

# Semi-Annual Operation and Monitoring Report, January-June 2018

Former Kenosha Engine Plant, Kenosha, Wisconsin

WDNR FID 230004500, BRRTS# 02-30-000327

December 18, 2018

Mr. Dave Volkert  
Wisconsin Department of Natural Resources  
Remediation and Redevelopment Program  
141 NW Barstow St., Room 180  
Waukesha, WI 53188

**Subject: Semi-Annual Operation and Monitoring Report, January-June 2018  
Former Kenosha Engine Plant, Kenosha, Wisconsin  
WDNR FID 230004500, BRRTS# 02-30-000327**

Dear Mr. Volkert,

AECOM is transmitting the attached Semi-Annual Remediation Site Progress and Operation, Maintenance, Monitoring and Optimization Report (Form 4400-194) for the former Kenosha Engine Plant (KEP) for the time period January 2018 through June 2018 on behalf of the City of Kenosha.

AECOM continues operation, maintenance, and monitoring (OM&M) of three groundwater remediation systems at the KEP.

The three systems are:

- Sump 6
- The Central System: Sumps 18 & 23
- The Southern System: Sumps 7, 15, & 17R

Figures 1 and 2 depict sump locations. Treated groundwater is discharged to the Kenosha Water Utility sanitary system at three different locations near the boundary of the KEP. During this operational period remedial systems have been maintained for continued operation. A review of the current conditions of each of the systems and the measures taken during the reporting period to restore/improve operations are provided below.

### **System Description and Operational Status**

AECOM maintained the operational status of each of the three groundwater remediation systems located at the KEP during the period from January through June 2018. The system component(s) encountered the following operational breakdowns during the period and have been restored back into working order:

- Sump 6 – The system has been functioning normally except for the following intermittent interruptions;
  - On January 8<sup>th</sup> a replacement pump was installed in sump 6 as a result of normal wear and use.

- Central System –The system has been operational since repairs listed below have been completed;
  - On March 26<sup>th</sup> the sanitary sewer system was repaired by the soil remediation contractor
- Southern System – The system has been operating normally except for the following intermittent interruptions;
  - On February 12<sup>th</sup> the discharge hose connected to sump 7 was found cracked and temporarily repaired onsite, a replacement hose was installed on February 22<sup>nd</sup>.

The conditions of the system components were reviewed on July 2, 2018 and are summarized here:

#### Sump 6

- Pump – Depth to water and depth to bottom were adequate for continued groundwater removal.
- System is operating.

#### Central System, Sumps 18 & 23

- System has been shut down for localized groundwater study analysis, shut down length to be determined during next operational periods.
- Pump – Depth to water and depth to bottom were adequate for continued groundwater removal.
- System not operating.

#### Southern System, Sumps 7, 15 and 17R

- Pumps – Depth to water and depth to bottom were adequate for continued groundwater removal.
- System is operating.

### **Evaluation of Current Monitoring Data**

A water table contour map (Figure 1) and a potentiometric map of the deeper groundwater (Figure 2, as measured by KEP piezometers at a depth of approximately 25 feet bgs) for May 2018 are attached. Capture zones for the Southern (Sumps 7, 15 & 17R) systems are illustrated by the 615 foot contour located adjacent to the system building. The capture zone for Sump 6 is illustrated by the 617 foot contour located around the system building.

Influent (pre-treatment) groundwater samples are collected from each individual sump and effluent (post-treatment) samples are collected from each treatment system. The samples are analyzed for volatile organic compounds (VOCs), diesel range organics (DRO) and gasoline range organics (GRO) in conformance with the Kenosha Water Utility discharge permit. Tables 1 and 2 provide a summary of influent and effluent samples (detected VOCs, DRO and GRO) collected, with the most recent results from March 2018 shown for three operating sumps (Sumps 6, 7, and 17R). Influent samples were not collected in March 2018 at Sumps 15 and 23 because the pumps were not operating at the time of sample collection.

After reviewing the influent concentrations for each sump, generally one contaminant was dominant (as evidenced by its exceedance of the NR 140 Wisconsin Administrative Code groundwater quality Enforcement Standard [ES]) in its concentration over time. The individual contaminants and their trends by sump are:

### Sump 6

- Sump 6 – Trichloroethene  
The TCE concentrations exceed the ES without an observable trend. Cis-1,2-dichloroethene and vinyl chloride are also present above their respective ES. Additional soil remediation (source soil excavation) to occur during in late 2018 will likely address TCE concentrations.

### Central System

- Sump 18 – Benzene  
Benzene concentrations exceed the ES without an observable trend. Cis-1,2-dichloroethene and vinyl chloride also exceed the ES, and the parent product, TCE, was detected above the ES in the March 2017 sampling event. Cis-1,2-dichloroethene and vinyl chloride concentrations have decreased from the March 2016 sampling event. Results from Sump 18 are variable but will continue to be evaluated for future trends.

### Southern System

- Sump 7 – Vinyl Chloride  
Only vinyl chloride exceeds the ES, without an observable trend. Trend analysis will continue during future sampling events.
- Sump 17R – Trichloroethene  
The TCE concentration is exceeds the ES without an observable trend. Cis-1,2-dichloroethene and vinyl chloride also exceed the ES at concentrations without an observable trend. Trend analysis will continue during future sampling events.

Table 3 presents a summary of the operational data collected for January through June of 2018. The treatment systems reduce influent concentrations to below the effluent concentration permit limits established by the Kenosha Water Utility. Thus, the systems are operating in compliance with discharge requirements.

### **Plan for Repair, Replacement and Optimization**

Sump 6 groundwater extraction pump was replaced during the operational period. Biofouling reduction on the pump inlet screen and flow meter are planned during the next operational period to extend the life of the pump and ensure treatment flow is recorded.

Central System –The capture zone from Sump 18 appears to be sufficient at the current time. If the capture zone needs to be increased adjustments to the pumping rate in Sump 23 will take place. Biofouling reduction on the pump inlet screen and flow meter are planned during the next operational period to ensure treatment flow is recorded.

Southern System –Sump 7 groundwater extraction pump reached the end of its usable life and was replaced during the operational period.

Optimization of the three operating groundwater recovery systems will continue in fall of 2018 with regular monitoring of flow and evaluation of nearby groundwater elevations for the control of the hydraulic gradient with the least amount of pumping required.

**Closing**

WDNR form 4400-194 Remediation Site Progress, and Operation, Maintenance, Monitoring & Optimization Report is attached as well as supporting tables and figures as required. The Kenosha Engine Plant groundwater remediation system effectively reduces contaminant concentration in compliance with the wastewater discharge permits.

Yours sincerely,

AECOM Technical Services, Inc.



Zachary P. Albert  
Scientist

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**Attachments**

WDNR form 4400-194 Remediation site Progress, and Operation, Maintenance, Monitoring & Optimization Report  
Table 1 – Influent Summary (Detected VOCs, DRO and GRO)  
Table 2 – Effluent Summary  
Table 3 – Operational Summary  
Figure 1 – Potentiometric Surface in Water Table Wells (April 2016)  
Figure 2 – Potentiometric Surface in Piezometers (April 2016)  
Pace Analytical – Laboratory Report Influent and effluent samples

Cc: Shelly Billingsley MBA, PE, Director of Public Works, City of Kenosha  
Katie Karow, Director of Wastewater Treatment, Kenosha Water Utility

**Notice:** Pursuant to ss. NR 700.11(1) and 724.13(3), Wis. Adm. Code, this form is required to be completed or a narrative report or letter containing the equivalent information required in this form may be submitted in lieu of the actual form. Failure to submit this form as required is a violation and is subject to the penalties as stated in s. 292.99, Wis. Stats. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31-19.39, Wis. Stats.). *Unless otherwise noted, all citations refer to Wisconsin Administrative Code.*

**GENERAL INSTRUCTIONS, PURPOSE AND APPLICABILITY OF THIS FORM:** Completion of this form is required under s. NR 700.11(1) and s. NR 724.13(3), Wis. Adm. Code. A narrative report or letter containing the equivalent information required in this form may be submitted in lieu of the actual form. Failure to submit this form as required is a violation of s. NR 700.11(1) and s. NR 724.13(3), Wis. Adm. Code, and is subject to the penalties in s. 292.99, Wis. Stats. This form must be submitted every six months for remediation projects that are regulated under the NR 700 series of Wis. Adm. Code. Specifically, for sites meeting any of the following criteria:

- Any site where a discharge has occurred that report progress in accordance with s. NR 700.11(1), Wis. Adm. Code until site closure is granted. This includes sites where no response activities occurred during the six month reporting period. **Attach, if applicable, a separate brief summary of the work completed during the reporting period and the anticipated future work.**
- Soil or groundwater remediation projects that report operation and maintenance progress in accordance with s. NR 724.13(3), Wis. Adm. Code.

Note: Long-term monitoring results submitted in accordance with s. NR 724.17(3), Wis. Adm. Code are required to be submitted within 10 business days of receiving sampling results and are not required to be submitted using this form. However, portions of this form require monitoring data summary information that may be based on information previously submitted in accordance with s. NR 724.17(3), Wis. Adm. Code.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if this form is required to be submitted at sites responded to under the Federal Comprehensive Environmental Response and Compensation Act (commonly known as Superfund) or an equivalent State lead Superfund response.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if any of the information required in this form may be omitted or changed and obtain prior written approval for any omissions or changes.

Submittal of this form is not a substitute for reporting required by Department programs such as Waste Water or Air Management. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by the Bureau for Remediation and Redevelopment.

Only complete and submit all of page GI-1 and Section E on pages 3 and 4 for sites where a discharge has been reported but no response, monitoring or remediation has begun or occurred during the six month reporting period that are required to report only under s. NR 700.11(1), Wis. Adm. Code **and attach, if applicable, a summary of the anticipated future work.**

## Section GI - General Site Information

### A. General Information

1. Site name

Kenosha Engine Plant

2. Reporting period from: 01/01/2018 To: 06/30/2018 Days in period: 181

3. Regulatory agency (enter DNR, DCOM, DATCP and/or other) 4. BRRTS ID No. (2 digit program-2 digit county-6 digit site specific)  
 DNR 02-03-000327

5. Site location

Region	County	Address				
Southeast Region	Kenosha	5555 30th Avenue				
Municipality name	<input checked="" type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village	Township	Range	<input type="radio"/> E <input checked="" type="radio"/> W	Section	¼ ¼
		N				

6. Responsible party

Name

City of Kenosha

Mailing address

625 52nd Street, Kenosha, WI 53140

Phone number

(262) 653-4000

7. Consultant

Select if the following information has changed since the last submittal

Company name

AECOM

Mailing address

1555 N. RiverCenter Dr, Ste 214, 53212

Phone number

(414) 944-6080

8. Contaminants

VOCs

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9. Soil types (USCS or USDA)  
Fill, Sand, Silty Sand, Silt, Clay

10. Hydraulic conductivity(cm/sec): 10-2 to 10-4	11. Average linear velocity of groundwater (ft/yr) 1.3 - 1700
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12. If soil is treated ex situ, is the treatment location off site?  Yes  No

If yes, give location: Region	County
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Municipality name <input type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village	Township	Range	<input type="radio"/> E <input type="radio"/> W	Section	¼	¼
	N					

## B. Remediation Method

Only submit sections that apply to an individual site. Check all that apply:

- Groundwater extraction (submit a completed Section GW-1).
- Free product recovery (submit a completed Section GW-1).
- In situ air sparging (submit a completed Section GW-2).
- Groundwater natural attenuation (submit a completed Section GW-3).
- Other groundwater remediation method (submit a completed Section GW-4).
- Soil venting (including soil vapor extraction building venting and bioventing submit a completed Section IS-1).
- Soil natural attenuation (submit a completed Section IS-2).
- Other in situ soil remediation method (submit a completed Section IS-3).
- Biopiles (submit a completed Section ES-1).
- Landspreading/thinspreading of petroleum contaminated soil (submit a completed Section ES-2).
- Other ex situ remediation method (submit a completed Section ES-3).
- Site is a landfill (submit a completed Section LF-1).

## C. General Effectiveness Evaluation for All Active Systems

If the remediation is active (not natural attenuation), complete this subsection.

1. is the system operating at design rates and specifications?  Yes  No

If the answer is no, explain whether or not modifications are necessary to achieve the goal that was previously established in design. Northern Systems Sumps 4, 5, 9 and 9A operations ceased in 2015 with WDNR approval. Northern Systems Sumps 4, 5, 9 and 9A were abandoned in the fall of 2016 and buildings raised during soil remediation activities in fall and winter 2016.

2. Are modifications to the system warranted to improve effectiveness  Yes  No

If yes, explain:

3. Is natural attenuation an effective low cost option at this time?  Yes  No

4. Is closure sampling warranted at this time?  Yes  No

5. Are there any modifications that can be made to the remediation to improve cost effectiveness?  Yes  No

If yes, explain:

The pumping rates of the systems are modified seasonally to achieve optimal groundwater capture without excessive wear on the groundwater extraction systems.

