

Semi-Annual Operation and Monitoring Report, July-December 2017

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, July-December 2017
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 July 2017 through December 2017 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 July through December 2017. 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 July 12th loss of power occurred at the site and operation was restored by on-site personnel.
 - On July 20th a new power service was installed to the remediation system.
- Central System –The system has been operational and remains off since March 7, 2017 for continued analysis of localized groundwater treatment study.

- Southern System – The system has been operating normally except for the following intermittent interruptions:
 - On September 8, 2017 the pump in sump 7 failed and was replaced on September 21, 2017 under warranty.
 - On October 5, 2017 the pump in sump 7 failed and was replaced on October 11, 2017 under warranty.
 - On October 19, 2017 the pump in sump 7 failed was replaced on November 9, 2017 under warranty. Additionally, a new coyote controller was installed on November 9, 2017 to prolong the life of the pump in sump 7.

The conditions of the system components were reviewed on April 17, 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 the next operational periods.
- System not operating.

South 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 April 2016 are attached. Due to soil remediation and concrete removal activities the April 2016 water table contour map and potentiometric map will be used until the completion of soil remediation which is expected in fall 2018. Capture zones for the Southern (Sumps 7, 15 & 17R) systems are illustrated by concentric contours around the sums on the water table contour map. The capture zone for Sumps 18 & 23 is illustrated by the 615 foot contour surrounding the sums. The capture zone for Sump 6 is illustrated by the 615 foot contour.

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 October 2017 shown for two operating sums (Sumps 6 and 17R). Influent samples were not collected in October 2017 at Sumps 7, 15, 18 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 and increased slightly since the previous March 2017 sampling. Cis-1,2-dichloroethene and vinyl chloride are also present above their respective ES with increasing and decreasing trends respectfully. Soil remediation (source soil excavation) in 2018 will like address these impacts.

Central System

- Sump 18 – Shut down for localized groundwater study, no sample collected.

South System

- Sump 7 – Not operational during time of sampling.
- Sump 17R – Trichloroethene
The TCE concentration is above the ES for the October 2017 sampling event without an observable trend. Cis-1,2-dichloroethene and vinyl chloride also exceed the ES concentrations, without observable trends. Trend analysis will continue during future sampling events.

Table 3 presents a summary of the operational data collected for July through December of 2017. 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 system remains off since March 7, 2017 for continued analysis of localized groundwater treatment study.

Southern System –Sump 7 groundwater extraction pump and coyote controller were replaced during the operational period.

Optimization of the three operating groundwater recovery systems will continue in spring 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.

Yours sincerely,

AECOM Technical Services, Inc.



Zachary P. Albert
Scientist
Zachary.albert@aecom.com



Lanette L. Altenbach, P.G., C.P.G.
Senior Hydrogeologist
Lanette.altenbach@aecom.com

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:	07/01/2017	To:	12/31/2017	Days in period:	184
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"/> NE	<input type="radio"/> Section	<input type="radio"/> 1/4	<input type="radio"/> 1/4 1/4
		N		OW			

6. Responsible party

Name

City of Kenosha

Mailing address

625 52nd Street, Kenosha, WI 53140

Phone number

(262) 653-4000

8. Contaminants

VOCs

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

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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					
12. If soil is treated ex situ, is the treatment location off site? <input type="radio"/> Yes <input checked="" type="radio"/> No						
If yes, give location: Region	County					
Municipality name <input type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village	Township	Range	<input type="radio"/> NE <input type="radio"/> SW	Section	$\frac{1}{4}$	$\frac{1}{4} \frac{1}{4}$

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. Central System Sumps 18 and 23 are temporarily shut down due to local groundwater treatment study, operation will resume pending results.

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:

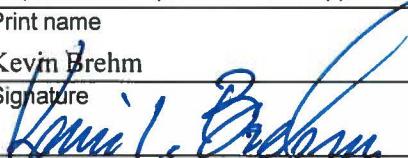
7. If closure is anticipated within 12 months, estimated costs for project closeout: _____

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.

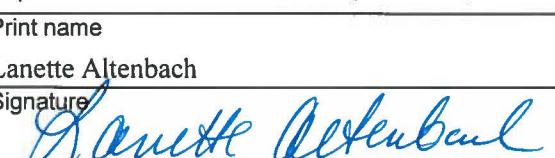
Registered Professional Engineers:

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
	Date <u>12/18/18</u>

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
	Date <u>12/18/18</u>

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

Other Persons:

Print name	Title

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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 - 184 days

Central System (Sumps 18 & 23) - 0 days

Southern System (Sumps 7, 15, 17R) - 184 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: 1,335,549 gallons

5. Average groundwater extraction rate: 5 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)	Tetrachloroethene (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)	
Northern System																							
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	
Central System																							
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	<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	<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	<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.																					
Sump 23	1/19/11	420	<5	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</									

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)	Tetrachloroethene (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)
Southern System																						
Sump 7	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	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	<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.																				
Sump 15	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 ^A		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 ^B		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)	Tetrachloroethene (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	1100	98	ND	ND	<9.6	ND	ND	<5.2	340	<4.8	ND	24	ND	NT	NT
	3/24/11	ND	<18	ND	ND	<18	ND	300	35	ND	ND	<18	ND	ND	<18	70	<18	ND	<18	ND	150	0.62
	6/13/11	ND	5.4	ND	ND	<2.5	ND	370	34	ND	ND	<1.3	ND	ND	<2.5	160	<1	ND	1.3	ND	80	1.2
	9/19/11	ND	3.1	ND	ND	<1	ND	190	14	ND	ND	<0.5	ND	ND	<1	25	<0.4	ND	13	ND	66	2
	1/5/12	ND	5.6	ND	ND	0.59	ND	270	30	ND	ND	<0.25	ND	ND	<0.50	110	<0.20	ND	1.2	ND	130	1.6
	3/20/12	ND	7.1	ND	ND	<1	ND	500	39	ND	ND	<0.5	ND	ND	<1	150	<0.4	ND	1.8	ND	260	1.1
	6/22/12	ND	6.3	ND	ND	1.2	ND	700	38	ND	ND	<0.16	ND	ND	<0.11	180	<0.14	ND	2.9	ND	270	1.8
	9/18/12	ND	3.8	ND	ND	<0.31	ND	180	20	ND	ND	<0.16	ND	ND	<0.11	35	<0.14	ND	17	ND	79	1.7
	12/27/12	ND	6.4	ND	ND	1.2	ND	400	59	ND	ND	<0.16	ND	ND	<0.11	45	<0.14	ND	55	ND	170	2.3
	3/26/13	ND	2	ND	ND	<0.31	ND	190	15	ND	ND	<0.16	ND	ND	<0.11	69	<0.14	ND	3.5	ND	100	1.5
	6/11/13	ND	5.3	ND	ND	0.91	ND	380	33	ND	ND	<0.16	ND	ND	<0.11	120	<0.14	ND	6.6	ND	220	0.88
	9/23/13	ND	5.4	ND	ND	1.8	ND	620	37	ND	ND	<0.16	ND	ND	<0.11	38	<0.14	ND	36	ND	290	1.9
	12/20/13	ND	8.6	ND	ND	1.9	ND	970	79	ND	ND	<0.16	ND	ND	<0.11	91	<0.14	ND	200	ND	360	2.4
	6/19/14	<2.5	5.7	ND	<0.84	2.2 J	ND	702	38.1	<2.5	ND	<12.5	<2.5	<2.5	<2.5	103	<2.5	<2.5	<0.88	<7.5	NT	NT
	9/5/14	<1.2	5.4	ND	<0.42	<1	ND	331	20	<1.2	ND	<6.2	<1.2	<1.2	<1.2	45.4	<1.2	<1.2	38	<3.8	137	2.1
	12/3/14	<2.5	4.6 J	ND	<0.84	<2.1	ND	236	22.9	<2.5	ND	<12.5	<2.5	<2.5	<2.5	57.7	<2.5	<2.5	17.6	<7.5	132	0.78
	9/9/15	<2.5	<0.24	ND	<0.84	<2.1	ND	4.8	1.2	<2.5	ND	<12.5	<2.5	<2.5	<2.5	0.53 J	<2.5	<2.5	0.71 J	<7.5	34.2 J	67
	3/9/16	<5.0	6 J	ND	<1.7	<4.1	ND	982	72.3	<5.0	ND	<25.0	<5.0	<5.0	<5.0	80.3	<5.0	<5.0	148	<15.0	373	0.87
	9/7/16	<1.2	5.5	<0.94	<0.42	<1.0	<1.2	370	24	<1.2	<0.58	<6.2	<1.2	<1.2	<1.2	35.1	<1.2	<1.2	143	<3.8	143	2.2
	3/7/17	<1.2	6.6	<0.94	<0.42	1.6 J	<1.2	423	37.3	<1.2	<0.58	<6.2	<1.2	<1.2	<1.2	85.2	<1.2	<1.2	39.2	<3.8	0.18	0.86
	10/5/17	<1.2	4.6	<0.94	<0.42	<1.0	<1.2	235	10.6	<1.2	<0.58	<6.2	<1.2	<1.2	<1.2	18.8	<1.2	<1.2	107	<3.8	0.058	0.62
PAL ^a		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 ^b		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 e 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 ethene (ug/L)	1,2,4-Trimethyl benzene (ug/L)	1,1,1-Trichloroethane (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 (mg/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	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	
Sump 18/23	3/30/2012	ND	ND	ND	ND	ND	0.62 J	5.8	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	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	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	<8.8	0.85		
	6/24/2013	ND	ND	ND	ND	ND	ND	1.1	5.5	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	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	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.																			
Sump 7/15/17R	9/28/2011	ND	ND	ND	ND	ND	ND	0.82 J	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	

