



Gannett Fleming

Excellence Delivered *As Promised*

November 12, 2018

File #34265.003

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

Re: 2018 Remediation Progress Report for Tank 40 Release Site
Superior Refining Company LLC Refinery, Superior, WI
WDNR BRRTS# 02-16-222712 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 #40 release site (WDNR BRRTS# 02-16-222712) at the SRC refinery in Superior for 2018. In addition, the report includes background information on the refinery and the subject site's remedial history.

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 40 Basin Information

Figure 1 is a site location map showing Tank 40, the refinery, its approximate property boundary, and the area around the refinery and was prepared using the most recent USGS topographic map. The Tank 40 basin is in the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ 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 40 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.

L:\CLERICAL\projects\34200\34265.003\reports\ccw_R34265_023_T40\remediation progress report.doc

Gannett Fleming, Inc.

8025 Excelsior Drive • Madison, WI 53717-1900

t: 608-836-1500 • f: 608-831-3337

www.gannettfleming.com

Mr. John Sager
Wisconsin Department of Natural Resources
November 12, 2018

-2-

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. 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.

October 1998 Release and August 2003 Interceptor Trench "Operating" History

On October 17, 1998, approximately 2,300 gallons of straight-run gasoline were released in the Tank 40 basin. Murphy notified the WDNR of the release in a December 2, 1998, letter. At the time of the spill, the diked area was full of storm water, and the released gasoline floated on top of the storm water within the diked area. A vacuum truck was used to recover storm water and residual product from the diked area. These liquids were placed in Murphy's No. 1 American Petroleum Institute (API) oil/water separator for recovery of the gasoline. As a safety precaution, the affected area was washed with water, and the wash water was also removed with a vacuum truck and run through the API separator. In November 1998, Twin Ports Testing of Superior collected soil samples at Geoprobe boring locations GP-1 through GP-7, as shown on Figure 2.

As described in previously submitted status reports to the WDNR for the Tank 40 release site, measurable product has been encountered in this basin on multiple occasions. Free product was initially encountered in the basin in July 2000. Since then, the monitoring network in the Tank 40 basin (monitoring wells MW-1/T40 through MW-7/T40, monitoring points MP-1/T40 through MP-3/T40, and test pit sump TP-1/T40) and an interceptor trench with a recovery sump (TS-1/T40) have been routinely monitored for the presence of product, and if present, product was removed and treated in the refinery's No. 1 API oil/water separator/wastewater treatment plant (WWTP). Figure 2 is a site plan showing the layout of the monitoring well network.

As reported in GF's June 2004 site status update, based on the consistent and relatively widespread presence of product in the basin between July 2000 and July 2003, in August 2003 Gannett Fleming personnel supervised the installation of a 100-foot-long interceptor trench near

Mr. John Sager
Wisconsin Department of Natural Resources
November 12, 2018

-3-

the downgradient edge of the area with apparent free product. Each end of the 8- to 8.5-foot-deep trench slopes toward its middle, and a 6-inch-diameter sump (TS-1/T40) was installed in the middle of the trench. Figure 2 shows the location of the recovery trench and sump. Since the native clay surrounding this trench has a low permeability, the interceptor trench fills relatively slowly.

Between June 2004 and April 2010, the trench (TS-1/T40) was periodically pumped, and approximately 187,000 gallons of gasoline-contaminated groundwater were recovered. The pumped water was treated in the refinery's No. 1 API separator/WWTP. The goal was to keep the water level in the trench relatively low to promote the flow of petroleum-contaminated groundwater and product into the trench. Since the trench was installed in August 2003, no measurable product, only petroleum-contaminated groundwater, has accumulated in TS-1/T40. As a result, no further pumping of the trench is currently planned unless product accumulates in TS-1/T40, as described in the Future Work section of this report.

Remedial and Monitoring Activities in 2018

Since the last remediation progress report was submitted to the WDNR on February 21, 2018, work in the Tank 40 basin has included monitoring on-site wells for free product and collecting groundwater samples from select locations.

During the reporting period, no measurable product was observed. 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 40 basin.

Groundwater samples were collected at the site during the reporting period in June and October 2018. 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/T40, MW-2/T40, and MW-4/T40 through MW-7/T40 and trench sump TS-1/T40 were routinely sampled. Gannett Fleming used new one-time-use polyethylene bailers 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 petroleum volatile organic compounds (PVOCs).

Mr. John Sager
Wisconsin Department of Natural Resources
November 12, 2018

-4-

Table 2 presents the analytical results of the groundwater samples in micrograms per liter ($\mu\text{g}/\ell$). As shown in Table 2, at least one PVOC compound has been present at a concentration at or above its applicable NR 140 enforcement standard (ES) in each well and sump historically. However, because of the removal of accumulated free product over the years, PVOC 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-1/T40, MW-4/T40, MW-5/T40, MW-6/T40, and MW-7/T40. Note that the plotted data for each well only includes the time period since a) free product was most recently removed and b) samples were collected at least once a year. In addition, the best-fit exponential trend lines were generated using Excel. As shown on Figure 3, dissolved-phase benzene concentrations in the wells have followed a general downward trend. Attachment A provides copies of the laboratory reports and chain of custody records for the groundwater samples collected in 2018.

Historically, a groundwater contour map for the October 1998 Tank 40 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 40 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., between April/May and October/November), SRG's work plan for 2019 follows:

- Continue to manually bail product from the six monitoring wells (MW-1/T40, MW-2/T40, and MW-4/T40 through MW-7/T40), three monitoring points (MP-1/T40 through MP-3/T40), and the test pit sump (TP-1/T40) when free product is present.
- If product is observed, then check the wells, points, and test pit sump monthly. If product is not observed, then check the wells, points, and sump quarterly. The purged product/water will continue to be treated in the refinery's No. 1 API oil/water separator/WWTP.

Gannett Fleming

Mr. John Sager
Wisconsin Department of Natural Resources
November 12, 2018

-5-

- Continue to gauge TS-1/T40, along with the monitoring wells, etc. If product is observed in TS-1/T40, then pump the recovery trench using an on-site vacuum truck. The pumped product/water would be treated in the refinery's No. 1 API oil/water separator/WWTP.
- Collect groundwater samples from those monitoring wells (and TS-1/T40) without product biannually, and have the samples analyzed for PVOCs by a Wisconsin-certified laboratory using EPA Method 8021. Each monitoring well (but not TS-1/T40) will be purged dry twice and allowed to recover, prior to the collection of the samples.
- Report the results of the 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 2020.

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)

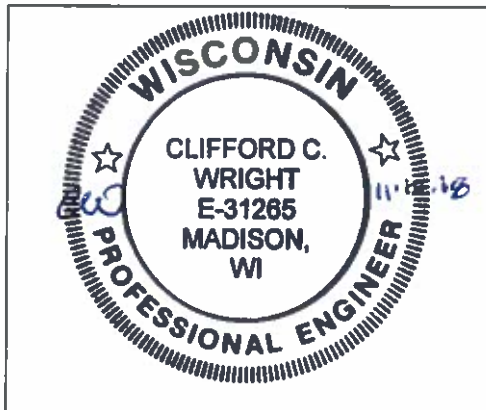
CERTIFICATION

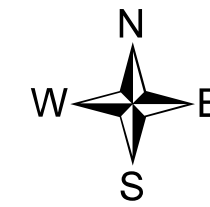
Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form for sites with any ongoing active remediation, monitoring, or an investigation. Other persons may sign this form for sites with no response activities during the six month reporting period.

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 <i>Clifford C. Wright</i>	Title <i>Project Engineer</i>
Signature <i>Clifford C. Wright</i>	Date <i>11-12-18</i>

Professional Seal, if applicable:



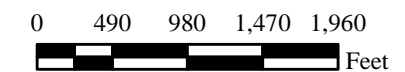


Legend

----- Approx. Property Boundary

Note:

Topographic map obtained from ArcGIS USA Topo Map service. Service includes seamless, scanned images of USGS topographic maps.



Site Location Map

SUPERIOR REFINING COMPANY LLC REFINERY
SUPERIOR, WISCONSIN

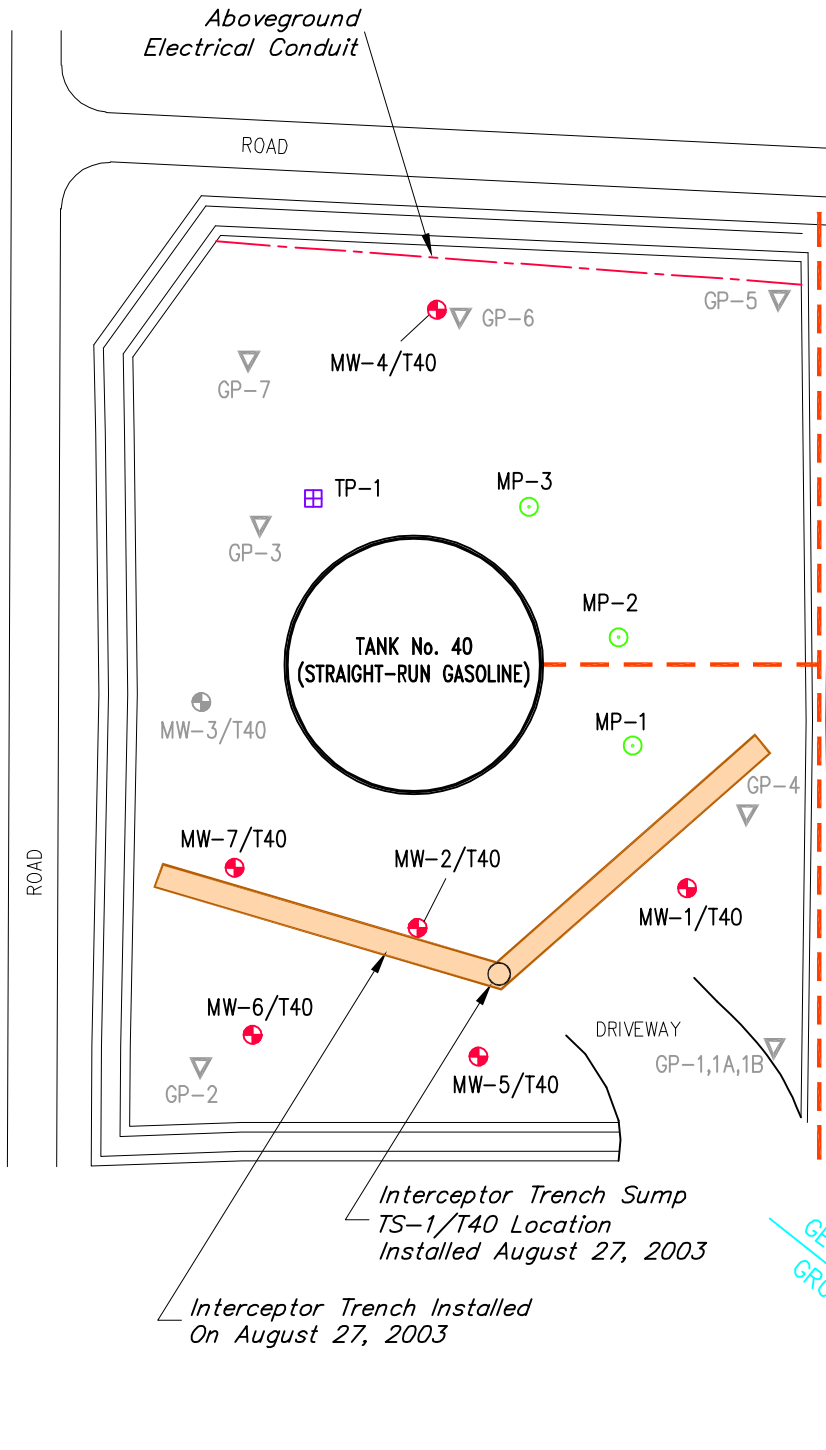
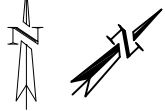


Gannett Fleming

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison WI 53717-1900
(608) 836-1500
www.gannettfleming.com

Project No.	34265.003	Date	11/07/2018	Figure	1
-------------	-----------	------	------------	--------	---

Copyright © 2013 National Geographic Society, i-cubed



LEGEND

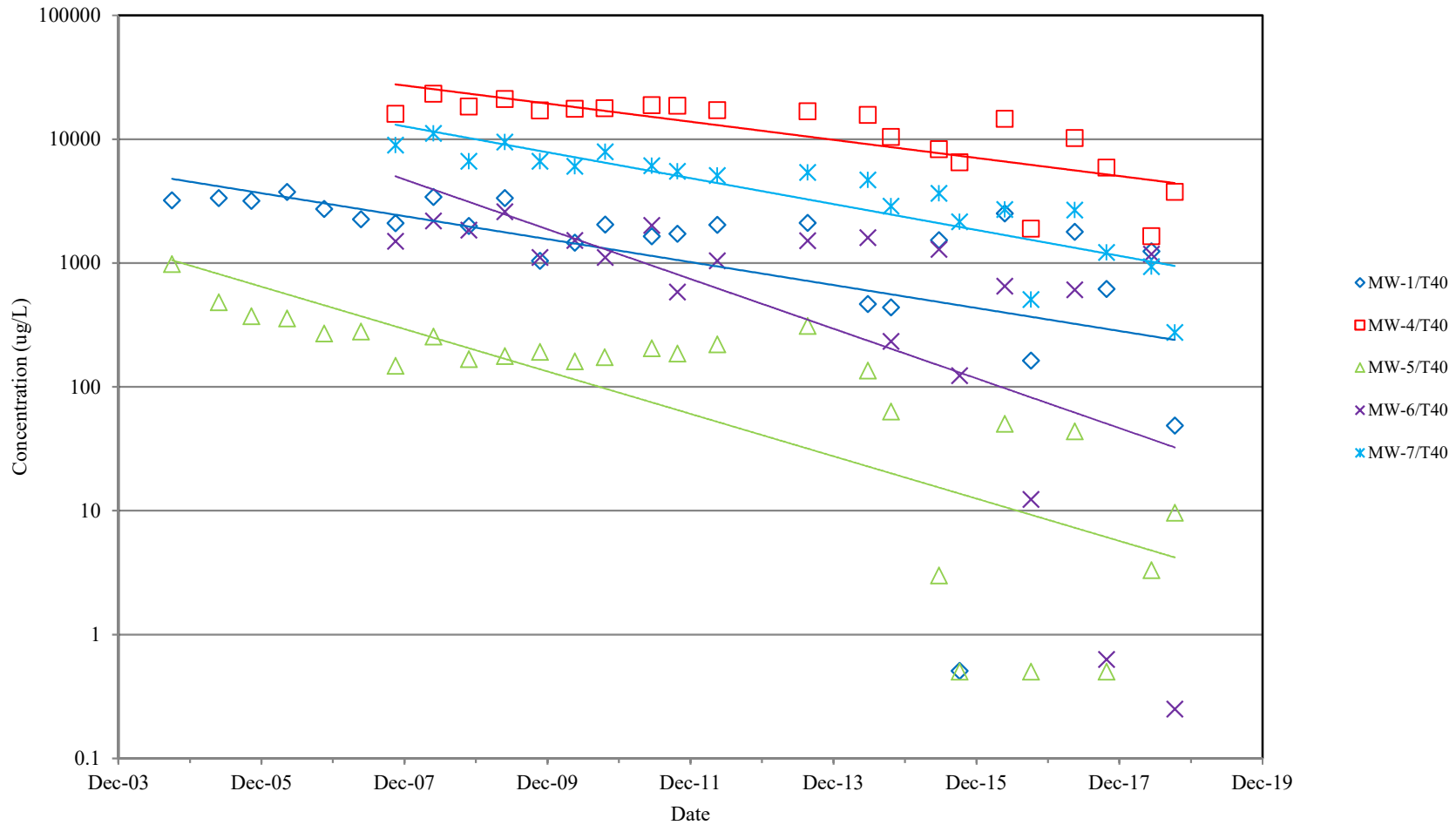
- Monitoring Point (July 2001)
- ⊠ Test Pit Sump (July 2000)
- ⊕ Monitoring Well
- ▽ Twin Ports Geoprobe Soil Sample Location (November 1998)
- Piping Run

NOTES:

1. Site Not Surveyed, Locations Are Approximate And Based On Field Measurements.
2. Each Monitoring Point Is 7 Feet Deep And Consists Of 4"Ø PVC With 3 Feet Of Slotted PVC Screen.
3. The Test Pit Sump (TP-1) Is 8 Feet Deep And Consists Of 6"Ø PVC With 4 Feet Of Slotted PVC Screen.
4. The Interceptor Sump Is 9.5' Deep And Consists Of 5"Ø PVC With 5' Of Slotted PVC.
5. Shaded Well And Geoprobe Boring Locations Have Been Abandoned.



**OCTOBER 1998 TANK 40
RELEASE SITE PLAN
SUPERIOR REFINING COMPANY LLC
SUPERIOR, WISCONSIN**



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

BENZENE GROUNDWATER CONCENTRATIONS TANK 40 BASIN

SUPERIOR REFINING COMPANY LLC
SUPERIOR, WISCONSIN

SUPERIOR REFINING COMPANY LLC
SUPERIOR, WISCONSIN

TABLE 1

2018 FLUID LEVEL MONITORING DATA FOR THE OCTOBER 1998 TANK 40 RELEASE SITE⁽¹⁾

Date	MP-1/T40		MP-2/T40		MP-3/T40		MW-1/T40		MW-2/T40		MW-4/T40		MW-5/T40		MW-6/T40		MW-7/T40		TP-1/T40		TS-1/T40		Comments/ Footnotes
	DTP	DTW	DTP	DTW	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)																						
05/23/18	--	5.04	--	6.19	--	7.32	--	4.67	--	3.01	--	5.44	--	4.75	--	4.09	--	3.83	--	5.13	--	4.12	(2)
06/07/18	--	4.19	--	4.82	--	5.80	--	3.48	--	2.65	--	3.84	--	2.60	--	3.15	--	2.76	--	3.83	--	2.58	(2)
06/12/18	--	4.08	--	4.88	--	5.85	--	3.45	--	5.35	--	3.90	--	3.31	--	3.23	--	2.82	--	nm	--	2.63	Sampled
09/11/18	--	4.69	--	5.68	--	6.64	--	4.42	--	3.47	--	4.99	--	3.45	--	3.94	--	3.50	--	5.00	--	3.58	(2)
09/24/18	--	4.75	--	5.41	--	6.52	--	4.10	--	6.23	--	4.66	--	3.39	--	3.75	--	3.25	--	4.74	--	3.16	(2)
10/09/18	--	4.77	--	5.36	--	6.34	--	3.75	--	6.34	--	4.48	--	3.29	--	3.57	--	3.12	--	nm	--	2.90	Sampled

NOTES:

DTP = Depth to product.

DTW = Depth to water.

nm = Not measured.

-- = Not applicable/no free product.

FOOTNOTES:

(1) Table does not include data from MW-5/T40 when that well was gauged for Environmental Repair Program (ERP) monitoring.

(2) Bailed the monitoring wells (MWs) dry in preparation for sampling.