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**D. Economic and Cost Data to Date**

1. Total investigation cost: \_\_\_\_\_
2. Implementation costs (design, capital and installation costs, excluding investigation costs): \_\_\_\_\_
3. Total costs during the previous reporting period: \_\_\_\_\_
4. Total costs during this reporting period: \_\_\_\_\_
5. Total anticipated costs for the next reporting period: \_\_\_\_\_
6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above?  Yes  No  
If yes, explain:

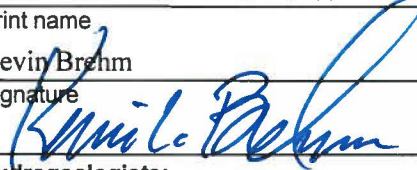
7. If closure is anticipated within 12 months, estimated costs for project closeout: \_\_\_\_\_

**E. Name(s), Signature(s) and Date of Person(s) Submitting Form**

Legibly print name, date and sign. 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.


**Registered Professional Engineers:**

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	Title
Kevin Brehm	Associate Vice President
Signature	Date
	12/18/18

**Hydrogeologists:**

I hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), 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	Title
Lanette Altenbach	Senior Hydrogeologist
Signature	Date
	12/18/18

**Scientists:**

I hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), 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	Title
Signature	Date

**Other Persons:**

Print name	Title
Signature	Date



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Professional Seal(s), if applicable:



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## Section GW-1, Groundwater Pump and Treat Systems and Free Product Recovery Systems

### A. Groundwater Extraction System Operation:

1. Total number of groundwater extraction wells or trenches available: 10 and the number in use during period: 4

2. Number of days of operation (only list the number of days the system actually operated, if unknown explain:

Sump 6 - 181 days

Central System (Sumps 18 & 23) - 0 days

Southern System (Sumps 7, 15, 17R) - 181 days

3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain:

Sump 6 - 100% Operational

Central System (Sumps 18 & 23) - 0%, System shutdown due to local groundwater treatment study

Southern System (Sumps 7, 15, 17R) - 100% Operational

4. Quantity of groundwater extracted during this time period: 1,500,034 gallons

5. Average groundwater extraction rate: 6 gpm

6. Quantity of dissolved phase contaminants removed during this time period in pounds: \_\_\_\_\_ lbs

### B. Free Product Recovery System Operation

1. Is free product (nonaqueous phase liquid) being recovered at this site?  Yes  No

If yes, explain:

2. Quantity of free product extracted during this time period (enter none if none): 0 gallons

3. Average free product extraction rate: 0 gpm

### C. System Effectiveness Evaluation

1. Is a contaminated groundwater plume fully contained in the capture zone?  Yes  No

If no, explain:

2. If free product is present, is the free product fully contained in capture zone?  Yes  No

If no, explain:

3. If free product is present in any wells at the site, but free product was not recovered during reporting period, explain:

Free product is trapped in the saturated zone and although each treatment train has an oil/water separator, little to no free product is recovered.

4. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in C.4.a.

a. Contaminant: Petroleum and chlorinated VOC's

b. Percent reduction necessary to reach ch. NR 140 ES and PAL: 100 %

c. Maximum contaminant concentration level in any monitoring well of that contaminant: \_\_\_\_\_ µg/L

d. Maximum contaminant concentration level in any extraction well of that contaminant: \_\_\_\_\_ µg/L

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e. If the maximum concentration in a monitoring well is more than one order of magnitude above the concentration measured in an extraction well, explain why the extracted groundwater contamination levels are significantly less than the levels at other locations within the aquifer.

1.) Dilution effects. 2.) Multiple source areas and remedial systems were not designed to address all areas but only 5 specific identified releases. 3.) New wells have higher concentrations in areas not within remedial capture zone.

\*Only perimeter wells were sampled during this operational period.

### D. Additional Attachments

Attach the following to this form:

- Most recent report to the DNR Wastewater Program, if applicable.
- Groundwater contour map with capture zone indicated.
- Groundwater contaminant distribution map (may be combined with contour map).
- Graph of cumulative contaminant removal, if both free product recovery and ground water extraction are used, provide separate graphs.
- Time versus groundwater contaminant concentration graphs for the contaminant listed in C.4.a. (above), as follows:
  - Graph of contaminant concentrations versus time for each extraction well in use during the period.
  - Graph of contaminant concentrations versus time for the monitoring well with the greatest level of contamination.
- Groundwater contaminant chemistry table.
- Groundwater elevations table.
- System operational data table.

Table 1  
Influent Summary  
KEP Groundwater Remediation Systems  
Kenosha, Wisconsin

Well Location	Sample Date	Benzene (ug/L)	1,1-Dichloroethane (ug/L)	Chloroethane (ug/L)	1,2-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,1,1-Trichloroethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Ethylbenzene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Tetra-chloroethene (ug/L)	Toluene (ug/L)	Trichloroethene (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl chloride (ug/L)	Xylene Totals (ug/L)	Gasoline Range Organics (ug/L)	Diesel Range Organics (mg/L)	
<b>Northern System</b>																							
Sump 6	1/18/11	<2.2	5.4	ND	<3.7	<3.2	ND	600	39	ND	ND	<4	<2.3	<4.8	<2.2	540	<2	<1.6	26	<4	330	0.35	
	3/24/11	<29	<29	ND	<29	<29	ND	410	36	ND	ND	<29	<29	<29	<29	830	<29	<29	19	<57	410	0.37	
	6/13/11	<1	3.3	ND	<2.5	<2.5	ND	280	17	ND	ND	<1.3	<2.5	<2.5	<2.5	370	<1	<1	6.7	<2.5	190	0.47	
	9/19/11	<1	6.1	ND	<2.5	2.8	ND	680	46	ND	ND	<1.3	<2.5	<2.5	<2.5	330	<1	<1	31	<2.5	180	0.23	
	1/15/12	<0.2	13	ND	<0.5	3.1	ND	410	47	ND	ND	0.52	<0.5	<0.5	<0.5	750	0.39	<0.2	66	0.58	410	1.2	
	3/15/12	<1	8.2	ND	<2.5	3.7	ND	620	49	ND	ND	<1.3	<2.5	<2.5	<2.5	890	<1	<1	23	<2.5	470	0.39	
	6/21/12	<0.074	8.3	ND	<0.28	3.8	ND	610	51	ND	ND	<0.16	<0.13	<0.17	<0.11	770	<0.14	<0.18	32	<0.068	420	0.22	
	9/17/12	<0.15	9.6	ND	<0.56	4.3	ND	700	53	ND	ND	<0.32	<0.26	<0.34	<0.22	780	<0.28	<0.36	49	<0.14	490	0.24	
	12/21/12	<0.074	15	ND	<0.28	0.64	ND	160	6.8	ND	ND	<0.16	<0.13	<0.17	<0.11	60	<0.14	<0.18	36	<0.068	79	0.51	
	3/26/13	<0.074	6.1	ND	<0.28	3	ND	420	47	ND	ND	<0.16	<0.13	<0.17	<0.11	1,000	<0.14	<0.18	12	<0.068	490	0.7	
	6/11/13	<0.074	7.5	ND	<0.28	4	ND	590	59	ND	ND	<0.16	<0.13	<0.17	<0.11	540	<0.14	<0.18	30	<0.068	380	0.25	
	9/24/13	<0.37	<0.95	ND	<1.4	<1.6	ND	580	54	ND	ND	<0.8	<0.65	<0.85	<0.55	1,600	<0.7	<0.9	31	<0.34	630	0.43	
	12/20/13	<0.074	4.1	ND	<0.28	2	ND	330	26	ND	ND	<0.16	<0.13	<0.17	<0.11	220	<0.14	<0.18	38	<0.068	190	0.17	
	1/6/15	<2.5	6.8	ND	<0.84	3.5	ND	568	58.2	ND	ND	<12.5	<2.5	<2.5	<2.5	712	<2.5	<2.5	25	<7.5	388	0.15	
	3/6/15	<5.0	5.4 J	ND	<1.7	<4.1	ND	363	35.4	<5.0	ND	<25.0	<5.0	<5.0	<5.0	930	<5.0	<5.0	17	<15.0	342	0.35	
	9/24/15	Discharge line blocked - not operating at the time of sample collection																					
	3/9/16	<5.0	3.2 J	ND	<1.7	<4.1	ND	439	43.5	<5.0	ND	<25.0	<5.0	<5.0	<5.0	1,010	<5.0	<5.0	17.3	<15.0	413	0.22	
	9/7/16	<5.0	5.0 J	<3.7	<1.7	<4.1	<5.0	733	57.6	<5.0	<2.3	<25.0	<5.0	<5.0	<5.0	931	<5.0	<5.0	38.1	<15.0	539	0.047J	
	3/7/17	<5.0	4.4 J	<3.7	<1.7	<4.1	<5.0	537	54.9	<5.0	<2.3	<25.0	<5.0	<5.0	<5.0	950	<5.0	<5.0	24.1	<15.0	0.48	0.14	
	10/5/17	<5.0	5.2 J	<3.7	<1.7	<4.1	<5.0	653	50.3	<5.0	<2.3	<25.0	<5.0	<5.0	<5.0	990	<5.0	<5.0	21.9	<15.0	0.49	0.026J	
3/9/18	<5.0	5.1J	<3.7	<1.7	<4.1	<5.0	483	49.3	<5.0	<2.3	<25.0	<5.0	<5.0	<5.0	782	<5.0	<5.0	17.2	<15.0	0.38	0.047J		
<b>Central System</b>																							
Sump 18	3/28/11	22	39	ND	ND	2	ND	240	<6.7	4.6	ND	6.2	3	<6.7	<6.7	<6.7	11	8	23	44	390	1.1	
	6/14/11	510	620	ND	ND	<25	ND	4,800	31	84	ND	28	<25	<25	450	<10	86	27	1,100	350	4300	1.9	
	9/23/11	74	80	ND	ND	<1	ND	160	4	35	ND	17	5.8	1.2	110	1.6	69	22	120	150	910	130	
	1/24/12	330	620	ND	ND	5	ND	3,300	22	55	ND	21	4.9	<2	270	1.2	80	28	1,000	310	3200	1.8	
	3/21/12	910	1500	ND	ND	<25	ND	9,300	64	110	ND	35	<25	<25	660	<10	130	40	940	530	8600	2.1	
	6/21/12	270	780	ND	ND	13	ND	5,600	41	19	ND	13	<1.3	<1.7	140	5	24	24	3,000	170	3100	2.6	
	9/17/12	150	900	ND	ND	<6.2	ND	5,000	32	<2.6	ND	<3.2	<2.6	<3.4	7.2	5.5	<2.8	31	1,100	77	3100	4.1	
	12/27/12	11	45	ND	ND	<0.31	ND	120	<0.25	8.2	ND	6.2	2	0.71	18	0.48	28	11	11	49	760	110	
	3/25/13	0.7	1.7	ND	ND	<0.31	ND	1	<0.25	6	ND	5.4	2.9	<0.17	4.2	<0.19	33	8.3	<0.1	19	380	23	
	6/10/13	150	350	ND	ND	3.9	ND	2,300	14	13	ND	5.2	<0.65	<0.85	79	<0.95	15	5.9	260	62	1600	1	
	9/24/13	570	970	ND	ND	18	ND	5,500	43	79	ND	29	<1.3	<1.7	370	7.1	73	17	1,600	310	4600	3	
	12/20/13	270	720	ND	ND	9.1	ND	3,200	24	41	ND	16	3.4	0.52	170	1.1	43	11	820	180	3	1	
	9/11/15	0.56 J	4.2	ND	<0.17	<0.41	ND	5	<0.26	<0.5	ND	<2.5	<0.50	<0.50	<0.50	0.36 J	<0.50	<0.50	0.81 J	<1.5	37.5 J	<0.081	
	3/9/16	357	735	ND	<4.2	<10.3	ND	3,180	44	78	ND	<62.5	<12.5	<12.5	287	<8.3	45.3	12.6 J	2,720	342	3240	2.2	
	9/7/16	277	738	37.1	<4.2	<10.3	137	2,110	40.1	45.9	37.5	<62.5	<12.5	<12.5	134	23.0 J	24.2 J	<12.5	1,950	201	2530	1.4	
	3/7/17	241	444	60.1	<4.2	<10.3	137	1,670	31.6	61.3	24.1J	<62.5	<12.5	<12.5	178	14.8 J	42.8	<12.5	1,480	286	2.7	1.3	
	10/5/17	System shut off during time of sampling.																					
	3/9/18	System shut off during time of sampling.																					
	Sump 23	1/19/11	420	<5	ND	ND	<6.3	ND	930	<6.3	36	ND	<4.7	<4.7	ND	5.9	NPD	16 B	<3.2	500	<12.7	NT	NT
		3/28/11	22	0.41	ND	ND	<1	ND	6.5	<1	1.9	ND	1	0.47	ND	0.19	NPD	0.97	0.56	2.4	2.6	94	0.91
7/20/11		170	<1	ND	ND	<1	ND	9.2	<1	1.8	ND	1.1	<1	ND	1.5	NPD	3.2	1.2	57	3.8	360	0.63	
9/26/11		23	<0.5	ND	ND	<0.5	ND	1.7	<0.5	<0.5	ND	0.32	<0.5	ND	<0.5	0.42	0.44	<0.2	0.61	<0.5	31	0.28	
1/24/12		480	<2	ND	ND	<2	ND	930	3.6	32	ND	7.2	2.5	ND	6.9	<0.8	9.2	2.2	530	34	1700	0.78	
3/21/12		470	1.4	ND	ND	1.4	ND	580	3	69	ND	11	6.9	ND	9.5	<0.2	18	1.6	470	51	1700	1.1	
6/21/12		42	1.5	ND	ND	1.6	ND	78	2.6	61	ND	8.6	3.7	ND	7	<0.19	6.5	1.1	68	52	1100	1.2	
9/17/12		180	<0.19	ND	ND	1.1	ND	670	2.4	9.6	ND	3.2	<0.13	ND	2.6	<0.19	1.7	0.64	440	26	760	1.1	
12/27/12		160	2.3	ND	ND	<0.31	ND	530	1.5	21	ND	5.2	1.9	ND	2.7	<0.19	3.1	<0.18	170	20	580	0.78	
3/25/13		26	<0.19	ND	ND	<0.31	ND	94	<0.25	2.9	ND	2.1	<0.13	ND	0.47	<0.19	<0.14	<0.18	23	2.3	97	0.083	
6/10/13		390	<0.38	ND	ND	<0.62	ND	820	2.8	47	ND	7.9	4	ND	6.7	<0.38	2.8	<0.36	440	30	1100	0.79	
9/24/13		140	<0.19	ND	ND	1	ND	660	2.4	16	ND	7.6	1.6	ND	2.7	<0.19	2	<0.18	320	18	670	1.7	
12/20/13		1.1	1	ND	ND	<0.31	ND	9.4	<0.25	<0.13	ND	<0.16	<0.13	ND	0.33	<0.19	<0.14	<0.18	1	<0.068	10	1.1	
Pump inoperable and not replaced because groundwater capture from Sump 18 is sufficient. This sump was located close to the former UST area remediated in 2012.																							
PAL <sup>A</sup>	0.5	85		0.5	0.7		7	20	140		10	NE	0.5	160	0.5	96*	96*	0.02	400	NE	NE		
ES <sup>B</sup>	5	850		5	7		70	100	700		100	NE	5	800	5	480*	480*	0.2	2,000	NE	NE		