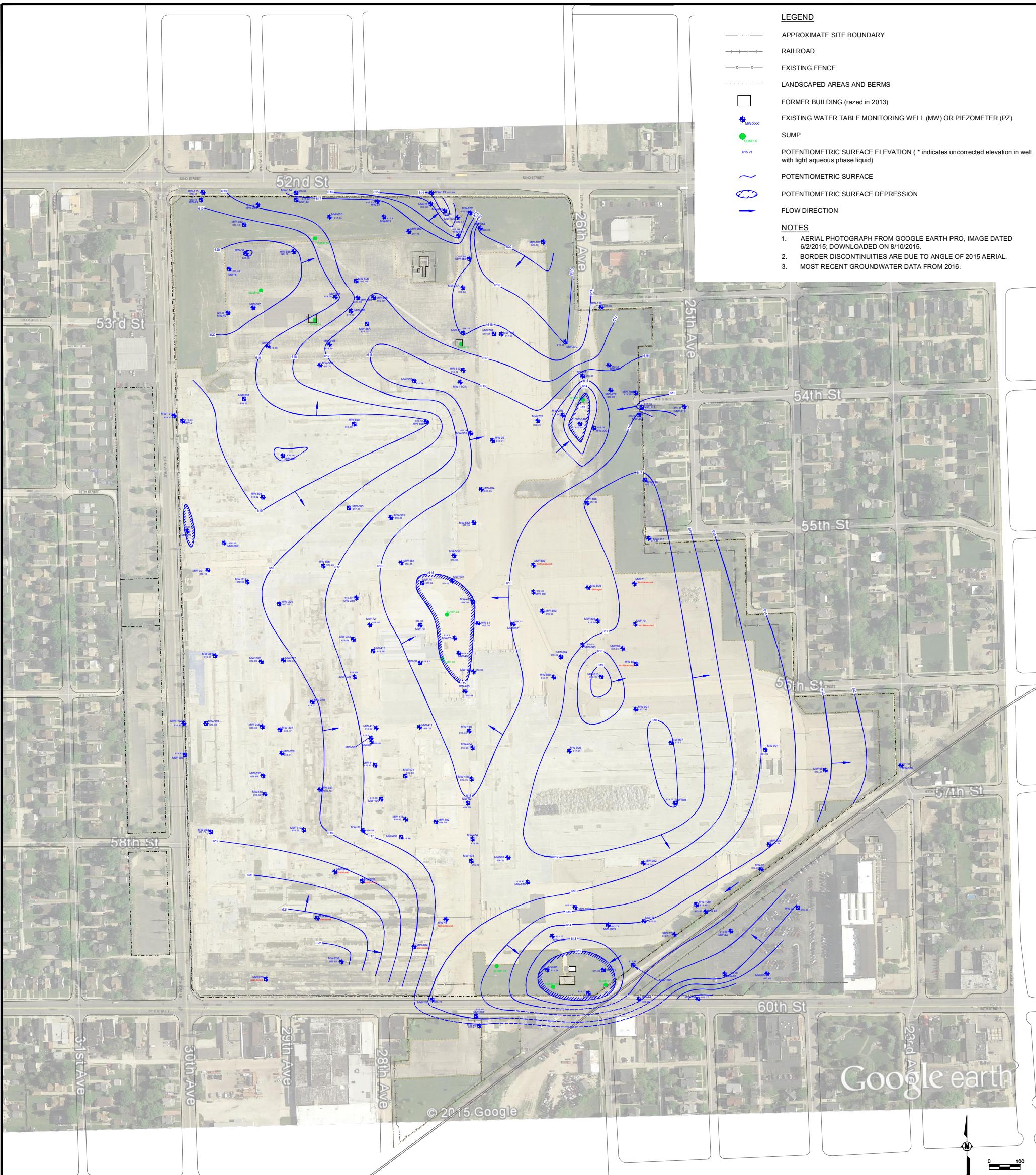
<0.50 = not detected at the concentration shown after the less-than (<) sign.

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	8/4/2017	2,548,042.50	219,557.50	Yes	Yes	Yes				
	9/8/2017	2,719,985.90	171,943.40							
	10/5/2017	2,811,026.80	91,040.90							
	11/2/2017	2,956,478.10	145,451.30							
	12/8/2017	3,156,803.50	200,325.40							
	1/8/2018*	3,255,646.70	98,843.20							
18	8/4/2017	3,418,447.86	0.00	Pump not in operation during semi-annual period No effluent sample						
	9/8/2017	3,418,447.86	0.00							
	10/5/2017	3,418,447.86	0.00							
	11/2/2017	3,418,447.86	0.00							
	12/8/2017	3,418,447.86	0.00							
	1/8/2018*	3,418,447.86	0.00							
23	8/4/2017	4,238,580.10	0.00	Pump not in operation during semi-annual period No effluent sample						
	9/8/2017	4,238,580.10	0.00							
	10/5/2017	4,238,580.10	0.00							
	11/2/2017	4,238,580.10	0.00							
	12/8/2017	4,238,580.10	0.00							
	1/8/2018*	4,238,580.10	0.00							
7	8/4/2017	204,782.00	25,866.43	Yes	Yes	Yes				
	9/8/2017	227,810.05	23,028.1							
	10/5/2017	234,113.17	6,303.1							
	11/2/2017	237,376.98	3,263.8							
	12/8/2017	254,457.56	17,080.6							
	1/8/2018*	267,805.67	13,348.1							
15	8/4/2017	39,702.13	0.00	Pump not in operation during semi-annual period No effluent sample						
	9/8/2017	39,702.13	0.00							
	10/5/2017	39,702.13	0.00							
	11/2/2017	39,702.13	0.00							
	12/8/2017	39,702.13	0.00							
	1/8/2018*	39,702.13	0.00							
17R	8/4/2017	485,200.73	77,276.71	Yes	Yes	Yes				
	9/8/2017	573,134.81	87,934.1							
	10/5/2017	631,425.50	58,290.7							
	11/2/2017	685,828.01	54,402.5							
	12/8/2017	722,303.21	36,475.2							
	1/8/2018*	727,421.18	5,118.0							

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).