SUPERIOR REFINING COMPANY LLC
SUPERIOR, WISCONSIN

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR GRO AND DETECTED VOCs - OCTOBER 1998 TANK 40 RELEASE SITE

Well ID	Substance									
	Date	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Isopropylbenzene	n-Propylbenzene
NR 140 PAL	NS	0.5	140	160	400	96	12	NS	NS	
NR 140 ES	NS	5	700	800	2,000	480	60	NS	NS	
MW-1/T40										
10/06/99	8,180	445	206	961	2,850	525	<6.0	36.2	<15.0	
12/09/99	8,860	433	293	402	3,170	2,677	<6.0	na	na	
03/09/00	15,000	1,700	720	1,400	5,800	1,170	<16	na	na	
06/14/00	21,000	2,400	570	2,100	6,900	1,620	<24	na	na	
09/12/00	32,000	2,100	850	1,000	5,500	1,180	<24	na	na	
03/21/01	20,000	2,700	890	860	7,100	1,520	<24	na	na	
03/06/02	10,000	2,000	500	140	5,200	1,200	<10	na	na	
09/12/02	14,000	1,600	710	32	4,210	1,170	<4.3	na	na	
03/12/03	FP	FP	FP	FP	FP	FP	FP	FP	FP	
09/30/04	23,000	3,200	1,400	2,800	6,700	1,280	<9.0	na	na	
05/26/05	25,100	3,340	1,600	2,620	8,370	1,705	<30.0	na	na	
11/09/05	18,200	3,170	1,350	1,780	8,560	1,605	<30.0	na	na	
05/10/06	20,500	3,750	1,290	1,500	8,190	1,674	<15.0	na	na	
11/16/06	25,800	2,730	1,670	2,200	7,900	1,557	<30.0	na	na	
05/23/07	16,700	2,260	706	756	5,350	1,385	<15.0	na	na	
11/15/07	22,500	2,100	1,220	621	6,740	1,897	<60.0	na	na	
05/27/08	22,400	3,410	1,270	763	7,700	1,614	<60.0	na	na	
11/24/08	16,600	1,990	882	401	5,760	1,543	<30.0	na	na	
05/27/09	19,700	3,340	1,510	361	7,870	1,703	<30.0	na	na	
11/23/09	8,720	1,040	377	66.0	3,264	791	<6.00	na	na	
05/19/10	10,400	1,460	642	44.8 J	3,644	845	<15.0	na	na	
10/21/10	15,000	2,040	817	23.8 J	5,391	1,396	<15.0	na	na	
06/16/11	na	1,640	742	20.0 U	4,067	837	<25.0	na	na	
10/25/11	na	1,720	684	20.0 U	4,646	1,198	<25.0	na	na	
05/16/12	na	2,030	868	13.4 U	5,088	1,377	<12.2	na	na	
08/21/13	na	2,110	1,050	8.8 U	5,499	1,769	<9.9	na	na	
06/24/14	na	466	83.9	5.0 U	1,797	779	<1.7	na	na	
10/21/14	na	438	6.1	2.5 U	2,406	901	<0.87	na	na	
06/23/15	na	1,530	480	5.0 U	3,996	1,105	<1.7	na	na	
10/06/15	na	0.51 J	0.79 J	1.4	8.51 J	123.0	<0.17	na	na	
05/24/16	na	2,520	1,030	10.0 U	5,744	1,189	<3.5	na	na	
10/05/16	na	163	7.5 J	5.0 U	1,003.1	312.9	<1.7	na	na	
05/16/17	na	1,790	815	12.5 U	5,250	1,252	<4.4	na	na	
10/25/17	na	616	27.0	12.5 U	2,094.3	569	<4.4	na	na	
06/12/18	na	1,240	405	10.0 U	3,616.2	1,106	<3.5	na	na	
10/09/18	na	48.7	0.79 J	0.86 J	374.3	183.9	<1.2	na	na	
MW-2/T40										
03/06/02	NI	NI	NI	NI	NI	NI	NI	NI	NI	
09/12/02	FP	FP	FP	FP	FP	FP	FP	FP	FP	
03/12/03	FP	FP	FP	FP	FP	FP	FP	FP	FP	
09/30/04	FP	FP	FP	FP	FP	FP	FP	FP	FP	
05/26/05	FP	FP	FP	FP	FP	FP	FP	FP	FP	
11/09/05	FP	FP	FP	FP	FP	FP	FP	FP	FP	
11/16/06	FP	FP	FP	FP	FP	FP	FP	FP	FP	

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR GRO AND DETECTED VOCs - OCTOBER 1998 TANK 40 RELEASE SITE

Well ID	Substance								
	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Isopropylbenzene	n-Propylbenzene
NR 140 PAL	NS	0.5	140	160	400	96	12	NS	NS
NR 140 ES	NS	5	700	800	2,000	480	60	NS	NS
05/23/07	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/15/07	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/27/08	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/24/08	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/27/09	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/23/09	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/19/10	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/21/10	FP	FP	FP	FP	FP	FP	FP	FP	FP
06/16/11	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/25/11	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/16/12	FP	FP	FP	FP	FP	FP	FP	FP	FP
08/21/13	na	13,400	3,190	13,100	12,460	2,599	<49.4	na	na
06/24/14	na	12,000	2,000	10,100	9,370	1,375	<21.8	na	na
10/21/14	FP	FP	FP	FP	FP	FP	FP	FP	FP
06/23/15	FP	FP	FP	FP	FP	FP	FP	FP	FP
10/06/15	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/24/16	na	15,300	1,740	7,970	8,770	1,374	<17.4	na	na
10/05/16	na	6,870	899	4,330	9,840	2,186	<8.7	na	na
05/16/17	na	11,500	1,640	4,730	10,470	1,392	<17.4	na	na
10/25/17	FP	FP	FP	FP	FP	FP	FP	FP	FP
06/12/18	na	10,400	1,570	2,080	9,920	1,635	<21.8	na	na
10/09/18	na	8,450	1,280	1,130	9,980	1,349	<156	na	na
MW-3/T40									
03/06/02	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/12/02	FP	FP	FP	FP	FP	FP	FP	FP	FP
03/12/03	FP	FP	FP	FP	FP	FP	FP	FP	FP
09/30/04	Well was not available for monitoring due to construction activities and was subsequently abandoned in July 2007								
MW-4/T40									
03/06/02	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/12/02	42,000	19,000	1,300	6,200	4,500	760	<110	<82	<120
03/12/03	FP	FP	FP	FP	FP	FP	FP	FP	FP
09/30/04	FP	FP	FP	FP	FP	FP	FP	FP	FP
05/26/05	64,300	20,500	2,010	11,900	9,360	1,581	<150	na	na
11/09/05	66,600	17,000	1,620	9,190	10,710	3,017	<300	na	na
05/10/06	62,000	24,900	2,020	12,100	9,160	1,780	<60.0	na	na
11/16/06	52,100	20,900	1,450	8,680	7,970	1,462	<15.0	na	na
05/23/07	FP	FP	FP	FP	FP	FP	FP	FP	FP
11/15/07	50,200	16,000	1,810	7,720	7,220	1,519	<75.0	na	na
05/27/08	62,100	23,200	2,100	10,400	9,940	2,067	<75.0	na	na
11/24/08	51,100	18,300	1,630	8,000	8,810	2,167	<75.0	na	na
05/27/09	50,900	21,000	1,570	8,410	9,910	1,994	<60.0	na	na
11/23/09	46,300	17,000	1,050	6,290	8,590	1,798	<30.0	na	na
05/19/10	47,900	17,600	1,150	6,350	8,470	1,805	<60.0	na	na
10/19/10	53,500	17,700	1,140	6,180	11,900	3,136	<75.0	na	na
06/16/11	na	18,800	1,120	5,880	7,630	1,446	<250	na	na
10/25/11	na	18,600	1,980	6,460	8,360	1,419	<250	na	na
05/16/12	na	17,100	1,220	4,910	8,640	2,058	<61.0	na	na
08/21/13	na	16,800	1,630	3,070	9,200	2,428	<49.9	na	na

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR GRO AND DETECTED VOCs - OCTOBER 1998 TANK 40 RELEASE SITE

Well ID	Substance								
	Date	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Isopropylbenzene
NR 140 PAL	NS	0.5	140	160	400	96	12	NS	NS
NR 140 ES	NS	5	700	800	2,000	480	60	NS	NS
06/24/14	na	15,700	949	1,490	7,660	1,616	<34.8	na	na
10/21/14	na	10,400	537	790	6,830	1,510	<17.4	na	na
06/23/15	na	8,260	516	277	5,180	1,437	<17.4	na	na
10/06/15	na	6,500	109	50 U	4,530	1,103	<17.4	na	na
05/24/16	na	14,600	836	50 U	7,240	1,550	<17.4	na	na
10/05/16	na	1,890	10.0 U	10.0 U	2,293	778	<3.5	na	na
05/16/17	na	10,200	807	50 U	7,120	1,285	<17.4	na	na
10/25/17	na	5,890	138	50 U	6,500	1,459	<17.4	na	na
06/12/18	na	1,640	39.3	10.0 U	1,282	377.6	<3.5	na	na
10/09/18	na	3,750	28.4	3.4 U	4,780	1,096	<24.9	na	na
MW-5/T40									
03/06/02	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/12/02	<50	0.25 U	0.53 U	0.84 U	1.83 U	1.33 U	<0.87	<0.66	<0.95
03/12/03	100	3.9	1.4 J	0.68 U	6.0 J	4.1	<0.43	na	na
09/30/04	18,000	980	1,900	10.0 J	5,800	1,170	4.2 J	na	na
05/26/05	18,700	482	1,930	60 U	7,750	1,558	<60	na	na
11/09/05	11,500	372	1,550	30.0 U	5,430	1,066	<30.0	na	na
05/10/06	10,500	357	1,400	3.00 U	5,200	855	<3.00	na	na
11/16/06	14,900	270	1,820	15.0 U	6,310	1,381	<15.0	na	na
05/23/07	16,700	279	1,900	6.00 U	7,070	1,611	<6.00	na	na
11/15/07	9,840	148	495	6.00 U	2,588	1,059	<6.00	na	na
05/27/08	10,400	254	833	28.7	3,194	1,006	<6.00	na	na
11/24/08	11,000	167	1,020	24.8	3,288	1,052	23.2 J	na	na
05/27/09	5,010	177	324	33.8 J	1,132	427	<15.0	na	na
11/23/09	9,990	191	888	21.2 J	2,725	821	<6.00	na	na
05/19/10	8,730	160	638	7.40 U	2,170	805	<6.00	na	na
10/19/10	9,980	173	833	7.40 U	2,663	880	14.6 J	na	na
06/16/11	na	205	607	8.00 U	1,835	576	<10.0	na	na
10/25/11	na	185	778	8.00 U	2,331	1,142	<10.0	na	na
05/16/12	na	220	579	3.4 U	1,566	492	<3.0	na	na
08/21/13	na	310	825	4.4 U	1,601	736	<4.9	na	na
06/24/14	na	135	756	2.5 U	1,840	673	<0.87	na	na
10/21/14	na	63.1	208	1.2 U	611.0	256.7	<0.44	na	na
06/23/15	na	3.0	11.2	0.50 U	28.9 U	10.7	<0.17	na	na
10/06/15	na	0.50 U	0.50 U	0.70 J	1.60 J	1.01 J	<0.17	na	na
05/24/16	na	50.3	152	1.0 U	479.7 J	165.9	<0.35	na	na
10/05/16	na	0.50 U	0.50 U	0.50 U	1.50 U	1.00 U	<0.17	na	na
05/16/17	na	43.6	259	1.2 U	668.5 J	247.7	<0.44	na	na
10/25/17	na	0.50 U	0.50 U	0.50 U	1.50 U	1.00 U	<0.17	na	na
06/12/18	na	3.3	16.6	0.50 U	76.40 U	33.9	<0.17	na	na
10/09/18	na	9.6	30.4	0.17 U	115.26 U	81.9	<1.2	na	na
MW-6/T40									
03/06/02	NI	NI	NI	NI	NI	NI	NI	NI	NI
09/12/02	<50	6.8	<0.53	0.84 U	<1.83	<1.33	<0.87	<0.66	<0.95
03/12/03	370	170	8	0.85 J	18.2	6.2	<0.43	na	na
11/15/07	4,440	1,500	396	6.00 U	545	108	<6.00	na	na
05/27/08	5,420	2,190	572	6.00 U	666	158	<6.00	na	na
11/24/08	6,570	1,840	808	6.00 U	1,092	275	26.2 J	na	na

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR GRO AND DETECTED VOCs - OCTOBER 1998 TANK 40 RELEASE SITE

Well ID	Substance									
	Date	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Isopropylbenzene	n-Propylbenzene
NR 140 PAL	NS	0.5	140	160	400	96	12	NS	NS	
NR 140 ES	NS	5	700	800	2,000	480	60	NS	NS	
05/27/09	6,070	2,590	866	7.40 U	1,074	257	24.7 J	na	na	
11/23/09	3,900	1,110	421	3.70 U	691	135	<3.00	na	na	
05/19/10	4,470	1,520	503	7.40 U	636	170	<6.00	na	na	
10/21/10	2,630	1,110	274	7.40 U	225	62.7 J	12.5 J	na	na	
06/16/11	na	2,010	615	8.00 U	668.1	165.8	<10.0	na	na	
10/25/11	na	584	100	8.00 U	63.63 J	37.9 J	<10.0	na	na	
05/16/12	na	1,040	249	6.7 U	140.1	72.2	<6.1	na	na	
08/21/13	na	1,510	607	4.4 U	373	183.1 J	<4.9	na	na	
06/24/14	na	1,600	539	12.5 U	375 U	49.6 U	<4.4	na	na	
10/21/14	na	233	56.1	1.0 U	81.3 U	36.1 J	<0.35	na	na	
06/23/15	na	1,290	507	5.0 U	552.0 U	138.6	<1.7	na	na	
10/06/15	na	123	8.8	0.50 U	9.3 U	5.3 U	<0.17	na	na	
05/24/16	na	649	209	2.0 U	245.0 U	69.7	<0.70	na	na	
10/05/16	na	12.3	0.50 U	0.50 U	1.50 U	1.00 U	<0.17	na	na	
05/16/17	na	607	342	2.0 U	475.2 J	109.6	<0.70	na	na	
10/25/17	na	0.63 J	0.50 U	0.50 U	1.50 U	1.80 U	<0.17	na	na	
06/12/18	na	1,180	662	0.50 U	824.3	278.3	<0.17	na	na	
10/09/18	na	0.25 U	0.22 U	0.17 U	0.73 U	1.71 U	<1.2	na	na	
MW-7/T40										
03/06/02	NI	NI	NI	NI	NI	NI	NI	NI	NI	
09/12/02	46,000	12,000	3,100	13,000	9,700	1,410	<87	150 J	220 J	
03/12/03	48,000	10,000	2,800	11,000	8,900	1,540	<22	na	na	
11/15/07	56,300	8,940	2,190	12,100	9,870	2,167	<60.0	na	na	
05/27/08	112,000	11,100	3,180	15,500	18,370	6,110	<60.0	na	na	
11/24/08	38,800	6,620	1,280	7,970	9,270	2,402	<60.0	na	na	
05/27/09	51,000	9,480	2,010	10,800	11,120	2,227	<60.0	na	na	
11/23/09	37,000	6,640	1,090	7,000	9,020	1,922	<30.0	na	na	
05/19/10	33,300	6,050	814	5,380	7,580	1,869	<60.0	na	na	
10/21/10	248,000	7,900	4,560	10,400	34,300	17,700	<60.0	na	na	
06/16/11	na	6,110	511	4,430	5,060	896	<100	na	na	
10/25/11	na	5,490	1,750	5,590	9,310	2,175	<100	na	na	
05/16/12	na	5,090	1,570	4,220	11,330	6,170	<24.4	na	na	
08/21/13	na	5,400	1,700	2,400	9,450	2,424	<9.9	na	na	
06/24/14	na	4,680	893	1,010	6,090	1,043	<8.7	na	na	
10/21/14	na	2,870	651	266	4,740	881	<8.7	na	na	
06/23/15	na	3,660	733	167	4,890	920	<7.0	na	na	
10/06/15	na	2,150	513	39.3 J	3,410	607	<7.0	na	na	
05/24/16	na	2,710	351	10.0 U	2,415	452	<3.5	na	na	
10/05/16	na	506	71.0	5.2	1,148	280.3	<0.87	na	na	
05/16/17	na	2,670	528	25.8	3,234	541	<3.5	na	na	
10/25/17	na	1,220	113	10.0 U	2,101	565	<3.5	na	na	
06/12/18	na	934	71.4	10.0 U	1,141	280	<3.5	na	na	
10/09/18	na	275	33.3	1.9 J	376.3	120.2	<2.5	na	na	
TS-1/T40 (recovery sump installed in a groundwater interceptor trench)										
09/30/04	4,300	140	480	6.7	529	530	0.94 J	na	na	
05/26/05	1,510	30.4	2.50 U	105	519	208	<1.50	na	na	
11/09/05	3,120	125	312	15.0 U	318.9	666	<15.0	na	na	
11/16/06	1,020	139	61.8	0.300 U	44.08	225	<0.300	na	na	

TABLE 2

GROUNDWATER ANALYTICAL RESULTS FOR GRO AND DETECTED VOCs - OCTOBER 1998 TANK 40 RELEASE SITE

Well ID Date	Substance								
	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	TMBs	MTBE	Isopropylbenzene	n-Propylbenzene
NR 140 PAL	NS	<i>0.5</i>	<i>140</i>	<i>160</i>	<i>400</i>	<i>96</i>	<i>12</i>	NS	NS
NR 140 ES	NS	5	700	800	2,000	480	60	NS	NS
11/15/07	3,790	348	<i>681</i>	3.00 U	773	<i>351</i>	<3.00	na	na
05/27/08	4,140	275	<i>555</i>	15.1	<i>549</i>	645	<3.00	na	na
11/24/08	1,020	80.1	<i>158</i>	7.28 J	137.2	<i>178</i>	<3.00	na	na
05/27/09	655	103	<i>15.1</i>	0.370 U	7.40	13.7	1.68 J	na	na
11/23/09	462	67	<i>20.5</i>	4.64	6.78	18	<0.300	na	na
05/19/10	803	127	<i>83.8</i>	0.370 U	33.1	77	1.61 J	na	na
10/21/10	<50.0	0.310 U	<i>0.500 U</i>	0.370 U	1.390 U	<0.84	<0.300	na	na
06/16/11	na	54.9	<i>84.0</i>	0.40 U	67.32	62.29	<0.50	na	na
10/25/11	na	393	<i>152</i>	4.00 U	84.1	<i>147.0</i>	<5.00	na	na
05/16/12	na	229	<i>103</i>	<1.7 U	59.2	35.6	<1.5	na	na
08/21/13	na	41.2	<i>12.2</i>	0.44 U	4.6	14.6 J	<0.49	na	na
10/21/14	na	0.50 U	<i>0.50 U</i>	0.50 U	1.50 U	1.00 U	<0.17	na	na
06/23/15	na	34.9	<i>1.9</i>	0.50 U	1.50 U	2.29 J	<0.17	na	na
10/06/15	na	<i>4.6</i>	<i>1.1</i>	0.50 U	1.50 U	10.9	<0.17	na	na
05/24/16	na	73.4	<i>78.2</i>	0.50 U	32.60 U	64.0	<0.17	na	na
10/05/16	na	<i>1.6</i>	<i>0.50 U</i>	0.50 U	1.50 U	3.0	<0.17	na	na
05/16/17	na	<i>0.67 J</i>	<i>1.0</i>	0.50 U	1.50 U	3.2	<0.17	na	na
10/25/17	na	2.2	<i>1.0</i>	0.50 U	1.80 J	6.5	<0.17	na	na
06/12/18	na	20.9	<i>2.2</i>	0.50 U	2.00 JU	6.6	<0.17	na	na
10/09/18	na	2.1	<i>0.22 U</i>	0.17 U	0.73 U	1.71 U	<1.2	na	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.