Table 1  
Influent Summary  
KEP Groundwater Remediation Systems  
Kenosha, Wisconsin

Well Location	Sample Date	Benzene (ug/L)	1,1-Dichloroethane (ug/L)	Chloroethane (ug/L)	1,2-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,1,1-Trichloroethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Ethylbenzene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Tetra-chloroethene (ug/L)	Toluene (ug/L)	Trichloroethene (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl chloride (ug/L)	Xylene Totals (ug/L)	Gasoline Range Organics (ug/L)	Diesel Range Organics (mg/L)	
<b>Southern System</b>																							
<b>Sump 7</b>	1/19/11	<0.13	<0.15	ND	ND	<0.19	ND	9.1	0.4	<0.17	ND	ND	ND	ND	<0.13	0.29	<0.12	<0.096	3.1	<0.14	NT	NT	
	3/24/11	<1	<1	ND	ND	<1	ND	6.2	0.39	<1	ND	ND	ND	ND	<1	0.43	<1	<1	2.8	<2	ND	3.3	
	6/13/11	<0.2	<0.5	ND	ND	<0.5	ND	16	1.2	<0.5	ND	ND	ND	ND	<0.5	2.6	<0.2	<0.2	2.6	<0.5	ND	3.3	
	9/19/11	<0.2	<0.5	ND	ND	<0.5	ND	17	1.2	<0.5	ND	ND	ND	ND	<0.5	2	<0.2	<0.2	2.8	<0.5	ND	14	
	1/5/12	<0.20	<0.50	ND	ND	<0.50	ND	12	1.1	<0.50	ND	ND	ND	ND	<0.50	0.35 J	0.20 J	<0.20	3.3	<0.50	24	2.5	
	3/20/12	<0.2	<0.5	ND	ND	<0.5	ND	8.8	1.1	<0.5	ND	ND	ND	ND	<0.5	0.2	<0.2	<0.2	2.6	<0.5	11	2.1	
	6/22/12	<0.074	<0.19	ND	ND	<0.31	ND	8.3	0.96	<0.13	ND	ND	ND	ND	<0.11	<0.19	<0.14	<0.18	2.7	<0.068	<6.9	1.7	
	9/18/12	<0.074	<0.19	ND	ND	<0.31	ND	7	0.93	<0.13	ND	ND	ND	ND	<0.11	<0.19	<0.14	<0.18	2	<0.068	16	2.3	
	12/27/12	<0.074	<0.19	ND	ND	<0.31	ND	6.7	0.87	<0.13	ND	ND	ND	ND	<0.11	<0.19	<0.14	<0.18	1.3	<0.068	<8.8	4	
	3/26/13	<0.074	<0.19	ND	ND	<0.31	ND	4.4	<0.25	<0.13	ND	ND	ND	ND	<0.11	0.43	<0.14	<0.18	<0.1	<0.068	13	5	
	6/11/13	<0.074	<0.19	ND	ND	<0.31	ND	12	2	<0.13	ND	ND	ND	ND	<0.11	<0.19	<0.14	<0.18	2.9	<0.068	16	2.4	
	9/23/13	<0.074	<0.19	ND	ND	<0.31	ND	8.7	1.5	<0.13	ND	ND	ND	ND	<0.11	0.3	<0.14	<0.18	1.5	<0.068	24	9.2	
	12/20/13	<0.074	<0.19	ND	ND	<0.31	ND	7.9	1.2	<0.13	ND	ND	ND	ND	<0.11	0.42	<0.14	<0.18	1.3	<0.068	<8.8	2	
	6/19/14	<0.50	<0.24	ND	<0.17	<0.41	ND	6.3	1.1	<0.50	ND	<2.5	<0.50	<0.50	<0.50	0.45 J	<0.50	<0.50	<0.18	<1.5	NT	NT	
	9/5/14	<0.50	<0.24	ND	<0.17	<0.41	ND	10.1	2.2	<0.50	ND	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	1.5	<1.5	<29.6	3.1	
	12/3/14	<0.50	0.32 J	ND	<0.17	<0.41	ND	8.9	1.9	<0.50	ND	<2.5	<0.50	<0.50	<0.50	0.71 J	<0.50	<0.50	1.6	<1.5	<29.6	2.6	
	9/9/15	<0.50	<0.24	ND	<0.17	<0.41	ND	9	2.2	<0.50	ND	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	1.2	<1.5	29.9 J	0.36	
	3/9/16	<0.50	0.31 J	ND	<0.17	<0.41	ND	10.4	2.6	<0.50	ND	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	2.3	<1.5	<29.6	1.1	
	9/7/16	<0.50	<0.24	<0.50	<0.17	<0.41	<0.50	9	2.1	<0.50	<0.23	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	3.8	<1.5	<29.6	5.4	
	3/7/17	<0.50	<0.24	<0.37	<0.17	<0.41	<0.50	5.6	0.76 J	<0.50	<0.23	<2.5	<0.50	<0.50	<0.50	0.86 J	<0.50	<0.50	1.2	<1.5	<0.030	29.2	
10/5/17	Pump inoperable and not sampled.																						
3/9/18	<0.50	<0.24	<0.37	<0.17	<0.41	<0.50	5.8	1.4	<0.50	<0.23	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	1.1	<1.5	<0.030	4.6		
<b>Sump 15</b>																							
<b>Sump 15</b>	1/19/11	<0.13	<0.15	ND	ND	<0.19	ND	<0.17	<0.19	ND	ND	ND	ND	ND	<0.13	<0.17	<0.12	ND	<0.22	ND	NT	NT	
	3/24/11	<1	<1	ND	ND	<1	ND	<1	<1	ND	ND	ND	ND	ND	<1	<1	<1	ND	<1	ND	<100	3.3	
	6/13/11	<0.2	<0.5	ND	ND	<0.5	ND	<0.5	<0.5	ND	ND	ND	ND	ND	<0.5	<0.2	<0.2	ND	<0.2	ND	<10	3.6	
	9/19/11	<0.2	<0.5	ND	ND	<0.5	ND	<0.5	<0.5	ND	ND	ND	ND	ND	<0.5	<0.2	<0.2	ND	<0.2	ND	<10	5.7	
	1/5/12	<0.20	<0.50	ND	ND	<0.50	ND	<0.50	<0.50	ND	ND	ND	ND	ND	<0.50	<0.20	<0.20	ND	<0.20	ND	18J	5.9	
	3/20/12	<0.2	<0.5	ND	ND	<0.5	ND	<0.5	<0.5	ND	ND	ND	ND	ND	<0.5	<0.2	<0.2	ND	<0.2	ND	<10	3.1	
	6/22/12	<0.074	<0.19	ND	ND	<0.31	ND	0.8	<0.25	ND	ND	ND	ND	ND	<0.11	1.2	<0.14	ND	<0.10	ND	<6.9	4.2	
	9/18/12	<0.074	<0.19	ND	ND	<0.31	ND	<0.12	<0.25	ND	ND	ND	ND	ND	<0.11	0.47	<0.14	ND	<0.1	ND	<6.9	3.7	
	12/27/12	<0.074	<0.19	ND	ND	<0.31	ND	<0.12	<0.25	ND	ND	ND	ND	ND	<0.11	0.62	<0.14	ND	<0.1	ND	<8.8	2.8	
	3/26/13	<0.074	<0.19	ND	ND	<0.31	ND	<0.12	<0.25	ND	ND	ND	ND	ND	<0.11	<0.19	<0.14	ND	<0.1	ND	11	2	
	6/11/13	<0.074	<0.19	ND	ND	<0.31	ND	<0.12	<0.25	ND	ND	ND	ND	ND	<0.11	1.3	<0.14	ND	<0.1	ND	14	2.1	
	9/23/13	<0.074	<0.19	ND	ND	<0.31	ND	<0.12	<0.25	ND	ND	ND	ND	ND	<0.11	2.8	<0.14	ND	<0.1	ND	43	9.2	
	12/20/13	<0.074	<0.19	ND	ND	<0.31	ND	6.8	<0.25	ND	ND	ND	ND	ND	<0.11	0.26	<0.14	ND	1.1	ND	<8.8	2.9	
	6/19/14	<0.50	<0.24	ND	<0.17	<0.41	ND	<0.26	<0.26	<0.50	ND	<2.5	<0.50	<0.50	<0.50	2	<0.50	<0.50	<0.18	<1.5	NT	NT	
	9/5/14	0.62 J	<0.24	ND	<0.17	<0.41	ND	<0.26	<0.26	<0.50	ND	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	<0.18	<1.5	<29.6	6	
	12/3/14	<0.50	<0.24	ND	<0.17	<0.41	ND	<0.26	<0.26	<0.50	ND	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	<0.18	<1.5	<29.6	2.6	
	9/9/15	<0.50	<0.24	ND	<0.17	<0.41	ND	<0.26	<0.26	<0.50	ND	<2.5	<0.50	<0.50	<0.50	<0.33	<0.50	<0.50	<0.18	<1.5	<29.6	1.3	
	3/9/16	Pump inoperable and not sampled.																					
	PAL <sup>A</sup>		0.5	85		0.5	0.7		7	20	140		10	NE	0.5	160	0.5	96*	96*	0.02	400	NE	NE
	ES <sup>B</sup>		5	850		5	7		70	100	700		100	NE	5	800	5	480*	480*	0.2	2,000	NE	NE

Table 1  
Influent Summary  
KEP Groundwater Remediation Systems  
Kenosha, Wisconsin