WATER TABLE GROUNDWATER CONTOURS - April 2016
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN

1555 RiverCenter Dr
Milwaukee, WI 53212
414.944.6080
www.aecom.com
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AECOM

Drawn:	SAE	7/18/2016
Checked:	LLA	7/18/2016
Approved:	KWB	7/18/2016

PROJECT NUMBER

60485212

FIGURE NUMBER

1

October 13, 2017

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.: 40158155

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on October 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



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

Enclosures



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CERTIFICATIONS

Project: 60485212.2 KEP O&M ACTIVITIES
Pace Project No.: 40158155

Green Bay Certification IDs

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

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SAMPLE SUMMARY

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40158155001	SUMP 6 IN	Water	10/05/17 07:25	10/06/17 09:35
40158155002	SUMP 6 EFF	Water	10/05/17 07:45	10/06/17 09:35
40158155003	SUMP 17R IN	Water	10/05/17 08:25	10/06/17 09:35
40158155004	SUMP 7/17R EFF	Water	10/05/17 09:05	10/06/17 09:35
40158155005	TRIP BLANK	Water	10/05/17 07:10	10/06/17 09:35

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SAMPLE ANALYTE COUNT

Project: 60485212.2 KEP O&M ACTIVITIES
Pace Project No.: 40158155

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40158155001	SUMP 6 IN	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	LAP	63	PASI-G
40158155002	SUMP 6 EFF	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	LAP	63	PASI-G
40158155003	SUMP 17R IN	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	LAP	63	PASI-G
40158155004	SUMP 7/17R EFF	WI MOD DRO	ABF	1	PASI-G
		WI MOD GRO	ALD	1	PASI-G
		EPA 8260	LAP	63	PASI-G
40158155005	TRIP BLANK	EPA 8260	LAP	63	PASI-G

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SUMMARY OF DETECTION

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
40158155001							
	SUMP 6 IN						
WI MOD DRO	Diesel Range Organics	0.026J	mg/L	0.049	10/13/17 13:39		
WI MOD GRO	Gasoline Range Organics	0.49	mg/L	0.050	10/09/17 19:33		
EPA 8260	1,1-Dichloroethane	5.2J	ug/L	10.0	10/10/17 10:04		
EPA 8260	cis-1,2-Dichloroethene	653	ug/L	10.0	10/10/17 10:04		
EPA 8260	trans-1,2-Dichloroethene	50.3	ug/L	10.0	10/10/17 10:04		
EPA 8260	Trichloroethene	990	ug/L	10.0	10/10/17 10:04		
EPA 8260	Vinyl chloride	21.9	ug/L	10.0	10/10/17 10:04		
40158155002							
	SUMP 6 EFF						
WI MOD DRO	Diesel Range Organics	0.037J	mg/L	0.049	10/13/17 13:48		
WI MOD GRO	Gasoline Range Organics	0.12	mg/L	0.050	10/09/17 14:52		
EPA 8260	1,1-Dichloroethane	1.8	ug/L	1.0	10/10/17 10:49		
EPA 8260	1,1-Dichloroethene	0.47J	ug/L	1.0	10/10/17 10:49		
EPA 8260	cis-1,2-Dichloroethene	234	ug/L	1.0	10/10/17 10:49		
EPA 8260	trans-1,2-Dichloroethene	12.5	ug/L	1.0	10/10/17 10:49		
EPA 8260	Methyl-tert-butyl ether	1.0	ug/L	1.0	10/10/17 10:49		
EPA 8260	Trichloroethene	296	ug/L	1.0	10/10/17 10:49		
EPA 8260	Vinyl chloride	4.2	ug/L	1.0	10/10/17 10:49		
40158155003							
	SUMP 17R IN						
WI MOD DRO	Diesel Range Organics	0.62	mg/L	0.050	10/13/17 13:57	DC	
WI MOD GRO	Gasoline Range Organics	0.058	mg/L	0.050	10/10/17 10:10	G-	
EPA 8260	1,1-Dichloroethane	4.6	ug/L	2.5	10/10/17 10:26		
EPA 8260	cis-1,2-Dichloroethene	235	ug/L	2.5	10/10/17 10:26		
EPA 8260	trans-1,2-Dichloroethene	10.6	ug/L	2.5	10/10/17 10:26		
EPA 8260	Trichloroethene	18.8	ug/L	2.5	10/10/17 10:26		
EPA 8260	Vinyl chloride	107	ug/L	2.5	10/10/17 10:26		
40158155004							
	SUMP 7/17R EFF						
WI MOD DRO	Diesel Range Organics	0.97	mg/L	0.050	10/13/17 14:06	DC	
EPA 8260	cis-1,2-Dichloroethene	5.1	ug/L	1.0	10/10/17 14:57		
EPA 8260	Trichloroethene	0.40J	ug/L	1.0	10/10/17 14:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 6 IN	Lab ID: 40158155001	Collected: 10/05/17 07:25	Received: 10/06/17 09:35	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	0.026J	mg/L	0.049	0.015	1	10/11/17 13:28	10/13/17 13:39		
WIGRO GCV	Analytical Method: WI MOD GRO								
Gasoline Range Organics	0.49	mg/L	0.050	0.030	1		10/09/17 19:33		
8260 MSV	Analytical Method: EPA 8260								
Benzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		10/10/17 10:04	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		10/10/17 10:04	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		10/10/17 10:04	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		10/10/17 10:04	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		10/10/17 10:04	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		10/10/17 10:04	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		10/10/17 10:04	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		10/10/17 10:04	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		10/10/17 10:04	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		10/10/17 10:04	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		10/10/17 10:04	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		10/10/17 10:04	75-71-8	
1,1-Dichloroethane	5.2J	ug/L	10.0	2.4	10		10/10/17 10:04	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		10/10/17 10:04	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		10/10/17 10:04	75-35-4	
cis-1,2-Dichloroethene	653	ug/L	10.0	2.6	10		10/10/17 10:04	156-59-2	
trans-1,2-Dichloroethene	50.3	ug/L	10.0	2.6	10		10/10/17 10:04	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		10/10/17 10:04	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		10/10/17 10:04	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		10/10/17 10:04	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		10/10/17 10:04	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	108-20-3	
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		10/10/17 10:04	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		10/10/17 10:04	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	99-87-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 6 IN	Lab ID: 40158155001	Collected: 10/05/17 07:25	Received: 10/06/17 09:35	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Methylene Chloride	<2.3	ug/L	10.0	2.3	10		10/10/17 10:04	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		10/10/17 10:04	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		10/10/17 10:04	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		10/10/17 10:04	630-20-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		10/10/17 10:04	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		10/10/17 10:04	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		10/10/17 10:04	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		10/10/17 10:04	79-00-5	
Trichloroethene	990	ug/L	10.0	3.3	10		10/10/17 10:04	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		10/10/17 10:04	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/10/17 10:04	108-67-8	
Vinyl chloride	21.9	ug/L	10.0	1.8	10		10/10/17 10:04	75-01-4	
Xylene (Total)	<15.0	ug/L	30.0	15.0	10		10/10/17 10:04	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	85	%	61-130		10		10/10/17 10:04	460-00-4	
Dibromofluoromethane (S)	100	%	67-130		10		10/10/17 10:04	1868-53-7	
Toluene-d8 (S)	99	%	70-130		10		10/10/17 10:04	2037-26-5	