Any non-detect concentration included was added at the detection limit for both xylenes and TMBs.

Duplicate sample results are averaged for statistical analysis/plotting, per December 2013 Interstate Technology & Regulatory Council guidance.

Initial round of samples collected from each well were analyzed for VOCs, all subsequent samples analyzed for GRO/PVOCs or PVOCs.

Between Sept. 2004 and May 2007, MW-3/T40, MW-6/T40, and MW-7/T40 were temporarily buried as part of the expansion of an access road.

FP = Free product encountered; sample not collected.

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.

PVOCs = Petroleum volatile organic compounds.

TMBs = Trimethylbenzenes.

U = Compound not detected at or above the detection limit, which is the value shown for all parameters except xylenes and TMBs.

ATTACHMENT A

**LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS FOR GROUNDWATER
SAMPLES COLLECTED IN 2018**

June 15, 2018

Project #34265.003
Superior Refining Company
Reviewed by CCW
6/19/18

Clifford Wright
Gannett Fleming
8025 Excelsior Drive
Madison, WI 53717

RE: Project: 34265.003 SRC
Pace Project No.: 40170716

Dear Clifford Wright:

Enclosed are the analytical results for sample(s) received by the laboratory on June 13, 2018. 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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

October 15, 2018

Project #34265.003
SRC CW, T40/68/70
Reviewed by CCW
10/16/18

Clifford Wright
Gannett Fleming
8025 Excelsior Drive
Madison, WI 53717

RE: Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

Dear Clifford Wright:

Enclosed are the analytical results for sample(s) received by the laboratory on October 10, 2018. 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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40177409001	MW-1/CW	Water	10/09/18 13:30	10/10/18 09:50
40177409002	MW-2/CW	Water	10/09/18 13:25	10/10/18 09:50
40177409003	MW-3/CW	Water	10/09/18 13:35	10/10/18 09:50
40177409004	MW-4/CW	Water	10/09/18 13:20	10/10/18 09:50
40177409005	MW-1/T40	Water	10/09/18 14:25	10/10/18 09:50
40177409006	MW-2/T40	Water	10/09/18 14:00	10/10/18 09:50
40177409007	MW-4/T40	Water	10/09/18 14:30	10/10/18 09:50
40177409008	MW-5/T40	Water	10/09/18 14:05	10/10/18 09:50
40177409009	MW-6/T40	Water	10/09/18 14:20	10/10/18 09:50
40177409010	MW-7/T40	Water	10/09/18 14:15	10/10/18 09:50
40177409011	TS-1/T40	Water	10/09/18 14:10	10/10/18 09:50
40177409012	MW-1/T68	Water	10/09/18 14:40	10/10/18 09:50
40177409013	MW-2/T68	Water	10/09/18 14:50	10/10/18 09:50
40177409014	MW-4/T68	Water	10/09/18 14:45	10/10/18 09:50
40177409015	MW-5/T66	Water	10/09/18 15:05	10/10/18 09:50
40177409016	MW-6/T68	Water	10/09/18 15:00	10/10/18 09:50
40177409017	MW-2R/T70	Water	10/09/18 15:20	10/10/18 09:50
40177409018	MW-3/T70	Water	10/09/18 15:10	10/10/18 09:50
40177409019	MW-4/T70	Water	10/09/18 15:15	10/10/18 09:50
40177409020	MW-5/T70	Water	10/09/18 15:25	10/10/18 09:50
40177409021	MW-6/T70	Water	10/09/18 15:30	10/10/18 09:50
40177409022	TRIP BLANK	Water	10/09/18 00:00	10/10/18 09:50

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40177409001	MW-1/CW	EPA 8260	MDS	12	PASI-G
40177409002	MW-2/CW	EPA 8260	MDS	12	PASI-G
40177409003	MW-3/CW	EPA 8260	MDS	12	PASI-G
40177409004	MW-4/CW	EPA 8260	MDS	12	PASI-G
40177409005	MW-1/T40	EPA 8260	MDS	11	PASI-G
40177409006	MW-2/T40	EPA 8260	MDS	11	PASI-G
40177409007	MW-4/T40	EPA 8260	MDS	11	PASI-G
40177409008	MW-5/T40	EPA 8260	MDS	11	PASI-G
40177409009	MW-6/T40	EPA 8260	MDS	11	PASI-G
40177409010	MW-7/T40	EPA 8260	MDS	11	PASI-G
40177409011	TS-1/T40	EPA 8260	LAP	11	PASI-G
40177409012	MW-1/T68	EPA 8260	HNW	63	PASI-G
40177409013	MW-2/T68	EPA 8260	HNW	63	PASI-G
40177409014	MW-4/T68	EPA 8260	MDS	63	PASI-G
40177409015	MW-5/T66	EPA 8260	HNW	63	PASI-G
40177409016	MW-6/T68	EPA 8260	HNW	63	PASI-G
40177409017	MW-2R/T70	EPA 8260	LAP	12	PASI-G
40177409018	MW-3/T70	EPA 8260	LAP	12	PASI-G
40177409019	MW-4/T70	EPA 8260	LAP	12	PASI-G
40177409020	MW-5/T70	EPA 8260	LAP	12	PASI-G
40177409021	MW-6/T70	EPA 8260	LAP	12	PASI-G
40177409022	TRIP BLANK	EPA 8260	HNW	63	PASI-G

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SUMMARY OF DETECTION

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
40177409003	MW-3/CW					
EPA 8260	1,2,4-Trimethylbenzene	684	ug/L	140	10/11/18 17:30	
EPA 8260	1,3,5-Trimethylbenzene	193	ug/L	146	10/11/18 17:30	
EPA 8260	Benzene	4510	ug/L	50.0	10/11/18 17:30	
EPA 8260	Ethylbenzene	929	ug/L	50.0	10/11/18 17:30	
EPA 8260	Naphthalene	89.8J	ug/L	250	10/11/18 17:30	
EPA 8260	Toluene	73.4J	ug/L	250	10/11/18 17:30	
EPA 8260	m&p-Xylene	2030	ug/L	100	10/11/18 17:30	
EPA 8260	o-Xylene	110	ug/L	50.0	10/11/18 17:30	
40177409004	MW-4/CW					
EPA 8260	1,2,4-Trimethylbenzene	25.2	ug/L	2.8	10/12/18 09:40	
EPA 8260	1,3,5-Trimethylbenzene	32.5	ug/L	2.9	10/12/18 09:40	
EPA 8260	Benzene	155	ug/L	1.0	10/12/18 09:40	
EPA 8260	Ethylbenzene	1.7	ug/L	1.0	10/12/18 09:40	
EPA 8260	Naphthalene	5.3	ug/L	5.0	10/12/18 09:40	
EPA 8260	Toluene	3.2J	ug/L	5.0	10/12/18 09:40	
EPA 8260	m&p-Xylene	116	ug/L	2.0	10/12/18 09:40	
EPA 8260	o-Xylene	23.2	ug/L	1.0	10/12/18 09:40	
40177409005	MW-1/T40					
EPA 8260	1,2,4-Trimethylbenzene	65.9	ug/L	2.8	10/12/18 10:02	
EPA 8260	1,3,5-Trimethylbenzene	118	ug/L	2.9	10/12/18 10:02	
EPA 8260	Benzene	48.7	ug/L	1.0	10/12/18 10:02	
EPA 8260	Ethylbenzene	0.79J	ug/L	1.0	10/12/18 10:02	
EPA 8260	Toluene	0.86J	ug/L	5.0	10/12/18 10:02	
EPA 8260	m&p-Xylene	368	ug/L	2.0	10/12/18 10:02	
EPA 8260	o-Xylene	6.3	ug/L	1.0	10/12/18 10:02	
40177409006	MW-2/T40					
EPA 8260	1,2,4-Trimethylbenzene	1040	ug/L	350	10/11/18 18:36	
EPA 8260	1,3,5-Trimethylbenzene	309J	ug/L	364	10/11/18 18:36	
EPA 8260	Benzene	8450	ug/L	125	10/11/18 18:36	
EPA 8260	Ethylbenzene	1280	ug/L	125	10/11/18 18:36	
EPA 8260	Toluene	1130	ug/L	625	10/11/18 18:36	
EPA 8260	m&p-Xylene	6900	ug/L	250	10/11/18 18:36	
EPA 8260	o-Xylene	3080	ug/L	125	10/11/18 18:36	
40177409007	MW-4/T40					
EPA 8260	1,2,4-Trimethylbenzene	871	ug/L	56.0	10/11/18 18:57	
EPA 8260	1,3,5-Trimethylbenzene	225	ug/L	58.2	10/11/18 18:57	
EPA 8260	Benzene	3750	ug/L	20.0	10/11/18 18:57	
EPA 8260	Ethylbenzene	28.4	ug/L	20.0	10/11/18 18:57	
EPA 8260	m&p-Xylene	3130	ug/L	40.0	10/11/18 18:57	
EPA 8260	o-Xylene	1650	ug/L	20.0	10/11/18 18:57	
40177409008	MW-5/T40					
EPA 8260	1,2,4-Trimethylbenzene	64.0	ug/L	2.8	10/11/18 12:08	
EPA 8260	1,3,5-Trimethylbenzene	17.9	ug/L	2.9	10/11/18 12:08	
EPA 8260	Benzene	9.6	ug/L	1.0	10/11/18 12:08	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SUMMARY OF DETECTION

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40177409008	MW-5/T40					
EPA 8260	Ethylbenzene	30.4	ug/L	1.0	10/11/18 12:08	
EPA 8260	m&p-Xylene	115	ug/L	2.0	10/11/18 12:08	
40177409010	MW-7/T40					
EPA 8260	1,2,4-Trimethylbenzene	85.9	ug/L	5.6	10/12/18 10:24	
EPA 8260	1,3,5-Trimethylbenzene	34.3	ug/L	5.8	10/12/18 10:24	
EPA 8260	Benzene	275	ug/L	2.0	10/12/18 10:24	
EPA 8260	Ethylbenzene	33.3	ug/L	2.0	10/12/18 10:24	
EPA 8260	Toluene	1.9J	ug/L	10.0	10/12/18 10:24	
EPA 8260	m&p-Xylene	302	ug/L	4.0	10/12/18 10:24	
EPA 8260	o-Xylene	74.3	ug/L	2.0	10/12/18 10:24	
40177409011	TS-1/T40					
EPA 8260	Benzene	2.1	ug/L	1.0	10/11/18 20:15	
40177409012	MW-1/T68					
EPA 8260	1,2,4-Trimethylbenzene	1.5J	ug/L	2.8	10/11/18 19:57	
EPA 8260	Toluene	0.22J	ug/L	5.0	10/11/18 19:57	
EPA 8260	m&p-Xylene	0.64J	ug/L	2.0	10/11/18 19:57	
40177409013	MW-2/T68					
EPA 8260	1,2,4-Trimethylbenzene	2660	ug/L	560	10/12/18 00:36	
EPA 8260	1,2-Dichloroethane	1520	ug/L	200	10/12/18 00:36	
EPA 8260	1,3,5-Trimethylbenzene	729	ug/L	582	10/12/18 00:36	
EPA 8260	Benzene	18600	ug/L	200	10/12/18 00:36	
EPA 8260	Ethylbenzene	1120	ug/L	200	10/12/18 00:36	
EPA 8260	Naphthalene	292J	ug/L	1000	10/12/18 00:36	
EPA 8260	Toluene	16100	ug/L	1000	10/12/18 00:36	
EPA 8260	m&p-Xylene	10200	ug/L	400	10/12/18 00:36	
EPA 8260	o-Xylene	5170	ug/L	200	10/12/18 00:36	
40177409015	MW-5/T66					
EPA 8260	1,2,4-Trimethylbenzene	3670	ug/L	140	10/12/18 01:19	
EPA 8260	1,3,5-Trimethylbenzene	992	ug/L	146	10/12/18 01:19	
EPA 8260	Benzene	4180	ug/L	50.0	10/12/18 01:19	
EPA 8260	Ethylbenzene	2030	ug/L	50.0	10/12/18 01:19	
EPA 8260	Isopropylbenzene (Cumene)	71.6J	ug/L	250	10/12/18 01:19	
EPA 8260	Naphthalene	549	ug/L	250	10/12/18 01:19	
EPA 8260	Toluene	10800	ug/L	250	10/12/18 01:19	
EPA 8260	m&p-Xylene	12200	ug/L	100	10/12/18 01:19	
EPA 8260	n-Propylbenzene	263	ug/L	250	10/12/18 01:19	
EPA 8260	o-Xylene	5130	ug/L	50.0	10/12/18 01:19	
40177409016	MW-6/T68					
EPA 8260	1,2,4-Trimethylbenzene	2940	ug/L	700	10/12/18 01:40	
EPA 8260	1,3,5-Trimethylbenzene	795	ug/L	728	10/12/18 01:40	
EPA 8260	Benzene	20600	ug/L	250	10/12/18 01:40	
EPA 8260	Ethylbenzene	1700	ug/L	250	10/12/18 01:40	
EPA 8260	Naphthalene	421J	ug/L	1250	10/12/18 01:40	
EPA 8260	Toluene	19300	ug/L	1250	10/12/18 01:40	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Method: EPA 8260

Description: 8260 MSV

Client: Gannett Fleming Inc.

Date: October 15, 2018

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.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

Method: EPA 8260
Description: 8260 MSV UST
Client: Gannett Fleming Inc.
Date: October 15, 2018

General Information:

16 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: 303005

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40177402015

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

- MS (Lab ID: 1770718)
 - o-Xylene
- MSD (Lab ID: 1770719)
 - o-Xylene

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: MW-1/T40 **Lab ID: 40177409005** Collected: 10/09/18 14:25 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	65.9	ug/L	2.8	0.84	1		10/12/18 10:02	95-63-6	
1,3,5-Trimethylbenzene	118	ug/L	2.9	0.87	1		10/12/18 10:02	108-67-8	
Benzene	48.7	ug/L	1.0	0.25	1		10/12/18 10:02	71-43-2	
Ethylbenzene	0.79J	ug/L	1.0	0.22	1		10/12/18 10:02	100-41-4	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		10/12/18 10:02	1634-04-4	
Toluene	0.86J	ug/L	5.0	0.17	1		10/12/18 10:02	108-88-3	
m&p-Xylene	368	ug/L	2.0	0.47	1		10/12/18 10:02	179601-23-1	
o-Xylene	6.3	ug/L	1.0	0.26	1		10/12/18 10:02	95-47-6	
Surrogates									
Dibromofluoromethane (S)	96	%	70-130		1		10/12/18 10:02	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/12/18 10:02	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		10/12/18 10:02	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: MW-2/T40 **Lab ID: 40177409006** Collected: 10/09/18 14:00 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	1040	ug/L	350	105	125		10/11/18 18:36	95-63-6	
1,3,5-Trimethylbenzene	309J	ug/L	364	109	125		10/11/18 18:36	108-67-8	
Benzene	8450	ug/L	125	30.8	125		10/11/18 18:36	71-43-2	
Ethylbenzene	1280	ug/L	125	27.3	125		10/11/18 18:36	100-41-4	
Methyl-tert-butyl ether	<156	ug/L	519	156	125		10/11/18 18:36	1634-04-4	
Toluene	1130	ug/L	625	21.5	125		10/11/18 18:36	108-88-3	
m&p-Xylene	6900	ug/L	250	58.2	125		10/11/18 18:36	179601-23-1	
o-Xylene	3080	ug/L	125	32.7	125		10/11/18 18:36	95-47-6	
Surrogates									
Dibromofluoromethane (S)	106	%	70-130		125		10/11/18 18:36	1868-53-7	
Toluene-d8 (S)	94	%	70-130		125		10/11/18 18:36	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		125		10/11/18 18:36	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: MW-4/T40 **Lab ID: 40177409007** Collected: 10/09/18 14:30 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	871	ug/L	56.0	16.8	20		10/11/18 18:57	95-63-6	
1,3,5-Trimethylbenzene	225	ug/L	58.2	17.5	20		10/11/18 18:57	108-67-8	
Benzene	3750	ug/L	20.0	4.9	20		10/11/18 18:57	71-43-2	
Ethylbenzene	28.4	ug/L	20.0	4.4	20		10/11/18 18:57	100-41-4	
Methyl-tert-butyl ether	<24.9	ug/L	83.1	24.9	20		10/11/18 18:57	1634-04-4	
Toluene	<3.4	ug/L	100	3.4	20		10/11/18 18:57	108-88-3	
m&p-Xylene	3130	ug/L	40.0	9.3	20		10/11/18 18:57	179601-23-1	
o-Xylene	1650	ug/L	20.0	5.2	20		10/11/18 18:57	95-47-6	
Surrogates									
Dibromofluoromethane (S)	100	%	70-130		20		10/11/18 18:57	1868-53-7	
Toluene-d8 (S)	96	%	70-130		20		10/11/18 18:57	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		20		10/11/18 18:57	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: MW-5/T40 **Lab ID: 40177409008** Collected: 10/09/18 14:05 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	64.0	ug/L	2.8	0.84	1		10/11/18 12:08	95-63-6	
1,3,5-Trimethylbenzene	17.9	ug/L	2.9	0.87	1		10/11/18 12:08	108-67-8	
Benzene	9.6	ug/L	1.0	0.25	1		10/11/18 12:08	71-43-2	
Ethylbenzene	30.4	ug/L	1.0	0.22	1		10/11/18 12:08	100-41-4	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		10/11/18 12:08	1634-04-4	
Toluene	<0.17	ug/L	5.0	0.17	1		10/11/18 12:08	108-88-3	
m&p-Xylene	115	ug/L	2.0	0.47	1		10/11/18 12:08	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		10/11/18 12:08	95-47-6	
Surrogates									
Dibromofluoromethane (S)	102	%	70-130		1		10/11/18 12:08	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		10/11/18 12:08	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		10/11/18 12:08	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: MW-6/T40 **Lab ID: 40177409009** Collected: 10/09/18 14:20 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		10/11/18 12:30	95-63-6	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		10/11/18 12:30	108-67-8	
Benzene	<0.25	ug/L	1.0	0.25	1		10/11/18 12:30	71-43-2	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		10/11/18 12:30	100-41-4	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		10/11/18 12:30	1634-04-4	
Toluene	<0.17	ug/L	5.0	0.17	1		10/11/18 12:30	108-88-3	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		10/11/18 12:30	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		10/11/18 12:30	95-47-6	
Surrogates									
Dibromofluoromethane (S)	105	%	70-130		1		10/11/18 12:30	1868-53-7	
Toluene-d8 (S)	91	%	70-130		1		10/11/18 12:30	2037-26-5	
4-Bromofluorobenzene (S)	85	%	70-130		1		10/11/18 12:30	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: MW-7/T40 **Lab ID: 40177409010** Collected: 10/09/18 14:15 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	85.9	ug/L	5.6	1.7	2		10/12/18 10:24	95-63-6	
1,3,5-Trimethylbenzene	34.3	ug/L	5.8	1.7	2		10/12/18 10:24	108-67-8	
Benzene	275	ug/L	2.0	0.49	2		10/12/18 10:24	71-43-2	
Ethylbenzene	33.3	ug/L	2.0	0.44	2		10/12/18 10:24	100-41-4	
Methyl-tert-butyl ether	<2.5	ug/L	8.3	2.5	2		10/12/18 10:24	1634-04-4	
Toluene	1.9J	ug/L	10.0	0.34	2		10/12/18 10:24	108-88-3	
m&p-Xylene	302	ug/L	4.0	0.93	2		10/12/18 10:24	179601-23-1	
o-Xylene	74.3	ug/L	2.0	0.52	2		10/12/18 10:24	95-47-6	
Surrogates									
Dibromofluoromethane (S)	95	%	70-130		2		10/12/18 10:24	1868-53-7	
Toluene-d8 (S)	96	%	70-130		2		10/12/18 10:24	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		2		10/12/18 10:24	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: TS-1/T40 **Lab ID: 40177409011** Collected: 10/09/18 14:10 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		10/11/18 20:15	95-63-6	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		10/11/18 20:15	108-67-8	
Benzene	2.1	ug/L	1.0	0.25	1		10/11/18 20:15	71-43-2	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		10/11/18 20:15	100-41-4	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		10/11/18 20:15	1634-04-4	
Toluene	<0.17	ug/L	5.0	0.17	1		10/11/18 20:15	108-88-3	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		10/11/18 20:15	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		10/11/18 20:15	95-47-6	
Surrogates									
Dibromofluoromethane (S)	94	%	70-130		1		10/11/18 20:15	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/11/18 20:15	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130		1		10/11/18 20:15	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: TRIP BLANK **Lab ID: 40177409022** Collected: 10/09/18 00:00 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		10/11/18 19:35	630-20-6	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		10/11/18 19:35	71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		10/11/18 19:35	79-34-5	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		10/11/18 19:35	79-00-5	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		10/11/18 19:35	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		10/11/18 19:35	75-35-4	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		10/11/18 19:35	563-58-6	
1,2,3-Trichlorobenzene	<0.63	ug/L	5.0	0.63	1		10/11/18 19:35	87-61-6	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		10/11/18 19:35	96-18-4	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		10/11/18 19:35	120-82-1	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		10/11/18 19:35	95-63-6	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		10/11/18 19:35	96-12-8	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		10/11/18 19:35	106-93-4	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		10/11/18 19:35	95-50-1	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		10/11/18 19:35	107-06-2	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		10/11/18 19:35	78-87-5	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		10/11/18 19:35	108-67-8	
1,3-Dichlorobenzene	<0.63	ug/L	2.1	0.63	1		10/11/18 19:35	541-73-1	
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		10/11/18 19:35	142-28-9	
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		10/11/18 19:35	106-46-7	
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		10/11/18 19:35	594-20-7	
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		10/11/18 19:35	95-49-8	
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		10/11/18 19:35	106-43-4	
Benzene	<0.25	ug/L	1.0	0.25	1		10/11/18 19:35	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		10/11/18 19:35	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		10/11/18 19:35	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		10/11/18 19:35	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		10/11/18 19:35	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		10/11/18 19:35	74-83-9	
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		10/11/18 19:35	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		10/11/18 19:35	108-90-7	
Chloroethane	<1.3	ug/L	5.0	1.3	1		10/11/18 19:35	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		10/11/18 19:35	67-66-3	
Chloromethane	<2.2	ug/L	7.3	2.2	1		10/11/18 19:35	74-87-3	
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		10/11/18 19:35	124-48-1	
Dibromomethane	<0.94	ug/L	3.1	0.94	1		10/11/18 19:35	74-95-3	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		10/11/18 19:35	75-71-8	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		10/11/18 19:35	100-41-4	
Hexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		10/11/18 19:35	87-68-3	
Isopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		10/11/18 19:35	98-82-8	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		10/11/18 19:35	1634-04-4	
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		10/11/18 19:35	75-09-2	
Naphthalene	<1.2	ug/L	5.0	1.2	1		10/11/18 19:35	91-20-3	
Styrene	<0.47	ug/L	1.6	0.47	1		10/11/18 19:35	100-42-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		10/11/18 19:35	127-18-4	
Toluene	<0.17	ug/L	5.0	0.17	1		10/11/18 19:35	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Sample: TRIP BLANK **Lab ID: 40177409022** Collected: 10/09/18 00:00 Received: 10/10/18 09:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
Trichloroethene	<0.26	ug/L	1.0	0.26	1		10/11/18 19:35	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		10/11/18 19:35	75-69-4	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		10/11/18 19:35	75-01-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		10/11/18 19:35	156-59-2	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		10/11/18 19:35	10061-01-5	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		10/11/18 19:35	179601-23-1	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		10/11/18 19:35	104-51-8	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		10/11/18 19:35	103-65-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		10/11/18 19:35	95-47-6	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		10/11/18 19:35	99-87-6	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		10/11/18 19:35	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		10/11/18 19:35	98-06-6	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		10/11/18 19:35	156-60-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		10/11/18 19:35	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		10/11/18 19:35	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		10/11/18 19:35	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		10/11/18 19:35	2037-26-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

QC Batch: 302883 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40177409012, 40177409013, 40177409015, 40177409016, 40177409022

METHOD BLANK: 1769057 Matrix: Water
Associated Lab Samples: 40177409012, 40177409013, 40177409015, 40177409016, 40177409022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	10/11/18 15:39	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	10/11/18 15:39	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	10/11/18 15:39	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	10/11/18 15:39	
1,1-Dichloroethane	ug/L	<0.27	1.0	10/11/18 15:39	
1,1-Dichloroethene	ug/L	<0.24	1.0	10/11/18 15:39	
1,1-Dichloropropene	ug/L	<0.54	1.8	10/11/18 15:39	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	10/11/18 15:39	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	10/11/18 15:39	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	10/11/18 15:39	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	10/11/18 15:39	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	10/11/18 15:39	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	10/11/18 15:39	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	10/11/18 15:39	
1,2-Dichloroethane	ug/L	<0.28	1.0	10/11/18 15:39	
1,2-Dichloropropane	ug/L	<0.28	1.0	10/11/18 15:39	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	10/11/18 15:39	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	10/11/18 15:39	
1,3-Dichloropropane	ug/L	<0.83	2.8	10/11/18 15:39	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	10/11/18 15:39	
2,2-Dichloropropane	ug/L	<2.3	7.6	10/11/18 15:39	
2-Chlorotoluene	ug/L	<0.93	5.0	10/11/18 15:39	
4-Chlorotoluene	ug/L	<0.76	2.5	10/11/18 15:39	
Benzene	ug/L	<0.25	1.0	10/11/18 15:39	
Bromobenzene	ug/L	<0.24	1.0	10/11/18 15:39	
Bromochloromethane	ug/L	<0.36	5.0	10/11/18 15:39	
Bromodichloromethane	ug/L	<0.36	1.2	10/11/18 15:39	
Bromoform	ug/L	<4.0	13.2	10/11/18 15:39	
Bromomethane	ug/L	<0.97	5.0	10/11/18 15:39	
Carbon tetrachloride	ug/L	<0.17	1.0	10/11/18 15:39	
Chlorobenzene	ug/L	<0.71	2.4	10/11/18 15:39	
Chloroethane	ug/L	<1.3	5.0	10/11/18 15:39	
Chloroform	ug/L	<1.3	5.0	10/11/18 15:39	
Chloromethane	ug/L	<2.2	7.3	10/11/18 15:39	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	10/11/18 15:39	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	10/11/18 15:39	
Dibromochloromethane	ug/L	<2.6	8.7	10/11/18 15:39	
Dibromomethane	ug/L	<0.94	3.1	10/11/18 15:39	
Dichlorodifluoromethane	ug/L	<0.50	5.0	10/11/18 15:39	
Ethylbenzene	ug/L	<0.22	1.0	10/11/18 15:39	
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	10/11/18 15:39	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

METHOD BLANK: 1769057

Matrix: Water

Associated Lab Samples: 40177409012, 40177409013, 40177409015, 40177409016, 40177409022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	10/11/18 15:39	
m&p-Xylene	ug/L	<0.47	2.0	10/11/18 15:39	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	10/11/18 15:39	
Methylene Chloride	ug/L	<0.58	5.0	10/11/18 15:39	
n-Butylbenzene	ug/L	<0.71	2.4	10/11/18 15:39	
n-Propylbenzene	ug/L	<0.81	5.0	10/11/18 15:39	
Naphthalene	ug/L	<1.2	5.0	10/11/18 15:39	
o-Xylene	ug/L	<0.26	1.0	10/11/18 15:39	
p-Isopropyltoluene	ug/L	<0.80	2.7	10/11/18 15:39	
sec-Butylbenzene	ug/L	<0.85	5.0	10/11/18 15:39	
Styrene	ug/L	<0.47	1.6	10/11/18 15:39	
tert-Butylbenzene	ug/L	<0.30	1.0	10/11/18 15:39	
Tetrachloroethene	ug/L	<0.33	1.1	10/11/18 15:39	
Toluene	ug/L	<0.17	5.0	10/11/18 15:39	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	10/11/18 15:39	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	10/11/18 15:39	
Trichloroethene	ug/L	<0.26	1.0	10/11/18 15:39	
Trichlorofluoromethane	ug/L	<0.21	1.0	10/11/18 15:39	
Vinyl chloride	ug/L	<0.17	1.0	10/11/18 15:39	
4-Bromofluorobenzene (S)	%	95	70-130	10/11/18 15:39	
Dibromofluoromethane (S)	%	109	70-130	10/11/18 15:39	
Toluene-d8 (S)	%	98	70-130	10/11/18 15:39	

LABORATORY CONTROL SAMPLE: 1769058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.0	108	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	47.5	95	67-130	
1,1,2-Trichloroethane	ug/L	50	48.2	96	70-130	
1,1-Dichloroethane	ug/L	50	52.1	104	70-134	
1,1-Dichloroethene	ug/L	50	51.2	102	75-132	
1,2,4-Trichlorobenzene	ug/L	50	46.3	93	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	41.7	83	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	50.1	100	70-130	
1,2-Dichlorobenzene	ug/L	50	50.1	100	70-130	
1,2-Dichloroethane	ug/L	50	49.4	99	73-134	
1,2-Dichloropropane	ug/L	50	44.8	90	79-128	
1,3-Dichlorobenzene	ug/L	50	49.4	99	70-130	
1,4-Dichlorobenzene	ug/L	50	49.0	98	70-130	
Benzene	ug/L	50	53.3	107	69-137	
Bromodichloromethane	ug/L	50	48.6	97	70-130	
Bromoform	ug/L	50	45.4	91	64-133	
Bromomethane	ug/L	50	30.6	61	29-123	
Carbon tetrachloride	ug/L	50	52.8	106	73-142	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

LABORATORY CONTROL SAMPLE: 1769058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	50.0	100	70-130	
Chloroethane	ug/L	50	45.5	91	59-133	
Chloroform	ug/L	50	51.6	103	80-129	
Chloromethane	ug/L	50	39.7	79	27-125	
cis-1,2-Dichloroethene	ug/L	50	52.5	105	70-134	
cis-1,3-Dichloropropene	ug/L	50	42.7	85	70-130	
Dibromochloromethane	ug/L	50	54.5	109	70-130	
Dichlorodifluoromethane	ug/L	50	35.5	71	12-127	
Ethylbenzene	ug/L	50	50.5	101	86-127	
Isopropylbenzene (Cumene)	ug/L	50	50.9	102	70-130	
m&p-Xylene	ug/L	100	101	101	70-131	
Methyl-tert-butyl ether	ug/L	50	44.6	89	65-136	
Methylene Chloride	ug/L	50	51.1	102	72-133	
o-Xylene	ug/L	50	49.6	99	70-130	
Styrene	ug/L	50	50.5	101	70-130	
Tetrachloroethene	ug/L	50	45.7	91	70-130	
Toluene	ug/L	50	49.6	99	84-124	
trans-1,2-Dichloroethene	ug/L	50	52.3	105	70-133	
trans-1,3-Dichloropropene	ug/L	50	41.3	83	67-130	
Trichloroethene	ug/L	50	50.4	101	70-130	
Trichlorofluoromethane	ug/L	50	54.0	108	69-147	
Vinyl chloride	ug/L	50	46.4	93	48-134	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			108	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1769362 1769363

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40177409012 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	ug/L	<0.24	50	50	54.2	54.8	108	110	70-136	1	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	47.9	49.3	96	99	67-133	3	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	47.5	49.2	95	98	70-130	3	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	51.5	52.4	103	105	70-139	2	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	51.8	51.1	104	102	72-137	1	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	48.0	49.0	96	98	68-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	42.5	47.0	85	94	60-130	10	21	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	49.7	52.3	99	105	70-130	5	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	51.5	51.6	103	103	70-130	0	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	49.4	49.6	99	99	71-137	0	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	45.1	45.9	90	92	78-130	2	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	50.2	51.4	100	103	70-130	2	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	49.5	51.2	99	102	70-130	3	20	
Benzene	ug/L	<0.25	50	50	52.6	53.2	105	106	66-143	1	20	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Parameter	Units	40177409012		1769362		1769363		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Bromodichloromethane	ug/L	<0.36	50	50	48.8	50.2	98	100	70-130	3	20		
Bromoform	ug/L	<4.0	50	50	45.6	47.1	91	94	64-134	3	20		
Bromomethane	ug/L	<0.97	50	50	30.3	32.2	61	64	29-136	6	25		
Carbon tetrachloride	ug/L	<0.17	50	50	53.0	53.8	106	108	73-142	2	20		
Chlorobenzene	ug/L	<0.71	50	50	50.1	51.5	100	103	70-130	3	20		
Chloroethane	ug/L	<1.3	50	50	43.9	45.5	88	91	58-138	4	20		
Chloroform	ug/L	<1.3	50	50	51.1	51.6	102	103	80-131	1	20		
Chloromethane	ug/L	<2.2	50	50	38.4	39.6	77	79	24-125	3	20		
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	51.3	51.7	103	103	68-137	1	22		
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	43.1	44.7	86	89	70-130	4	20		
Dibromochloromethane	ug/L	<2.6	50	50	54.2	55.9	108	112	70-131	3	20		
Dichlorodifluoromethane	ug/L	<0.50	50	50	34.5	34.5	69	69	10-127	0	20		
Ethylbenzene	ug/L	<0.22	50	50	50.1	51.6	100	103	81-136	3	20		
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	51.2	52.2	102	104	70-132	2	20		
m&p-Xylene	ug/L	0.64J	100	100	102	105	102	105	70-135	3	20		
Methyl-tert-butyl ether	ug/L	<1.2	50	50	44.0	45.1	88	90	58-142	2	23		
Methylene Chloride	ug/L	<0.58	50	50	49.9	51.3	100	103	69-137	3	20		
o-Xylene	ug/L	<0.26	50	50	50.3	50.5	100	101	70-132	1	20		
Styrene	ug/L	<0.47	50	50	50.6	51.8	101	104	70-130	2	20		
Tetrachloroethene	ug/L	<0.33	50	50	46.0	47.5	92	95	70-132	3	20		
Toluene	ug/L	0.22J	50	50	49.4	50.9	98	101	81-130	3	20		
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	51.1	51.4	102	103	70-136	0	20		
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	41.4	42.8	83	86	67-130	3	20		
Trichloroethene	ug/L	<0.26	50	50	49.9	51.1	100	102	70-131	2	20		
Trichlorofluoromethane	ug/L	<0.21	50	50	53.8	55.0	108	110	66-150	2	20		
Vinyl chloride	ug/L	<0.17	50	50	45.5	45.9	91	92	46-134	1	20		
4-Bromofluorobenzene (S)	%						98	99	70-130				
Dibromofluoromethane (S)	%						105	105	70-130				
Toluene-d8 (S)	%						97	99	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

QC Batch: 303011 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40177409014

METHOD BLANK: 1769831 Matrix: Water
Associated Lab Samples: 40177409014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	10/12/18 09:18	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	10/12/18 09:18	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	10/12/18 09:18	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	10/12/18 09:18	
1,1-Dichloroethane	ug/L	<0.27	1.0	10/12/18 09:18	
1,1-Dichloroethene	ug/L	<0.24	1.0	10/12/18 09:18	
1,1-Dichloropropene	ug/L	<0.54	1.8	10/12/18 09:18	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	10/12/18 09:18	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	10/12/18 09:18	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	10/12/18 09:18	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	10/12/18 09:18	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	10/12/18 09:18	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	10/12/18 09:18	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	10/12/18 09:18	
1,2-Dichloroethane	ug/L	<0.28	1.0	10/12/18 09:18	
1,2-Dichloropropane	ug/L	<0.28	1.0	10/12/18 09:18	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	10/12/18 09:18	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	10/12/18 09:18	
1,3-Dichloropropane	ug/L	<0.83	2.8	10/12/18 09:18	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	10/12/18 09:18	
2,2-Dichloropropane	ug/L	<2.3	7.6	10/12/18 09:18	
2-Chlorotoluene	ug/L	<0.93	5.0	10/12/18 09:18	
4-Chlorotoluene	ug/L	<0.76	2.5	10/12/18 09:18	
Benzene	ug/L	<0.25	1.0	10/12/18 09:18	
Bromobenzene	ug/L	<0.24	1.0	10/12/18 09:18	
Bromochloromethane	ug/L	<0.36	5.0	10/12/18 09:18	
Bromodichloromethane	ug/L	<0.36	1.2	10/12/18 09:18	
Bromoform	ug/L	<4.0	13.2	10/12/18 09:18	
Bromomethane	ug/L	<0.97	5.0	10/12/18 09:18	
Carbon tetrachloride	ug/L	<0.17	1.0	10/12/18 09:18	
Chlorobenzene	ug/L	<0.71	2.4	10/12/18 09:18	
Chloroethane	ug/L	<1.3	5.0	10/12/18 09:18	
Chloroform	ug/L	<1.3	5.0	10/12/18 09:18	
Chloromethane	ug/L	<2.2	7.3	10/12/18 09:18	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	10/12/18 09:18	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	10/12/18 09:18	
Dibromochloromethane	ug/L	<2.6	8.7	10/12/18 09:18	
Dibromomethane	ug/L	<0.94	3.1	10/12/18 09:18	
Dichlorodifluoromethane	ug/L	<0.50	5.0	10/12/18 09:18	
Ethylbenzene	ug/L	<0.22	1.0	10/12/18 09:18	
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	10/12/18 09:18	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