Well Location	Sample Date	Benzene (ug/L)	1,1-Dichloroethane (ug/L)	Chloroethane (ug/L)	1,2-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,1,1-Trichloroethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	Ethylbenzene (ug/L)	Methylene Chloride (ug/L)	Naphthalene (ug/L)	n-Propylbenzene (ug/L)	Tetra-chloroethene (ug/L)	Toluene (ug/L)	Trichloroethene (ug/L)	1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Vinyl chloride (ug/L)	Xylene Totals (ug/L)	Gasoline Range Organics (ug/L)	Diesel Range Organics (mg/L)	
Sump 17R	1/19/11	ND	<6	ND	ND	<7.6	ND	<b>1100</b>	<b>98</b>	ND	ND	<9.6	ND	ND	<5.2	<b>340</b>	<4.8	ND	<b>24</b>	ND	NT	NT	
	3/24/11	ND	<18	ND	ND	<18	ND	<b>300</b>	<b>35</b>	ND	ND	<18	ND	ND	<18	<b>70</b>	<18	ND	<18	ND	150	0.62	
	6/13/11	ND	<b>5.4</b>	ND	ND	<2.5	ND	<b>370</b>	<b>34</b>	ND	ND	<1.3	ND	ND	<2.5	<b>160</b>	<1	ND	<b>1.3</b>	ND	<b>80</b>	<b>1.2</b>	
	9/19/11	ND	<b>3.1</b>	ND	ND	<1	ND	<b>190</b>	<b>14</b>	ND	ND	<0.5	ND	ND	<1	<b>25</b>	<0.4	ND	<b>13</b>	ND	<b>66</b>	<b>2</b>	
	1/5/12	ND	<b>5.6</b>	ND	ND	<b>0.59</b>	ND	<b>270</b>	<b>30</b>	ND	ND	<0.25	ND	ND	<0.50	<b>110</b>	<0.20	ND	<b>1.2</b>	ND	<b>130</b>	<b>1.6</b>	
	3/20/12	ND	<b>7.1</b>	ND	ND	<1	ND	<b>500</b>	<b>39</b>	ND	ND	<0.5	ND	ND	<1	<b>150</b>	<0.4	ND	<b>1.8</b>	ND	<b>260</b>	<b>1.1</b>	
	6/22/12	ND	<b>6.3</b>	ND	ND	<b>1.2</b>	ND	<b>700</b>	<b>38</b>	ND	ND	<0.16	ND	ND	<0.11	<b>180</b>	<0.14	ND	<b>2.9</b>	ND	<b>270</b>	<b>1.8</b>	
	9/18/12	ND	<b>3.8</b>	ND	ND	<0.31	ND	<b>180</b>	<b>20</b>	ND	ND	<0.16	ND	ND	<0.11	<b>35</b>	<0.14	ND	<b>17</b>	ND	<b>79</b>	<b>1.7</b>	
	12/27/12	ND	<b>6.4</b>	ND	ND	<b>1.2</b>	ND	<b>400</b>	<b>59</b>	ND	ND	<0.16	ND	ND	<0.11	<b>45</b>	<0.14	ND	<b>55</b>	ND	<b>170</b>	<b>2.3</b>	
	3/26/13	ND	<b>2</b>	ND	ND	<0.31	ND	<b>190</b>	<b>15</b>	ND	ND	<0.16	ND	ND	<0.11	<b>69</b>	<0.14	ND	<b>3.5</b>	ND	<b>100</b>	<b>1.5</b>	
	6/11/13	ND	<b>5.3</b>	ND	ND	<b>0.91</b>	ND	<b>380</b>	<b>33</b>	ND	ND	<0.16	ND	ND	<0.11	<b>120</b>	<0.14	ND	<b>6.6</b>	ND	<b>220</b>	<b>0.88</b>	
	9/23/13	ND	<b>5.4</b>	ND	ND	<b>1.8</b>	ND	<b>620</b>	<b>37</b>	ND	ND	<0.16	ND	ND	<0.11	<b>38</b>	<0.14	ND	<b>36</b>	ND	<b>290</b>	<b>1.9</b>	
	12/20/13	ND	<b>8.6</b>	ND	ND	<b>1.9</b>	ND	<b>970</b>	<b>79</b>	ND	ND	<0.16	ND	ND	<0.11	<b>91</b>	<0.14	ND	<b>200</b>	ND	<b>360</b>	<b>2.4</b>	
	6/19/14	<2.5	<b>5.7</b>	ND	<0.84	<b>2.2 J</b>	ND	<b>702</b>	<b>38.1</b>	<2.5	ND	<12.5	<2.5	<2.5	<2.5	<b>103</b>	<2.5	<2.5	<0.88	<7.5	NT	NT	NT
	9/5/14	<1.2	<b>5.4</b>	ND	<0.42	<1	ND	<b>331</b>	<b>20</b>	<1.2	ND	<6.2	<1.2	<1.2	<1.2	<b>45.4</b>	<1.2	<1.2	<b>38</b>	<3.8	<b>137</b>	<b>2.1</b>	
	12/3/14	<2.5	<b>4.6 J</b>	ND	<0.84	<2.1	ND	<b>236</b>	<b>22.9</b>	<2.5	ND	<12.5	<2.5	<2.5	<2.5	<b>57.7</b>	<2.5	<2.5	<b>17.6</b>	<7.5	<b>132</b>	<b>0.78</b>	
	9/9/15	<2.5	<0.24	ND	<0.84	<2.1	ND	<b>4.8</b>	<b>1.2</b>	<2.5	ND	<12.5	<2.5	<2.5	<2.5	<b>0.53 J</b>	<2.5	<2.5	<b>0.71 J</b>	<7.5	<b>34.2 J</b>	<b>67</b>	
	3/9/16	<5.0	<b>6 J</b>	ND	<1.7	<4.1	ND	<b>982</b>	<b>72.3</b>	<5.0	ND	<25.0	<5.0	<5.0	<5.0	<b>80.3</b>	<5.0	<5.0	<b>148</b>	<15.0	<b>373</b>	<b>0.87</b>	
	9/7/16	<1.2	<b>5.5</b>	<0.94	<0.42	<1.0	<1.2	<b>370</b>	<b>24</b>	<1.2	<0.58	<6.2	<1.2	<1.2	<1.2	<b>35.1</b>	<1.2	<1.2	<b>143</b>	<3.8	<b>143</b>	<b>2.2</b>	
	3/7/17	<1.2	<b>6.6</b>	<0.94	<0.42	<b>1.6 J</b>	<1.2	<b>423</b>	<b>37.3</b>	<1.2	<0.58	<6.2	<1.2	<1.2	<1.2	<b>85.2</b>	<1.2	<1.2	<b>39.2</b>	<3.8	<b>0.18</b>	<b>0.86</b>	
10/5/17	<1.2	<b>4.6</b>	<0.94	<0.42	<1.0	<1.2	<b>235</b>	<b>10.6</b>	<1.2	<0.58	<6.2	<1.2	<1.2	<1.2	<b>18.8</b>	<1.2	<1.2	<b>107</b>	<3.8	<b>0.058</b>	<b>0.62</b>		
3/9/18	<0.50	<b>2.9</b>	<0.37	<0.17	<b>0.70 J</b>	<0.50	<b>184</b>	<b>15.6</b>	<0.50	<0.23	<2.5	<0.50	<0.50	<0.50	<b>16.2</b>	<0.50	<0.50	<b>47</b>	<1.5	<b>0.061</b>	<b>1.7</b>		
PAL <sup>A</sup>		0.5	85		0.5	0.7		7	20	140		10	NE	0.5	160	0.5	96*	96*	0.02	400	NE	NE	
ES <sup>B</sup>		5	850		5	7		70	100	700		100	NE	5	800	5	480*	480*	0.2	2,000	NE	NE	

Notes:  
 ug/L = micrograms per liter      \*PAL & ES are for combined isomers      <2.5 - not detected at the detection limit shown      NT=Not Tested  
 PAL - Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2004 exce ES - Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2004, exceedances are bold.

Table 2  
Effluent Summary  
KEP Groundwater Remediation Systems  
Kenosha, Wisconsin

Well Location	Sample Date	1,1-Dichloro ethene (ug/L)	1,1-Dichloro ethane (ug/L)	trans-1,2-Dichloro ethane (ug/L)	1,2,4-Trimethyl benzene (ug/L)	1,1,1-Trichloro-ethane (ug/L)	Benzene (ug/L)	cis-1,2-Dichloro ethene (ug/L)	Ethyl benzene (ug/L)	Methyl tert-butyl ether (ug/L)	Methylene Chloride	Isopropyl benzene (ug/L)	Naphthalene (ug/L)	N-Propyl benzene (ug/L)	Toluene (ug/L)	Trichloro ethene (ug/L)	Vinyl chloride (ug/L)	Xylenes, Total (ug/L)	Gasoline Range Organics (ug/L)	Diesel Range Organics (mg/L)	
Sump 6	9/28/2011	ND	ND	1.9 J	ND	ND	ND	42	ND	ND	ND	ND	ND	ND	ND	18	0.81 J	ND	<10	0.22 B	
	3/26/2012	1.5 J	4.6	24	ND	ND	ND	320	ND	ND	ND	ND	ND	ND	ND	430	8.5	ND	240	0.35	
	7/9/2012	ND	1.7	7.8	ND	ND	ND	140	ND	ND	ND	ND	ND	ND	ND	160	3.4	ND	95	0.18	
	10/2/2012	ND	2.8	13	ND	ND	ND	290	ND	ND	ND	ND	ND	ND	ND	280	8.8	ND	170	0.23	
	4/4/2013	ND	1.6	9.3	ND	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	230	1.5	ND	110	0.25	
	6/25/2013	ND	ND	1.1	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	ND	13	ND	ND	14 J	0.23	
	10/10/2013	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.8	ND	ND	<8.8	0.36	
	1/8/2014	0.54 J	1.9	9.8	ND	ND	ND	200	ND	ND	ND	ND	ND	ND	ND	110	8.9	ND	96	0.16	
	3/6/2015	<0.41	<0.24	<0.26	<0.50	ND	<0.50	0.53 J	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	<0.50	1.2	<0.18	<1.5	<29.6	0.3
	3/9/2016	<0.41	<0.24	2.0	<0.50	ND	<0.50	29.3	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	56.5	0.55 J	<1.5	<29.6	0.17	
	9/7/2016	<0.41	<0.24	1.5	<0.50	<0.50	<0.50	43.2	<0.50	0.48 J	<0.23	<0.14	<2.5	<0.50	<0.50	27.8	<0.18	<1.5	<29.6	0.17	
	3/7/2017	<0.41	0.94J	8.7	<0.50	<0.50	<0.50	138	<0.50	0.71 J	<0.23	<0.14	<2.5	<0.50	<0.50	175	2.4	<1.5	0.085	0.26	
	10/5/2017	0.47 J	1.8	12.5	<0.50	<0.50	<0.50	234	<0.50	1.0	<0.23	<0.14	<2.5	<0.50	<0.50	296	4.2	<1.5	0.12	0.037 J	
	3/9/2018	<0.41	<0.24	<0.26	<0.50	<0.50	<0.50	1.1	<0.50	<0.17	<0.23	<0.14	<2.5	<0.50	<0.50	1.2	<0.18	<1.5	<0.030	0.16	
	Sump 18/23	3/30/2012	ND	ND	ND	ND	ND	0.62 J	5.8	ND	ND	ND	ND	0.56 J	ND	ND	ND	0.30 J	ND	26 J	2.5
7/9/2012		ND	ND	ND	ND	ND	0.28 J	4.1	ND	ND	ND	ND	ND	ND	ND	ND	0.56	ND	<6.9	1.6	
10/2/2012		ND	ND	ND	ND	ND	ND	2.8	ND	ND	ND	ND	ND	ND	ND	ND	0.34 J	ND	<6.9	2.3	
4/4/2013		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<8.8	0.85	
6/24/2013		ND	ND	ND	ND	ND	1.1	5.5	ND	ND	ND	ND	ND	ND	ND	ND	0.89	ND	<8.8	0.87	
10/10/2013		ND	1.1	ND	ND	ND	0.75	ND	ND	ND	ND	ND	ND	ND	0.26 J	ND	0.76	ND	<8.8	1.4	
1/8/2014		ND	2	ND	ND	ND	0.76	12	ND	ND	ND	ND	ND	ND	0.36 J	ND	0.61	0.32 J	10 J	0.92	
9/11/2015		<0.41	<0.24	<0.26	<0.50	ND	<0.50	0.59 J	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	<0.33	<0.18	<1.50	<29.6	0.14 J	
3/9/2016		<0.41	25.9	0.97 J	1.6	ND	8.9	134	1.7	<0.17	ND	<0.14	3.1 J	<0.50	7.1	<0.33	22.7	10.3	123	1.3	
9/7/2016		<0.41	15.1	<0.26	<0.50	1.1	2.6	53.9	<0.50	<0.17	1.2	<0.14	<2.5	<0.50	0.73 J	<0.33	6.2	<1.5	29.9 J	1.2	
3/7/2017		<0.41	17.1	0.76 J	1.1	3.2	5	77	1	<0.17	1.7	<0.14	<2.5	<0.50	3.9	0.48 J	15.1	6.5	0.075	1.3	
10/5/2017		System off per localized groundwater treatment study, no sample collected.																			
3/9/2018		System off per localized groundwater treatment study, no sample collected.																			
Sump 7/15/17R	9/28/2011	ND	ND	ND	ND	ND	ND	0.82 J	ND	ND	ND	ND	ND	ND	ND	ND	0.21 J	ND	47 J	1.5 B	
	3/30/2012	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	0.62 J	ND	ND	<10	1.2	
	7/11/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<6.9	2.2	
	9/28/2012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<6.9	1.7	
	4/4/2013	ND	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<8.8	0.71	
	6/25/2013	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<8.8	2.3	
	10/10/2013	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<8.8	3.5	
	1/8/2014	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<8.8	1.2	
	6/19/2014	<0.41	0.91 J	0.83 J	<0.50	ND	<0.50	22.7	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	0.94 J	1.7	<1.5	<29.6	3.1	
	9/5/2014	<0.41	0.35 J	2	<0.50	ND	<0.50	28.4	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	2.0	0.69 J	<1.5	31.8 J	1.3	
	12/3/2014	<0.41	<0.24	<0.26	<0.50	ND	<0.50	<0.26	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	<0.33	<0.18	<1.5	<29.6	1.4	
	9/9/2015	<0.41	<0.24	<0.26	<0.50	ND	<0.50	<0.26	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	<0.33	<0.18	<1.5	<29.6	0.32	
	3/9/2016	<0.41	<0.24	<0.26	<0.50	ND	<0.50	<0.26	<0.50	<0.17	ND	<0.14	<2.5	<0.50	<0.50	<0.33	<0.18	<1.5	<29.6	1.8	
	9/7/2016	<0.41	<0.24	<0.26	<0.50	0.5	<0.50	<0.26	<0.50	<0.17	<0.23	<0.14	<2.5	<0.50	<0.50	<0.33	<0.18	<1.5	<29.6	0.54	
	3/7/2017	<0.41	<0.24	<0.26	<0.50	<0.50	<0.50	<0.26	<0.50	<0.17	<0.23	<0.14	<2.5	<0.50	<0.50	<0.33	<0.18	<1.5	<0.030	0.68	
10/5/2017	<0.41	<0.24	<0.26	<0.50	<0.50	<0.50	5.1	<0.50	<0.17	<0.23	<0.14	<2.5	<0.50	<0.50	0.40 J	<0.18	<1.5	<0.030	0.97		
3/9/2018	<0.41	<0.24	0.45J	<0.50	<0.50	<0.50	6.6	<0.50	<0.17	<0.23	<0.14	<2.5	<0.50	<0.50	0.42J	0.91J	<1.5	<0.030	1.1		

<0.50 = not detected at the concentration shown after the less-than (<) sign.