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 6 EFF	Lab ID: 40158155002	Collected: 10/05/17 07:45	Received: 10/06/17 09:35	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	0.037J	mg/L	0.049	0.015	1	10/11/17 13:28	10/13/17 13:48		
WIGRO GCV	Analytical Method: WI MOD GRO								
Gasoline Range Organics	0.12	mg/L	0.050	0.030	1		10/09/17 14:52		
8260 MSV	Analytical Method: EPA 8260								
Benzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		10/10/17 10:49	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		10/10/17 10:49	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		10/10/17 10:49	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		10/10/17 10:49	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		10/10/17 10:49	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		10/10/17 10:49	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		10/10/17 10:49	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		10/10/17 10:49	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		10/10/17 10:49	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		10/10/17 10:49	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		10/10/17 10:49	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		10/10/17 10:49	75-71-8	
1,1-Dichloroethane	1.8	ug/L	1.0	0.24	1		10/10/17 10:49	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/10/17 10:49	107-06-2	
1,1-Dichloroethene	0.47J	ug/L	1.0	0.41	1		10/10/17 10:49	75-35-4	
cis-1,2-Dichloroethene	234	ug/L	1.0	0.26	1		10/10/17 10:49	156-59-2	
trans-1,2-Dichloroethene	12.5	ug/L	1.0	0.26	1		10/10/17 10:49	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		10/10/17 10:49	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		10/10/17 10:49	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		10/10/17 10:49	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		10/10/17 10:49	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		10/10/17 10:49	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		10/10/17 10:49	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	99-87-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 6 EFF	Lab ID: 40158155002	Collected: 10/05/17 07:45	Received: 10/06/17 09:35	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		10/10/17 10:49	75-09-2	
Methyl-tert-butyl ether	1.0	ug/L	1.0	0.17	1		10/10/17 10:49	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/10/17 10:49	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		10/10/17 10:49	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		10/10/17 10:49	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		10/10/17 10:49	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		10/10/17 10:49	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		10/10/17 10:49	79-00-5	
Trichloroethene	296	ug/L	1.0	0.33	1		10/10/17 10:49	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		10/10/17 10:49	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 10:49	108-67-8	
Vinyl chloride	4.2	ug/L	1.0	0.18	1		10/10/17 10:49	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		10/10/17 10:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	86	%	61-130		1		10/10/17 10:49	460-00-4	
Dibromofluoromethane (S)	102	%	67-130		1		10/10/17 10:49	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		10/10/17 10:49	2037-26-5	

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 17R IN	Lab ID: 40158155003	Collected: 10/05/17 08:25	Received: 10/06/17 09:35	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	0.62	mg/L	0.050	0.015	1	10/11/17 13:28	10/13/17 13:57		DC
WIGRO GCV	Analytical Method: WI MOD GRO								
Gasoline Range Organics	0.058	mg/L	0.050	0.030	1		10/10/17 10:10		G-
8260 MSV	Analytical Method: EPA 8260								
Benzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	71-43-2	
Bromobenzene	<0.58	ug/L	2.5	0.58	2.5		10/10/17 10:26	108-86-1	
Bromochloromethane	<0.85	ug/L	2.5	0.85	2.5		10/10/17 10:26	74-97-5	
Bromodichloromethane	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	75-27-4	
Bromoform	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	75-25-2	
Bromomethane	<6.1	ug/L	12.5	6.1	2.5		10/10/17 10:26	74-83-9	
n-Butylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	104-51-8	
sec-Butylbenzene	<5.5	ug/L	12.5	5.5	2.5		10/10/17 10:26	135-98-8	
tert-Butylbenzene	<0.45	ug/L	2.5	0.45	2.5		10/10/17 10:26	98-06-6	
Carbon tetrachloride	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	56-23-5	
Chlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	108-90-7	
Chloroethane	<0.94	ug/L	2.5	0.94	2.5		10/10/17 10:26	75-00-3	
Chloroform	<6.2	ug/L	12.5	6.2	2.5		10/10/17 10:26	67-66-3	
Chloromethane	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	74-87-3	
2-Chlorotoluene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	95-49-8	
4-Chlorotoluene	<0.53	ug/L	2.5	0.53	2.5		10/10/17 10:26	106-43-4	
1,2-Dibromo-3-chloropropane	<5.4	ug/L	12.5	5.4	2.5		10/10/17 10:26	96-12-8	
Dibromochloromethane	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.44	ug/L	2.5	0.44	2.5		10/10/17 10:26	106-93-4	
Dibromomethane	<1.1	ug/L	2.5	1.1	2.5		10/10/17 10:26	74-95-3	
1,2-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	95-50-1	
1,3-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	541-73-1	
1,4-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	106-46-7	
Dichlorodifluoromethane	<0.56	ug/L	2.5	0.56	2.5		10/10/17 10:26	75-71-8	
1,1-Dichloroethane	4.6	ug/L	2.5	0.60	2.5		10/10/17 10:26	75-34-3	
1,2-Dichloroethane	<0.42	ug/L	2.5	0.42	2.5		10/10/17 10:26	107-06-2	
1,1-Dichloroethene	<1.0	ug/L	2.5	1.0	2.5		10/10/17 10:26	75-35-4	
cis-1,2-Dichloroethene	235	ug/L	2.5	0.64	2.5		10/10/17 10:26	156-59-2	
trans-1,2-Dichloroethene	10.6	ug/L	2.5	0.64	2.5		10/10/17 10:26	156-60-5	
1,2-Dichloropropane	<0.58	ug/L	2.5	0.58	2.5		10/10/17 10:26	78-87-5	
1,3-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	142-28-9	
2,2-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	594-20-7	
1,1-Dichloropropene	<1.1	ug/L	2.5	1.1	2.5		10/10/17 10:26	563-58-6	
cis-1,3-Dichloropropene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	10061-01-5	
trans-1,3-Dichloropropene	<0.57	ug/L	2.5	0.57	2.5		10/10/17 10:26	10061-02-6	
Diisopropyl ether	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	108-20-3	
Ethylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	100-41-4	
Hexachloro-1,3-butadiene	<5.3	ug/L	12.5	5.3	2.5		10/10/17 10:26	87-68-3	
Isopropylbenzene (Cumene)	<0.36	ug/L	2.5	0.36	2.5		10/10/17 10:26	98-82-8	
p-Isopropyltoluene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	99-87-6	