METHOD BLANK: 1769831 Matrix: Water
Associated Lab Samples: 40177409014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	10/12/18 09:18	
m&p-Xylene	ug/L	<0.47	2.0	10/12/18 09:18	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	10/12/18 09:18	
Methylene Chloride	ug/L	<0.58	5.0	10/12/18 09:18	
n-Butylbenzene	ug/L	<0.71	2.4	10/12/18 09:18	
n-Propylbenzene	ug/L	<0.81	5.0	10/12/18 09:18	
Naphthalene	ug/L	<1.2	5.0	10/12/18 09:18	
o-Xylene	ug/L	<0.26	1.0	10/12/18 09:18	
p-Isopropyltoluene	ug/L	<0.80	2.7	10/12/18 09:18	
sec-Butylbenzene	ug/L	<0.85	5.0	10/12/18 09:18	
Styrene	ug/L	<0.47	1.6	10/12/18 09:18	
tert-Butylbenzene	ug/L	<0.30	1.0	10/12/18 09:18	
Tetrachloroethene	ug/L	<0.33	1.1	10/12/18 09:18	
Toluene	ug/L	<0.17	5.0	10/12/18 09:18	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	10/12/18 09:18	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	10/12/18 09:18	
Trichloroethene	ug/L	<0.26	1.0	10/12/18 09:18	
Trichlorofluoromethane	ug/L	<0.21	1.0	10/12/18 09:18	
Vinyl chloride	ug/L	<0.17	1.0	10/12/18 09:18	
4-Bromofluorobenzene (S)	%	86	70-130	10/12/18 09:18	
Dibromofluoromethane (S)	%	106	70-130	10/12/18 09:18	
Toluene-d8 (S)	%	94	70-130	10/12/18 09:18	

LABORATORY CONTROL SAMPLE: 1769832

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.4	109	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	49.5	99	67-130	
1,1,2-Trichloroethane	ug/L	50	52.6	105	70-130	
1,1-Dichloroethane	ug/L	50	54.2	108	70-134	
1,1-Dichloroethene	ug/L	50	46.0	92	75-132	
1,2,4-Trichlorobenzene	ug/L	50	47.0	94	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	51.9	104	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	52.9	106	70-130	
1,2-Dichlorobenzene	ug/L	50	52.3	105	70-130	
1,2-Dichloroethane	ug/L	50	49.4	99	73-134	
1,2-Dichloropropane	ug/L	50	50.1	100	79-128	
1,3-Dichlorobenzene	ug/L	50	51.5	103	70-130	
1,4-Dichlorobenzene	ug/L	50	51.5	103	70-130	
Benzene	ug/L	50	41.7	83	69-137	
Bromodichloromethane	ug/L	50	52.4	105	70-130	
Bromoform	ug/L	50	56.4	113	64-133	
Bromomethane	ug/L	50	18.7	37	29-123	
Carbon tetrachloride	ug/L	50	54.4	109	73-142	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

LABORATORY CONTROL SAMPLE: 1769832

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	51.7	103	70-130	
Chloroethane	ug/L	50	35.5	71	59-133	
Chloroform	ug/L	50	51.2	102	80-129	
Chloromethane	ug/L	50	14.5	29	27-125	
cis-1,2-Dichloroethene	ug/L	50	48.3	97	70-134	
cis-1,3-Dichloropropene	ug/L	50	46.9	94	70-130	
Dibromochloromethane	ug/L	50	55.8	112	70-130	
Dichlorodifluoromethane	ug/L	50	7.7	15	12-127	
Ethylbenzene	ug/L	50	51.9	104	86-127	
Isopropylbenzene (Cumene)	ug/L	50	57.1	114	70-130	
m&p-Xylene	ug/L	100	112	112	70-131	
Methyl-tert-butyl ether	ug/L	50	49.8	100	65-136	
Methylene Chloride	ug/L	50	46.6	93	72-133	
o-Xylene	ug/L	50	55.4	111	70-130	
Styrene	ug/L	50	56.9	114	70-130	
Tetrachloroethene	ug/L	50	54.4	109	70-130	
Toluene	ug/L	50	51.2	102	84-124	
trans-1,2-Dichloroethene	ug/L	50	50.2	100	70-133	
trans-1,3-Dichloropropene	ug/L	50	47.0	94	67-130	
Trichloroethene	ug/L	50	53.4	107	70-130	
Trichlorofluoromethane	ug/L	50	49.6	99	69-147	
Vinyl chloride	ug/L	50	27.5	55	48-134	
4-Bromofluorobenzene (S)	%			108	70-130	
Dibromofluoromethane (S)	%			101	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1771098 1771099

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40177467001 Result	Spike Conc.	Spike Conc.	MSD Result								
1,1,1-Trichloroethane	ug/L	<0.24	50	50	58.5	58.1	117	116	70-136	1	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	52.7	53.0	105	106	67-133	1	20		
1,1,2-Trichloroethane	ug/L	<0.55	50	50	54.6	54.6	109	109	70-130	0	20		
1,1-Dichloroethane	ug/L	<0.27	50	50	54.7	55.4	109	111	70-139	1	20		
1,1-Dichloroethene	ug/L	<0.24	50	50	46.1	47.3	92	95	72-137	3	20		
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	49.8	50.2	100	100	68-130	1	20		
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	55.6	57.6	111	115	60-130	3	21		
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	54.5	54.9	109	110	70-130	1	20		
1,2-Dichlorobenzene	ug/L	<0.71	50	50	52.3	54.4	105	109	70-130	4	20		
1,2-Dichloroethane	ug/L	<0.28	50	50	56.5	54.4	113	109	71-137	4	20		
1,2-Dichloropropane	ug/L	<0.28	50	50	51.1	53.1	102	106	78-130	4	20		
1,3-Dichlorobenzene	ug/L	<0.63	50	50	53.2	53.5	106	107	70-130	1	20		
1,4-Dichlorobenzene	ug/L	<0.94	50	50	55.3	55.7	111	111	70-130	1	20		
Benzene	ug/L	<0.25	50	50	46.9	44.9	94	90	66-143	4	20		

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

Parameter	Units	40177467001		1771098		1771099		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Bromodichloromethane	ug/L	<0.36	50	50	51.9	55.4	104	111	70-130	6	20		
Bromoform	ug/L	<4.0	50	50	61.4	61.2	123	122	64-134	0	20		
Bromomethane	ug/L	<0.97	50	50	22.2	20.9	44	42	29-136	6	25		
Carbon tetrachloride	ug/L	<0.17	50	50	59.1	57.0	118	114	73-142	4	20		
Chlorobenzene	ug/L	<0.71	50	50	53.2	54.0	106	108	70-130	1	20		
Chloroethane	ug/L	<1.3	50	50	34.7	37.0	69	74	58-138	6	20		
Chloroform	ug/L	<1.3	50	50	54.4	53.5	109	107	80-131	2	20		
Chloromethane	ug/L	<2.2	50	50	14.9	14.0	30	28	24-125	6	20		
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	49.6	50.5	99	101	68-137	2	22		
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	46.8	49.7	94	99	70-130	6	20		
Dibromochloromethane	ug/L	<2.6	50	50	58.1	58.3	116	117	70-131	0	20		
Dichlorodifluoromethane	ug/L	<0.50	50	50	7.6	6.5	15	13	10-127	15	20		
Ethylbenzene	ug/L	<0.22	50	50	55.6	55.4	111	111	81-136	0	20		
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	58.9	58.8	118	118	70-132	0	20		
m&p-Xylene	ug/L	<0.47	100	100	117	117	117	117	70-135	0	20		
Methyl-tert-butyl ether	ug/L	<1.2	50	50	51.5	53.2	103	106	58-142	3	23		
Methylene Chloride	ug/L	<0.58	50	50	47.6	48.8	95	98	69-137	2	20		
o-Xylene	ug/L	<0.26	50	50	57.8	57.7	116	115	70-132	0	20		
Styrene	ug/L	<0.47	50	50	59.4	59.6	119	119	70-130	0	20		
Tetrachloroethene	ug/L	<0.33	50	50	55.6	55.7	111	111	70-132	0	20		
Toluene	ug/L	<0.17	50	50	52.0	52.3	104	105	81-130	1	20		
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	49.7	50.6	99	101	70-136	2	20		
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	51.2	50.8	102	102	67-130	1	20		
Trichloroethene	ug/L	<0.26	50	50	54.7	55.8	109	112	70-131	2	20		
Trichlorofluoromethane	ug/L	<0.21	50	50	48.5	49.3	97	99	66-150	2	20		
Vinyl chloride	ug/L	<0.17	50	50	27.0	25.8	54	52	46-134	4	20		
4-Bromofluorobenzene (S)	%						104	104	70-130				
Dibromofluoromethane (S)	%						103	104	70-130				
Toluene-d8 (S)	%						96	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

QC Batch: 302885 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40177409001, 40177409002, 40177409003, 40177409004, 40177409005, 40177409006, 40177409007, 40177409008, 40177409009, 40177409010

METHOD BLANK: 1769063 Matrix: Water
Associated Lab Samples: 40177409001, 40177409002, 40177409003, 40177409004, 40177409005, 40177409006, 40177409007, 40177409008, 40177409009, 40177409010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	10/11/18 09:02	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	10/11/18 09:02	
Benzene	ug/L	<0.25	1.0	10/11/18 09:02	
Ethylbenzene	ug/L	<0.22	1.0	10/11/18 09:02	
m&p-Xylene	ug/L	<0.47	2.0	10/11/18 09:02	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	10/11/18 09:02	
Naphthalene	ug/L	<1.2	5.0	10/11/18 09:02	
o-Xylene	ug/L	<0.26	1.0	10/11/18 09:02	
Toluene	ug/L	<0.17	5.0	10/11/18 09:02	
4-Bromofluorobenzene (S)	%	84	70-130	10/11/18 09:02	
Dibromofluoromethane (S)	%	107	70-130	10/11/18 09:02	
Toluene-d8 (S)	%	92	70-130	10/11/18 09:02	

LABORATORY CONTROL SAMPLE: 1769064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	43.1	86	69-137	
Ethylbenzene	ug/L	50	53.4	107	86-127	
m&p-Xylene	ug/L	100	111	111	70-131	
Methyl-tert-butyl ether	ug/L	50	50.5	101	65-136	
o-Xylene	ug/L	50	54.0	108	70-130	
Toluene	ug/L	50	50.7	101	84-124	
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1769073 1769074

Parameter	Units	40177409002 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result						
Benzene	ug/L	<0.25	50	50	44.2	46.6	88	93	66-143	5	20	
Ethylbenzene	ug/L	<0.22	50	50	55.2	56.6	110	113	81-136	3	20	
m&p-Xylene	ug/L	<0.47	100	100	115	119	115	119	70-135	3	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	51.7	51.3	103	103	58-142	1	23	
o-Xylene	ug/L	<0.26	50	50	56.6	58.3	113	117	70-132	3	20	
Toluene	ug/L	<0.17	50	50	52.4	52.7	105	105	81-130	1	20	
4-Bromofluorobenzene (S)	%						106	105	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1769073		1769074		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40177409002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Dibromofluoromethane (S)	%					103	104	70-130			
Toluene-d8 (S)	%					96	95	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

QC Batch: 302931 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40177409011, 40177409017, 40177409019, 40177409021

METHOD BLANK: 1769300 Matrix: Water
Associated Lab Samples: 40177409011, 40177409017, 40177409019, 40177409021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	10/11/18 16:17	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	10/11/18 16:17	
Benzene	ug/L	<0.25	1.0	10/11/18 16:17	
Ethylbenzene	ug/L	<0.22	1.0	10/11/18 16:17	
m&p-Xylene	ug/L	<0.47	2.0	10/11/18 16:17	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	10/11/18 16:17	
Naphthalene	ug/L	<1.2	5.0	10/11/18 16:17	
o-Xylene	ug/L	<0.26	1.0	10/11/18 16:17	
Toluene	ug/L	<0.17	5.0	10/11/18 16:17	
4-Bromofluorobenzene (S)	%	92	70-130	10/11/18 16:17	
Dibromofluoromethane (S)	%	88	70-130	10/11/18 16:17	
Toluene-d8 (S)	%	100	70-130	10/11/18 16:17	

LABORATORY CONTROL SAMPLE: 1769301

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	51.5	103	69-137	
Ethylbenzene	ug/L	50	55.9	112	86-127	
m&p-Xylene	ug/L	100	109	109	70-131	
Methyl-tert-butyl ether	ug/L	50	52.0	104	65-136	
o-Xylene	ug/L	50	56.3	113	70-130	
Toluene	ug/L	50	52.8	106	84-124	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1769694 1769695

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40177402022 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Benzene	ug/L	<0.25	50	50	51.1	51.1	102	102	66-143	0	20	
Ethylbenzene	ug/L	<0.22	50	50	54.1	53.4	108	107	81-136	1	20	
m&p-Xylene	ug/L	<0.47	100	100	107	107	107	107	70-135	1	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	44.2	46.1	88	92	58-142	4	23	
o-Xylene	ug/L	<0.26	50	50	55.0	54.1	110	108	70-132	2	20	
Toluene	ug/L	<0.17	50	50	51.7	51.3	103	103	81-130	1	20	
4-Bromofluorobenzene (S)	%						94	101	70-130			
Dibromofluoromethane (S)	%						95	90	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1769694		1769695									
Parameter	Units	40177402022 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	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

QC Batch: 303005 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40177409018, 40177409020

METHOD BLANK: 1769811 Matrix: Water
Associated Lab Samples: 40177409018, 40177409020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	10/12/18 12:05	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	10/12/18 12:05	
Benzene	ug/L	<0.25	1.0	10/12/18 12:05	
Ethylbenzene	ug/L	<0.22	1.0	10/12/18 12:05	
m&p-Xylene	ug/L	<0.47	2.0	10/12/18 12:05	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	10/12/18 12:05	
Naphthalene	ug/L	<1.2	5.0	10/12/18 12:05	
o-Xylene	ug/L	<0.26	1.0	10/12/18 12:05	
Toluene	ug/L	<0.17	5.0	10/12/18 12:05	
4-Bromofluorobenzene (S)	%	92	70-130	10/12/18 12:05	
Dibromofluoromethane (S)	%	90	70-130	10/12/18 12:05	
Toluene-d8 (S)	%	101	70-130	10/12/18 12:05	

LABORATORY CONTROL SAMPLE: 1769812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	47.7	95	69-137	
Ethylbenzene	ug/L	50	52.9	106	86-127	
m&p-Xylene	ug/L	100	108	108	70-131	
Methyl-tert-butyl ether	ug/L	50	44.5	89	65-136	
o-Xylene	ug/L	50	53.8	108	70-130	
Toluene	ug/L	50	50.6	101	84-124	
4-Bromofluorobenzene (S)	%			94	70-130	
Dibromofluoromethane (S)	%			88	70-130	
Toluene-d8 (S)	%			93	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1770718 1770719

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40177402015 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Benzene	ug/L	<0.25	50	50	49.2	49.7	98	99	66-143	1	20	
Ethylbenzene	ug/L	10.6	50	50	69.2	70.9	117	120	81-136	2	20	
m&p-Xylene	ug/L	24.7	100	100	143	144	118	119	70-135	1	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	46.5	46.9	93	94	58-142	1	23	
o-Xylene	ug/L	34.0	50	50	104	106	140	144	70-132	2	20 M1	
Toluene	ug/L	<0.17	50	50	52.2	52.7	104	105	81-130	1	20	
4-Bromofluorobenzene (S)	%						98	98	70-130			
Dibromofluoromethane (S)	%						93	94	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1770718												1770719	
Parameter	Units	40177402015 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Toluene-d8 (S)	%						100	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 34265.003 Superior Refining Co
Pace Project No.: 40177409

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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 34265.003 Superior Refining Co

Pace Project No.: 40177409

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40177409012	MW-1/T68	EPA 8260	302883		
40177409013	MW-2/T68	EPA 8260	302883		
40177409014	MW-4/T68	EPA 8260	303011		
40177409015	MW-5/T66	EPA 8260	302883		
40177409016	MW-6/T68	EPA 8260	302883		
40177409022	TRIP BLANK	EPA 8260	302883		
40177409001	MW-1/CW	EPA 8260	302885		
40177409002	MW-2/CW	EPA 8260	302885		
40177409003	MW-3/CW	EPA 8260	302885		
40177409004	MW-4/CW	EPA 8260	302885		
40177409005	MW-1/T40	EPA 8260	302885		
40177409006	MW-2/T40	EPA 8260	302885		
40177409007	MW-4/T40	EPA 8260	302885		
40177409008	MW-5/T40	EPA 8260	302885		
40177409009	MW-6/T40	EPA 8260	302885		
40177409010	MW-7/T40	EPA 8260	302885		
40177409011	TS-1/T40	EPA 8260	302931		
40177409017	MW-2R/T70	EPA 8260	302931		
40177409018	MW-3/T70	EPA 8260	303005		
40177409019	MW-4/T70	EPA 8260	302931		
40177409020	MW-5/T70	EPA 8260	303005		
40177409021	MW-6/T70	EPA 8260	302931		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

(Please Print Clearly)

Company Name: Gannett Fleming, Inc.
 Branch/Location: Madison, WI
 Project Contact: Cliff Wright
 Phone: 608/836-1500 x6722
 Project Number: 34265.003
 Project Name: Superior Refining Company (SRC)
 Project State: WI
 Sampled By (Print): Marcus Mussey
 Sampled By (Sign): *[Signature]*



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

COC No. 40177409

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

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

Y/N	N	N	N							
	B	B	B							
Analyses Requested	PVOcs (8260)	PVOcs/Naph (8260)	VOCs (Method 8260)							

Quote #: Pace 2018
 Mail To Contact: Cliff Wright
 Mail To Company: Gannett Fleming
 Mail To Address: 8025 Excelsior Dr. Madison, WI 53717
 Invoice To Contact: See "Mail to Contact" info above
 Invoice To Company: "
 Invoice To Address: "
 Invoice To Phone: 608/836-1500 x6722
 CLIENT COMMENTS LAB COMMENTS Profile #
 (Lab Use Only)

Regulatory Program:
 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 Sl = Sludge
 W = Water DW = Drinking Water GW = Ground Water SW = Surface Water WW = Waste Water WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MW-1/CW	10-9	13:30	GW
002	MW-2/CW		13:25	
003	MW-3/CW		13:35	
004	MW-4/CW		13:20	
005	MW-1/T40		14:25	
006	MW-2/T40		14:00	
007	MW-4/T40		14:30	
008	MW-5/T40		14:05	
009	MW-6/T40		14:20	
010	MW-7/T40		14:15	
011	TS-1/T40		14:10	
012	MW-1/T68		14:40	
013	MW-2/T68		14:50	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed: *[Blank]*
 Transmit Prelim Rush Results by (complete what you want):
 Email #1: *[Blank]*
 Email #2: *[Blank]*
 Telephone: *[Blank]*
 Fax: *[Blank]*
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: <i>[Signature]</i>	Date/Time: 10/9/17 00	Received By:	Date/Time:
Relinquished By: <i>FedEx</i>	Date/Time: 10/10/17 0950	Received By: <i>[Signature]</i>	Date/Time: 10/10/17 0950
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. 40177409
 Receipt Temp = *20.2* °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

(Please Print Clearly)

UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

Company Name: Gannett Fleming, Inc.
Branch/Location: Madison, WI
Project Contact: Cliff Wright
Phone: 608/836-1500 x6722
Project Number: 34265.003
Project Name: Superior Refining Company (SRC)
Project State: WI
Sampled By (Print): Marcus C. Mussy
Sampled By (Sign): *[Signature]*



COC No. 40277409

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 #: Pace 2018
Mail To Contact: Cliff Wright
Mail To Company: Gannett Fleming
Mail To Address: 8025 Excelsior Dr. Madison, WI 53717
Invoice To Contact: See "Mail to Contact" info above
Invoice To Company: "
Invoice To Address: "
Invoice To Phone: 608/836-1500 x6722

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #

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

Y/N	N	N																
Pick Letter	B	B																
Analyses Requested	PVOcs/Naph (8260)	VOCs (Method 8260)																

Regulatory Program: _____

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

MS/MSD (billable)
 On your sample
 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
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
014	MW-4/T68	10-9	14:45	GW
015	MW-5/T66-MCM			
016 015	MW-5/T66 T66	10-9	15:05	GW
017 016	MW-6/T68		15:00	
018 017	MW-2R/T70		15:20	
019 018	MW-3/T70		15:10	
020 019	MW-4/T70		15:15	
021 020	MW-5/T70		15:25	
022 021	MW-6/T70		15:30	
023 022	Trip blank			

DS 10/10/08

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: <i>[Signature]</i> Date/Time: 10/9, 1700	Received By: _____ Date/Time: _____	PACE Project No. 40277409 Receipt Temp = 10.2 °C Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / Not Present Intact / Not Intact
	Relinquished By: <i>Feder</i> Date/Time: 10/10/08 0950	Received By: <i>[Signature]</i> Date/Time: 10/10/08 0950	
	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	
	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	
	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	

Sample Preservation Receipt Form

Client Name: Gannett Fleming Project # 40177409

All containers needing preservation have been checked and noted below: Yes No N/A

Initial when completed:

Date/Time:

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic							Vials					Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)			
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC								GN		
001																	3																		2.5 / 5 / 10
002																	3																		2.5 / 5 / 10
003																	3																		2.5 / 5 / 10
004																	3																		2.5 / 5 / 10
005																	3																		2.5 / 5 / 10
006																	3																		2.5 / 5 / 10
007																	3																		2.5 / 5 / 10
008																	3																		2.5 / 5 / 10
009																	3																		2.5 / 5 / 10
010																	3																		2.5 / 5 / 10
011																	3																		2.5 / 5 / 10
012																	3																		2.5 / 5 / 10
013																	3																		2.5 / 5 / 10
014																	3																		2.5 / 5 / 10
015																	3																		2.5 / 5 / 10
016																	3																		2.5 / 5 / 10
017																	3																		2.5 / 5 / 10
018																	3																		2.5 / 5 / 10
019																	3																		2.5 / 5 / 10
020																	3																		2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column


AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Sample Preservation Receipt Form

Client Name: Garnett Fleming

Project #: 40177409


Pace Lab #	Glass						Plastic						Vials				Jars			General		VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)									
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU								WGFU	WPFU	SP5T	ZPLC	GN				
021																	3																			2.5 / 5 / 10	
022																	2																				2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 10
																																					2.5 / 5 / 11
																																					2.5 / 5 / 12
																																					2.5 / 5 / 13
																																					2.5 / 5 / 14
																																					2.5 / 5 / 15
																																					2.5 / 5 / 16
																																					2.5 / 5 / 17
																																					2.5 / 5 / 18
																																					2.5 / 5 / 19
																																					2.5 / 5 / 20
																																					2.5 / 5 / 21
																																					2.5 / 5 / 22
																																					2.5 / 5 / 23

 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Garnett Fleming Project #: _____
 Courier: CS Logistics Fed Ex Speedee UPS Walto
 Client Pace Other: _____
 Tracking #: 8133 9386 2421
 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 SR - 30 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun
 Cooler Temperature Uncorr: 3 /Corr: 3

WO# : 40177409



40177409

Temp Blank Present: yes no Biological Tissue is Frozen: yes no
 Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C.

Person examining contents:
 Date: 10/10/18
 Initials: PS

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>407</u>		

Client Notification/ Resolution: If checked, see attached form for additional comments
 Person Contacted: _____ Date/Time: _____
 Comments/ Resolution: _____

Project Manager Review: CH FZ DM Date: 10/10/18

CERTIFICATIONS

Project: 34265.003 SRC

Pace Project No.: 40170716

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 34265.003 SRC

Pace Project No.: 40170716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40170716001	MW-1/T40	Water	06/12/18 08:05	06/13/18 09:20
40170716002	MW-2/T40	Water	06/12/18 07:35	06/13/18 09:20
40170716003	MW-4/T40	Water	06/12/18 08:00	06/13/18 09:20
40170716004	MW-5/T40	Water	06/12/18 07:40	06/13/18 09:20
40170716005	MW-6/T40	Water	06/12/18 07:50	06/13/18 09:20
40170716006	MW-7/T40	Water	06/12/18 07:55	06/13/18 09:20
40170716007	TS-1/T40	Water	06/12/18 07:52	06/13/18 09:20
40170716008	MW-1/T68	Water	06/12/18 08:10	06/13/18 09:20
40170716009	MW-2/T68	Water	06/12/18 08:20	06/13/18 09:20
40170716010	MW-4/T68	Water	06/12/18 08:15	06/13/18 09:20
40170716011	MW-5/T66	Water	06/12/18 08:30	06/13/18 09:20
40170716012	MW-6/T68	Water	06/12/18 08:25	06/13/18 09:20
40170716013	MW-2R/T70	Water	06/12/18 08:40	06/13/18 09:20
40170716014	MW-3/T70	Water	06/12/18 08:52	06/13/18 09:20
40170716015	MW-4/T70	Water	06/12/18 08:55	06/13/18 09:20
40170716016	MW-5/T70	Water	06/12/18 08:45	06/13/18 09:20
40170716017	MW-6/T70	Water	06/12/18 08:50	06/13/18 09:20
40170716018	MW-11	Water	06/12/18 09:20	06/13/18 09:20
40170716019	PZ-11	Water	06/12/18 09:22	06/13/18 09:20
40170716020	MW-12	Water	06/12/18 09:35	06/13/18 09:20
40170716021	MW-13	Water	06/12/18 09:45	06/13/18 09:20
40170716022	PZ-13	Water	06/12/18 09:47	06/13/18 09:20
40170716023	MW-14	Water	06/12/18 09:55	06/13/18 09:20
40170716024	TRIP BLANK	Water	06/12/18 00:00	06/13/18 09:20

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 34265.003 SRC

Pace Project No.: 40170716

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40170716001	MW-1/T40	EPA 8260	HNW	11	PASI-G
40170716002	MW-2/T40	EPA 8260	HNW	11	PASI-G
40170716003	MW-4/T40	EPA 8260	HNW	11	PASI-G
40170716004	MW-5/T40	EPA 8260	HNW	11	PASI-G
40170716005	MW-6/T40	EPA 8260	LAP	11	PASI-G
40170716006	MW-7/T40	EPA 8260	LAP	11	PASI-G
40170716007	TS-1/T40	EPA 8260	LAP	11	PASI-G
40170716008	MW-1/T68	EPA 8260	HNW	63	PASI-G
40170716009	MW-2/T68	EPA 8260	HNW	63	PASI-G
40170716010	MW-4/T68	EPA 8260	HNW	63	PASI-G
40170716011	MW-5/T66	EPA 8260	HNW	63	PASI-G
40170716012	MW-6/T68	EPA 8260	HNW	63	PASI-G
40170716013	MW-2R/T70	EPA 8260	LAP	12	PASI-G
40170716014	MW-3/T70	EPA 8260	LAP	12	PASI-G
40170716015	MW-4/T70	EPA 8260	LAP	12	PASI-G
40170716016	MW-5/T70	EPA 8260	LAP	12	PASI-G
40170716017	MW-6/T70	EPA 8260	LAP	12	PASI-G
40170716018	MW-11	EPA 8021	ALD	10	PASI-G
40170716019	PZ-11	EPA 8021	ALD	10	PASI-G
40170716020	MW-12	EPA 8021	ALD	10	PASI-G
40170716021	MW-13	EPA 8021	ALD	10	PASI-G
40170716022	PZ-13	EPA 8021	ALD	10	PASI-G
40170716023	MW-14	EPA 8021	ALD	10	PASI-G
40170716024	TRIP BLANK	EPA 8260	HNW	63	PASI-G

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SUMMARY OF DETECTION

Project: 34265.003 SRC
Pace Project No.: 40170716

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
40170716001	MW-1/T40					
EPA 8260	1,2,4-Trimethylbenzene	822	ug/L	20.0	06/14/18 10:38	
EPA 8260	1,3,5-Trimethylbenzene	284	ug/L	20.0	06/14/18 10:38	
EPA 8260	Benzene	1240	ug/L	20.0	06/14/18 10:38	
EPA 8260	Ethylbenzene	405	ug/L	20.0	06/14/18 10:38	
EPA 8260	m&p-Xylene	3550	ug/L	40.0	06/14/18 10:38	
EPA 8260	o-Xylene	66.2	ug/L	20.0	06/14/18 10:38	
40170716002	MW-2/T40					
EPA 8260	1,2,4-Trimethylbenzene	1290	ug/L	125	06/14/18 10:59	
EPA 8260	1,3,5-Trimethylbenzene	345	ug/L	125	06/14/18 10:59	
EPA 8260	Benzene	10400	ug/L	125	06/14/18 10:59	
EPA 8260	Ethylbenzene	1570	ug/L	125	06/14/18 10:59	
EPA 8260	Toluene	2080	ug/L	125	06/14/18 10:59	
EPA 8260	m&p-Xylene	6790	ug/L	250	06/14/18 10:59	
EPA 8260	o-Xylene	3130	ug/L	125	06/14/18 10:59	
40170716003	MW-4/T40					
EPA 8260	1,2,4-Trimethylbenzene	288	ug/L	20.0	06/14/18 21:03	
EPA 8260	1,3,5-Trimethylbenzene	89.6	ug/L	20.0	06/14/18 21:03	
EPA 8260	Benzene	1640	ug/L	20.0	06/14/18 21:03	
EPA 8260	Ethylbenzene	39.3	ug/L	20.0	06/14/18 21:03	
EPA 8260	m&p-Xylene	805	ug/L	40.0	06/14/18 21:03	
EPA 8260	o-Xylene	477	ug/L	20.0	06/14/18 21:03	
40170716004	MW-5/T40					
EPA 8260	1,2,4-Trimethylbenzene	20.9	ug/L	1.0	06/14/18 14:34	
EPA 8260	1,3,5-Trimethylbenzene	13.0	ug/L	1.0	06/14/18 14:34	
EPA 8260	Benzene	3.3	ug/L	1.0	06/14/18 14:34	
EPA 8260	Ethylbenzene	16.6	ug/L	1.0	06/14/18 14:34	
EPA 8260	m&p-Xylene	75.9	ug/L	2.0	06/14/18 14:34	
40170716005	MW-6/T40					
EPA 8260	1,2,4-Trimethylbenzene	222	ug/L	1.0	06/14/18 10:38	
EPA 8260	1,3,5-Trimethylbenzene	56.3	ug/L	1.0	06/14/18 10:38	
EPA 8260	Benzene	1180	ug/L	10.0	06/14/18 11:46	M1
EPA 8260	Ethylbenzene	662	ug/L	10.0	06/14/18 11:46	M1
EPA 8260	m&p-Xylene	822	ug/L	20.0	06/14/18 11:46	M1
EPA 8260	o-Xylene	2.3	ug/L	1.0	06/14/18 10:38	
40170716006	MW-7/T40					
EPA 8260	1,2,4-Trimethylbenzene	212	ug/L	20.0	06/14/18 11:23	
EPA 8260	1,3,5-Trimethylbenzene	67.7	ug/L	20.0	06/14/18 11:23	
EPA 8260	Benzene	934	ug/L	20.0	06/14/18 11:23	
EPA 8260	Ethylbenzene	71.4	ug/L	20.0	06/14/18 11:23	
EPA 8260	m&p-Xylene	896	ug/L	40.0	06/14/18 11:23	
EPA 8260	o-Xylene	245	ug/L	20.0	06/14/18 11:23	
40170716007	TS-1/T40					
EPA 8260	1,2,4-Trimethylbenzene	4.9	ug/L	1.0	06/14/18 12:09	
EPA 8260	1,3,5-Trimethylbenzene	1.7	ug/L	1.0	06/14/18 12:09	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SUMMARY OF DETECTION

Project: 34265.003 SRC

Pace Project No.: 40170716

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
40170716007	TS-1/T40					
EPA 8260	Benzene	20.9	ug/L	1.0	06/14/18 12:09	
EPA 8260	Ethylbenzene	2.2	ug/L	1.0	06/14/18 12:09	
EPA 8260	m&p-Xylene	1.5J	ug/L	2.0	06/14/18 12:09	
40170716009	MW-2/T68					
EPA 8260	1,2,4-Trimethylbenzene	2160	ug/L	200	06/14/18 10:45	
EPA 8260	1,2-Dichloroethane	1240	ug/L	200	06/14/18 10:45	
EPA 8260	1,3,5-Trimethylbenzene	543	ug/L	200	06/14/18 10:45	
EPA 8260	Benzene	24200	ug/L	200	06/14/18 10:45	
EPA 8260	Ethylbenzene	1550	ug/L	200	06/14/18 10:45	
EPA 8260	Isopropylbenzene (Cumene)	32.8J	ug/L	200	06/14/18 10:45	
EPA 8260	Toluene	25500	ug/L	200	06/14/18 10:45	
EPA 8260	m&p-Xylene	13200	ug/L	400	06/14/18 10:45	
EPA 8260	o-Xylene	5850	ug/L	200	06/14/18 10:45	
40170716010	MW-4/T68					
EPA 8260	1,2,4-Trimethylbenzene	548	ug/L	50.0	06/14/18 13:56	
EPA 8260	1,3,5-Trimethylbenzene	49.7J	ug/L	50.0	06/14/18 13:56	
EPA 8260	Benzene	3770	ug/L	50.0	06/14/18 13:56	
EPA 8260	Ethylbenzene	531	ug/L	50.0	06/14/18 13:56	
EPA 8260	m&p-Xylene	1280	ug/L	100	06/14/18 13:56	
40170716011	MW-5/T66					
EPA 8260	1,2,4-Trimethylbenzene	2600	ug/L	50.0	06/14/18 14:18	
EPA 8260	1,3,5-Trimethylbenzene	643	ug/L	50.0	06/14/18 14:18	
EPA 8260	Benzene	5630	ug/L	50.0	06/14/18 14:18	
EPA 8260	Ethylbenzene	2240	ug/L	50.0	06/14/18 14:18	
EPA 8260	Isopropylbenzene (Cumene)	40.9J	ug/L	50.0	06/14/18 14:18	
EPA 8260	Naphthalene	276	ug/L	250	06/14/18 14:18	
EPA 8260	Toluene	8760	ug/L	50.0	06/14/18 14:18	
EPA 8260	m&p-Xylene	12100	ug/L	100	06/14/18 14:18	
EPA 8260	n-Propylbenzene	147	ug/L	50.0	06/14/18 14:18	
EPA 8260	o-Xylene	4710	ug/L	50.0	06/14/18 14:18	
40170716012	MW-6/T68					
EPA 8260	1,2,4-Trimethylbenzene	2840	ug/L	50.0	06/14/18 14:41	
EPA 8260	1,2-Dichloroethane	209	ug/L	50.0	06/14/18 14:41	
EPA 8260	1,3,5-Trimethylbenzene	715	ug/L	50.0	06/14/18 14:41	
EPA 8260	Benzene	23300	ug/L	250	06/14/18 18:16	
EPA 8260	Ethylbenzene	2100	ug/L	50.0	06/14/18 14:41	
EPA 8260	Isopropylbenzene (Cumene)	37.1J	ug/L	50.0	06/14/18 14:41	
EPA 8260	Naphthalene	290	ug/L	250	06/14/18 14:41	
EPA 8260	Toluene	25200	ug/L	250	06/14/18 18:16	
EPA 8260	m&p-Xylene	15700	ug/L	100	06/14/18 14:41	
EPA 8260	n-Propylbenzene	111	ug/L	50.0	06/14/18 14:41	
EPA 8260	o-Xylene	6950	ug/L	50.0	06/14/18 14:41	
40170716013	MW-2R/T70					
EPA 8260	1,2,4-Trimethylbenzene	3400	ug/L	250	06/15/18 01:33	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 34265.003 SRC

Pace Project No.: 40170716

Method: EPA 8021

Description: 8021 GCV Short List

Client: Gannett Fleming Inc.

Date: June 15, 2018

General Information:

6 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:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 34265.003 SRC
Pace Project No.: 40170716

Method: EPA 8260
Description: 8260 MSV
Client: Gannett Fleming Inc.
Date: June 15, 2018

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: 291810

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40170694021

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

- MS (Lab ID: 1706474)
 - Trichloroethene
- MSD (Lab ID: 1706475)
 - Trichloroethene

Additional Comments:

Analyte Comments:

QC Batch: 291810

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1706474)
 - Trichloroethene

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 34265.003 SRC

Pace Project No.: 40170716

Method: EPA 8260

Description: 8260 MSV

Client: Gannett Fleming Inc.

Date: June 15, 2018

Analyte Comments:

QC Batch: 291810

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MSD (Lab ID: 1706475)
- Trichloroethene

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 34265.003 SRC

Pace Project No.: 40170716

Method: EPA 8260

Description: 8260 MSV UST

Client: Gannett Fleming Inc.

Date: June 15, 2018

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: 291809

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40170716005

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

- MS (Lab ID: 1707185)
 - Benzene
 - Ethylbenzene
 - m&p-Xylene
- MSD (Lab ID: 1707186)
 - Benzene
 - Ethylbenzene
 - m&p-Xylene

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 34265.003 SRC

Pace Project No.: 40170716

Method: EPA 8260

Description: 8260 MSV UST

Client: Gannett Fleming Inc.

