	<1,000	<200	<200	<200	<200	<300	<200	<300	<300	103	<200	<100	<200	<300	na

Gannett Fleming

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR DETECTED COMPOUNDS - TANK 68 RELEASE SITE[1]

Well ID / Date	Substance																					
	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Naphthalene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloromethane	1,2-Dichloroethane	1,1-Dichloropropene	Isopropyl Ether	Isopropylbenzene (Cumene)	p-Isopropyltoluene	n-Propylbenzene	1,1,1-Trichloroethane	Tetrachloroethene	Dissolved Lead
NR 140 PAL	NS	*0.5*	*140*	*160*	*400*	*96*	*12*	*10*	NS	NS	NS	NS	*3*	*0.5*	NS	NS	NS	NS	NS	*40*	*0.5*	*1.5*
NR 140 ES	NS	**5**	**700**	**800**	**2,000**	**480**	**60**	**100**	NS	NS	NS	NS	**30**	**5**	NS	NS	NS	NS	NS	**200**	**5**	**15**
11/15/07	98,100	**22,500**	**2,090**	**24,800**	**19,190**	**5,040**	<200	**6,390**	<200	<200	<200	<200	<300	**2,020**	<300	<300	<100	<200	<100	<200	<300	na
05/27/08	103,000	**24,900**	**1,880**	**29,000**	**17,380**	**4,150**	<500	<1,000	<200	<400	<300	<300	<400	**1,710**	<500	<300	<100	<200	<100	<200	<300	na
11/24/08	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/27/09	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/23/09	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/19/10	124,000	**39,800**	**2,790**	**44,100**	**18,080**	**4,660**	<500	<1,000	<300	<400	<300	<300	<400	<300	<500	<300	<100	<200	<100	<500	<300	na
10/21/10	245,000	**32,300**	**4,380**	**41,200**	**37,800**	**12,330**	<500	**1,180** J	<300	<400	<300	<300	<400	**1,510**	<800	<300	266 J	<400	<200	<500	<300	na
06/16/11	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/25/11	na	**29,600**	**2,760**	**34,800**	**18,150**	**3,670**	<100	**451** J	<60.0	<80.0	<60.0	<60.0	<80.0	<60.0	<160	na	111 J	<80.0	<40.0	<100	<60.0	na
05/16/12	na	**24,600**	**1,950**	**29,200**	**16,780**	**2,906**	<76.2	**324** J	<102	<116	<111	<121	<30.0	**1,700**	<93.8	na	<73.8	<83.8	149	<112	<56.2	na
08/21/13	na	**23,800**	**2,290**	**28,300**	**20,740**	**5,310**	<98.7	**604** J	<96.7	121 J	<121	<84.9	<77.5	**930**	<101	na	92.3 J	<79.4	277	<94.4	<88.6	na
06/24/14	na	**23,700**	**892**	**21,300**	**16,270**	**2,757**	<43.6	<625	<57.5	<125	<547	<45.1	<125	**1,220**	<110	na	<35.8	<125	<125	<125	<125	na
10/21/14	na	**25,400**	**975**	**24,700**	**15,820**	**2,149**	<34.8	<500	<46.0	<100	<437	<36.1	<100	**1,180**	<88.2	na	<28.7	<100	<100	<100	<100	na
06/23/15	na	**10,100**	*203*	**11,500**	**17,270**	**3,140**	<34.8	<500	<46.0	<100	<437	<36.1	<100	**355**	<88.2	na	<28.7	<100	<100	<100	<100	na
10/06/15	na	**18,300**	**995**	**18,500**	**15,000**	**2,627**	<34.8	<500	<46.0	<100	<437	<36.1	<100	**894**	<88.2	na	<28.7	<100	<100	<100	<100	na
05/24/16	na	**21,400**	**1,370**	**22,200**	**16,160**	**2,663**	<34.8	<500	<46.0	<100	<437	<36.1	<100	**1,260**	<88.2	na	48.3 J	<100	104 J	<100	<100	na
10/05/16	na	**20,900**	**1,350**	**20,300**	**15,370**	**2,673**	<34.8	<500	<46.0	<100	<437	<36.1	<100	**1,150**	<88.2	na	45.3 J	<100	105 J	<100	<100	na
05/16/17	na	**22,100**	**933**	**19,200**	**15,400**	**3,192**	<34.8	<500	<46.0	<100	<437	<36.1	<100	**1,420**	<88.2	na	<28.7	<100	<100	<100	<100	na
10/25/17	na	**30,600**	**1,170**	**24,500**	**19,550**	**3,122**	<43.6	<625	<57.5	<125	<547	<45.1	<125	**1,610**	<110	na	<35.8	<125	<125	<125	<125	na
MW-3/T68																						
03/12/03	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/30/04	<50	<0.41	<0.54	<0.67	<2.63	<1.8	<0.61	<0.74	<0.82	<0.93	<0.89	<0.97	<0.24	<0.36	<0.75	<0.30	<0.59	<0.67	<0.81	<0.2	<0.45	na
05/26/05	96.8	**15.6**	0.636 J	0.44 J	1.25 J	4.78 J	<0.3	1.38 J	<0.8	1.61	<0.4	<0.4	<0.29	<0.4	na	<0.30	<0.31	<0.5	<0.3	<0.2	<0.45	na
11/09/05	<50.0	<0.31	<0.5	<0.3	<0.92	<0.71	<0.3	<0.8	<0.41	<0.36	<0.4	<0.4	<1.00	<0.4	na	<0.30	<0.31	<0.5	<0.3	<0.2	<0.45	na
05/10/06	<50.0	**9.77**	<0.50	<0.30	1.93 J	3.09 J	<0.30	<0.80	<0.41	<0.36	<0.40	<0.40	<0.29	<0.40	na	<0.30	<0.60	<0.50	<0.30	<0.2	<0.71	na
11/16/06	<50.0	<0.15	<0.10	<0.40	<0.50	<0.30	<0.10	<1.00	<0.10	<0.20	<0.15	<0.15	<0.20	<0.10	<0.30	<0.30	<0.10	<0.20	<0.10	<0.2	<0.10	na
05/23/07	<50.0	<0.20	0.10 J	<0.40	<0.60	<0.40	<0.20	<1.00	<0.20	<0.20	<0.20	<0.20	<0.30	<0.20	<0.30	<0.30	<0.10	<0.20	<0.10	<0.2	<0.30	na
11/15/07	<50.0	<0.20	<0.10	<0.40	<0.60	<0.40	<0.20	<1.00	<0.20	<0.20	<0.20	<0.20	<0.30	<0.20	<0.30	<0.30	<0.10	<0.20	<0.10	<0.2	<0.30	na
05/27/08	<50.0	<0.20	<0.10	<0.40	<0.60	<0.40	<0.20	<1.00	<0.20	<0.20	<0.20	<0.20	<0.30	<0.20	<0.30	<0.30	<0.10	<0.20	<0.10	<0.2	<0.30	na
11/24/08	Filled and sealed																					
MW-4/T68																						
03/12/03	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/30/04	5,500	**650**	*260*	49	*1,090*	**560**	<3.0	*38*	<4.1	<4.6	<4.4	<4.8	<1.2	<1.8	<3.8	<30.0	17	15	24	<20.0	<30.0	na
05/26/05	12,800	**2,560**	*402*	44.3	**2,857**	**1,522**	<30.0	**132**	<41.0	<36.0	<40.0	<40.0	<29.0	<40.0	na	<30.0	37.3	<50.0	<30.0	<20.0	<30.0	na
11/09/05	12,100	**2,730**	*650*	59.9	**3,555**	**1,439**	<15.0	**114**	<20.5	<18.0	<20.0	<20.0	<14.5	<20.0	na	<30.0	47	<25.0	51.8	<20.0	<30.0	na
05/10/06	15,700	**5,350**	*462*	125	**4,280**	**1,622**	<30.0	**154** J	<41.0	166	<40.0	<40.0	<29.0	<40.0	na	<30.0	<31.0	<50.0	<30.0	<20.0	<30.0	na
11/16/06	15,300	**2,630**	*567*	74.9	**4,360**	**2,580**	<5.00	**212**	<5.00	<10.0	<7.50	<7.50	*13.6* J	<5.00	<15.0	<30.0	26	11.4 J	<5.00	<20.0	<30.0	na
05/23/07	12,200	**2,810**	*247*	52.8	**2,314**	**626**	<10.0	**118** J	<10.0	<10.0	<10.0	<10.0	<15.0	**56.2**	<15.0	<30.0	7.83	17.7	<5.00	<20.0	<30.0	na
11/15/07	11,700	**2,160**	*241*	<40.0	**2,410**	**1,760**	<20.0	**164** J	<20.0	<20.0	<20.0	<20.0	<30.0	<20.0	<30.0	<30.0	11.8	<20.0	<10.0	<20.0	<30.0	na
05/27/08	14,600	**5,270**	*554* J	<400	**3,156**	**1,071**	<500	<1,000	<200	<400	<300	<300	<400	<300	<500	<300	<100	<200	<100	<200	<300	na
11/24/08	12,100	**2,540**	*399*	43.7 J	**2,153**	**1,425**	<50.0	**157** J	<20.0	<40.0	<30.0	<30.0	<40.0	**62.8** J	<50.0	42.5 J	26.5 J	<20.0	<10.0	20 J	<30.0	na
05/27/09	11,100	**4,150**	*335*	52.8 J	**2,153**	**1,023**	<50.0	**104** J	<30.0	<40.0	<30.0	<30.0	<40.0	**115**	<40.0	<30.0	<10.0	<40.0	<10.0	<50.0	<30.0	na

Gannett Fleming

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR DETECTED COMPOUNDS - TANK 68 RELEASE SITE[1]

Well ID / Date	Substance																					
	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Naphthalene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloromethane	1,2-Dichloroethane	1,1-Dichloropropene	Isopropyl Ether	Isopropylbenzene (Cumene)	p-Isopropyltoluene	n-Propylbenzene	1,1,1-Trichloroethane	Tetrachloroethene	Dissolved Lead
NR 140 PAL	NS	*0.5*	*140*	*160*	*400*	*96*	*12*	*10*	NS	NS	NS	NS	*3*	*0.5*	NS	NS	NS	NS	NS	*40*	*0.5*	*1.5*
NR 140 ES	NS	**5**	**700**	**800**	**2,000**	**480**	**60**	**100**	NS	NS	NS	NS	**30**	**5**	NS	NS	NS	NS	NS	**200**	**5**	**15**
11/23/09	9,880	**3,180**	*236*	136	**2,090**	**784**	<50.0	**404**	<30.0	<40.0	<30.0	<30.0	<40.0	**84.3** J	<80.0	na	<10.0	<40.0	<10.0	<50.0	<30.0	na
05/19/10	9,710	**4,990**	*243*	<40.0	*1,669*	**839**	<50.0	<100	<30.0	<40.0	<30.0	<30.0	<40.0	**118**	<40.0	<30.0	<10.0	<40.0	<10.0	<50.0	<30.0	na
10/21/10	12,400	**2,590**	*368*	<40.0	**2,045**	**1,790**	<50.0	**153** J	<30.0	<40.0	<30.0	<30.0	<40.0	**57.6** J	<80.0	<30.0	<20.0	<40.0	<20.0	<50.0	<30.0	na
06/16/11	na	**2,390**	*172*	<40.0	*1,096.4* J	**535**	<50.0	<100	<30.0	<40.0	<30.0	<30.0	<40.0	<30.0	<80.0	na	<20.0	<40.0	<20.0	<50.0	<30.0	na
10/25/11	na	**2,180**	*247*	45.2 J	*1,234.3* J	**857**	<50.0	<100	<30.0	<40.0	<30.0	<30.0	<40.0	**51.3**	<80.0	na	<20.0	<40.0	<20.0	<50.0	<30.0	na
05/16/12	na	**2,150**	*297*	13.0	*1,054.5*	**793**	<6.1	*72.4*	<8.2	<9.3	<8.9	<9.7	<2.4	<3.6	<7.5	na	8.0 J	7.0 J	14.4	<9.0	<4.5	na
08/21/13	na	**2,690**	*548*	11.4 J	*1,157.6* J	**799.6** J	<9.9	*94.1* J	<9.7	8.5 J	<12.1	<8.5	<7.8	<9.5	<10.1	na	16.2 J	8.4 J	36.3	<8.9	<9.4	na
06/24/14	na	0.50 U	<0.50	<0.50	<1.50	<1.0	<0.23	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
10/21/14	na	**73.8**	19.8	<0.50	111.97 J	85.4	<0.17	3.3 J	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
06/23/15	na	**982**	*178*	15.8	*450.6* J	*475.5*	<1.7	<25.0	<2.3	<5.0	<21.9	<1.8	<5.0	<1.7	<4.4	na	4.6 J	<5.0	7.5 J	<5.0	<5.0	na
10/06/15	na	**10.1**	1.5	<0.50	2.7	2.6	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
05/24/16	na	**282**	30.6	2.2 J	88.0 J	*148.6*	<0.44	<6.2	<0.58	<1.2	<5.5	<0.45	<1.2	<0.42	<1.1	na	0.69 J	<1.2	<1.2	<1.2	<1.2	na
10/05/16	na	*3.3*	0.83 J	0.99 J	4.1	3.2	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.17	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
05/16/17	na	**3,930**	*602*	<20.0	*1,600*	**674.5**	<7.0	<100	<9.2	<20.0	<87.4	<7.2	<20.0	<6.7	<17.6	na	10.4 J	<20.0	<20.0	<20.0	<30.0	na
10/25/17	na	**79.6**	9.7	3.6	30.6	40.6	<0.44	<6.2	<0.58	<1.2	8.3 J	<0.45	<1.2	<0.42	<1.1	na	0.43 J	<1.2	2.1 J	<1.2	<1.2	na
MW-5/T66																						
11/25/98	100	<0.30	1.9	6.7	32	10.4	<0.20	<1.1	<0.20	2	<0.20	<0.30	<0.90	<0.20	na	<0.30	<0.20	<0.20	0.3	<0.20	<0.60	na
12/17/98	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	<1
04/06/99	997	**44**	8.06	33.1	195	*109*	<0.3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	*2.41*
06/01/99	3,810	**55.4**	65.7	**170**	*909*	**554**	<3.0	na	na	na	na	na	na	na	na	na	na	na	na	na	na	*2.75*
09/09/99	31,300	**1,920**	**1,970**	**5,190**	**9,590**	**2,554**	<15	na	na	na	na	na	na	na	na	na	na	na	na	na	na	*4.23*
12/10/99	74,600	**7,480**	**3,070**	**19,800**	**15,270**	**2,786**	<60	na	na	na	na	na	na	na	na	na	na	na	na	na	na	*3.38*
03/06/02	44,000	**3,300**	**3,100**	**13,000**	**18,000**	**4,800**	<25	**820**	na	na	na	na	na	na	na	na	na	na	na	na	na	na
07/11/02	na	**2,100**	**1,700**	**8,700**	**13,400**	**2,900**	<49	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
09/12/02	44,000	**2,200**	**2,800**	**10,000**	**14,500**	**2,960**	<22	**310**	na	na	na	na	na	na	na	na	na	na	na	na	na	na
03/12/03	48,000	**3,400**	**3,100**	**9,900**	**15,600**	**3,220**	<22	**340**	na	na	na	na	na	na	na	na	na	na	na	na	na	na
09/30/04	77,000	**13,000**	**3,600**	**23,000**	**17,200**	**3,350**	<72	**520**	na	na	na	na	na	na	na	na	na	na	na	na	na	na
05/26/05	72,800	**20,700**	**1,250**	**23,400**	**9,990**	**1,974**	<300	<800	<410	<360	<400	<400	<290	<400	na	<300	<310	<500	<300	<200	<300	na
11/09/05	53,100	**8,980**	**2,580**	**19,700**	**17,840**	**2,731**	<60.0	**270**	<82.0	<72.0	<80.0	<80.0	<58.0	<80.0	na	<30.0	68.3	<100	190	<200	<300	na
05/10/06	72,700	**8,620**	**3,660**	**19,400**	**18,340**	**4,340**	<150	**667** J	<205	549	<200	<200	<145	<200	na	<300	<155	<250	602	<200	<300	na
11/16/06	17,300	**672**	*425*	**1,740**	**4,040**	**1,852**	<5.00	*89.6* J	102	199	<7.50	<7.50	<10.0	**15.4** J	<15.0	<30.0	17.7 J	11.5 J	<5.00	<20.0	<30.0	na
05/23/07	29,800	**2,620**	**1,160**	**5,200**	**6,840** J	**2,360**	<10.0	**174**	<10.0	<10.0	<10.0	<10.0	*19.7* J	**52.0**	<15.0	<30.0	32.3	<10.0	<5.00	<20.0	<30.0	na
11/15/07	27,000	**2,440**	**1,270**	**4,790**	**8,180**	**2,540**	<20.0	**221** J	<20.0	<20.0	<20.0	<20.0	<30.0	<20.0	<30.0	<30.0	34.2	<20.0	<10.0	<20.0	<30.0	na
05/27/08	39,500	**4,210**	**2,180**	**8,750**	**12,350**	**2,360**	<500	<1,000	<200	<400	<300	<300	<400	<300	<500	<300	<100	<200	<100	<200	<300	na
11/24/08	19,300	**2,010**	**1,270**	**4,340**	**8,540**	**1,841**	<50.0	**223** J	<20.0	230	<30.0	<30.0	<40.0	<30.0	<50.0	<30.0	33.9 J	<20.0	<10.0	<20.0	<30.0	na
05/29/09	27,500	**2,710**	**1,570**	**3,590**	**10,550**	**3,160**	<500	<1,000	<300	<400	<300	<300	<400	<300	<800	<300	<100	<400	<100	<500	<300	na
11/23/09	20,100	**1,870**	**926**	**1,050**	**6,910**	**2,760**	<50.0	**391**	<30.0	<40.0	<30.0	<30.0	<40.0	**43.6** J	<80.0	na	31.6	<40.0	<10.0	<50.0	<300	na
05/19/10	25,400	**2,980**	**1,480**	**4,190**	**9,050**	**3,000**	<500	<1,000	<300	<400	<300	<300	<400	<300	<800	<300	<100	<400	<100	<500	<300	na
10/21/10	21,800	**1,630**	**913**	**2,090**	**6,670**	**1,431**	<50.0	**211** J	<30.0	<40.0	<30.0	<30.0	<40.0	**34.9** J	<80.0	<30.0	21.3 J	<40.0	<20.0	<500	<30.0	na
06/16/11	na	**2,940**	**1,520**	**2,470**	**9,480**	**2,161** J	<250	<500	<150	<200	<150	<150	<200	<150	<400	na	<100	<200	<100	<250	<150	na
10/25/11	na	**3,020**	**820**	**1,110**	**7,280**	**1,745** J	<250	<500	<150	<200	<150	<150	<200	<150	<400	na	<100	<200	<100	<250	<150	na
05/16/12	na	**3,220**	**2,550**	**2,690**	**13,910**	**2,828**	<15.2	**317**	<20.5	<23.2	<22.2	<24.2	<6.0	<9.0	<18.8	na	54.1	<16.8	210	<22.5	<11.2	na

Gannett Fleming

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR DETECTED COMPOUNDS - TANK 68 RELEASE SITE[1]

Well ID / Date	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Naphthalene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloromethane	1,2-Dichloroethane	1,1-Dichloropropene	Isopropyl Ether	Isopropylbenzene (Cumene)	p-Isopropyltoluene	n-Propylbenzene	1,1,1-Trichloroethane	Tetrachloroethene	Dissolved Lead
	Substance																					
NR 140 PAL	NS	*0.5*	*140*	*160*	*400*	*96*	*12*	*10*	NS	NS	NS	NS	*3*	*0.5*	NS	NS	NS	NS	NS	*40*	*0.5*	*1.5*
NR 140 ES	NS	**5**	**700**	**800**	**2,000**	**480**	**60**	**100**	NS	NS	NS	NS	**30**	**5**	NS	NS	NS	NS	NS	**200**	**5**	**15**
08/21/13	na	**3,860**	**2,540**	**1,760**	**15,230**	**3,450**	<19.7	**404**	<19.3	56.9	<24.2	<17.0	<15.5	<19.1	<20.3	na	66.4	16.8 J	244	<17.7	<18.9	na
06/24/14	na	**6.0**	0.80 J	2.5	64.5	19.4	<0.17	<2.5	<0.23	<0.50	<2.2	<0.18	<0.50	<0.16	<0.44	na	<0.14	<0.50	<0.50	<0.50	<0.50	na
10/21/14	na	**2,050**	**1,230**	*423*	**9,030**	**1,486**	<3.5	**172**	<4.6	<10.0	<43.7	<3.6	<10.0	<3.4	<8.8	na	11.5 J	<10.0	43.5	<10.0	<10.0	na
06/23/15	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/06/15	na	**11,800**	**2,080**	**20,900**	**16,670**	**4,585**	<34.8	**510** J	<46.0	<100	<437	<36.1	<100	<33.6	<88.2	na	74.7 J	<100	316	<100	<100	na
05/24/16	na	**10,600**	**3,330**	**17,000**	**19,360**	**4,719**	<34.8	<500	<46.0	<100	<437	<36.1	<100	<33.6	<88.2	na	118 J	<100	419	<100	<100	na
10/05/16	na	**9,090**	**2,700**	**15,900**	**16,800**	**3,241**	<34.8	<500	<46.0	<100	<437	<36.1	<100	<33.6	<88.2	na	65.2 J	<100	222	<100	<100	na
05/16/17	na	**10,600**	**2,950**	**16,300**	**18,730**	**2,902**	<34.8	<500	<46.0	<100	<437	<36.1	<100	<33.6	<88.2	na	74.4 J	<100	209	<100	<100	na
10/25/17	na	**8,790**	**2,300**	**15,400**	**17,250**	**2,364**	<21.8	<312	<28.8	<62.5	<273	<22.5	<62.5	<21.0	<55.1	na	66.4 J	<62.5	167	<62.5	<62.5	na
MW-5/T68																						
03/12/03	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/30/04	57,000	**14,000**	*460*	**15,000**	**9,100**	**1,810**	<61	**330**	<82	<93	<89	<97	<24	<36	<75	<300	<59	<67	<81	<200	<300	na
05/26/05	66,600	**10,500**	**2,240**	**17,000**	**17,060**	**4,084**	<150	**431**	<205	513	<200	<200	<145	<300	na	<300	<155	<250	305	<200	<300	na
11/09/05	40,100	**9,710**	*450*	**10,100**	**9,990**	**1,682**	<150	<400	<205	<180	<200	<200	<145	<200	na	<300	<155	<250	<150	<200	<300	na
05/10/06	45,600	**13,300**	*422*	**12,300**	**9,700**	**1,881**	<60.0	**241** J	<82.0	<72.0	<80.0	<80.0	<58.0	<80.0	na	<300	<62.0	<100	<60.0	<200	<300	na
11/16/06	37,300	**5,410**	**922**	**6,820**	**10,380**	**3,260**	<10.0	**265** J	75	<20.0	<15.0	19.9 J	<20.0	**109**	65.6 J	<300	30.1 J	<20.0	<10.0	<200	<300	na
05/23/07	103,000	**21,200**	**2,730**	**33,800**	**16,520**	**4,590**	<200	<1,000	<200	<200	<200	<200	<300	<200	<300	<300	<100	<200	<100	<200	<300	na
11/15/07	121,000	**7,580**	**1,240**	**13,500**	**7,180**	**2,007**	<200	<1,000	<200	<200	<200	<200	<300	<200	<300	<300	<100	<200	<100	<200	<300	na
05/27/08	120,000	**22,600**	**3,310**	**45,700**	**20,390**	**3,327**	<500	<1,000	<200	<400	<300	<300	<400	<300	<500	<300	<100	<200	<100	<200	<300	na
11/24/08	109,000	**6,950**	**1,590**	**14,200**	**7,780**	**1,377**	<500	<1,000	<200	<400	<300	<300	<400	<300	<500	<300	<100	<200	<100	<200	<300	na
05/27/09	110,000	**19,000**	**4,030**	**45,700**	**21,860**	**6,040**	<500	<1,000	<300	<400	<300	<300	<400	**585** J	<800	<300	134 J	<400	<100	<500	<300	na
11/23/09	106,000	**13,200**	**3,630**	**30,600**	**20,610**	**6,280**	<50.0	**783**	<30.0	<40.0	<30.0	<30.0	<40.0	**315**	<80.0	na	111	<40.0	<10.0	<50.0	<300	na
05/19/10	103,000	**18,400**	**3,640**	**42,200**	**21,540**	**6,560**	<500	<1,000	<300	<400	<300	<300	<400	<300	<800	<300	134 J	<400	<100	<500	<300	na
10/21/10	98,000	**14,900**	**3,730**	**36,800**	**24,540**	**6,240**	<500	**1,070** J	<300	<400	<300	<300	<400	**339** J	<400	<300	<200	<400	<200	<500	<300	na
06/16/11	na	**12,200**	**2,760**	**33,100**	**16,950**	**3,324** J	<500	<1,000	<300	<400	<300	<300	<400	<300	<800	na	<200	<400	<200	<500	<300	na
10/25/11	na	**12,600**	**2,250**	**27,800**	**18,100**	**4,288** J	<500	<1,000	<300	<400	<300	<300	<400	**322** J	<800	na	<200	<400	<200	<500	<300	na
05/16/12	na	**12,700**	**2,610**	**28,200**	**17,680**	**3,480**	<76.2	**476** J	<102	<116	<111	<121	<30.0	<45.0	<93.8	na	<73.8	<83.8	214	<112	<56.2	na
08/21/13	na	**16,000**	**2,390**	**27,800**	**16,160**	**4,261**	<98.7	**584** J	<96.7	<79.9	<121	<84.9	<77.5	<95.3	<101	na	71.0	<79.4	273	<88.6	<94.4	na
06/24/14	na	**14,600**	**2,700**	**26,900**	**17,940**	**1,208**	<43.6	<625	<57.5	<125	<547	<45.1	<125	<41.9	<110	na	57.5 J	<125	193 J	<125	<125	na
10/21/14	na	**23,300**	**4,140**	**48,700**	**33,400**	**5,250**	<34.8	**617** J	<46.0	<100	<437	<36.1	<100	<33.5	<88.2	na	<28.7	<100	260	<100	<100	na
06/23/15	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/06/15	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/24/16	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/05/16	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/16/17	na	**25,600**	**3,200**	**42,700**	**23,200**	**3,821**	<109	<1560	<144	623 J	<1370	<113	<312	<105	<276	na	<89.6	<312	<312	<312	<312	na
10/25/17	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
MW-6/T68																						
03/12/03	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/30/04	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/26/05	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/09/05	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/19/06	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP

Gannett Fleming

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR DETECTED COMPOUNDS - TANK 68 RELEASE SITE[1]

Well ID	Substance																					
Date	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Naphthalene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloromethane	1,2-Dichloroethane	1,1-Dichloropropene	Isopropyl Ether	Isopropylbenzene (Cumene)	p-Isopropyltoluene	n-Propylbenzene	1,1,1-Trichloroethane	Tetrachloroethene	Dissolved Lead
NR 140 PAL	NS	*0.5*	*140*	*160*	*400*	*96*	*12*	*10*	NS	NS	NS	NS	*3*	*0.5*	NS	NS	NS	NS	NS	*40*	*0.5*	*1.5*
NR 140 ES	NS	**5**	**700**	**800**	**2,000**	**480**	**60**	**100**	NS	NS	NS	NS	**30**	**5**	NS	NS	NS	NS	NS	**200**	**5**	**15**
05/23/07	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/15/07	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/27/08	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/24/08	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/27/09	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/23/09	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/19/10	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/21/10	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
06/16/11	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/25/11	na	**24,000**	**2,160**	**25,200**	**16,320**	**3,830**	<100	**243** J	<60.0	<80.0	<60.0	<60.0	<80.0	<60.0	<80.0	na	61.3 J	<80.0	<40.0	<100	<60.0	na
05/16/12	na	**27,900**	**2,270**	**31,200**	**19,370**	**3,059**	<122	**436** J	<164	<186	<178	<194	<48.0	**293**	<150	na	<118	<134	<162	<180	<90.0	na
08/21/13	na	**26,100**	**3,940**	**32,700**	**33,400**	**11,180**	<98.7	**852** J	<96.7	439	<121	<84.9	<77.5	<95.3	<101	na	193 J	124 J	741	<88.6	<94.4	na
06/24/14	na	**26,000**	**1,780**	**25,700**	**19,390**	**3,017**	<43.6	<625	<57.5	<125	<547	<45.1	<125	**336**	<110	na	<35.8	<125	127 J	<125	<125	na
10/21/14	na	**47,200**	**2,160**	**47,700**	**43,200**	**6,080**	<34.8	**543** J	<46.0	<100	<437	<36.1	<100	<33.5	<88.2	na	<28.7	<100	121 J	<100	<100	na
06/23/15	na	**5,710**	26.3 J	**3,900**	**20,110**	**4,263**	<8.7	**383**	<11.5	<25.0	<109	<9.0	<25.0	<8.4	<22.1	na	<7.2	<25.0	<25.0	<25.0	<25.0	na
10/06/15	na	**6,000**	43.0 J	**3,010**	**18,150**	**4,307**	<8.7	**342**	<11.5	<25.0	<109	<9.0	<25.0	**43.5** J	<22.1	na	<7.2	<25.0	<25.0	<25.0	<25.0	na
05/24/16	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP
10/05/16	na	**5,070**	45.5 J	**1,560**	**14,320**	**4,065**	<8.7	**334**	<11.5	<25.0	<109	<9.0	<25.0	**37.5** J	<22.1	na	<7.2	<25.0	<25.0	<25.0	<25.0	na
05/16/17	na	**21,000**	**1,170**	**19,600**	**20,980**	**3,928**	<17.4	**273** J	<23.0	<50.0	<219	<18.0	<50.0	**240**	<44.1	na	30.8 J	<50.0	81.8 J	<50.0	<50.0	na
10/25/17	na	**17,500**	*576*	**12,500**	**16,570**	**3,569**	<21.8	<312	<28.8	<62.5	<273	<22.5	<62.5	**225**	<55.1	na	<17.9	<62.5	<62.5	<62.5	<62.5	na

NOTES:

Results are in micrograms per liter (µg/ℓ). Detected concentrations at or above an applicable NR 140 PAL are in red font and italicized; those at or above an NR 140 ES are in red font and bold.

DP = Discontinuous product globules, well not sampled.

FP = Free product, well not sampled.

GRO = Gasoline range organics.

J = Estimated concentration, concentration below the laboratory's level of quantitation.

MTBE = Methyl tert butyl ether.

na = Not analyzed.

NI = Not installed.

NR 140 ES = Wisconsin Administrative Code NR 140 Enforcement Standard.

NR 140 PAL = Wisconsin Administrative Code NR 140 Preventive Action Limit.

NS = No standard.

TMBs = Trimethylbenzenes.

U = Compound not detected at or above the limit of detection.

FOOTNOTE:

(1) In addition, 244 µg/ℓ of 1,3-dichloropropane was detected in the sample collected from MW-5/T66 on 10/25/17. However, 1,3-dichloropropane has no NR 140 PAL or NR 140 ES. Consequently, Table 2 was not revised to include all 1,3-dichloropropane data.

ATTACHMENT A

LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS FOR GROUNDWATER SAMPLES COLLECTED FROM JULY 2015 THROUGH DECEMBER 2017

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

Project #34265.003
Calumet Superior
Reviewed by CCW
10/20/15

October 19, 2015

Clifford Wright
Gannett Fleming
8025 Excelsior Drive
Madison, WI 53717

RE: Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Dear Clifford Wright:
Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
Project Manager

Enclosures

cc: Dave Olig, Gannett Fleming

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP ID: 460263
Virginia VELAP Certification ID: 460263
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40122459001	**MW-1/CW**	Water	10/06/15 12:00	10/08/15 10:40
40122459002	**MW-2/CW**	Water	10/06/15 12:02	10/08/15 10:40
40122459003	**MW-3/CW**	Water	10/06/15 12:10	10/08/15 10:40
40122459004	**MW-4/CW**	Water	10/06/15 12:05	10/08/15 10:40
40122459005	**MW-1/T40**	Water	10/06/15 08:00	10/08/15 10:40
40122459006	**MW-4/T40**	Water	10/06/15 08:25	10/08/15 10:40
40122459007	**MW-5/T40**	Water	10/06/15 08:10	10/08/15 10:40
40122459008	**MW-6/T40**	Water	10/06/15 08:15	10/08/15 10:40
40122459009	**MW-7/T40**	Water	10/06/15 08:20	10/08/15 10:40
40122459010	**TS-1/T40**	Water	10/06/15 08:22	10/08/15 10:40
40122459011	**MW-1/T68**	Water	10/06/15 08:40	10/08/15 10:40
40122459012	**MW-2/T68**	Water	10/06/15 09:00	10/08/15 10:40
40122459013	**MW-4/T68**	Water	10/06/15 08:55	10/08/15 10:40
40122459014	**MW-5/T66**	Water	10/06/15 08:45	10/08/15 10:40
40122459015	**MW-6/T68**	Water	10/06/15 09:05	10/08/15 10:40
40122459016	**MW-1R/T70**	Water	10/06/15 09:40	10/08/15 10:40
40122459017	**MW-2R/T70**	Water	10/06/15 09:15	10/08/15 10:40
40122459018	**MW-3/T70**	Water	10/06/15 09:30	10/08/15 10:40
40122459019	**MW-4/T70**	Water	10/06/15 09:35	10/08/15 10:40
40122459020	**MW-5/T70**	Water	10/06/15 09:20	10/08/15 10:40
40122459021	**MW-6/T70**	Water	10/06/15 09:25	10/08/15 10:40
40122459022	**TRIP BLANK**	Water	10/06/15 00:00	10/08/15 10:40

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40122459001	**MW-1/CW**	EPA 8260	HNW	12	PASI-G
40122459002	**MW-2/CW**	EPA 8260	HNW	12	PASI-G
40122459003	**MW-3/CW**	EPA 8260	HNW	12	PASI-G
40122459004	**MW-4/CW**	EPA 8260	HNW	12	PASI-G
40122459005	**MW-1/T40**	EPA 8260	HNW	11	PASI-G
40122459006	**MW-4/T40**	EPA 8260	HNW	11	PASI-G
40122459007	**MW-5/T40**	EPA 8260	AJP	11	PASI-G
40122459008	**MW-6/T40**	EPA 8260	LAP	11	PASI-G
40122459009	**MW-7/T40**	EPA 8260	AJP	11	PASI-G
40122459010	**TS-1/T40**	EPA 8260	AJP	11	PASI-G
40122459011	**MW-1/T68**	EPA 8260	LAP	63	PASI-G
40122459012	**MW-2/T68**	EPA 8260	LAP	63	PASI-G
40122459013	**MW-4/T68**	EPA 8260	LAP	63	PASI-G
40122459014	**MW-5/T66**	EPA 8260	LAP	63	PASI-G
40122459015	**MW-6/T68**	EPA 8260	LAP	63	PASI-G
40122459016	**MW-1R/T70**	EPA 8260	AJP	12	PASI-G
40122459017	**MW-2R/T70**	EPA 8260	AJP	12	PASI-G
40122459018	**MW-3/T70**	EPA 8260	AJP	12	PASI-G
40122459019	**MW-4/T70**	EPA 8260	AJP	12	PASI-G
40122459020	**MW-5/T70**	EPA 8260	AJP	12	PASI-G
40122459021	**MW-6/T70**	EPA 8260	LAP	12	PASI-G
40122459022	**TRIP BLANK**	EPA 8260	AJP	12	PASI-G

Pace Analytical Services, Inc.
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Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40122459002	**MW-2/CW**					
EPA 8260	1,2,4-Trimethylbenzene	51.5	ug/L	5.0	10/12/15 13:28	
EPA 8260	1,3,5-Trimethylbenzene	4.6J	ug/L	5.0	10/12/15 13:28	
EPA 8260	Benzene	434	ug/L	5.0	10/12/15 13:28	
EPA 8260	Ethylbenzene	61.9	ug/L	5.0	10/12/15 13:28	
EPA 8260	Toluene	6.3	ug/L	5.0	10/12/15 13:28	
EPA 8260	m&p-Xylene	73.1	ug/L	10.0	10/12/15 13:28	
EPA 8260	o-Xylene	8.1	ug/L	5.0	10/12/15 13:28	
40122459003	**MW-3/CW**					
EPA 8260	1,2,4-Trimethylbenzene	282	ug/L	100	10/12/15 10:59	
EPA 8260	1,3,5-Trimethylbenzene	119	ug/L	100	10/12/15 10:59	
EPA 8260	Benzene	12500	ug/L	100	10/12/15 10:59	
EPA 8260	Ethylbenzene	409	ug/L	100	10/12/15 10:59	
EPA 8260	Toluene	265	ug/L	100	10/12/15 10:59	
EPA 8260	m&p-Xylene	1930	ug/L	200	10/12/15 10:59	
EPA 8260	o-Xylene	270	ug/L	100	10/12/15 10:59	
40122459004	**MW-4/CW**					
EPA 8260	1,2,4-Trimethylbenzene	1300	ug/L	50.0	10/12/15 11:22	
EPA 8260	1,3,5-Trimethylbenzene	352	ug/L	50.0	10/12/15 11:22	
EPA 8260	Benzene	8180	ug/L	50.0	10/12/15 11:22	
EPA 8260	Ethylbenzene	979	ug/L	50.0	10/12/15 11:22	
EPA 8260	Naphthalene	155J	ug/L	250	10/12/15 11:22	
EPA 8260	Toluene	282	ug/L	50.0	10/12/15 11:22	
EPA 8260	m&p-Xylene	3750	ug/L	100	10/12/15 11:22	
EPA 8260	o-Xylene	582	ug/L	50.0	10/12/15 11:22	
40122459005	**MW-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	2.0	ug/L	1.0	10/12/15 10:14	
EPA 8260	1,3,5-Trimethylbenzene	121	ug/L	1.0	10/12/15 10:14	
EPA 8260	Benzene	0.51J	ug/L	1.0	10/12/15 10:14	
EPA 8260	Ethylbenzene	0.79J	ug/L	1.0	10/12/15 10:14	
EPA 8260	Toluene	1.4	ug/L	1.0	10/12/15 10:14	
EPA 8260	m&p-Xylene	7.6	ug/L	2.0	10/12/15 10:14	
EPA 8260	o-Xylene	0.91J	ug/L	1.0	10/12/15 10:14	
40122459006	**MW-4/T40**					
EPA 8260	1,2,4-Trimethylbenzene	858	ug/L	100	10/12/15 11:44	
EPA 8260	1,3,5-Trimethylbenzene	245	ug/L	100	10/12/15 11:44	
EPA 8260	Benzene	6500	ug/L	100	10/12/15 11:44	
EPA 8260	Ethylbenzene	109	ug/L	100	10/12/15 11:44	
EPA 8260	m&p-Xylene	3000	ug/L	200	10/12/15 11:44	
EPA 8260	o-Xylene	1530	ug/L	100	10/12/15 11:44	
40122459007	**MW-5/T40**					
EPA 8260	1,2,4-Trimethylbenzene	0.51J	ug/L	1.0	10/10/15 12:49	
EPA 8260	Toluene	0.70J	ug/L	1.0	10/10/15 12:49	
EPA 8260	m&p-Xylene	1.1J	ug/L	2.0	10/10/15 12:49	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40122459008	**MW-6/T40**					
EPA 8260	1,2,4-Trimethylbenzene	4.8	ug/L	1.0	10/13/15 19:18	
EPA 8260	Benzene	123	ug/L	1.0	10/13/15 19:18	
EPA 8260	Ethylbenzene	8.8	ug/L	1.0	10/13/15 19:18	
EPA 8260	m&p-Xylene	8.8	ug/L	2.0	10/13/15 19:18	
40122459009	**MW-7/T40**					
EPA 8260	1,2,4-Trimethylbenzene	458	ug/L	40.0	10/10/15 16:06	
EPA 8260	1,3,5-Trimethylbenzene	149	ug/L	40.0	10/10/15 16:06	
EPA 8260	Benzene	2150	ug/L	40.0	10/10/15 16:06	
EPA 8260	Ethylbenzene	513	ug/L	40.0	10/10/15 16:06	
EPA 8260	Toluene	39.3J	ug/L	40.0	10/10/15 16:06	
EPA 8260	m&p-Xylene	2340	ug/L	80.0	10/10/15 16:06	
EPA 8260	o-Xylene	1070	ug/L	40.0	10/10/15 16:06	
40122459010	**TS-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	6.7	ug/L	1.0	10/10/15 13:11	
EPA 8260	1,3,5-Trimethylbenzene	4.2	ug/L	1.0	10/10/15 13:11	
EPA 8260	Benzene	4.6	ug/L	1.0	10/10/15 13:11	
EPA 8260	Ethylbenzene	1.1	ug/L	1.0	10/10/15 13:11	
40122459012	**MW-2/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2090	ug/L	200	10/12/15 11:27	
EPA 8260	1,2-Dichloroethane	894	ug/L	200	10/12/15 11:27	
EPA 8260	1,3,5-Trimethylbenzene	537	ug/L	200	10/12/15 11:27	
EPA 8260	Benzene	18300	ug/L	200	10/12/15 11:27	
EPA 8260	Ethylbenzene	995	ug/L	200	10/12/15 11:27	
EPA 8260	Toluene	18500	ug/L	200	10/12/15 11:27	
EPA 8260	m&p-Xylene	10200	ug/L	400	10/12/15 11:27	
EPA 8260	o-Xylene	4800	ug/L	200	10/12/15 11:27	
40122459013	**MW-4/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2.1	ug/L	1.0	10/12/15 16:25	
EPA 8260	Benzene	10.1	ug/L	1.0	10/12/15 16:25	
EPA 8260	Ethylbenzene	1.5	ug/L	1.0	10/12/15 16:25	
EPA 8260	m&p-Xylene	2.2	ug/L	2.0	10/12/15 16:25	
40122459014	**MW-5/T66**					
EPA 8260	1,2,4-Trimethylbenzene	3620	ug/L	200	10/12/15 16:47	
EPA 8260	1,3,5-Trimethylbenzene	965	ug/L	200	10/12/15 16:47	
EPA 8260	Benzene	11800	ug/L	200	10/12/15 16:47	
EPA 8260	Ethylbenzene	2080	ug/L	200	10/12/15 16:47	
EPA 8260	Isopropylbenzene (Cumene)	74.7J	ug/L	200	10/12/15 16:47	
EPA 8260	Naphthalene	510J	ug/L	1000	10/12/15 16:47	
EPA 8260	Toluene	20900	ug/L	200	10/12/15 16:47	
EPA 8260	m&p-Xylene	11700	ug/L	400	10/12/15 16:47	
EPA 8260	n-Propylbenzene	316	ug/L	200	10/12/15 16:47	
EPA 8260	o-Xylene	4970	ug/L	200	10/12/15 16:47	
40122459015	**MW-6/T68**					
EPA 8260	1,2,4-Trimethylbenzene	3360	ug/L	50.0	10/12/15 10:22	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40122459015	**MW-6/T68**					
EPA 8260	1,2-Dichloroethane	43.5J	ug/L	50.0	10/12/15 10:22	
EPA 8260	1,3,5-Trimethylbenzene	947	ug/L	50.0	10/12/15 10:22	
EPA 8260	Benzene	6000	ug/L	50.0	10/12/15 10:22	
EPA 8260	Ethylbenzene	43.0J	ug/L	50.0	10/12/15 10:22	
EPA 8260	Naphthalene	342	ug/L	250	10/12/15 10:22	
EPA 8260	Toluene	3010	ug/L	50.0	10/12/15 10:22	
EPA 8260	m&p-Xylene	12200	ug/L	100	10/12/15 10:22	
EPA 8260	o-Xylene	5950	ug/L	50.0	10/12/15 10:22	
40122459016	**MW-1R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	1500	ug/L	125	10/10/15 16:28	
EPA 8260	1,3,5-Trimethylbenzene	404	ug/L	125	10/10/15 16:28	
EPA 8260	Benzene	10400	ug/L	125	10/10/15 16:28	
EPA 8260	Ethylbenzene	570	ug/L	125	10/10/15 16:28	
EPA 8260	Toluene	8130	ug/L	125	10/10/15 16:28	
EPA 8260	m&p-Xylene	6440	ug/L	250	10/10/15 16:28	
EPA 8260	o-Xylene	2310	ug/L	125	10/10/15 16:28	
40122459017	**MW-2R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	3200	ug/L	250	10/10/15 16:50	
EPA 8260	1,3,5-Trimethylbenzene	802	ug/L	250	10/10/15 16:50	
EPA 8260	Benzene	15200	ug/L	250	10/10/15 16:50	
EPA 8260	Ethylbenzene	1600	ug/L	250	10/10/15 16:50	
EPA 8260	Toluene	24100	ug/L	250	10/10/15 16:50	
EPA 8260	m&p-Xylene	12600	ug/L	500	10/10/15 16:50	
EPA 8260	o-Xylene	5250	ug/L	250	10/10/15 16:50	
40122459018	**MW-3/T70**					
EPA 8260	1,2,4-Trimethylbenzene	0.78J	ug/L	1.0	10/10/15 13:33	
EPA 8260	Benzene	4.0	ug/L	1.0	10/10/15 13:33	
EPA 8260	Ethylbenzene	0.70J	ug/L	1.0	10/10/15 13:33	
EPA 8260	o-Xylene	0.77J	ug/L	1.0	10/10/15 13:33	
40122459019	**MW-4/T70**					
EPA 8260	1,2,4-Trimethylbenzene	2550	ug/L	100	10/10/15 17:12	
EPA 8260	1,3,5-Trimethylbenzene	640	ug/L	100	10/10/15 17:12	
EPA 8260	Benzene	10700	ug/L	100	10/10/15 17:12	
EPA 8260	Ethylbenzene	1500	ug/L	100	10/10/15 17:12	
EPA 8260	Naphthalene	515	ug/L	500	10/10/15 17:12	
EPA 8260	Toluene	17600	ug/L	100	10/10/15 17:12	
EPA 8260	m&p-Xylene	12000	ug/L	200	10/10/15 17:12	
EPA 8260	o-Xylene	5470	ug/L	100	10/10/15 17:12	
40122459020	**MW-5/T70**					
EPA 8260	1,2,4-Trimethylbenzene	2.0	ug/L	1.0	10/10/15 13:55	
EPA 8260	1,3,5-Trimethylbenzene	1.1	ug/L	1.0	10/10/15 13:55	
EPA 8260	Benzene	1.6	ug/L	1.0	10/10/15 13:55	
EPA 8260	Ethylbenzene	0.59J	ug/L	1.0	10/10/15 13:55	
EPA 8260	Naphthalene	10.9	ug/L	5.0	10/10/15 13:55	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40122459020	**MW-5/T70**					
EPA 8260	m&p-Xylene	3.7	ug/L	2.0	10/10/15 13:55	
EPA 8260	o-Xylene	7.6	ug/L	1.0	10/10/15 13:55	
40122459021	**MW-6/T70**					
EPA 8260	1,2,4-Trimethylbenzene	18.9	ug/L	1.0	10/13/15 19:40	
EPA 8260	1,3,5-Trimethylbenzene	6.1	ug/L	1.0	10/13/15 19:40	
EPA 8260	Benzene	84.1	ug/L	1.0	10/13/15 19:40	
EPA 8260	Ethylbenzene	4.6	ug/L	1.0	10/13/15 19:40	
EPA 8260	Naphthalene	4.0J	ug/L	5.0	10/13/15 19:40	
EPA 8260	Toluene	6.4	ug/L	1.0	10/13/15 19:40	
EPA 8260	m&p-Xylene	66.4	ug/L	2.0	10/13/15 19:40	
EPA 8260	o-Xylene	35.3	ug/L	1.0	10/13/15 19:40	