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 17R IN	Lab ID: 40158155003	Collected: 10/05/17 08:25	Received: 10/06/17 09:35	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Methylene Chloride	<0.58	ug/L	2.5	0.58	2.5		10/10/17 10:26	75-09-2	
Methyl-tert-butyl ether	<0.44	ug/L	2.5	0.44	2.5		10/10/17 10:26	1634-04-4	
Naphthalene	<6.2	ug/L	12.5	6.2	2.5		10/10/17 10:26	91-20-3	
n-Propylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	103-65-1	
Styrene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45	ug/L	2.5	0.45	2.5		10/10/17 10:26	630-20-6	
1,1,2,2-Tetrachloroethane	<0.62	ug/L	2.5	0.62	2.5		10/10/17 10:26	79-34-5	
Tetrachloroethene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	127-18-4	
Toluene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	108-88-3	
1,2,3-Trichlorobenzene	<5.3	ug/L	12.5	5.3	2.5		10/10/17 10:26	87-61-6	
1,2,4-Trichlorobenzene	<5.5	ug/L	12.5	5.5	2.5		10/10/17 10:26	120-82-1	
1,1,1-Trichloroethane	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	71-55-6	
1,1,2-Trichloroethane	<0.49	ug/L	2.5	0.49	2.5		10/10/17 10:26	79-00-5	
Trichloroethene	18.8	ug/L	2.5	0.83	2.5		10/10/17 10:26	79-01-6	
Trichlorofluoromethane	<0.46	ug/L	2.5	0.46	2.5		10/10/17 10:26	75-69-4	
1,2,3-Trichloropropane	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	96-18-4	
1,2,4-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	95-63-6	
1,3,5-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/10/17 10:26	108-67-8	
Vinyl chloride	107	ug/L	2.5	0.44	2.5		10/10/17 10:26	75-01-4	
Xylene (Total)	<3.8	ug/L	7.5	3.8	2.5		10/10/17 10:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	86	%	61-130		2.5		10/10/17 10:26	460-00-4	
Dibromofluoromethane (S)	103	%	67-130		2.5		10/10/17 10:26	1868-53-7	
Toluene-d8 (S)	96	%	70-130		2.5		10/10/17 10:26	2037-26-5	

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 7/17R EFF Lab ID: 40158155004 Collected: 10/05/17 09:05 Received: 10/06/17 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	0.97	mg/L	0.050	0.015	1	10/11/17 13:28	10/13/17 14:06		DC
WIGRO GCV	Analytical Method: WI MOD GRO								
Gasoline Range Organics	<0.030	mg/L	0.050	0.030	1		10/10/17 09:44		
8260 MSV	Analytical Method: EPA 8260								
Benzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		10/10/17 14:57	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		10/10/17 14:57	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		10/10/17 14:57	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		10/10/17 14:57	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		10/10/17 14:57	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		10/10/17 14:57	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		10/10/17 14:57	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		10/10/17 14:57	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		10/10/17 14:57	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		10/10/17 14:57	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		10/10/17 14:57	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		10/10/17 14:57	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		10/10/17 14:57	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/10/17 14:57	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		10/10/17 14:57	75-35-4	
cis-1,2-Dichloroethene	5.1	ug/L	1.0	0.26	1		10/10/17 14:57	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		10/10/17 14:57	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		10/10/17 14:57	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		10/10/17 14:57	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		10/10/17 14:57	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		10/10/17 14:57	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		10/10/17 14:57	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		10/10/17 14:57	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	99-87-6	

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: SUMP 7/17R EFF Lab ID: 40158155004 Collected: 10/05/17 09:05 Received: 10/06/17 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		10/10/17 14:57	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		10/10/17 14:57	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/10/17 14:57	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		10/10/17 14:57	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		10/10/17 14:57	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		10/10/17 14:57	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		10/10/17 14:57	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		10/10/17 14:57	79-00-5	
Trichloroethene	0.40J	ug/L	1.0	0.33	1		10/10/17 14:57	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		10/10/17 14:57	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/17 14:57	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		10/10/17 14:57	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		10/10/17 14:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	87	%	61-130		1		10/10/17 14:57	460-00-4	
Dibromofluoromethane (S)	101	%	67-130		1		10/10/17 14:57	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		10/10/17 14:57	2037-26-5	

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: TRIP BLANK	Lab ID: 40158155005	Collected: 10/05/17 07:10	Received: 10/06/17 09:35	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		10/12/17 07:52	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		10/12/17 07:52	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		10/12/17 07:52	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		10/12/17 07:52	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		10/12/17 07:52	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		10/12/17 07:52	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		10/12/17 07:52	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		10/12/17 07:52	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		10/12/17 07:52	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		10/12/17 07:52	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		10/12/17 07:52	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		10/12/17 07:52	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		10/12/17 07:52	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/12/17 07:52	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		10/12/17 07:52	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		10/12/17 07:52	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		10/12/17 07:52	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		10/12/17 07:52	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		10/12/17 07:52	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		10/12/17 07:52	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		10/12/17 07:52	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		10/12/17 07:52	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		10/12/17 07:52	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		10/12/17 07:52	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		10/12/17 07:52	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/12/17 07:52	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		10/12/17 07:52	630-20-6	

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ANALYTICAL RESULTS

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Sample: TRIP BLANK Lab ID: 40158155005 Collected: 10/05/17 07:10 Received: 10/06/17 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		10/12/17 07:52	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		10/12/17 07:52	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		10/12/17 07:52	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		10/12/17 07:52	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		10/12/17 07:52	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		10/12/17 07:52	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/12/17 07:52	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		10/12/17 07:52	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		10/12/17 07:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	61-130		1		10/12/17 07:52	460-00-4	
Dibromofluoromethane (S)	103	%	67-130		1		10/12/17 07:52	1868-53-7	
Toluene-d8 (S)	106	%	70-130		1		10/12/17 07:52	2037-26-5	

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

QC Batch:	269839	Analysis Method:	WI MOD GRO
QC Batch Method:	WI MOD GRO	Analysis Description:	WIGRO GCV Water
Associated Lab Samples:	40158155001, 40158155002		

METHOD BLANK: 1586222 Matrix: Water

Associated Lab Samples: 40158155001, 40158155002

Parameter	Units	Blank	Reporting		Analyzed	Qualifiers
		Result	Limit	Analyzed		
Gasoline Range Organics	mg/L	<0.030	0.050	10/09/17 11:53		
a,a,a-Trifluorotoluene (S)	%	100	80-120	10/09/17 11:53		

LABORATORY CONTROL SAMPLE & LCSD: 1586223 1586224

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max RPD	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits			
Gasoline Range Organics	mg/L	.2	0.18	0.19	92	93	80-120	1	20	
a,a,a-Trifluorotoluene (S)	%				101	100	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1586372 1586373

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max RPD
		40158041010	Spike							
a,a,a-Trifluorotoluene (S)	%					97	96	80-120		

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

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

QC Batch:	270002	Analysis Method:	WI MOD GRO
QC Batch Method:	WI MOD GRO	Analysis Description:	WIGRO GCV Water
Associated Lab Samples:	40158155003, 40158155004		

METHOD BLANK:	1586752	Matrix:	Water
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Associated Lab Samples: 40158155003, 40158155004

Parameter	Units	Blank	Reporting		Analyzed	Qualifiers
		Result	Limit			
Gasoline Range Organics	mg/L	<0.030	0.050	10/10/17 08:27		
a,a,a-Trifluorotoluene (S)	%	100	80-120	10/10/17 08:27		

LABORATORY CONTROL SAMPLE & LCSD:	1586753	1586754
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Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max RPD	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits			
Gasoline Range Organics	mg/L	.2	0.20	0.18	98	89	80-120	10	20	
a,a,a-Trifluorotoluene (S)	%				101	100	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	1586795	1586796
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Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max RPD	RPD	Qual
		40158258002	Spike									
a,a,a-Trifluorotoluene (S)	%					104	103	80-120				