**Table 3  
Remedial Systems Operational Data  
Kenosha Engine Plant  
5555 30th Ave Kenosha, Wisconsin**

Sump	Date	Flow Meter Reading	Total Flow	Permits Limit Achieved by Effluent?		
				GRO	DRO	VOC's
6	2/12/2018	3,357,933.20	102,286.50	Yes	Yes	Yes
	3/9/2018	3,470,796.50	112,863.30			
	4/6/2018	3,561,445.10	90,648.60			
	5/2/2018	3,705,621.30	144,176.20			
	6/1/2018	3,917,210.90	211,589.60			
	7/5/2018	4,183,165.80	265,954.90			
18	2/12/2018	3,418,447.86	0.00	Pump not in operation during semi-annual period No effluent sample		
	3/9/2018	3,418,447.86	0.00			
	4/6/2018	3,418,447.86	0.00			
	5/2/2018	3,418,447.86	0.00			
	6/1/2018	3,418,447.86	0.00			
	7/5/2018	3,418,447.86	0.00			
23	2/12/2018	4,238,580.10	0.00	Pump not in operation during semi-annual period No effluent sample		
	3/9/2018	4,238,580.10	0.00			
	4/6/2018	4,238,580.10	0.00			
	5/2/2018	4,238,580.10	0.00			
	6/1/2018	4,238,580.10	0.00			
	7/5/2018	4,238,580.10	0.00			
7	2/12/2018	274,935.50	7,129.83	Yes	Yes	Yes
	3/9/2018	288,829.78	13,894.3			
	4/6/2018	301,322.19	12,492.4			
	5/2/2018	315,865.75	14,543.6			
	6/1/2018	336,309.09	20,443.3			
	7/5/2018	366,767.94	30,458.9			
15	2/12/2018	39,702.13	0.00	Pump not in operation during semi-annual period No effluent sample		
	3/9/2018	39,702.13	0.00			
	4/6/2018	39,702.13	0.00			
	5/2/2018	39,702.13	0.00			
	6/1/2018	39,702.13	0.00			
	7/5/2018	39,702.13	0.00			
17R	2/12/2018	783,069.10	55,647.92	Yes	Yes	Yes
	3/9/2018	850,345.32	67,276.2			
	4/6/2018	872,115.64	21,770.3			
	5/2/2018	933,918.29	61,802.7			
	6/1/2018	1,017,976.18	84,057.9			
	7/5/2018	1,200,973.43	182,997.3			

Notes:

- 1) Total flow is difference of current month flow reading minus prior month flow reading, unless otherwise noted.
  - 2) No meter on effluent discharge at any of the systems
  - 3) Total flow covers the time period from 7/6/2016 to 1/8/2018.
- \* Date of flow meter readings collected during next semi-annual reporting period (January through July 2018).





**LEGEND**

- APPROXIMATE SITE BOUNDARY
- RAILROAD
- x-x- EXISTING FENCE
- EXISTING BUILDINGS
- ⊕ EXISTING WATER TABLE MONITORING WELL (MW) OR PIEZOMETER (PZ)
- SUMP
- SUMP (ABANDONED)
- 617 POTENTIOMETRIC SURFACE ELEVATION (\* indicates uncorrected elevation in well with light aqueous phase liquid)
- ~ POTENTIOMETRIC SURFACE
- FLOW DIRECTION

**NOTES**

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO, IMAGE DATED 4/6/2017; DOWNLOADED ON 6/5/2017.



**WATER TABLE GROUNDWATER CONTOURS - May 2018  
KENOSHA ENGINE PLANT  
CITY OF KENOSHA  
KENOSHA, WISCONSIN**

1555 RiverCenter Dr.  
Milwaukee, WI 53212  
414.944.6080  
www.aecom.com  
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Drawn : ZPA 6/27/2018  
Checked: SAE 6/27/2018  
Approved: LLA 6/27/2018  
PROJECT NUMBER: 60485212  
FIGURE NUMBER: 1



**LEGEND**

- APPROXIMATE SITE BOUNDARY
- RAILROAD
- x-x- EXISTING FENCE
- EXISTING BUILDINGS
- ⊕ EXISTING WATER TABLE MONITORING WELL (MW) OR PIEZOMETER (PZ)
- SUMP
- SUMP (ABANDONED)
- 617 POTENTIOMETRIC SURFACE ELEVATION ( \* indicates uncorrected elevation in well with light aqueous phase liquid)
- ~ POTENTIOMETRIC SURFACE
- FLOW DIRECTION

**NOTES**

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO, IMAGE DATED 4/6/2017; DOWNLOADED ON 6/5/2017.

**POTENTIOMETRIC SURFACE - PIEZOMETERS - May 2018**  
**KENOSHA ENGINE PLANT**  
**CITY OF KENOSHA**  
**KENOSHA, WISCONSIN**

1555 RiverCenter Dr.  
 Milwaukee, WI 53212  
 414.944.6080  
 www.aecom.com  
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Drawn : ZPA 6/27/2018

Checked: SAE 6/27/2018

Approved: LLA 6/27/2018

PROJECT NUMBER **60485212**

FIGURE NUMBER **2**

March 20, 2018

Lanette Altenbach  
AECOM, Inc.  
1555 N River Center Drive  
Suite 214  
Milwaukee, WI 53212

RE: Project: 60485212.2 KEP O&M ACTIVITIES  
Pace Project No.: 40165800

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on March 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,



Christopher Hyska  
christopher.hyska@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

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### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40165800001	SUMP 6 IN	Water	03/09/18 08:40	03/13/18 09:05
40165800002	SUMP 6 EFF	Water	03/09/18 08:50	03/13/18 09:05
40165800003	SUMP 7 IN	Water	03/09/18 09:40	03/13/18 09:05
40165800004	SUMP 17R IN	Water	03/09/18 10:00	03/13/18 09:05
40165800005	SUMP 7\17R EFF	Water	03/09/18 10:10	03/13/18 09:05
40165800006	TRIP BLANK	Water	03/09/18 08:30	03/13/18 09:05

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40165800001	SUMP 6 IN	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	HNW	63	PASI-G
40165800002	SUMP 6 EFF	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	HNW	63	PASI-G
40165800003	SUMP 7 IN	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	HNW	63	PASI-G
40165800004	SUMP 17R IN	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	HNW	63	PASI-G
40165800005	SUMP 7\17R EFF	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	HNW	63	PASI-G
40165800006	TRIP BLANK	EPA 8260	LAP	63	PASI-G

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: 60485212.2 KEP O&M ACTIVITIES  
Pace Project No.: 40165800

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>40165800001</b>	<b>SUMP 6 IN</b>					
WI MOD DRO	Diesel Range Organics	0.047J	mg/L	0.049	03/19/18 14:44	
WI MOD GRO	Gasoline Range Organics	0.38	mg/L	0.050	03/14/18 11:40	G-,HS
EPA 8260	1,1-Dichloroethane	5.1J	ug/L	10.0	03/15/18 07:56	
EPA 8260	cis-1,2-Dichloroethene	483	ug/L	10.0	03/15/18 07:56	
EPA 8260	trans-1,2-Dichloroethene	49.3	ug/L	10.0	03/15/18 07:56	
EPA 8260	Trichloroethene	762	ug/L	10.0	03/15/18 07:56	
EPA 8260	Vinyl chloride	17.2	ug/L	10.0	03/15/18 07:56	
<b>40165800002</b>	<b>SUMP 6 EFF</b>					
WI MOD DRO	Diesel Range Organics	0.16	mg/L	0.049	03/19/18 14:53	DC
EPA 8260	cis-1,2-Dichloroethene	1.1	ug/L	1.0	03/15/18 09:03	
EPA 8260	Trichloroethene	1.2	ug/L	1.0	03/15/18 09:03	
<b>40165800003</b>	<b>SUMP 7 IN</b>					
WI MOD DRO	Diesel Range Organics	4.6	mg/L	0.25	03/19/18 16:15	DC
EPA 8260	cis-1,2-Dichloroethene	5.8	ug/L	1.0	03/16/18 01:12	
EPA 8260	trans-1,2-Dichloroethene	1.4	ug/L	1.0	03/16/18 01:12	
EPA 8260	Vinyl chloride	1.1	ug/L	1.0	03/16/18 01:12	
<b>40165800004</b>	<b>SUMP 17R IN</b>					
WI MOD DRO	Diesel Range Organics	1.7	mg/L	0.049	03/19/18 15:11	DC
WI MOD GRO	Gasoline Range Organics	0.061	mg/L	0.050	03/14/18 12:06	G-
EPA 8260	1,1-Dichloroethane	2.9	ug/L	1.0	03/16/18 01:34	
EPA 8260	1,1-Dichloroethene	0.70J	ug/L	1.0	03/16/18 01:34	
EPA 8260	cis-1,2-Dichloroethene	184	ug/L	1.0	03/16/18 01:34	
EPA 8260	trans-1,2-Dichloroethene	15.6	ug/L	1.0	03/16/18 01:34	
EPA 8260	Trichloroethene	16.2	ug/L	1.0	03/16/18 01:34	
EPA 8260	Vinyl chloride	47.0	ug/L	1.0	03/16/18 01:34	
<b>40165800005</b>	<b>SUMP 7/17R EFF</b>					
WI MOD DRO	Diesel Range Organics	1.1	mg/L	0.050	03/19/18 15:20	DC
EPA 8260	cis-1,2-Dichloroethene	6.6	ug/L	1.0	03/15/18 09:26	
EPA 8260	trans-1,2-Dichloroethene	0.45J	ug/L	1.0	03/15/18 09:26	
EPA 8260	Trichloroethene	0.42J	ug/L	1.0	03/15/18 09:26	
EPA 8260	Vinyl chloride	0.91J	ug/L	1.0	03/15/18 09:26	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 6 IN**      **Lab ID: 40165800001**      Collected: 03/09/18 08:40      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIDRO GCS</b>		Analytical Method: WI MOD DRO    Preparation Method: WI MOD DRO							
Diesel Range Organics	<b>0.047J</b>	mg/L	0.049	0.015	1	03/15/18 08:31	03/19/18 14:44		
<b>WIGRO GCV</b>		Analytical Method: WI MOD GRO							
Gasoline Range Organics	<b>0.38</b>	mg/L	0.050	0.030	1		03/14/18 11:40		G-,HS
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		03/15/18 07:56	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		03/15/18 07:56	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		03/15/18 07:56	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		03/15/18 07:56	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		03/15/18 07:56	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		03/15/18 07:56	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		03/15/18 07:56	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		03/15/18 07:56	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		03/15/18 07:56	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		03/15/18 07:56	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		03/15/18 07:56	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		03/15/18 07:56	75-71-8	
1,1-Dichloroethane	<b>5.1J</b>	ug/L	10.0	2.4	10		03/15/18 07:56	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		03/15/18 07:56	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		03/15/18 07:56	75-35-4	
cis-1,2-Dichloroethene	<b>483</b>	ug/L	10.0	2.6	10		03/15/18 07:56	156-59-2	
trans-1,2-Dichloroethene	<b>49.3</b>	ug/L	10.0	2.6	10		03/15/18 07:56	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		03/15/18 07:56	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		03/15/18 07:56	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		03/15/18 07:56	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		03/15/18 07:56	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	108-20-3	
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		03/15/18 07:56	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		03/15/18 07:56	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	99-87-6	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 6 IN**      **Lab ID: 40165800001**      Collected: 03/09/18 08:40      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b> Analytical Method: EPA 8260									
Methylene Chloride	<2.3	ug/L	10.0	2.3	10		03/15/18 07:56	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		03/15/18 07:56	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		03/15/18 07:56	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		03/15/18 07:56	630-20-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		03/15/18 07:56	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		03/15/18 07:56	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		03/15/18 07:56	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		03/15/18 07:56	79-00-5	
Trichloroethene	762	ug/L	10.0	3.3	10		03/15/18 07:56	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		03/15/18 07:56	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		03/15/18 07:56	108-67-8	
Vinyl chloride	17.2	ug/L	10.0	1.8	10		03/15/18 07:56	75-01-4	
Xylene (Total)	<15.0	ug/L	30.0	15.0	10		03/15/18 07:56	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	94	%	61-130		10		03/15/18 07:56	460-00-4	HS
Dibromofluoromethane (S)	102	%	67-130		10		03/15/18 07:56	1868-53-7	
Toluene-d8 (S)	100	%	70-130		10		03/15/18 07:56	2037-26-5	