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PROJECT NARRATIVE

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Method: **EPA 8260**
Description: 8260 MSV
Client: Gannett Fleming Inc.
Date: October 19, 2015

General Information:
5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

PROJECT NARRATIVE

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Method: **EPA 8260**
Description: 8260 MSV UST
Client: Gannett Fleming Inc.
Date: October 19, 2015

General Information:
17 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-1/T68 **Lab ID: 40122459011** Collected: 10/06/15 08:40 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		10/12/15 08:54	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		10/12/15 08:54	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		10/12/15 08:54	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/12/15 08:54	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		10/12/15 08:54	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		10/12/15 08:54	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		10/12/15 08:54	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		10/12/15 08:54	120-82-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		10/12/15 08:54	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		10/12/15 08:54	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		10/12/15 08:54	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		10/12/15 08:54	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		10/12/15 08:54	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		10/12/15 08:54	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		10/12/15 08:54	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		10/12/15 08:54	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		10/12/15 08:54	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		10/12/15 08:54	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		10/12/15 08:54	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		10/12/15 08:54	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		10/12/15 08:54	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		10/12/15 08:54	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		10/12/15 08:54	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		10/12/15 08:54	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		10/12/15 08:54	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		10/12/15 08:54	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-1/T68 **Lab ID: 40122459011** Collected: 10/06/15 08:40 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		10/12/15 08:54	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		10/12/15 08:54	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		10/12/15 08:54	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/12/15 08:54	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		10/12/15 08:54	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 08:54	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		10/12/15 08:54	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		10/12/15 08:54	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/12/15 08:54	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		10/12/15 08:54	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		10/12/15 08:54	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		10/12/15 08:54	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/12/15 08:54	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-2/T68 **Lab ID: 40122459012** Collected: 10/06/15 09:00 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		10/12/15 11:27	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		10/12/15 11:27	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		10/12/15 11:27	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		10/12/15 11:27	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		10/12/15 11:27	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		10/12/15 11:27	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		10/12/15 11:27	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		10/12/15 11:27	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		10/12/15 11:27	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		10/12/15 11:27	120-82-1	
1,2,4-Trimethylbenzene	**2090**	ug/L	200	100	200		10/12/15 11:27	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		10/12/15 11:27	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		10/12/15 11:27	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		10/12/15 11:27	95-50-1	
1,2-Dichloroethane	**894**	ug/L	200	33.6	200		10/12/15 11:27	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		10/12/15 11:27	78-87-5	
1,3,5-Trimethylbenzene	**537**	ug/L	200	100	200		10/12/15 11:27	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		10/12/15 11:27	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		10/12/15 11:27	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		10/12/15 11:27	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		10/12/15 11:27	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		10/12/15 11:27	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		10/12/15 11:27	106-43-4	
Benzene	**18300**	ug/L	200	100	200		10/12/15 11:27	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		10/12/15 11:27	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		10/12/15 11:27	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		10/12/15 11:27	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		10/12/15 11:27	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		10/12/15 11:27	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		10/12/15 11:27	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		10/12/15 11:27	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		10/12/15 11:27	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		10/12/15 11:27	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		10/12/15 11:27	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		10/12/15 11:27	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		10/12/15 11:27	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		10/12/15 11:27	75-71-8	
Ethylbenzene	**995**	ug/L	200	100	200		10/12/15 11:27	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		10/12/15 11:27	87-68-3	
Isopropylbenzene (Cumene)	**<28.7**	ug/L	200	28.7	200		10/12/15 11:27	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		10/12/15 11:27	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		10/12/15 11:27	75-09-2	
Naphthalene	**<500**	ug/L	1000	500	200		10/12/15 11:27	91-20-3	
Styrene	**<100**	ug/L	200	100	200		10/12/15 11:27	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		10/12/15 11:27	127-18-4	
Toluene	**18500**	ug/L	200	100	200		10/12/15 11:27	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-2/T68 **Lab ID: 40122459012** Collected: 10/06/15 09:00 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		10/12/15 11:27	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		10/12/15 11:27	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		10/12/15 11:27	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		10/12/15 11:27	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		10/12/15 11:27	10061-01-5	
m&p-Xylene	**10200**	ug/L	400	200	200		10/12/15 11:27	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		10/12/15 11:27	104-51-8	
n-Propylbenzene	**<100**	ug/L	200	100	200		10/12/15 11:27	103-65-1	
o-Xylene	**4800**	ug/L	200	100	200		10/12/15 11:27	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		10/12/15 11:27	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		10/12/15 11:27	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		10/12/15 11:27	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		10/12/15 11:27	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		10/12/15 11:27	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		200		10/12/15 11:27	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		200		10/12/15 11:27	1868-53-7	
Toluene-d8 (S)	101	%	70-130		200		10/12/15 11:27	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-4/T68 **Lab ID: 40122459013** Collected: 10/06/15 08:55 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		10/12/15 16:25	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		10/12/15 16:25	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		10/12/15 16:25	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/12/15 16:25	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		10/12/15 16:25	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		10/12/15 16:25	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		10/12/15 16:25	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		10/12/15 16:25	120-82-1	
1,2,4-Trimethylbenzene	**2.1**	ug/L	1.0	0.50	1		10/12/15 16:25	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		10/12/15 16:25	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		10/12/15 16:25	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		10/12/15 16:25	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		10/12/15 16:25	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		10/12/15 16:25	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		10/12/15 16:25	106-43-4	
Benzene	**10.1**	ug/L	1.0	0.50	1		10/12/15 16:25	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		10/12/15 16:25	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		10/12/15 16:25	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		10/12/15 16:25	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		10/12/15 16:25	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		10/12/15 16:25	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		10/12/15 16:25	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		10/12/15 16:25	75-71-8	
Ethylbenzene	**1.5**	ug/L	1.0	0.50	1		10/12/15 16:25	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		10/12/15 16:25	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		10/12/15 16:25	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		10/12/15 16:25	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		10/12/15 16:25	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		10/12/15 16:25	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-4/T68 **Lab ID: 40122459013** Collected: 10/06/15 08:55 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		10/12/15 16:25	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		10/12/15 16:25	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		10/12/15 16:25	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/12/15 16:25	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	10061-01-5	
m&p-Xylene	**2.2**	ug/L	2.0	1.0	1		10/12/15 16:25	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		10/12/15 16:25	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		10/12/15 16:25	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		10/12/15 16:25	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/12/15 16:25	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		10/12/15 16:25	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		10/12/15 16:25	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		10/12/15 16:25	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		10/12/15 16:25	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-5/T66 **Lab ID: 40122459014** Collected: 10/06/15 08:45 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		10/12/15 16:47	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		10/12/15 16:47	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		10/12/15 16:47	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		10/12/15 16:47	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		10/12/15 16:47	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		10/12/15 16:47	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		10/12/15 16:47	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		10/12/15 16:47	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		10/12/15 16:47	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		10/12/15 16:47	120-82-1	
1,2,4-Trimethylbenzene	**3620**	ug/L	200	100	200		10/12/15 16:47	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		10/12/15 16:47	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		10/12/15 16:47	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		10/12/15 16:47	95-50-1	
1,2-Dichloroethane	**<33.6**	ug/L	200	33.6	200		10/12/15 16:47	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		10/12/15 16:47	78-87-5	
1,3,5-Trimethylbenzene	**965**	ug/L	200	100	200		10/12/15 16:47	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		10/12/15 16:47	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		10/12/15 16:47	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		10/12/15 16:47	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		10/12/15 16:47	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		10/12/15 16:47	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		10/12/15 16:47	106-43-4	
Benzene	**11800**	ug/L	200	100	200		10/12/15 16:47	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		10/12/15 16:47	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		10/12/15 16:47	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		10/12/15 16:47	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		10/12/15 16:47	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		10/12/15 16:47	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		10/12/15 16:47	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		10/12/15 16:47	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		10/12/15 16:47	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		10/12/15 16:47	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		10/12/15 16:47	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		10/12/15 16:47	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		10/12/15 16:47	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		10/12/15 16:47	75-71-8	
Ethylbenzene	**2080**	ug/L	200	100	200		10/12/15 16:47	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		10/12/15 16:47	87-68-3	
Isopropylbenzene (Cumene)	**74.7J**	ug/L	200	28.7	200		10/12/15 16:47	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		10/12/15 16:47	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		10/12/15 16:47	75-09-2	
Naphthalene	**510J**	ug/L	1000	500	200		10/12/15 16:47	91-20-3	
Styrene	**<100**	ug/L	200	100	200		10/12/15 16:47	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		10/12/15 16:47	127-18-4	
Toluene	**20900**	ug/L	200	100	200		10/12/15 16:47	108-88-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-5/T66 **Lab ID: 40122459014** Collected: 10/06/15 08:45 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		10/12/15 16:47	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		10/12/15 16:47	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		10/12/15 16:47	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		10/12/15 16:47	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		10/12/15 16:47	10061-01-5	
m&p-Xylene	**11700**	ug/L	400	200	200		10/12/15 16:47	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		10/12/15 16:47	104-51-8	
n-Propylbenzene	**316**	ug/L	200	100	200		10/12/15 16:47	103-65-1	
o-Xylene	**4970**	ug/L	200	100	200		10/12/15 16:47	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		10/12/15 16:47	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		10/12/15 16:47	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		10/12/15 16:47	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		10/12/15 16:47	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		10/12/15 16:47	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		200		10/12/15 16:47	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		200		10/12/15 16:47	1868-53-7	
Toluene-d8 (S)	97	%	70-130		200		10/12/15 16:47	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-6/T68 **Lab ID: 40122459015** Collected: 10/06/15 09:05 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<9.0**	ug/L	50.0	9.0	50		10/12/15 10:22	630-20-6	
1,1,1-Trichloroethane	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	71-55-6	
1,1,2,2-Tetrachloroethane	**<12.5**	ug/L	50.0	12.5	50		10/12/15 10:22	79-34-5	
1,1,2-Trichloroethane	**<9.9**	ug/L	50.0	9.9	50		10/12/15 10:22	79-00-5	
1,1-Dichloroethane	**<12.1**	ug/L	50.0	12.1	50		10/12/15 10:22	75-34-3	
1,1-Dichloroethene	**<20.5**	ug/L	50.0	20.5	50		10/12/15 10:22	75-35-4	
1,1-Dichloropropene	**<22.1**	ug/L	50.0	22.1	50		10/12/15 10:22	563-58-6	
1,2,3-Trichlorobenzene	**<107**	ug/L	250	107	50		10/12/15 10:22	87-61-6	
1,2,3-Trichloropropane	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	96-18-4	
1,2,4-Trichlorobenzene	**<110**	ug/L	250	110	50		10/12/15 10:22	120-82-1	
1,2,4-Trimethylbenzene	**3360**	ug/L	50.0	25.0	50		10/12/15 10:22	95-63-6	
1,2-Dibromo-3-chloropropane	**<108**	ug/L	250	108	50		10/12/15 10:22	96-12-8	
1,2-Dibromoethane (EDB)	**<8.9**	ug/L	50.0	8.9	50		10/12/15 10:22	106-93-4	
1,2-Dichlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	95-50-1	
1,2-Dichloroethane	**43.5J**	ug/L	50.0	8.4	50		10/12/15 10:22	107-06-2	
1,2-Dichloropropane	**<11.7**	ug/L	50.0	11.7	50		10/12/15 10:22	78-87-5	
1,3,5-Trimethylbenzene	**947**	ug/L	50.0	25.0	50		10/12/15 10:22	108-67-8	
1,3-Dichlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	541-73-1	
1,3-Dichloropropane	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	142-28-9	
1,4-Dichlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	106-46-7	
2,2-Dichloropropane	**<24.2**	ug/L	50.0	24.2	50		10/12/15 10:22	594-20-7	
2-Chlorotoluene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	95-49-8	
4-Chlorotoluene	**<10.7**	ug/L	50.0	10.7	50		10/12/15 10:22	106-43-4	
Benzene	**6000**	ug/L	50.0	25.0	50		10/12/15 10:22	71-43-2	
Bromobenzene	**<11.5**	ug/L	50.0	11.5	50		10/12/15 10:22	108-86-1	
Bromochloromethane	**<17.0**	ug/L	50.0	17.0	50		10/12/15 10:22	74-97-5	
Bromodichloromethane	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	75-27-4	
Bromoform	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	75-25-2	
Bromomethane	**<122**	ug/L	250	122	50		10/12/15 10:22	74-83-9	
Carbon tetrachloride	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	56-23-5	
Chlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	108-90-7	
Chloroethane	**<18.7**	ug/L	50.0	18.7	50		10/12/15 10:22	75-00-3	
Chloroform	**<125**	ug/L	250	125	50		10/12/15 10:22	67-66-3	
Chloromethane	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	74-87-3	
Dibromochloromethane	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	124-48-1	
Dibromomethane	**<21.3**	ug/L	50.0	21.3	50		10/12/15 10:22	74-95-3	
Dichlorodifluoromethane	**<11.2**	ug/L	50.0	11.2	50		10/12/15 10:22	75-71-8	
Ethylbenzene	**43.0J**	ug/L	50.0	25.0	50		10/12/15 10:22	100-41-4	
Hexachloro-1,3-butadiene	**<105**	ug/L	250	105	50		10/12/15 10:22	87-68-3	
Isopropylbenzene (Cumene)	**<7.2**	ug/L	50.0	7.2	50		10/12/15 10:22	98-82-8	
Methyl-tert-butyl ether	**<8.7**	ug/L	50.0	8.7	50		10/12/15 10:22	1634-04-4	
Methylene Chloride	**<11.6**	ug/L	50.0	11.6	50		10/12/15 10:22	75-09-2	
Naphthalene	**342**	ug/L	250	125	50		10/12/15 10:22	91-20-3	
Styrene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	100-42-5	
Tetrachloroethene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	127-18-4	
Toluene	**3010**	ug/L	50.0	25.0	50		10/12/15 10:22	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: MW-6/T68 **Lab ID: 40122459015** Collected: 10/06/15 09:05 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<16.5**	ug/L	50.0	16.5	50		10/12/15 10:22	79-01-6	
Trichlorofluoromethane	**<9.2**	ug/L	50.0	9.2	50		10/12/15 10:22	75-69-4	
Vinyl chloride	**<8.8**	ug/L	50.0	8.8	50		10/12/15 10:22	75-01-4	
cis-1,2-Dichloroethene	**<12.8**	ug/L	50.0	12.8	50		10/12/15 10:22	156-59-2	
cis-1,3-Dichloropropene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	10061-01-5	
m&p-Xylene	**12200**	ug/L	100	50.0	50		10/12/15 10:22	179601-23-1	
n-Butylbenzene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	104-51-8	
n-Propylbenzene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	103-65-1	
o-Xylene	**5950**	ug/L	50.0	25.0	50		10/12/15 10:22	95-47-6	
p-Isopropyltoluene	**<25.0**	ug/L	50.0	25.0	50		10/12/15 10:22	99-87-6	
sec-Butylbenzene	**<109**	ug/L	250	109	50		10/12/15 10:22	135-98-8	
tert-Butylbenzene	**<9.0**	ug/L	50.0	9.0	50		10/12/15 10:22	98-06-6	
trans-1,2-Dichloroethene	**<12.8**	ug/L	50.0	12.8	50		10/12/15 10:22	156-60-5	
trans-1,3-Dichloropropene	**<11.5**	ug/L	50.0	11.5	50		10/12/15 10:22	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		50		10/12/15 10:22	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		50		10/12/15 10:22	1868-53-7	
Toluene-d8 (S)	98	%	70-130		50		10/12/15 10:22	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Sample: TRIP BLANK **Lab ID: 40122459022** Collected: 10/06/15 00:00 Received: 10/08/15 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260								
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/10/15 11:00	95-63-6	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/10/15 11:00	108-67-8	
Benzene	**<0.50**	ug/L	1.0	0.50	1		10/10/15 11:00	71-43-2	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/10/15 11:00	100-41-4	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		10/10/15 11:00	1634-04-4	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		10/10/15 11:00	91-20-3	
Toluene	**<0.50**	ug/L	1.0	0.50	1		10/10/15 11:00	108-88-3	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		10/10/15 11:00	179601-23-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		10/10/15 11:00	95-47-6	
Surrogates									
Dibromofluoromethane (S)	104	%	70-130		1		10/10/15 11:00	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		10/10/15 11:00	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		1		10/10/15 11:00	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

QC Batch: MSV/30585 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40122459011, 40122459012, 40122459013, 40122459014, 40122459015

METHOD BLANK: 1236760 Matrix: Water
Associated Lab Samples: 40122459011, 40122459012, 40122459013, 40122459014, 40122459015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/12/15 06:43	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/12/15 06:43	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/12/15 06:43	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/12/15 06:43	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/12/15 06:43	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/12/15 06:43	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/12/15 06:43	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/12/15 06:43	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/12/15 06:43	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/12/15 06:43	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/12/15 06:43	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/12/15 06:43	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/12/15 06:43	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/12/15 06:43	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/12/15 06:43	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/12/15 06:43	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/12/15 06:43	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/12/15 06:43	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/12/15 06:43	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/12/15 06:43	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/12/15 06:43	
2-Chlorotoluene	ug/L	<0.50	1.0	10/12/15 06:43	
4-Chlorotoluene	ug/L	<0.21	1.0	10/12/15 06:43	
Benzene	ug/L	<0.50	1.0	10/12/15 06:43	
Bromobenzene	ug/L	<0.23	1.0	10/12/15 06:43	
Bromochloromethane	ug/L	<0.34	1.0	10/12/15 06:43	
Bromodichloromethane	ug/L	<0.50	1.0	10/12/15 06:43	
Bromoform	ug/L	<0.50	1.0	10/12/15 06:43	
Bromomethane	ug/L	<2.4	5.0	10/12/15 06:43	
Carbon tetrachloride	ug/L	<0.50	1.0	10/12/15 06:43	
Chlorobenzene	ug/L	<0.50	1.0	10/12/15 06:43	
Chloroethane	ug/L	<0.37	1.0	10/12/15 06:43	
Chloroform	ug/L	<2.5	5.0	10/12/15 06:43	
Chloromethane	ug/L	<0.50	1.0	10/12/15 06:43	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/12/15 06:43	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/12/15 06:43	
Dibromochloromethane	ug/L	<0.50	1.0	10/12/15 06:43	
Dibromomethane	ug/L	<0.43	1.0	10/12/15 06:43	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/12/15 06:43	
Ethylbenzene	ug/L	<0.50	1.0	10/12/15 06:43	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/12/15 06:43	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

METHOD BLANK: 1236760 Matrix: Water
Associated Lab Samples: 40122459011, 40122459012, 40122459013, 40122459014, 40122459015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/12/15 06:43	
m&p-Xylene	ug/L	<1.0	2.0	10/12/15 06:43	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/12/15 06:43	
Methylene Chloride	ug/L	<0.23	1.0	10/12/15 06:43	
n-Butylbenzene	ug/L	<0.50	1.0	10/12/15 06:43	
n-Propylbenzene	ug/L	<0.50	1.0	10/12/15 06:43	
Naphthalene	ug/L	<2.5	5.0	10/12/15 06:43	
o-Xylene	ug/L	<0.50	1.0	10/12/15 06:43	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/12/15 06:43	
sec-Butylbenzene	ug/L	<2.2	5.0	10/12/15 06:43	
Styrene	ug/L	<0.50	1.0	10/12/15 06:43	
tert-Butylbenzene	ug/L	<0.18	1.0	10/12/15 06:43	
Tetrachloroethene	ug/L	<0.50	1.0	10/12/15 06:43	
Toluene	ug/L	<0.50	1.0	10/12/15 06:43	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/12/15 06:43	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/12/15 06:43	
Trichloroethene	ug/L	<0.33	1.0	10/12/15 06:43	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/12/15 06:43	
Vinyl chloride	ug/L	<0.18	1.0	10/12/15 06:43	
4-Bromofluorobenzene (S)	%	92	70-130	10/12/15 06:43	
Dibromofluoromethane (S)	%	104	70-130	10/12/15 06:43	
Toluene-d8 (S)	%	100	70-130	10/12/15 06:43	

LABORATORY CONTROL SAMPLE: 1236761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	53.0	106	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	47.8	96	70-130	
1,1,2-Trichloroethane	ug/L	50	48.6	97	70-130	
1,1-Dichloroethane	ug/L	50	50.7	101	70-130	
1,1-Dichloroethene	ug/L	50	53.6	107	70-130	
1,2,4-Trichlorobenzene	ug/L	50	44.3	89	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	42.7	85	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	49.1	98	70-130	
1,2-Dichlorobenzene	ug/L	50	46.5	93	70-130	
1,2-Dichloroethane	ug/L	50	50.9	102	70-131	
1,2-Dichloropropane	ug/L	50	49.4	99	70-130	
1,3-Dichlorobenzene	ug/L	50	45.6	91	70-130	
1,4-Dichlorobenzene	ug/L	50	44.6	89	70-130	
Benzene	ug/L	50	51.2	102	70-130	
Bromodichloromethane	ug/L	50	48.4	97	70-130	
Bromoform	ug/L	50	45.6	91	68-130	
Bromomethane	ug/L	50	27.5	55	38-137	
Carbon tetrachloride	ug/L	50	54.7	109	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

LABORATORY CONTROL SAMPLE: 1236761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	48.2	96	70-130	
Chloroethane	ug/L	50	51.9	104	70-136	
Chloroform	ug/L	50	51.2	102	70-130	
Chloromethane	ug/L	50	45.8	92	48-144	
cis-1,2-Dichloroethene	ug/L	50	50.5	101	70-130	
cis-1,3-Dichloropropene	ug/L	50	45.4	91	70-130	
Dibromochloromethane	ug/L	50	47.7	95	70-130	
Dichlorodifluoromethane	ug/L	50	45.8	92	33-157	
Ethylbenzene	ug/L	50	50.3	101	70-132	
Isopropylbenzene (Cumene)	ug/L	50	52.4	105	70-130	
m&p-Xylene	ug/L	100	102	102	70-131	
Methyl-tert-butyl ether	ug/L	50	49.0	98	48-141	
Methylene Chloride	ug/L	50	50.5	101	70-130	
o-Xylene	ug/L	50	49.4	99	70-131	
Styrene	ug/L	50	51.5	103	70-130	
Tetrachloroethene	ug/L	50	47.4	95	70-130	
Toluene	ug/L	50	49.8	100	70-130	
trans-1,2-Dichloroethene	ug/L	50	51.6	103	70-130	
trans-1,3-Dichloropropene	ug/L	50	44.1	88	70-130	
Trichloroethene	ug/L	50	50.6	101	70-130	
Trichlorofluoromethane	ug/L	50	53.8	108	50-150	
Vinyl chloride	ug/L	50	48.6	97	65-142	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			105	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1237024 1237025

Parameter	Units	40122459011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	55.1	53.2	110	106	70-130	4	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	49.3	47.2	99	94	70-130	4	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	49.2	47.9	98	96	70-130	3	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	52.5	50.6	105	101	70-134	4	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	55.8	53.8	112	108	70-139	3	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	48.5	46.4	97	93	70-130	4	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	44.7	43.4	89	87	50-150	3	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	51.1	49.7	102	99	70-130	3	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	49.6	47.4	99	95	70-130	4	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	52.3	50.2	105	100	70-132	4	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	50.8	49.8	102	100	70-130	2	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	47.8	46.2	96	92	70-130	3	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	46.7	45.2	93	90	70-130	3	20	
Benzene	ug/L	<0.50	50	50	53.1	51.7	106	103	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1237024 1237025

Parameter	Units	40122459011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<0.50	50	50	50.6	48.3	101	97	70-132	5	20	
Bromoform	ug/L	<0.50	50	50	47.6	45.7	95	91	68-130	4	20	
Bromomethane	ug/L	<2.4	50	50	38.8	41.5	78	83	38-141	7	20	
Carbon tetrachloride	ug/L	<0.50	50	50	56.3	54.9	113	110	70-130	3	20	
Chlorobenzene	ug/L	<0.50	50	50	50.0	48.8	100	98	70-130	3	20	
Chloroethane	ug/L	<0.37	50	50	53.2	51.6	106	103	66-152	3	20	
Chloroform	ug/L	<2.5	50	50	53.2	51.0	106	102	70-130	4	20	
Chloromethane	ug/L	<0.50	50	50	49.9	48.9	100	98	44-151	2	20	
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	52.7	50.5	105	101	70-130	4	20	
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	47.4	45.9	95	92	70-130	3	20	
Dibromochloromethane	ug/L	<0.50	50	50	50.1	48.4	100	97	70-130	4	20	
Dichlorodifluoromethane	ug/L	<0.22	50	50	46.3	45.1	93	90	29-160	3	20	
Ethylbenzene	ug/L	<0.50	50	50	52.1	50.6	104	101	70-132	3	20	
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	53.1	52.1	106	104	70-130	2	20	
m&p-Xylene	ug/L	<1.0	100	100	105	103	105	103	70-131	2	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	51.8	49.1	104	98	48-143	5	20	
Methylene Chloride	ug/L	<0.23	50	50	52.7	50.9	105	102	70-130	3	20	
o-Xylene	ug/L	<0.50	50	50	51.1	49.7	102	99	70-131	3	20	
Styrene	ug/L	<0.50	50	50	53.5	52.0	107	104	70-130	3	20	
Tetrachloroethene	ug/L	<0.50	50	50	49.1	48.2	98	96	70-130	2	20	
Toluene	ug/L	<0.50	50	50	51.0	49.5	102	99	70-130	3	20	
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	54.3	52.2	109	104	70-132	4	20	
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	46.4	45.4	93	91	70-130	2	20	
Trichloroethene	ug/L	<0.33	50	50	52.4	50.9	105	102	70-130	3	20	
Trichlorofluoromethane	ug/L	<0.18	50	50	55.4	54.4	111	109	50-153	2	20	
Vinyl chloride	ug/L	<0.18	50	50	51.4	51.1	103	102	60-155	1	20	
4-Bromofluorobenzene (S)	%						101	101	70-130			
Dibromofluoromethane (S)	%						105	103	70-130			
Toluene-d8 (S)	%						98	100	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

QC Batch: MSV/30565 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40122459001, 40122459002, 40122459003, 40122459004, 40122459005, 40122459006

METHOD BLANK: 1235209 Matrix: Water
Associated Lab Samples: 40122459001, 40122459002, 40122459003, 40122459004, 40122459005, 40122459006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/10/15 08:53	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/10/15 08:53	
Benzene	ug/L	<0.50	1.0	10/10/15 08:53	
Ethylbenzene	ug/L	<0.50	1.0	10/10/15 08:53	
m&p-Xylene	ug/L	<1.0	2.0	10/10/15 08:53	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/10/15 08:53	
Naphthalene	ug/L	<2.5	5.0	10/10/15 08:53	
o-Xylene	ug/L	<0.50	1.0	10/10/15 08:53	
Toluene	ug/L	<0.50	1.0	10/10/15 08:53	
4-Bromofluorobenzene (S)	%	92	70-130	10/10/15 08:53	
Dibromofluoromethane (S)	%	100	70-130	10/10/15 08:53	
Toluene-d8 (S)	%	96	70-130	10/10/15 08:53	

LABORATORY CONTROL SAMPLE: 1235210

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	50.7	101	70-130	
Ethylbenzene	ug/L	50	56.3	113	70-132	
m&p-Xylene	ug/L	100	117	117	70-131	
Methyl-tert-butyl ether	ug/L	50	42.6	85	48-141	
o-Xylene	ug/L	50	57.0	114	70-131	
Toluene	ug/L	50	56.2	112	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			86	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1235343 1235344

Parameter	Units	40122448011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	62.1	61.2	124	122	70-130	1	20	
Ethylbenzene	ug/L	<0.50	50	50	56.9	56.2	114	112	70-132	1	20	
m&p-Xylene	ug/L	<1.0	100	100	116	115	116	115	70-131	1	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	52.4	52.0	105	104	48-143	1	20	
o-Xylene	ug/L	<0.50	50	50	57.2	57.3	114	115	70-131	0	20	
Toluene	ug/L	<0.50	50	50	57.4	55.9	115	112	70-130	3	20	
4-Bromofluorobenzene (S)	%						99	100	70-130			
Dibromofluoromethane (S)	%						104	105	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1235343			1235344							
Parameter	Units	40122448011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						97	97	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

QC Batch: MSV/30584 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40122459007, 40122459009, 40122459010, 40122459016, 40122459017, 40122459018, 40122459019, 40122459020, 40122459022

METHOD BLANK: 1236271 Matrix: Water
Associated Lab Samples: 40122459007, 40122459009, 40122459010, 40122459016, 40122459017, 40122459018, 40122459019, 40122459020, 40122459022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/10/15 09:11	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/10/15 09:11	
Benzene	ug/L	<0.50	1.0	10/10/15 09:11	
Ethylbenzene	ug/L	<0.50	1.0	10/10/15 09:11	
m&p-Xylene	ug/L	<1.0	2.0	10/10/15 09:11	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/10/15 09:11	
Naphthalene	ug/L	<2.5	5.0	10/10/15 09:11	
o-Xylene	ug/L	<0.50	1.0	10/10/15 09:11	
Toluene	ug/L	<0.50	1.0	10/10/15 09:11	
4-Bromofluorobenzene (S)	%	103	70-130	10/10/15 09:11	
Dibromofluoromethane (S)	%	107	70-130	10/10/15 09:11	
Toluene-d8 (S)	%	107	70-130	10/10/15 09:11	

LABORATORY CONTROL SAMPLE: 1236272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	54.4	109	70-130	
Ethylbenzene	ug/L	50	61.5	123	70-132	
m&p-Xylene	ug/L	100	111	111	70-131	
Methyl-tert-butyl ether	ug/L	50	52.7	105	48-141	
o-Xylene	ug/L	50	53.4	107	70-131	
Toluene	ug/L	50	57.8	116	70-130	
4-Bromofluorobenzene (S)	%			114	70-130	
Dibromofluoromethane (S)	%			111	70-130	
Toluene-d8 (S)	%			105	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236295 1236296

Parameter	Units	40122508003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<1.0	50	50	48.6	53.5	97	107	70-130	10	20	
Ethylbenzene	ug/L	<1.0	50	50	52.6	57.2	105	114	70-132	8	20	
m&p-Xylene	ug/L	<2.0	100	100	95.9	106	96	106	70-131	10	20	
Methyl-tert-butyl ether	ug/L	<1.0	50	50	46.7	49.6	93	99	48-143	6	20	
o-Xylene	ug/L	<1.0	50	50	47.1	50.8	94	102	70-131	8	20	
Toluene	ug/L	<1.0	50	50	51.6	56.7	103	113	70-130	9	20	
4-Bromofluorobenzene (S)	%						113	115	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236295 1236296

Parameter	Units	40122508003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%						114	112	70-130			
Toluene-d8 (S)	%						103	103	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

QC Batch: MSV/30590 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40122459008, 40122459021

METHOD BLANK: 1237062 Matrix: Water
Associated Lab Samples: 40122459008, 40122459021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/13/15 17:24	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/13/15 17:24	
Benzene	ug/L	<0.50	1.0	10/13/15 17:24	
Ethylbenzene	ug/L	<0.50	1.0	10/13/15 17:24	
m&p-Xylene	ug/L	<1.0	2.0	10/13/15 17:24	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/13/15 17:24	
Naphthalene	ug/L	<2.5	5.0	10/13/15 17:24	
o-Xylene	ug/L	<0.50	1.0	10/13/15 17:24	
Toluene	ug/L	<0.50	1.0	10/13/15 17:24	
4-Bromofluorobenzene (S)	%	97	70-130	10/13/15 17:24	
Dibromofluoromethane (S)	%	106	70-130	10/13/15 17:24	
Toluene-d8 (S)	%	96	70-130	10/13/15 17:24	

LABORATORY CONTROL SAMPLE: 1237063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	49.1	98	70-130	
Ethylbenzene	ug/L	50	53.0	106	70-132	
m&p-Xylene	ug/L	100	106	106	70-131	
Methyl-tert-butyl ether	ug/L	50	46.1	92	48-141	
o-Xylene	ug/L	50	50.3	101	70-131	
Toluene	ug/L	50	50.3	101	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238144 1238145

Parameter	Units	40122508006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<1.0	50	50	49.9	49.0	100	98	70-130	2	20	
Ethylbenzene	ug/L	<1.0	50	50	54.8	53.4	109	106	70-132	3	20	
m&p-Xylene	ug/L	<2.0	100	100	108	104	107	104	70-131	3	20	
Methyl-tert-butyl ether	ug/L	<1.0	50	50	49.0	47.0	98	94	48-143	4	20	
o-Xylene	ug/L	<1.0	50	50	52.9	50.7	106	101	70-131	4	20	
Toluene	ug/L	<1.0	50	50	51.9	50.8	104	101	70-130	2	20	
4-Bromofluorobenzene (S)	%						103	100	70-130			
Dibromofluoromethane (S)	%						109	107	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238144 1238145

Parameter	Units	40122508006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						99	97	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 34265.003 CALUMET-SUPERIOR
Pace Project No.: 40122459

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40122459011	**MW-1/T68**	EPA 8260	MSV/30585		
40122459012	**MW-2/T68**	EPA 8260	MSV/30585		
40122459013	**MW-4/T68**	EPA 8260	MSV/30585		
40122459014	**MW-5/T66**	EPA 8260	MSV/30585		
40122459015	**MW-6/T68**	EPA 8260	MSV/30585		
40122459001	**MW-1/CW**	EPA 8260	MSV/30565		
40122459002	**MW-2/CW**	EPA 8260	MSV/30565		
40122459003	**MW-3/CW**	EPA 8260	MSV/30565		
40122459004	**MW-4/CW**	EPA 8260	MSV/30565		
40122459005	**MW-1/T40**	EPA 8260	MSV/30565		
40122459006	**MW-4/T40**	EPA 8260	MSV/30565		
40122459007	**MW-5/T40**	EPA 8260	MSV/30584		
40122459008	**MW-6/T40**	EPA 8260	MSV/30590		
40122459009	**MW-7/T40**	EPA 8260	MSV/30584		
40122459010	**TS-1/T40**	EPA 8260	MSV/30584		
40122459016	**MW-1R/T70**	EPA 8260	MSV/30584		
40122459017	**MW-2R/T70**	EPA 8260	MSV/30584		
40122459018	**MW-3/T70**	EPA 8260	MSV/30584		
40122459019	**MW-4/T70**	EPA 8260	MSV/30584		
40122459020	**MW-5/T70**	EPA 8260	MSV/30584		
40122459021	**MW-6/T70**	EPA 8260	MSV/30590		
40122459022	**TRIP BLANK**	EPA 8260	MSV/30584		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

40122459

mm.

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	Gannett Fleming
Branch/Location:	Madison, WI
Project Contact:	Cliff Wright
Phone:	608-836-1500
Project Number:	34265.003
Project Name:	Calumet-Superior
Project State:	WI
Sampled By (Print):	Marcus Mussey
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO)	PRESERVATION (CODE)*	Analyses Requested: PVOC Naph 8260	PVOC 8260	VOC 8260	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter	N	N	N			
							B	B	B			
001	MW-1/CW	10/6	12:00	GW			3				3-40mlVB	
002	MW2/CW		12:02				3					
003	MW-3/CW		12:10				3					
004	MW-4/CW		12:05				3					
005	MW-1/T40		8:00					3				
006	MW-4/T40		8:25					3				
007	MW-5/T40		8:10					3				
008	MW-6/T40		8:15					3				
009	MW-7/T40		8:20					3				
010	~~MW~~TS-1/T40		8:22					3				
011	MW-1/T68		8:40					~~3~~	3			
012	MW-2/T68		9:00						3			
013	MW-4/T68		8:55						3			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Marcus Mussey	10/7/15, 8:30		
Relinquished By:	Date/Time:	Received By:	Date/Time:
Ted Ge	10/8/15 1040	Cindy Pt/Pace	10/8/15 1040
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.
40122459

Receipt Temp = 1.0 °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	
Branch/Location:	
Project Contact:	See page one
Phone:	
Project Number:	
Project Name:	
Project State:	
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO)	PRESERVATION (CODE)*	Analyses Requested: PVOC NaOH 8260	Analyses Requested: VOC 8260	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter	N / B	N / B			
014	MW-5/T66	10/6	8:45	GW				3		3-40mlVB	
015	MW-6/T68		9:05					3			
016	MW-1R/T70		9:40				3				
017	MW-2R/T70		9:15				3				
018	MW-3/T70		9:30				3				
019	MW-4/T70		9:35				3				
020	MW-5/T70		9:20				3				
021	MW-6/T70		9:25				3				
022	TripBlankZ									2-40mlVB	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Marcus Mussy	10-7-15/8:30		
Fed Ex	10/8/15 1040	Courier Rt / Pace	10/8/15 1040

PACE Project No.: 40122459

Receipt Temp = ROI °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal: Present / Not Present; Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: WO#: 40122459

Client Name: Gannett Fleming

Courier: ☑ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: _____

Tracking #: 808913861809

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used N/A **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: ROI **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 10/8/15
Initials: CR

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☑No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☒N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes	☐No	☑N/A	
exceptions: (VOA) coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes	☐No		Initial when completed / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14.
Trip Blank Present:	☑Yes	☐No	☐N/A	15.
Trip Blank Custody Seals Present (10/8/15)	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased): 03 9415-3CC				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MH for CM **Date:** 10/8/15

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

June 02, 2016

Project #34265.003
Calumet Superior
Reviewed by CCW
6/6/16

Clifford Wright
Gannett Fleming
8025 Excelsior Drive
Madison, WI 53717

RE: Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Dear Clifford Wright:
Enclosed are the analytical results for sample(s) received by the laboratory on May 25, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
Project Manager

Enclosures

cc: Dave Olig, Gannett Fleming

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP ID: 460263
Virginia VELAP Certification ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40132890001	**LRS-1**	Water	05/24/16 11:30	05/25/16 12:45
40132890002	**LRS-2**	Water	05/24/16 11:40	05/25/16 12:45
40132890003	**LRS-3**	Water	05/24/16 11:50	05/25/16 12:45
40132890004	**LRS-4**	Water	05/24/16 11:55	05/25/16 12:45
40132890005	**LRS-6**	Water	05/24/16 11:45	05/25/16 12:45
40132890006	**LRS-7**	Water	05/24/16 12:05	05/25/16 12:45
40132890007	**MW-1/FL**	Water	05/24/16 10:30	05/25/16 12:45
40132890008	**MW-2/FL**	Water	05/24/16 10:20	05/25/16 12:45
40132890009	**MW-3/FL**	Water	05/24/16 10:05	05/25/16 12:45
40132890010	**MW-9/FL**	Water	05/24/16 12:15	05/25/16 12:45
40132890011	**MW-10/FL**	Water	05/24/16 12:20	05/25/16 12:45
40132890012	**MW-11/FL**	Water	05/24/16 10:45	05/25/16 12:45
40132890013	**MW-13/FL**	Water	05/24/16 11:25	05/25/16 12:45
40132890014	**MW-14/FL**	Water	05/24/16 11:10	05/25/16 12:45
40132890015	**MW-1/CW**	Water	05/24/16 09:05	05/25/16 12:45
40132890016	**MW-2/CW**	Water	05/24/16 09:00	05/25/16 12:45
40132890017	**MW-3/CW**	Water	05/24/16 09:10	05/25/16 12:45
40132890018	**MW-4/CW**	Water	05/24/16 08:50	05/25/16 12:45
40132890019	**MW-1/T40**	Water	05/24/16 13:30	05/25/16 12:45
40132890020	**MW-2/T40**	Water	05/24/16 13:05	05/25/16 12:45
40132890021	**MW-4/T40**	Water	05/24/16 13:25	05/25/16 12:45
40132890022	**MW-5/T40**	Water	05/24/16 13:10	05/25/16 12:45
40132890023	**MW-6/T40**	Water	05/24/16 13:15	05/25/16 12:45
40132890024	**MW-7/T40**	Water	05/24/16 13:20	05/25/16 12:45
40132890025	**TS-1/T40**	Water	05/24/16 13:35	05/25/16 12:45
40132890026	**MW-1/T68**	Water	05/24/16 14:00	05/25/16 12:45
40132890027	**MW-2/T68**	Water	05/24/16 14:15	05/25/16 12:45
40132890028	**MW-4/T68**	Water	05/24/16 14:10	05/25/16 12:45
40132890029	**MW-5/T66**	Water	05/24/16 14:20	05/25/16 12:45
40132890030	**MW-1R/T70**	Water	05/24/16 15:15	05/25/16 12:45
40132890031	**MW-2R/T70**	Water	05/24/16 14:50	05/25/16 12:45
40132890032	**MW-3/T70**	Water	05/24/16 14:25	05/25/16 12:45
40132890033	**MW-4/T70**	Water	05/24/16 14:20	05/25/16 12:45
40132890034	**MW-5/T70**	Water	05/24/16 14:55	05/25/16 12:45
40132890035	**MW-6/T70**	Water	05/24/16 15:00	05/25/16 12:45
40132890036	**TRIP BLANK**	Water	05/24/16 00:00	05/25/16 12:45

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40132890001	LRS-1	EPA 8021	PMS	9	PASI-G
40132890002	LRS-2	EPA 8021	PMS	9	PASI-G
40132890003	LRS-3	EPA 8021	PMS	9	PASI-G
40132890004	LRS-4	EPA 8021	PMS	9	PASI-G
40132890005	LRS-6	EPA 8021	PMS	9	PASI-G
40132890006	LRS-7	EPA 8021	PMS	9	PASI-G
40132890007	MW-1/FL	EPA 8021	PMS	9	PASI-G
40132890008	MW-2/FL	EPA 8021	PMS	9	PASI-G
40132890009	MW-3/FL	EPA 8021	PMS	9	PASI-G
40132890010	MW-9/FL	EPA 8021	PMS	9	PASI-G
40132890011	MW-10/FL	EPA 8021	PMS	9	PASI-G
40132890012	MW-11/FL	EPA 8021	PMS	9	PASI-G
40132890013	MW-13/FL	EPA 8021	PMS	9	PASI-G
40132890014	MW-14/FL	EPA 8021	PMS	9	PASI-G
40132890015	MW-1/CW	EPA 8260	LAP	12	PASI-G
40132890016	MW-2/CW	EPA 8260	LAP	12	PASI-G
40132890017	MW-3/CW	EPA 8260	LAP	12	PASI-G
40132890018	MW-4/CW	EPA 8260	HNW	12	PASI-G
40132890019	MW-1/T40	EPA 8260	HNW	11	PASI-G
40132890020	MW-2/T40	EPA 8260	HNW	11	PASI-G
40132890021	MW-4/T40	EPA 8260	HNW	11	PASI-G
40132890022	MW-5/T40	EPA 8260	HNW	11	PASI-G
40132890023	MW-6/T40	EPA 8260	HNW	11	PASI-G
40132890024	MW-7/T40	EPA 8260	HNW	11	PASI-G
40132890025	TS-1/T40	EPA 8260	HNW	11	PASI-G
40132890026	MW-1/T68	EPA 8260	LAP	63	PASI-G
40132890027	MW-2/T68	EPA 8260	LAP	63	PASI-G
40132890028	MW-4/T68	EPA 8260	LAP	63	PASI-G
40132890029	MW-5/T66	EPA 8260	LAP	63	PASI-G
40132890030	MW-1R/T70	EPA 8260	HNW	12	PASI-G
40132890031	MW-2R/T70	EPA 8260	HNW	12	PASI-G
40132890032	MW-3/T70	EPA 8260	HNW	12	PASI-G
40132890033	MW-4/T70	EPA 8260	HNW	12	PASI-G
40132890034	MW-5/T70	EPA 8260	HNW	12	PASI-G
40132890035	MW-6/T70	EPA 8260	HNW	12	PASI-G
40132890036	TRIP BLANK	EPA 8260	LAP	63	PASI-G

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

SUMMARY OF DETECTION

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40132890021	**MW-4/T40**					
EPA 8260	Benzene	14600	ug/L	100	05/31/16 10:08	
EPA 8260	Ethylbenzene	836	ug/L	100	05/31/16 10:08	
EPA 8260	m&p-Xylene	4830	ug/L	200	05/31/16 10:08	
EPA 8260	o-Xylene	2410	ug/L	100	05/31/16 10:08	
40132890022	**MW-5/T40**					
EPA 8260	1,2,4-Trimethylbenzene	126	ug/L	2.0	05/31/16 08:43	
EPA 8260	1,3,5-Trimethylbenzene	39.9	ug/L	2.0	05/31/16 08:43	
EPA 8260	Benzene	50.3	ug/L	2.0	05/31/16 08:43	
EPA 8260	Ethylbenzene	152	ug/L	2.0	05/31/16 08:43	M1
EPA 8260	m&p-Xylene	478	ug/L	4.0	05/31/16 08:43	M1
EPA 8260	o-Xylene	1.7J	ug/L	2.0	05/31/16 08:43	
40132890023	**MW-6/T40**					
EPA 8260	1,2,4-Trimethylbenzene	58.6	ug/L	4.0	05/31/16 14:44	
EPA 8260	1,3,5-Trimethylbenzene	11.1	ug/L	4.0	05/31/16 14:44	
EPA 8260	Benzene	649	ug/L	4.0	05/31/16 14:44	
EPA 8260	Ethylbenzene	209	ug/L	4.0	05/31/16 14:44	
EPA 8260	m&p-Xylene	243	ug/L	8.0	05/31/16 14:44	
40132890024	**MW-7/T40**					
EPA 8260	1,2,4-Trimethylbenzene	333	ug/L	20.0	06/01/16 02:55	
EPA 8260	1,3,5-Trimethylbenzene	119	ug/L	20.0	06/01/16 02:55	
EPA 8260	Benzene	2710	ug/L	20.0	06/01/16 02:55	
EPA 8260	Ethylbenzene	351	ug/L	20.0	06/01/16 02:55	
EPA 8260	m&p-Xylene	1680	ug/L	40.0	06/01/16 02:55	
EPA 8260	o-Xylene	735	ug/L	20.0	06/01/16 02:55	
40132890025	**TS-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	46.4	ug/L	1.0	05/31/16 12:15	
EPA 8260	1,3,5-Trimethylbenzene	17.6	ug/L	1.0	05/31/16 12:15	
EPA 8260	Benzene	73.4	ug/L	1.0	05/31/16 12:15	
EPA 8260	Ethylbenzene	78.2	ug/L	1.0	05/31/16 12:15	
EPA 8260	m&p-Xylene	32.1	ug/L	2.0	05/31/16 12:15	
40132890027	**MW-2/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2120	ug/L	200	06/01/16 10:10	
EPA 8260	1,2-Dichloroethane	1260	ug/L	200	06/01/16 10:10	
EPA 8260	1,3,5-Trimethylbenzene	543	ug/L	200	06/01/16 10:10	
EPA 8260	Benzene	21400	ug/L	200	06/01/16 10:10	
EPA 8260	Ethylbenzene	1370	ug/L	200	06/01/16 10:10	
EPA 8260	Isopropylbenzene (Cumene)	48.3J	ug/L	200	06/01/16 10:10	
EPA 8260	Toluene	22200	ug/L	200	06/01/16 10:10	
EPA 8260	m&p-Xylene	11200	ug/L	400	06/01/16 10:10	
EPA 8260	n-Propylbenzene	104J	ug/L	200	06/01/16 10:10	
EPA 8260	o-Xylene	4960	ug/L	200	06/01/16 10:10	
40132890028	**MW-4/T68**					
EPA 8260	1,2,4-Trimethylbenzene	144	ug/L	2.5	06/01/16 10:33	
EPA 8260	1,3,5-Trimethylbenzene	4.6	ug/L	2.5	06/01/16 10:33	