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

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

QC Batch:	269901	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	40158155001, 40158155002, 40158155003, 40158155004		

METHOD BLANK: 1586453 Matrix: Water

Associated Lab Samples: 40158155001, 40158155002, 40158155003, 40158155004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/10/17 07:03	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/10/17 07:03	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/10/17 07:03	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/10/17 07:03	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/10/17 07:03	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/10/17 07:03	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/10/17 07:03	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/10/17 07:03	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/10/17 07:03	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/10/17 07:03	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/10/17 07:03	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/10/17 07:03	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/10/17 07:03	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/10/17 07:03	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/10/17 07:03	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/10/17 07:03	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/10/17 07:03	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/10/17 07:03	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/10/17 07:03	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/10/17 07:03	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/10/17 07:03	
2-Chlorotoluene	ug/L	<0.50	1.0	10/10/17 07:03	
4-Chlorotoluene	ug/L	<0.21	1.0	10/10/17 07:03	
Benzene	ug/L	<0.50	1.0	10/10/17 07:03	
Bromobenzene	ug/L	<0.23	1.0	10/10/17 07:03	
Bromochloromethane	ug/L	<0.34	1.0	10/10/17 07:03	
Bromodichloromethane	ug/L	<0.50	1.0	10/10/17 07:03	
Bromoform	ug/L	<0.50	1.0	10/10/17 07:03	
Bromomethane	ug/L	<2.4	5.0	10/10/17 07:03	
Carbon tetrachloride	ug/L	<0.50	1.0	10/10/17 07:03	
Chlorobenzene	ug/L	<0.50	1.0	10/10/17 07:03	
Chloroethane	ug/L	<0.37	1.0	10/10/17 07:03	
Chloroform	ug/L	<2.5	5.0	10/10/17 07:03	
Chloromethane	ug/L	<0.50	1.0	10/10/17 07:03	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/10/17 07:03	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/10/17 07:03	
Dibromochloromethane	ug/L	<0.50	1.0	10/10/17 07:03	
Dibromomethane	ug/L	<0.43	1.0	10/10/17 07:03	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/10/17 07:03	
Diisopropyl ether	ug/L	<0.50	1.0	10/10/17 07:03	
Ethylbenzene	ug/L	<0.50	1.0	10/10/17 07:03	

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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.: 40158155

METHOD BLANK: 1586453

Matrix: Water

Associated Lab Samples: 40158155001, 40158155002, 40158155003, 40158155004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/10/17 07:03	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/10/17 07:03	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/10/17 07:03	
Methylene Chloride	ug/L	<0.23	1.0	10/10/17 07:03	
n-Butylbenzene	ug/L	<0.50	1.0	10/10/17 07:03	
n-Propylbenzene	ug/L	<0.50	1.0	10/10/17 07:03	
Naphthalene	ug/L	<2.5	5.0	10/10/17 07:03	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/10/17 07:03	
sec-Butylbenzene	ug/L	<2.2	5.0	10/10/17 07:03	
Styrene	ug/L	<0.50	1.0	10/10/17 07:03	
tert-Butylbenzene	ug/L	<0.18	1.0	10/10/17 07:03	
Tetrachloroethene	ug/L	<0.50	1.0	10/10/17 07:03	
Toluene	ug/L	<0.50	1.0	10/10/17 07:03	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/10/17 07:03	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/10/17 07:03	
Trichloroethene	ug/L	<0.33	1.0	10/10/17 07:03	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/10/17 07:03	
Vinyl chloride	ug/L	<0.18	1.0	10/10/17 07:03	
Xylene (Total)	ug/L	<1.5	3.0	10/10/17 07:03	
4-Bromofluorobenzene (S)	%	90	61-130	10/10/17 07:03	
Dibromofluoromethane (S)	%	96	67-130	10/10/17 07:03	
Toluene-d8 (S)	%	99	70-130	10/10/17 07:03	

LABORATORY CONTROL SAMPLE: 1586454

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.9	110	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	46.4	93	70-130	
1,1,2-Trichloroethane	ug/L	50	50.0	100	70-130	
1,1-Dichloroethane	ug/L	50	52.8	106	71-132	
1,1-Dichloroethene	ug/L	50	52.1	104	75-130	
1,2,4-Trichlorobenzene	ug/L	50	45.8	92	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	45.5	91	63-123	
1,2-Dibromoethane (EDB)	ug/L	50	53.6	107	70-130	
1,2-Dichlorobenzene	ug/L	50	53.8	108	70-130	
1,2-Dichloroethane	ug/L	50	54.0	108	70-131	
1,2-Dichloropropane	ug/L	50	49.2	98	80-120	
1,3-Dichlorobenzene	ug/L	50	55.9	112	70-130	
1,4-Dichlorobenzene	ug/L	50	52.7	105	70-130	
Benzene	ug/L	50	51.2	102	73-145	
Bromodichloromethane	ug/L	50	53.4	107	70-130	
Bromoform	ug/L	50	47.6	95	67-130	
Bromomethane	ug/L	50	33.5	67	26-128	
Carbon tetrachloride	ug/L	50	55.7	111	70-133	

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

LABORATORY CONTROL SAMPLE: 1586454

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	56.1	112	70-130	
Chloroethane	ug/L	50	42.9	86	58-120	
Chloroform	ug/L	50	53.4	107	80-121	
Chloromethane	ug/L	50	32.8	66	40-127	
cis-1,2-Dichloroethene	ug/L	50	52.9	106	70-130	
cis-1,3-Dichloropropene	ug/L	50	46.8	94	70-130	
Dibromochloromethane	ug/L	50	51.7	103	70-130	
Dichlorodifluoromethane	ug/L	50	37.9	76	20-135	
Ethylbenzene	ug/L	50	56.1	112	87-129	
Isopropylbenzene (Cumene)	ug/L	50	58.5	117	70-130	
Methyl-tert-butyl ether	ug/L	50	49.2	98	66-143	
Methylene Chloride	ug/L	50	48.4	97	70-130	
Styrene	ug/L	50	52.9	106	70-130	
Tetrachloroethene	ug/L	50	52.6	105	70-130	
Toluene	ug/L	50	53.7	107	82-130	
trans-1,2-Dichloroethene	ug/L	50	53.4	107	75-132	
trans-1,3-Dichloropropene	ug/L	50	44.7	89	70-130	
Trichloroethene	ug/L	50	55.9	112	70-130	
Trichlorofluoromethane	ug/L	50	53.3	107	76-133	
Vinyl chloride	ug/L	50	38.4	77	57-136	
Xylene (Total)	ug/L	150	166	111	70-130	
4-Bromofluorobenzene (S)	%			100	61-130	
Dibromofluoromethane (S)	%			99	67-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1586583 1586584