Date: June 15, 2018

Analyte Comments:

QC Batch: 291809

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1707185)
 - Benzene
 - Ethylbenzene
 - m&p-Xylene
- MSD (Lab ID: 1707186)
 - Benzene
 - Ethylbenzene
 - m&p-Xylene

QC Batch: 291893

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

- MW-5/T70 (Lab ID: 40170716016)
 - Dibromofluoromethane (S)

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: MW-1/T40 **Lab ID: 40170716001** Collected: 06/12/18 08:05 Received: 06/13/18 09:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	822	ug/L	20.0	10.0	20		06/14/18 10:38	95-63-6	
1,3,5-Trimethylbenzene	284	ug/L	20.0	10.0	20		06/14/18 10:38	108-67-8	
Benzene	1240	ug/L	20.0	10.0	20		06/14/18 10:38	71-43-2	
Ethylbenzene	405	ug/L	20.0	10.0	20		06/14/18 10:38	100-41-4	
Methyl-tert-butyl ether	<3.5	ug/L	20.0	3.5	20		06/14/18 10:38	1634-04-4	
Toluene	<10.0	ug/L	20.0	10.0	20		06/14/18 10:38	108-88-3	
m&p-Xylene	3550	ug/L	40.0	20.0	20		06/14/18 10:38	179601-23-1	
o-Xylene	66.2	ug/L	20.0	10.0	20		06/14/18 10:38	95-47-6	
Surrogates									
Dibromofluoromethane (S)	104	%	70-130		20		06/14/18 10:38	1868-53-7	
Toluene-d8 (S)	100	%	70-130		20		06/14/18 10:38	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		20		06/14/18 10:38	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: MW-2/T40 **Lab ID: 40170716002** Collected: 06/12/18 07:35 Received: 06/13/18 09:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	1290	ug/L	125	62.5	125		06/14/18 10:59	95-63-6	
1,3,5-Trimethylbenzene	345	ug/L	125	62.5	125		06/14/18 10:59	108-67-8	
Benzene	10400	ug/L	125	62.5	125		06/14/18 10:59	71-43-2	
Ethylbenzene	1570	ug/L	125	62.5	125		06/14/18 10:59	100-41-4	
Methyl-tert-butyl ether	<21.8	ug/L	125	21.8	125		06/14/18 10:59	1634-04-4	
Toluene	2080	ug/L	125	62.5	125		06/14/18 10:59	108-88-3	
m&p-Xylene	6790	ug/L	250	125	125		06/14/18 10:59	179601-23-1	
o-Xylene	3130	ug/L	125	62.5	125		06/14/18 10:59	95-47-6	
Surrogates									
Dibromofluoromethane (S)	103	%	70-130		125		06/14/18 10:59	1868-53-7	HS
Toluene-d8 (S)	101	%	70-130		125		06/14/18 10:59	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		125		06/14/18 10:59	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: MW-4/T40 **Lab ID: 40170716003** Collected: 06/12/18 08:00 Received: 06/13/18 09:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	288	ug/L	20.0	10.0	20		06/14/18 21:03	95-63-6	
1,3,5-Trimethylbenzene	89.6	ug/L	20.0	10.0	20		06/14/18 21:03	108-67-8	
Benzene	1640	ug/L	20.0	10.0	20		06/14/18 21:03	71-43-2	
Ethylbenzene	39.3	ug/L	20.0	10.0	20		06/14/18 21:03	100-41-4	
Methyl-tert-butyl ether	<3.5	ug/L	20.0	3.5	20		06/14/18 21:03	1634-04-4	
Toluene	<10.0	ug/L	20.0	10.0	20		06/14/18 21:03	108-88-3	
m&p-Xylene	805	ug/L	40.0	20.0	20		06/14/18 21:03	179601-23-1	
o-Xylene	477	ug/L	20.0	10.0	20		06/14/18 21:03	95-47-6	
Surrogates									
Dibromofluoromethane (S)	105	%	70-130		20		06/14/18 21:03	1868-53-7	
Toluene-d8 (S)	101	%	70-130		20		06/14/18 21:03	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		20		06/14/18 21:03	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: MW-5/T40 **Lab ID: 40170716004** Collected: 06/12/18 07:40 Received: 06/13/18 09:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	20.9	ug/L	1.0	0.50	1		06/14/18 14:34	95-63-6	
1,3,5-Trimethylbenzene	13.0	ug/L	1.0	0.50	1		06/14/18 14:34	108-67-8	
Benzene	3.3	ug/L	1.0	0.50	1		06/14/18 14:34	71-43-2	
Ethylbenzene	16.6	ug/L	1.0	0.50	1		06/14/18 14:34	100-41-4	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		06/14/18 14:34	1634-04-4	
Toluene	<0.50	ug/L	1.0	0.50	1		06/14/18 14:34	108-88-3	
m&p-Xylene	75.9	ug/L	2.0	1.0	1		06/14/18 14:34	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		06/14/18 14:34	95-47-6	
Surrogates									
Dibromofluoromethane (S)	108	%	70-130		1		06/14/18 14:34	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		06/14/18 14:34	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		06/14/18 14:34	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: MW-6/T40 **Lab ID: 40170716005** Collected: 06/12/18 07:50 Received: 06/13/18 09:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	222	ug/L	1.0	0.50	1		06/14/18 10:38	95-63-6	
1,3,5-Trimethylbenzene	56.3	ug/L	1.0	0.50	1		06/14/18 10:38	108-67-8	
Benzene	1180	ug/L	10.0	5.0	10		06/14/18 11:46	71-43-2	M1
Ethylbenzene	662	ug/L	10.0	5.0	10		06/14/18 11:46	100-41-4	M1
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		06/14/18 10:38	1634-04-4	
Toluene	<0.50	ug/L	1.0	0.50	1		06/14/18 10:38	108-88-3	
m&p-Xylene	822	ug/L	20.0	10.0	10		06/14/18 11:46	179601-23-1	M1
o-Xylene	2.3	ug/L	1.0	0.50	1		06/14/18 10:38	95-47-6	
Surrogates									
Dibromofluoromethane (S)	107	%	70-130		1		06/14/18 10:38	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		06/14/18 10:38	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1		06/14/18 10:38	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: MW-7/T40 **Lab ID: 40170716006** Collected: 06/12/18 07:55 Received: 06/13/18 09:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
1,2,4-Trimethylbenzene	212	ug/L	20.0	10.0	20		06/14/18 11:23	95-63-6	
1,3,5-Trimethylbenzene	67.7	ug/L	20.0	10.0	20		06/14/18 11:23	108-67-8	
Benzene	934	ug/L	20.0	10.0	20		06/14/18 11:23	71-43-2	
Ethylbenzene	71.4	ug/L	20.0	10.0	20		06/14/18 11:23	100-41-4	
Methyl-tert-butyl ether	<3.5	ug/L	20.0	3.5	20		06/14/18 11:23	1634-04-4	
Toluene	<10.0	ug/L	20.0	10.0	20		06/14/18 11:23	108-88-3	
m&p-Xylene	896	ug/L	40.0	20.0	20		06/14/18 11:23	179601-23-1	
o-Xylene	245	ug/L	20.0	10.0	20		06/14/18 11:23	95-47-6	
Surrogates									
Dibromofluoromethane (S)	104	%	70-130		20		06/14/18 11:23	1868-53-7	
Toluene-d8 (S)	105	%	70-130		20		06/14/18 11:23	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		20		06/14/18 11:23	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: TS-1/T40 **Lab ID: 40170716007** Collected: 06/12/18 07:52 Received: 06/13/18 09:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
1,2,4-Trimethylbenzene	4.9	ug/L	1.0	0.50	1		06/14/18 12:09	95-63-6	
1,3,5-Trimethylbenzene	1.7	ug/L	1.0	0.50	1		06/14/18 12:09	108-67-8	
Benzene	20.9	ug/L	1.0	0.50	1		06/14/18 12:09	71-43-2	
Ethylbenzene	2.2	ug/L	1.0	0.50	1		06/14/18 12:09	100-41-4	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		06/14/18 12:09	1634-04-4	
Toluene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:09	108-88-3	
m&p-Xylene	1.5J	ug/L	2.0	1.0	1		06/14/18 12:09	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:09	95-47-6	
Surrogates									
Dibromofluoromethane (S)	106	%	70-130		1		06/14/18 12:09	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		06/14/18 12:09	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		06/14/18 12:09	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: TRIP BLANK **Lab ID: 40170716024** Collected: 06/12/18 00:00 Received: 06/13/18 09:20 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		06/14/18 12:49	630-20-6	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		06/14/18 12:49	79-34-5	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		06/14/18 12:49	79-00-5	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		06/14/18 12:49	75-34-3	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		06/14/18 12:49	75-35-4	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		06/14/18 12:49	563-58-6	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		06/14/18 12:49	87-61-6	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	96-18-4	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		06/14/18 12:49	120-82-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	95-63-6	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		06/14/18 12:49	96-12-8	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		06/14/18 12:49	106-93-4	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	95-50-1	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		06/14/18 12:49	107-06-2	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		06/14/18 12:49	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	106-46-7	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		06/14/18 12:49	594-20-7	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		06/14/18 12:49	106-43-4	
Benzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		06/14/18 12:49	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		06/14/18 12:49	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		06/14/18 12:49	74-83-9	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		06/14/18 12:49	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		06/14/18 12:49	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	124-48-1	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		06/14/18 12:49	74-95-3	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		06/14/18 12:49	75-71-8	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		06/14/18 12:49	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		06/14/18 12:49	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		06/14/18 12:49	1634-04-4	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		06/14/18 12:49	75-09-2	
Naphthalene	<2.5	ug/L	5.0	2.5	1		06/14/18 12:49	91-20-3	
Styrene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	100-42-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 34265.003 SRC

Pace Project No.: 40170716

Sample: TRIP BLANK **Lab ID: 40170716024** Collected: 06/12/18 00:00 Received: 06/13/18 09:20 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		06/14/18 12:49	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		06/14/18 12:49	75-69-4	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		06/14/18 12:49	75-01-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		06/14/18 12:49	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	10061-01-5	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		06/14/18 12:49	179601-23-1	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	103-65-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	95-47-6	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		06/14/18 12:49	99-87-6	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		06/14/18 12:49	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		06/14/18 12:49	98-06-6	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		06/14/18 12:49	156-60-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		06/14/18 12:49	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		06/14/18 12:49	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		06/14/18 12:49	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		06/14/18 12:49	2037-26-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC
Pace Project No.: 40170716

QC Batch: 291834 Analysis Method: EPA 8021
QC Batch Method: EPA 8021 Analysis Description: 8021 GCV BTEX
Associated Lab Samples: 40170716018, 40170716019, 40170716020, 40170716021, 40170716022, 40170716023

METHOD BLANK: 1706491 Matrix: Water
Associated Lab Samples: 40170716018, 40170716019, 40170716020, 40170716021, 40170716022, 40170716023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.34	1.1	06/14/18 09:15	
1,3,5-Trimethylbenzene	ug/L	<0.33	1.1	06/14/18 09:15	
Benzene	ug/L	<0.31	1.0	06/14/18 09:15	
Ethylbenzene	ug/L	<0.33	1.1	06/14/18 09:15	
m&p-Xylene	ug/L	<0.66	2.2	06/14/18 09:15	
Methyl-tert-butyl ether	ug/L	<0.32	1.1	06/14/18 09:15	
Naphthalene	ug/L	<0.51	1.7	06/14/18 09:15	
o-Xylene	ug/L	<0.32	1.0	06/14/18 09:15	
Toluene	ug/L	<0.49	1.6	06/14/18 09:15	
a,a,a-Trifluorotoluene (S)	%	102	85-115	06/14/18 09:15	

LABORATORY CONTROL SAMPLE & LCSD: 1706492 1706493

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	20.8	21.5	104	107	85-115	3	20	
1,3,5-Trimethylbenzene	ug/L	20	20.1	20.8	101	104	85-115	3	20	
Benzene	ug/L	20	19.8	19.9	99	100	85-115	1	20	
Ethylbenzene	ug/L	20	20.4	20.9	102	104	85-115	2	20	
m&p-Xylene	ug/L	40	40.1	41.2	100	103	85-115	3	20	
Methyl-tert-butyl ether	ug/L	20	19.4	20.0	97	100	85-115	3	20	
Naphthalene	ug/L	20	20.9	22.6	105	113	86-121	8	20	
o-Xylene	ug/L	20	20.1	20.7	100	103	85-115	3	20	
Toluene	ug/L	20	20.0	20.2	100	101	85-115	1	20	
a,a,a-Trifluorotoluene (S)	%				103	104	85-115			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1706756 1706757

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40170716018 Result	Spike Conc.	Spike Conc.	MS Result						
1,2,4-Trimethylbenzene	ug/L	<0.34	20	20	23.7	22.8	119	114	51-160	4	20
1,3,5-Trimethylbenzene	ug/L	<0.33	20	20	23.0	22.1	115	111	56-146	4	20
Benzene	ug/L	<0.31	20	20	22.3	21.1	112	105	71-137	6	20
Ethylbenzene	ug/L	<0.33	20	20	23.5	22.5	118	113	71-141	4	20
m&p-Xylene	ug/L	<0.66	40	40	46.0	44.2	115	111	66-141	4	20
Methyl-tert-butyl ether	ug/L	<0.32	20	20	21.6	20.0	108	100	82-116	8	20
Naphthalene	ug/L	<0.51	20	20	24.2	23.4	121	117	67-138	3	20
o-Xylene	ug/L	<0.32	20	20	23.0	22.0	115	110	75-133	4	20
Toluene	ug/L	<0.49	20	20	22.9	21.8	114	109	76-134	5	20

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC

Pace Project No.: 40170716

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1706756		1706757									
Parameter	Units	40170716018 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)	%						103	103	85-115				

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC

Pace Project No.: 40170716

QC Batch: 291810

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV

Associated Lab Samples: 40170716008, 40170716009, 40170716010, 40170716011, 40170716012, 40170716024

METHOD BLANK: 1706443

Matrix: Water

Associated Lab Samples: 40170716008, 40170716009, 40170716010, 40170716011, 40170716012, 40170716024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	06/14/18 07:23	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	06/14/18 07:23	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	06/14/18 07:23	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	06/14/18 07:23	
1,1-Dichloroethane	ug/L	<0.24	1.0	06/14/18 07:23	
1,1-Dichloroethene	ug/L	<0.41	1.0	06/14/18 07:23	
1,1-Dichloropropene	ug/L	<0.44	1.0	06/14/18 07:23	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	06/14/18 07:23	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	06/14/18 07:23	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	06/14/18 07:23	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 07:23	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	06/14/18 07:23	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	06/14/18 07:23	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	06/14/18 07:23	
1,2-Dichloroethane	ug/L	<0.17	1.0	06/14/18 07:23	
1,2-Dichloropropane	ug/L	<0.23	1.0	06/14/18 07:23	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 07:23	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	06/14/18 07:23	
1,3-Dichloropropane	ug/L	<0.50	1.0	06/14/18 07:23	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	06/14/18 07:23	
2,2-Dichloropropane	ug/L	<0.48	1.0	06/14/18 07:23	
2-Chlorotoluene	ug/L	<0.50	1.0	06/14/18 07:23	
4-Chlorotoluene	ug/L	<0.21	1.0	06/14/18 07:23	
Benzene	ug/L	<0.50	1.0	06/14/18 07:23	
Bromobenzene	ug/L	<0.23	1.0	06/14/18 07:23	
Bromochloromethane	ug/L	<0.34	1.0	06/14/18 07:23	
Bromodichloromethane	ug/L	<0.50	1.0	06/14/18 07:23	
Bromoform	ug/L	<0.50	1.0	06/14/18 07:23	
Bromomethane	ug/L	<2.4	5.0	06/14/18 07:23	
Carbon tetrachloride	ug/L	<0.50	1.0	06/14/18 07:23	
Chlorobenzene	ug/L	<0.50	1.0	06/14/18 07:23	
Chloroethane	ug/L	<0.37	1.0	06/14/18 07:23	
Chloroform	ug/L	<2.5	5.0	06/14/18 07:23	
Chloromethane	ug/L	<0.50	1.0	06/14/18 07:23	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	06/14/18 07:23	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	06/14/18 07:23	
Dibromochloromethane	ug/L	<0.50	1.0	06/14/18 07:23	
Dibromomethane	ug/L	<0.43	1.0	06/14/18 07:23	
Dichlorodifluoromethane	ug/L	<0.22	1.0	06/14/18 07:23	
Ethylbenzene	ug/L	<0.50	1.0	06/14/18 07:23	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	06/14/18 07:23	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC

Pace Project No.: 40170716

METHOD BLANK: 1706443

Matrix: Water

Associated Lab Samples: 40170716008, 40170716009, 40170716010, 40170716011, 40170716012, 40170716024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	06/14/18 07:23	
m&p-Xylene	ug/L	<1.0	2.0	06/14/18 07:23	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	06/14/18 07:23	
Methylene Chloride	ug/L	<0.23	1.0	06/14/18 07:23	
n-Butylbenzene	ug/L	<0.50	1.0	06/14/18 07:23	
n-Propylbenzene	ug/L	<0.50	1.0	06/14/18 07:23	
Naphthalene	ug/L	<2.5	5.0	06/14/18 07:23	
o-Xylene	ug/L	<0.50	1.0	06/14/18 07:23	
p-Isopropyltoluene	ug/L	<0.50	1.0	06/14/18 07:23	
sec-Butylbenzene	ug/L	<2.2	5.0	06/14/18 07:23	
Styrene	ug/L	<0.50	1.0	06/14/18 07:23	
tert-Butylbenzene	ug/L	<0.18	1.0	06/14/18 07:23	
Tetrachloroethene	ug/L	<0.50	1.0	06/14/18 07:23	
Toluene	ug/L	<0.50	1.0	06/14/18 07:23	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	06/14/18 07:23	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	06/14/18 07:23	
Trichloroethene	ug/L	<0.33	1.0	06/14/18 07:23	
Trichlorofluoromethane	ug/L	<0.18	1.0	06/14/18 07:23	
Vinyl chloride	ug/L	<0.18	1.0	06/14/18 07:23	
4-Bromofluorobenzene (S)	%	97	70-130	06/14/18 07:23	
Dibromofluoromethane (S)	%	102	70-130	06/14/18 07:23	
Toluene-d8 (S)	%	103	70-130	06/14/18 07:23	

LABORATORY CONTROL SAMPLE: 1706444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.9	110	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	51.0	102	67-130	
1,1,2-Trichloroethane	ug/L	50	60.3	121	70-130	
1,1-Dichloroethane	ug/L	50	55.4	111	70-134	
1,1-Dichloroethene	ug/L	50	59.1	118	75-132	
1,2,4-Trichlorobenzene	ug/L	50	44.8	90	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.0	94	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	54.0	108	70-130	
1,2-Dichlorobenzene	ug/L	50	47.4	95	70-130	
1,2-Dichloroethane	ug/L	50	49.9	100	73-134	
1,2-Dichloropropane	ug/L	50	58.6	117	79-128	
1,3-Dichlorobenzene	ug/L	50	45.9	92	70-130	
1,4-Dichlorobenzene	ug/L	50	48.5	97	70-130	
Benzene	ug/L	50	52.9	106	69-137	
Bromodichloromethane	ug/L	50	60.2	120	70-130	
Bromoform	ug/L	50	60.2	120	64-133	
Bromomethane	ug/L	50	49.3	99	29-123	
Carbon tetrachloride	ug/L	50	53.9	108	73-142	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC