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SUMMARY OF DETECTION

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40132890028	**MW-4/T68**					
EPA 8260	Benzene	282	ug/L	2.5	06/01/16 10:33	
EPA 8260	Ethylbenzene	30.6	ug/L	2.5	06/01/16 10:33	
EPA 8260	Isopropylbenzene (Cumene)	0.69J	ug/L	2.5	06/01/16 10:33	
EPA 8260	Toluene	2.2J	ug/L	2.5	06/01/16 10:33	
EPA 8260	m&p-Xylene	86.5	ug/L	5.0	06/01/16 10:33	
EPA 8260	o-Xylene	1.5J	ug/L	2.5	06/01/16 10:33	
40132890029	**MW-5/T66**					
EPA 8260	1,2,4-Trimethylbenzene	3760	ug/L	200	06/01/16 10:56	
EPA 8260	1,3,5-Trimethylbenzene	959	ug/L	200	06/01/16 10:56	
EPA 8260	Benzene	10600	ug/L	200	06/01/16 10:56	
EPA 8260	Ethylbenzene	3330	ug/L	200	06/01/16 10:56	
EPA 8260	Isopropylbenzene (Cumene)	118J	ug/L	200	06/01/16 10:56	
EPA 8260	Toluene	17000	ug/L	200	06/01/16 10:56	
EPA 8260	m&p-Xylene	13800	ug/L	400	06/01/16 10:56	
EPA 8260	n-Propylbenzene	419	ug/L	200	06/01/16 10:56	
EPA 8260	o-Xylene	5560	ug/L	200	06/01/16 10:56	
40132890030	**MW-1R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	2150	ug/L	125	05/31/16 10:50	
EPA 8260	1,3,5-Trimethylbenzene	518	ug/L	125	05/31/16 10:50	
EPA 8260	Benzene	30800	ug/L	125	05/31/16 10:50	
EPA 8260	Ethylbenzene	1670	ug/L	125	05/31/16 10:50	
EPA 8260	Naphthalene	380J	ug/L	625	05/31/16 10:50	
EPA 8260	Toluene	20700	ug/L	125	05/31/16 10:50	
EPA 8260	m&p-Xylene	10100	ug/L	250	05/31/16 10:50	
EPA 8260	o-Xylene	3770	ug/L	125	05/31/16 10:50	
40132890031	**MW-2R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	3230	ug/L	250	05/31/16 11:12	
EPA 8260	1,3,5-Trimethylbenzene	688	ug/L	250	05/31/16 11:12	
EPA 8260	Benzene	22000	ug/L	250	05/31/16 11:12	
EPA 8260	Ethylbenzene	2150	ug/L	250	05/31/16 11:12	
EPA 8260	Toluene	29500	ug/L	250	05/31/16 11:12	
EPA 8260	m&p-Xylene	13900	ug/L	500	05/31/16 11:12	
EPA 8260	o-Xylene	6080	ug/L	250	05/31/16 11:12	
40132890032	**MW-3/T70**					
EPA 8260	1,2,4-Trimethylbenzene	170	ug/L	10.0	05/31/16 15:06	
EPA 8260	1,3,5-Trimethylbenzene	48.4	ug/L	10.0	05/31/16 15:06	
EPA 8260	Benzene	748	ug/L	10.0	05/31/16 15:06	
EPA 8260	Ethylbenzene	44.5	ug/L	10.0	05/31/16 15:06	
EPA 8260	Toluene	12.2	ug/L	10.0	05/31/16 15:06	
EPA 8260	m&p-Xylene	398	ug/L	20.0	05/31/16 15:06	
EPA 8260	o-Xylene	124	ug/L	10.0	05/31/16 15:06	
40132890033	**MW-4/T70**					
EPA 8260	1,2,4-Trimethylbenzene	3270	ug/L	100	05/31/16 11:33	
EPA 8260	1,3,5-Trimethylbenzene	848	ug/L	100	05/31/16 11:33	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-1/T68 **Lab ID: 40132890026** Collected: 05/24/16 14:00 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:18	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		06/01/16 11:18	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		06/01/16 11:18	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		06/01/16 11:18	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		06/01/16 11:18	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		06/01/16 11:18	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		06/01/16 11:18	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		06/01/16 11:18	120-82-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		06/01/16 11:18	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:18	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		06/01/16 11:18	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:18	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		06/01/16 11:18	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		06/01/16 11:18	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:18	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		06/01/16 11:18	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		06/01/16 11:18	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		06/01/16 11:18	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		06/01/16 11:18	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		06/01/16 11:18	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		06/01/16 11:18	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		06/01/16 11:18	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		06/01/16 11:18	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		06/01/16 11:18	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:18	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		06/01/16 11:18	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-1/T68 **Lab ID: 40132890026** Collected: 05/24/16 14:00 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		06/01/16 11:18	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:18	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:18	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		06/01/16 11:18	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		06/01/16 11:18	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:18	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		06/01/16 11:18	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:18	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		06/01/16 11:18	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:18	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		06/01/16 11:18	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		06/01/16 11:18	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		06/01/16 11:18	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-2/T68 **Lab ID: 40132890027** Collected: 05/24/16 14:15 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		06/01/16 10:10	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		06/01/16 10:10	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		06/01/16 10:10	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		06/01/16 10:10	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		06/01/16 10:10	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		06/01/16 10:10	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		06/01/16 10:10	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		06/01/16 10:10	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		06/01/16 10:10	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		06/01/16 10:10	120-82-1	
1,2,4-Trimethylbenzene	**2120**	ug/L	200	100	200		06/01/16 10:10	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		06/01/16 10:10	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		06/01/16 10:10	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:10	95-50-1	
1,2-Dichloroethane	**1260**	ug/L	200	33.6	200		06/01/16 10:10	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		06/01/16 10:10	78-87-5	
1,3,5-Trimethylbenzene	**543**	ug/L	200	100	200		06/01/16 10:10	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:10	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		06/01/16 10:10	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:10	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		06/01/16 10:10	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		06/01/16 10:10	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		06/01/16 10:10	106-43-4	
Benzene	**21400**	ug/L	200	100	200		06/01/16 10:10	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		06/01/16 10:10	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		06/01/16 10:10	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		06/01/16 10:10	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		06/01/16 10:10	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		06/01/16 10:10	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		06/01/16 10:10	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:10	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		06/01/16 10:10	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		06/01/16 10:10	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		06/01/16 10:10	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		06/01/16 10:10	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		06/01/16 10:10	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		06/01/16 10:10	75-71-8	
Ethylbenzene	**1370**	ug/L	200	100	200		06/01/16 10:10	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		06/01/16 10:10	87-68-3	
Isopropylbenzene (Cumene)	**48.3J**	ug/L	200	28.7	200		06/01/16 10:10	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		06/01/16 10:10	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		06/01/16 10:10	75-09-2	
Naphthalene	**<500**	ug/L	1000	500	200		06/01/16 10:10	91-20-3	
Styrene	**<100**	ug/L	200	100	200		06/01/16 10:10	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		06/01/16 10:10	127-18-4	
Toluene	**22200**	ug/L	200	100	200		06/01/16 10:10	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-2/T68 **Lab ID: 40132890027** Collected: 05/24/16 14:15 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		06/01/16 10:10	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		06/01/16 10:10	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		06/01/16 10:10	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		06/01/16 10:10	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		06/01/16 10:10	10061-01-5	
m&p-Xylene	**11200**	ug/L	400	200	200		06/01/16 10:10	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		06/01/16 10:10	104-51-8	
n-Propylbenzene	**104J**	ug/L	200	100	200		06/01/16 10:10	103-65-1	
o-Xylene	**4960**	ug/L	200	100	200		06/01/16 10:10	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		06/01/16 10:10	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		06/01/16 10:10	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		06/01/16 10:10	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		06/01/16 10:10	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		06/01/16 10:10	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		200		06/01/16 10:10	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		200		06/01/16 10:10	1868-53-7	
Toluene-d8 (S)	102	%	70-130		200		06/01/16 10:10	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-4/T68 **Lab ID: 40132890028** Collected: 05/24/16 14:10 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.45**	ug/L	2.5	0.45	2.5		06/01/16 10:33	630-20-6	
1,1,1-Trichloroethane	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.62**	ug/L	2.5	0.62	2.5		06/01/16 10:33	79-34-5	
1,1,2-Trichloroethane	**<0.49**	ug/L	2.5	0.49	2.5		06/01/16 10:33	79-00-5	
1,1-Dichloroethane	**<0.60**	ug/L	2.5	0.60	2.5		06/01/16 10:33	75-34-3	
1,1-Dichloroethene	**<1.0**	ug/L	2.5	1.0	2.5		06/01/16 10:33	75-35-4	
1,1-Dichloropropene	**<1.1**	ug/L	2.5	1.1	2.5		06/01/16 10:33	563-58-6	
1,2,3-Trichlorobenzene	**<5.3**	ug/L	12.5	5.3	2.5		06/01/16 10:33	87-61-6	
1,2,3-Trichloropropane	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	96-18-4	
1,2,4-Trichlorobenzene	**<5.5**	ug/L	12.5	5.5	2.5		06/01/16 10:33	120-82-1	
1,2,4-Trimethylbenzene	**144**	ug/L	2.5	1.2	2.5		06/01/16 10:33	95-63-6	
1,2-Dibromo-3-chloropropane	**<5.4**	ug/L	12.5	5.4	2.5		06/01/16 10:33	96-12-8	
1,2-Dibromoethane (EDB)	**<0.44**	ug/L	2.5	0.44	2.5		06/01/16 10:33	106-93-4	
1,2-Dichlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	95-50-1	
1,2-Dichloroethane	**<0.42**	ug/L	2.5	0.42	2.5		06/01/16 10:33	107-06-2	
1,2-Dichloropropane	**<0.58**	ug/L	2.5	0.58	2.5		06/01/16 10:33	78-87-5	
1,3,5-Trimethylbenzene	**4.6**	ug/L	2.5	1.2	2.5		06/01/16 10:33	108-67-8	
1,3-Dichlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	541-73-1	
1,3-Dichloropropane	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	142-28-9	
1,4-Dichlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	106-46-7	
2,2-Dichloropropane	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	594-20-7	
2-Chlorotoluene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	95-49-8	
4-Chlorotoluene	**<0.53**	ug/L	2.5	0.53	2.5		06/01/16 10:33	106-43-4	
Benzene	**282**	ug/L	2.5	1.2	2.5		06/01/16 10:33	71-43-2	
Bromobenzene	**<0.58**	ug/L	2.5	0.58	2.5		06/01/16 10:33	108-86-1	
Bromochloromethane	**<0.85**	ug/L	2.5	0.85	2.5		06/01/16 10:33	74-97-5	
Bromodichloromethane	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	75-27-4	
Bromoform	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	75-25-2	
Bromomethane	**<6.1**	ug/L	12.5	6.1	2.5		06/01/16 10:33	74-83-9	
Carbon tetrachloride	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	56-23-5	
Chlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	108-90-7	
Chloroethane	**<0.94**	ug/L	2.5	0.94	2.5		06/01/16 10:33	75-00-3	
Chloroform	**<6.2**	ug/L	12.5	6.2	2.5		06/01/16 10:33	67-66-3	
Chloromethane	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	74-87-3	
Dibromochloromethane	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	124-48-1	
Dibromomethane	**<1.1**	ug/L	2.5	1.1	2.5		06/01/16 10:33	74-95-3	
Dichlorodifluoromethane	**<0.56**	ug/L	2.5	0.56	2.5		06/01/16 10:33	75-71-8	
Ethylbenzene	**30.6**	ug/L	2.5	1.2	2.5		06/01/16 10:33	100-41-4	
Hexachloro-1,3-butadiene	**<5.3**	ug/L	12.5	5.3	2.5		06/01/16 10:33	87-68-3	
Isopropylbenzene (Cumene)	**0.69J**	ug/L	2.5	0.36	2.5		06/01/16 10:33	98-82-8	
Methyl-tert-butyl ether	**<0.44**	ug/L	2.5	0.44	2.5		06/01/16 10:33	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	2.5	0.58	2.5		06/01/16 10:33	75-09-2	
Naphthalene	**<6.2**	ug/L	12.5	6.2	2.5		06/01/16 10:33	91-20-3	
Styrene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	100-42-5	
Tetrachloroethene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	127-18-4	
Toluene	**2.2J**	ug/L	2.5	1.2	2.5		06/01/16 10:33	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-4/T68 **Lab ID: 40132890028** Collected: 05/24/16 14:10 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.83**	ug/L	2.5	0.83	2.5		06/01/16 10:33	79-01-6	
Trichlorofluoromethane	**<0.46**	ug/L	2.5	0.46	2.5		06/01/16 10:33	75-69-4	
Vinyl chloride	**<0.44**	ug/L	2.5	0.44	2.5		06/01/16 10:33	75-01-4	
cis-1,2-Dichloroethene	**<0.64**	ug/L	2.5	0.64	2.5		06/01/16 10:33	156-59-2	
cis-1,3-Dichloropropene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	10061-01-5	
m&p-Xylene	**86.5**	ug/L	5.0	2.5	2.5		06/01/16 10:33	179601-23-1	
n-Butylbenzene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	104-51-8	
n-Propylbenzene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	103-65-1	
o-Xylene	**1.5J**	ug/L	2.5	1.2	2.5		06/01/16 10:33	95-47-6	
p-Isopropyltoluene	**<1.2**	ug/L	2.5	1.2	2.5		06/01/16 10:33	99-87-6	
sec-Butylbenzene	**<5.5**	ug/L	12.5	5.5	2.5		06/01/16 10:33	135-98-8	
tert-Butylbenzene	**<0.45**	ug/L	2.5	0.45	2.5		06/01/16 10:33	98-06-6	
trans-1,2-Dichloroethene	**<0.64**	ug/L	2.5	0.64	2.5		06/01/16 10:33	156-60-5	
trans-1,3-Dichloropropene	**<0.57**	ug/L	2.5	0.57	2.5		06/01/16 10:33	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		2.5		06/01/16 10:33	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		2.5		06/01/16 10:33	1868-53-7	
Toluene-d8 (S)	103	%	70-130		2.5		06/01/16 10:33	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-5/T66 **Lab ID: 40132890029** Collected: 05/24/16 14:20 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		06/01/16 10:56	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		06/01/16 10:56	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		06/01/16 10:56	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		06/01/16 10:56	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		06/01/16 10:56	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		06/01/16 10:56	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		06/01/16 10:56	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		06/01/16 10:56	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		06/01/16 10:56	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		06/01/16 10:56	120-82-1	
1,2,4-Trimethylbenzene	**3760**	ug/L	200	100	200		06/01/16 10:56	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		06/01/16 10:56	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		06/01/16 10:56	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:56	95-50-1	
1,2-Dichloroethane	**<33.6**	ug/L	200	33.6	200		06/01/16 10:56	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		06/01/16 10:56	78-87-5	
1,3,5-Trimethylbenzene	**959**	ug/L	200	100	200		06/01/16 10:56	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:56	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		06/01/16 10:56	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:56	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		06/01/16 10:56	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		06/01/16 10:56	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		06/01/16 10:56	106-43-4	
Benzene	**10600**	ug/L	200	100	200		06/01/16 10:56	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		06/01/16 10:56	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		06/01/16 10:56	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		06/01/16 10:56	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		06/01/16 10:56	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		06/01/16 10:56	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		06/01/16 10:56	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		06/01/16 10:56	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		06/01/16 10:56	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		06/01/16 10:56	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		06/01/16 10:56	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		06/01/16 10:56	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		06/01/16 10:56	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		06/01/16 10:56	75-71-8	
Ethylbenzene	**3330**	ug/L	200	100	200		06/01/16 10:56	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		06/01/16 10:56	87-68-3	
Isopropylbenzene (Cumene)	**118J**	ug/L	200	28.7	200		06/01/16 10:56	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		06/01/16 10:56	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		06/01/16 10:56	75-09-2	
Naphthalene	**<500**	ug/L	1000	500	200		06/01/16 10:56	91-20-3	
Styrene	**<100**	ug/L	200	100	200		06/01/16 10:56	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		06/01/16 10:56	127-18-4	
Toluene	**17000**	ug/L	200	100	200		06/01/16 10:56	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: MW-5/T66 **Lab ID: 40132890029** Collected: 05/24/16 14:20 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		06/01/16 10:56	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		06/01/16 10:56	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		06/01/16 10:56	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		06/01/16 10:56	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		06/01/16 10:56	10061-01-5	
m&p-Xylene	**13800**	ug/L	400	200	200		06/01/16 10:56	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		06/01/16 10:56	104-51-8	
n-Propylbenzene	**419**	ug/L	200	100	200		06/01/16 10:56	103-65-1	
o-Xylene	**5560**	ug/L	200	100	200		06/01/16 10:56	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		06/01/16 10:56	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		06/01/16 10:56	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		06/01/16 10:56	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		06/01/16 10:56	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		06/01/16 10:56	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		200		06/01/16 10:56	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		200		06/01/16 10:56	1868-53-7	
Toluene-d8 (S)	102	%	70-130		200		06/01/16 10:56	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: TRIP BLANK **Lab ID: 40132890036** Collected: 05/24/16 00:00 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:41	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		06/01/16 11:41	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		06/01/16 11:41	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		06/01/16 11:41	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		06/01/16 11:41	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		06/01/16 11:41	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		06/01/16 11:41	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		06/01/16 11:41	120-82-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		06/01/16 11:41	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:41	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		06/01/16 11:41	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:41	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		06/01/16 11:41	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		06/01/16 11:41	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:41	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		06/01/16 11:41	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		06/01/16 11:41	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		06/01/16 11:41	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		06/01/16 11:41	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		06/01/16 11:41	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		06/01/16 11:41	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		06/01/16 11:41	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		06/01/16 11:41	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		06/01/16 11:41	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:41	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		06/01/16 11:41	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Sample: TRIP BLANK **Lab ID: 40132890036** Collected: 05/24/16 00:00 Received: 05/25/16 12:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		06/01/16 11:41	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:41	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:41	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		06/01/16 11:41	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		06/01/16 11:41	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		06/01/16 11:41	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		06/01/16 11:41	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		06/01/16 11:41	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		06/01/16 11:41	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		06/01/16 11:41	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		06/01/16 11:41	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		06/01/16 11:41	1868-53-7	
Toluene-d8 (S)	108	%	70-130		1		06/01/16 11:41	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

QC Batch: GCV/16083 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: 8021 GCV BTEX
Associated Lab Samples: 40132890001, 40132890002, 40132890003, 40132890004, 40132890005, 40132890006, 40132890007, 40132890008, 40132890009, 40132890010, 40132890011, 40132890012, 40132890013, 40132890014

METHOD BLANK: 1342348 Matrix: Water
Associated Lab Samples: 40132890001, 40132890002, 40132890003, 40132890004, 40132890005, 40132890006, 40132890007, 40132890008, 40132890009, 40132890010, 40132890011, 40132890012, 40132890013, 40132890014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	05/27/16 08:07	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	05/27/16 08:07	
Benzene	ug/L	<0.40	1.0	05/27/16 08:07	
Ethylbenzene	ug/L	<0.39	1.0	05/27/16 08:07	
m&p-Xylene	ug/L	<0.80	2.0	05/27/16 08:07	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	05/27/16 08:07	
o-Xylene	ug/L	<0.45	1.0	05/27/16 08:07	
Toluene	ug/L	<0.39	1.0	05/27/16 08:07	
a,a,a-Trifluorotoluene (S)	%	103	80-120	05/27/16 08:07	

LABORATORY CONTROL SAMPLE & LCSD: 1342349 1342350

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	21.8	21.0	109	105	80-120	4	20	
1,3,5-Trimethylbenzene	ug/L	20	21.1	20.4	106	102	80-120	4	20	
Benzene	ug/L	20	21.4	21.2	107	106	80-120	1	20	
Ethylbenzene	ug/L	20	20.9	20.4	105	102	80-120	3	20	
m&p-Xylene	ug/L	40	41.9	40.6	105	102	80-120	3	20	
Methyl-tert-butyl ether	ug/L	20	21.8	21.0	109	105	80-120	4	20	
o-Xylene	ug/L	20	21.5	20.8	108	104	80-120	3	20	
Toluene	ug/L	20	21.2	20.7	106	104	80-120	2	20	
a,a,a-Trifluorotoluene (S)	%				102	101	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

QC Batch: MSV/33712 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40132890026, 40132890027, 40132890028, 40132890029, 40132890036

METHOD BLANK: 1342374 Matrix: Water
Associated Lab Samples: 40132890026, 40132890027, 40132890028, 40132890029, 40132890036

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	06/01/16 06:47	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	06/01/16 06:47	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	06/01/16 06:47	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	06/01/16 06:47	
1,1-Dichloroethane	ug/L	<0.24	1.0	06/01/16 06:47	
1,1-Dichloroethene	ug/L	<0.41	1.0	06/01/16 06:47	
1,1-Dichloropropene	ug/L	<0.44	1.0	06/01/16 06:47	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	06/01/16 06:47	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	06/01/16 06:47	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	06/01/16 06:47	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	06/01/16 06:47	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	06/01/16 06:47	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	06/01/16 06:47	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	06/01/16 06:47	
1,2-Dichloroethane	ug/L	<0.17	1.0	06/01/16 06:47	
1,2-Dichloropropane	ug/L	<0.23	1.0	06/01/16 06:47	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	06/01/16 06:47	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	06/01/16 06:47	
1,3-Dichloropropane	ug/L	<0.50	1.0	06/01/16 06:47	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	06/01/16 06:47	
2,2-Dichloropropane	ug/L	<0.48	1.0	06/01/16 06:47	
2-Chlorotoluene	ug/L	<0.50	1.0	06/01/16 06:47	
4-Chlorotoluene	ug/L	<0.21	1.0	06/01/16 06:47	
Benzene	ug/L	<0.50	1.0	06/01/16 06:47	
Bromobenzene	ug/L	<0.23	1.0	06/01/16 06:47	
Bromochloromethane	ug/L	<0.34	1.0	06/01/16 06:47	
Bromodichloromethane	ug/L	<0.50	1.0	06/01/16 06:47	
Bromoform	ug/L	<0.50	1.0	06/01/16 06:47	
Bromomethane	ug/L	<2.4	5.0	06/01/16 06:47	
Carbon tetrachloride	ug/L	<0.50	1.0	06/01/16 06:47	
Chlorobenzene	ug/L	<0.50	1.0	06/01/16 06:47	
Chloroethane	ug/L	<0.37	1.0	06/01/16 06:47	
Chloroform	ug/L	<2.5	5.0	06/01/16 06:47	
Chloromethane	ug/L	<0.50	1.0	06/01/16 06:47	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	06/01/16 06:47	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	06/01/16 06:47	
Dibromochloromethane	ug/L	<0.50	1.0	06/01/16 06:47	
Dibromomethane	ug/L	<0.43	1.0	06/01/16 06:47	
Dichlorodifluoromethane	ug/L	<0.22	1.0	06/01/16 06:47	
Ethylbenzene	ug/L	<0.50	1.0	06/01/16 06:47	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	06/01/16 06:47	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

METHOD BLANK: 1342374 Matrix: Water
Associated Lab Samples: 40132890026, 40132890027, 40132890028, 40132890029, 40132890036

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	06/01/16 06:47	
m&p-Xylene	ug/L	<1.0	2.0	06/01/16 06:47	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	06/01/16 06:47	
Methylene Chloride	ug/L	<0.23	1.0	06/01/16 06:47	
n-Butylbenzene	ug/L	<0.50	1.0	06/01/16 06:47	
n-Propylbenzene	ug/L	<0.50	1.0	06/01/16 06:47	
Naphthalene	ug/L	<2.5	5.0	06/01/16 06:47	
o-Xylene	ug/L	<0.50	1.0	06/01/16 06:47	
p-Isopropyltoluene	ug/L	<0.50	1.0	06/01/16 06:47	
sec-Butylbenzene	ug/L	<2.2	5.0	06/01/16 06:47	
Styrene	ug/L	<0.50	1.0	06/01/16 06:47	
tert-Butylbenzene	ug/L	<0.18	1.0	06/01/16 06:47	
Tetrachloroethene	ug/L	<0.50	1.0	06/01/16 06:47	
Toluene	ug/L	<0.50	1.0	06/01/16 06:47	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	06/01/16 06:47	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	06/01/16 06:47	
Trichloroethene	ug/L	<0.33	1.0	06/01/16 06:47	
Trichlorofluoromethane	ug/L	<0.18	1.0	06/01/16 06:47	
Vinyl chloride	ug/L	<0.18	1.0	06/01/16 06:47	
4-Bromofluorobenzene (S)	%	92	70-130	06/01/16 06:47	
Dibromofluoromethane (S)	%	98	70-130	06/01/16 06:47	
Toluene-d8 (S)	%	102	70-130	06/01/16 06:47	

LABORATORY CONTROL SAMPLE: 1342375

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.8	100	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	50.2	100	67-130	
1,1,2-Trichloroethane	ug/L	50	52.5	105	70-130	
1,1-Dichloroethane	ug/L	50	48.6	97	70-133	
1,1-Dichloroethene	ug/L	50	47.8	96	70-130	
1,2,4-Trichlorobenzene	ug/L	50	42.7	85	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	48.4	97	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	54.5	109	70-130	
1,2-Dichlorobenzene	ug/L	50	49.8	100	70-130	
1,2-Dichloroethane	ug/L	50	50.3	101	70-130	
1,2-Dichloropropane	ug/L	50	50.7	101	70-130	
1,3-Dichlorobenzene	ug/L	50	48.9	98	70-130	
1,4-Dichlorobenzene	ug/L	50	48.1	96	70-130	
Benzene	ug/L	50	49.4	99	60-135	
Bromodichloromethane	ug/L	50	51.8	104	70-130	
Bromoform	ug/L	50	50.5	101	70-130	
Bromomethane	ug/L	50	34.7	69	33-130	
Carbon tetrachloride	ug/L	50	50.5	101	70-138	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

LABORATORY CONTROL SAMPLE: 1342375

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	52.8	106	70-130	
Chloroethane	ug/L	50	50.2	100	51-130	
Chloroform	ug/L	50	49.3	99	70-130	
Chloromethane	ug/L	50	42.8	86	25-132	
cis-1,2-Dichloroethene	ug/L	50	48.0	96	69-130	
cis-1,3-Dichloropropene	ug/L	50	45.7	91	70-130	
Dibromochloromethane	ug/L	50	52.4	105	70-130	
Dichlorodifluoromethane	ug/L	50	35.2	70	23-130	
Ethylbenzene	ug/L	50	54.3	109	70-136	
Isopropylbenzene (Cumene)	ug/L	50	55.7	111	70-140	
m&p-Xylene	ug/L	100	114	114	70-138	
Methyl-tert-butyl ether	ug/L	50	48.7	97	66-138	
Methylene Chloride	ug/L	50	47.2	94	70-130	
o-Xylene	ug/L	50	54.7	109	70-134	
Styrene	ug/L	50	57.4	115	70-133	
Tetrachloroethene	ug/L	50	50.4	101	70-138	
Toluene	ug/L	50	54.1	108	70-130	
trans-1,2-Dichloroethene	ug/L	50	48.4	97	70-131	
trans-1,3-Dichloropropene	ug/L	50	48.6	97	69-130	
Trichloroethene	ug/L	50	51.2	102	70-130	
Trichlorofluoromethane	ug/L	50	49.8	100	50-150	
Vinyl chloride	ug/L	50	44.3	89	49-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			101	70-130	
Toluene-d8 (S)	%			106	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343476 1343477

Parameter	Units	40132886002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<1.0	50	50	45.7	43.0	91	86	70-134	6	20	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	50	50	51.0	48.9	102	98	67-130	4	20	
1,1,2-Trichloroethane	ug/L	<1.0	50	50	50.6	48.2	101	96	70-130	5	20	
1,1-Dichloroethane	ug/L	<1.0	50	50	44.0	41.8	88	84	70-134	5	20	
1,1-Dichloroethene	ug/L	<1.0	50	50	42.7	39.6	85	79	68-136	7	20	
1,2,4-Trichlorobenzene	ug/L	<5.0	50	50	41.1	39.4	82	78	62-139	4	20	
1,2-Dibromo-3-chloropropane	ug/L	<5.0	50	50	47.0	48.2	94	96	50-150	2	20	
1,2-Dibromoethane (EDB)	ug/L	<1.0	50	50	53.3	48.9	107	98	70-130	8	20	
1,2-Dichlorobenzene	ug/L	<1.0	50	50	48.4	45.9	97	92	70-130	5	20	
1,2-Dichloroethane	ug/L	<1.0	50	50	46.4	43.4	93	87	70-130	7	20	
1,2-Dichloropropane	ug/L	<1.0	50	50	48.5	47.1	97	94	70-130	3	20	
1,3-Dichlorobenzene	ug/L	<1.0	50	50	46.6	44.9	93	90	70-131	4	20	
1,4-Dichlorobenzene	ug/L	<1.0	50	50	46.2	44.7	92	89	70-130	3	20	
Benzene	ug/L	<1.0	50	50	45.2	42.7	90	85	57-138	6	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343476 1343477

Parameter	Units	40132886002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<1.0	50	50	48.8	45.5	98	91	70-130	7	20	
Bromoform	ug/L	<1.0	50	50	48.2	47.0	96	94	70-130	2	20	
Bromomethane	ug/L	<5.0	50	50	32.8	31.7	66	63	33-130	3	27	
Carbon tetrachloride	ug/L	<1.0	50	50	47.0	44.1	94	88	70-138	6	20	
Chlorobenzene	ug/L	<1.0	50	50	48.5	46.4	97	93	70-130	5	20	
Chloroethane	ug/L	<1.0	50	50	42.8	40.7	86	81	51-130	5	20	
Chloroform	ug/L	<5.0	50	50	45.8	42.8	92	86	70-130	7	20	
Chloromethane	ug/L	<1.0	50	50	35.6	33.0	71	66	25-132	8	20	
cis-1,2-Dichloroethene	ug/L	<1.0	50	50	43.4	40.4	87	81	61-140	7	20	
cis-1,3-Dichloropropene	ug/L	<1.0	50	50	44.7	42.0	89	84	70-130	6	20	
Dibromochloromethane	ug/L	<1.0	50	50	49.6	46.9	99	94	70-130	6	20	
Dichlorodifluoromethane	ug/L	<1.0	50	50	26.8	24.6	54	49	23-130	9	20	
Ethylbenzene	ug/L	<1.0	50	50	50.6	48.1	101	96	70-138	5	20	
Isopropylbenzene (Cumene)	ug/L	<1.0	50	50	51.6	48.9	103	98	70-152	5	20	
m&p-Xylene	ug/L	<2.0	100	100	105	99.2	105	99	70-140	5	20	
Methyl-tert-butyl ether	ug/L	<1.0	50	50	46.8	43.6	94	87	66-139	7	20	
Methylene Chloride	ug/L	<1.0	50	50	44.5	41.3	89	83	70-130	7	20	
o-Xylene	ug/L	<1.0	50	50	50.6	47.5	101	95	70-134	6	20	
Styrene	ug/L	<1.0	50	50	53.2	50.1	106	100	70-138	6	20	
Tetrachloroethene	ug/L	<1.0	50	50	47.2	44.5	94	89	70-148	6	20	
Toluene	ug/L	<1.0	50	50	50.5	48.3	101	97	70-130	4	20	
trans-1,2-Dichloroethene	ug/L	<1.0	50	50	43.0	41.1	86	82	70-133	5	20	
trans-1,3-Dichloropropene	ug/L	<1.0	50	50	46.1	43.9	92	88	69-130	5	20	
Trichloroethene	ug/L	<1.0	50	50	46.9	44.3	94	89	70-131	6	20	
Trichlorofluoromethane	ug/L	<1.0	50	50	43.7	41.1	87	82	50-150	6	20	
Vinyl chloride	ug/L	<1.0	50	50	38.1	35.6	76	71	49-133	7	20	
4-Bromofluorobenzene (S)	%						102	102	70-130			
Dibromofluoromethane (S)	%						97	97	70-130			
Toluene-d8 (S)	%						105	104	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

QC Batch: MSV/33697 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40132890015, 40132890016, 40132890017

METHOD BLANK: 1341593 Matrix: Water
Associated Lab Samples: 40132890015, 40132890016, 40132890017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	05/26/16 15:41	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	05/26/16 15:41	
Benzene	ug/L	<0.50	1.0	05/26/16 15:41	
Ethylbenzene	ug/L	<0.50	1.0	05/26/16 15:41	
m&p-Xylene	ug/L	<1.0	2.0	05/26/16 15:41	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	05/26/16 15:41	
Naphthalene	ug/L	<2.5	5.0	05/26/16 15:41	
o-Xylene	ug/L	<0.50	1.0	05/26/16 15:41	
Toluene	ug/L	<0.50	1.0	05/26/16 15:41	
4-Bromofluorobenzene (S)	%	87	70-130	05/26/16 15:41	
Dibromofluoromethane (S)	%	124	70-130	05/26/16 15:41	
Toluene-d8 (S)	%	86	70-130	05/26/16 15:41	

LABORATORY CONTROL SAMPLE: 1341594

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	56.6	113	60-135	
Ethylbenzene	ug/L	50	54.0	108	70-136	
m&p-Xylene	ug/L	100	112	112	70-138	
Methyl-tert-butyl ether	ug/L	50	42.4	85	66-138	
o-Xylene	ug/L	50	53.3	107	70-134	
Toluene	ug/L	50	54.0	108	70-130	
4-Bromofluorobenzene (S)	%			108	70-130	
Dibromofluoromethane (S)	%			118	70-130	
Toluene-d8 (S)	%			87	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342376 1342377

Parameter	Units	40132629002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	53.5	53.4	107	107	57-138	0	20	
Ethylbenzene	ug/L	<0.50	50	50	51.1	50.7	102	101	70-138	1	20	
m&p-Xylene	ug/L	<1.0	100	100	109	105	109	105	70-140	3	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	41.3	40.6	83	81	66-139	2	20	
o-Xylene	ug/L	<0.50	50	50	50.4	50.0	101	100	70-134	1	20	
Toluene	ug/L	<0.50	50	50	51.7	51.3	103	103	70-130	1	20	
4-Bromofluorobenzene (S)	%						107	108	70-130			
Dibromofluoromethane (S)	%						118	119	70-130			

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342376 1342377

Parameter	Units	40132629002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						87	88	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

QC Batch: MSV/33720 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40132890018, 40132890019, 40132890020, 40132890021, 40132890022, 40132890023, 40132890024, 40132890025, 40132890030, 40132890031, 40132890032, 40132890033, 40132890034, 40132890035

METHOD BLANK: 1343277 Matrix: Water
Associated Lab Samples: 40132890018, 40132890019, 40132890020, 40132890021, 40132890022, 40132890023, 40132890024, 40132890025, 40132890030, 40132890031, 40132890032, 40132890033, 40132890034, 40132890035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	05/31/16 07:17	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	05/31/16 07:17	
Benzene	ug/L	<0.50	1.0	05/31/16 07:17	
Ethylbenzene	ug/L	<0.50	1.0	05/31/16 07:17	
m&p-Xylene	ug/L	<1.0	2.0	05/31/16 07:17	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	05/31/16 07:17	
Naphthalene	ug/L	<2.5	5.0	05/31/16 07:17	
o-Xylene	ug/L	<0.50	1.0	05/31/16 07:17	
Toluene	ug/L	<0.50	1.0	05/31/16 07:17	
4-Bromofluorobenzene (S)	%	74	70-130	05/31/16 07:17	
Dibromofluoromethane (S)	%	105	70-130	05/31/16 07:17	
Toluene-d8 (S)	%	98	70-130	05/31/16 07:17	

LABORATORY CONTROL SAMPLE: 1343278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	53.1	106	60-135	
Ethylbenzene	ug/L	50	47.8	96	70-136	
m&p-Xylene	ug/L	100	99.9	100	70-138	
Methyl-tert-butyl ether	ug/L	50	43.7	87	66-138	
o-Xylene	ug/L	50	47.8	96	70-134	
Toluene	ug/L	50	46.5	93	70-130	
4-Bromofluorobenzene (S)	%			84	70-130	
Dibromofluoromethane (S)	%			107	70-130	
Toluene-d8 (S)	%			95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343305 1343306

Parameter	Units	40132890022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	50.3	50	50	84.3	91.3	68	82	57-138	8	20	
Ethylbenzene	ug/L	152	50	50	168	179	33	55	70-138	6	20	M1
m&p-Xylene	ug/L	478	100	100	515	562	37	84	70-140	9	20	M1
Methyl-tert-butyl ether	ug/L	<0.35	50	50	41.1	43.6	82	87	66-139	6	20	
o-Xylene	ug/L	1.7J	50	50	49.7	50.2	96	97	70-134	1	20	
Toluene	ug/L	<1.0	50	50	45.3	46.7	91	93	70-130	3	20	
4-Bromofluorobenzene (S)	%						93	89	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343305 1343306

Parameter	Units	40132890022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%						100	100	70-130			
Toluene-d8 (S)	%						96	95	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

QUALIFIERS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40132890

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40132890001	**LRS-1**	EPA 8021	GCV/16083		
40132890002	**LRS-2**	EPA 8021	GCV/16083		
40132890003	**LRS-3**	EPA 8021	GCV/16083		
40132890004	**LRS-4**	EPA 8021	GCV/16083		
40132890005	**LRS-6**	EPA 8021	GCV/16083		
40132890006	**LRS-7**	EPA 8021	GCV/16083		
40132890007	**MW-1/FL**	EPA 8021	GCV/16083		
40132890008	**MW-2/FL**	EPA 8021	GCV/16083		
40132890009	**MW-3/FL**	EPA 8021	GCV/16083		
40132890010	**MW-9/FL**	EPA 8021	GCV/16083		
40132890011	**MW-10/FL**	EPA 8021	GCV/16083		
40132890012	**MW-11/FL**	EPA 8021	GCV/16083		
40132890013	**MW-13/FL**	EPA 8021	GCV/16083		
40132890014	**MW-14/FL**	EPA 8021	GCV/16083		
40132890026	**MW-1/T68**	EPA 8260	MSV/33712		
40132890027	**MW-2/T68**	EPA 8260	MSV/33712		
40132890028	**MW-4/T68**	EPA 8260	MSV/33712		
40132890029	**MW-5/T66**	EPA 8260	MSV/33712		
40132890036	**TRIP BLANK**	EPA 8260	MSV/33712		
40132890015	**MW-1/CW**	EPA 8260	MSV/33697		
40132890016	**MW-2/CW**	EPA 8260	MSV/33697		
40132890017	**MW-3/CW**	EPA 8260	MSV/33697		
40132890018	**MW-4/CW**	EPA 8260	MSV/33720		
40132890019	**MW-1/T40**	EPA 8260	MSV/33720		
40132890020	**MW-2/T40**	EPA 8260	MSV/33720		
40132890021	**MW-4/T40**	EPA 8260	MSV/33720		
40132890022	**MW-5/T40**	EPA 8260	MSV/33720		
40132890023	**MW-6/T40**	EPA 8260	MSV/33720		
40132890024	**MW-7/T40**	EPA 8260	MSV/33720		
40132890025	**TS-1/T40**	EPA 8260	MSV/33720		
40132890030	**MW-1R/T70**	EPA 8260	MSV/33720		
40132890031	**MW-2R/T70**	EPA 8260	MSV/33720		
40132890032	**MW-3/T70**	EPA 8260	MSV/33720		
40132890033	**MW-4/T70**	EPA 8260	MSV/33720		
40132890034	**MW-5/T70**	EPA 8260	MSV/33720		
40132890035	**MW-6/T70**	EPA 8260	MSV/33720		

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401328 40

(Please Print Clearly)	
Company Name:	Gannett Fleming
Branch/Location:	Madison, WI
Project Contact:	Cliff Wright
Phone:	608-836-1500
Project Number:	34265.003
Project Name:	Calumet Superior
Project State:	WI
Sampled By (Print):	Marcus Mussey
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	Pace 2016
Mail To Contact:	Cliff Wright
Mail To Company:	Gannett Fleming
Mail To Address:	8025 Excelsior Dr. Madison, WI 53717
Invoice To Contact:	
Invoice To Company:	See
Invoice To Address:	above
Invoice To Phone:	

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, W = Water, B = Biota, DW = Drinking Water, C = Charcoal, GW = Ground Water, O = Oil, SW = Surface Water, S = Soil, WW = Waste Water, SI = Sludge, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PVOCs 8021	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
001	LRS-1	5/24	1130	GW	N	B	3		3-40mlVB
002	LRS-2		1140				3		
003	LRS-3		1150				3		
004	LRS-4		1155				3		
005	LRS-6		1145				3		
006	LRS-7		1205				3		
	~~LRS-8~~		~~1200~~						
007	MW-1/FL	5/24	1030	GW			3		
008	MW-2/FL		1020						
009	MW-3/FL		1005						
010	MW-9/FL		1215						
011	MW-10/FL		1220						
012	MW-11/FL		1045						

Profile #:

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	16:30		
~~Relinquished~~ Fed Ex	5-25-16 1245	Susan Myhre Pace	5-25-16 1245
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.: 401328 40

Receipt Temp = RO I °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal: Present / Not Present; Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	
Branch/Location:	
Project Contact:	See Page 1
Phone:	
Project Number:	
Project Name:	
Project State:	
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	See page 1
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	1
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
	~~MW-12/FL~~	5/24		GW	N	B	PVOCs 8021			
013	MW-13/FL	5/24	11:25	GW		3			3-40mlVB	
014	MW-14/FL		11:10			3				
015	MW-1/CW		9:05		N	B	PVOCs/Naph. 8260			
016	MW-2/CW		9:00			3				
017	MW-3/CW		9:10			3				
018	MW-4/CW		8:50			3				
019	MW-1/T40		13:30		N	B	PVOCs 8260			
020	MW-2/T40		13:05			3				
021	MW-4/T40		13:25							
022	MW-5/T40		13:10							
023	MW-6/T40		13:15							
024	MW-7/T40		13:20							

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	16:30		
Fed Ex	5-25-16 1245	Susan Kyle Pace	5-25-16 1245
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 4032840

Receipt Temp = 2.1 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	
Branch/Location:	
Project Contact:	See page 1
Phone:	
Project Number:	
Project Name:	
Project State:	
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	See page 1
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	1
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

FILTERED? (YES/NO)
PRESERVATION (CODE)*

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Y/N	Pick Letter	Analyses Requested: PVOCs 8260	VOCs 8260	PVOC/ Naph 8260	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					N	B	B	B				
025	TS-1 / T40	5/24	13:35	GW			3				3-40mlVB	
026	MW-1 / T68		14:00					3				
027	MW-2 / T68		14:15					3				
028	MW-4 / T68		14:10					3				
029	MW-5 / T66		14:20					3				
030	MW-1R / T70		15:15						3			
031	MW-2R / T70		14:50									
032	MW-3 / T70		14:25									
033	MW-4 / T70		14:20									
034	MW-5 / T70		14:55									
035	MW-6 / T70		15:00									
~~—~~	~~MW-7 / T70~~		15:05									
036	Trip Blank							2			2-40mlVB	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	16:30		
Fed Ex	5-25-16 1245	Susan Wylie Pace	5-25-16 1245
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 4013840

Receipt Temp = ROT °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Project # **WO#: 40132890**

40132890

Client Name: Gannett Fleming

Courier: ☑ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: _____

Tracking #: 8718 1210 7902

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used N/A **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 5-25-16
Initials: SKW

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☐Yes	☑No	☐N/A	12. 0324 - 1-40mlVB collect time 13:40. 5-25-16
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes	☐No		Initial when completed / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14.
Trip Blank Present:	☑Yes	☐No	☐N/A	15.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AMHROM **Date:** 5/25/16

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

October 17, 2016

Project #34265.003
Calumet Superior
Reviewed by CCW
10/18/16

Clifford Wright
Gannett Fleming
8025 Excelsior Drive
Madison, WI 53717

RE: Project: 34265.003 CALUMET
Pace Project No.: 40139615

Dear Clifford Wright:
Enclosed are the analytical results for sample(s) received by the laboratory on October 06, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
Project Manager

Enclosures

cc: Dave Olig, Gannett Fleming

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP ID: 460263
Virginia VELAP Certification ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40139615001	**MW-1/T40**	Water	10/05/16 14:00	10/06/16 09:10
40139615002	**MW-2/T40**	Water	10/05/16 14:10	10/06/16 09:10
40139615003	**MW-4/T40**	Water	10/05/16 13:45	10/06/16 09:10
40139615004	**MW-5/T40**	Water	10/05/16 13:25	10/06/16 09:10
40139615005	**MW-6/T40**	Water	10/05/16 13:35	10/06/16 09:10
40139615006	**MW-7/T40**	Water	10/05/16 13:40	10/06/16 09:10
40139615007	**TS-1/T40**	Water	10/05/16 13:20	10/06/16 09:10
40139615008	**MW-1/T68**	Water	10/05/16 14:15	10/06/16 09:10
40139615009	**MW-2/T68**	Water	10/05/16 14:30	10/06/16 09:10
40139615010	**MW-4/T68**	Water	10/05/16 14:40	10/06/16 09:10
40139615011	**MW-5/T66**	Water	10/05/16 14:50	10/06/16 09:10
40139615012	**MW-6/T68**	Water	10/05/16 14:45	10/06/16 09:10
40139615013	**MW-1R/T70**	Water	10/05/16 15:40	10/06/16 09:10
40139615014	**MW-2R/T70**	Water	10/05/16 15:10	10/06/16 09:10
40139615015	**MW-3/T70**	Water	10/05/16 15:30	10/06/16 09:10
40139615016	**MW-4/T70**	Water	10/05/16 15:35	10/06/16 09:10
40139615017	**MW-5/T70**	Water	10/05/16 15:15	10/06/16 09:10
40139615018	**MW-6/T70**	Water	10/05/16 15:25	10/06/16 09:10
40139615019	**TRIP BLANK**	Water	10/05/16 00:00	10/06/16 09:10
40139615020	**LRS-1**	Water	10/05/16 10:45	10/06/16 09:10
40139615021	**LRS-2**	Water	10/05/16 10:55	10/06/16 09:10
40139615022	**LRS-3**	Water	10/05/16 11:15	10/06/16 09:10
40139615023	**LRS-4**	Water	10/05/16 11:30	10/06/16 09:10
40139615024	**LRS-6**	Water	10/05/16 11:10	10/06/16 09:10
40139615025	**LRS-8**	Water	10/05/16 11:45	10/06/16 09:10
40139615026	**MW-1/FL**	Water	10/05/16 10:30	10/06/16 09:10
40139615027	**MW-2/FL**	Water	10/05/16 10:25	10/06/16 09:10
40139615028	**MW-3/FL**	Water	10/05/16 10:20	10/06/16 09:10
40139615029	**MW-9/FL**	Water	10/05/16 12:10	10/06/16 09:10
40139615030	**MW-10/FL**	Water	10/05/16 12:15	10/06/16 09:10
40139615031	**MW-11/FL**	Water	10/05/16 12:00	10/06/16 09:10
40139615032	**MW-13/FL**	Water	10/05/16 11:55	10/06/16 09:10
40139615033	**MW-14/FL**	Water	10/05/16 11:50	10/06/16 09:10