Parameter	Units	40158130008		MSD		MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max	
		Result	Spike Conc.	Spike Conc.	Result					RPD	RPD
1,1,1-Trichloroethane	ug/L	<0.50	50	50	54.0	52.6	108	105	70-134	3	20
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	45.5	48.3	91	97	70-130	6	20
1,1,2-Trichloroethane	ug/L	<0.20	50	50	50.0	48.6	100	97	70-130	3	20
1,1-Dichloroethane	ug/L	0.26J	50	50	51.5	49.7	102	99	71-133	4	20
1,1-Dichloroethene	ug/L	<0.41	50	50	50.5	48.9	101	98	75-136	3	20
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	49.0	48.3	98	97	70-130	1	20
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	42.2	46.0	84	92	63-123	9	20
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	53.0	52.5	106	105	70-130	1	20
1,2-Dichlorobenzene	ug/L	<0.50	50	50	55.0	51.3	110	103	70-130	7	20
1,2-Dichloroethane	ug/L	<0.17	50	50	51.7	49.7	103	99	70-131	4	20
1,2-Dichloropropane	ug/L	<0.23	50	50	50.7	52.2	101	104	80-120	3	20
1,3-Dichlorobenzene	ug/L	<0.50	50	50	55.5	56.5	111	113	70-130	2	20
1,4-Dichlorobenzene	ug/L	1.6	50	50	55.0	56.0	107	109	70-130	2	20
Benzene	ug/L	<0.50	50	50	50.6	50.4	100	100	73-145	0	20
Bromodichloromethane	ug/L	<0.50	50	50	51.4	55.0	103	110	70-130	7	20

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Parameter	Units	40158130008		MS		MSD		1586584				
		Result	Spike Conc.	Spike Conc.	MS Result	MSD	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Bromoform	ug/L	<0.50	50	50	44.4	43.5	89	87	67-130	2	20	
Bromomethane	ug/L	<2.4	50	50	35.7	36.9	71	74	26-129	3	20	
Carbon tetrachloride	ug/L	<0.50	50	50	56.2	54.3	112	109	70-134	3	20	
Chlorobenzene	ug/L	<0.50	50	50	54.5	54.8	109	110	70-130	0	20	
Chloroethane	ug/L	<0.37	50	50	44.4	42.4	89	85	58-120	5	20	
Chloroform	ug/L	<2.5	50	50	53.1	51.5	106	103	80-121	3	20	
Chloromethane	ug/L	<0.50	50	50	34.6	31.7	69	63	40-128	9	20	
cis-1,2-Dichloroethene	ug/L	0.61J	50	50	52.0	51.3	103	101	70-130	1	20	
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	44.8	47.2	90	94	70-130	5	20	
Dibromochloromethane	ug/L	<0.50	50	50	50.5	49.3	101	99	70-130	2	20	
Dichlorodifluoromethane	ug/L	<0.22	50	50	37.7	36.3	75	73	20-146	4	20	
Ethylbenzene	ug/L	0.93J	50	50	56.7	56.3	111	111	87-129	1	20	
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	57.6	56.3	115	113	70-130	2	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	49.1	47.3	98	95	66-143	4	20	
Methylene Chloride	ug/L	<0.23	50	50	47.9	48.5	96	97	70-130	1	20	
Styrene	ug/L	<0.50	50	50	51.3	50.5	103	101	70-130	2	20	
Tetrachloroethene	ug/L	<0.50	50	50	57.8	52.9	116	106	70-130	9	20	
Toluene	ug/L	<0.50	50	50	52.6	51.2	105	102	82-131	3	20	
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	52.5	48.5	105	97	75-135	8	20	
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	41.5	42.1	83	84	70-130	2	20	
Trichloroethene	ug/L	<0.33	50	50	53.4	56.7	107	113	70-130	6	20	
Trichlorofluoromethane	ug/L	<0.18	50	50	53.7	51.7	107	103	76-150	4	20	
Vinyl chloride	ug/L	<0.18	50	50	39.2	38.9	78	78	56-143	1	20	
Xylene (Total)	ug/L	<1.5	150	150	169	165	113	110	70-130	3	20	
4-Bromofluorobenzene (S)	%						102	97	61-130			
Dibromofluoromethane (S)	%							98	98	67-130		
Toluene-d8 (S)	%							99	96	70-130		

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

QC Batch:	270152	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	40158155005		

METHOD BLANK: 1587568 Matrix: Water

Associated Lab Samples: 40158155005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/11/17 12:28	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/11/17 12:28	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/11/17 12:28	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/11/17 12:28	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/11/17 12:28	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/11/17 12:28	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/11/17 12:28	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/11/17 12:28	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/11/17 12:28	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/11/17 12:28	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/11/17 12:28	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/11/17 12:28	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/11/17 12:28	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/11/17 12:28	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/11/17 12:28	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/11/17 12:28	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/11/17 12:28	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/11/17 12:28	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/11/17 12:28	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/11/17 12:28	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/11/17 12:28	
2-Chlorotoluene	ug/L	<0.50	1.0	10/11/17 12:28	
4-Chlorotoluene	ug/L	<0.21	1.0	10/11/17 12:28	
Benzene	ug/L	<0.50	1.0	10/11/17 12:28	
Bromobenzene	ug/L	<0.23	1.0	10/11/17 12:28	
Bromochloromethane	ug/L	<0.34	1.0	10/11/17 12:28	
Bromodichloromethane	ug/L	<0.50	1.0	10/11/17 12:28	
Bromoform	ug/L	<0.50	1.0	10/11/17 12:28	
Bromomethane	ug/L	<2.4	5.0	10/11/17 12:28	
Carbon tetrachloride	ug/L	<0.50	1.0	10/11/17 12:28	
Chlorobenzene	ug/L	<0.50	1.0	10/11/17 12:28	
Chloroethane	ug/L	<0.37	1.0	10/11/17 12:28	
Chloroform	ug/L	<2.5	5.0	10/11/17 12:28	
Chloromethane	ug/L	<0.50	1.0	10/11/17 12:28	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/11/17 12:28	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/11/17 12:28	
Dibromochloromethane	ug/L	<0.50	1.0	10/11/17 12:28	
Dibromomethane	ug/L	<0.43	1.0	10/11/17 12:28	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/11/17 12:28	
Diisopropyl ether	ug/L	<0.50	1.0	10/11/17 12:28	
Ethylbenzene	ug/L	<0.50	1.0	10/11/17 12:28	

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

METHOD BLANK: 1587568

Matrix: Water

Associated Lab Samples: 40158155005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/11/17 12:28	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/11/17 12:28	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/11/17 12:28	
Methylene Chloride	ug/L	<0.23	1.0	10/11/17 12:28	
n-Butylbenzene	ug/L	<0.50	1.0	10/11/17 12:28	
n-Propylbenzene	ug/L	<0.50	1.0	10/11/17 12:28	
Naphthalene	ug/L	<2.5	5.0	10/11/17 12:28	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/11/17 12:28	
sec-Butylbenzene	ug/L	<2.2	5.0	10/11/17 12:28	
Styrene	ug/L	<0.50	1.0	10/11/17 12:28	
tert-Butylbenzene	ug/L	<0.18	1.0	10/11/17 12:28	
Tetrachloroethene	ug/L	<0.50	1.0	10/11/17 12:28	
Toluene	ug/L	<0.50	1.0	10/11/17 12:28	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/11/17 12:28	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/11/17 12:28	
Trichloroethene	ug/L	<0.33	1.0	10/11/17 12:28	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/11/17 12:28	
Vinyl chloride	ug/L	<0.18	1.0	10/11/17 12:28	
Xylene (Total)	ug/L	<1.5	3.0	10/11/17 12:28	
4-Bromofluorobenzene (S)	%	94	61-130	10/11/17 12:28	
Dibromofluoromethane (S)	%	101	67-130	10/11/17 12:28	
Toluene-d8 (S)	%	102	70-130	10/11/17 12:28	