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### ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 6 EFF**      **Lab ID: 4016580002**      Collected: 03/09/18 08:50      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIDRO GCS</b> Analytical Method: WI MOD DRO      Preparation Method: WI MOD DRO									
Diesel Range Organics	<b>0.16</b>	mg/L	0.049	0.015	1	03/15/18 08:31	03/19/18 14:53		DC
<b>WIGRO GCV</b> Analytical Method: WI MOD GRO									
Gasoline Range Organics	<b>&lt;0.030</b>	mg/L	0.050	0.030	1		03/14/18 10:23		
<b>8260 MSV</b> Analytical Method: EPA 8260									
Benzene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	71-43-2	
Bromobenzene	<b>&lt;0.23</b>	ug/L	1.0	0.23	1		03/15/18 09:03	108-86-1	
Bromochloromethane	<b>&lt;0.34</b>	ug/L	1.0	0.34	1		03/15/18 09:03	74-97-5	
Bromodichloromethane	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	75-27-4	
Bromoform	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	75-25-2	
Bromomethane	<b>&lt;2.4</b>	ug/L	5.0	2.4	1		03/15/18 09:03	74-83-9	
n-Butylbenzene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	104-51-8	
sec-Butylbenzene	<b>&lt;2.2</b>	ug/L	5.0	2.2	1		03/15/18 09:03	135-98-8	
tert-Butylbenzene	<b>&lt;0.18</b>	ug/L	1.0	0.18	1		03/15/18 09:03	98-06-6	
Carbon tetrachloride	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	56-23-5	
Chlorobenzene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	108-90-7	
Chloroethane	<b>&lt;0.37</b>	ug/L	1.0	0.37	1		03/15/18 09:03	75-00-3	
Chloroform	<b>&lt;2.5</b>	ug/L	5.0	2.5	1		03/15/18 09:03	67-66-3	
Chloromethane	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	74-87-3	
2-Chlorotoluene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	95-49-8	
4-Chlorotoluene	<b>&lt;0.21</b>	ug/L	1.0	0.21	1		03/15/18 09:03	106-43-4	
1,2-Dibromo-3-chloropropane	<b>&lt;2.2</b>	ug/L	5.0	2.2	1		03/15/18 09:03	96-12-8	
Dibromochloromethane	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.18</b>	ug/L	1.0	0.18	1		03/15/18 09:03	106-93-4	
Dibromomethane	<b>&lt;0.43</b>	ug/L	1.0	0.43	1		03/15/18 09:03	74-95-3	
1,2-Dichlorobenzene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	541-73-1	
1,4-Dichlorobenzene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	106-46-7	
Dichlorodifluoromethane	<b>&lt;0.22</b>	ug/L	1.0	0.22	1		03/15/18 09:03	75-71-8	
1,1-Dichloroethane	<b>&lt;0.24</b>	ug/L	1.0	0.24	1		03/15/18 09:03	75-34-3	
1,2-Dichloroethane	<b>&lt;0.17</b>	ug/L	1.0	0.17	1		03/15/18 09:03	107-06-2	
1,1-Dichloroethene	<b>&lt;0.41</b>	ug/L	1.0	0.41	1		03/15/18 09:03	75-35-4	
cis-1,2-Dichloroethene	<b>1.1</b>	ug/L	1.0	0.26	1		03/15/18 09:03	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.26</b>	ug/L	1.0	0.26	1		03/15/18 09:03	156-60-5	
1,2-Dichloropropane	<b>&lt;0.23</b>	ug/L	1.0	0.23	1		03/15/18 09:03	78-87-5	
1,3-Dichloropropane	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	142-28-9	
2,2-Dichloropropane	<b>&lt;0.48</b>	ug/L	1.0	0.48	1		03/15/18 09:03	594-20-7	
1,1-Dichloropropene	<b>&lt;0.44</b>	ug/L	1.0	0.44	1		03/15/18 09:03	563-58-6	
cis-1,3-Dichloropropene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	10061-01-5	
trans-1,3-Dichloropropene	<b>&lt;0.23</b>	ug/L	1.0	0.23	1		03/15/18 09:03	10061-02-6	
Diisopropyl ether	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	108-20-3	
Ethylbenzene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	100-41-4	
Hexachloro-1,3-butadiene	<b>&lt;2.1</b>	ug/L	5.0	2.1	1		03/15/18 09:03	87-68-3	
Isopropylbenzene (Cumene)	<b>&lt;0.14</b>	ug/L	1.0	0.14	1		03/15/18 09:03	98-82-8	
p-Isopropyltoluene	<b>&lt;0.50</b>	ug/L	1.0	0.50	1		03/15/18 09:03	99-87-6	

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### ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 6 EFF**      **Lab ID: 40165800002**      Collected: 03/09/18 08:50      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260									
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/15/18 09:03	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/15/18 09:03	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/15/18 09:03	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/15/18 09:03	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/15/18 09:03	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/15/18 09:03	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/15/18 09:03	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/15/18 09:03	79-00-5	
Trichloroethene	1.2	ug/L	1.0	0.33	1		03/15/18 09:03	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/15/18 09:03	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:03	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		03/15/18 09:03	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/15/18 09:03	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	93	%	61-130		1		03/15/18 09:03	460-00-4	
Dibromofluoromethane (S)	99	%	67-130		1		03/15/18 09:03	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		03/15/18 09:03	2037-26-5	

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## ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 7 IN**      **Lab ID: 4016580003**      Collected: 03/09/18 09:40      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIDRO GCS</b> Analytical Method: WI MOD DRO      Preparation Method: WI MOD DRO									
Diesel Range Organics	4.6	mg/L	0.25	0.074	5	03/15/18 08:31	03/19/18 16:15		DC
<b>WIGRO GCV</b> Analytical Method: WI MOD GRO									
Gasoline Range Organics	<0.030	mg/L	0.050	0.030	1		03/14/18 10:49		
<b>8260 MSV</b> Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/16/18 01:12	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/16/18 01:12	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/16/18 01:12	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/16/18 01:12	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/16/18 01:12	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/16/18 01:12	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/16/18 01:12	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/16/18 01:12	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/16/18 01:12	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/16/18 01:12	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/16/18 01:12	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/16/18 01:12	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		03/16/18 01:12	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/16/18 01:12	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/16/18 01:12	75-35-4	
cis-1,2-Dichloroethene	5.8	ug/L	1.0	0.26	1		03/16/18 01:12	156-59-2	
trans-1,2-Dichloroethene	1.4	ug/L	1.0	0.26	1		03/16/18 01:12	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/16/18 01:12	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/16/18 01:12	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/16/18 01:12	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/16/18 01:12	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/16/18 01:12	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/16/18 01:12	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	99-87-6	

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### ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 7 IN**      **Lab ID: 40165800003**      Collected: 03/09/18 09:40      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260									
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/16/18 01:12	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/16/18 01:12	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/16/18 01:12	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/16/18 01:12	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/16/18 01:12	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/16/18 01:12	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/16/18 01:12	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/16/18 01:12	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		03/16/18 01:12	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/16/18 01:12	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:12	108-67-8	
Vinyl chloride	1.1	ug/L	1.0	0.18	1		03/16/18 01:12	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/16/18 01:12	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98	%	61-130		1		03/16/18 01:12	460-00-4	
Dibromofluoromethane (S)	93	%	67-130		1		03/16/18 01:12	1868-53-7	
Toluene-d8 (S)	106	%	70-130		1		03/16/18 01:12	2037-26-5	

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## ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 17R IN**      **Lab ID: 4016580004**      Collected: 03/09/18 10:00      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIDRO GCS</b>		Analytical Method: WI MOD DRO    Preparation Method: WI MOD DRO							
Diesel Range Organics	1.7	mg/L	0.049	0.015	1	03/15/18 08:31	03/19/18 15:11		DC
<b>WIGRO GCV</b>		Analytical Method: WI MOD GRO							
Gasoline Range Organics	0.061	mg/L	0.050	0.030	1		03/14/18 12:06		G-
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/16/18 01:34	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/16/18 01:34	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/16/18 01:34	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/16/18 01:34	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/16/18 01:34	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/16/18 01:34	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/16/18 01:34	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/16/18 01:34	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/16/18 01:34	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/16/18 01:34	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/16/18 01:34	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/16/18 01:34	75-71-8	
1,1-Dichloroethane	2.9	ug/L	1.0	0.24	1		03/16/18 01:34	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/16/18 01:34	107-06-2	
1,1-Dichloroethene	0.70J	ug/L	1.0	0.41	1		03/16/18 01:34	75-35-4	
cis-1,2-Dichloroethene	184	ug/L	1.0	0.26	1		03/16/18 01:34	156-59-2	
trans-1,2-Dichloroethene	15.6	ug/L	1.0	0.26	1		03/16/18 01:34	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/16/18 01:34	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/16/18 01:34	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/16/18 01:34	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/16/18 01:34	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/16/18 01:34	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/16/18 01:34	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	99-87-6	

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### ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 17R IN**      **Lab ID: 40165800004**      Collected: 03/09/18 10:00      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b> Analytical Method: EPA 8260									
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/16/18 01:34	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/16/18 01:34	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/16/18 01:34	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/16/18 01:34	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/16/18 01:34	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/16/18 01:34	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/16/18 01:34	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/16/18 01:34	79-00-5	
Trichloroethene	16.2	ug/L	1.0	0.33	1		03/16/18 01:34	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/16/18 01:34	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/16/18 01:34	108-67-8	
Vinyl chloride	47.0	ug/L	1.0	0.18	1		03/16/18 01:34	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/16/18 01:34	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97	%	61-130		1		03/16/18 01:34	460-00-4	pH
Dibromofluoromethane (S)	93	%	67-130		1		03/16/18 01:34	1868-53-7	
Toluene-d8 (S)	106	%	70-130		1		03/16/18 01:34	2037-26-5	

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### ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 717R EFF**      **Lab ID: 40165800005**      Collected: 03/09/18 10:10      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIDRO GCS</b> Analytical Method: WI MOD DRO      Preparation Method: WI MOD DRO									
Diesel Range Organics	1.1	mg/L	0.050	0.015	1	03/15/18 08:31	03/19/18 15:20		DC
<b>WIGRO GCV</b> Analytical Method: WI MOD GRO									
Gasoline Range Organics	<0.030	mg/L	0.050	0.030	1		03/14/18 11:14		
<b>8260 MSV</b> Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/15/18 09:26	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/15/18 09:26	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/15/18 09:26	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/15/18 09:26	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/15/18 09:26	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/15/18 09:26	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/15/18 09:26	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/15/18 09:26	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/15/18 09:26	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/15/18 09:26	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/15/18 09:26	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/15/18 09:26	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		03/15/18 09:26	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/15/18 09:26	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/15/18 09:26	75-35-4	
cis-1,2-Dichloroethene	6.6	ug/L	1.0	0.26	1		03/15/18 09:26	156-59-2	
trans-1,2-Dichloroethene	0.45J	ug/L	1.0	0.26	1		03/15/18 09:26	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/15/18 09:26	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/15/18 09:26	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/15/18 09:26	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/15/18 09:26	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/15/18 09:26	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/15/18 09:26	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	99-87-6	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: SUMP 717R EFF**      **Lab ID: 40165800005**      Collected: 03/09/18 10:10      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b> Analytical Method: EPA 8260									
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/15/18 09:26	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/15/18 09:26	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/15/18 09:26	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/15/18 09:26	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/15/18 09:26	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/15/18 09:26	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/15/18 09:26	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/15/18 09:26	79-00-5	
Trichloroethene	0.42J	ug/L	1.0	0.33	1		03/15/18 09:26	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/15/18 09:26	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/15/18 09:26	108-67-8	
Vinyl chloride	0.91J	ug/L	1.0	0.18	1		03/15/18 09:26	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/15/18 09:26	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	92	%	61-130		1		03/15/18 09:26	460-00-4	
Dibromofluoromethane (S)	98	%	67-130		1		03/15/18 09:26	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		03/15/18 09:26	2037-26-5	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: TRIP BLANK**      **Lab ID: 40165800006**      Collected: 03/09/18 08:30      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/14/18 15:02	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/14/18 15:02	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/14/18 15:02	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/14/18 15:02	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/14/18 15:02	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/14/18 15:02	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/14/18 15:02	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/14/18 15:02	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/14/18 15:02	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/14/18 15:02	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/14/18 15:02	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/14/18 15:02	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		03/14/18 15:02	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/14/18 15:02	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/14/18 15:02	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/14/18 15:02	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/14/18 15:02	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/14/18 15:02	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/14/18 15:02	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/14/18 15:02	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/14/18 15:02	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/14/18 15:02	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/14/18 15:02	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/14/18 15:02	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/14/18 15:02	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/14/18 15:02	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/14/18 15:02	630-20-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