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40139615001	MW-1/T40	EPA 8260	LAP	11	PASI-G
40139615002	MW-2/T40	EPA 8260	LAP	11	PASI-G
40139615003	MW-4/T40	EPA 8260	LAP	11	PASI-G
40139615004	MW-5/T40	EPA 8260	LAP	11	PASI-G
40139615005	MW-6/T40	EPA 8260	LAP	11	PASI-G
40139615006	MW-7/T40	EPA 8260	LAP	11	PASI-G
40139615007	TS-1/T40	EPA 8260	LAP	11	PASI-G
40139615008	MW-1/T68	EPA 8260	HNW	63	PASI-G
40139615009	MW-2/T68	EPA 8260	HNW	63	PASI-G
40139615010	MW-4/T68	EPA 8260	HNW	63	PASI-G
40139615011	MW-5/T66	EPA 8260	LAP	63	PASI-G
40139615012	MW-6/T68	EPA 8260	LAP	63	PASI-G
40139615013	MW-1R/T70	EPA 8260	LAP	12	PASI-G
40139615014	MW-2R/T70	EPA 8260	LAP	12	PASI-G
40139615015	MW-3/T70	EPA 8260	LAP	12	PASI-G
40139615016	MW-4/T70	EPA 8260	LAP	12	PASI-G
40139615017	MW-5/T70	EPA 8260	LAP	12	PASI-G
40139615018	MW-6/T70	EPA 8260	LAP	12	PASI-G
40139615019	TRIP BLANK	EPA 8260	LAP	63	PASI-G
40139615020	LRS-1	EPA 8021	PMS	9	PASI-G
40139615021	LRS-2	EPA 8021	PMS	9	PASI-G
40139615022	LRS-3	EPA 8021	PMS	9	PASI-G
40139615023	LRS-4	EPA 8021	PMS	9	PASI-G
40139615024	LRS-6	EPA 8021	PMS	9	PASI-G
40139615025	LRS-8	EPA 8021	PMS	9	PASI-G
40139615026	MW-1/FL	EPA 8021	PMS	9	PASI-G
40139615027	MW-2/FL	EPA 8021	PMS	9	PASI-G
40139615028	MW-3/FL	EPA 8021	PMS	9	PASI-G
40139615029	MW-9/FL	EPA 8021	PMS	9	PASI-G
40139615030	MW-10/FL	EPA 8021	PMS	9	PASI-G
40139615031	MW-11/FL	EPA 8021	PMS	9	PASI-G
40139615032	MW-13/FL	EPA 8021	PMS	9	PASI-G
40139615033	MW-14/FL	EPA 8021	PMS	9	PASI-G

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40139615001	**MW-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	221	ug/L	10.0	10/11/16 09:14	
EPA 8260	1,3,5-Trimethylbenzene	91.9	ug/L	10.0	10/11/16 09:14	
EPA 8260	Benzene	163	ug/L	10.0	10/11/16 09:14	
EPA 8260	Ethylbenzene	7.5J	ug/L	10.0	10/11/16 09:14	
EPA 8260	m&p-Xylene	970	ug/L	20.0	10/11/16 09:14	
EPA 8260	o-Xylene	33.1	ug/L	10.0	10/11/16 09:14	
40139615002	**MW-2/T40**					
EPA 8260	1,2,4-Trimethylbenzene	1730	ug/L	50.0	10/11/16 02:07	
EPA 8260	1,3,5-Trimethylbenzene	456	ug/L	50.0	10/11/16 02:07	
EPA 8260	Benzene	6870	ug/L	50.0	10/11/16 02:07	
EPA 8260	Ethylbenzene	899	ug/L	50.0	10/11/16 02:07	
EPA 8260	Toluene	4330	ug/L	50.0	10/11/16 02:07	
EPA 8260	m&p-Xylene	6640	ug/L	100	10/11/16 02:07	
EPA 8260	o-Xylene	3200	ug/L	50.0	10/11/16 02:07	
40139615003	**MW-4/T40**					
EPA 8260	1,2,4-Trimethylbenzene	610	ug/L	20.0	10/11/16 09:36	
EPA 8260	1,3,5-Trimethylbenzene	168	ug/L	20.0	10/11/16 09:36	
EPA 8260	Benzene	1890	ug/L	20.0	10/11/16 09:36	
EPA 8260	m&p-Xylene	1490	ug/L	40.0	10/11/16 09:36	
EPA 8260	o-Xylene	803	ug/L	20.0	10/11/16 09:36	
40139615005	**MW-6/T40**					
EPA 8260	Benzene	12.3	ug/L	1.0	10/11/16 08:52	
40139615006	**MW-7/T40**					
EPA 8260	1,2,4-Trimethylbenzene	217	ug/L	5.0	10/13/16 01:25	
EPA 8260	1,3,5-Trimethylbenzene	63.3	ug/L	5.0	10/13/16 01:25	
EPA 8260	Benzene	506	ug/L	5.0	10/13/16 01:25	
EPA 8260	Ethylbenzene	71.0	ug/L	5.0	10/13/16 01:25	
EPA 8260	Toluene	5.2	ug/L	5.0	10/13/16 01:25	
EPA 8260	m&p-Xylene	809	ug/L	10.0	10/13/16 01:25	
EPA 8260	o-Xylene	339	ug/L	5.0	10/13/16 01:25	
40139615007	**TS-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	1.9	ug/L	1.0	10/12/16 21:25	
EPA 8260	1,3,5-Trimethylbenzene	1.1	ug/L	1.0	10/12/16 21:25	
EPA 8260	Benzene	1.6	ug/L	1.0	10/12/16 21:25	
40139615009	**MW-2/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2150	ug/L	200	10/14/16 09:42	
EPA 8260	1,2-Dichloroethane	1150	ug/L	200	10/14/16 09:42	
EPA 8260	1,3,5-Trimethylbenzene	523	ug/L	200	10/14/16 09:42	
EPA 8260	Benzene	20900	ug/L	200	10/14/16 09:42	
EPA 8260	Ethylbenzene	1350	ug/L	200	10/14/16 09:42	
EPA 8260	Isopropylbenzene (Cumene)	45.3J	ug/L	200	10/14/16 09:42	
EPA 8260	Toluene	20300	ug/L	200	10/14/16 09:42	
EPA 8260	m&p-Xylene	10400	ug/L	400	10/14/16 09:42	
EPA 8260	n-Propylbenzene	105J	ug/L	200	10/14/16 09:42	

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40139615009	**MW-2/T68**					
EPA 8260	o-Xylene	4970	ug/L	200	10/14/16 09:42	
40139615010	**MW-4/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2.7	ug/L	1.0	10/14/16 15:59	
EPA 8260	Benzene	3.3	ug/L	1.0	10/14/16 15:59	
EPA 8260	Ethylbenzene	0.83J	ug/L	1.0	10/14/16 15:59	
EPA 8260	Toluene	0.99J	ug/L	1.0	10/14/16 15:59	
EPA 8260	m&p-Xylene	2.4	ug/L	2.0	10/14/16 15:59	
EPA 8260	o-Xylene	1.7	ug/L	1.0	10/14/16 15:59	
40139615011	**MW-5/T66**					
EPA 8260	1,2,4-Trimethylbenzene	2520	ug/L	200	10/14/16 12:01	
EPA 8260	1,3,5-Trimethylbenzene	721	ug/L	200	10/14/16 12:01	
EPA 8260	Benzene	9090	ug/L	200	10/14/16 12:01	
EPA 8260	Ethylbenzene	2700	ug/L	200	10/14/16 12:01	
EPA 8260	Isopropylbenzene (Cumene)	65.2J	ug/L	200	10/14/16 12:01	
EPA 8260	Toluene	15900	ug/L	200	10/14/16 12:01	
EPA 8260	m&p-Xylene	12100	ug/L	400	10/14/16 12:01	
EPA 8260	n-Propylbenzene	222	ug/L	200	10/14/16 12:01	
EPA 8260	o-Xylene	4700	ug/L	200	10/14/16 12:01	
40139615012	**MW-6/T68**					
EPA 8260	1,2,4-Trimethylbenzene	3200	ug/L	50.0	10/14/16 11:39	
EPA 8260	1,2-Dichloroethane	37.5J	ug/L	50.0	10/14/16 11:39	
EPA 8260	1,3,5-Trimethylbenzene	865	ug/L	50.0	10/14/16 11:39	
EPA 8260	Benzene	5070	ug/L	50.0	10/14/16 11:39	
EPA 8260	Ethylbenzene	45.5J	ug/L	50.0	10/14/16 11:39	
EPA 8260	Naphthalene	334	ug/L	250	10/14/16 11:39	
EPA 8260	Toluene	1560	ug/L	50.0	10/14/16 11:39	
EPA 8260	m&p-Xylene	9240	ug/L	100	10/14/16 11:39	
EPA 8260	o-Xylene	5080	ug/L	50.0	10/14/16 11:39	
40139615013	**MW-1R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	969	ug/L	125	10/12/16 12:45	
EPA 8260	1,3,5-Trimethylbenzene	311	ug/L	125	10/12/16 12:45	
EPA 8260	Benzene	12400	ug/L	125	10/12/16 12:45	
EPA 8260	Ethylbenzene	106J	ug/L	125	10/12/16 12:45	
EPA 8260	Toluene	8630	ug/L	125	10/12/16 12:45	
EPA 8260	m&p-Xylene	5960	ug/L	250	10/12/16 12:45	
EPA 8260	o-Xylene	2490	ug/L	125	10/12/16 12:45	
40139615014	**MW-2R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	2400	ug/L	250	10/12/16 13:08	
EPA 8260	1,3,5-Trimethylbenzene	686	ug/L	250	10/12/16 13:08	
EPA 8260	Benzene	19200	ug/L	250	10/12/16 13:08	
EPA 8260	Ethylbenzene	1480	ug/L	250	10/12/16 13:08	
EPA 8260	Toluene	25700	ug/L	250	10/12/16 13:08	
EPA 8260	m&p-Xylene	13100	ug/L	500	10/12/16 13:08	
EPA 8260	o-Xylene	5570	ug/L	250	10/12/16 13:08	

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SUMMARY OF DETECTION

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40139615016	**MW-4/T70**					
EPA 8260	1,2,4-Trimethylbenzene	2750	ug/L	100	10/12/16 23:58	
EPA 8260	1,3,5-Trimethylbenzene	696	ug/L	100	10/12/16 23:58	
EPA 8260	Benzene	10600	ug/L	100	10/12/16 23:58	
EPA 8260	Ethylbenzene	1520	ug/L	100	10/12/16 23:58	
EPA 8260	Naphthalene	686	ug/L	500	10/12/16 23:58	
EPA 8260	Toluene	15700	ug/L	100	10/12/16 23:58	
EPA 8260	m&p-Xylene	12600	ug/L	200	10/12/16 23:58	
EPA 8260	o-Xylene	5760	ug/L	100	10/12/16 23:58	
40139615017	**MW-5/T70**					
EPA 8260	1,2,4-Trimethylbenzene	12.1	ug/L	1.0	10/12/16 21:47	
EPA 8260	1,3,5-Trimethylbenzene	4.8	ug/L	1.0	10/12/16 21:47	
EPA 8260	Benzene	3.4	ug/L	1.0	10/12/16 21:47	
EPA 8260	Ethylbenzene	3.2	ug/L	1.0	10/12/16 21:47	
EPA 8260	Naphthalene	42.2	ug/L	5.0	10/12/16 21:47	
EPA 8260	Toluene	7.5	ug/L	1.0	10/12/16 21:47	
EPA 8260	m&p-Xylene	19.2	ug/L	2.0	10/12/16 21:47	
EPA 8260	o-Xylene	21.8	ug/L	1.0	10/12/16 21:47	
40139615018	**MW-6/T70**					
EPA 8260	1,2,4-Trimethylbenzene	41.7	ug/L	1.0	10/12/16 22:53	
EPA 8260	1,3,5-Trimethylbenzene	13.1	ug/L	1.0	10/12/16 22:53	
EPA 8260	Benzene	147	ug/L	1.0	10/12/16 22:53	
EPA 8260	Ethylbenzene	8.1	ug/L	1.0	10/12/16 22:53	
EPA 8260	Naphthalene	11.4	ug/L	5.0	10/12/16 22:53	
EPA 8260	Toluene	9.1	ug/L	1.0	10/12/16 22:53	
EPA 8260	m&p-Xylene	138	ug/L	2.0	10/12/16 22:53	
EPA 8260	o-Xylene	73.3	ug/L	1.0	10/12/16 22:53	
40139615020	**LRS-1**					
EPA 8021	Benzene	158	ug/L	5.0	10/07/16 14:28	
EPA 8021	Ethylbenzene	45.3	ug/L	5.0	10/07/16 14:28	
EPA 8021	Toluene	17.4	ug/L	5.0	10/07/16 14:28	
EPA 8021	1,2,4-Trimethylbenzene	201	ug/L	5.0	10/07/16 14:28	
EPA 8021	1,3,5-Trimethylbenzene	181	ug/L	5.0	10/07/16 14:28	M1
EPA 8021	m&p-Xylene	387	ug/L	10.0	10/07/16 14:28	
EPA 8021	o-Xylene	226	ug/L	5.0	10/07/16 14:28	
40139615021	**LRS-2**					
EPA 8021	Benzene	442	ug/L	5.0	10/07/16 15:45	
EPA 8021	Ethylbenzene	58.9	ug/L	5.0	10/07/16 15:45	
EPA 8021	Toluene	2.3J	ug/L	5.0	10/07/16 15:45	
EPA 8021	1,2,4-Trimethylbenzene	146	ug/L	5.0	10/07/16 15:45	
EPA 8021	1,3,5-Trimethylbenzene	73.9	ug/L	5.0	10/07/16 15:45	
EPA 8021	m&p-Xylene	338	ug/L	10.0	10/07/16 15:45	
EPA 8021	o-Xylene	204	ug/L	5.0	10/07/16 15:45	
40139615022	**LRS-3**					
EPA 8021	Benzene	1030	ug/L	5.0	10/07/16 16:10	

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SUMMARY OF DETECTION

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40139615022	**LRS-3**					
EPA 8021	Ethylbenzene	44.9	ug/L	5.0	10/07/16 16:10	
EPA 8021	Toluene	21.6	ug/L	5.0	10/07/16 16:10	
EPA 8021	1,2,4-Trimethylbenzene	99.6	ug/L	5.0	10/07/16 16:10	
EPA 8021	1,3,5-Trimethylbenzene	84.4	ug/L	5.0	10/07/16 16:10	
EPA 8021	m&p-Xylene	224	ug/L	10.0	10/07/16 16:10	
EPA 8021	o-Xylene	244	ug/L	5.0	10/07/16 16:10	
40139615023	**LRS-4**					
EPA 8021	Benzene	5820	ug/L	40.0	10/07/16 13:11	
EPA 8021	Ethylbenzene	853	ug/L	40.0	10/07/16 13:11	
EPA 8021	Toluene	118	ug/L	40.0	10/07/16 13:11	
EPA 8021	1,2,4-Trimethylbenzene	709	ug/L	40.0	10/07/16 13:11	
EPA 8021	1,3,5-Trimethylbenzene	173	ug/L	40.0	10/07/16 13:11	
EPA 8021	m&p-Xylene	1890	ug/L	80.0	10/07/16 13:11	
EPA 8021	o-Xylene	88.2	ug/L	40.0	10/07/16 13:11	
40139615024	**LRS-6**					
EPA 8021	Benzene	2250	ug/L	20.0	10/07/16 16:36	
EPA 8021	Ethylbenzene	107	ug/L	20.0	10/07/16 16:36	
EPA 8021	Toluene	821	ug/L	20.0	10/07/16 16:36	
EPA 8021	1,2,4-Trimethylbenzene	621	ug/L	20.0	10/07/16 16:36	
EPA 8021	1,3,5-Trimethylbenzene	242	ug/L	20.0	10/07/16 16:36	
EPA 8021	m&p-Xylene	1720	ug/L	40.0	10/07/16 16:36	
EPA 8021	o-Xylene	854	ug/L	20.0	10/07/16 16:36	
40139615025	**LRS-8**					
EPA 8021	Benzene	267	ug/L	4.0	10/07/16 17:01	
EPA 8021	Ethylbenzene	154	ug/L	4.0	10/07/16 17:01	
EPA 8021	Toluene	4.2	ug/L	4.0	10/07/16 17:01	
EPA 8021	1,2,4-Trimethylbenzene	152	ug/L	4.0	10/07/16 17:01	
EPA 8021	1,3,5-Trimethylbenzene	30.8	ug/L	4.0	10/07/16 17:01	
EPA 8021	m&p-Xylene	342	ug/L	8.0	10/07/16 17:01	
EPA 8021	o-Xylene	29.2	ug/L	4.0	10/07/16 17:01	
40139615026	**MW-1/FL**					
EPA 8021	Benzene	1310	ug/L	10.0	10/07/16 17:27	
EPA 8021	Ethylbenzene	167	ug/L	10.0	10/07/16 17:27	
EPA 8021	Toluene	6.0J	ug/L	10.0	10/07/16 17:27	
EPA 8021	1,2,4-Trimethylbenzene	86.3	ug/L	10.0	10/07/16 17:27	
EPA 8021	1,3,5-Trimethylbenzene	57.6	ug/L	10.0	10/07/16 17:27	
EPA 8021	m&p-Xylene	19.3J	ug/L	20.0	10/07/16 17:27	
40139615027	**MW-2/FL**					
EPA 8021	Benzene	253	ug/L	1.0	10/07/16 18:43	
EPA 8021	Ethylbenzene	28.4	ug/L	1.0	10/07/16 18:43	
EPA 8021	Methyl-tert-butyl ether	1.0	ug/L	1.0	10/07/16 18:43	
EPA 8021	Toluene	1.2	ug/L	1.0	10/07/16 18:43	
EPA 8021	1,2,4-Trimethylbenzene	1.6	ug/L	1.0	10/07/16 18:43	
EPA 8021	1,3,5-Trimethylbenzene	2.7	ug/L	1.0	10/07/16 18:43	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40139615027	**MW-2/FL**					
EPA 8021	m&p-Xylene	10.6	ug/L	2.0	10/07/16 18:43	
EPA 8021	o-Xylene	0.55J	ug/L	1.0	10/07/16 18:43	
40139615028	**MW-3/FL**					
EPA 8021	Benzene	1260	ug/L	20.0	10/07/16 17:52	
EPA 8021	Ethylbenzene	577	ug/L	20.0	10/07/16 17:52	
EPA 8021	Toluene	90.8	ug/L	20.0	10/07/16 17:52	
EPA 8021	1,2,4-Trimethylbenzene	1500	ug/L	20.0	10/07/16 17:52	
EPA 8021	1,3,5-Trimethylbenzene	508	ug/L	20.0	10/07/16 17:52	
EPA 8021	m&p-Xylene	3400	ug/L	40.0	10/07/16 17:52	
EPA 8021	o-Xylene	425	ug/L	20.0	10/07/16 17:52	
40139615029	**MW-9/FL**					
EPA 8021	Benzene	212	ug/L	1.0	10/07/16 19:09	
EPA 8021	Ethylbenzene	27.7	ug/L	1.0	10/07/16 19:09	
EPA 8021	Toluene	3.6	ug/L	1.0	10/07/16 19:09	
EPA 8021	1,2,4-Trimethylbenzene	27.3	ug/L	1.0	10/07/16 19:09	
EPA 8021	1,3,5-Trimethylbenzene	2.8	ug/L	1.0	10/07/16 19:09	
EPA 8021	m&p-Xylene	15.0	ug/L	2.0	10/07/16 19:09	
EPA 8021	o-Xylene	4.8	ug/L	1.0	10/07/16 19:09	
40139615032	**MW-13/FL**					
EPA 8021	Benzene	738	ug/L	4.0	10/07/16 18:18	
EPA 8021	Ethylbenzene	135	ug/L	4.0	10/07/16 18:18	
EPA 8021	Toluene	5.2	ug/L	4.0	10/07/16 18:18	
EPA 8021	1,2,4-Trimethylbenzene	138	ug/L	4.0	10/07/16 18:18	
EPA 8021	m&p-Xylene	11.0	ug/L	8.0	10/07/16 18:18	
EPA 8021	o-Xylene	20.7	ug/L	4.0	10/07/16 18:18	
40139615033	**MW-14/FL**					
EPA 8021	Benzene	90.0	ug/L	1.0	10/07/16 12:45	
EPA 8021	Ethylbenzene	131	ug/L	1.0	10/07/16 12:45	
EPA 8021	Toluene	1.5	ug/L	1.0	10/07/16 12:45	
EPA 8021	1,2,4-Trimethylbenzene	38.1	ug/L	1.0	10/07/16 12:45	
EPA 8021	1,3,5-Trimethylbenzene	15.4	ug/L	1.0	10/07/16 12:45	
EPA 8021	m&p-Xylene	614	ug/L	2.0	10/07/16 12:45	
EPA 8021	o-Xylene	13.0	ug/L	1.0	10/07/16 12:45	

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PROJECT NARRATIVE

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Method: **EPA 8021**
Description: 8021 GCV Short List
Client: Gannett Fleming Inc.
Date: October 17, 2016

General Information:
14 samples were analyzed for EPA 8021. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 237415

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40139615020

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1407441)
  - 1,3,5-Trimethylbenzene

Additional Comments:

Analyte Comments:

QC Batch: 237415

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- LRS-1 (Lab ID: 40139615020)
  - a,a,a-Trifluorotoluene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Method: **EPA 8260**
Description: 8260 MSV
Client: Gannett Fleming Inc.
Date: October 17, 2016

General Information:
6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 237506

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40139484001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1409837)
  - Styrene

R1: RPD value was outside control limits.

- MSD (Lab ID: 1409837)
  - Styrene

QC Batch: 237560

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40139746014

R1: RPD value was outside control limits.

- MSD (Lab ID: 1408145)
  - 1,1-Dichloroethane

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Method: **EPA 8260**
Description: 8260 MSV UST
Client: Gannett Fleming Inc.
Date: October 17, 2016

General Information:
13 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 237494

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40139530042

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1408609)
  - Methyl-tert-butyl ether

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-1/T68 **Lab ID: 40139615008** Collected: 10/05/16 14:15 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		10/14/16 10:26	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		10/14/16 10:26	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		10/14/16 10:26	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/14/16 10:26	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		10/14/16 10:26	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		10/14/16 10:26	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		10/14/16 10:26	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		10/14/16 10:26	120-82-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		10/14/16 10:26	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		10/14/16 10:26	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		10/14/16 10:26	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		10/14/16 10:26	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		10/14/16 10:26	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		10/14/16 10:26	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		10/14/16 10:26	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		10/14/16 10:26	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		10/14/16 10:26	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		10/14/16 10:26	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		10/14/16 10:26	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		10/14/16 10:26	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		10/14/16 10:26	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		10/14/16 10:26	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		10/14/16 10:26	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		10/14/16 10:26	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		10/14/16 10:26	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		10/14/16 10:26	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-1/T68 **Lab ID: 40139615008** Collected: 10/05/16 14:15 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		10/14/16 10:26	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		10/14/16 10:26	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		10/14/16 10:26	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/14/16 10:26	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		10/14/16 10:26	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 10:26	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		10/14/16 10:26	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		10/14/16 10:26	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/14/16 10:26	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		10/14/16 10:26	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		10/14/16 10:26	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		10/14/16 10:26	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		10/14/16 10:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-2/T68 **Lab ID: 40139615009** Collected: 10/05/16 14:30 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		10/14/16 09:42	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		10/14/16 09:42	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		10/14/16 09:42	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		10/14/16 09:42	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		10/14/16 09:42	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		10/14/16 09:42	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		10/14/16 09:42	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		10/14/16 09:42	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		10/14/16 09:42	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		10/14/16 09:42	120-82-1	
1,2,4-Trimethylbenzene	**2150**	ug/L	200	100	200		10/14/16 09:42	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		10/14/16 09:42	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		10/14/16 09:42	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		10/14/16 09:42	95-50-1	
1,2-Dichloroethane	**1150**	ug/L	200	33.6	200		10/14/16 09:42	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		10/14/16 09:42	78-87-5	
1,3,5-Trimethylbenzene	**523**	ug/L	200	100	200		10/14/16 09:42	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		10/14/16 09:42	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		10/14/16 09:42	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		10/14/16 09:42	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		10/14/16 09:42	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		10/14/16 09:42	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		10/14/16 09:42	106-43-4	
Benzene	**20900**	ug/L	200	100	200		10/14/16 09:42	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		10/14/16 09:42	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		10/14/16 09:42	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		10/14/16 09:42	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		10/14/16 09:42	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		10/14/16 09:42	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		10/14/16 09:42	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		10/14/16 09:42	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		10/14/16 09:42	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		10/14/16 09:42	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		10/14/16 09:42	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		10/14/16 09:42	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		10/14/16 09:42	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		10/14/16 09:42	75-71-8	
Ethylbenzene	**1350**	ug/L	200	100	200		10/14/16 09:42	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		10/14/16 09:42	87-68-3	
Isopropylbenzene (Cumene)	**45.3J**	ug/L	200	28.7	200		10/14/16 09:42	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		10/14/16 09:42	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		10/14/16 09:42	75-09-2	
Naphthalene	**<500**	ug/L	1000	500	200		10/14/16 09:42	91-20-3	
Styrene	**<100**	ug/L	200	100	200		10/14/16 09:42	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		10/14/16 09:42	127-18-4	
Toluene	**20300**	ug/L	200	100	200		10/14/16 09:42	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-2/T68 **Lab ID: 40139615009** Collected: 10/05/16 14:30 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		10/14/16 09:42	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		10/14/16 09:42	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		10/14/16 09:42	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		10/14/16 09:42	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		10/14/16 09:42	10061-01-5	
m&p-Xylene	**10400**	ug/L	400	200	200		10/14/16 09:42	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		10/14/16 09:42	104-51-8	
n-Propylbenzene	**105J**	ug/L	200	100	200		10/14/16 09:42	103-65-1	
o-Xylene	**4970**	ug/L	200	100	200		10/14/16 09:42	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		10/14/16 09:42	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		10/14/16 09:42	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		10/14/16 09:42	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		10/14/16 09:42	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		10/14/16 09:42	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		200		10/14/16 09:42	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		200		10/14/16 09:42	1868-53-7	
Toluene-d8 (S)	99	%	70-130		200		10/14/16 09:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-4/T68 **Lab ID: 40139615010** Collected: 10/05/16 14:40 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		10/14/16 15:59	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		10/14/16 15:59	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		10/14/16 15:59	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/14/16 15:59	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		10/14/16 15:59	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		10/14/16 15:59	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		10/14/16 15:59	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		10/14/16 15:59	120-82-1	
1,2,4-Trimethylbenzene	**2.7**	ug/L	1.0	0.50	1		10/14/16 15:59	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		10/14/16 15:59	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		10/14/16 15:59	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		10/14/16 15:59	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		10/14/16 15:59	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		10/14/16 15:59	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		10/14/16 15:59	106-43-4	
Benzene	**3.3**	ug/L	1.0	0.50	1		10/14/16 15:59	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		10/14/16 15:59	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		10/14/16 15:59	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		10/14/16 15:59	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		10/14/16 15:59	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		10/14/16 15:59	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		10/14/16 15:59	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		10/14/16 15:59	75-71-8	
Ethylbenzene	**0.83J**	ug/L	1.0	0.50	1		10/14/16 15:59	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		10/14/16 15:59	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		10/14/16 15:59	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		10/14/16 15:59	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		10/14/16 15:59	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		10/14/16 15:59	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	127-18-4	
Toluene	**0.99J**	ug/L	1.0	0.50	1		10/14/16 15:59	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-4/T68 **Lab ID: 40139615010** Collected: 10/05/16 14:40 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		10/14/16 15:59	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		10/14/16 15:59	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		10/14/16 15:59	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/14/16 15:59	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	10061-01-5	
m&p-Xylene	**2.4**	ug/L	2.0	1.0	1		10/14/16 15:59	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	103-65-1	
o-Xylene	**1.7**	ug/L	1.0	0.50	1		10/14/16 15:59	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		10/14/16 15:59	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		10/14/16 15:59	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		10/14/16 15:59	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/14/16 15:59	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		10/14/16 15:59	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		10/14/16 15:59	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		10/14/16 15:59	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		10/14/16 15:59	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-5/T66 **Lab ID: 40139615011** Collected: 10/05/16 14:50 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		10/14/16 12:01	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		10/14/16 12:01	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		10/14/16 12:01	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		10/14/16 12:01	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		10/14/16 12:01	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		10/14/16 12:01	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		10/14/16 12:01	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		10/14/16 12:01	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		10/14/16 12:01	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		10/14/16 12:01	120-82-1	
1,2,4-Trimethylbenzene	**2520**	ug/L	200	100	200		10/14/16 12:01	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		10/14/16 12:01	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		10/14/16 12:01	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		10/14/16 12:01	95-50-1	
1,2-Dichloroethane	**<33.6**	ug/L	200	33.6	200		10/14/16 12:01	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		10/14/16 12:01	78-87-5	
1,3,5-Trimethylbenzene	**721**	ug/L	200	100	200		10/14/16 12:01	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		10/14/16 12:01	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		10/14/16 12:01	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		10/14/16 12:01	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		10/14/16 12:01	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		10/14/16 12:01	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		10/14/16 12:01	106-43-4	
Benzene	**9090**	ug/L	200	100	200		10/14/16 12:01	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		10/14/16 12:01	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		10/14/16 12:01	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		10/14/16 12:01	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		10/14/16 12:01	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		10/14/16 12:01	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		10/14/16 12:01	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		10/14/16 12:01	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		10/14/16 12:01	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		10/14/16 12:01	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		10/14/16 12:01	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		10/14/16 12:01	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		10/14/16 12:01	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		10/14/16 12:01	75-71-8	
Ethylbenzene	**2700**	ug/L	200	100	200		10/14/16 12:01	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		10/14/16 12:01	87-68-3	
Isopropylbenzene (Cumene)	**65.2J**	ug/L	200	28.7	200		10/14/16 12:01	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		10/14/16 12:01	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		10/14/16 12:01	75-09-2	
Naphthalene	**<500**	ug/L	1000	500	200		10/14/16 12:01	91-20-3	
Styrene	**<100**	ug/L	200	100	200		10/14/16 12:01	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		10/14/16 12:01	127-18-4	
Toluene	**15900**	ug/L	200	100	200		10/14/16 12:01	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-5/T66 **Lab ID: 40139615011** Collected: 10/05/16 14:50 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		10/14/16 12:01	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		10/14/16 12:01	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		10/14/16 12:01	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		10/14/16 12:01	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		10/14/16 12:01	10061-01-5	
m&p-Xylene	**12100**	ug/L	400	200	200		10/14/16 12:01	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		10/14/16 12:01	104-51-8	
n-Propylbenzene	**222**	ug/L	200	100	200		10/14/16 12:01	103-65-1	
o-Xylene	**4700**	ug/L	200	100	200		10/14/16 12:01	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		10/14/16 12:01	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		10/14/16 12:01	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		10/14/16 12:01	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		10/14/16 12:01	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		10/14/16 12:01	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		200		10/14/16 12:01	460-00-4	
Dibromofluoromethane (S)	91	%	70-130		200		10/14/16 12:01	1868-53-7	
Toluene-d8 (S)	109	%	70-130		200		10/14/16 12:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-6/T68 **Lab ID: 40139615012** Collected: 10/05/16 14:45 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<9.0**	ug/L	50.0	9.0	50		10/14/16 11:39	630-20-6	
1,1,1-Trichloroethane	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	71-55-6	
1,1,2,2-Tetrachloroethane	**<12.5**	ug/L	50.0	12.5	50		10/14/16 11:39	79-34-5	
1,1,2-Trichloroethane	**<9.9**	ug/L	50.0	9.9	50		10/14/16 11:39	79-00-5	
1,1-Dichloroethane	**<12.1**	ug/L	50.0	12.1	50		10/14/16 11:39	75-34-3	
1,1-Dichloroethene	**<20.5**	ug/L	50.0	20.5	50		10/14/16 11:39	75-35-4	
1,1-Dichloropropene	**<22.1**	ug/L	50.0	22.1	50		10/14/16 11:39	563-58-6	
1,2,3-Trichlorobenzene	**<107**	ug/L	250	107	50		10/14/16 11:39	87-61-6	
1,2,3-Trichloropropane	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	96-18-4	
1,2,4-Trichlorobenzene	**<110**	ug/L	250	110	50		10/14/16 11:39	120-82-1	
1,2,4-Trimethylbenzene	**3200**	ug/L	50.0	25.0	50		10/14/16 11:39	95-63-6	
1,2-Dibromo-3-chloropropane	**<108**	ug/L	250	108	50		10/14/16 11:39	96-12-8	
1,2-Dibromoethane (EDB)	**<8.9**	ug/L	50.0	8.9	50		10/14/16 11:39	106-93-4	
1,2-Dichlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	95-50-1	
1,2-Dichloroethane	**37.5J**	ug/L	50.0	8.4	50		10/14/16 11:39	107-06-2	
1,2-Dichloropropane	**<11.7**	ug/L	50.0	11.7	50		10/14/16 11:39	78-87-5	
1,3,5-Trimethylbenzene	**865**	ug/L	50.0	25.0	50		10/14/16 11:39	108-67-8	
1,3-Dichlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	541-73-1	
1,3-Dichloropropane	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	142-28-9	
1,4-Dichlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	106-46-7	
2,2-Dichloropropane	**<24.2**	ug/L	50.0	24.2	50		10/14/16 11:39	594-20-7	
2-Chlorotoluene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	95-49-8	
4-Chlorotoluene	**<10.7**	ug/L	50.0	10.7	50		10/14/16 11:39	106-43-4	
Benzene	**5070**	ug/L	50.0	25.0	50		10/14/16 11:39	71-43-2	
Bromobenzene	**<11.5**	ug/L	50.0	11.5	50		10/14/16 11:39	108-86-1	
Bromochloromethane	**<17.0**	ug/L	50.0	17.0	50		10/14/16 11:39	74-97-5	
Bromodichloromethane	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	75-27-4	
Bromoform	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	75-25-2	
Bromomethane	**<122**	ug/L	250	122	50		10/14/16 11:39	74-83-9	
Carbon tetrachloride	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	56-23-5	
Chlorobenzene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	108-90-7	
Chloroethane	**<18.7**	ug/L	50.0	18.7	50		10/14/16 11:39	75-00-3	
Chloroform	**<125**	ug/L	250	125	50		10/14/16 11:39	67-66-3	
Chloromethane	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	74-87-3	
Dibromochloromethane	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	124-48-1	
Dibromomethane	**<21.3**	ug/L	50.0	21.3	50		10/14/16 11:39	74-95-3	
Dichlorodifluoromethane	**<11.2**	ug/L	50.0	11.2	50		10/14/16 11:39	75-71-8	
Ethylbenzene	**45.5J**	ug/L	50.0	25.0	50		10/14/16 11:39	100-41-4	
Hexachloro-1,3-butadiene	**<105**	ug/L	250	105	50		10/14/16 11:39	87-68-3	
Isopropylbenzene (Cumene)	**<7.2**	ug/L	50.0	7.2	50		10/14/16 11:39	98-82-8	
Methyl-tert-butyl ether	**<8.7**	ug/L	50.0	8.7	50		10/14/16 11:39	1634-04-4	
Methylene Chloride	**<11.6**	ug/L	50.0	11.6	50		10/14/16 11:39	75-09-2	
Naphthalene	**334**	ug/L	250	125	50		10/14/16 11:39	91-20-3	
Styrene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	100-42-5	
Tetrachloroethene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	127-18-4	
Toluene	**1560**	ug/L	50.0	25.0	50		10/14/16 11:39	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: MW-6/T68 **Lab ID: 40139615012** Collected: 10/05/16 14:45 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<16.5**	ug/L	50.0	16.5	50		10/14/16 11:39	79-01-6	
Trichlorofluoromethane	**<9.2**	ug/L	50.0	9.2	50		10/14/16 11:39	75-69-4	
Vinyl chloride	**<8.8**	ug/L	50.0	8.8	50		10/14/16 11:39	75-01-4	
cis-1,2-Dichloroethene	**<12.8**	ug/L	50.0	12.8	50		10/14/16 11:39	156-59-2	
cis-1,3-Dichloropropene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	10061-01-5	
m&p-Xylene	**9240**	ug/L	100	50.0	50		10/14/16 11:39	179601-23-1	
n-Butylbenzene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	104-51-8	
n-Propylbenzene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	103-65-1	
o-Xylene	**5080**	ug/L	50.0	25.0	50		10/14/16 11:39	95-47-6	
p-Isopropyltoluene	**<25.0**	ug/L	50.0	25.0	50		10/14/16 11:39	99-87-6	
sec-Butylbenzene	**<109**	ug/L	250	109	50		10/14/16 11:39	135-98-8	
tert-Butylbenzene	**<9.0**	ug/L	50.0	9.0	50		10/14/16 11:39	98-06-6	
trans-1,2-Dichloroethene	**<12.8**	ug/L	50.0	12.8	50		10/14/16 11:39	156-60-5	
trans-1,3-Dichloropropene	**<11.5**	ug/L	50.0	11.5	50		10/14/16 11:39	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		50		10/14/16 11:39	460-00-4	
Dibromofluoromethane (S)	95	%	70-130		50		10/14/16 11:39	1868-53-7	
Toluene-d8 (S)	96	%	70-130		50		10/14/16 11:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: TRIP BLANK **Lab ID: 40139615019** Collected: 10/05/16 00:00 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		10/13/16 16:01	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		10/13/16 16:01	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		10/13/16 16:01	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/13/16 16:01	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		10/13/16 16:01	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		10/13/16 16:01	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		10/13/16 16:01	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		10/13/16 16:01	120-82-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		10/13/16 16:01	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		10/13/16 16:01	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		10/13/16 16:01	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		10/13/16 16:01	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		10/13/16 16:01	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		10/13/16 16:01	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		10/13/16 16:01	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		10/13/16 16:01	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		10/13/16 16:01	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		10/13/16 16:01	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		10/13/16 16:01	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		10/13/16 16:01	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		10/13/16 16:01	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		10/13/16 16:01	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		10/13/16 16:01	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		10/13/16 16:01	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		10/13/16 16:01	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		10/13/16 16:01	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Sample: TRIP BLANK **Lab ID: 40139615019** Collected: 10/05/16 00:00 Received: 10/06/16 09:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		10/13/16 16:01	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		10/13/16 16:01	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		10/13/16 16:01	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/16 16:01	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		10/13/16 16:01	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		10/13/16 16:01	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		10/13/16 16:01	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		10/13/16 16:01	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/13/16 16:01	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		10/13/16 16:01	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		1		10/13/16 16:01	460-00-4	
Dibromofluoromethane (S)	93	%	70-130		1		10/13/16 16:01	1868-53-7	
Toluene-d8 (S)	89	%	70-130		1		10/13/16 16:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

QC Batch: 237415 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: 8021 GCV BTEX
Associated Lab Samples: 40139615020, 40139615021, 40139615022, 40139615023, 40139615024, 40139615025, 40139615026, 40139615027, 40139615028, 40139615029, 40139615030, 40139615031, 40139615032, 40139615033

METHOD BLANK: 1407029 Matrix: Water
Associated Lab Samples: 40139615020, 40139615021, 40139615022, 40139615023, 40139615024, 40139615025, 40139615026, 40139615027, 40139615028, 40139615029, 40139615030, 40139615031, 40139615032, 40139615033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	10/07/16 08:04	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	10/07/16 08:04	
Benzene	ug/L	<0.40	1.0	10/07/16 08:04	
Ethylbenzene	ug/L	<0.39	1.0	10/07/16 08:04	
m&p-Xylene	ug/L	<0.80	2.0	10/07/16 08:04	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	10/07/16 08:04	
o-Xylene	ug/L	<0.45	1.0	10/07/16 08:04	
Toluene	ug/L	<0.39	1.0	10/07/16 08:04	
a,a,a-Trifluorotoluene (S)	%	103	80-120	10/07/16 08:04	

LABORATORY CONTROL SAMPLE & LCSD: 1407030 1407031

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.9	19.9	104	99	80-120	5	20	
1,3,5-Trimethylbenzene	ug/L	20	19.8	18.8	99	94	80-120	5	20	
Benzene	ug/L	20	20.7	19.6	104	98	80-120	6	20	
Ethylbenzene	ug/L	20	19.9	18.8	100	94	80-120	6	20	
m&p-Xylene	ug/L	40	39.3	37.2	98	93	80-120	6	20	
Methyl-tert-butyl ether	ug/L	20	20.9	20.3	104	101	80-120	3	20	
o-Xylene	ug/L	20	20.2	19.2	101	96	80-120	5	20	
Toluene	ug/L	20	20.4	19.2	102	96	80-120	6	20	
a,a,a-Trifluorotoluene (S)	%				102	102	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407441 1407442

Parameter	Units	40139615020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	201	100	100	348	332	148	131	48-177	5	20	
1,3,5-Trimethylbenzene	ug/L	181	100	100	328	311	147	130	73-145	5	20	M1
Benzene	ug/L	158	100	100	261	244	104	86	74-139	7	20	
Ethylbenzene	ug/L	45.3	100	100	148	129	102	83	74-140	14	20	
m&p-Xylene	ug/L	387	200	200	623	583	118	98	55-165	7	20	
Methyl-tert-butyl ether	ug/L	<2.4	100	100	98.4	81.6	98	82	80-120	19	20	
o-Xylene	ug/L	226	100	100	346	326	121	101	73-136	6	20	
Toluene	ug/L	17.4	100	100	120	100	103	83	80-128	18	20	
a,a,a-Trifluorotoluene (S)	%						105	106	80-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

QC Batch: 237506 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40139615019

METHOD BLANK: 1407486 Matrix: Water
Associated Lab Samples: 40139615019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/13/16 07:15	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/13/16 07:15	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/13/16 07:15	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/13/16 07:15	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/13/16 07:15	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/13/16 07:15	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/13/16 07:15	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/13/16 07:15	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/13/16 07:15	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/13/16 07:15	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/13/16 07:15	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/13/16 07:15	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/13/16 07:15	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/13/16 07:15	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/13/16 07:15	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/13/16 07:15	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/13/16 07:15	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/13/16 07:15	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/13/16 07:15	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/13/16 07:15	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/13/16 07:15	
2-Chlorotoluene	ug/L	<0.50	1.0	10/13/16 07:15	
4-Chlorotoluene	ug/L	<0.21	1.0	10/13/16 07:15	
Benzene	ug/L	<0.50	1.0	10/13/16 07:15	
Bromobenzene	ug/L	<0.23	1.0	10/13/16 07:15	
Bromochloromethane	ug/L	<0.34	1.0	10/13/16 07:15	
Bromodichloromethane	ug/L	<0.50	1.0	10/13/16 07:15	
Bromoform	ug/L	<0.50	1.0	10/13/16 07:15	
Bromomethane	ug/L	<2.4	5.0	10/13/16 07:15	
Carbon tetrachloride	ug/L	<0.50	1.0	10/13/16 07:15	
Chlorobenzene	ug/L	<0.50	1.0	10/13/16 07:15	
Chloroethane	ug/L	<0.37	1.0	10/13/16 07:15	
Chloroform	ug/L	<2.5	5.0	10/13/16 07:15	
Chloromethane	ug/L	<0.50	1.0	10/13/16 07:15	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/13/16 07:15	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/13/16 07:15	
Dibromochloromethane	ug/L	<0.50	1.0	10/13/16 07:15	
Dibromomethane	ug/L	<0.43	1.0	10/13/16 07:15	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/13/16 07:15	
Ethylbenzene	ug/L	<0.50	1.0	10/13/16 07:15	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/13/16 07:15	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

METHOD BLANK: 1407486 Matrix: Water
Associated Lab Samples: 40139615019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/13/16 07:15	
m&p-Xylene	ug/L	<1.0	2.0	10/13/16 07:15	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/13/16 07:15	
Methylene Chloride	ug/L	<0.23	1.0	10/13/16 07:15	
n-Butylbenzene	ug/L	<0.50	1.0	10/13/16 07:15	
n-Propylbenzene	ug/L	<0.50	1.0	10/13/16 07:15	
Naphthalene	ug/L	<2.5	5.0	10/13/16 07:15	
o-Xylene	ug/L	<0.50	1.0	10/13/16 07:15	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/13/16 07:15	
sec-Butylbenzene	ug/L	<2.2	5.0	10/13/16 07:15	
Styrene	ug/L	<0.50	1.0	10/13/16 07:15	
tert-Butylbenzene	ug/L	<0.18	1.0	10/13/16 07:15	
Tetrachloroethene	ug/L	<0.50	1.0	10/13/16 07:15	
Toluene	ug/L	<0.50	1.0	10/13/16 07:15	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/13/16 07:15	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/13/16 07:15	
Trichloroethene	ug/L	<0.33	1.0	10/13/16 07:15	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/13/16 07:15	
Vinyl chloride	ug/L	<0.18	1.0	10/13/16 07:15	
4-Bromofluorobenzene (S)	%	93	70-130	10/13/16 07:15	
Dibromofluoromethane (S)	%	94	70-130	10/13/16 07:15	
Toluene-d8 (S)	%	94	70-130	10/13/16 07:15	

LABORATORY CONTROL SAMPLE: 1407487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	48.6	97	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	50.2	100	67-130	
1,1,2-Trichloroethane	ug/L	50	52.3	105	70-130	
1,1-Dichloroethane	ug/L	50	49.8	100	70-133	
1,1-Dichloroethene	ug/L	50	46.1	92	70-130	
1,2,4-Trichlorobenzene	ug/L	50	46.1	92	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	53.4	107	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	52.5	105	70-130	
1,2-Dichlorobenzene	ug/L	50	48.5	97	70-130	
1,2-Dichloroethane	ug/L	50	51.7	103	70-130	
1,2-Dichloropropane	ug/L	50	50.0	100	70-130	
1,3-Dichlorobenzene	ug/L	50	48.2	96	70-130	
1,4-Dichlorobenzene	ug/L	50	47.6	95	70-130	
Benzene	ug/L	50	50.0	100	60-135	
Bromodichloromethane	ug/L	50	49.3	99	70-130	
Bromoform	ug/L	50	55.3	111	70-130	
Bromomethane	ug/L	50	44.4	89	33-130	
Carbon tetrachloride	ug/L	50	50.7	101	70-138	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

LABORATORY CONTROL SAMPLE: 1407487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	50.0	100	70-130	
Chloroethane	ug/L	50	52.3	105	51-130	
Chloroform	ug/L	50	50.3	101	70-130	
Chloromethane	ug/L	50	45.0	90	25-132	
cis-1,2-Dichloroethene	ug/L	50	45.2	90	69-130	
cis-1,3-Dichloropropene	ug/L	50	48.1	96	70-130	
Dibromochloromethane	ug/L	50	50.1	100	70-130	
Dichlorodifluoromethane	ug/L	50	43.5	87	23-130	
Ethylbenzene	ug/L	50	49.8	100	70-136	
Isopropylbenzene (Cumene)	ug/L	50	50.7	101	70-140	
m&p-Xylene	ug/L	100	103	103	70-138	
Methyl-tert-butyl ether	ug/L	50	53.8	108	66-138	
Methylene Chloride	ug/L	50	49.1	98	70-130	
o-Xylene	ug/L	50	49.8	100	70-134	
Styrene	ug/L	50	51.6	103	70-133	
Tetrachloroethene	ug/L	50	50.2	100	70-138	
Toluene	ug/L	50	50.9	102	70-130	
trans-1,2-Dichloroethene	ug/L	50	46.2	92	70-131	
trans-1,3-Dichloropropene	ug/L	50	49.4	99	69-130	
Trichloroethene	ug/L	50	50.0	100	70-130	
Trichlorofluoromethane	ug/L	50	53.4	107	50-150	
Vinyl chloride	ug/L	50	54.8	110	49-130	
4-Bromofluorobenzene (S)	%			93	70-130	
Dibromofluoromethane (S)	%			96	70-130	
Toluene-d8 (S)	%			95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409836 1409837