LABORATORY CONTROL SAMPLE: 1587569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	56.0	112	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.8	106	70-130	
1,1,2-Trichloroethane	ug/L	50	53.2	106	70-130	
1,1-Dichloroethane	ug/L	50	54.7	109	71-132	
1,1-Dichloroethene	ug/L	50	53.0	106	75-130	
1,2,4-Trichlorobenzene	ug/L	50	49.5	99	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	50.6	101	63-123	
1,2-Dibromoethane (EDB)	ug/L	50	54.4	109	70-130	
1,2-Dichlorobenzene	ug/L	50	54.9	110	70-130	
1,2-Dichloroethane	ug/L	50	52.6	105	70-131	
1,2-Dichloropropane	ug/L	50	51.7	103	80-120	
1,3-Dichlorobenzene	ug/L	50	55.4	111	70-130	
1,4-Dichlorobenzene	ug/L	50	55.9	112	70-130	
Benzene	ug/L	50	55.9	112	73-145	
Bromodichloromethane	ug/L	50	51.4	103	70-130	
Bromoform	ug/L	50	44.9	90	67-130	
Bromomethane	ug/L	50	43.3	87	26-128	
Carbon tetrachloride	ug/L	50	56.9	114	70-133	

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

LABORATORY CONTROL SAMPLE: 1587569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	55.7	111	70-130	
Chloroethane	ug/L	50	47.8	96	58-120	
Chloroform	ug/L	50	55.3	111	80-121	
Chloromethane	ug/L	50	39.9	80	40-127	
cis-1,2-Dichloroethene	ug/L	50	52.5	105	70-130	
cis-1,3-Dichloropropene	ug/L	50	52.8	106	70-130	
Dibromochloromethane	ug/L	50	52.9	106	70-130	
Dichlorodifluoromethane	ug/L	50	29.8	60	20-135	
Ethylbenzene	ug/L	50	55.9	112	87-129	
Isopropylbenzene (Cumene)	ug/L	50	55.3	111	70-130	
Methyl-tert-butyl ether	ug/L	50	52.8	106	66-143	
Methylene Chloride	ug/L	50	52.6	105	70-130	
Styrene	ug/L	50	55.0	110	70-130	
Tetrachloroethene	ug/L	50	52.4	105	70-130	
Toluene	ug/L	50	54.1	108	82-130	
trans-1,2-Dichloroethene	ug/L	50	54.4	109	75-132	
trans-1,3-Dichloropropene	ug/L	50	51.5	103	70-130	
Trichloroethene	ug/L	50	54.2	108	70-130	
Trichlorofluoromethane	ug/L	50	50.7	101	76-133	
Vinyl chloride	ug/L	50	45.0	90	57-136	
Xylene (Total)	ug/L	150	166	111	70-130	
4-Bromofluorobenzene (S)	%			99	61-130	
Dibromofluoromethane (S)	%			101	67-130	
Toluene-d8 (S)	%			96	70-130	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

QC Batch: 270225 Analysis Method: WI MOD DRO

QC Batch Method: WI MOD DRO Analysis Description: WIDRO GCS

Associated Lab Samples: 40158155001, 40158155002, 40158155003, 40158155004

METHOD BLANK: 1587875 Matrix: Water

Associated Lab Samples: 40158155001, 40158155002, 40158155003, 40158155004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/L	<0.015	0.052	10/13/17 13:30	

LABORATORY CONTROL SAMPLE & LCSD: 1587876 1587877

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/L	1	0.88	0.92	88	92	75-115	4	20	

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

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QUALIFIERS

Project: 60485212.2 KEP O&M ACTIVITIES
Pace Project No.: 40158155

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60485212.2 KEP O&M ACTIVITIES

Pace Project No.: 40158155

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40158155001	SUMP 6 IN	WI MOD DRO	270225	WI MOD DRO	270275
40158155002	SUMP 6 EFF	WI MOD DRO	270225	WI MOD DRO	270275
40158155003	SUMP 17R IN	WI MOD DRO	270225	WI MOD DRO	270275
40158155004	SUMP 7/17R EFF	WI MOD DRO	270225	WI MOD DRO	270275
40158155001	SUMP 6 IN	WI MOD GRO	269839		
40158155002	SUMP 6 EFF	WI MOD GRO	269839		
40158155003	SUMP 17R IN	WI MOD GRO	270002		
40158155004	SUMP 7/17R EFF	WI MOD GRO	270002		
40158155001	SUMP 6 IN	EPA 8260	269901		
40158155002	SUMP 6 EFF	EPA 8260	269901		
40158155003	SUMP 17R IN	EPA 8260	269901		
40158155004	SUMP 7/17R EFF	EPA 8260	269901		
40158155005	TRIP BLANK	EPA 8260	270152		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

4015815
Page 28 of 28

Section A

Required Client Information:

Company: AECOM - Milw

Address: 1555 N. River Center Dr., Suite 214

Milwaukee, WI 53212

Email To: Lanette.Altenbach@aecom.com

Phone: 414-577-1363 Fax:

Requested Due Date/TAT: Standard

Section B

Required Project Information:

Report To: Lanette Altenbach

Copy To: Susan.Petrofske

Purchase Order No.:

Project Name: KEP O&M Activities

Project Number: 60485212.2

Section C

Invoice Information:

Attention: Accounts Payable/Finance Department

Company Name: City of Kenosha

Address: 652 52nd St., Kenosha, WI 53140

Pace Quote Reference:

Pace Project Manager: Chris Hyska

Pace Profile #: (2430) Kenosha work

Page: 1 of 1

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER _____

SITE GA IL IN MI NC

LOCATION OH SC WI OTHER _____

Filtered (Y/N)

NNN

Requested

An:

Locs 8260
Gro by WIGRO
Dro by WIGRO
Residual Chlorine (Y/N)

Pace Project
Number
Lab I.D.

1	SUMP 6 IN	001	WT	G		10/5/17 0725	8	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ SO ₄	MeOH	Other	332 240ml vB
2	SUMP EFF	002	WT	G		10/5/17 0745	8									332
3	SUMP 17R IN	003	WT	G		10/5/17 0825	8									332
4	SUMP 7/17R EFF	004	WT	G		10/5/17 0905	8									332
5	Trip Blank	005	WT	G		10/5/17 0710	2									2
6			WT													
7			WT													
8			WT													
9			WT													
10			WT													
11			WT													
12			WT													

Additional Comments:

Analysis Per Contract
KEP Semi-Annual System
Sampling

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Lanette Altenbach/AECOM	10/5/17	1500	Mary Fannin	10/5/17	1500	
Mary Fannin	10/5/17	1630				
CDR Rogers	10/6/17	0935	Susan Kyle	10/6/17	0935	RTD

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

Cath Altenbach

Bethany M.

DATE Signed (MM / DD / YY)

10/05/17

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact Y/N
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Sample Condition Upon Receipt

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

Project #

WO# : 40158155

Client Name: AECOM

Courier: FedEx UPS Client Pace Other CSlogistics

Tracking #:



40158155

Custody Seal on Cooler/Box Present: yes no Seals intact: yes noCustody Seal on Samples Present: yes no Seals intact: yes noPacking Material: Bubble Wrap Bubble Bags None OtherThermometer Used N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 40°C Corr:

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

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C.

Comments:

Person examining contents:
Date: 10-6-17
Initials: SR

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: - VOA Samples frozen upon receipt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	10/4/17 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. NO MS/MSD Volume 10-6-17
Correct Containers Used: -Pace Containers Used: -Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
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 checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions VOA, coliform, TOC, TOX, TOH, O&G, VIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed Lab Std #ID of preservative Date/ Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
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): 383		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

_____Project Manager Review: *Coff*

Date: 10/9/17