**Sample: TRIP BLANK**      **Lab ID: 40165800006**      Collected: 03/09/18 08:30      Received: 03/13/18 09:05      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/14/18 15:02	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/14/18 15:02	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/14/18 15:02	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/14/18 15:02	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		03/14/18 15:02	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/14/18 15:02	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/14/18 15:02	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		03/14/18 15:02	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/14/18 15:02	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	90	%	61-130		1		03/14/18 15:02	460-00-4	
Dibromofluoromethane (S)	110	%	67-130		1		03/14/18 15:02	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		03/14/18 15:02	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

QC Batch: 283221 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV  
Associated Lab Samples: 40165800001, 40165800002, 40165800003, 40165800004, 40165800005

METHOD BLANK: 1658683 Matrix: Water  
Associated Lab Samples: 40165800001, 40165800002, 40165800003, 40165800004, 40165800005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	03/14/18 07:50	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	03/14/18 07:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	03/14/18 07:50	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	03/14/18 07:50	
1,1-Dichloroethane	ug/L	<0.24	1.0	03/14/18 07:50	
1,1-Dichloroethene	ug/L	<0.41	1.0	03/14/18 07:50	
1,1-Dichloropropene	ug/L	<0.44	1.0	03/14/18 07:50	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	03/14/18 07:50	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	03/14/18 07:50	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	03/14/18 07:50	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	03/14/18 07:50	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	03/14/18 07:50	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	03/14/18 07:50	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	03/14/18 07:50	
1,2-Dichloroethane	ug/L	<0.17	1.0	03/14/18 07:50	
1,2-Dichloropropane	ug/L	<0.23	1.0	03/14/18 07:50	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	03/14/18 07:50	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	03/14/18 07:50	
1,3-Dichloropropane	ug/L	<0.50	1.0	03/14/18 07:50	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	03/14/18 07:50	
2,2-Dichloropropane	ug/L	<0.48	1.0	03/14/18 07:50	
2-Chlorotoluene	ug/L	<0.50	1.0	03/14/18 07:50	
4-Chlorotoluene	ug/L	<0.21	1.0	03/14/18 07:50	
Benzene	ug/L	<0.50	1.0	03/14/18 07:50	
Bromobenzene	ug/L	<0.23	1.0	03/14/18 07:50	
Bromochloromethane	ug/L	<0.34	1.0	03/14/18 07:50	
Bromodichloromethane	ug/L	<0.50	1.0	03/14/18 07:50	
Bromoform	ug/L	<0.50	1.0	03/14/18 07:50	
Bromomethane	ug/L	<2.4	5.0	03/14/18 07:50	
Carbon tetrachloride	ug/L	<0.50	1.0	03/14/18 07:50	
Chlorobenzene	ug/L	<0.50	1.0	03/14/18 07:50	
Chloroethane	ug/L	<0.37	1.0	03/14/18 07:50	
Chloroform	ug/L	<2.5	5.0	03/14/18 07:50	
Chloromethane	ug/L	<0.50	1.0	03/14/18 07:50	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	03/14/18 07:50	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	03/14/18 07:50	
Dibromochloromethane	ug/L	<0.50	1.0	03/14/18 07:50	
Dibromomethane	ug/L	<0.43	1.0	03/14/18 07:50	
Dichlorodifluoromethane	ug/L	<0.22	1.0	03/14/18 07:50	
Diisopropyl ether	ug/L	<0.50	1.0	03/14/18 07:50	
Ethylbenzene	ug/L	<0.50	1.0	03/14/18 07:50	

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

METHOD BLANK: 1658683

Matrix: Water

Associated Lab Samples: 40165800001, 40165800002, 40165800003, 40165800004, 40165800005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	03/14/18 07:50	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	03/14/18 07:50	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	03/14/18 07:50	
Methylene Chloride	ug/L	<0.23	1.0	03/14/18 07:50	
n-Butylbenzene	ug/L	<0.50	1.0	03/14/18 07:50	
n-Propylbenzene	ug/L	<0.50	1.0	03/14/18 07:50	
Naphthalene	ug/L	<2.5	5.0	03/14/18 07:50	
p-Isopropyltoluene	ug/L	<0.50	1.0	03/14/18 07:50	
sec-Butylbenzene	ug/L	<2.2	5.0	03/14/18 07:50	
Styrene	ug/L	<0.50	1.0	03/14/18 07:50	
tert-Butylbenzene	ug/L	<0.18	1.0	03/14/18 07:50	
Tetrachloroethene	ug/L	<0.50	1.0	03/14/18 07:50	
Toluene	ug/L	<0.50	1.0	03/14/18 07:50	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	03/14/18 07:50	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	03/14/18 07:50	
Trichloroethene	ug/L	<0.33	1.0	03/14/18 07:50	
Trichlorofluoromethane	ug/L	<0.18	1.0	03/14/18 07:50	
Vinyl chloride	ug/L	<0.18	1.0	03/14/18 07:50	
Xylene (Total)	ug/L	<1.5	3.0	03/14/18 07:50	
4-Bromofluorobenzene (S)	%	98	61-130	03/14/18 07:50	
Dibromofluoromethane (S)	%	102	67-130	03/14/18 07:50	
Toluene-d8 (S)	%	102	70-130	03/14/18 07:50	

LABORATORY CONTROL SAMPLE: 1658684

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.3	99	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	47.2	94	70-130	
1,1,2-Trichloroethane	ug/L	50	52.0	104	70-130	
1,1-Dichloroethane	ug/L	50	53.9	108	71-132	
1,1-Dichloroethene	ug/L	50	51.3	103	75-130	
1,2,4-Trichlorobenzene	ug/L	50	50.3	101	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	41.9	84	63-123	
1,2-Dibromoethane (EDB)	ug/L	50	49.7	99	70-130	
1,2-Dichlorobenzene	ug/L	50	49.1	98	70-130	
1,2-Dichloroethane	ug/L	50	50.5	101	70-131	
1,2-Dichloropropane	ug/L	50	48.9	98	80-120	
1,3-Dichlorobenzene	ug/L	50	50.0	100	70-130	
1,4-Dichlorobenzene	ug/L	50	50.0	100	70-130	
Benzene	ug/L	50	49.9	100	73-145	
Bromodichloromethane	ug/L	50	47.8	96	70-130	
Bromoform	ug/L	50	42.3	85	67-130	
Bromomethane	ug/L	50	34.3	69	26-128	
Carbon tetrachloride	ug/L	50	45.9	92	70-133	

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

LABORATORY CONTROL SAMPLE: 1658684

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	51.3	103	70-130	
Chloroethane	ug/L	50	47.9	96	58-120	
Chloroform	ug/L	50	57.5	115	80-121	
Chloromethane	ug/L	50	34.4	69	40-127	
cis-1,2-Dichloroethene	ug/L	50	49.2	98	70-130	
cis-1,3-Dichloropropene	ug/L	50	44.8	90	70-130	
Dibromochloromethane	ug/L	50	46.3	93	70-130	
Dichlorodifluoromethane	ug/L	50	24.6	49	20-135	
Ethylbenzene	ug/L	50	52.5	105	87-129	
Isopropylbenzene (Cumene)	ug/L	50	52.7	105	70-130	
Methyl-tert-butyl ether	ug/L	50	48.1	96	66-143	
Methylene Chloride	ug/L	50	51.5	103	70-130	
Styrene	ug/L	50	52.6	105	70-130	
Tetrachloroethene	ug/L	50	53.3	107	70-130	
Toluene	ug/L	50	51.5	103	82-130	
trans-1,2-Dichloroethene	ug/L	50	50.7	101	75-132	
trans-1,3-Dichloropropene	ug/L	50	45.4	91	70-130	
Trichloroethene	ug/L	50	50.7	101	70-130	
Trichlorofluoromethane	ug/L	50	51.0	102	76-133	
Vinyl chloride	ug/L	50	43.4	87	57-136	
Xylene (Total)	ug/L	150	154	103	70-130	
4-Bromofluorobenzene (S)	%			99	61-130	
Dibromofluoromethane (S)	%			101	67-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1658718 1658719

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40165799003 Result	Spike Conc.	Spike Conc.	Conc.								
1,1,1-Trichloroethane	ug/L	<0.50	50	50	50.4	51.4	101	103	70-134	2	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	48.4	49.4	97	99	70-130	2	20		
1,1,2-Trichloroethane	ug/L	<0.20	50	50	51.6	52.3	103	105	70-130	1	20		
1,1-Dichloroethane	ug/L	<0.24	50	50	54.6	55.0	109	110	71-133	1	20		
1,1-Dichloroethene	ug/L	<0.41	50	50	54.4	55.6	109	111	75-136	2	20		
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	51.7	52.7	101	103	70-130	2	20		
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	44.6	45.3	89	91	63-123	2	20		
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	50.0	51.2	100	102	70-130	2	20		
1,2-Dichlorobenzene	ug/L	<0.50	50	50	50.5	50.8	100	101	70-130	1	20		
1,2-Dichloroethane	ug/L	<0.17	50	50	50.2	50.9	100	102	70-131	1	20		
1,2-Dichloropropane	ug/L	<0.23	50	50	48.8	49.0	98	98	80-120	0	20		
1,3-Dichlorobenzene	ug/L	<0.50	50	50	51.1	51.6	102	103	70-130	1	20		
1,4-Dichlorobenzene	ug/L	<0.50	50	50	51.2	51.5	102	102	70-130	0	20		
Benzene	ug/L	<0.50	50	50	50.2	50.8	100	102	73-145	1	20		
Bromodichloromethane	ug/L	<0.50	50	50	48.2	49.4	96	99	70-130	3	20		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

Parameter	Units	40165799003		1658718		1658719		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Bromoform	ug/L	<0.50	50	50	43.2	45.1	86	90	67-130	4	20		
Bromomethane	ug/L	<2.4	50	50	44.0	47.5	88	95	26-129	8	20		
Carbon tetrachloride	ug/L	<0.50	50	50	47.8	48.8	96	98	70-134	2	20		
Chlorobenzene	ug/L	<0.50	50	50	50.9	51.8	102	104	70-130	2	20		
Chloroethane	ug/L	<0.37	50	50	51.0	52.2	102	104	58-120	2	20		
Chloroform	ug/L	<2.5	50	50	58.0	52.6	116	105	80-121	10	20		
Chloromethane	ug/L	<0.50	50	50	44.8	45.1	90	90	40-128	1	20		
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	49.9	50.6	100	101	70-130	1	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	45.0	45.3	90	91	70-130	1	20		
Dibromochloromethane	ug/L	<0.50	50	50	47.1	48.6	94	97	70-130	3	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	42.1	41.9	84	84	20-146	0	20		
Ethylbenzene	ug/L	<0.50	50	50	52.0	52.4	104	105	87-129	1	20		
Isopropylbenzene (Cumene)	ug/L	0.21J	50	50	52.3	53.0	104	106	70-130	1	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	48.9	49.3	98	99	66-143	1	20		
Methylene Chloride	ug/L	<0.23	50	50	53.5	53.2	107	106	70-130	0	20		
Styrene	ug/L	<0.50	50	50	52.3	52.5	104	105	70-130	0	20		
Tetrachloroethene	ug/L	<0.50	50	50	52.7	53.7	105	107	70-130	2	20		
Toluene	ug/L	<0.50	50	50	50.7	51.1	101	102	82-131	1	20		
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	51.6	52.5	103	105	75-135	2	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	45.3	46.5	91	93	70-130	3	20		
Trichloroethene	ug/L	<0.33	50	50	50.7	51.8	101	104	70-130	2	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	54.7	55.3	109	111	76-150	1	20		
Vinyl chloride	ug/L	<0.18	50	50	51.5	51.8	103	104	56-143	0	20		
Xylene (Total)	ug/L	<1.5	150	150	153	155	102	103	70-130	1	20		
4-Bromofluorobenzene (S)	%						97	98	61-130				
Dibromofluoromethane (S)	%						101	101	67-130				
Toluene-d8 (S)	%						102	102	70-130				

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES  
Pace Project No.: 40165800

QC Batch: 283223 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV  
Associated Lab Samples: 40165800006