Parameter	Units	40139484001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	49.4	49.2	99	98	70-134	0	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	52.4	53.9	105	108	67-130	3	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	52.4	52.5	105	105	70-130	0	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	50.0	49.5	100	99	70-134	1	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	46.1	45.2	92	90	68-136	2	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	48.5	49.6	96	98	62-139	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	53.6	53.2	107	106	50-150	1	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	53.0	54.3	106	109	70-130	2	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	49.3	50.2	99	100	70-130	2	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	52.0	52.1	104	104	70-130	0	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	51.8	51.9	104	104	70-130	0	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	49.8	49.6	100	99	70-131	0	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	49.0	49.8	98	100	70-130	2	20	
Benzene	ug/L	<0.50	50	50	49.9	50.7	100	101	57-138	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409836 1409837

Parameter	Units	40139484001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<0.50	50	50	51.1	49.7	102	99	70-130	3	20	
Bromoform	ug/L	<0.50	50	50	54.9	54.1	110	108	70-130	2	20	
Bromomethane	ug/L	<2.4	50	50	49.5	55.0	99	110	33-130	11	27	
Carbon tetrachloride	ug/L	<0.50	50	50	51.5	50.8	103	102	70-138	1	20	
Chlorobenzene	ug/L	<0.50	50	50	49.3	50.4	99	101	70-130	2	20	
Chloroethane	ug/L	<0.37	50	50	52.7	52.6	105	105	51-130	0	20	
Chloroform	ug/L	<2.5	50	50	49.9	49.9	100	100	70-130	0	20	
Chloromethane	ug/L	<0.50	50	50	44.4	46.7	89	93	25-132	5	20	
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	48.1	46.2	96	92	61-140	4	20	
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	49.8	48.2	100	96	70-130	3	20	
Dibromochloromethane	ug/L	<0.50	50	50	50.8	50.9	102	102	70-130	0	20	
Dichlorodifluoromethane	ug/L	<0.22	50	50	42.3	42.7	85	85	23-130	1	20	
Ethylbenzene	ug/L	<0.50	50	50	48.0	46.5	96	93	70-138	3	20	
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	49.5	47.9	99	96	70-152	3	20	
m&p-Xylene	ug/L	<1.0	100	100	91.0	84.0	91	84	70-140	8	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	54.4	54.9	109	110	66-139	1	20	
Methylene Chloride	ug/L	<0.23	50	50	50.1	50.1	100	100	70-130	0	20	
o-Xylene	ug/L	<0.50	50	50	44.3	42.8	89	86	70-134	3	20	
Styrene	ug/L	<0.50	50	50	37.0	29.7	74	59	70-138	22	20	M1,R1
Tetrachloroethene	ug/L	<0.50	50	50	48.6	49.6	97	99	70-148	2	20	
Toluene	ug/L	<0.50	50	50	48.5	49.7	97	99	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	47.9	47.0	96	94	70-133	2	20	
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	49.2	47.8	98	96	69-130	3	20	
Trichloroethene	ug/L	<0.33	50	50	50.3	50.7	101	101	70-131	1	20	
Trichlorofluoromethane	ug/L	<0.18	50	50	51.9	51.9	104	104	50-150	0	20	
Vinyl chloride	ug/L	<0.18	50	50	53.5	53.7	107	107	49-133	0	20	
4-Bromofluorobenzene (S)	%						92	89	70-130			
Dibromofluoromethane (S)	%						96	94	70-130			
Toluene-d8 (S)	%						94	91	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

QC Batch: 237560 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40139615008, 40139615009, 40139615010

METHOD BLANK: 1408142 Matrix: Water
Associated Lab Samples: 40139615008, 40139615009, 40139615010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/14/16 07:09	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/14/16 07:09	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/14/16 07:09	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/14/16 07:09	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/14/16 07:09	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/14/16 07:09	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/14/16 07:09	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/14/16 07:09	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/14/16 07:09	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/14/16 07:09	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/14/16 07:09	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/14/16 07:09	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/14/16 07:09	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/14/16 07:09	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/14/16 07:09	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/14/16 07:09	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/14/16 07:09	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/14/16 07:09	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/14/16 07:09	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/14/16 07:09	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/14/16 07:09	
2-Chlorotoluene	ug/L	<0.50	1.0	10/14/16 07:09	
4-Chlorotoluene	ug/L	<0.21	1.0	10/14/16 07:09	
Benzene	ug/L	<0.50	1.0	10/14/16 07:09	
Bromobenzene	ug/L	<0.23	1.0	10/14/16 07:09	
Bromochloromethane	ug/L	<0.34	1.0	10/14/16 07:09	
Bromodichloromethane	ug/L	<0.50	1.0	10/14/16 07:09	
Bromoform	ug/L	<0.50	1.0	10/14/16 07:09	
Bromomethane	ug/L	<2.4	5.0	10/14/16 07:09	
Carbon tetrachloride	ug/L	<0.50	1.0	10/14/16 07:09	
Chlorobenzene	ug/L	<0.50	1.0	10/14/16 07:09	
Chloroethane	ug/L	<0.37	1.0	10/14/16 07:09	
Chloroform	ug/L	<2.5	5.0	10/14/16 07:09	
Chloromethane	ug/L	<0.50	1.0	10/14/16 07:09	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/14/16 07:09	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/14/16 07:09	
Dibromochloromethane	ug/L	<0.50	1.0	10/14/16 07:09	
Dibromomethane	ug/L	<0.43	1.0	10/14/16 07:09	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/14/16 07:09	
Ethylbenzene	ug/L	<0.50	1.0	10/14/16 07:09	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/14/16 07:09	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

METHOD BLANK: 1408142 Matrix: Water
Associated Lab Samples: 40139615008, 40139615009, 40139615010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/14/16 07:09	
m&p-Xylene	ug/L	<1.0	2.0	10/14/16 07:09	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/14/16 07:09	
Methylene Chloride	ug/L	<0.23	1.0	10/14/16 07:09	
n-Butylbenzene	ug/L	<0.50	1.0	10/14/16 07:09	
n-Propylbenzene	ug/L	<0.50	1.0	10/14/16 07:09	
Naphthalene	ug/L	<2.5	5.0	10/14/16 07:09	
o-Xylene	ug/L	<0.50	1.0	10/14/16 07:09	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/14/16 07:09	
sec-Butylbenzene	ug/L	<2.2	5.0	10/14/16 07:09	
Styrene	ug/L	<0.50	1.0	10/14/16 07:09	
tert-Butylbenzene	ug/L	<0.18	1.0	10/14/16 07:09	
Tetrachloroethene	ug/L	<0.50	1.0	10/14/16 07:09	
Toluene	ug/L	<0.50	1.0	10/14/16 07:09	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/14/16 07:09	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/14/16 07:09	
Trichloroethene	ug/L	<0.33	1.0	10/14/16 07:09	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/14/16 07:09	
Vinyl chloride	ug/L	<0.18	1.0	10/14/16 07:09	
4-Bromofluorobenzene (S)	%	93	70-130	10/14/16 07:09	
Dibromofluoromethane (S)	%	100	70-130	10/14/16 07:09	
Toluene-d8 (S)	%	99	70-130	10/14/16 07:09	

LABORATORY CONTROL SAMPLE: 1408143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	51.6	103	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	46.3	93	67-130	
1,1,2-Trichloroethane	ug/L	50	47.7	95	70-130	
1,1-Dichloroethane	ug/L	50	53.9	108	70-133	
1,1-Dichloroethene	ug/L	50	47.5	95	70-130	
1,2,4-Trichlorobenzene	ug/L	50	44.4	89	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	45.6	91	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	47.9	96	70-130	
1,2-Dichlorobenzene	ug/L	50	47.8	96	70-130	
1,2-Dichloroethane	ug/L	50	49.9	100	70-130	
1,2-Dichloropropane	ug/L	50	49.8	100	70-130	
1,3-Dichlorobenzene	ug/L	50	48.4	97	70-130	
1,4-Dichlorobenzene	ug/L	50	48.8	98	70-130	
Benzene	ug/L	50	51.6	103	60-135	
Bromodichloromethane	ug/L	50	47.8	96	70-130	
Bromoform	ug/L	50	44.8	90	70-130	
Bromomethane	ug/L	50	39.1	78	33-130	
Carbon tetrachloride	ug/L	50	51.1	102	70-138	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

LABORATORY CONTROL SAMPLE: 1408143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	50.2	100	70-130	
Chloroethane	ug/L	50	44.4	89	51-130	
Chloroform	ug/L	50	51.3	103	70-130	
Chloromethane	ug/L	50	33.6	67	25-132	
cis-1,2-Dichloroethene	ug/L	50	52.2	104	69-130	
cis-1,3-Dichloropropene	ug/L	50	48.8	98	70-130	
Dibromochloromethane	ug/L	50	47.9	96	70-130	
Dichlorodifluoromethane	ug/L	50	29.1	58	23-130	
Ethylbenzene	ug/L	50	52.2	104	70-136	
Isopropylbenzene (Cumene)	ug/L	50	53.2	106	70-140	
m&p-Xylene	ug/L	100	105	105	70-138	
Methyl-tert-butyl ether	ug/L	50	49.8	100	66-138	
Methylene Chloride	ug/L	50	48.1	96	70-130	
o-Xylene	ug/L	50	52.0	104	70-134	
Styrene	ug/L	50	51.7	103	70-133	
Tetrachloroethene	ug/L	50	47.7	95	70-138	
Toluene	ug/L	50	51.5	103	70-130	
trans-1,2-Dichloroethene	ug/L	50	46.3	93	70-131	
trans-1,3-Dichloropropene	ug/L	50	50.7	101	69-130	
Trichloroethene	ug/L	50	49.6	99	70-130	
Trichlorofluoromethane	ug/L	50	50.8	102	50-150	
Vinyl chloride	ug/L	50	46.0	92	49-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408144 1408145

Parameter	Units	40139746014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	49.9	51.4	100	103	70-134	3	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	44.2	48.6	88	97	67-130	9	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	44.3	48.2	89	96	70-130	8	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	51.5	41.6	103	83	70-134	21	20	R1
1,1-Dichloroethene	ug/L	<0.41	50	50	42.8	49.5	86	99	68-136	15	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	44.7	47.6	88	93	62-139	6	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	43.0	49.9	86	100	50-150	15	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	44.9	49.2	90	98	70-130	9	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	48.4	51.2	97	102	70-130	6	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	46.8	50.9	94	102	70-130	8	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	45.7	52.2	91	104	70-130	13	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	48.5	50.9	97	101	70-131	5	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	49.1	51.7	98	103	70-130	5	20	
Benzene	ug/L	<0.50	50	50	50.6	52.7	101	105	57-138	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408144 1408145

Parameter	Units	40139746014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<0.50	50	50	47.2	51.0	94	102	70-130	8	20	
Bromoform	ug/L	<0.50	50	50	42.4	46.2	85	92	70-130	9	20	
Bromomethane	ug/L	<2.4	50	50	43.9	45.5	88	91	33-130	3	27	
Carbon tetrachloride	ug/L	<0.50	50	50	51.6	53.2	103	106	70-138	3	20	
Chlorobenzene	ug/L	<0.50	50	50	49.3	51.3	99	103	70-130	4	20	
Chloroethane	ug/L	<0.37	50	50	41.4	43.3	83	87	51-130	5	20	
Chloroform	ug/L	<2.5	50	50	49.1	52.1	98	104	70-130	6	20	
Chloromethane	ug/L	<0.50	50	50	31.1	33.3	62	67	25-132	7	20	
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	50.0	52.0	100	104	61-140	4	20	
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	49.1	52.6	98	105	70-130	7	20	
Dibromochloromethane	ug/L	<0.50	50	50	46.5	49.9	93	100	70-130	7	20	
Dichlorodifluoromethane	ug/L	<0.22	50	50	28.2	28.6	56	57	23-130	1	20	
Ethylbenzene	ug/L	<0.50	50	50	51.3	54.2	103	108	70-138	6	20	
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	52.7	56.4	105	113	70-152	7	20	
m&p-Xylene	ug/L	<1.0	100	100	103	108	103	108	70-140	4	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	49.7	51.5	99	103	66-139	3	20	
Methylene Chloride	ug/L	<0.23	50	50	48.2	51.9	96	104	70-130	7	20	
o-Xylene	ug/L	<0.50	50	50	51.5	54.2	103	108	70-134	5	20	
Styrene	ug/L	<0.50	50	50	50.6	53.8	101	108	70-138	6	20	
Tetrachloroethene	ug/L	<0.50	50	50	46.8	50.1	94	100	70-148	7	20	
Toluene	ug/L	<0.50	50	50	51.0	53.2	102	106	70-130	4	20	
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	50.1	51.8	100	104	70-133	3	20	
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	47.6	51.7	95	103	69-130	8	20	
Trichloroethene	ug/L	<0.33	50	50	49.3	52.6	99	105	70-131	7	20	
Trichlorofluoromethane	ug/L	<0.18	50	50	52.0	50.5	104	101	50-150	3	20	
Vinyl chloride	ug/L	<0.18	50	50	44.2	45.5	88	91	49-133	3	20	
4-Bromofluorobenzene (S)	%						96	101	70-130			
Dibromofluoromethane (S)	%						101	98	70-130			
Toluene-d8 (S)	%						98	99	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

QC Batch: 237951 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40139615011, 40139615012

METHOD BLANK: 1409719 Matrix: Water
Associated Lab Samples: 40139615011, 40139615012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/14/16 06:55	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/14/16 06:55	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/14/16 06:55	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/14/16 06:55	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/14/16 06:55	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/14/16 06:55	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/14/16 06:55	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/14/16 06:55	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/14/16 06:55	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/14/16 06:55	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/14/16 06:55	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/14/16 06:55	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/14/16 06:55	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/14/16 06:55	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/14/16 06:55	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/14/16 06:55	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/14/16 06:55	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/14/16 06:55	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/14/16 06:55	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/14/16 06:55	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/14/16 06:55	
2-Chlorotoluene	ug/L	<0.50	1.0	10/14/16 06:55	
4-Chlorotoluene	ug/L	<0.21	1.0	10/14/16 06:55	
Benzene	ug/L	<0.50	1.0	10/14/16 06:55	
Bromobenzene	ug/L	<0.23	1.0	10/14/16 06:55	
Bromochloromethane	ug/L	<0.34	1.0	10/14/16 06:55	
Bromodichloromethane	ug/L	<0.50	1.0	10/14/16 06:55	
Bromoform	ug/L	<0.50	1.0	10/14/16 06:55	
Bromomethane	ug/L	<2.4	5.0	10/14/16 06:55	
Carbon tetrachloride	ug/L	<0.50	1.0	10/14/16 06:55	
Chlorobenzene	ug/L	<0.50	1.0	10/14/16 06:55	
Chloroethane	ug/L	<0.37	1.0	10/14/16 06:55	
Chloroform	ug/L	<2.5	5.0	10/14/16 06:55	
Chloromethane	ug/L	<0.50	1.0	10/14/16 06:55	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/14/16 06:55	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/14/16 06:55	
Dibromochloromethane	ug/L	<0.50	1.0	10/14/16 06:55	
Dibromomethane	ug/L	<0.43	1.0	10/14/16 06:55	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/14/16 06:55	
Ethylbenzene	ug/L	<0.50	1.0	10/14/16 06:55	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/14/16 06:55	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

METHOD BLANK: 1409719 Matrix: Water
Associated Lab Samples: 40139615011, 40139615012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/14/16 06:55	
m&p-Xylene	ug/L	<1.0	2.0	10/14/16 06:55	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/14/16 06:55	
Methylene Chloride	ug/L	<0.23	1.0	10/14/16 06:55	
n-Butylbenzene	ug/L	<0.50	1.0	10/14/16 06:55	
n-Propylbenzene	ug/L	<0.50	1.0	10/14/16 06:55	
Naphthalene	ug/L	<2.5	5.0	10/14/16 06:55	
o-Xylene	ug/L	<0.50	1.0	10/14/16 06:55	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/14/16 06:55	
sec-Butylbenzene	ug/L	<2.2	5.0	10/14/16 06:55	
Styrene	ug/L	<0.50	1.0	10/14/16 06:55	
tert-Butylbenzene	ug/L	<0.18	1.0	10/14/16 06:55	
Tetrachloroethene	ug/L	<0.50	1.0	10/14/16 06:55	
Toluene	ug/L	<0.50	1.0	10/14/16 06:55	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/14/16 06:55	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/14/16 06:55	
Trichloroethene	ug/L	<0.33	1.0	10/14/16 06:55	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/14/16 06:55	
Vinyl chloride	ug/L	<0.18	1.0	10/14/16 06:55	
4-Bromofluorobenzene (S)	%	86	70-130	10/14/16 06:55	
Dibromofluoromethane (S)	%	91	70-130	10/14/16 06:55	
Toluene-d8 (S)	%	95	70-130	10/14/16 06:55	

LABORATORY CONTROL SAMPLE: 1409720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.4	99	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	49.9	100	67-130	
1,1,2-Trichloroethane	ug/L	50	49.9	100	70-130	
1,1-Dichloroethane	ug/L	50	42.0	84	70-133	
1,1-Dichloroethene	ug/L	50	40.9	82	70-130	
1,2,4-Trichlorobenzene	ug/L	50	49.5	99	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.8	96	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	55.3	111	70-130	
1,2-Dichlorobenzene	ug/L	50	52.7	105	70-130	
1,2-Dichloroethane	ug/L	50	47.9	96	70-130	
1,2-Dichloropropane	ug/L	50	50.6	101	70-130	
1,3-Dichlorobenzene	ug/L	50	53.2	106	70-130	
1,4-Dichlorobenzene	ug/L	50	51.2	102	70-130	
Benzene	ug/L	50	50.8	102	60-135	
Bromodichloromethane	ug/L	50	51.3	103	70-130	
Bromoform	ug/L	50	48.6	97	70-130	
Bromomethane	ug/L	50	30.6	61	33-130	
Carbon tetrachloride	ug/L	50	51.8	104	70-138	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

LABORATORY CONTROL SAMPLE: 1409720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	55.1	110	70-130	
Chloroethane	ug/L	50	40.9	82	51-130	
Chloroform	ug/L	50	47.8	96	70-130	
Chloromethane	ug/L	50	34.4	69	25-132	
cis-1,2-Dichloroethene	ug/L	50	39.9	80	69-130	
cis-1,3-Dichloropropene	ug/L	50	48.5	97	70-130	
Dibromochloromethane	ug/L	50	54.1	108	70-130	
Dichlorodifluoromethane	ug/L	50	31.0	62	23-130	
Ethylbenzene	ug/L	50	54.7	109	70-136	
Isopropylbenzene (Cumene)	ug/L	50	54.9	110	70-140	
m&p-Xylene	ug/L	100	111	111	70-138	
Methyl-tert-butyl ether	ug/L	50	40.4	81	66-138	
Methylene Chloride	ug/L	50	41.3	83	70-130	
o-Xylene	ug/L	50	55.0	110	70-134	
Styrene	ug/L	50	53.0	106	70-133	
Tetrachloroethene	ug/L	50	57.5	115	70-138	
Toluene	ug/L	50	53.6	107	70-130	
trans-1,2-Dichloroethene	ug/L	50	41.3	83	70-131	
trans-1,3-Dichloropropene	ug/L	50	48.6	97	69-130	
Trichloroethene	ug/L	50	53.3	107	70-130	
Trichlorofluoromethane	ug/L	50	46.0	92	50-150	
Vinyl chloride	ug/L	50	44.4	89	49-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410881 1410882

Parameter	Units	40139749001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	49.1	50.4	98	101	70-134	3	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	50.0	50.3	100	101	67-130	0	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	51.3	50.8	103	102	70-130	1	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	37.1	42.5	74	85	70-134	13	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	35.5	41.2	71	82	68-136	15	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	50.7	51.0	100	101	62-139	1	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	48.9	48.7	98	97	50-150	0	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	53.9	53.9	108	108	70-130	0	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	53.0	52.9	106	106	70-130	0	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	41.0	48.5	82	97	70-130	17	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	49.9	50.6	100	101	70-130	1	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	53.7	54.2	107	108	70-131	1	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	51.0	52.4	102	105	70-130	3	20	
Benzene	ug/L	<0.50	50	50	44.2	52.2	88	104	57-138	17	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410881 1410882

Parameter	Units	40139749001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<0.50	50	50	51.8	52.3	104	105	70-130	1	20	
Bromoform	ug/L	<0.50	50	50	49.8	48.8	100	98	70-130	2	20	
Bromomethane	ug/L	<2.4	50	50	26.7	32.4	53	65	33-130	19	27	
Carbon tetrachloride	ug/L	<0.50	50	50	51.4	53.6	103	107	70-138	4	20	
Chlorobenzene	ug/L	<0.50	50	50	55.0	54.9	110	110	70-130	0	20	
Chloroethane	ug/L	<0.37	50	50	35.9	41.9	72	84	51-130	15	20	
Chloroform	ug/L	<2.5	50	50	47.7	49.5	95	99	70-130	4	20	
Chloromethane	ug/L	<0.50	50	50	28.7	34.2	57	68	25-132	18	20	
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	36.2	38.7	72	77	61-140	7	20	
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	49.2	49.5	98	99	70-130	1	20	
Dibromochloromethane	ug/L	<0.50	50	50	54.7	54.5	109	109	70-130	0	20	
Dichlorodifluoromethane	ug/L	<0.22	50	50	24.6	29.5	49	59	23-130	18	20	
Ethylbenzene	ug/L	<0.50	50	50	55.6	54.7	111	109	70-138	2	20	
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	55.7	55.1	111	110	70-152	1	20	
m&p-Xylene	ug/L	<1.0	100	100	112	112	112	111	70-140	1	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	35.1	41.5	70	83	66-139	17	20	
Methylene Chloride	ug/L	<0.23	50	50	35.4	42.5	71	85	70-130	18	20	
o-Xylene	ug/L	<0.50	50	50	54.7	53.2	109	106	70-134	3	20	
Styrene	ug/L	<0.50	50	50	52.0	51.4	104	103	70-138	1	20	
Tetrachloroethene	ug/L	0.58J	50	50	59.1	56.8	117	112	70-148	4	20	
Toluene	ug/L	<0.50	50	50	54.3	53.9	109	108	70-130	1	20	
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	36.2	43.3	72	87	70-133	18	20	
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	49.0	48.4	98	97	69-130	1	20	
Trichloroethene	ug/L	<0.33	50	50	54.0	53.9	108	108	70-131	0	20	
Trichlorofluoromethane	ug/L	<0.18	50	50	38.9	46.0	78	92	50-150	17	20	
Vinyl chloride	ug/L	<0.18	50	50	38.6	45.0	77	90	49-133	15	20	
4-Bromofluorobenzene (S)	%						97	97	70-130			
Dibromofluoromethane (S)	%						92	97	70-130			
Toluene-d8 (S)	%						97	96	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

QC Batch: 237494 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40139615001, 40139615002, 40139615003, 40139615004, 40139615005

METHOD BLANK: 1407451 Matrix: Water
Associated Lab Samples: 40139615001, 40139615002, 40139615003, 40139615004, 40139615005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/10/16 16:12	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/10/16 16:12	
Benzene	ug/L	<0.50	1.0	10/10/16 16:12	
Ethylbenzene	ug/L	<0.50	1.0	10/10/16 16:12	
m&p-Xylene	ug/L	<1.0	2.0	10/10/16 16:12	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/10/16 16:12	
o-Xylene	ug/L	<0.50	1.0	10/10/16 16:12	
Toluene	ug/L	<0.50	1.0	10/10/16 16:12	
4-Bromofluorobenzene (S)	%	85	70-130	10/10/16 16:12	
Dibromofluoromethane (S)	%	100	70-130	10/10/16 16:12	
Toluene-d8 (S)	%	90	70-130	10/10/16 16:12	

LABORATORY CONTROL SAMPLE: 1407452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.0	90	60-135	
Ethylbenzene	ug/L	20	17.8	89	70-136	
m&p-Xylene	ug/L	40	39.4	98	70-138	
Methyl-tert-butyl ether	ug/L	20	15.9	80	66-138	
o-Xylene	ug/L	20	18.6	93	70-134	
Toluene	ug/L	20	17.5	87	70-130	
4-Bromofluorobenzene (S)	%			89	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			92	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408608 1408609

Parameter	Units	40139530042 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	4.5	50	50	51.8	52.1	95	95	57-138	1	20	
Ethylbenzene	ug/L	<1.0	50	50	49.3	49.0	98	98	70-138	1	20	
m&p-Xylene	ug/L	<2.0	100	100	104	104	104	104	70-140	0	20	
Methyl-tert-butyl ether	ug/L	<1.0	50	50	34.4	31.7	69	63	66-139	8	20	M1
o-Xylene	ug/L	<1.0	50	50	50.8	49.9	101	99	70-134	2	20	
Toluene	ug/L	<1.0	50	50	47.8	46.6	95	92	70-130	3	20	
4-Bromofluorobenzene (S)	%						92	92	70-130			
Dibromofluoromethane (S)	%						105	99	70-130			
Toluene-d8 (S)	%						91	90	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

QC Batch: 237572 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40139615013, 40139615014

METHOD BLANK: 1408185 Matrix: Water
Associated Lab Samples: 40139615013, 40139615014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/12/16 09:46	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/12/16 09:46	
Benzene	ug/L	<0.50	1.0	10/12/16 09:46	
Ethylbenzene	ug/L	<0.50	1.0	10/12/16 09:46	
m&p-Xylene	ug/L	<1.0	2.0	10/12/16 09:46	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/12/16 09:46	
Naphthalene	ug/L	<2.5	5.0	10/12/16 09:46	
o-Xylene	ug/L	<0.50	1.0	10/12/16 09:46	
Toluene	ug/L	<0.50	1.0	10/12/16 09:46	
4-Bromofluorobenzene (S)	%	85	70-130	10/12/16 09:46	
Dibromofluoromethane (S)	%	128	70-130	10/12/16 09:46	
Toluene-d8 (S)	%	96	70-130	10/12/16 09:46	

LABORATORY CONTROL SAMPLE: 1408186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	56.3	113	60-135	
Ethylbenzene	ug/L	50	57.6	115	70-136	
m&p-Xylene	ug/L	100	120	120	70-138	
Methyl-tert-butyl ether	ug/L	50	57.3	115	66-138	
o-Xylene	ug/L	50	58.2	116	70-134	
Toluene	ug/L	50	59.0	118	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Dibromofluoromethane (S)	%			127	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409361 1409362

Parameter	Units	40139746025 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	58.0	58.0	116	116	57-138	0	20	
Ethylbenzene	ug/L	<0.50	50	50	57.0	57.6	114	115	70-138	1	20	
m&p-Xylene	ug/L	<1.0	100	100	121	123	121	123	70-140	1	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	58.8	59.5	118	119	66-139	1	20	
o-Xylene	ug/L	<0.50	50	50	57.5	58.5	115	117	70-134	2	20	
Toluene	ug/L	0.56J	50	50	59.3	60.4	118	120	70-130	2	20	
4-Bromofluorobenzene (S)	%						101	103	70-130			
Dibromofluoromethane (S)	%						108	127	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409361 1409362

Parameter	Units	40139746025 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						97	99	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

QC Batch: 237908 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40139615006, 40139615007, 40139615015, 40139615016, 40139615017, 40139615018

METHOD BLANK: 1409580 Matrix: Water
Associated Lab Samples: 40139615006, 40139615007, 40139615015, 40139615016, 40139615017, 40139615018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/12/16 15:57	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/12/16 15:57	
Benzene	ug/L	<0.50	1.0	10/12/16 15:57	
Ethylbenzene	ug/L	<0.50	1.0	10/12/16 15:57	
m&p-Xylene	ug/L	<1.0	2.0	10/12/16 15:57	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/12/16 15:57	
Naphthalene	ug/L	<2.5	5.0	10/12/16 15:57	
o-Xylene	ug/L	<0.50	1.0	10/12/16 15:57	
Toluene	ug/L	<0.50	1.0	10/12/16 15:57	
4-Bromofluorobenzene (S)	%	87	70-130	10/12/16 15:57	
Dibromofluoromethane (S)	%	96	70-130	10/12/16 15:57	
Toluene-d8 (S)	%	98	70-130	10/12/16 15:57	

LABORATORY CONTROL SAMPLE: 1409581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	51.3	103	60-135	
Ethylbenzene	ug/L	50	54.0	108	70-136	
m&p-Xylene	ug/L	100	109	109	70-138	
Methyl-tert-butyl ether	ug/L	50	42.0	84	66-138	
o-Xylene	ug/L	50	53.2	106	70-134	
Toluene	ug/L	50	53.7	107	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409582 1409583

Parameter	Units	40139750021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	50.4	50.7	101	101	57-138	0	20	
Ethylbenzene	ug/L	<0.50	50	50	53.0	53.9	106	108	70-138	2	20	
m&p-Xylene	ug/L	<1.0	100	100	107	107	107	106	70-140	0	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	40.1	41.2	80	82	66-139	3	20	
o-Xylene	ug/L	<0.50	50	50	51.7	53.0	103	106	70-134	2	20	
Toluene	ug/L	<0.50	50	50	51.9	52.6	104	105	70-130	2	20	
4-Bromofluorobenzene (S)	%						100	97	70-130			
Dibromofluoromethane (S)	%						98	98	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET
Pace Project No.: 40139615

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409582 1409583

Parameter	Units	40139750021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						97	96	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 34265.003 CALUMET
Pace Project No.: 40139615

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 34265.003 CALUMET
Pace Project No.: 40139615

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40139615020	**LRS-1**	EPA 8021	237415		
40139615021	**LRS-2**	EPA 8021	237415		
40139615022	**LRS-3**	EPA 8021	237415		
40139615023	**LRS-4**	EPA 8021	237415		
40139615024	**LRS-6**	EPA 8021	237415		
40139615025	**LRS-8**	EPA 8021	237415		
40139615026	**MW-1/FL**	EPA 8021	237415		
40139615027	**MW-2/FL**	EPA 8021	237415		
40139615028	**MW-3/FL**	EPA 8021	237415		
40139615029	**MW-9/FL**	EPA 8021	237415		
40139615030	**MW-10/FL**	EPA 8021	237415		
40139615031	**MW-11/FL**	EPA 8021	237415		
40139615032	**MW-13/FL**	EPA 8021	237415		
40139615033	**MW-14/FL**	EPA 8021	237415		
40139615008	**MW-1/T68**	EPA 8260	237560		
40139615009	**MW-2/T68**	EPA 8260	237560		
40139615010	**MW-4/T68**	EPA 8260	237560		
40139615011	**MW-5/T66**	EPA 8260	237951		
40139615012	**MW-6/T68**	EPA 8260	237951		
40139615019	**TRIP BLANK**	EPA 8260	237506		
40139615001	**MW-1/T40**	EPA 8260	237494		
40139615002	**MW-2/T40**	EPA 8260	237494		
40139615003	**MW-4/T40**	EPA 8260	237494		
40139615004	**MW-5/T40**	EPA 8260	237494		
40139615005	**MW-6/T40**	EPA 8260	237494		
40139615006	**MW-7/T40**	EPA 8260	237908		
40139615007	**TS-1/T40**	EPA 8260	237908		
40139615013	**MW-1R/T70**	EPA 8260	237572		
40139615014	**MW-2R/T70**	EPA 8260	237572		
40139615015	**MW-3/T70**	EPA 8260	237908		
40139615016	**MW-4/T70**	EPA 8260	237908		
40139615017	**MW-5/T70**	EPA 8260	237908		
40139615018	**MW-6/T70**	EPA 8260	237908		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

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www.pacelabs.com

CHAIN OF CUSTODY

401397615

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	Gannett Fleming
Branch/Location:	Madison
Project Contact:	Cliff Wright
Phone:	608 836 1500
Project Number:	34265.003
Project Name:	Calumet
Project State:	WI
Sampled By (Print):	Marcus Mussey
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	Pace 2016
Mail To Contact:	Cliff Wright
Mail To Company:	GF
Mail To Address:	8025 Excelsior Madison, WI 53717
Invoice To Contact:	
Invoice To Company:	See
Invoice To Address:	above ↑
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

FILTERED? (YES/NO)
PRESERVATION (CODE)*

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Y/N	Pick Letter	PVOCs 8260	VOCs 8260	PVOCs/Naph 8260	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	MW-1/T40	10/5	14:00	GW	N	B	3				3-40mlvB	
002	MW-2/T40		1410		N	B						
003	MW-4/T40		13:45		N	B						
004	MW-5/T40		13:25		N	B						
005	MW-6/T40		1335		N	B						
006	MW-7/T40		1340		N	B						
007	TS-1/T40		13:20		N	B						
008	MW-1/T68		1415		N	B		3				
009	MW-2/T68		1430		N	B						
010	MW-4/T68		1440		N	B						
011	MW-5/T66		1450		N	B						
012	MW-6/T68		1445		N	B						
013	MW-1R/T70		1540		N	B			3			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Marcus Mussey	10/5/1700		
Fed Ex	10/6/16 0910	pace	10/6/16 0910

PACE Project No.
401397615

Receipt Temp = ROI °C

Sample Receipt pH
~~OK / Adjusted~~

Cooler Custody Seal
Present / ~~Not Present~~
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)

Company Name:	
Branch/Location:	
Project Contact:	See page 1
Phone:	
Project Number:	
Project Name:	
Project State:	
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	See page 1
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, W = Water, B = Biota, DW = Drinking Water, C = Charcoal, GW = Ground Water, O = Oil, SW = Surface Water, S = Soil, WW = Waste Water, SI = Sludge, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PVOCs Naph 8260	Analyses Requested: PVOCs 8021	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					N	B					
014	MW-2R/T70	10/5	15:10	GW		3				3-40mlVB	
015	MW-3/T70		1530								
016	MW-4/T70		1535								
017	MW-5/T70		1515								
018	MW-6/T70		1525								
019	Trip Blank									2-40mlVB	
020	LRS-1	10/5	1045	GW		3		3		3-40mlVB	
021	LRS-2		1055								
022	LRS-3		1115								
023	LRS-4		1130								
024	LRS-6		1110								
025	LRS-8		1145								
026	MW-1/FL		1030								

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Marcy Hess	10/5, 1700		
Fed Ex	10/6/16 0910	Pace	10/6/16 0910

PACE Project No.: 40139615

Receipt Temp = R01 °C

Sample Receipt pH: ~~OK / Adjusted~~

Cooler Custody Seal: Present / ~~Not Present~~

Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

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CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	
Branch/Location:	Joe
Project Contact:	
Phone:	Paige
Project Number:	
Project Name:	
Project State:	IA
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, W = Water, B = Biota, DW = Drinking Water, C = Charcoal, GW = Ground Water, O = Oil, SW = Surface Water, S = Soil, WW = Waste Water, SI = Sludge, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PVOCs 8021	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
027	MW-2/FL	10/5	1025	GW	N	B			3-40mlVB	
028	MW-3/FL		1020							
029	MW-9/FL		1210							
030	MW-10/FL		1215							
031	MW-11/FL		1200							
032	MW-13/FL		1155							
033	MW-14/FL		1150							

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	10/5/1700		
Fed Ex	10/6/16 0910	pace	10/6/16 0910

PACE Project No.: 40139015

Receipt Temp = ROI °C

Sample Receipt pH: ~~OK / Adjusted~~

Cooler Custody Seal: Present / ~~Not Present~~

Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical

Project #: WO# : 40139615

40139615

Client Name: Gannett Fleming

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: _____

Tracking #: 8103 9247 1304

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used NA **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: KOT /Corr: — **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 10/6/16
Initials: BJT

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: mm 10616	☑Yes ☐No ☐N/A	12. 011-SD MW-5/T60 mm10616
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 <2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes ☐No	Initial when completed / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14.
Trip Blank Present:	☑Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 369		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AMH for DM **Date:** 10/6/16

F-GB-C-031-Rev.03 (9April2015) SCUR Form

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

May 25, 2017

Project #34265.003
Calumet West,
T40/T68, and
ERP & T70 (2 of 2)
Reviewed by CCW
5/26/17

Clifford Wright
Gannett Fleming
8025 Excelsior Drive
Madison, WI 53717

RE: Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Dear Clifford Wright:
Enclosed are the analytical results for sample(s) received by the laboratory on May 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40150095001	**MW-12**	Water	05/16/17 09:35	05/17/17 10:30
40150095002	**MW-13**	Water	05/16/17 09:25	05/17/17 10:30
40150095003	**PZ-13**	Water	05/16/17 09:30	05/17/17 10:30
40150095004	**MW-19**	Water	05/16/17 10:00	05/17/17 10:30
40150095005	**MW-20**	Water	05/16/17 10:45	05/17/17 10:30
40150095006	**MW-21**	Water	05/16/17 10:15	05/17/17 10:30
40150095007	**PZ-21**	Water	05/16/17 10:10	05/17/17 10:30
40150095008	**MW-22**	Water	05/16/17 10:35	05/17/17 10:30
40150095009	**MW-1/CW**	Water	05/16/17 13:30	05/17/17 10:30
40150095010	**MW-2/CW**	Water	05/16/17 13:20	05/17/17 10:30
40150095011	**MW-3/CW**	Water	05/16/17 13:05	05/17/17 10:30
40150095012	**MW-4/CW**	Water	05/16/17 13:00	05/17/17 10:30
40150095013	**MW-1/T40**	Water	05/16/17 14:30	05/17/17 10:30
40150095014	**MW-2/T40**	Water	05/16/17 14:35	05/17/17 10:30
40150095015	**MW-4/T40**	Water	05/16/17 14:55	05/17/17 10:30
40150095016	**MW-5/T40**	Water	05/16/17 14:40	05/17/17 10:30
40150095017	**MW-6/T40**	Water	05/16/17 14:45	05/17/17 10:30
40150095018	**MW-7/T40**	Water	05/16/17 14:50	05/17/17 10:30
40150095019	**TS-1/T40**	Water	05/16/17 15:00	05/17/17 10:30
40150095020	**MW-1/T68**	Water	05/16/17 14:10	05/17/17 10:30
40150095021	**MW-2/T68**	Water	05/16/17 14:20	05/17/17 10:30
40150095022	**MW-4/T68**	Water	05/16/17 14:15	05/17/17 10:30
40150095023	**MW-5/T66**	Water	05/16/17 11:20	05/17/17 10:30
40150095024	**MW-5/T68**	Water	05/16/17 11:40	05/17/17 10:30
40150095025	**MW-6/T68**	Water	05/16/17 11:30	05/17/17 10:30
40150095026	**MW-2R/T70**	Water	05/16/17 15:15	05/17/17 10:30
40150095027	**MW-5/T70**	Water	05/16/17 15:10	05/17/17 10:30
40150095028	**MW-6/T70**	Water	05/16/17 15:20	05/17/17 10:30
40150095029	**TRIP BLANK**	Water	05/16/17 00:00	05/17/17 10:30

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40150095001	**MW-12**	EPA 8021	ALD	10	PASI-G
40150095002	**MW-13**	EPA 8021	ALD	10	PASI-G
40150095003	**PZ-13**	EPA 8021	ALD	10	PASI-G
40150095004	**MW-19**	EPA 8021	ALD	10	PASI-G
40150095005	**MW-20**	EPA 8021	ALD	10	PASI-G
40150095006	**MW-21**	EPA 8021	ALD	10	PASI-G
40150095007	**PZ-21**	EPA 8021	ALD	10	PASI-G
40150095008	**MW-22**	EPA 8021	ALD	10	PASI-G
40150095009	**MW-1/CW**	EPA 8260	SMT	12	PASI-G
40150095010	**MW-2/CW**	EPA 8260	SMT	12	PASI-G
40150095011	**MW-3/CW**	EPA 8260	SMT	12	PASI-G
40150095012	**MW-4/CW**	EPA 8260	SMT	12	PASI-G
40150095013	**MW-1/T40**	EPA 8260	SMT	11	PASI-G
40150095014	**MW-2/T40**	EPA 8260	SMT	11	PASI-G
40150095015	**MW-4/T40**	EPA 8260	SMT	11	PASI-G
40150095016	**MW-5/T40**	EPA 8260	SMT	11	PASI-G
40150095017	**MW-6/T40**	EPA 8260	SMT	11	PASI-G
40150095018	**MW-7/T40**	EPA 8260	SMT	11	PASI-G
40150095019	**TS-1/T40**	EPA 8260	SMT	11	PASI-G
40150095020	**MW-1/T68**	EPA 8260	LAP	63	PASI-G
40150095021	**MW-2/T68**	EPA 8260	LAP	63	PASI-G
40150095022	**MW-4/T68**	EPA 8260	LAP	63	PASI-G
40150095023	**MW-5/T66**	EPA 8260	LAP	63	PASI-G
40150095024	**MW-5/T68**	EPA 8260	LAP	63	PASI-G
40150095025	**MW-6/T68**	EPA 8260	LAP	63	PASI-G
40150095026	**MW-2R/T70**	EPA 8260	SMT	12	PASI-G
40150095027	**MW-5/T70**	EPA 8260	HNW	12	PASI-G
40150095028	**MW-6/T70**	EPA 8260	LAP	12	PASI-G
40150095029	**TRIP BLANK**	EPA 8260	LAP	63	PASI-G

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SUMMARY OF DETECTION

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40150095015	**MW-4/T40**					
EPA 8260	m&p-Xylene	4700	ug/L	200	05/19/17 16:04	
EPA 8260	o-Xylene	2420	ug/L	100	05/19/17 16:04	
40150095016	**MW-5/T40**					
EPA 8260	1,2,4-Trimethylbenzene	193	ug/L	2.5	05/19/17 16:25	
EPA 8260	1,3,5-Trimethylbenzene	54.7	ug/L	2.5	05/19/17 16:25	
EPA 8260	Benzene	43.6	ug/L	2.5	05/19/17 16:25	
EPA 8260	Ethylbenzene	259	ug/L	2.5	05/19/17 16:25	
EPA 8260	m&p-Xylene	667	ug/L	5.0	05/19/17 16:25	
EPA 8260	o-Xylene	1.5J	ug/L	2.5	05/19/17 16:25	
40150095017	**MW-6/T40**					
EPA 8260	1,2,4-Trimethylbenzene	87.0	ug/L	4.0	05/19/17 16:47	
EPA 8260	1,3,5-Trimethylbenzene	22.6	ug/L	4.0	05/19/17 16:47	
EPA 8260	Benzene	607	ug/L	4.0	05/19/17 16:47	
EPA 8260	Ethylbenzene	342	ug/L	4.0	05/19/17 16:47	
EPA 8260	m&p-Xylene	473	ug/L	8.0	05/19/17 16:47	
EPA 8260	o-Xylene	2.2J	ug/L	4.0	05/19/17 16:47	
40150095018	**MW-7/T40**					
EPA 8260	1,2,4-Trimethylbenzene	421	ug/L	20.0	05/19/17 17:08	
EPA 8260	1,3,5-Trimethylbenzene	120	ug/L	20.0	05/19/17 17:08	
EPA 8260	Benzene	2670	ug/L	20.0	05/19/17 17:08	
EPA 8260	Ethylbenzene	528	ug/L	20.0	05/19/17 17:08	
EPA 8260	Toluene	25.8	ug/L	20.0	05/19/17 17:08	
EPA 8260	m&p-Xylene	2330	ug/L	40.0	05/19/17 17:08	
EPA 8260	o-Xylene	904	ug/L	20.0	05/19/17 17:08	
40150095019	**TS-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	2.1	ug/L	1.0	05/19/17 13:55	
EPA 8260	1,3,5-Trimethylbenzene	1.1	ug/L	1.0	05/19/17 13:55	
EPA 8260	Benzene	0.67J	ug/L	1.0	05/19/17 13:55	
EPA 8260	Ethylbenzene	1.0	ug/L	1.0	05/19/17 13:55	
40150095021	**MW-2/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2450	ug/L	200	05/18/17 14:31	
EPA 8260	1,2-Dichloroethane	1420	ug/L	200	05/18/17 14:31	
EPA 8260	1,3,5-Trimethylbenzene	742	ug/L	200	05/18/17 14:31	
EPA 8260	Benzene	22100	ug/L	200	05/18/17 14:31	
EPA 8260	Ethylbenzene	933	ug/L	200	05/18/17 14:31	
EPA 8260	Toluene	19200	ug/L	200	05/18/17 14:31	
EPA 8260	m&p-Xylene	10300	ug/L	400	05/18/17 14:31	
EPA 8260	o-Xylene	5100	ug/L	200	05/18/17 14:31	
40150095022	**MW-4/T68**					
EPA 8260	1,2,4-Trimethylbenzene	606	ug/L	40.0	05/19/17 10:21	
EPA 8260	1,3,5-Trimethylbenzene	68.5	ug/L	40.0	05/19/17 10:21	
EPA 8260	Benzene	3930	ug/L	40.0	05/19/17 10:21	
EPA 8260	Ethylbenzene	602	ug/L	40.0	05/19/17 10:21	
EPA 8260	Isopropylbenzene (Cumene)	10.4J	ug/L	40.0	05/19/17 10:21	

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SUMMARY OF DETECTION

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40150095022	**MW-4/T68**					
EPA 8260	m&p-Xylene	1580	ug/L	80.0	05/19/17 10:21	
40150095023	**MW-5/T66**					
EPA 8260	1,2,4-Trimethylbenzene	2350	ug/L	200	05/18/17 15:16	
EPA 8260	1,3,5-Trimethylbenzene	552	ug/L	200	05/18/17 15:16	
EPA 8260	Benzene	10600	ug/L	200	05/18/17 15:16	
EPA 8260	Ethylbenzene	2950	ug/L	200	05/18/17 15:16	
EPA 8260	Isopropylbenzene (Cumene)	74.4J	ug/L	200	05/18/17 15:16	
EPA 8260	Toluene	16300	ug/L	200	05/18/17 15:16	
EPA 8260	m&p-Xylene	13700	ug/L	400	05/18/17 15:16	
EPA 8260	n-Propylbenzene	209	ug/L	200	05/18/17 15:16	
EPA 8260	o-Xylene	5030	ug/L	200	05/18/17 15:16	
40150095024	**MW-5/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2830	ug/L	625	05/18/17 15:39	
EPA 8260	1,3,5-Trimethylbenzene	991	ug/L	625	05/18/17 15:39	
EPA 8260	Benzene	25600	ug/L	625	05/18/17 15:39	
EPA 8260	Ethylbenzene	3200	ug/L	625	05/18/17 15:39	
EPA 8260	Toluene	42700	ug/L	625	05/18/17 15:39	
EPA 8260	m&p-Xylene	16500	ug/L	1250	05/18/17 15:39	
EPA 8260	n-Butylbenzene	623J	ug/L	625	05/18/17 15:39	
EPA 8260	o-Xylene	6700	ug/L	625	05/18/17 15:39	
40150095025	**MW-6/T68**					
EPA 8260	1,2,4-Trimethylbenzene	3070	ug/L	100	05/18/17 16:01	
EPA 8260	1,2-Dichloroethane	240	ug/L	100	05/18/17 16:01	
EPA 8260	1,3,5-Trimethylbenzene	858	ug/L	100	05/18/17 16:01	
EPA 8260	Benzene	21000	ug/L	100	05/18/17 16:01	
EPA 8260	Ethylbenzene	1170	ug/L	100	05/18/17 16:01	
EPA 8260	Isopropylbenzene (Cumene)	30.8J	ug/L	100	05/18/17 16:01	
EPA 8260	Naphthalene	273J	ug/L	500	05/18/17 16:01	
EPA 8260	Toluene	19600	ug/L	100	05/18/17 16:01	
EPA 8260	m&p-Xylene	14500	ug/L	200	05/18/17 16:01	
EPA 8260	n-Propylbenzene	81.8J	ug/L	100	05/18/17 16:01	
EPA 8260	o-Xylene	6480	ug/L	100	05/18/17 16:01	
40150095026	**MW-2R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	3170	ug/L	250	05/19/17 17:30	
EPA 8260	1,3,5-Trimethylbenzene	874	ug/L	250	05/19/17 17:30	
EPA 8260	Benzene	23000	ug/L	250	05/19/17 17:30	
EPA 8260	Ethylbenzene	2510	ug/L	250	05/19/17 17:30	
EPA 8260	Toluene	31500	ug/L	250	05/19/17 17:30	
EPA 8260	m&p-Xylene	16300	ug/L	500	05/19/17 17:30	
EPA 8260	o-Xylene	7240	ug/L	250	05/19/17 17:30	
40150095027	**MW-5/T70**					
EPA 8260	1,2,4-Trimethylbenzene	7.8	ug/L	1.0	05/23/17 03:19	
EPA 8260	1,3,5-Trimethylbenzene	2.9	ug/L	1.0	05/23/17 03:19	
EPA 8260	Benzene	1.7	ug/L	1.0	05/23/17 03:19	