Pace Project No.: 40170716

LABORATORY CONTROL SAMPLE: 1706444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	55.8	112	70-130	
Chloroethane	ug/L	50	53.8	108	59-133	
Chloroform	ug/L	50	58.5	117	80-129	
Chloromethane	ug/L	50	34.3	69	27-125	
cis-1,2-Dichloroethene	ug/L	50	54.8	110	70-134	
cis-1,3-Dichloropropene	ug/L	50	57.4	115	70-130	
Dibromochloromethane	ug/L	50	53.1	106	70-130	
Dichlorodifluoromethane	ug/L	50	46.7	93	12-127	
Ethylbenzene	ug/L	50	59.6	119	86-127	
Isopropylbenzene (Cumene)	ug/L	50	55.4	111	70-130	
m&p-Xylene	ug/L	100	115	115	70-131	
Methyl-tert-butyl ether	ug/L	50	54.5	109	65-136	
Methylene Chloride	ug/L	50	57.9	116	72-133	
o-Xylene	ug/L	50	56.3	113	70-130	
Styrene	ug/L	50	58.7	117	70-130	
Tetrachloroethene	ug/L	50	59.0	118	70-130	
Toluene	ug/L	50	59.1	118	84-124	
trans-1,2-Dichloroethene	ug/L	50	56.8	114	70-133	
trans-1,3-Dichloropropene	ug/L	50	54.0	108	67-130	
Trichloroethene	ug/L	50	59.0	118	70-130	
Trichlorofluoromethane	ug/L	50	61.9	124	69-147	
Vinyl chloride	ug/L	50	52.4	105	48-134	
4-Bromofluorobenzene (S)	%			112	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			106	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1706474 1706475

Parameter	Units	MS 40170694021		MSD		MS 1706475		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
1,1,1-Trichloroethane	ug/L	<12.5	500	500	567	578	113	116	70-136	2	20		
1,1,2,2-Tetrachloroethane	ug/L	<6.2	500	500	528	528	106	106	67-133	0	20		
1,1,2-Trichloroethane	ug/L	<4.9	500	500	615	612	123	122	70-130	0	20		
1,1-Dichloroethane	ug/L	<6.0	500	500	566	560	113	112	70-139	1	20		
1,1-Dichloroethene	ug/L	<10.3	500	500	604	602	121	120	72-137	0	20		
1,2,4-Trichlorobenzene	ug/L	<55.2	500	500	470	476	93	94	68-130	1	20		
1,2-Dibromo-3-chloropropane	ug/L	<54.1	500	500	489	479	98	96	60-130	2	21		
1,2-Dibromoethane (EDB)	ug/L	<4.4	500	500	555	549	111	110	70-130	1	20		
1,2-Dichlorobenzene	ug/L	<12.5	500	500	481	483	96	97	70-130	1	20		
1,2-Dichloroethane	ug/L	<4.2	500	500	522	521	104	104	71-137	0	20		
1,2-Dichloropropane	ug/L	<5.8	500	500	599	600	120	120	78-130	0	20		
1,3-Dichlorobenzene	ug/L	<12.5	500	500	472	469	94	94	70-130	1	20		
1,4-Dichlorobenzene	ug/L	<12.5	500	500	499	499	99	99	70-130	0	20		
Benzene	ug/L	<12.5	500	500	536	537	107	107	66-143	0	20		

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC

Pace Project No.: 40170716

Parameter	Units	1706474		1706475		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40170694021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Bromodichloromethane	ug/L	<12.5	500	500	610	616	122	123	70-130	1	20	
Bromoform	ug/L	<12.5	500	500	611	608	122	122	64-134	1	20	
Bromomethane	ug/L	<60.9	500	500	537	551	107	110	29-136	3	25	
Carbon tetrachloride	ug/L	<12.5	500	500	546	551	109	110	73-142	1	20	
Chlorobenzene	ug/L	<12.5	500	500	567	561	113	112	70-130	1	20	
Chloroethane	ug/L	<9.4	500	500	544	539	109	108	58-138	1	20	
Chloroform	ug/L	<62.5	500	500	592	596	118	119	80-131	1	20	
Chloromethane	ug/L	<12.5	500	500	342	341	68	68	24-125	0	20	
cis-1,2-Dichloroethene	ug/L	195	500	500	761	758	113	113	68-137	0	22	
cis-1,3-Dichloropropene	ug/L	<12.5	500	500	583	594	117	119	70-130	2	20	
Dibromochloromethane	ug/L	<12.5	500	500	540	538	108	108	70-131	0	20	
Dichlorodifluoromethane	ug/L	<5.6	500	500	460	463	92	93	10-127	1	20	
Ethylbenzene	ug/L	<12.5	500	500	600	600	120	120	81-136	0	20	
Isopropylbenzene (Cumene)	ug/L	<3.6	500	500	565	557	113	111	70-132	1	20	
m&p-Xylene	ug/L	<25.0	1000	1000	1160	1150	116	115	70-135	1	20	
Methyl-tert-butyl ether	ug/L	<4.4	500	500	559	557	112	111	58-142	0	23	
Methylene Chloride	ug/L	<5.8	500	500	587	583	117	117	69-137	1	20	
o-Xylene	ug/L	<12.5	500	500	564	560	113	112	70-132	1	20	
Styrene	ug/L	<12.5	500	500	593	587	119	117	70-130	1	20	
Tetrachloroethene	ug/L	<12.5	500	500	606	600	121	120	70-132	1	20	
Toluene	ug/L	<12.5	500	500	602	597	120	119	81-130	1	20	
trans-1,2-Dichloroethene	ug/L	7.2J	500	500	580	581	115	115	70-136	0	20	
trans-1,3-Dichloropropene	ug/L	<5.7	500	500	558	550	112	110	67-130	2	20	
Trichloroethene	ug/L	2380	500	500	3520	3360	227	196	70-131	5	20	E,M1
Trichlorofluoromethane	ug/L	<4.6	500	500	629	627	126	125	66-150	0	20	
Vinyl chloride	ug/L	<4.4	500	500	533	530	107	106	46-134	1	20	
4-Bromofluorobenzene (S)	%						112	111	70-130			
Dibromofluoromethane (S)	%						103	105	70-130			
Toluene-d8 (S)	%						105	105	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC
Pace Project No.: 40170716

QC Batch: 291808 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40170716001, 40170716002, 40170716003, 40170716004

METHOD BLANK: 1706439 Matrix: Water
Associated Lab Samples: 40170716001, 40170716002, 40170716003, 40170716004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 07:24	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 07:24	
Benzene	ug/L	<0.50	1.0	06/14/18 07:24	
Ethylbenzene	ug/L	<0.50	1.0	06/14/18 07:24	
m&p-Xylene	ug/L	<1.0	2.0	06/14/18 07:24	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	06/14/18 07:24	
o-Xylene	ug/L	<0.50	1.0	06/14/18 07:24	
Toluene	ug/L	<0.50	1.0	06/14/18 07:24	
4-Bromofluorobenzene (S)	%	97	70-130	06/14/18 07:24	
Dibromofluoromethane (S)	%	97	70-130	06/14/18 07:24	
Toluene-d8 (S)	%	103	70-130	06/14/18 07:24	

LABORATORY CONTROL SAMPLE: 1706440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	46.6	93	69-137	
Ethylbenzene	ug/L	50	51.0	102	86-127	
m&p-Xylene	ug/L	100	102	102	70-131	
Methyl-tert-butyl ether	ug/L	50	45.7	91	65-136	
o-Xylene	ug/L	50	50.6	101	70-130	
Toluene	ug/L	50	49.0	98	84-124	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1706476 1706477

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40170736006 Result	Spike Conc.	Spike Conc.	MS Result						
Benzene	ug/L	987	500	500	1400	1390	83	81	66-143	1	20
Ethylbenzene	ug/L	923	500	500	1400	1410	96	97	81-136	0	20
m&p-Xylene	ug/L	1150	1000	1000	2180	2190	103	104	70-135	0	20
Methyl-tert-butyl ether	ug/L	<10.0	500	500	488	461	98	92	58-142	6	23
o-Xylene	ug/L	94.8	500	500	633	636	108	108	70-132	1	20
Toluene	ug/L	25.3	500	500	538	543	102	103	81-130	1	20
4-Bromofluorobenzene (S)	%						102	101	70-130		
Dibromofluoromethane (S)	%						103	101	70-130		
Toluene-d8 (S)	%						101	101	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC
Pace Project No.: 40170716

QC Batch: 291809 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40170716005, 40170716006, 40170716007

METHOD BLANK: 1706441 Matrix: Water
Associated Lab Samples: 40170716005, 40170716006, 40170716007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 08:45	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 08:45	
Benzene	ug/L	<0.50	1.0	06/14/18 08:45	
Ethylbenzene	ug/L	<0.50	1.0	06/14/18 08:45	
m&p-Xylene	ug/L	<1.0	2.0	06/14/18 08:45	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	06/14/18 08:45	
o-Xylene	ug/L	<0.50	1.0	06/14/18 08:45	
Toluene	ug/L	<0.50	1.0	06/14/18 08:45	
4-Bromofluorobenzene (S)	%	97	70-130	06/14/18 08:45	
Dibromofluoromethane (S)	%	109	70-130	06/14/18 08:45	
Toluene-d8 (S)	%	103	70-130	06/14/18 08:45	

LABORATORY CONTROL SAMPLE: 1706442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	66.5	133	69-137	
Ethylbenzene	ug/L	50	58.5	117	86-127	
m&p-Xylene	ug/L	100	115	115	70-131	
Methyl-tert-butyl ether	ug/L	50	63.8	128	65-136	
o-Xylene	ug/L	50	57.3	115	70-130	
Toluene	ug/L	50	58.2	116	84-124	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			109	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1707185 1707186

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40170716005 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Benzene	ug/L	1180	50	50	1110	1160	-142	-35	66-143	5	20	E,M1
Ethylbenzene	ug/L	662	50	50	742	733	160	143	81-136	1	20	E,M1
m&p-Xylene	ug/L	822	100	100	1020	1010	201	192	70-135	1	20	E,M1
Methyl-tert-butyl ether	ug/L	<0.17	50	50	63.7	60.2	127	120	58-142	6	23	
o-Xylene	ug/L	2.3	50	50	58.6	56.5	113	108	70-132	4	20	
Toluene	ug/L	<0.50	50	50	56.9	54.8	114	110	81-130	4	20	
4-Bromofluorobenzene (S)	%						104	103	70-130			
Dibromofluoromethane (S)	%						108	111	70-130			
Toluene-d8 (S)	%						102	100	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC
Pace Project No.: 40170716

QC Batch: 291893 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40170716013, 40170716014, 40170716015, 40170716016, 40170716017

METHOD BLANK: 1706810 Matrix: Water
Associated Lab Samples: 40170716013, 40170716014, 40170716015, 40170716016, 40170716017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 16:52	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	06/14/18 16:52	
Benzene	ug/L	<0.50	1.0	06/14/18 16:52	
Ethylbenzene	ug/L	<0.50	1.0	06/14/18 16:52	
m&p-Xylene	ug/L	<1.0	2.0	06/14/18 16:52	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	06/14/18 16:52	
Naphthalene	ug/L	<2.5	5.0	06/14/18 16:52	
o-Xylene	ug/L	<0.50	1.0	06/14/18 16:52	
Toluene	ug/L	<0.50	1.0	06/14/18 16:52	
4-Bromofluorobenzene (S)	%	88	70-130	06/14/18 16:52	
Dibromofluoromethane (S)	%	110	70-130	06/14/18 16:52	
Toluene-d8 (S)	%	99	70-130	06/14/18 16:52	

LABORATORY CONTROL SAMPLE: 1706811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	45.4	91	69-137	
Ethylbenzene	ug/L	50	55.2	110	86-127	
m&p-Xylene	ug/L	100	115	115	70-131	
Methyl-tert-butyl ether	ug/L	50	54.9	110	65-136	
o-Xylene	ug/L	50	55.2	110	70-130	
Toluene	ug/L	50	51.6	103	84-124	
4-Bromofluorobenzene (S)	%			107	70-130	
Dibromofluoromethane (S)	%			109	70-130	
Toluene-d8 (S)	%			95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1707203 1707204

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10435016001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Benzene	ug/L	13.1J	1000	1000	936	954	92	94	66-143	2	20	
Ethylbenzene	ug/L	17.7J	1000	1000	1140	1150	112	113	81-136	1	20	
m&p-Xylene	ug/L	101	2000	2000	2440	2430	117	116	70-135	0	20	
Methyl-tert-butyl ether	ug/L	<3.5	1000	1000	1120	1140	112	114	58-142	2	23	
o-Xylene	ug/L	164	1000	1000	1370	1380	120	122	70-132	1	20	
Toluene	ug/L	53.5	1000	1000	1090	1090	104	103	81-130	1	20	
4-Bromofluorobenzene (S)	%						107	109	70-130			
Dibromofluoromethane (S)	%						101	102	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 34265.003 SRC

Pace Project No.: 40170716

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1707203		1707204									
Parameter	Units	10435016001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Toluene-d8 (S)	%						95	95	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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 34265.003 SRC
Pace Project No.: 40170716

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.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 34265.003 SRC
Pace Project No.: 40170716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40170716018	MW-11	EPA 8021	291834		
40170716019	PZ-11	EPA 8021	291834		
40170716020	MW-12	EPA 8021	291834		
40170716021	MW-13	EPA 8021	291834		
40170716022	PZ-13	EPA 8021	291834		
40170716023	MW-14	EPA 8021	291834		
40170716008	MW-1/T68	EPA 8260	291810		
40170716009	MW-2/T68	EPA 8260	291810		
40170716010	MW-4/T68	EPA 8260	291810		
40170716011	MW-5/T66	EPA 8260	291810		
40170716012	MW-6/T68	EPA 8260	291810		
40170716024	TRIP BLANK	EPA 8260	291810		
40170716001	MW-1/T40	EPA 8260	291808		
40170716002	MW-2/T40	EPA 8260	291808		
40170716003	MW-4/T40	EPA 8260	291808		
40170716004	MW-5/T40	EPA 8260	291808		
40170716005	MW-6/T40	EPA 8260	291809		
40170716006	MW-7/T40	EPA 8260	291809		
40170716007	TS-1/T40	EPA 8260	291809		
40170716013	MW-2R/T70	EPA 8260	291893		
40170716014	MW-3/T70	EPA 8260	291893		
40170716015	MW-4/T70	EPA 8260	291893		
40170716016	MW-5/T70	EPA 8260	291893		
40170716017	MW-6/T70	EPA 8260	291893		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

(Please Print Clearly)

Company Name: **Gannett Fleming**
 Branch/Location: **Madison, WI**
 Project Contact: **Cliff Wright**
 Phone: **608-8361500**
 Project Number: **34265.003**
 Project Name: **SRC**
 Project State: **WI**
 Sampled By (Print): **Marcus Mussey**
 Sampled By (Sign): *[Signature]*
 PO #:



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

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

Y/N	N	N	N						
Pick Letter	B	B	B						
Analyses Requested	PVOCs 8260	VOCs 8260	PVOC/Maph. 8260						

Quote #: **40170716**

Mail To Contact: **cwright@gfnet.com**
 Mail To Company: **Gannett Fleming**
 Mail To Address: **8025 Excelsior Dr
 Madison, WI 53717**

Invoice To Contact: *[Arrow pointing up]*
 Invoice To Company:
 Invoice To Address:

Invoice To Phone: **608-836-1500**

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

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MW-1/T40	6/12	805	GW
002	MW-2/T40		735	
003	MW-4/T40		800	
004	MW-5/T40		740	
005	MW-6/T40		750	
006	MW-7/T40		755	
007	TS-1/T40		752	
008	MW-1/T68		810	
009	MW-2/T68		820	
010	MW-4/T68		815	
011	MW-5/T66		830	
012	MW-6/T68		825	
013	MW-2R/T70		840	

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:	Relinquished By: <i>[Signature]</i> Date/Time: 6/12, 1520	Received By: Fedex Date/Time:	PACE Project No. 40170716 Receipt Temp = ROT °C Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / Not Present Intact / Not Intact
	Relinquished By: Fed Ex Date/Time: 6/13/18 0920	Received By: <i>[Signature]</i> Date/Time: 6/13/18 0920	
	Relinquished By:	Received By:	
	Relinquished By:	Received By:	
	Relinquished By:	Received By:	

(Please Print Clearly)

UPPER MIDWEST REGION

Page 1 of

MN: 612-607-1700 WI: 920-469-2436



40170716

Page 56 of 59

Company Name: _____
 Branch/Location: _____
 Project Contact: *see*
 Phone: _____
 Project Number: *page*
 Project Name: _____
 Project State: *I*
 Sampled By (Print): _____
 Sampled By (Sign): _____
 PO #: _____ Regulatory Program: _____

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

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

Y/N	N	N																
Pick Letter	B	B																
Analyses Requested	PVOC/Naph. 8760	PVOC/Naph. 1208 8021																

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
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
014	MW-3/T70	6/12	852	GW
015	MW-4/T70		855	
016	MW-5/T70		845	
017	MW-6/T70		850	
018	MW-11		920	
019	PZ-11		922	
020	MW-12		935	
021	MW-13		945	
022	PZ-13		947	
023	MW-14		955	
024	Trip Blank			

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 #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: <i>[Signature]</i> Date/Time: 6/12/18 1520	Received By: _____ Date/Time: _____	PACE Project No. 40170716
	Transmit Prelim Rush Results by (complete what you want): Fed Ex 6/13/18 0920	Received By: <i>[Signature]</i> Date/Time: 6/13/18 0920	
Email #1:	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Sample Receipt pH OK / Adjusted
Email #2:	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Cooler Custody Seal Present / Not Present
Telephone:	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Intact / Not Intact
Fax:	Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	

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

Client Name: Garnett Flaming

Sample Preservation Receipt Form

Project # 40170716

All containers needing preservation have been checked and noted below: Yes No N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

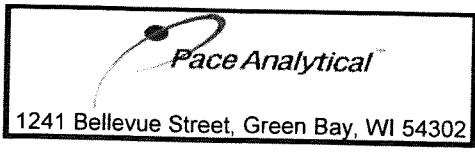
Initial when completed:

Date/Time:

Pace Lab #	Glass							Plastic							Vials				Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)								
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T								ZPLC	GN						
001																																							
002																																							2.5 / 5 / 10
003																																							2.5 / 5 / 10
004																																							2.5 / 5 / 10
005																																							2.5 / 5 / 10
006																																							2.5 / 5 / 10
007																																							2.5 / 5 / 10
008																																							2.5 / 5 / 10
009																																							2.5 / 5 / 10
010																																							2.5 / 5 / 10
011																																							2.5 / 5 / 10
012																																							2.5 / 5 / 10
013																																							2.5 / 5 / 10
014																																							2.5 / 5 / 10
015																																							2.5 / 5 / 10
016																																							2.5 / 5 / 10
017																																							2.5 / 5 / 10
018																																							2.5 / 5 / 10
019																																							2.5 / 5 / 10
020																																							2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	



Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Gagnott Fleming

Project #: _____

WO#: 40170716

Courier: CS Logistics Fed Ex Speedee UPS Walco
 Client Pace Other: _____



Tracking #: 8130 1610 8130

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 SR - N/A **Type of Ice:** Wet Blue Dry None

Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROP ICorr:

Temp Blank Present: yes no

Biological Tissue is Frozen: yes no

Person examining contents:
Date: 6/13/18
Initials: SSM

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>page 2 has miss'd mail to info@voice.nh.gov, # 552 6/13/18</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4. <u>page 1 only SSM 6/13/18</u>
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis	Matrix: <u>W</u>	
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>400</u>		

Client Notification/ Resolution: _____
 Person Contacted: _____ Date/Time: _____ If checked, see attached form for additional comments
 Comments/ Resolution: _____

Project Manager Review: RNR for DM **Date:** 6/13/18