METHOD BLANK: 1658689 Matrix: Water  
Associated Lab Samples: 40165800006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	03/14/18 09:33	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	03/14/18 09:33	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	03/14/18 09:33	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	03/14/18 09:33	
1,1-Dichloroethane	ug/L	<0.24	1.0	03/14/18 09:33	
1,1-Dichloroethene	ug/L	<0.41	1.0	03/14/18 09:33	
1,1-Dichloropropene	ug/L	<0.44	1.0	03/14/18 09:33	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	03/14/18 09:33	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	03/14/18 09:33	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	03/14/18 09:33	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	03/14/18 09:33	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	03/14/18 09:33	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	03/14/18 09:33	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	03/14/18 09:33	
1,2-Dichloroethane	ug/L	<0.17	1.0	03/14/18 09:33	
1,2-Dichloropropane	ug/L	<0.23	1.0	03/14/18 09:33	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	03/14/18 09:33	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	03/14/18 09:33	
1,3-Dichloropropane	ug/L	<0.50	1.0	03/14/18 09:33	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	03/14/18 09:33	
2,2-Dichloropropane	ug/L	<0.48	1.0	03/14/18 09:33	
2-Chlorotoluene	ug/L	<0.50	1.0	03/14/18 09:33	
4-Chlorotoluene	ug/L	<0.21	1.0	03/14/18 09:33	
Benzene	ug/L	<0.50	1.0	03/14/18 09:33	
Bromobenzene	ug/L	<0.23	1.0	03/14/18 09:33	
Bromochloromethane	ug/L	<0.34	1.0	03/14/18 09:33	
Bromodichloromethane	ug/L	<0.50	1.0	03/14/18 09:33	
Bromoform	ug/L	<0.50	1.0	03/14/18 09:33	
Bromomethane	ug/L	<2.4	5.0	03/14/18 09:33	
Carbon tetrachloride	ug/L	<0.50	1.0	03/14/18 09:33	
Chlorobenzene	ug/L	<0.50	1.0	03/14/18 09:33	
Chloroethane	ug/L	<0.37	1.0	03/14/18 09:33	
Chloroform	ug/L	<2.5	5.0	03/14/18 09:33	
Chloromethane	ug/L	<0.50	1.0	03/14/18 09:33	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	03/14/18 09:33	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	03/14/18 09:33	
Dibromochloromethane	ug/L	<0.50	1.0	03/14/18 09:33	
Dibromomethane	ug/L	<0.43	1.0	03/14/18 09:33	
Dichlorodifluoromethane	ug/L	<0.22	1.0	03/14/18 09:33	
Diisopropyl ether	ug/L	<0.50	1.0	03/14/18 09:33	
Ethylbenzene	ug/L	<0.50	1.0	03/14/18 09:33	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES  
Pace Project No.: 40165800

METHOD BLANK: 1658689 Matrix: Water  
Associated Lab Samples: 40165800006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	03/14/18 09:33	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	03/14/18 09:33	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	03/14/18 09:33	
Methylene Chloride	ug/L	<0.23	1.0	03/14/18 09:33	
n-Butylbenzene	ug/L	<0.50	1.0	03/14/18 09:33	
n-Propylbenzene	ug/L	<0.50	1.0	03/14/18 09:33	
Naphthalene	ug/L	<2.5	5.0	03/14/18 09:33	
p-Isopropyltoluene	ug/L	<0.50	1.0	03/14/18 09:33	
sec-Butylbenzene	ug/L	<2.2	5.0	03/14/18 09:33	
Styrene	ug/L	<0.50	1.0	03/14/18 09:33	
tert-Butylbenzene	ug/L	<0.18	1.0	03/14/18 09:33	
Tetrachloroethene	ug/L	<0.50	1.0	03/14/18 09:33	
Toluene	ug/L	<0.50	1.0	03/14/18 09:33	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	03/14/18 09:33	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	03/14/18 09:33	
Trichloroethene	ug/L	<0.33	1.0	03/14/18 09:33	
Trichlorofluoromethane	ug/L	<0.18	1.0	03/14/18 09:33	
Vinyl chloride	ug/L	<0.18	1.0	03/14/18 09:33	
Xylene (Total)	ug/L	<1.5	3.0	03/14/18 09:33	
4-Bromofluorobenzene (S)	%	90	61-130	03/14/18 09:33	
Dibromofluoromethane (S)	%	109	67-130	03/14/18 09:33	
Toluene-d8 (S)	%	101	70-130	03/14/18 09:33	

LABORATORY CONTROL SAMPLE: 1658690

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	60.4	121	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	53.0	106	70-130	
1,1,2-Trichloroethane	ug/L	50	55.2	110	70-130	
1,1-Dichloroethane	ug/L	50	58.7	117	71-132	
1,1-Dichloroethene	ug/L	50	58.9	118	75-130	
1,2,4-Trichlorobenzene	ug/L	50	47.2	94	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	49.3	99	63-123	
1,2-Dibromoethane (EDB)	ug/L	50	54.3	109	70-130	
1,2-Dichlorobenzene	ug/L	50	54.7	109	70-130	
1,2-Dichloroethane	ug/L	50	57.7	115	70-131	
1,2-Dichloropropane	ug/L	50	54.1	108	80-120	
1,3-Dichlorobenzene	ug/L	50	54.0	108	70-130	
1,4-Dichlorobenzene	ug/L	50	55.4	111	70-130	
Benzene	ug/L	50	55.4	111	73-145	
Bromodichloromethane	ug/L	50	54.1	108	70-130	
Bromoform	ug/L	50	56.7	113	67-130	
Bromomethane	ug/L	50	41.2	82	26-128	
Carbon tetrachloride	ug/L	50	59.5	119	70-133	

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

LABORATORY CONTROL SAMPLE: 1658690

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	56.4	113	70-130	
Chloroethane	ug/L	50	54.3	109	58-120	
Chloroform	ug/L	50	57.9	116	80-121	
Chloromethane	ug/L	50	47.1	94	40-127	
cis-1,2-Dichloroethene	ug/L	50	50.3	101	70-130	
cis-1,3-Dichloropropene	ug/L	50	52.0	104	70-130	
Dibromochloromethane	ug/L	50	56.2	112	70-130	
Dichlorodifluoromethane	ug/L	50	36.9	74	20-135	
Ethylbenzene	ug/L	50	56.6	113	87-129	
Isopropylbenzene (Cumene)	ug/L	50	57.0	114	70-130	
Methyl-tert-butyl ether	ug/L	50	51.5	103	66-143	
Methylene Chloride	ug/L	50	54.0	108	70-130	
Styrene	ug/L	50	54.2	108	70-130	
Tetrachloroethene	ug/L	50	54.4	109	70-130	
Toluene	ug/L	50	54.6	109	82-130	
trans-1,2-Dichloroethene	ug/L	50	55.9	112	75-132	
trans-1,3-Dichloropropene	ug/L	50	52.2	104	70-130	
Trichloroethene	ug/L	50	54.4	109	70-130	
Trichlorofluoromethane	ug/L	50	60.4	121	76-133	
Vinyl chloride	ug/L	50	52.7	105	57-136	
Xylene (Total)	ug/L	150	169	113	70-130	
4-Bromofluorobenzene (S)	%			97	61-130	
Dibromofluoromethane (S)	%			108	67-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1658756 1658757

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40165739001	Result	Conc.	Spike Conc.								
1,1,1-Trichloroethane	ug/L	<0.50	50	50	59.4	59.9	119	120	70-134	1	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	54.4	53.9	109	108	70-130	1	20		
1,1,2-Trichloroethane	ug/L	<0.20	50	50	57.3	54.0	115	108	70-130	6	20		
1,1-Dichloroethane	ug/L	<0.24	50	50	60.5	60.7	121	121	71-133	0	20		
1,1-Dichloroethene	ug/L	<0.41	50	50	60.5	59.4	121	119	75-136	2	20		
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	51.3	49.3	103	99	70-130	4	20		
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	52.4	51.4	105	103	63-123	2	20		
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	58.5	54.5	117	109	70-130	7	20		
1,2-Dichlorobenzene	ug/L	<0.50	50	50	55.3	55.2	111	110	70-130	0	20		
1,2-Dichloroethane	ug/L	<0.17	50	50	59.3	58.9	119	118	70-131	1	20		
1,2-Dichloropropane	ug/L	<0.23	50	50	55.3	53.9	111	108	80-120	3	20		
1,3-Dichlorobenzene	ug/L	<0.50	50	50	55.8	53.9	112	108	70-130	3	20		
1,4-Dichlorobenzene	ug/L	<0.50	50	50	57.6	56.0	115	112	70-130	3	20		
Benzene	ug/L	<0.50	50	50	57.0	56.4	114	113	73-145	1	20		
Bromodichloromethane	ug/L	<0.50	50	50	55.2	54.8	110	110	70-130	1	20		

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### QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES  
Pace Project No.: 40165800

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1658756		1658757		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40165739001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Bromoform	ug/L	<0.50	50	50	59.5	56.0	119	112	67-130	6	20		
Bromomethane	ug/L	<2.4	50	50	46.2	46.4	92	93	26-129	1	20		
Carbon tetrachloride	ug/L	<0.50	50	50	59.9	60.9	120	122	70-134	2	20		
Chlorobenzene	ug/L	<0.50	50	50	57.7	56.1	115	112	70-130	3	20		
Chloroethane	ug/L	<0.37	50	50	56.0	54.0	112	108	58-120	4	20		
Chloroform	ug/L	<2.5	50	50	58.8	58.5	118	117	80-121	1	20		
Chloromethane	ug/L	<0.50	50	50	45.1	43.7	90	87	40-128	3	20		
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	61.4	61.5	123	123	70-130	0	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	52.7	51.7	105	103	70-130	2	20		
Dibromochloromethane	ug/L	<0.50	50	50	59.4	56.7	119	113	70-130	5	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	30.3	33.8	61	68	20-146	11	20		
Ethylbenzene	ug/L	<0.50	50	50	58.4	55.5	117	111	87-129	5	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	58.4	55.7	117	111	70-130	5	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	51.7	51.6	103	103	66-143	0	20		
Methylene Chloride	ug/L	<0.23	50	50	56.4	53.2	113	106	70-130	6	20		
Styrene	ug/L	<0.50	50	50	56.6	54.3	113	109	70-130	4	20		
Tetrachloroethene	ug/L	<0.50	50	50	56.0	54.2	112	108	70-130	3	20		
Toluene	ug/L	<0.50	50	50	57.6	54.3	115	109	82-131	6	20		
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	57.1	58.5	114	117	75-135	2	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	55.9	52.6	112	105	70-130	6	20		
Trichloroethene	ug/L	<0.33	50	50	55.3	55.0	111	110	70-130	1	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	58.1	59.9	116	120	76-150	3	20		
Vinyl chloride	ug/L	<0.18	50	50	50.8	51.5	102	103	56-143	1	20		
Xylene (Total)	ug/L	<1.5	150	150	179	169	120	113	70-130	6	20		
4-Bromofluorobenzene (S)	%						102	102	61-130				
Dibromofluoromethane (S)	%						102	109	67-130				
Toluene-d8 (S)	%						103	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

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## QUALIFIERS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40165800

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### 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

DC Chromatographic pattern inconsistent with typical Diesel Fuel.

G- Early peaks present outside the GRO window.

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

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60485212.2 KEP O&M ACTIVITIES  
Pace Project No.: 40165800

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40165800001	SUMP 6 IN	WI MOD DRO	283350	WI MOD DRO	283406
40165800002	SUMP 6 EFF	WI MOD DRO	283350	WI MOD DRO	283406
40165800003	SUMP 7 IN	WI MOD DRO	283350	WI MOD DRO	283406
40165800004	SUMP 17R IN	WI MOD DRO	283350	WI MOD DRO	283406
40165800005	SUMP 7\17R EFF	WI MOD DRO	283350	WI MOD DRO	283406
40165800001	SUMP 6 IN	WI MOD GRO	283245		
40165800002	SUMP 6 EFF	WI MOD GRO	283245		
40165800003	SUMP 7 IN	WI MOD GRO	283245		
40165800004	SUMP 17R IN	WI MOD GRO	283245		
40165800005	SUMP 7\17R EFF	WI MOD GRO	283245		
40165800001	SUMP 6 IN	EPA 8260	283221		
40165800002	SUMP 6 EFF	EPA 8260	283221		
40165800003	SUMP 7 IN	EPA 8260	283221		
40165800004	SUMP 17R IN	EPA 8260	283221		
40165800005	SUMP 7\17R EFF	EPA 8260	283221		
40165800006	TRIP BLANK	EPA 8260	283223		

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**Sample Condition Upon Receipt Form (SCUR)**

Client Name: AECOM

Project # **WO# : 40165800**

Courier:  ES Logistics  Fed Ex  Speedee  UPS  Walto  
 Client  Pace Other: \_\_\_\_\_



Tracking #: \_\_\_\_\_

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

Cooler Temperature Uncorr: ROI /Corr: \_\_\_\_\_  Samples on ice, cooling process has begun

Temp Blank Present:  yes  no Biological Tissue is Frozen:  yes  no

Person examining contents:  
Date: 3-13-18  
Initials: SW

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 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 <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>3/13/18 SW</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	MS/MSD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	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 <input type="checkbox"/> N/A	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>394</u>		

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

Project Manager Review: OK Date: 3/13/18