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PROJECT NARRATIVE

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Method: **EPA 8021**
Description: 8021 GCV Short List
Client: Gannett Fleming Inc.
Date: May 25, 2017

General Information:
8 samples were analyzed for EPA 8021. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Method: **EPA 8260**
Description: 8260 MSV
Client: Gannett Fleming Inc.
Date: May 25, 2017

General Information:
7 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Method: **EPA 8260**
Description: 8260 MSV UST
Client: Gannett Fleming Inc.
Date: May 25, 2017

General Information:
14 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-1/T68 **Lab ID: 40150095020** Collected: 05/16/17 14:10 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		05/18/17 17:31	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		05/18/17 17:31	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		05/18/17 17:31	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		05/18/17 17:31	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		05/18/17 17:31	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		05/18/17 17:31	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		05/18/17 17:31	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		05/18/17 17:31	120-82-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		05/18/17 17:31	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		05/18/17 17:31	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		05/18/17 17:31	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		05/18/17 17:31	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		05/18/17 17:31	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		05/18/17 17:31	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		05/18/17 17:31	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		05/18/17 17:31	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		05/18/17 17:31	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		05/18/17 17:31	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		05/18/17 17:31	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		05/18/17 17:31	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		05/18/17 17:31	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		05/18/17 17:31	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		05/18/17 17:31	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		05/18/17 17:31	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		05/18/17 17:31	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		05/18/17 17:31	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	108-88-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-1/T68 **Lab ID: 40150095020** Collected: 05/16/17 14:10 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		05/18/17 17:31	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		05/18/17 17:31	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		05/18/17 17:31	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		05/18/17 17:31	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		05/18/17 17:31	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		05/18/17 17:31	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		05/18/17 17:31	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		05/18/17 17:31	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		05/18/17 17:31	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		05/18/17 17:31	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	61-118		1		05/18/17 17:31	460-00-4	
Dibromofluoromethane (S)	98	%	67-124		1		05/18/17 17:31	1868-53-7	
Toluene-d8 (S)	102	%	80-120		1		05/18/17 17:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-2/T68 **Lab ID: 40150095021** Collected: 05/16/17 14:20 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		05/18/17 14:31	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		05/18/17 14:31	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		05/18/17 14:31	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		05/18/17 14:31	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		05/18/17 14:31	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		05/18/17 14:31	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		05/18/17 14:31	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		05/18/17 14:31	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		05/18/17 14:31	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		05/18/17 14:31	120-82-1	
1,2,4-Trimethylbenzene	**2450**	ug/L	200	100	200		05/18/17 14:31	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		05/18/17 14:31	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		05/18/17 14:31	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		05/18/17 14:31	95-50-1	
1,2-Dichloroethane	**1420**	ug/L	200	33.6	200		05/18/17 14:31	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		05/18/17 14:31	78-87-5	
1,3,5-Trimethylbenzene	**742**	ug/L	200	100	200		05/18/17 14:31	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		05/18/17 14:31	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		05/18/17 14:31	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		05/18/17 14:31	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		05/18/17 14:31	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		05/18/17 14:31	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		05/18/17 14:31	106-43-4	
Benzene	**22100**	ug/L	200	100	200		05/18/17 14:31	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		05/18/17 14:31	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		05/18/17 14:31	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		05/18/17 14:31	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		05/18/17 14:31	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		05/18/17 14:31	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		05/18/17 14:31	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		05/18/17 14:31	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		05/18/17 14:31	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		05/18/17 14:31	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		05/18/17 14:31	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		05/18/17 14:31	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		05/18/17 14:31	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		05/18/17 14:31	75-71-8	
Ethylbenzene	**933**	ug/L	200	100	200		05/18/17 14:31	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		05/18/17 14:31	87-68-3	
Isopropylbenzene (Cumene)	**<28.7**	ug/L	200	28.7	200		05/18/17 14:31	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		05/18/17 14:31	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		05/18/17 14:31	75-09-2	
Naphthalene	**<500**	ug/L	1000	500	200		05/18/17 14:31	91-20-3	
Styrene	**<100**	ug/L	200	100	200		05/18/17 14:31	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		05/18/17 14:31	127-18-4	
Toluene	**19200**	ug/L	200	100	200		05/18/17 14:31	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-2/T68 **Lab ID: 40150095021** Collected: 05/16/17 14:20 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		05/18/17 14:31	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		05/18/17 14:31	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		05/18/17 14:31	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		05/18/17 14:31	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		05/18/17 14:31	10061-01-5	
m&p-Xylene	**10300**	ug/L	400	200	200		05/18/17 14:31	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		05/18/17 14:31	104-51-8	
n-Propylbenzene	**<100**	ug/L	200	100	200		05/18/17 14:31	103-65-1	
o-Xylene	**5100**	ug/L	200	100	200		05/18/17 14:31	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		05/18/17 14:31	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		05/18/17 14:31	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		05/18/17 14:31	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		05/18/17 14:31	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		05/18/17 14:31	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	61-118		200		05/18/17 14:31	460-00-4	
Dibromofluoromethane (S)	93	%	67-124		200		05/18/17 14:31	1868-53-7	
Toluene-d8 (S)	101	%	80-120		200		05/18/17 14:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-4/T68 **Lab ID: 40150095022** Collected: 05/16/17 14:15 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<7.2**	ug/L	40.0	7.2	40		05/19/17 10:21	630-20-6	
1,1,1-Trichloroethane	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	71-55-6	
1,1,2,2-Tetrachloroethane	**<10**	ug/L	40.0	10	40		05/19/17 10:21	79-34-5	
1,1,2-Trichloroethane	**<7.9**	ug/L	40.0	7.9	40		05/19/17 10:21	79-00-5	
1,1-Dichloroethane	**<9.7**	ug/L	40.0	9.7	40		05/19/17 10:21	75-34-3	
1,1-Dichloroethene	**<16.4**	ug/L	40.0	16.4	40		05/19/17 10:21	75-35-4	
1,1-Dichloropropene	**<17.6**	ug/L	40.0	17.6	40		05/19/17 10:21	563-58-6	
1,2,3-Trichlorobenzene	**<85.3**	ug/L	200	85.3	40		05/19/17 10:21	87-61-6	
1,2,3-Trichloropropane	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	96-18-4	
1,2,4-Trichlorobenzene	**<88.4**	ug/L	200	88.4	40		05/19/17 10:21	120-82-1	
1,2,4-Trimethylbenzene	**606**	ug/L	40.0	20.0	40		05/19/17 10:21	95-63-6	
1,2-Dibromo-3-chloropropane	**<86.6**	ug/L	200	86.6	40		05/19/17 10:21	96-12-8	
1,2-Dibromoethane (EDB)	**<7.1**	ug/L	40.0	7.1	40		05/19/17 10:21	106-93-4	
1,2-Dichlorobenzene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	95-50-1	
1,2-Dichloroethane	**<6.7**	ug/L	40.0	6.7	40		05/19/17 10:21	107-06-2	
1,2-Dichloropropane	**<9.3**	ug/L	40.0	9.3	40		05/19/17 10:21	78-87-5	
1,3,5-Trimethylbenzene	**68.5**	ug/L	40.0	20.0	40		05/19/17 10:21	108-67-8	
1,3-Dichlorobenzene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	541-73-1	
1,3-Dichloropropane	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	142-28-9	
1,4-Dichlorobenzene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	106-46-7	
2,2-Dichloropropane	**<19.4**	ug/L	40.0	19.4	40		05/19/17 10:21	594-20-7	
2-Chlorotoluene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	95-49-8	
4-Chlorotoluene	**<8.5**	ug/L	40.0	8.5	40		05/19/17 10:21	106-43-4	
Benzene	**3930**	ug/L	40.0	20.0	40		05/19/17 10:21	71-43-2	
Bromobenzene	**<9.2**	ug/L	40.0	9.2	40		05/19/17 10:21	108-86-1	
Bromochloromethane	**<13.6**	ug/L	40.0	13.6	40		05/19/17 10:21	74-97-5	
Bromodichloromethane	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	75-27-4	
Bromoform	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	75-25-2	
Bromomethane	**<97.4**	ug/L	200	97.4	40		05/19/17 10:21	74-83-9	
Carbon tetrachloride	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	56-23-5	
Chlorobenzene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	108-90-7	
Chloroethane	**<15.0**	ug/L	40.0	15.0	40		05/19/17 10:21	75-00-3	
Chloroform	**<100**	ug/L	200	100	40		05/19/17 10:21	67-66-3	
Chloromethane	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	74-87-3	
Dibromochloromethane	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	124-48-1	
Dibromomethane	**<17.1**	ug/L	40.0	17.1	40		05/19/17 10:21	74-95-3	
Dichlorodifluoromethane	**<9.0**	ug/L	40.0	9.0	40		05/19/17 10:21	75-71-8	
Ethylbenzene	**602**	ug/L	40.0	20.0	40		05/19/17 10:21	100-41-4	
Hexachloro-1,3-butadiene	**<84.2**	ug/L	200	84.2	40		05/19/17 10:21	87-68-3	
Isopropylbenzene (Cumene)	**10.4J**	ug/L	40.0	5.7	40		05/19/17 10:21	98-82-8	
Methyl-tert-butyl ether	**<7.0**	ug/L	40.0	7.0	40		05/19/17 10:21	1634-04-4	
Methylene Chloride	**<9.3**	ug/L	40.0	9.3	40		05/19/17 10:21	75-09-2	
Naphthalene	**<100**	ug/L	200	100	40		05/19/17 10:21	91-20-3	
Styrene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	100-42-5	
Tetrachloroethene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	127-18-4	
Toluene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-4/T68 **Lab ID: 40150095022** Collected: 05/16/17 14:15 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<13.2**	ug/L	40.0	13.2	40		05/19/17 10:21	79-01-6	
Trichlorofluoromethane	**<7.4**	ug/L	40.0	7.4	40		05/19/17 10:21	75-69-4	
Vinyl chloride	**<7.0**	ug/L	40.0	7.0	40		05/19/17 10:21	75-01-4	
cis-1,2-Dichloroethene	**<10.2**	ug/L	40.0	10.2	40		05/19/17 10:21	156-59-2	
cis-1,3-Dichloropropene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	10061-01-5	
m&p-Xylene	**1580**	ug/L	80.0	40.0	40		05/19/17 10:21	179601-23-1	
n-Butylbenzene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	104-51-8	
n-Propylbenzene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	103-65-1	
o-Xylene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	95-47-6	
p-Isopropyltoluene	**<20.0**	ug/L	40.0	20.0	40		05/19/17 10:21	99-87-6	
sec-Butylbenzene	**<87.4**	ug/L	200	87.4	40		05/19/17 10:21	135-98-8	
tert-Butylbenzene	**<7.2**	ug/L	40.0	7.2	40		05/19/17 10:21	98-06-6	
trans-1,2-Dichloroethene	**<10.3**	ug/L	40.0	10.3	40		05/19/17 10:21	156-60-5	
trans-1,3-Dichloropropene	**<9.2**	ug/L	40.0	9.2	40		05/19/17 10:21	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	61-118		40		05/19/17 10:21	460-00-4	
Dibromofluoromethane (S)	95	%	67-124		40		05/19/17 10:21	1868-53-7	
Toluene-d8 (S)	99	%	80-120		40		05/19/17 10:21	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-5/T66 **Lab ID: 40150095023** Collected: 05/16/17 11:20 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<36.1**	ug/L	200	36.1	200		05/18/17 15:16	630-20-6	
1,1,1-Trichloroethane	**<100**	ug/L	200	100	200		05/18/17 15:16	71-55-6	
1,1,2,2-Tetrachloroethane	**<49.9**	ug/L	200	49.9	200		05/18/17 15:16	79-34-5	
1,1,2-Trichloroethane	**<39.5**	ug/L	200	39.5	200		05/18/17 15:16	79-00-5	
1,1-Dichloroethane	**<48.3**	ug/L	200	48.3	200		05/18/17 15:16	75-34-3	
1,1-Dichloroethene	**<82.0**	ug/L	200	82.0	200		05/18/17 15:16	75-35-4	
1,1-Dichloropropene	**<88.2**	ug/L	200	88.2	200		05/18/17 15:16	563-58-6	
1,2,3-Trichlorobenzene	**<427**	ug/L	1000	427	200		05/18/17 15:16	87-61-6	
1,2,3-Trichloropropane	**<100**	ug/L	200	100	200		05/18/17 15:16	96-18-4	
1,2,4-Trichlorobenzene	**<442**	ug/L	1000	442	200		05/18/17 15:16	120-82-1	
1,2,4-Trimethylbenzene	**2350**	ug/L	200	100	200		05/18/17 15:16	95-63-6	
1,2-Dibromo-3-chloropropane	**<433**	ug/L	1000	433	200		05/18/17 15:16	96-12-8	
1,2-Dibromoethane (EDB)	**<35.6**	ug/L	200	35.6	200		05/18/17 15:16	106-93-4	
1,2-Dichlorobenzene	**<100**	ug/L	200	100	200		05/18/17 15:16	95-50-1	
1,2-Dichloroethane	**<33.6**	ug/L	200	33.6	200		05/18/17 15:16	107-06-2	
1,2-Dichloropropane	**<46.6**	ug/L	200	46.6	200		05/18/17 15:16	78-87-5	
1,3,5-Trimethylbenzene	**552**	ug/L	200	100	200		05/18/17 15:16	108-67-8	
1,3-Dichlorobenzene	**<100**	ug/L	200	100	200		05/18/17 15:16	541-73-1	
1,3-Dichloropropane	**<100**	ug/L	200	100	200		05/18/17 15:16	142-28-9	
1,4-Dichlorobenzene	**<100**	ug/L	200	100	200		05/18/17 15:16	106-46-7	
2,2-Dichloropropane	**<96.8**	ug/L	200	96.8	200		05/18/17 15:16	594-20-7	
2-Chlorotoluene	**<100**	ug/L	200	100	200		05/18/17 15:16	95-49-8	
4-Chlorotoluene	**<42.7**	ug/L	200	42.7	200		05/18/17 15:16	106-43-4	
Benzene	**10600**	ug/L	200	100	200		05/18/17 15:16	71-43-2	
Bromobenzene	**<46.0**	ug/L	200	46.0	200		05/18/17 15:16	108-86-1	
Bromochloromethane	**<68.1**	ug/L	200	68.1	200		05/18/17 15:16	74-97-5	
Bromodichloromethane	**<100**	ug/L	200	100	200		05/18/17 15:16	75-27-4	
Bromoform	**<100**	ug/L	200	100	200		05/18/17 15:16	75-25-2	
Bromomethane	**<487**	ug/L	1000	487	200		05/18/17 15:16	74-83-9	
Carbon tetrachloride	**<100**	ug/L	200	100	200		05/18/17 15:16	56-23-5	
Chlorobenzene	**<100**	ug/L	200	100	200		05/18/17 15:16	108-90-7	
Chloroethane	**<74.9**	ug/L	200	74.9	200		05/18/17 15:16	75-00-3	
Chloroform	**<500**	ug/L	1000	500	200		05/18/17 15:16	67-66-3	
Chloromethane	**<100**	ug/L	200	100	200		05/18/17 15:16	74-87-3	
Dibromochloromethane	**<100**	ug/L	200	100	200		05/18/17 15:16	124-48-1	
Dibromomethane	**<85.3**	ug/L	200	85.3	200		05/18/17 15:16	74-95-3	
Dichlorodifluoromethane	**<44.8**	ug/L	200	44.8	200		05/18/17 15:16	75-71-8	
Ethylbenzene	**2950**	ug/L	200	100	200		05/18/17 15:16	100-41-4	
Hexachloro-1,3-butadiene	**<421**	ug/L	1000	421	200		05/18/17 15:16	87-68-3	
Isopropylbenzene (Cumene)	**74.4J**	ug/L	200	28.7	200		05/18/17 15:16	98-82-8	
Methyl-tert-butyl ether	**<34.8**	ug/L	200	34.8	200		05/18/17 15:16	1634-04-4	
Methylene Chloride	**<46.5**	ug/L	200	46.5	200		05/18/17 15:16	75-09-2	
Naphthalene	**<500**	ug/L	1000	500	200		05/18/17 15:16	91-20-3	
Styrene	**<100**	ug/L	200	100	200		05/18/17 15:16	100-42-5	
Tetrachloroethene	**<100**	ug/L	200	100	200		05/18/17 15:16	127-18-4	
Toluene	**16300**	ug/L	200	100	200		05/18/17 15:16	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-5/T66 **Lab ID: 40150095023** Collected: 05/16/17 11:20 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<66.1**	ug/L	200	66.1	200		05/18/17 15:16	79-01-6	
Trichlorofluoromethane	**<37.0**	ug/L	200	37.0	200		05/18/17 15:16	75-69-4	
Vinyl chloride	**<35.1**	ug/L	200	35.1	200		05/18/17 15:16	75-01-4	
cis-1,2-Dichloroethene	**<51.2**	ug/L	200	51.2	200		05/18/17 15:16	156-59-2	
cis-1,3-Dichloropropene	**<100**	ug/L	200	100	200		05/18/17 15:16	10061-01-5	
m&p-Xylene	**13700**	ug/L	400	200	200		05/18/17 15:16	179601-23-1	
n-Butylbenzene	**<100**	ug/L	200	100	200		05/18/17 15:16	104-51-8	
n-Propylbenzene	**209**	ug/L	200	100	200		05/18/17 15:16	103-65-1	
o-Xylene	**5030**	ug/L	200	100	200		05/18/17 15:16	95-47-6	
p-Isopropyltoluene	**<100**	ug/L	200	100	200		05/18/17 15:16	99-87-6	
sec-Butylbenzene	**<437**	ug/L	1000	437	200		05/18/17 15:16	135-98-8	
tert-Butylbenzene	**<36.1**	ug/L	200	36.1	200		05/18/17 15:16	98-06-6	
trans-1,2-Dichloroethene	**<51.3**	ug/L	200	51.3	200		05/18/17 15:16	156-60-5	
trans-1,3-Dichloropropene	**<45.9**	ug/L	200	45.9	200		05/18/17 15:16	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	61-118		200		05/18/17 15:16	460-00-4	
Dibromofluoromethane (S)	89	%	67-124		200		05/18/17 15:16	1868-53-7	
Toluene-d8 (S)	98	%	80-120		200		05/18/17 15:16	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-5/T68 **Lab ID: 40150095024** Collected: 05/16/17 11:40 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<113**	ug/L	625	113	625		05/18/17 15:39	630-20-6	
1,1,1-Trichloroethane	**<312**	ug/L	625	312	625		05/18/17 15:39	71-55-6	
1,1,2,2-Tetrachloroethane	**<156**	ug/L	625	156	625		05/18/17 15:39	79-34-5	
1,1,2-Trichloroethane	**<123**	ug/L	625	123	625		05/18/17 15:39	79-00-5	
1,1-Dichloroethane	**<151**	ug/L	625	151	625		05/18/17 15:39	75-34-3	
1,1-Dichloroethene	**<256**	ug/L	625	256	625		05/18/17 15:39	75-35-4	
1,1-Dichloropropene	**<276**	ug/L	625	276	625		05/18/17 15:39	563-58-6	
1,2,3-Trichlorobenzene	**<1330**	ug/L	3120	1330	625		05/18/17 15:39	87-61-6	
1,2,3-Trichloropropane	**<312**	ug/L	625	312	625		05/18/17 15:39	96-18-4	
1,2,4-Trichlorobenzene	**<1380**	ug/L	3120	1380	625		05/18/17 15:39	120-82-1	
1,2,4-Trimethylbenzene	**2830**	ug/L	625	312	625		05/18/17 15:39	95-63-6	
1,2-Dibromo-3-chloropropane	**<1350**	ug/L	3120	1350	625		05/18/17 15:39	96-12-8	
1,2-Dibromoethane (EDB)	**<111**	ug/L	625	111	625		05/18/17 15:39	106-93-4	
1,2-Dichlorobenzene	**<312**	ug/L	625	312	625		05/18/17 15:39	95-50-1	
1,2-Dichloroethane	**<105**	ug/L	625	105	625		05/18/17 15:39	107-06-2	
1,2-Dichloropropane	**<146**	ug/L	625	146	625		05/18/17 15:39	78-87-5	
1,3,5-Trimethylbenzene	**991**	ug/L	625	312	625		05/18/17 15:39	108-67-8	
1,3-Dichlorobenzene	**<312**	ug/L	625	312	625		05/18/17 15:39	541-73-1	
1,3-Dichloropropane	**<312**	ug/L	625	312	625		05/18/17 15:39	142-28-9	
1,4-Dichlorobenzene	**<312**	ug/L	625	312	625		05/18/17 15:39	106-46-7	
2,2-Dichloropropane	**<302**	ug/L	625	302	625		05/18/17 15:39	594-20-7	
2-Chlorotoluene	**<312**	ug/L	625	312	625		05/18/17 15:39	95-49-8	
4-Chlorotoluene	**<134**	ug/L	625	134	625		05/18/17 15:39	106-43-4	
Benzene	**25600**	ug/L	625	312	625		05/18/17 15:39	71-43-2	
Bromobenzene	**<144**	ug/L	625	144	625		05/18/17 15:39	108-86-1	
Bromochloromethane	**<213**	ug/L	625	213	625		05/18/17 15:39	74-97-5	
Bromodichloromethane	**<312**	ug/L	625	312	625		05/18/17 15:39	75-27-4	
Bromoform	**<312**	ug/L	625	312	625		05/18/17 15:39	75-25-2	
Bromomethane	**<1520**	ug/L	3120	1520	625		05/18/17 15:39	74-83-9	
Carbon tetrachloride	**<312**	ug/L	625	312	625		05/18/17 15:39	56-23-5	
Chlorobenzene	**<312**	ug/L	625	312	625		05/18/17 15:39	108-90-7	
Chloroethane	**<234**	ug/L	625	234	625		05/18/17 15:39	75-00-3	
Chloroform	**<1560**	ug/L	3120	1560	625		05/18/17 15:39	67-66-3	
Chloromethane	**<312**	ug/L	625	312	625		05/18/17 15:39	74-87-3	
Dibromochloromethane	**<312**	ug/L	625	312	625		05/18/17 15:39	124-48-1	
Dibromomethane	**<267**	ug/L	625	267	625		05/18/17 15:39	74-95-3	
Dichlorodifluoromethane	**<140**	ug/L	625	140	625		05/18/17 15:39	75-71-8	
Ethylbenzene	**3200**	ug/L	625	312	625		05/18/17 15:39	100-41-4	
Hexachloro-1,3-butadiene	**<1320**	ug/L	3120	1320	625		05/18/17 15:39	87-68-3	
Isopropylbenzene (Cumene)	**<89.6**	ug/L	625	89.6	625		05/18/17 15:39	98-82-8	
Methyl-tert-butyl ether	**<109**	ug/L	625	109	625		05/18/17 15:39	1634-04-4	
Methylene Chloride	**<145**	ug/L	625	145	625		05/18/17 15:39	75-09-2	
Naphthalene	**<1560**	ug/L	3120	1560	625		05/18/17 15:39	91-20-3	
Styrene	**<312**	ug/L	625	312	625		05/18/17 15:39	100-42-5	
Tetrachloroethene	**<312**	ug/L	625	312	625		05/18/17 15:39	127-18-4	
Toluene	**42700**	ug/L	625	312	625		05/18/17 15:39	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-5/T68 **Lab ID: 40150095024** Collected: 05/16/17 11:40 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<207**	ug/L	625	207	625		05/18/17 15:39	79-01-6	
Trichlorofluoromethane	**<116**	ug/L	625	116	625		05/18/17 15:39	75-69-4	
Vinyl chloride	**<110**	ug/L	625	110	625		05/18/17 15:39	75-01-4	
cis-1,2-Dichloroethene	**<160**	ug/L	625	160	625		05/18/17 15:39	156-59-2	
cis-1,3-Dichloropropene	**<312**	ug/L	625	312	625		05/18/17 15:39	10061-01-5	
m&p-Xylene	**16500**	ug/L	1250	625	625		05/18/17 15:39	179601-23-1	
n-Butylbenzene	**623J**	ug/L	625	312	625		05/18/17 15:39	104-51-8	
n-Propylbenzene	**<312**	ug/L	625	312	625		05/18/17 15:39	103-65-1	
o-Xylene	**6700**	ug/L	625	312	625		05/18/17 15:39	95-47-6	
p-Isopropyltoluene	**<312**	ug/L	625	312	625		05/18/17 15:39	99-87-6	
sec-Butylbenzene	**<1370**	ug/L	3120	1370	625		05/18/17 15:39	135-98-8	
tert-Butylbenzene	**<113**	ug/L	625	113	625		05/18/17 15:39	98-06-6	
trans-1,2-Dichloroethene	**<160**	ug/L	625	160	625		05/18/17 15:39	156-60-5	
trans-1,3-Dichloropropene	**<144**	ug/L	625	144	625		05/18/17 15:39	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	61-118		625		05/18/17 15:39	460-00-4	
Dibromofluoromethane (S)	95	%	67-124		625		05/18/17 15:39	1868-53-7	
Toluene-d8 (S)	103	%	80-120		625		05/18/17 15:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-6/T68 **Lab ID: 40150095025** Collected: 05/16/17 11:30 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<18.1**	ug/L	100	18.1	100		05/18/17 16:01	630-20-6	
1,1,1-Trichloroethane	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	71-55-6	
1,1,2,2-Tetrachloroethane	**<24.9**	ug/L	100	24.9	100		05/18/17 16:01	79-34-5	
1,1,2-Trichloroethane	**<19.7**	ug/L	100	19.7	100		05/18/17 16:01	79-00-5	
1,1-Dichloroethane	**<24.2**	ug/L	100	24.2	100		05/18/17 16:01	75-34-3	
1,1-Dichloroethene	**<41.0**	ug/L	100	41.0	100		05/18/17 16:01	75-35-4	
1,1-Dichloropropene	**<44.1**	ug/L	100	44.1	100		05/18/17 16:01	563-58-6	
1,2,3-Trichlorobenzene	**<213**	ug/L	500	213	100		05/18/17 16:01	87-61-6	
1,2,3-Trichloropropane	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	96-18-4	
1,2,4-Trichlorobenzene	**<221**	ug/L	500	221	100		05/18/17 16:01	120-82-1	
1,2,4-Trimethylbenzene	**3070**	ug/L	100	50.0	100		05/18/17 16:01	95-63-6	
1,2-Dibromo-3-chloropropane	**<216**	ug/L	500	216	100		05/18/17 16:01	96-12-8	
1,2-Dibromoethane (EDB)	**<17.8**	ug/L	100	17.8	100		05/18/17 16:01	106-93-4	
1,2-Dichlorobenzene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	95-50-1	
1,2-Dichloroethane	**240**	ug/L	100	16.8	100		05/18/17 16:01	107-06-2	
1,2-Dichloropropane	**<23.3**	ug/L	100	23.3	100		05/18/17 16:01	78-87-5	
1,3,5-Trimethylbenzene	**858**	ug/L	100	50.0	100		05/18/17 16:01	108-67-8	
1,3-Dichlorobenzene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	541-73-1	
1,3-Dichloropropane	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	142-28-9	
1,4-Dichlorobenzene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	106-46-7	
2,2-Dichloropropane	**<48.4**	ug/L	100	48.4	100		05/18/17 16:01	594-20-7	
2-Chlorotoluene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	95-49-8	
4-Chlorotoluene	**<21.4**	ug/L	100	21.4	100		05/18/17 16:01	106-43-4	
Benzene	**21000**	ug/L	100	50.0	100		05/18/17 16:01	71-43-2	
Bromobenzene	**<23.0**	ug/L	100	23.0	100		05/18/17 16:01	108-86-1	
Bromochloromethane	**<34.0**	ug/L	100	34.0	100		05/18/17 16:01	74-97-5	
Bromodichloromethane	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	75-27-4	
Bromoform	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	75-25-2	
Bromomethane	**<243**	ug/L	500	243	100		05/18/17 16:01	74-83-9	
Carbon tetrachloride	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	56-23-5	
Chlorobenzene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	108-90-7	
Chloroethane	**<37.5**	ug/L	100	37.5	100		05/18/17 16:01	75-00-3	
Chloroform	**<250**	ug/L	500	250	100		05/18/17 16:01	67-66-3	
Chloromethane	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	74-87-3	
Dibromochloromethane	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	124-48-1	
Dibromomethane	**<42.7**	ug/L	100	42.7	100		05/18/17 16:01	74-95-3	
Dichlorodifluoromethane	**<22.4**	ug/L	100	22.4	100		05/18/17 16:01	75-71-8	
Ethylbenzene	**1170**	ug/L	100	50.0	100		05/18/17 16:01	100-41-4	
Hexachloro-1,3-butadiene	**<211**	ug/L	500	211	100		05/18/17 16:01	87-68-3	
Isopropylbenzene (Cumene)	**30.8J**	ug/L	100	14.3	100		05/18/17 16:01	98-82-8	
Methyl-tert-butyl ether	**<17.4**	ug/L	100	17.4	100		05/18/17 16:01	1634-04-4	
Methylene Chloride	**<23.3**	ug/L	100	23.3	100		05/18/17 16:01	75-09-2	
Naphthalene	**273J**	ug/L	500	250	100		05/18/17 16:01	91-20-3	
Styrene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	100-42-5	
Tetrachloroethene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	127-18-4	
Toluene	**19600**	ug/L	100	50.0	100		05/18/17 16:01	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: MW-6/T68 **Lab ID: 40150095025** Collected: 05/16/17 11:30 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<33.1**	ug/L	100	33.1	100		05/18/17 16:01	79-01-6	
Trichlorofluoromethane	**<18.5**	ug/L	100	18.5	100		05/18/17 16:01	75-69-4	
Vinyl chloride	**<17.6**	ug/L	100	17.6	100		05/18/17 16:01	75-01-4	
cis-1,2-Dichloroethene	**<25.6**	ug/L	100	25.6	100		05/18/17 16:01	156-59-2	
cis-1,3-Dichloropropene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	10061-01-5	
m&p-Xylene	**14500**	ug/L	200	100	100		05/18/17 16:01	179601-23-1	
n-Butylbenzene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	104-51-8	
n-Propylbenzene	**81.8J**	ug/L	100	50.0	100		05/18/17 16:01	103-65-1	
o-Xylene	**6480**	ug/L	100	50.0	100		05/18/17 16:01	95-47-6	
p-Isopropyltoluene	**<50.0**	ug/L	100	50.0	100		05/18/17 16:01	99-87-6	
sec-Butylbenzene	**<219**	ug/L	500	219	100		05/18/17 16:01	135-98-8	
tert-Butylbenzene	**<18.0**	ug/L	100	18.0	100		05/18/17 16:01	98-06-6	
trans-1,2-Dichloroethene	**<25.7**	ug/L	100	25.7	100		05/18/17 16:01	156-60-5	
trans-1,3-Dichloropropene	**<23.0**	ug/L	100	23.0	100		05/18/17 16:01	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	61-118		100		05/18/17 16:01	460-00-4	
Dibromofluoromethane (S)	93	%	67-124		100		05/18/17 16:01	1868-53-7	
Toluene-d8 (S)	98	%	80-120		100		05/18/17 16:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: TRIP BLANK **Lab ID: 40150095029** Collected: 05/16/17 00:00 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		05/19/17 09:59	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		05/19/17 09:59	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		05/19/17 09:59	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		05/19/17 09:59	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		05/19/17 09:59	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		05/19/17 09:59	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		05/19/17 09:59	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		05/19/17 09:59	120-82-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		05/19/17 09:59	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		05/19/17 09:59	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		05/19/17 09:59	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		05/19/17 09:59	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		05/19/17 09:59	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		05/19/17 09:59	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		05/19/17 09:59	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		05/19/17 09:59	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		05/19/17 09:59	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		05/19/17 09:59	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		05/19/17 09:59	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		05/19/17 09:59	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		05/19/17 09:59	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		05/19/17 09:59	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		05/19/17 09:59	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		05/19/17 09:59	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		05/19/17 09:59	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		05/19/17 09:59	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Sample: TRIP BLANK **Lab ID: 40150095029** Collected: 05/16/17 00:00 Received: 05/17/17 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		05/19/17 09:59	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		05/19/17 09:59	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		05/19/17 09:59	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		05/19/17 09:59	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		05/19/17 09:59	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	103-65-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		05/19/17 09:59	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		05/19/17 09:59	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		05/19/17 09:59	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		05/19/17 09:59	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		05/19/17 09:59	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	80	%	61-118		1		05/19/17 09:59	460-00-4	
Dibromofluoromethane (S)	96	%	67-124		1		05/19/17 09:59	1868-53-7	
Toluene-d8 (S)	99	%	80-120		1		05/19/17 09:59	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

QC Batch: 255985 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: 8021 GCV BTEX
Associated Lab Samples: 40150095001, 40150095002, 40150095003, 40150095004, 40150095005, 40150095006, 40150095007, 40150095008

METHOD BLANK: 1509027 Matrix: Water
Associated Lab Samples: 40150095001, 40150095002, 40150095003, 40150095004, 40150095005, 40150095006, 40150095007, 40150095008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	05/19/17 08:32	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	05/19/17 08:32	
Benzene	ug/L	<0.40	1.0	05/19/17 08:32	
Ethylbenzene	ug/L	<0.39	1.0	05/19/17 08:32	
m&p-Xylene	ug/L	<0.80	2.0	05/19/17 08:32	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	05/19/17 08:32	
Naphthalene	ug/L	<0.42	5.0	05/19/17 08:32	
o-Xylene	ug/L	<0.45	1.0	05/19/17 08:32	
Toluene	ug/L	<0.39	1.0	05/19/17 08:32	
a,a,a-Trifluorotoluene (S)	%	99	85-115	05/19/17 08:32	

LABORATORY CONTROL SAMPLE & LCSD: 1509028 1509029

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.5	20.4	102	102	85-115	0	20	
1,3,5-Trimethylbenzene	ug/L	20	19.8	19.7	99	99	85-115	0	20	
Benzene	ug/L	20	21.1	21.0	106	105	85-115	1	20	
Ethylbenzene	ug/L	20	20.8	20.7	104	103	85-115	1	20	
m&p-Xylene	ug/L	40	41.5	41.1	104	103	85-115	1	20	
Methyl-tert-butyl ether	ug/L	20	19.4	18.6	97	93	85-115	4	20	
Naphthalene	ug/L	20	22.7	22.2	113	111	85-122	2	20	
o-Xylene	ug/L	20	20.8	20.6	104	103	85-115	1	20	
Toluene	ug/L	20	20.6	20.5	103	102	85-115	1	20	
a,a,a-Trifluorotoluene (S)	%				100	100	85-115			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

QC Batch: 255978 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40150095020, 40150095021, 40150095022, 40150095023, 40150095024, 40150095025, 40150095029

METHOD BLANK: 1509016 Matrix: Water
Associated Lab Samples: 40150095020, 40150095021, 40150095022, 40150095023, 40150095024, 40150095025, 40150095029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	05/18/17 10:06	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	05/18/17 10:06	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	05/18/17 10:06	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	05/18/17 10:06	
1,1-Dichloroethane	ug/L	<0.24	1.0	05/18/17 10:06	
1,1-Dichloroethene	ug/L	<0.41	1.0	05/18/17 10:06	
1,1-Dichloropropene	ug/L	<0.44	1.0	05/18/17 10:06	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	05/18/17 10:06	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	05/18/17 10:06	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	05/18/17 10:06	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	05/18/17 10:06	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	05/18/17 10:06	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	05/18/17 10:06	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	05/18/17 10:06	
1,2-Dichloroethane	ug/L	<0.17	1.0	05/18/17 10:06	
1,2-Dichloropropane	ug/L	<0.23	1.0	05/18/17 10:06	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	05/18/17 10:06	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	05/18/17 10:06	
1,3-Dichloropropane	ug/L	<0.50	1.0	05/18/17 10:06	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	05/18/17 10:06	
2,2-Dichloropropane	ug/L	<0.48	1.0	05/18/17 10:06	
2-Chlorotoluene	ug/L	<0.50	1.0	05/18/17 10:06	
4-Chlorotoluene	ug/L	<0.21	1.0	05/18/17 10:06	
Benzene	ug/L	<0.50	1.0	05/18/17 10:06	
Bromobenzene	ug/L	<0.23	1.0	05/18/17 10:06	
Bromochloromethane	ug/L	<0.34	1.0	05/18/17 10:06	
Bromodichloromethane	ug/L	<0.50	1.0	05/18/17 10:06	
Bromoform	ug/L	<0.50	1.0	05/18/17 10:06	
Bromomethane	ug/L	<2.4	5.0	05/18/17 10:06	
Carbon tetrachloride	ug/L	<0.50	1.0	05/18/17 10:06	
Chlorobenzene	ug/L	<0.50	1.0	05/18/17 10:06	
Chloroethane	ug/L	<0.37	1.0	05/18/17 10:06	
Chloroform	ug/L	<2.5	5.0	05/18/17 10:06	
Chloromethane	ug/L	<0.50	1.0	05/18/17 10:06	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	05/18/17 10:06	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	05/18/17 10:06	
Dibromochloromethane	ug/L	<0.50	1.0	05/18/17 10:06	
Dibromomethane	ug/L	<0.43	1.0	05/18/17 10:06	
Dichlorodifluoromethane	ug/L	<0.22	1.0	05/18/17 10:06	
Ethylbenzene	ug/L	<0.50	1.0	05/18/17 10:06	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	05/18/17 10:06	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

METHOD BLANK: 1509016 Matrix: Water
Associated Lab Samples: 40150095020, 40150095021, 40150095022, 40150095023, 40150095024, 40150095025, 40150095029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	05/18/17 10:06	
m&p-Xylene	ug/L	<1.0	2.0	05/18/17 10:06	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	05/18/17 10:06	
Methylene Chloride	ug/L	<0.23	1.0	05/18/17 10:06	
n-Butylbenzene	ug/L	<0.50	1.0	05/18/17 10:06	
n-Propylbenzene	ug/L	<0.50	1.0	05/18/17 10:06	
Naphthalene	ug/L	<2.5	5.0	05/18/17 10:06	
o-Xylene	ug/L	<0.50	1.0	05/18/17 10:06	
p-Isopropyltoluene	ug/L	<0.50	1.0	05/18/17 10:06	
sec-Butylbenzene	ug/L	<2.2	5.0	05/18/17 10:06	
Styrene	ug/L	<0.50	1.0	05/18/17 10:06	
tert-Butylbenzene	ug/L	<0.18	1.0	05/18/17 10:06	
Tetrachloroethene	ug/L	<0.50	1.0	05/18/17 10:06	
Toluene	ug/L	<0.50	1.0	05/18/17 10:06	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	05/18/17 10:06	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	05/18/17 10:06	
Trichloroethene	ug/L	<0.33	1.0	05/18/17 10:06	
Trichlorofluoromethane	ug/L	<0.18	1.0	05/18/17 10:06	
Vinyl chloride	ug/L	<0.18	1.0	05/18/17 10:06	
4-Bromofluorobenzene (S)	%	84	61-118	05/18/17 10:06	
Dibromofluoromethane (S)	%	95	67-124	05/18/17 10:06	
Toluene-d8 (S)	%	99	80-120	05/18/17 10:06	

LABORATORY CONTROL SAMPLE: 1509017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.1	98	85-130	
1,1,2,2-Tetrachloroethane	ug/L	50	46.6	93	72-114	
1,1,2-Trichloroethane	ug/L	50	57.0	114	80-120	
1,1-Dichloroethane	ug/L	50	46.3	93	71-132	
1,1-Dichloroethene	ug/L	50	47.4	95	75-130	
1,2,4-Trichlorobenzene	ug/L	50	49.2	98	74-117	
1,2-Dibromo-3-chloropropane	ug/L	50	40.3	81	63-121	
1,2-Dibromoethane (EDB)	ug/L	50	54.8	110	80-120	
1,2-Dichlorobenzene	ug/L	50	51.3	103	80-120	
1,2-Dichloroethane	ug/L	50	46.8	94	79-131	
1,2-Dichloropropane	ug/L	50	57.3	115	80-120	
1,3-Dichlorobenzene	ug/L	50	49.2	98	80-120	
1,4-Dichlorobenzene	ug/L	50	50.8	102	80-120	
Benzene	ug/L	50	56.0	112	81-142	
Bromodichloromethane	ug/L	50	49.0	98	80-120	
Bromoform	ug/L	50	55.0	110	67-122	
Bromomethane	ug/L	50	40.0	80	40-128	
Carbon tetrachloride	ug/L	50	48.6	97	85-133	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

LABORATORY CONTROL SAMPLE: 1509017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	56.1	112	80-120	
Chloroethane	ug/L	50	53.8	108	58-120	
Chloroform	ug/L	50	48.2	96	80-121	
Chloromethane	ug/L	50	46.9	94	40-127	
cis-1,2-Dichloroethene	ug/L	50	54.6	109	83-129	
cis-1,3-Dichloropropene	ug/L	50	48.8	98	80-120	
Dibromochloromethane	ug/L	50	55.2	110	80-120	
Dichlorodifluoromethane	ug/L	50	42.0	84	20-135	
Ethylbenzene	ug/L	50	57.3	115	87-129	
Isopropylbenzene (Cumene)	ug/L	50	58.0	116	82-128	
m&p-Xylene	ug/L	100	124	124	87-130	
Methyl-tert-butyl ether	ug/L	50	46.1	92	66-143	
Methylene Chloride	ug/L	50	43.4	87	73-126	
o-Xylene	ug/L	50	59.5	119	84-130	
Styrene	ug/L	50	59.9	120	82-122	
Tetrachloroethene	ug/L	50	57.2	114	80-120	
Toluene	ug/L	50	60.1	120	82-130	
trans-1,2-Dichloroethene	ug/L	50	46.5	93	75-132	
trans-1,3-Dichloropropene	ug/L	50	52.6	105	71-114	
Trichloroethene	ug/L	50	53.8	108	80-120	
Trichlorofluoromethane	ug/L	50	44.8	90	82-133	
Vinyl chloride	ug/L	50	54.3	109	57-136	
4-Bromofluorobenzene (S)	%			99	61-118	
Dibromofluoromethane (S)	%			92	67-124	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1509302 1509303

Parameter	Units	40150015002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<1.0	50	50	48.2	49.2	96	98	85-134	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	50	50	49.0	51.6	98	103	72-114	5	20	
1,1,2-Trichloroethane	ug/L	<1.0	50	50	54.5	54.7	109	109	80-120	0	20	
1,1-Dichloroethane	ug/L	<1.0	50	50	46.0	45.8	92	92	71-133	0	20	
1,1-Dichloroethene	ug/L	<1.0	50	50	47.3	44.0	95	88	75-136	7	20	
1,2,4-Trichlorobenzene	ug/L	<5.0	50	50	56.7	46.6	113	93	74-117	20	20	
1,2-Dibromo-3-chloropropane	ug/L	<5.0	50	50	43.1	38.8	86	78	63-123	11	20	
1,2-Dibromoethane (EDB)	ug/L	<1.0	50	50	52.2	54.9	104	110	80-120	5	20	
1,2-Dichlorobenzene	ug/L	<1.0	50	50	55.0	51.3	110	103	80-120	7	20	
1,2-Dichloroethane	ug/L	<1.0	50	50	45.0	42.7	90	85	79-131	5	20	
1,2-Dichloropropane	ug/L	<1.0	50	50	54.6	55.4	109	111	80-120	2	20	
1,3-Dichlorobenzene	ug/L	<1.0	50	50	48.5	49.2	97	98	80-120	1	20	
1,4-Dichlorobenzene	ug/L	<1.0	50	50	49.5	50.6	99	101	80-120	2	20	
Benzene	ug/L	<1.0	50	50	54.8	53.3	110	107	81-142	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1509302 1509303

Parameter	Units	40150015002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<1.0	50	50	47.4	48.2	95	96	80-120	2	20	
Bromoform	ug/L	<1.0	50	50	49.7	53.5	99	107	67-122	7	20	
Bromomethane	ug/L	<5.0	50	50	41.7	40.3	83	81	40-129	4	20	
Carbon tetrachloride	ug/L	<1.0	50	50	48.1	49.1	96	98	85-134	2	20	
Chlorobenzene	ug/L	<1.0	50	50	53.7	54.6	107	109	80-120	2	20	
Chloroethane	ug/L	<1.0	50	50	51.5	50.7	103	101	58-120	2	20	
Chloroform	ug/L	<5.0	50	50	47.3	48.3	95	97	80-121	2	20	
Chloromethane	ug/L	<1.0	50	50	42.8	50.8	86	102	40-128	17	20	
cis-1,2-Dichloroethene	ug/L	<1.0	50	50	53.2	54.1	106	108	83-129	2	20	
cis-1,3-Dichloropropene	ug/L	<1.0	50	50	48.0	46.9	96	94	80-120	2	20	
Dibromochloromethane	ug/L	<1.0	50	50	52.2	55.2	104	110	80-120	5	20	
Dichlorodifluoromethane	ug/L	<1.0	50	50	38.3	41.0	77	82	20-146	7	20	
Ethylbenzene	ug/L	<1.0	50	50	54.5	57.3	109	115	87-129	5	20	
Isopropylbenzene (Cumene)	ug/L	<1.0	50	50	51.1	57.7	102	115	80-128	12	20	
m&p-Xylene	ug/L	<2.0	100	100	117	121	117	121	87-130	3	20	
Methyl-tert-butyl ether	ug/L	<1.0	50	50	45.6	44.6	91	89	66-143	2	20	
Methylene Chloride	ug/L	<1.0	50	50	44.0	42.3	88	85	73-127	4	20	
o-Xylene	ug/L	<1.0	50	50	55.1	56.6	110	113	84-130	3	20	
Styrene	ug/L	<1.0	50	50	54.3	58.1	109	116	80-122	7	20	
Tetrachloroethene	ug/L	<1.0	50	50	54.4	53.3	109	107	80-120	2	20	
Toluene	ug/L	<1.0	50	50	59.7	54.2	119	108	82-131	10	20	
trans-1,2-Dichloroethene	ug/L	<1.0	50	50	46.6	44.3	93	89	75-135	5	20	
trans-1,3-Dichloropropene	ug/L	<1.0	50	50	49.4	48.9	99	98	71-120	1	20	
Trichloroethene	ug/L	<1.0	50	50	51.3	53.6	103	107	80-120	4	20	
Trichlorofluoromethane	ug/L	<1.0	50	50	44.1	44.4	88	89	76-150	1	20	
Vinyl chloride	ug/L	<1.0	50	50	48.8	53.6	98	107	56-143	9	20	
4-Bromofluorobenzene (S)	%						85	93	61-118			
Dibromofluoromethane (S)	%						93	94	67-124			
Toluene-d8 (S)	%						101	96	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

QC Batch: 256061 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40150095009, 40150095010, 40150095011, 40150095012, 40150095013, 40150095014, 40150095015, 40150095016, 40150095017, 40150095018, 40150095019, 40150095026

METHOD BLANK: 1509353 Matrix: Water
Associated Lab Samples: 40150095009, 40150095010, 40150095011, 40150095012, 40150095013, 40150095014, 40150095015, 40150095016, 40150095017, 40150095018, 40150095019, 40150095026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	05/19/17 09:16	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	05/19/17 09:16	
Benzene	ug/L	<0.50	1.0	05/19/17 09:16	
Ethylbenzene	ug/L	<0.50	1.0	05/19/17 09:16	
m&p-Xylene	ug/L	<1.0	2.0	05/19/17 09:16	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	05/19/17 09:16	
Naphthalene	ug/L	<2.5	5.0	05/19/17 09:16	
o-Xylene	ug/L	<0.50	1.0	05/19/17 09:16	
Toluene	ug/L	<0.50	1.0	05/19/17 09:16	
4-Bromofluorobenzene (S)	%	90	61-118	05/19/17 09:16	
Dibromofluoromethane (S)	%	94	67-124	05/19/17 09:16	
Toluene-d8 (S)	%	96	80-120	05/19/17 09:16	

LABORATORY CONTROL SAMPLE: 1509354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	50.1	100	81-142	
Ethylbenzene	ug/L	50	53.9	108	87-129	
m&p-Xylene	ug/L	100	116	116	87-130	
Methyl-tert-butyl ether	ug/L	50	51.3	103	66-143	
o-Xylene	ug/L	50	57.2	114	84-130	
Toluene	ug/L	50	53.0	106	82-130	
4-Bromofluorobenzene (S)	%			101	61-118	
Dibromofluoromethane (S)	%			94	67-124	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1509355 1509356

Parameter	Units	40150111006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	51.3	48.4	103	97	81-142	6	20	
Ethylbenzene	ug/L	<0.50	50	50	54.4	54.0	109	108	87-129	1	20	
m&p-Xylene	ug/L	<1.0	100	100	117	115	117	115	87-130	2	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	54.1	51.0	108	102	66-143	6	20	
o-Xylene	ug/L	<0.50	50	50	58.1	56.3	116	113	84-130	3	20	
Toluene	ug/L	<0.50	50	50	54.0	52.3	108	105	82-131	3	20	
4-Bromofluorobenzene (S)	%						102	103	61-118			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1509355 1509356

Parameter	Units	40150111006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%						96	94	67-124			
Toluene-d8 (S)	%						98	98	80-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

QC Batch: 256183
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40150095027

METHOD BLANK: 1509959
Matrix: Water
Associated Lab Samples: 40150095027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	05/22/17 08:49	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	05/22/17 08:49	
Benzene	ug/L	<0.50	1.0	05/22/17 08:49	
Ethylbenzene	ug/L	<0.50	1.0	05/22/17 08:49	
m&p-Xylene	ug/L	<1.0	2.0	05/22/17 08:49	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	05/22/17 08:49	
Naphthalene	ug/L	<2.5	5.0	05/22/17 08:49	
o-Xylene	ug/L	<0.50	1.0	05/22/17 08:49	
Toluene	ug/L	<0.50	1.0	05/22/17 08:49	
4-Bromofluorobenzene (S)	%	98	61-118	05/22/17 08:49	
Dibromofluoromethane (S)	%	94	67-124	05/22/17 08:49	
Toluene-d8 (S)	%	100	80-120	05/22/17 08:49	

LABORATORY CONTROL SAMPLE: 1509960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	53.6	107	81-142	
Ethylbenzene	ug/L	50	54.4	109	87-129	
m&p-Xylene	ug/L	100	105	105	87-130	
Methyl-tert-butyl ether	ug/L	50	41.6	83	66-143	
o-Xylene	ug/L	50	51.0	102	84-130	
Toluene	ug/L	50	50.7	101	82-130	
4-Bromofluorobenzene (S)	%			109	61-118	
Dibromofluoromethane (S)	%			95	67-124	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1511079 1511080

Parameter	Units	40150035015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<1.0	50	50	54.0	55.9	108	112	81-142	3	20	
Ethylbenzene	ug/L	<1.0	50	50	54.6	56.6	109	113	87-129	4	20	
m&p-Xylene	ug/L	<2.0	100	100	105	110	105	109	87-130	4	20	
Methyl-tert-butyl ether	ug/L	<1.0	50	50	45.2	44.0	90	88	66-143	3	20	
o-Xylene	ug/L	<1.0	50	50	52.0	54.7	104	109	84-130	5	20	
Toluene	ug/L	<1.0	50	50	51.2	53.6	102	107	82-131	4	20	
4-Bromofluorobenzene (S)	%						108	108	61-118			
Dibromofluoromethane (S)	%						98	97	67-124			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1511079 1511080

Parameter	Units	40150035015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						102	100	80-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

QC Batch: 256588 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40150095028

METHOD BLANK: 1512205 Matrix: Water
Associated Lab Samples: 40150095028

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	05/24/17 08:00	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	05/24/17 08:00	
Benzene	ug/L	<0.50	1.0	05/24/17 08:00	
Ethylbenzene	ug/L	<0.50	1.0	05/24/17 08:00	
m&p-Xylene	ug/L	<1.0	2.0	05/24/17 08:00	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	05/24/17 08:00	
Naphthalene	ug/L	<2.5	5.0	05/24/17 08:00	
o-Xylene	ug/L	<0.50	1.0	05/24/17 08:00	
Toluene	ug/L	<0.50	1.0	05/24/17 08:00	
4-Bromofluorobenzene (S)	%	95	61-118	05/24/17 08:00	
Dibromofluoromethane (S)	%	99	67-124	05/24/17 08:00	
Toluene-d8 (S)	%	102	80-120	05/24/17 08:00	

LABORATORY CONTROL SAMPLE: 1512206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	50	47.4	95	70-130	
1,3,5-Trimethylbenzene	ug/L	50	47.9	96	70-130	
Benzene	ug/L	50	45.6	91	81-142	
Ethylbenzene	ug/L	50	49.7	99	87-129	
m&p-Xylene	ug/L	100	102	102	87-130	
Methyl-tert-butyl ether	ug/L	50	56.1	112	66-143	
Naphthalene	ug/L	50	46.7	93	70-130	
o-Xylene	ug/L	50	50.6	101	84-130	
Toluene	ug/L	50	48.2	96	82-130	
4-Bromofluorobenzene (S)	%			105	61-118	
Dibromofluoromethane (S)	%			99	67-124	
Toluene-d8 (S)	%			102	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 34265.003 CALUMET SUPERIOR
Pace Project No.: 40150095

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40150095001	**MW-12**	EPA 8021	255985		
40150095002	**MW-13**	EPA 8021	255985		
40150095003	**PZ-13**	EPA 8021	255985		
40150095004	**MW-19**	EPA 8021	255985		
40150095005	**MW-20**	EPA 8021	255985		
40150095006	**MW-21**	EPA 8021	255985		
40150095007	**PZ-21**	EPA 8021	255985		
40150095008	**MW-22**	EPA 8021	255985		
40150095020	**MW-1/T68**	EPA 8260	255978		
40150095021	**MW-2/T68**	EPA 8260	255978		
40150095022	**MW-4/T68**	EPA 8260	255978		
40150095023	**MW-5/T66**	EPA 8260	255978		
40150095024	**MW-5/T68**	EPA 8260	255978		
40150095025	**MW-6/T68**	EPA 8260	255978		
40150095029	**TRIP BLANK**	EPA 8260	255978		
40150095009	**MW-1/CW**	EPA 8260	256061		
40150095010	**MW-2/CW**	EPA 8260	256061		
40150095011	**MW-3/CW**	EPA 8260	256061		
40150095012	**MW-4/CW**	EPA 8260	256061		
40150095013	**MW-1/T40**	EPA 8260	256061		
40150095014	**MW-2/T40**	EPA 8260	256061		
40150095015	**MW-4/T40**	EPA 8260	256061		
40150095016	**MW-5/T40**	EPA 8260	256061		
40150095017	**MW-6/T40**	EPA 8260	256061		
40150095018	**MW-7/T40**	EPA 8260	256061		
40150095019	**TS-1/T40**	EPA 8260	256061		
40150095026	**MW-2R/T70**	EPA 8260	256061		
40150095027	**MW-5/T70**	EPA 8260	256183		
40150095028	**MW-6/T70**	EPA 8260	256588		

40150095

(Please Print Clearly)

Company Name:	
Branch/Location:	
Project Contact:	See
Phone:	pump
Project Number:	
Project Name:	
Project State:	A
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PVOCs 8260	VOCs 8260	PVOCs/NaPH 8260	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
014	MW-2/T40	5/16	1435	GW	N	B	2			14:35	2-40mlV B	
015	MW-4/T40		1455		N	B	3			14:55	3-40mlV B	
016	MW-5/T40		1440		N	B	3			14:40		
017	MW-6/T40		1445		N	B	3			14:45		
018	MW-7/T40		1450		N	B	3			14:50		
019	TS-1/T40		1500		N	B	3			15:00		
020	MW-1/T68		1410		N	B		3				
021	MW-2/T68		1420		N	B		3				
022	MW-4/T68		1415		N	B		3				
023	MW-5/T66		1120		N	B		3				
024	MW-5/T68		1140		N	B		3				
025	MW-6/T68		1130		N	B		3				
026	MW-2R/T70		1515		N	B			3			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

	Relinquished By:	Date/Time:	Received By:	Date/Time:
1				
2	FEDEX	5-17-17 1030	Aileen Rusk Pace	1030
3				
4				
5				

PACE Project No.
40150095

Receipt Temp = 2.0 I °C

Sample Receipt pH ~~OK / Adjusted~~

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

40150095

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	
Branch/Location:	
Project Contact:	See page
Phone:	
Project Number:	
Project Name:	
Project State:	
Sampled By (Print):	J
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	8260 VOCs/Naph	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
027	MW-5/T70	5/16	1510	GW		N B	3		3-40MLV B ↓ 2-40MLV B	
028	MW-6/T70	5/16	1520	GW			3			
029	Trip Blank									

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By: FED EX 5-17-17	Date/Time: 1030	Received By: Allison Rusk Pace 5-17-17	Date/Time: 1030
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.: 40150095

Receipt Temp = ROI °C

Sample Receipt pH ~~Ok / Adjusted~~ ES/17

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Project #: WO#: 40150095

40150095

Client Name: Gannett Fleming

Courier: ☒ Fed Ex ☐ UPS ☐ Client ☐ Pace ☐ Other: _____

Tracking #: 8718 1210 6424

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used SR67 **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0 /Corr: 0.5 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 5-17-17
Initials: ER

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1. client info 1st pg only KL 5/17/17
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2. 1st pg KL 5/17/17
Chain of Custody Relinquished:	☐Yes ☒No ☐N/A	3. 1st page only ER 5-17-17
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes (☐No) ☐N/A	12. 026 1 vial ID MW-2R KL 5/17/17
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes ☐No ☒N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 <2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes ☐No ☒N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	(☒Yes) ☐No KL 5/17	Initial when completed / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	14.
Trip Blank Present:	☒Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 372		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: RMW for DM **Date:** 5/17/17

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

Project #34265.003
Calumet Superior
Reviewed by CCW
11/2/13

November 02, 2017

Clifford Wright
Gannett Fleming
8025 Excelsior Drive
Madison, WI 53717

RE: Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Dear Clifford Wright:
Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

CERTIFICATIONS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40159507001	**MW-1/T40**	Water	10/25/17 13:20	10/26/17 10:40
40159507002	**MW-4/T40**	Water	10/25/17 13:10	10/26/17 10:40
40159507003	**MW-5/T40**	Water	10/25/17 12:50	10/26/17 10:40
40159507004	**MW-6/T40**	Water	10/25/17 13:00	10/26/17 10:40
40159507005	**MW-7/T40**	Water	10/25/17 13:05	10/26/17 10:40
40159507006	**TS-1/T40**	Water	10/25/17 13:15	10/26/17 10:40
40159507007	**MW-1/T68**	Water	10/25/17 13:40	10/26/17 10:40
40159507008	**MW-2/T68**	Water	10/25/17 13:45	10/26/17 10:40
40159507009	**MW-4/T68**	Water	10/25/17 13:30	10/26/17 10:40
40159507010	**MW-5/T66**	Water	10/25/17 13:50	10/26/17 10:40
40159507011	**MW-6/T68**	Water	10/25/17 13:55	10/26/17 10:40
40159507012	**MW-1R/T70**	Water	10/25/17 14:25	10/26/17 10:40
40159507013	**MW-2R/T70**	Water	10/25/17 14:15	10/26/17 10:40
40159507014	**MW-3/T70**	Water	10/25/17 14:05	10/26/17 10:40
40159507015	**MW-4/T70**	Water	10/25/17 14:00	10/26/17 10:40
40159507016	**MW-5/T70**	Water	10/25/17 14:10	10/26/17 10:40
40159507017	**MW-6/T70**	Water	10/25/17 14:20	10/26/17 10:40
40159507018	**LRS-1**	Water	10/25/17 11:00	10/26/17 10:40
40159507019	**LRS-2**	Water	10/25/17 10:45	10/26/17 10:40
40159507020	**LRS-3**	Water	10/25/17 11:20	10/26/17 10:40
40159507021	**LRS-4**	Water	10/25/17 11:25	10/26/17 10:40
40159507022	**LRS-6**	Water	10/25/17 11:10	10/26/17 10:40
40159507023	**LRS-7**	Water	10/25/17 10:35	10/26/17 10:40
40159507024	**MW-1/FL**	Water	10/25/17 10:10	10/26/17 10:40
40159507025	**MW-2/FL**	Water	10/25/17 10:05	10/26/17 10:40
40159507026	**MW-3/FL**	Water	10/25/17 13:00	10/26/17 10:40
40159507027	**MW-9/FL**	Water	10/25/17 11:30	10/26/17 10:40
40159507028	**MW-10/FL**	Water	10/25/17 11:35	10/26/17 10:40
40159507029	**MW-11/FL**	Water	10/25/17 10:15	10/26/17 10:40
40159507030	**MW-13/FL**	Water	10/25/17 10:20	10/26/17 10:40
40159507031	**MW-14/FL**	Water	10/25/17 10:25	10/26/17 10:40
40159507032	**TRIP BLANK**	Water	10/25/17 00:00	10/26/17 10:40

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SAMPLE ANALYTE COUNT

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40159507001	MW-1/T40	EPA 8260	LAP	11	PASI-G
40159507002	MW-4/T40	EPA 8260	LAP	11	PASI-G
40159507003	MW-5/T40	EPA 8260	LAP	11	PASI-G
40159507004	MW-6/T40	EPA 8260	LAP	11	PASI-G
40159507005	MW-7/T40	EPA 8260	LAP	11	PASI-G
40159507006	TS-1/T40	EPA 8260	LAP	11	PASI-G
40159507007	MW-1/T68	EPA 8260	MDS	63	PASI-G
40159507008	MW-2/T68	EPA 8260	MDS	63	PASI-G
40159507009	MW-4/T68	EPA 8260	MDS	63	PASI-G
40159507010	MW-5/T66	EPA 8260	MDS	63	PASI-G
40159507011	MW-6/T68	EPA 8260	HNW	63	PASI-G
40159507012	MW-1R/T70	EPA 8260	LAP	12	PASI-G
40159507013	MW-2R/T70	EPA 8260	LAP	12	PASI-G
40159507014	MW-3/T70	EPA 8260	MDS	12	PASI-G
40159507015	MW-4/T70	EPA 8260	LAP	12	PASI-G
40159507016	MW-5/T70	EPA 8260	MDS	12	PASI-G
40159507017	MW-6/T70	EPA 8260	LAP	12	PASI-G
40159507018	LRS-1	EPA 8021	ALD	9	PASI-G
40159507019	LRS-2	EPA 8021	ALD	9	PASI-G
40159507020	LRS-3	EPA 8021	ALD	9	PASI-G
40159507021	LRS-4	EPA 8021	ALD	9	PASI-G
40159507022	LRS-6	EPA 8021	ALD	9	PASI-G
40159507023	LRS-7	EPA 8021	ALD	9	PASI-G
40159507024	MW-1/FL	EPA 8021	ALD	9	PASI-G
40159507025	MW-2/FL	EPA 8021	ALD	9	PASI-G
40159507026	MW-3/FL	EPA 8021	ALD	9	PASI-G
40159507027	MW-9/FL	EPA 8021	ALD	9	PASI-G
40159507028	MW-10/FL	EPA 8021	ALD	9	PASI-G
40159507029	MW-11/FL	EPA 8021	ALD	9	PASI-G
40159507030	MW-13/FL	EPA 8021	ALD	9	PASI-G
40159507031	MW-14/FL	EPA 8021	ALD	9	PASI-G
40159507032	TRIP BLANK	EPA 8021	ALD	9	PASI-G

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SUMMARY OF DETECTION

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40159507001	**MW-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	409	ug/L	25.0	10/27/17 17:52	
EPA 8260	1,3,5-Trimethylbenzene	160	ug/L	25.0	10/27/17 17:52	
EPA 8260	Benzene	616	ug/L	25.0	10/27/17 17:52	
EPA 8260	Ethylbenzene	27.0	ug/L	25.0	10/27/17 17:52	
EPA 8260	m&p-Xylene	2060	ug/L	50.0	10/27/17 17:52	
EPA 8260	o-Xylene	34.3	ug/L	25.0	10/27/17 17:52	
40159507002	**MW-4/T40**					
EPA 8260	1,2,4-Trimethylbenzene	1140	ug/L	100	10/27/17 18:15	
EPA 8260	1,3,5-Trimethylbenzene	319	ug/L	100	10/27/17 18:15	
EPA 8260	Benzene	5890	ug/L	100	10/27/17 18:15	
EPA 8260	Ethylbenzene	138	ug/L	100	10/27/17 18:15	
EPA 8260	m&p-Xylene	4270	ug/L	200	10/27/17 18:15	
EPA 8260	o-Xylene	2230	ug/L	100	10/27/17 18:15	
40159507004	**MW-6/T40**					
EPA 8260	1,2,4-Trimethylbenzene	1.3	ug/L	1.0	10/30/17 16:12	
EPA 8260	Benzene	0.63J	ug/L	1.0	10/30/17 16:12	
40159507005	**MW-7/T40**					
EPA 8260	1,2,4-Trimethylbenzene	405	ug/L	20.0	10/27/17 16:16	
EPA 8260	1,3,5-Trimethylbenzene	160	ug/L	20.0	10/27/17 16:16	
EPA 8260	Benzene	1220	ug/L	20.0	10/27/17 16:16	
EPA 8260	Ethylbenzene	113	ug/L	20.0	10/27/17 16:16	
EPA 8260	m&p-Xylene	1620	ug/L	40.0	10/27/17 16:16	
EPA 8260	o-Xylene	481	ug/L	20.0	10/27/17 16:16	
40159507006	**TS-1/T40**					
EPA 8260	1,2,4-Trimethylbenzene	4.4	ug/L	1.0	10/27/17 15:10	
EPA 8260	1,3,5-Trimethylbenzene	2.1	ug/L	1.0	10/27/17 15:10	
EPA 8260	Benzene	2.2	ug/L	1.0	10/27/17 15:10	
EPA 8260	Ethylbenzene	1.0	ug/L	1.0	10/27/17 15:10	
EPA 8260	m&p-Xylene	1.3J	ug/L	2.0	10/27/17 15:10	
40159507007	**MW-1/T68**					
EPA 8260	1,2,4-Trimethylbenzene	0.58J	ug/L	1.0	10/27/17 17:21	
EPA 8260	Toluene	2.3	ug/L	1.0	10/27/17 17:21	
EPA 8260	m&p-Xylene	1.7J	ug/L	2.0	10/27/17 17:21	
EPA 8260	o-Xylene	0.68J	ug/L	1.0	10/27/17 17:21	
40159507008	**MW-2/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2420	ug/L	250	10/28/17 13:06	
EPA 8260	1,2-Dichloroethane	1610	ug/L	250	10/28/17 13:06	
EPA 8260	1,3,5-Trimethylbenzene	702	ug/L	250	10/28/17 13:06	
EPA 8260	Benzene	30600	ug/L	250	10/28/17 13:06	
EPA 8260	Ethylbenzene	1170	ug/L	250	10/28/17 13:06	
EPA 8260	Toluene	24500	ug/L	250	10/28/17 13:06	
EPA 8260	m&p-Xylene	13100	ug/L	500	10/28/17 13:06	
EPA 8260	o-Xylene	6450	ug/L	250	10/28/17 13:06	

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40159507009	**MW-4/T68**					
EPA 8260	1,2,4-Trimethylbenzene	31.1	ug/L	2.5	10/28/17 12:45	
EPA 8260	1,3,5-Trimethylbenzene	9.5	ug/L	2.5	10/28/17 12:45	
EPA 8260	Benzene	79.6	ug/L	2.5	10/28/17 12:45	
EPA 8260	Ethylbenzene	9.7	ug/L	2.5	10/28/17 12:45	
EPA 8260	Isopropylbenzene (Cumene)	0.43J	ug/L	2.5	10/28/17 12:45	
EPA 8260	Toluene	3.6	ug/L	2.5	10/28/17 12:45	
EPA 8260	m&p-Xylene	25.2	ug/L	5.0	10/28/17 12:45	
EPA 8260	n-Propylbenzene	2.1J	ug/L	2.5	10/28/17 12:45	
EPA 8260	o-Xylene	5.4	ug/L	2.5	10/28/17 12:45	
EPA 8260	sec-Butylbenzene	8.3J	ug/L	12.5	10/28/17 12:45	
40159507010	**MW-5/T66**					
EPA 8260	1,2,4-Trimethylbenzene	1810	ug/L	125	10/27/17 21:40	
EPA 8260	1,3,5-Trimethylbenzene	554	ug/L	125	10/27/17 21:40	
EPA 8260	1,3-Dichloropropane	244	ug/L	125	10/27/17 21:40	
EPA 8260	Benzene	8790	ug/L	125	10/27/17 21:40	
EPA 8260	Ethylbenzene	2300	ug/L	125	10/27/17 21:40	
EPA 8260	Isopropylbenzene (Cumene)	66.4J	ug/L	125	10/27/17 21:40	
EPA 8260	Toluene	15400	ug/L	125	10/27/17 21:40	
EPA 8260	m&p-Xylene	12400	ug/L	250	10/27/17 21:40	
EPA 8260	n-Propylbenzene	167	ug/L	125	10/27/17 21:40	
EPA 8260	o-Xylene	4850	ug/L	125	10/27/17 21:40	
40159507011	**MW-6/T68**					
EPA 8260	1,2,4-Trimethylbenzene	2830	ug/L	125	10/30/17 13:39	
EPA 8260	1,2-Dichloroethane	225	ug/L	125	10/30/17 13:39	
EPA 8260	1,3,5-Trimethylbenzene	739	ug/L	125	10/30/17 13:39	
EPA 8260	Benzene	17500	ug/L	125	10/30/17 13:39	
EPA 8260	Ethylbenzene	576	ug/L	125	10/30/17 13:39	
EPA 8260	Toluene	12500	ug/L	125	10/30/17 13:39	
EPA 8260	m&p-Xylene	10900	ug/L	250	10/30/17 13:39	
EPA 8260	o-Xylene	5670	ug/L	125	10/30/17 13:39	
40159507012	**MW-1R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	1730	ug/L	200	10/27/17 16:38	
EPA 8260	1,3,5-Trimethylbenzene	545	ug/L	200	10/27/17 16:38	
EPA 8260	Benzene	22000	ug/L	200	10/27/17 16:38	
EPA 8260	Ethylbenzene	1410	ug/L	200	10/27/17 16:38	
EPA 8260	Toluene	13900	ug/L	200	10/27/17 16:38	
EPA 8260	m&p-Xylene	8390	ug/L	400	10/27/17 16:38	
EPA 8260	o-Xylene	3030	ug/L	200	10/27/17 16:38	
40159507013	**MW-2R/T70**					
EPA 8260	1,2,4-Trimethylbenzene	2800	ug/L	250	10/30/17 19:58	
EPA 8260	1,3,5-Trimethylbenzene	878	ug/L	250	10/30/17 19:58	
EPA 8260	Benzene	19800	ug/L	250	10/30/17 19:58	
EPA 8260	Ethylbenzene	2250	ug/L	250	10/30/17 19:58	
EPA 8260	Toluene	28400	ug/L	250	10/30/17 19:58	
EPA 8260	m&p-Xylene	14600	ug/L	500	10/30/17 19:58	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

PROJECT NARRATIVE

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Method: **EPA 8021**
Description: 8021 GCV Short List
Client: Gannett Fleming Inc.
Date: November 02, 2017

General Information:
15 samples were analyzed for EPA 8021. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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PROJECT NARRATIVE

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Method: **EPA 8260**
Description: 8260 MSV
Client: Gannett Fleming Inc.
Date: November 02, 2017

General Information:
5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 272177

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40159567004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1600920)
  - Chloroethane
  - Trichloroethene

R1: RPD value was outside control limits.

- MSD (Lab ID: 1600920)
  - Bromomethane

QC Batch: 272258

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40159632008

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1601755)
  - Chloroethane
- MSD (Lab ID: 1601756)

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PROJECT NARRATIVE

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Method: **EPA 8260**
Description: 8260 MSV
Client: Gannett Fleming Inc.
Date: November 02, 2017

QC Batch: 272258

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40159632008

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- 1,1-Dichloroethane
- Chloroethane

Additional Comments:

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Method: **EPA 8260**
Description: 8260 MSV UST
Client: Gannett Fleming Inc.
Date: November 02, 2017

General Information:
12 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 272089

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40159544001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1600424)
  - Toluene
- MSD (Lab ID: 1600425)
  - Toluene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-1/T68 **Lab ID: 40159507007** Collected: 10/25/17 13:40 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.18**	ug/L	1.0	0.18	1		10/27/17 17:21	630-20-6	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		10/27/17 17:21	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		10/27/17 17:21	79-00-5	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/27/17 17:21	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		10/27/17 17:21	75-35-4	
1,1-Dichloropropene	**<0.44**	ug/L	1.0	0.44	1		10/27/17 17:21	563-58-6	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		10/27/17 17:21	87-61-6	
1,2,3-Trichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	96-18-4	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		10/27/17 17:21	120-82-1	
1,2,4-Trimethylbenzene	**0.58J**	ug/L	1.0	0.50	1		10/27/17 17:21	95-63-6	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		10/27/17 17:21	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		10/27/17 17:21	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		10/27/17 17:21	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		10/27/17 17:21	78-87-5	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	108-67-8	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	541-73-1	
1,3-Dichloropropane	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	142-28-9	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	106-46-7	
2,2-Dichloropropane	**<0.48**	ug/L	1.0	0.48	1		10/27/17 17:21	594-20-7	
2-Chlorotoluene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	95-49-8	
4-Chlorotoluene	**<0.21**	ug/L	1.0	0.21	1		10/27/17 17:21	106-43-4	
Benzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	71-43-2	
Bromobenzene	**<0.23**	ug/L	1.0	0.23	1		10/27/17 17:21	108-86-1	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		10/27/17 17:21	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		10/27/17 17:21	74-83-9	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		10/27/17 17:21	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		10/27/17 17:21	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	124-48-1	
Dibromomethane	**<0.43**	ug/L	1.0	0.43	1		10/27/17 17:21	74-95-3	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		10/27/17 17:21	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	100-41-4	
Hexachloro-1,3-butadiene	**<2.1**	ug/L	5.0	2.1	1		10/27/17 17:21	87-68-3	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		10/27/17 17:21	98-82-8	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		10/27/17 17:21	1634-04-4	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		10/27/17 17:21	75-09-2	
Naphthalene	**<2.5**	ug/L	5.0	2.5	1		10/27/17 17:21	91-20-3	
Styrene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	127-18-4	
Toluene	**2.3**	ug/L	1.0	0.50	1		10/27/17 17:21	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-1/T68 **Lab ID: 40159507007** Collected: 10/25/17 13:40 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		10/27/17 17:21	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		10/27/17 17:21	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		10/27/17 17:21	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/27/17 17:21	156-59-2	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	10061-01-5	
m&p-Xylene	**1.7J**	ug/L	2.0	1.0	1		10/27/17 17:21	179601-23-1	
n-Butylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	104-51-8	
n-Propylbenzene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	103-65-1	
o-Xylene	**0.68J**	ug/L	1.0	0.50	1		10/27/17 17:21	95-47-6	
p-Isopropyltoluene	**<0.50**	ug/L	1.0	0.50	1		10/27/17 17:21	99-87-6	
sec-Butylbenzene	**<2.2**	ug/L	5.0	2.2	1		10/27/17 17:21	135-98-8	
tert-Butylbenzene	**<0.18**	ug/L	1.0	0.18	1		10/27/17 17:21	98-06-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/27/17 17:21	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		10/27/17 17:21	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	61-130		1		10/27/17 17:21	460-00-4	
Dibromofluoromethane (S)	124	%	67-130		1		10/27/17 17:21	1868-53-7	
Toluene-d8 (S)	89	%	70-130		1		10/27/17 17:21	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-2/T68 **Lab ID: 40159507008** Collected: 10/25/17 13:45 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<45.1**	ug/L	250	45.1	250		10/28/17 13:06	630-20-6	
1,1,1-Trichloroethane	**<125**	ug/L	250	125	250		10/28/17 13:06	71-55-6	
1,1,2,2-Tetrachloroethane	**<62.3**	ug/L	250	62.3	250		10/28/17 13:06	79-34-5	
1,1,2-Trichloroethane	**<49.3**	ug/L	250	49.3	250		10/28/17 13:06	79-00-5	
1,1-Dichloroethane	**<60.4**	ug/L	250	60.4	250		10/28/17 13:06	75-34-3	
1,1-Dichloroethene	**<103**	ug/L	250	103	250		10/28/17 13:06	75-35-4	
1,1-Dichloropropene	**<110**	ug/L	250	110	250		10/28/17 13:06	563-58-6	
1,2,3-Trichlorobenzene	**<533**	ug/L	1250	533	250		10/28/17 13:06	87-61-6	
1,2,3-Trichloropropane	**<125**	ug/L	250	125	250		10/28/17 13:06	96-18-4	
1,2,4-Trichlorobenzene	**<552**	ug/L	1250	552	250		10/28/17 13:06	120-82-1	
1,2,4-Trimethylbenzene	**2420**	ug/L	250	125	250		10/28/17 13:06	95-63-6	
1,2-Dibromo-3-chloropropane	**<541**	ug/L	1250	541	250		10/28/17 13:06	96-12-8	
1,2-Dibromoethane (EDB)	**<44.4**	ug/L	250	44.4	250		10/28/17 13:06	106-93-4	
1,2-Dichlorobenzene	**<125**	ug/L	250	125	250		10/28/17 13:06	95-50-1	
1,2-Dichloroethane	**1610**	ug/L	250	42.0	250		10/28/17 13:06	107-06-2	
1,2-Dichloropropane	**<58.3**	ug/L	250	58.3	250		10/28/17 13:06	78-87-5	
1,3,5-Trimethylbenzene	**702**	ug/L	250	125	250		10/28/17 13:06	108-67-8	
1,3-Dichlorobenzene	**<125**	ug/L	250	125	250		10/28/17 13:06	541-73-1	
1,3-Dichloropropane	**<125**	ug/L	250	125	250		10/28/17 13:06	142-28-9	
1,4-Dichlorobenzene	**<125**	ug/L	250	125	250		10/28/17 13:06	106-46-7	
2,2-Dichloropropane	**<121**	ug/L	250	121	250		10/28/17 13:06	594-20-7	
2-Chlorotoluene	**<125**	ug/L	250	125	250		10/28/17 13:06	95-49-8	
4-Chlorotoluene	**<53.4**	ug/L	250	53.4	250		10/28/17 13:06	106-43-4	
Benzene	**30600**	ug/L	250	125	250		10/28/17 13:06	71-43-2	
Bromobenzene	**<57.5**	ug/L	250	57.5	250		10/28/17 13:06	108-86-1	
Bromochloromethane	**<85.1**	ug/L	250	85.1	250		10/28/17 13:06	74-97-5	
Bromodichloromethane	**<125**	ug/L	250	125	250		10/28/17 13:06	75-27-4	
Bromoform	**<125**	ug/L	250	125	250		10/28/17 13:06	75-25-2	
Bromomethane	**<609**	ug/L	1250	609	250		10/28/17 13:06	74-83-9	
Carbon tetrachloride	**<125**	ug/L	250	125	250		10/28/17 13:06	56-23-5	
Chlorobenzene	**<125**	ug/L	250	125	250		10/28/17 13:06	108-90-7	
Chloroethane	**<93.6**	ug/L	250	93.6	250		10/28/17 13:06	75-00-3	
Chloroform	**<625**	ug/L	1250	625	250		10/28/17 13:06	67-66-3	
Chloromethane	**<125**	ug/L	250	125	250		10/28/17 13:06	74-87-3	
Dibromochloromethane	**<125**	ug/L	250	125	250		10/28/17 13:06	124-48-1	
Dibromomethane	**<107**	ug/L	250	107	250		10/28/17 13:06	74-95-3	
Dichlorodifluoromethane	**<56.0**	ug/L	250	56.0	250		10/28/17 13:06	75-71-8	
Ethylbenzene	**1170**	ug/L	250	125	250		10/28/17 13:06	100-41-4	
Hexachloro-1,3-butadiene	**<526**	ug/L	1250	526	250		10/28/17 13:06	87-68-3	
Isopropylbenzene (Cumene)	**<35.8**	ug/L	250	35.8	250		10/28/17 13:06	98-82-8	
Methyl-tert-butyl ether	**<43.6**	ug/L	250	43.6	250		10/28/17 13:06	1634-04-4	
Methylene Chloride	**<58.1**	ug/L	250	58.1	250		10/28/17 13:06	75-09-2	
Naphthalene	**<625**	ug/L	1250	625	250		10/28/17 13:06	91-20-3	
Styrene	**<125**	ug/L	250	125	250		10/28/17 13:06	100-42-5	
Tetrachloroethene	**<125**	ug/L	250	125	250		10/28/17 13:06	127-18-4	
Toluene	**24500**	ug/L	250	125	250		10/28/17 13:06	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-2/T68 **Lab ID: 40159507008** Collected: 10/25/17 13:45 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<82.7**	ug/L	250	82.7	250		10/28/17 13:06	79-01-6	
Trichlorofluoromethane	**<46.2**	ug/L	250	46.2	250		10/28/17 13:06	75-69-4	
Vinyl chloride	**<43.9**	ug/L	250	43.9	250		10/28/17 13:06	75-01-4	
cis-1,2-Dichloroethene	**<64.0**	ug/L	250	64.0	250		10/28/17 13:06	156-59-2	
cis-1,3-Dichloropropene	**<125**	ug/L	250	125	250		10/28/17 13:06	10061-01-5	
m&p-Xylene	**13100**	ug/L	500	250	250		10/28/17 13:06	179601-23-1	
n-Butylbenzene	**<125**	ug/L	250	125	250		10/28/17 13:06	104-51-8	
n-Propylbenzene	**<125**	ug/L	250	125	250		10/28/17 13:06	103-65-1	
o-Xylene	**6450**	ug/L	250	125	250		10/28/17 13:06	95-47-6	
p-Isopropyltoluene	**<125**	ug/L	250	125	250		10/28/17 13:06	99-87-6	
sec-Butylbenzene	**<547**	ug/L	1250	547	250		10/28/17 13:06	135-98-8	
tert-Butylbenzene	**<45.1**	ug/L	250	45.1	250		10/28/17 13:06	98-06-6	
trans-1,2-Dichloroethene	**<64.1**	ug/L	250	64.1	250		10/28/17 13:06	156-60-5	
trans-1,3-Dichloropropene	**<57.4**	ug/L	250	57.4	250		10/28/17 13:06	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	61-130		250		10/28/17 13:06	460-00-4	
Dibromofluoromethane (S)	122	%	67-130		250		10/28/17 13:06	1868-53-7	
Toluene-d8 (S)	89	%	70-130		250		10/28/17 13:06	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-4/T68 **Lab ID: 40159507009** Collected: 10/25/17 13:30 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.45**	ug/L	2.5	0.45	2.5		10/28/17 12:45	630-20-6	
1,1,1-Trichloroethane	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.62**	ug/L	2.5	0.62	2.5		10/28/17 12:45	79-34-5	
1,1,2-Trichloroethane	**<0.49**	ug/L	2.5	0.49	2.5		10/28/17 12:45	79-00-5	
1,1-Dichloroethane	**<0.60**	ug/L	2.5	0.60	2.5		10/28/17 12:45	75-34-3	
1,1-Dichloroethene	**<1.0**	ug/L	2.5	1.0	2.5		10/28/17 12:45	75-35-4	
1,1-Dichloropropene	**<1.1**	ug/L	2.5	1.1	2.5		10/28/17 12:45	563-58-6	
1,2,3-Trichlorobenzene	**<5.3**	ug/L	12.5	5.3	2.5		10/28/17 12:45	87-61-6	
1,2,3-Trichloropropane	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	96-18-4	
1,2,4-Trichlorobenzene	**<5.5**	ug/L	12.5	5.5	2.5		10/28/17 12:45	120-82-1	
1,2,4-Trimethylbenzene	**31.1**	ug/L	2.5	1.2	2.5		10/28/17 12:45	95-63-6	
1,2-Dibromo-3-chloropropane	**<5.4**	ug/L	12.5	5.4	2.5		10/28/17 12:45	96-12-8	
1,2-Dibromoethane (EDB)	**<0.44**	ug/L	2.5	0.44	2.5		10/28/17 12:45	106-93-4	
1,2-Dichlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	95-50-1	
1,2-Dichloroethane	**<0.42**	ug/L	2.5	0.42	2.5		10/28/17 12:45	107-06-2	
1,2-Dichloropropane	**<0.58**	ug/L	2.5	0.58	2.5		10/28/17 12:45	78-87-5	
1,3,5-Trimethylbenzene	**9.5**	ug/L	2.5	1.2	2.5		10/28/17 12:45	108-67-8	
1,3-Dichlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	541-73-1	
1,3-Dichloropropane	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	142-28-9	
1,4-Dichlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	106-46-7	
2,2-Dichloropropane	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	594-20-7	
2-Chlorotoluene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	95-49-8	
4-Chlorotoluene	**<0.53**	ug/L	2.5	0.53	2.5		10/28/17 12:45	106-43-4	
Benzene	**79.6**	ug/L	2.5	1.2	2.5		10/28/17 12:45	71-43-2	
Bromobenzene	**<0.58**	ug/L	2.5	0.58	2.5		10/28/17 12:45	108-86-1	
Bromochloromethane	**<0.85**	ug/L	2.5	0.85	2.5		10/28/17 12:45	74-97-5	
Bromodichloromethane	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	75-27-4	
Bromoform	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	75-25-2	
Bromomethane	**<6.1**	ug/L	12.5	6.1	2.5		10/28/17 12:45	74-83-9	
Carbon tetrachloride	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	56-23-5	
Chlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	108-90-7	
Chloroethane	**<0.94**	ug/L	2.5	0.94	2.5		10/28/17 12:45	75-00-3	
Chloroform	**<6.2**	ug/L	12.5	6.2	2.5		10/28/17 12:45	67-66-3	
Chloromethane	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	74-87-3	
Dibromochloromethane	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	124-48-1	
Dibromomethane	**<1.1**	ug/L	2.5	1.1	2.5		10/28/17 12:45	74-95-3	
Dichlorodifluoromethane	**<0.56**	ug/L	2.5	0.56	2.5		10/28/17 12:45	75-71-8	
Ethylbenzene	**9.7**	ug/L	2.5	1.2	2.5		10/28/17 12:45	100-41-4	
Hexachloro-1,3-butadiene	**<5.3**	ug/L	12.5	5.3	2.5		10/28/17 12:45	87-68-3	
Isopropylbenzene (Cumene)	**0.43J**	ug/L	2.5	0.36	2.5		10/28/17 12:45	98-82-8	
Methyl-tert-butyl ether	**<0.44**	ug/L	2.5	0.44	2.5		10/28/17 12:45	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	2.5	0.58	2.5		10/28/17 12:45	75-09-2	
Naphthalene	**<6.2**	ug/L	12.5	6.2	2.5		10/28/17 12:45	91-20-3	
Styrene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	100-42-5	
Tetrachloroethene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	127-18-4	
Toluene	**3.6**	ug/L	2.5	1.2	2.5		10/28/17 12:45	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-4/T68 **Lab ID: 40159507009** Collected: 10/25/17 13:30 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<0.83**	ug/L	2.5	0.83	2.5		10/28/17 12:45	79-01-6	
Trichlorofluoromethane	**<0.46**	ug/L	2.5	0.46	2.5		10/28/17 12:45	75-69-4	
Vinyl chloride	**<0.44**	ug/L	2.5	0.44	2.5		10/28/17 12:45	75-01-4	
cis-1,2-Dichloroethene	**<0.64**	ug/L	2.5	0.64	2.5		10/28/17 12:45	156-59-2	
cis-1,3-Dichloropropene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	10061-01-5	
m&p-Xylene	**25.2**	ug/L	5.0	2.5	2.5		10/28/17 12:45	179601-23-1	
n-Butylbenzene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	104-51-8	
n-Propylbenzene	**2.1J**	ug/L	2.5	1.2	2.5		10/28/17 12:45	103-65-1	
o-Xylene	**5.4**	ug/L	2.5	1.2	2.5		10/28/17 12:45	95-47-6	
p-Isopropyltoluene	**<1.2**	ug/L	2.5	1.2	2.5		10/28/17 12:45	99-87-6	
sec-Butylbenzene	**8.3J**	ug/L	12.5	5.5	2.5		10/28/17 12:45	135-98-8	
tert-Butylbenzene	**<0.45**	ug/L	2.5	0.45	2.5		10/28/17 12:45	98-06-6	
trans-1,2-Dichloroethene	**<0.64**	ug/L	2.5	0.64	2.5		10/28/17 12:45	156-60-5	
trans-1,3-Dichloropropene	**<0.57**	ug/L	2.5	0.57	2.5		10/28/17 12:45	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	61-130		2.5		10/28/17 12:45	460-00-4	
Dibromofluoromethane (S)	119	%	67-130		2.5		10/28/17 12:45	1868-53-7	
Toluene-d8 (S)	91	%	70-130		2.5		10/28/17 12:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-5/T66 **Lab ID: 40159507010** Collected: 10/25/17 13:50 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<22.6**	ug/L	125	22.6	125		10/27/17 21:40	630-20-6	
1,1,1-Trichloroethane	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	71-55-6	
1,1,2,2-Tetrachloroethane	**<31.2**	ug/L	125	31.2	125		10/27/17 21:40	79-34-5	
1,1,2-Trichloroethane	**<24.7**	ug/L	125	24.7	125		10/27/17 21:40	79-00-5	
1,1-Dichloroethane	**<30.2**	ug/L	125	30.2	125		10/27/17 21:40	75-34-3	
1,1-Dichloroethene	**<51.3**	ug/L	125	51.3	125		10/27/17 21:40	75-35-4	
1,1-Dichloropropene	**<55.1**	ug/L	125	55.1	125		10/27/17 21:40	563-58-6	
1,2,3-Trichlorobenzene	**<267**	ug/L	625	267	125		10/27/17 21:40	87-61-6	
1,2,3-Trichloropropane	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	96-18-4	
1,2,4-Trichlorobenzene	**<276**	ug/L	625	276	125		10/27/17 21:40	120-82-1	
1,2,4-Trimethylbenzene	**1810**	ug/L	125	62.5	125		10/27/17 21:40	95-63-6	
1,2-Dibromo-3-chloropropane	**<271**	ug/L	625	271	125		10/27/17 21:40	96-12-8	
1,2-Dibromoethane (EDB)	**<22.2**	ug/L	125	22.2	125		10/27/17 21:40	106-93-4	
1,2-Dichlorobenzene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	95-50-1	
1,2-Dichloroethane	**<21.0**	ug/L	125	21.0	125		10/27/17 21:40	107-06-2	
1,2-Dichloropropane	**<29.1**	ug/L	125	29.1	125		10/27/17 21:40	78-87-5	
1,3,5-Trimethylbenzene	**554**	ug/L	125	62.5	125		10/27/17 21:40	108-67-8	
1,3-Dichlorobenzene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	541-73-1	
1,3-Dichloropropane	**244**	ug/L	125	62.5	125		10/27/17 21:40	142-28-9	
1,4-Dichlorobenzene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	106-46-7	
2,2-Dichloropropane	**<60.5**	ug/L	125	60.5	125		10/27/17 21:40	594-20-7	
2-Chlorotoluene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	95-49-8	
4-Chlorotoluene	**<26.7**	ug/L	125	26.7	125		10/27/17 21:40	106-43-4	
Benzene	**8790**	ug/L	125	62.5	125		10/27/17 21:40	71-43-2	
Bromobenzene	**<28.8**	ug/L	125	28.8	125		10/27/17 21:40	108-86-1	
Bromochloromethane	**<42.5**	ug/L	125	42.5	125		10/27/17 21:40	74-97-5	
Bromodichloromethane	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	75-27-4	
Bromoform	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	75-25-2	
Bromomethane	**<304**	ug/L	625	304	125		10/27/17 21:40	74-83-9	
Carbon tetrachloride	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	56-23-5	
Chlorobenzene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	108-90-7	
Chloroethane	**<46.8**	ug/L	125	46.8	125		10/27/17 21:40	75-00-3	
Chloroform	**<312**	ug/L	625	312	125		10/27/17 21:40	67-66-3	
Chloromethane	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	74-87-3	
Dibromochloromethane	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	124-48-1	
Dibromomethane	**<53.3**	ug/L	125	53.3	125		10/27/17 21:40	74-95-3	
Dichlorodifluoromethane	**<28.0**	ug/L	125	28.0	125		10/27/17 21:40	75-71-8	
Ethylbenzene	**2300**	ug/L	125	62.5	125		10/27/17 21:40	100-41-4	
Hexachloro-1,3-butadiene	**<263**	ug/L	625	263	125		10/27/17 21:40	87-68-3	
Isopropylbenzene (Cumene)	**66.4J**	ug/L	125	17.9	125		10/27/17 21:40	98-82-8	
Methyl-tert-butyl ether	**<21.8**	ug/L	125	21.8	125		10/27/17 21:40	1634-04-4	
Methylene Chloride	**<29.1**	ug/L	125	29.1	125		10/27/17 21:40	75-09-2	
Naphthalene	**<312**	ug/L	625	312	125		10/27/17 21:40	91-20-3	
Styrene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	100-42-5	
Tetrachloroethene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	127-18-4	
Toluene	**15400**	ug/L	125	62.5	125		10/27/17 21:40	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-5/T66 **Lab ID: 40159507010** Collected: 10/25/17 13:50 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<41.3**	ug/L	125	41.3	125		10/27/17 21:40	79-01-6	
Trichlorofluoromethane	**<23.1**	ug/L	125	23.1	125		10/27/17 21:40	75-69-4	
Vinyl chloride	**<21.9**	ug/L	125	21.9	125		10/27/17 21:40	75-01-4	
cis-1,2-Dichloroethene	**<32.0**	ug/L	125	32.0	125		10/27/17 21:40	156-59-2	
cis-1,3-Dichloropropene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	10061-01-5	
m&p-Xylene	**12400**	ug/L	250	125	125		10/27/17 21:40	179601-23-1	
n-Butylbenzene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	104-51-8	
n-Propylbenzene	**167**	ug/L	125	62.5	125		10/27/17 21:40	103-65-1	
o-Xylene	**4850**	ug/L	125	62.5	125		10/27/17 21:40	95-47-6	
p-Isopropyltoluene	**<62.5**	ug/L	125	62.5	125		10/27/17 21:40	99-87-6	
sec-Butylbenzene	**<273**	ug/L	625	273	125		10/27/17 21:40	135-98-8	
tert-Butylbenzene	**<22.5**	ug/L	125	22.5	125		10/27/17 21:40	98-06-6	
trans-1,2-Dichloroethene	**<32.1**	ug/L	125	32.1	125		10/27/17 21:40	156-60-5	
trans-1,3-Dichloropropene	**<28.7**	ug/L	125	28.7	125		10/27/17 21:40	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	61-130		125		10/27/17 21:40	460-00-4	
Dibromofluoromethane (S)	112	%	67-130		125		10/27/17 21:40	1868-53-7	
Toluene-d8 (S)	89	%	70-130		125		10/27/17 21:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-6/T68 **Lab ID: 40159507011** Collected: 10/25/17 13:55 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<22.6**	ug/L	125	22.6	125		10/30/17 13:39	630-20-6	
1,1,1-Trichloroethane	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	71-55-6	
1,1,2,2-Tetrachloroethane	**<31.2**	ug/L	125	31.2	125		10/30/17 13:39	79-34-5	
1,1,2-Trichloroethane	**<24.7**	ug/L	125	24.7	125		10/30/17 13:39	79-00-5	
1,1-Dichloroethane	**<30.2**	ug/L	125	30.2	125		10/30/17 13:39	75-34-3	
1,1-Dichloroethene	**<51.3**	ug/L	125	51.3	125		10/30/17 13:39	75-35-4	
1,1-Dichloropropene	**<55.1**	ug/L	125	55.1	125		10/30/17 13:39	563-58-6	
1,2,3-Trichlorobenzene	**<267**	ug/L	625	267	125		10/30/17 13:39	87-61-6	
1,2,3-Trichloropropane	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	96-18-4	
1,2,4-Trichlorobenzene	**<276**	ug/L	625	276	125		10/30/17 13:39	120-82-1	
1,2,4-Trimethylbenzene	**2830**	ug/L	125	62.5	125		10/30/17 13:39	95-63-6	
1,2-Dibromo-3-chloropropane	**<271**	ug/L	625	271	125		10/30/17 13:39	96-12-8	
1,2-Dibromoethane (EDB)	**<22.2**	ug/L	125	22.2	125		10/30/17 13:39	106-93-4	
1,2-Dichlorobenzene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	95-50-1	
1,2-Dichloroethane	**225**	ug/L	125	21.0	125		10/30/17 13:39	107-06-2	
1,2-Dichloropropane	**<29.1**	ug/L	125	29.1	125		10/30/17 13:39	78-87-5	
1,3,5-Trimethylbenzene	**739**	ug/L	125	62.5	125		10/30/17 13:39	108-67-8	
1,3-Dichlorobenzene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	541-73-1	
1,3-Dichloropropane	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	142-28-9	
1,4-Dichlorobenzene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	106-46-7	
2,2-Dichloropropane	**<60.5**	ug/L	125	60.5	125		10/30/17 13:39	594-20-7	
2-Chlorotoluene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	95-49-8	
4-Chlorotoluene	**<26.7**	ug/L	125	26.7	125		10/30/17 13:39	106-43-4	
Benzene	**17500**	ug/L	125	62.5	125		10/30/17 13:39	71-43-2	
Bromobenzene	**<28.8**	ug/L	125	28.8	125		10/30/17 13:39	108-86-1	
Bromochloromethane	**<42.5**	ug/L	125	42.5	125		10/30/17 13:39	74-97-5	
Bromodichloromethane	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	75-27-4	
Bromoform	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	75-25-2	
Bromomethane	**<304**	ug/L	625	304	125		10/30/17 13:39	74-83-9	
Carbon tetrachloride	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	56-23-5	
Chlorobenzene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	108-90-7	
Chloroethane	**<46.8**	ug/L	125	46.8	125		10/30/17 13:39	75-00-3	
Chloroform	**<312**	ug/L	625	312	125		10/30/17 13:39	67-66-3	
Chloromethane	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	74-87-3	
Dibromochloromethane	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	124-48-1	
Dibromomethane	**<53.3**	ug/L	125	53.3	125		10/30/17 13:39	74-95-3	
Dichlorodifluoromethane	**<28.0**	ug/L	125	28.0	125		10/30/17 13:39	75-71-8	
Ethylbenzene	**576**	ug/L	125	62.5	125		10/30/17 13:39	100-41-4	
Hexachloro-1,3-butadiene	**<263**	ug/L	625	263	125		10/30/17 13:39	87-68-3	
Isopropylbenzene (Cumene)	**<17.9**	ug/L	125	17.9	125		10/30/17 13:39	98-82-8	
Methyl-tert-butyl ether	**<21.8**	ug/L	125	21.8	125		10/30/17 13:39	1634-04-4	
Methylene Chloride	**<29.1**	ug/L	125	29.1	125		10/30/17 13:39	75-09-2	
Naphthalene	**<312**	ug/L	625	312	125		10/30/17 13:39	91-20-3	
Styrene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	100-42-5	
Tetrachloroethene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	127-18-4	
Toluene	**12500**	ug/L	125	62.5	125		10/30/17 13:39	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: MW-6/T68 **Lab ID: 40159507011** Collected: 10/25/17 13:55 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Trichloroethene	**<41.3**	ug/L	125	41.3	125		10/30/17 13:39	79-01-6	
Trichlorofluoromethane	**<23.1**	ug/L	125	23.1	125		10/30/17 13:39	75-69-4	
Vinyl chloride	**<21.9**	ug/L	125	21.9	125		10/30/17 13:39	75-01-4	
cis-1,2-Dichloroethene	**<32.0**	ug/L	125	32.0	125		10/30/17 13:39	156-59-2	
cis-1,3-Dichloropropene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	10061-01-5	
m&p-Xylene	**10900**	ug/L	250	125	125		10/30/17 13:39	179601-23-1	
n-Butylbenzene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	104-51-8	
n-Propylbenzene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	103-65-1	
o-Xylene	**5670**	ug/L	125	62.5	125		10/30/17 13:39	95-47-6	
p-Isopropyltoluene	**<62.5**	ug/L	125	62.5	125		10/30/17 13:39	99-87-6	
sec-Butylbenzene	**<273**	ug/L	625	273	125		10/30/17 13:39	135-98-8	
tert-Butylbenzene	**<22.5**	ug/L	125	22.5	125		10/30/17 13:39	98-06-6	
trans-1,2-Dichloroethene	**<32.1**	ug/L	125	32.1	125		10/30/17 13:39	156-60-5	
trans-1,3-Dichloropropene	**<28.7**	ug/L	125	28.7	125		10/30/17 13:39	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	61-130		125		10/30/17 13:39	460-00-4	
Dibromofluoromethane (S)	118	%	67-130		125		10/30/17 13:39	1868-53-7	
Toluene-d8 (S)	102	%	70-130		125		10/30/17 13:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Sample: TRIP BLANK **Lab ID: 40159507032** Collected: 10/25/17 00:00 Received: 10/26/17 10:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8021 GCV Short List	Analytical Method: EPA 8021								
Benzene	**<0.40**	ug/L	1.0	0.40	1		10/31/17 16:42	71-43-2	
Ethylbenzene	**<0.39**	ug/L	1.0	0.39	1		10/31/17 16:42	100-41-4	
Methyl-tert-butyl ether	**<0.48**	ug/L	1.0	0.48	1		10/31/17 16:42	1634-04-4	
Toluene	**<0.39**	ug/L	1.0	0.39	1		10/31/17 16:42	108-88-3	
1,2,4-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		10/31/17 16:42	95-63-6	
1,3,5-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		10/31/17 16:42	108-67-8	
m&p-Xylene	**<0.80**	ug/L	2.0	0.80	1		10/31/17 16:42	179601-23-1	
o-Xylene	**<0.45**	ug/L	1.0	0.45	1		10/31/17 16:42	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	85-115		1		10/31/17 16:42	98-08-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

QC Batch: 272425 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: 8021 GCV BTEX
Associated Lab Samples: 40159507018, 40159507019, 40159507020, 40159507021, 40159507022, 40159507023, 40159507024, 40159507025, 40159507026, 40159507027, 40159507028, 40159507029, 40159507030, 40159507031, 40159507032

METHOD BLANK: 1602276 Matrix: Water
Associated Lab Samples: 40159507018, 40159507019, 40159507020, 40159507021, 40159507022, 40159507023, 40159507024, 40159507025, 40159507026, 40159507027, 40159507028, 40159507029, 40159507030, 40159507031, 40159507032

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	10/31/17 09:53	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	10/31/17 09:53	
Benzene	ug/L	<0.40	1.0	10/31/17 09:53	
Ethylbenzene	ug/L	<0.39	1.0	10/31/17 09:53	
m&p-Xylene	ug/L	<0.80	2.0	10/31/17 09:53	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	10/31/17 09:53	
o-Xylene	ug/L	<0.45	1.0	10/31/17 09:53	
Toluene	ug/L	<0.39	1.0	10/31/17 09:53	
a,a,a-Trifluorotoluene (S)	%	100	85-115	10/31/17 09:53	

LABORATORY CONTROL SAMPLE & LCSD: 1602277 1602278

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.6	20.2	103	101	85-115	2	20	
1,3,5-Trimethylbenzene	ug/L	20	19.9	19.6	100	98	85-115	2	20	
Benzene	ug/L	20	20.3	20.2	101	101	85-115	0	20	
Ethylbenzene	ug/L	20	20.2	19.9	101	99	85-115	2	20	
m&p-Xylene	ug/L	40	40.1	39.1	100	98	85-115	2	20	
Methyl-tert-butyl ether	ug/L	20	19.8	19.7	99	98	85-115	1	20	
o-Xylene	ug/L	20	20.4	19.9	102	100	85-115	3	20	
Toluene	ug/L	20	20.2	20.0	101	100	85-115	1	20	
a,a,a-Trifluorotoluene (S)	%				100	99	85-115			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603152 1603153

Parameter	Units	40159507023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	<0.42	20	20	20.9	21.8	104	109	11-200	4	20	
1,3,5-Trimethylbenzene	ug/L	<0.42	20	20	20.3	21.1	101	105	54-142	4	20	
Benzene	ug/L	0.49J	20	20	21.9	22.0	107	108	66-140	1	20	
Ethylbenzene	ug/L	<0.39	20	20	21.0	21.5	105	108	66-143	3	20	
m&p-Xylene	ug/L	<0.80	40	40	41.9	43.2	105	108	60-141	3	20	
Methyl-tert-butyl ether	ug/L	<0.48	20	20	20.6	21.2	103	106	70-129	3	20	
o-Xylene	ug/L	<0.45	20	20	21.0	21.7	105	108	68-132	3	20	
Toluene	ug/L	<0.39	20	20	21.6	21.8	108	109	76-130	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603152 1603153

Parameter	Units	40159507023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
a,a,a-Trifluorotoluene (S)	%						99	100	85-115			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

QC Batch: 272177 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40159507007, 40159507008, 40159507009, 40159507010

METHOD BLANK: 1600592 Matrix: Water
Associated Lab Samples: 40159507007, 40159507008, 40159507009, 40159507010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/27/17 12:17	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/27/17 12:17	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/27/17 12:17	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/27/17 12:17	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/27/17 12:17	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/27/17 12:17	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/27/17 12:17	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/27/17 12:17	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/27/17 12:17	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/27/17 12:17	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 12:17	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/27/17 12:17	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/27/17 12:17	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/27/17 12:17	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/27/17 12:17	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/27/17 12:17	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 12:17	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/27/17 12:17	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/27/17 12:17	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/27/17 12:17	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/27/17 12:17	
2-Chlorotoluene	ug/L	<0.50	1.0	10/27/17 12:17	
4-Chlorotoluene	ug/L	<0.21	1.0	10/27/17 12:17	
Benzene	ug/L	<0.50	1.0	10/27/17 12:17	
Bromobenzene	ug/L	<0.23	1.0	10/27/17 12:17	
Bromochloromethane	ug/L	<0.34	1.0	10/27/17 12:17	
Bromodichloromethane	ug/L	<0.50	1.0	10/27/17 12:17	
Bromoform	ug/L	<0.50	1.0	10/27/17 12:17	
Bromomethane	ug/L	<2.4	5.0	10/27/17 12:17	
Carbon tetrachloride	ug/L	<0.50	1.0	10/27/17 12:17	
Chlorobenzene	ug/L	<0.50	1.0	10/27/17 12:17	
Chloroethane	ug/L	<0.37	1.0	10/27/17 12:17	
Chloroform	ug/L	<2.5	5.0	10/27/17 12:17	
Chloromethane	ug/L	<0.50	1.0	10/27/17 12:17	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/27/17 12:17	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/27/17 12:17	
Dibromochloromethane	ug/L	<0.50	1.0	10/27/17 12:17	
Dibromomethane	ug/L	<0.43	1.0	10/27/17 12:17	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/27/17 12:17	
Ethylbenzene	ug/L	<0.50	1.0	10/27/17 12:17	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/27/17 12:17	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

METHOD BLANK: 1600592 Matrix: Water
Associated Lab Samples: 40159507007, 40159507008, 40159507009, 40159507010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/27/17 12:17	
m&p-Xylene	ug/L	<1.0	2.0	10/27/17 12:17	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/27/17 12:17	
Methylene Chloride	ug/L	<0.23	1.0	10/27/17 12:17	
n-Butylbenzene	ug/L	<0.50	1.0	10/27/17 12:17	
n-Propylbenzene	ug/L	<0.50	1.0	10/27/17 12:17	
Naphthalene	ug/L	<2.5	5.0	10/27/17 12:17	
o-Xylene	ug/L	<0.50	1.0	10/27/17 12:17	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/27/17 12:17	
sec-Butylbenzene	ug/L	<2.2	5.0	10/27/17 12:17	
Styrene	ug/L	<0.50	1.0	10/27/17 12:17	
tert-Butylbenzene	ug/L	<0.18	1.0	10/27/17 12:17	
Tetrachloroethene	ug/L	<0.50	1.0	10/27/17 12:17	
Toluene	ug/L	<0.50	1.0	10/27/17 12:17	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/27/17 12:17	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/27/17 12:17	
Trichloroethene	ug/L	<0.33	1.0	10/27/17 12:17	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/27/17 12:17	
Vinyl chloride	ug/L	<0.18	1.0	10/27/17 12:17	
4-Bromofluorobenzene (S)	%	83	61-130	10/27/17 12:17	
Dibromofluoromethane (S)	%	122	67-130	10/27/17 12:17	
Toluene-d8 (S)	%	89	70-130	10/27/17 12:17	

LABORATORY CONTROL SAMPLE: 1600593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	49.6	47.2	95	70-130	
1,1,2,2-Tetrachloroethane	ug/L	49.6	45.1	91	70-130	
1,1,2-Trichloroethane	ug/L	49.6	49.5	100	70-130	
1,1-Dichloroethane	ug/L	49.6	50.9	103	71-132	
1,1-Dichloroethene	ug/L	49.6	46.3	93	75-130	
1,2,4-Trichlorobenzene	ug/L	49.6	41.1	83	70-130	
1,2-Dibromo-3-chloropropane	ug/L	49.6	41.4	83	63-123	
1,2-Dibromoethane (EDB)	ug/L	49.6	48.7	98	70-130	
1,2-Dichlorobenzene	ug/L	49.6	46.1	93	70-130	
1,2-Dichloroethane	ug/L	49.6	40.1	81	70-131	
1,2-Dichloropropane	ug/L	49.6	52.1	105	80-120	
1,3-Dichlorobenzene	ug/L	49.6	46.8	94	70-130	
1,4-Dichlorobenzene	ug/L	49.6	46.7	94	70-130	
Benzene	ug/L	49.6	49.0	99	73-145	
Bromodichloromethane	ug/L	49.6	53.6	108	70-130	
Bromoform	ug/L	49.6	47.5	96	67-130	
Bromomethane	ug/L	50	33.2	66	26-128	
Carbon tetrachloride	ug/L	49.6	51.9	105	70-133	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

LABORATORY CONTROL SAMPLE: 1600593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	49.6	49.4	100	70-130	
Chloroethane	ug/L	50	46.2	92	58-120	
Chloroform	ug/L	49.6	50.6	102	80-121	
Chloromethane	ug/L	50	22.4	45	40-127	
cis-1,2-Dichloroethene	ug/L	49.6	54.0	109	70-130	
cis-1,3-Dichloropropene	ug/L	49.6	46.9	95	70-130	
Dibromochloromethane	ug/L	49.6	46.1	93	70-130	
Dichlorodifluoromethane	ug/L	50	36.2	72	20-135	
Ethylbenzene	ug/L	49.6	49.6	100	87-129	
Isopropylbenzene (Cumene)	ug/L	49.6	51.1	103	70-130	
m&p-Xylene	ug/L	99.2	106	107	70-130	
Methyl-tert-butyl ether	ug/L	49.6	47.4	96	66-143	
Methylene Chloride	ug/L	49.6	49.1	99	70-130	
o-Xylene	ug/L	49.6	50.8	102	70-130	
Styrene	ug/L	49.6	50.0	101	70-130	
Tetrachloroethene	ug/L	49.6	45.4	92	70-130	
Toluene	ug/L	49.6	50.4	102	82-130	
trans-1,2-Dichloroethene	ug/L	49.6	52.1	105	75-132	
trans-1,3-Dichloropropene	ug/L	49.6	42.8	86	70-130	
Trichloroethene	ug/L	49.6	53.4	108	70-130	
Trichlorofluoromethane	ug/L	50	43.5	87	76-133	
Vinyl chloride	ug/L	50	40.6	81	57-136	
4-Bromofluorobenzene (S)	%			110	61-130	
Dibromofluoromethane (S)	%			100	67-130	
Toluene-d8 (S)	%			94	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600919 1600920

Parameter	Units	40159567004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<10.0	992	992	1030	1060	103	107	70-134	3	20	
1,1,2,2-Tetrachloroethane	ug/L	<5.0	992	992	937	989	94	100	70-130	5	20	
1,1,2-Trichloroethane	ug/L	<3.9	992	992	991	1020	100	103	70-130	3	20	
1,1-Dichloroethane	ug/L	<4.8	992	992	1070	1010	108	102	71-133	5	20	
1,1-Dichloroethene	ug/L	<8.2	992	992	972	988	98	100	75-136	2	20	
1,2,4-Trichlorobenzene	ug/L	<44.2	992	992	794	868	80	88	70-130	9	20	
1,2-Dibromo-3-chloropropane	ug/L	<43.3	992	992	808	839	81	85	63-123	4	20	
1,2-Dibromoethane (EDB)	ug/L	<3.6	992	992	994	1060	100	106	70-130	6	20	
1,2-Dichlorobenzene	ug/L	<10.0	992	992	864	966	87	97	70-130	11	20	
1,2-Dichloroethane	ug/L	<3.4	992	992	950	962	96	97	70-131	1	20	
1,2-Dichloropropane	ug/L	<4.7	992	992	1070	1100	107	111	80-120	3	20	
1,3-Dichlorobenzene	ug/L	<10.0	992	992	933	959	94	97	70-130	3	20	
1,4-Dichlorobenzene	ug/L	<10.0	992	992	939	992	95	100	70-130	5	20	
Benzene	ug/L	<10.0	992	992	1110	1100	112	111	73-145	1	20	

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600919 1600920

Parameter	Units	40159567004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<10.0	992	992	1060	1130	107	114	70-130	7	20	
Bromoform	ug/L	<10.0	992	992	979	995	99	100	67-130	2	20	
Bromomethane	ug/L	<48.7	1000	1000	793	1000	79	99	26-129	23	20	R1
Carbon tetrachloride	ug/L	<10.0	992	992	1110	1130	112	114	70-134	2	20	
Chlorobenzene	ug/L	<10.0	992	992	1020	1040	102	105	70-130	2	20	
Chloroethane	ug/L	<7.5	1000	1000	1040	1250	104	125	58-120	18	20	M1
Chloroform	ug/L	<50.0	992	992	1070	1140	107	115	80-121	7	20	
Chloromethane	ug/L	<10.0	1000	1000	581	636	58	64	40-128	9	20	
cis-1,2-Dichloroethene	ug/L	<5.1	992	992	1020	1100	103	110	70-130	7	20	
cis-1,3-Dichloropropene	ug/L	<10.0	992	992	986	1030	99	104	70-130	4	20	
Dibromochloromethane	ug/L	<10.0	992	992	938	977	95	99	70-130	4	20	
Dichlorodifluoromethane	ug/L	<4.5	1000	1000	928	937	93	94	20-146	1	20	
Ethylbenzene	ug/L	<10.0	992	992	1020	1030	103	104	87-129	1	20	
Isopropylbenzene (Cumene)	ug/L	<2.9	992	992	1020	1060	103	107	70-130	3	20	
m&p-Xylene	ug/L	<20.0	1980	1980	2140	2250	108	113	70-130	5	20	
Methyl-tert-butyl ether	ug/L	<3.5	992	992	1020	997	103	101	66-143	2	20	
Methylene Chloride	ug/L	<4.7	992	992	1020	1030	102	103	70-130	1	20	
o-Xylene	ug/L	<10.0	992	992	1040	1070	105	108	70-130	3	20	
Styrene	ug/L	<10.0	992	992	1020	1070	103	108	70-130	5	20	
Tetrachloroethene	ug/L	<10.0	992	992	924	965	93	97	70-130	4	20	
Toluene	ug/L	10.1J	992	992	1020	1060	102	106	82-131	4	20	
trans-1,2-Dichloroethene	ug/L	<5.1	992	992	1050	988	106	100	75-135	6	20	
trans-1,3-Dichloropropene	ug/L	<4.6	992	992	873	920	88	93	70-130	5	20	
Trichloroethene	ug/L	4610	992	992	5600	5910	99	131	70-130	5	20	M1
Trichlorofluoromethane	ug/L	<3.7	1000	1000	978	1080	98	108	76-150	10	20	
Vinyl chloride	ug/L	<3.5	1000	1000	1010	1070	101	107	56-143	5	20	
4-Bromofluorobenzene (S)	%						108	103	61-130			
Dibromofluoromethane (S)	%						107	103	67-130			
Toluene-d8 (S)	%						97	95	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

QC Batch: 272258
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Associated Lab Samples: 40159507011

METHOD BLANK: 1601679
Matrix: Water
Associated Lab Samples: 40159507011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/30/17 08:47	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/30/17 08:47	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/30/17 08:47	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/30/17 08:47	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/30/17 08:47	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/30/17 08:47	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/30/17 08:47	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/30/17 08:47	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/30/17 08:47	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/30/17 08:47	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/30/17 08:47	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/30/17 08:47	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/30/17 08:47	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/30/17 08:47	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/30/17 08:47	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/30/17 08:47	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/30/17 08:47	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/30/17 08:47	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/30/17 08:47	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/30/17 08:47	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/30/17 08:47	
2-Chlorotoluene	ug/L	<0.50	1.0	10/30/17 08:47	
4-Chlorotoluene	ug/L	<0.21	1.0	10/30/17 08:47	
Benzene	ug/L	<0.50	1.0	10/30/17 08:47	
Bromobenzene	ug/L	<0.23	1.0	10/30/17 08:47	
Bromochloromethane	ug/L	<0.34	1.0	10/30/17 08:47	
Bromodichloromethane	ug/L	<0.50	1.0	10/30/17 08:47	
Bromoform	ug/L	<0.50	1.0	10/30/17 08:47	
Bromomethane	ug/L	<2.4	5.0	10/30/17 08:47	
Carbon tetrachloride	ug/L	<0.50	1.0	10/30/17 08:47	
Chlorobenzene	ug/L	<0.50	1.0	10/30/17 08:47	
Chloroethane	ug/L	<0.37	1.0	10/30/17 08:47	
Chloroform	ug/L	<2.5	5.0	10/30/17 08:47	
Chloromethane	ug/L	<0.50	1.0	10/30/17 08:47	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/30/17 08:47	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/30/17 08:47	
Dibromochloromethane	ug/L	<0.50	1.0	10/30/17 08:47	
Dibromomethane	ug/L	<0.43	1.0	10/30/17 08:47	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/30/17 08:47	
Ethylbenzene	ug/L	<0.50	1.0	10/30/17 08:47	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/30/17 08:47	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

METHOD BLANK: 1601679 Matrix: Water
Associated Lab Samples: 40159507011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/30/17 08:47	
m&p-Xylene	ug/L	<1.0	2.0	10/30/17 08:47	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/30/17 08:47	
Methylene Chloride	ug/L	<0.23	1.0	10/30/17 08:47	
n-Butylbenzene	ug/L	<0.50	1.0	10/30/17 08:47	
n-Propylbenzene	ug/L	<0.50	1.0	10/30/17 08:47	
Naphthalene	ug/L	<2.5	5.0	10/30/17 08:47	
o-Xylene	ug/L	<0.50	1.0	10/30/17 08:47	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/30/17 08:47	
sec-Butylbenzene	ug/L	<2.2	5.0	10/30/17 08:47	
Styrene	ug/L	<0.50	1.0	10/30/17 08:47	
tert-Butylbenzene	ug/L	<0.18	1.0	10/30/17 08:47	
Tetrachloroethene	ug/L	<0.50	1.0	10/30/17 08:47	
Toluene	ug/L	<0.50	1.0	10/30/17 08:47	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/30/17 08:47	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/30/17 08:47	
Trichloroethene	ug/L	<0.33	1.0	10/30/17 08:47	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/30/17 08:47	
Vinyl chloride	ug/L	<0.18	1.0	10/30/17 08:47	
4-Bromofluorobenzene (S)	%	89	61-130	10/30/17 08:47	
Dibromofluoromethane (S)	%	122	67-130	10/30/17 08:47	
Toluene-d8 (S)	%	100	70-130	10/30/17 08:47	

LABORATORY CONTROL SAMPLE: 1601680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	49.6	53.5	108	70-130	
1,1,2,2-Tetrachloroethane	ug/L	49.6	51.1	103	70-130	
1,1,2-Trichloroethane	ug/L	49.6	52.3	105	70-130	
1,1-Dichloroethane	ug/L	49.6	62.7	126	71-132	
1,1-Dichloroethene	ug/L	49.6	51.9	105	75-130	
1,2,4-Trichlorobenzene	ug/L	49.6	37.5	76	70-130	
1,2-Dibromo-3-chloropropane	ug/L	49.6	46.4	94	63-123	
1,2-Dibromoethane (EDB)	ug/L	49.6	48.5	98	70-130	
1,2-Dichlorobenzene	ug/L	49.6	46.1	93	70-130	
1,2-Dichloroethane	ug/L	49.6	61.0	123	70-131	
1,2-Dichloropropane	ug/L	49.6	55.0	111	80-120	
1,3-Dichlorobenzene	ug/L	49.6	44.4	89	70-130	
1,4-Dichlorobenzene	ug/L	49.6	48.9	98	70-130	
Benzene	ug/L	49.6	52.7	106	73-145	
Bromodichloromethane	ug/L	49.6	52.1	105	70-130	
Bromoform	ug/L	49.6	47.4	96	67-130	
Bromomethane	ug/L	50	47.4	95	26-128	
Carbon tetrachloride	ug/L	49.6	54.9	111	70-133	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

LABORATORY CONTROL SAMPLE: 1601680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	49.6	50.0	101	70-130	
Chloroethane	ug/L	50	58.6	117	58-120	
Chloroform	ug/L	49.6	55.3	112	80-121	
Chloromethane	ug/L	50	41.4	83	40-127	
cis-1,2-Dichloroethene	ug/L	49.6	50.0	101	70-130	
cis-1,3-Dichloropropene	ug/L	49.6	43.9	88	70-130	
Dibromochloromethane	ug/L	49.6	48.2	97	70-130	
Dichlorodifluoromethane	ug/L	50	32.3	65	20-135	
Ethylbenzene	ug/L	49.6	49.7	100	87-129	
Isopropylbenzene (Cumene)	ug/L	49.6	48.0	97	70-130	
m&p-Xylene	ug/L	99.2	99.1	100	70-130	
Methyl-tert-butyl ether	ug/L	49.6	53.7	108	66-143	
Methylene Chloride	ug/L	49.6	55.0	111	70-130	
o-Xylene	ug/L	49.6	47.3	95	70-130	
Styrene	ug/L	49.6	48.6	98	70-130	
Tetrachloroethene	ug/L	49.6	47.7	96	70-130	
Toluene	ug/L	49.6	49.2	99	82-130	
trans-1,2-Dichloroethene	ug/L	49.6	55.2	111	75-132	
trans-1,3-Dichloropropene	ug/L	49.6	42.3	85	70-130	
Trichloroethene	ug/L	49.6	50.0	101	70-130	
Trichlorofluoromethane	ug/L	50	66.7	133	76-133	
Vinyl chloride	ug/L	50	49.3	99	57-136	
4-Bromofluorobenzene (S)	%			105	61-130	
Dibromofluoromethane (S)	%			115	67-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1601755 1601756

Parameter	Units	40159632008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<2.0	198	198	216	224	109	113	70-134	4	20	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	198	198	201	213	101	108	70-130	6	20	
1,1,2-Trichloroethane	ug/L	<0.79	198	198	214	217	108	109	70-130	1	20	
1,1-Dichloroethane	ug/L	<0.97	198	198	256	267	129	135	71-133	5	20	M1
1,1-Dichloroethene	ug/L	<1.6	198	198	212	223	107	112	75-136	5	20	
1,2,4-Trichlorobenzene	ug/L	<8.8	198	198	189	192	95	97	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<8.7	198	198	203	219	103	110	63-123	7	20	
1,2-Dibromoethane (EDB)	ug/L	<0.71	198	198	197	205	99	103	70-130	4	20	
1,2-Dichlorobenzene	ug/L	<2.0	198	198	191	197	96	99	70-130	3	20	
1,2-Dichloroethane	ug/L	<0.67	198	198	248	257	125	129	70-131	3	20	
1,2-Dichloropropane	ug/L	<0.93	198	198	222	227	112	115	80-120	2	20	
1,3-Dichlorobenzene	ug/L	<2.0	198	198	190	195	96	98	70-130	3	20	
1,4-Dichlorobenzene	ug/L	<2.0	198	198	194	198	98	100	70-130	2	20	
Benzene	ug/L	165	198	198	370	381	103	109	73-145	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1601755 1601756

Parameter	Units	40159632008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromodichloromethane	ug/L	<2.0	198	198	208	212	105	107	70-130	2	20	
Bromoform	ug/L	<2.0	198	198	192	189	97	95	67-130	2	20	
Bromomethane	ug/L	<9.7	200	200	210	229	105	114	26-129	8	20	
Carbon tetrachloride	ug/L	<2.0	198	198	222	228	112	115	70-134	3	20	
Chlorobenzene	ug/L	<2.0	198	198	202	202	102	102	70-130	0	20	
Chloroethane	ug/L	<1.5	200	200	255	254	128	127	58-120	1	20	M1
Chloroform	ug/L	<10.0	198	198	224	232	113	117	80-121	3	20	
Chloromethane	ug/L	<2.0	200	200	175	195	88	98	40-128	11	20	
cis-1,2-Dichloroethene	ug/L	<1.0	198	198	200	210	101	106	70-130	5	20	
cis-1,3-Dichloropropene	ug/L	<2.0	198	198	179	191	90	96	70-130	7	20	
Dibromochloromethane	ug/L	<2.0	198	198	195	192	98	97	70-130	2	20	
Dichlorodifluoromethane	ug/L	<0.90	200	200	122	133	61	67	20-146	9	20	
Ethylbenzene	ug/L	377	198	198	594	579	110	102	87-129	3	20	
Isopropylbenzene (Cumene)	ug/L	34.7	198	198	241	242	104	105	70-130	0	20	
m&p-Xylene	ug/L	7.7J	397	397	406	412	100	102	70-130	1	20	
Methyl-tert-butyl ether	ug/L	<0.70	198	198	219	236	110	119	66-143	7	20	
Methylene Chloride	ug/L	<0.93	198	198	224	237	113	119	70-130	6	20	
o-Xylene	ug/L	66.9	198	198	270	269	102	102	70-130	0	20	
Styrene	ug/L	<2.0	198	198	199	199	100	100	70-130	0	20	
Tetrachloroethene	ug/L	<2.0	198	198	192	193	97	97	70-130	0	20	
Toluene	ug/L	<2.0	198	198	201	202	100	101	82-131	1	20	
trans-1,2-Dichloroethene	ug/L	<1.0	198	198	224	235	113	119	75-135	5	20	
trans-1,3-Dichloropropene	ug/L	<0.92	198	198	175	183	88	92	70-130	4	20	
Trichloroethene	ug/L	<1.3	198	198	202	208	102	105	70-130	3	20	
Trichlorofluoromethane	ug/L	<0.74	200	200	266	277	133	139	76-150	4	20	
Vinyl chloride	ug/L	<0.70	200	200	202	223	101	112	56-143	10	20	
4-Bromofluorobenzene (S)	%						103	102	61-130			
Dibromofluoromethane (S)	%						114	114	67-130			
Toluene-d8 (S)	%						103	102	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

QC Batch: 272086 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40159507001, 40159507002

METHOD BLANK: 1600210 Matrix: Water
Associated Lab Samples: 40159507001, 40159507002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 08:36	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 08:36	
Benzene	ug/L	<0.50	1.0	10/27/17 08:36	
Ethylbenzene	ug/L	<0.50	1.0	10/27/17 08:36	
m&p-Xylene	ug/L	<1.0	2.0	10/27/17 08:36	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/27/17 08:36	
o-Xylene	ug/L	<0.50	1.0	10/27/17 08:36	
Toluene	ug/L	<0.50	1.0	10/27/17 08:36	
4-Bromofluorobenzene (S)	%	91	61-130	10/27/17 08:36	
Dibromofluoromethane (S)	%	98	67-130	10/27/17 08:36	
Toluene-d8 (S)	%	101	70-130	10/27/17 08:36	

LABORATORY CONTROL SAMPLE: 1600211

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	46.5	94	73-145	
Ethylbenzene	ug/L	49.6	53.2	107	87-129	
m&p-Xylene	ug/L	99.2	107	108	70-130	
Methyl-tert-butyl ether	ug/L	49.6	50.5	102	66-143	
o-Xylene	ug/L	49.6	52.9	107	70-130	
Toluene	ug/L	49.6	49.7	100	82-130	
4-Bromofluorobenzene (S)	%			98	61-130	
Dibromofluoromethane (S)	%			103	67-130	
Toluene-d8 (S)	%			97	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

QC Batch: 272089 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40159507014, 40159507015, 40159507016, 40159507017

METHOD BLANK: 1600220 Matrix: Water
Associated Lab Samples: 40159507014, 40159507015, 40159507016, 40159507017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 09:09	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 09:09	
Benzene	ug/L	<0.50	1.0	10/27/17 09:09	
Ethylbenzene	ug/L	<0.50	1.0	10/27/17 09:09	
m&p-Xylene	ug/L	<1.0	2.0	10/27/17 09:09	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/27/17 09:09	
Naphthalene	ug/L	<2.5	5.0	10/27/17 09:09	
o-Xylene	ug/L	<0.50	1.0	10/27/17 09:09	
Toluene	ug/L	<0.50	1.0	10/27/17 09:09	
4-Bromofluorobenzene (S)	%	93	61-130	10/27/17 09:09	
Dibromofluoromethane (S)	%	109	67-130	10/27/17 09:09	
Toluene-d8 (S)	%	102	70-130	10/27/17 09:09	

LABORATORY CONTROL SAMPLE: 1600221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	53.4	108	73-145	
Ethylbenzene	ug/L	49.6	50.3	101	87-129	
m&p-Xylene	ug/L	99.2	99.4	100	70-130	
Methyl-tert-butyl ether	ug/L	49.6	44.7	90	66-143	
o-Xylene	ug/L	49.6	50.0	101	70-130	
Toluene	ug/L	49.6	50.3	101	82-130	
4-Bromofluorobenzene (S)	%			102	61-130	
Dibromofluoromethane (S)	%			100	67-130	
Toluene-d8 (S)	%			108	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600424 1600425

Parameter	Units	40159544001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	0.46 mg/L	496	496	947	991	99	107	73-145	5	20	
Ethylbenzene	ug/L	0.46 mg/L	496	496	971	980	103	105	87-129	1	20	
m&p-Xylene	ug/L	2470	992	992	3270	3410	80	94	70-130	4	20	
Methyl-tert-butyl ether	ug/L	<0.0017 mg/L	496	496	476	456	96	92	66-143	4	20	
o-Xylene	ug/L	1020	496	496	1500	1530	96	103	70-130	2	20	
Toluene	ug/L	2.3 mg/L	496	496	2640	2610	78	72	82-131	1	20	M1
4-Bromofluorobenzene (S)	%						109	107	61-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600424 1600425

Parameter	Units	40159544001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%						96	97	67-130			
Toluene-d8 (S)	%						109	106	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

QC Batch: 272105 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40159507005, 40159507006, 40159507012

METHOD BLANK: 1600270 Matrix: Water
Associated Lab Samples: 40159507005, 40159507006, 40159507012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 08:18	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/27/17 08:18	
Benzene	ug/L	<0.50	1.0	10/27/17 08:18	
Ethylbenzene	ug/L	<0.50	1.0	10/27/17 08:18	
m&p-Xylene	ug/L	<1.0	2.0	10/27/17 08:18	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/27/17 08:18	
Naphthalene	ug/L	<2.5	5.0	10/27/17 08:18	
o-Xylene	ug/L	<0.50	1.0	10/27/17 08:18	
Toluene	ug/L	<0.50	1.0	10/27/17 08:18	
4-Bromofluorobenzene (S)	%	90	61-130	10/27/17 08:18	
Dibromofluoromethane (S)	%	102	67-130	10/27/17 08:18	
Toluene-d8 (S)	%	97	70-130	10/27/17 08:18	

LABORATORY CONTROL SAMPLE: 1600271

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	51.9	105	73-145	
Ethylbenzene	ug/L	49.6	54.0	109	87-129	
m&p-Xylene	ug/L	99.2	111	112	70-130	
Methyl-tert-butyl ether	ug/L	49.6	51.4	104	66-143	
o-Xylene	ug/L	49.6	54.5	110	70-130	
Toluene	ug/L	49.6	52.9	107	82-130	
4-Bromofluorobenzene (S)	%			98	61-130	
Dibromofluoromethane (S)	%			102	67-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600272 1600273

Parameter	Units	40159524001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	49.6	49.6	54.1	56.7	109	114	73-145	5	20	
Ethylbenzene	ug/L	<0.50	49.6	49.6	55.0	58.2	111	117	87-129	6	20	
m&p-Xylene	ug/L	<1.0	99.2	99.2	113	119	114	119	70-130	5	20	
Methyl-tert-butyl ether	ug/L	<0.17	49.6	49.6	54.6	55.3	110	111	66-143	1	20	
o-Xylene	ug/L	<0.50	49.6	49.6	55.2	58.0	111	117	70-130	5	20	
Toluene	ug/L	<0.50	49.6	49.6	53.1	56.5	107	114	82-131	6	20	
4-Bromofluorobenzene (S)	%						97	100	61-130			
Dibromofluoromethane (S)	%						104	106	67-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600272 1600273

Parameter	Units	40159524001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						94	96	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

QC Batch: 272282 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40159507003, 40159507004, 40159507013

METHOD BLANK: 1601757 Matrix: Water
Associated Lab Samples: 40159507003, 40159507004, 40159507013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/30/17 12:25	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/30/17 12:25	
Benzene	ug/L	<0.50	1.0	10/30/17 12:25	
Ethylbenzene	ug/L	<0.50	1.0	10/30/17 12:25	
m&p-Xylene	ug/L	<1.0	2.0	10/30/17 12:25	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/30/17 12:25	
Naphthalene	ug/L	<2.5	5.0	10/30/17 12:25	
o-Xylene	ug/L	<0.50	1.0	10/30/17 12:25	
Toluene	ug/L	<0.50	1.0	10/30/17 12:25	
4-Bromofluorobenzene (S)	%	89	61-130	10/30/17 12:25	
Dibromofluoromethane (S)	%	99	67-130	10/30/17 12:25	
Toluene-d8 (S)	%	100	70-130	10/30/17 12:25	

LABORATORY CONTROL SAMPLE: 1601758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	49.6	46.5	94	73-145	
Ethylbenzene	ug/L	49.6	55.1	111	87-129	
m&p-Xylene	ug/L	99.2	106	107	70-130	
Methyl-tert-butyl ether	ug/L	49.6	47.6	96	66-143	
o-Xylene	ug/L	49.6	54.7	110	70-130	
Toluene	ug/L	49.6	51.5	104	82-130	
4-Bromofluorobenzene (S)	%			101	61-130	
Dibromofluoromethane (S)	%			101	67-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1601962 1601963

Parameter	Units	40159608021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<1.0	49.6	49.6	47.5	47.9	96	97	73-145	1	20	
Ethylbenzene	ug/L	<1.0	49.6	49.6	56.6	56.9	114	115	87-129	1	20	
m&p-Xylene	ug/L	<2.0	99.2	99.2	118	115	119	116	70-130	3	20	
Methyl-tert-butyl ether	ug/L	<1.0	49.6	49.6	51.8	51.8	104	104	66-143	0	20	
o-Xylene	ug/L	<1.0	49.6	49.6	57.8	55.9	116	113	70-130	3	20	
Toluene	ug/L	<1.0	49.6	49.6	51.8	50.6	104	102	82-131	2	20	
4-Bromofluorobenzene (S)	%						99	104	61-130			
Dibromofluoromethane (S)	%						102	101	67-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1601962 1601963

Parameter	Units	40159608021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						97	97	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 34625.003 CALUMET SUPERIOR
Pace Project No.: 40159507

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40159507018	**LRS-1**	EPA 8021	272425		
40159507019	**LRS-2**	EPA 8021	272425		
40159507020	**LRS-3**	EPA 8021	272425		
40159507021	**LRS-4**	EPA 8021	272425		
40159507022	**LRS-6**	EPA 8021	272425		
40159507023	**LRS-7**	EPA 8021	272425		
40159507024	**MW-1/FL**	EPA 8021	272425		
40159507025	**MW-2/FL**	EPA 8021	272425		
40159507026	**MW-3/FL**	EPA 8021	272425		
40159507027	**MW-9/FL**	EPA 8021	272425		
40159507028	**MW-10/FL**	EPA 8021	272425		
40159507029	**MW-11/FL**	EPA 8021	272425		
40159507030	**MW-13/FL**	EPA 8021	272425		
40159507031	**MW-14/FL**	EPA 8021	272425		
40159507032	**TRIP BLANK**	EPA 8021	272425		
40159507007	**MW-1/T68**	EPA 8260	272177		
40159507008	**MW-2/T68**	EPA 8260	272177		
40159507009	**MW-4/T68**	EPA 8260	272177		
40159507010	**MW-5/T66**	EPA 8260	272177		
40159507011	**MW-6/T68**	EPA 8260	272258		
40159507001	**MW-1/T40**	EPA 8260	272086		
40159507002	**MW-4/T40**	EPA 8260	272086		
40159507003	**MW-5/T40**	EPA 8260	272282		
40159507004	**MW-6/T40**	EPA 8260	272282		
40159507005	**MW-7/T40**	EPA 8260	272105		
40159507006	**TS-1/T40**	EPA 8260	272105		
40159507012	**MW-1R/T70**	EPA 8260	272105		
40159507013	**MW-2R/T70**	EPA 8260	272282		
40159507014	**MW-3/T70**	EPA 8260	272089		
40159507015	**MW-4/T70**	EPA 8260	272089		
40159507016	**MW-5/T70**	EPA 8260	272089		
40159507017	**MW-6/T70**	EPA 8260	272089		

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

40159507

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	Cannett Fleming
Branch/Location:	Madison, WI
Project Contact:	Cliff Wright
Phone:	608 836 1500
Project Number:	34625.003
Project Name:	Calumet Superior
Project State:	WI
Sampled By (Print):	Marcus Mussey
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	8025 Excelsior dr Madison, WI 53717
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, W = Water, B = Biota, DW = Drinking Water, C = Charcoal, GW = Ground Water, O = Oil, SW = Surface Water, S = Soil, WW = Waste Water, SI = Sludge, WP = Wipe

FILTERED? (YES/NO) — Y/N: N N N
PRESERVATION (CODE)* — Pick Letter: B B B

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: PVOCs 8260	VOCs 8260	PVOC/Naph 8260	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)
001	MW-1/T40	10/25	1320	GW	X				3-40mlVB
002	MW-4/T40		1310						
003	MW-5/T40		1250						
004	MW-6/T40		1300						
005	MW-7/T40		1305						
006	TS-1/T40		1315						
007	MW-1/T68		1340			X			
008	MW-2/T68		1345						
009	MW-4/T68		1330						
010	MW-5/T66		1350						
011	MW-6/T68		1355						
012	MW-1R/T70		1425				X		
013	MW-2R/T70		1415				X		

Profile #

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	1630	Fedex	
Fedex	10/26/17 1040	Ollie Pace	10/26/17 1040

PACE Project No. 40159507

Receipt Temp = RO | °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal
Present / ~~Not Present~~
Intact / ~~Not Intact~~

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 **WI:** 920-469-2436

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CHAIN OF CUSTODY

401595 07

(Please Print Clearly)	
Company Name:	
Branch/Location:	
Project Contact:	See page 1
Phone:	
Project Number:	
Project Name:	
Project State:	
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, W = Water, B = Biota, DW = Drinking Water, C = Charcoal, GW = Ground Water, O = Oil, SW = Surface Water, S = Soil, WW = Waste Water, SI = Sludge, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PVOC/Naph. 8260	Analyses Requested: PVOC 8021	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
014	MW-3/T70	10/25	1405	GW	N	B	X			3-40mlvB	
015	MW-4/T70	"	1400	"							
016	MW-5/T70	"	1410	"							
017	MW-6/T70	"	1420	"							
018	LRS-1	"	1100	"				X			
019	LRS-2	"	1045	"							
020	LRS-3	"	1120	"							
021	LRS-4	"	1125	"							
022	LRS-6	"	1110	"							
023	LRS-7	"	1035	"							
024	MW-1/FL	"	1010	"							
025	MW-2/FL	"	1005	"							
026	MW-3/FL	"	100	"							

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	1630		
Fedex	10/26/17 1040	[signature]	10/26/17 1040

PACE Project No. 401595 07

Receipt Temp = 2.0 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present

Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 **WI:** 920-469-2436

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CHAIN OF CUSTODY

40159507

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	
Branch/Location:	Eden
Project Contact:	
Phone:	Pace
Project Number:	
Project Name:	1
Project State:	
Sampled By (Print):	
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	
CLIENT COMMENTS	LAB COMMENTS (Lab Use Only) / Profile #

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

FILTERED? (YES/NO) Y/N: N
PRESERVATION (CODE)* Pick Letter: B
Analyses Requested: PVOCs 8021

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX
027	MW-9/~~EW~~ FL	10/25	1130	GW
028	MW-10/~~EW~~ FL		1135	
029	MW-11/FL		1015	
030	MW-13/FL		1020	
031	MW-14/FL		1025	
032	Trip Blank			

LAB COMMENTS: 3-40mlvB → 2-40mlvB

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	1630		
Fedex	10/26/17 1040		

PACE Project No.: 40159507
Receipt Temp = R0J °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Project #: **WO# : 40159507**

40159507

Client Name: Garnett Fleming

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: _____

Tracking #: 812058142916

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used NA **Type of Ice:** (Wet) Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: RD1 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 10/26/17
Initials: DAB

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3. no date DAB 10/26/17
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4. page 1 only DAB 10/26/17
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☐Yes	☑No	☐N/A	8. NO MS/MSD DAB 10/26/17
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC: 10-26-17 KR	☑Yes	☑No	☐N/A	12. 026 time 1000
-Includes date/time/ID/Analysis Matrix: W				10-26-17 KR
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes	☐No		Initial when completed / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14.
Trip Blank Present:	☑Yes	☐No	☐N/A	15.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased): 387				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: RMR for DM **Date:** 10/26/17