



15 January 2021

Via Electronic Mail

Ms. Erin McDonnell
Oregon Department of Environmental Quality
Northwest Region
700 NE Multnomah St, Suite 600
Portland, OR 97232

Reference: 0583831

Subject: Quarter 4, 2021 Progress Report
(October through December 2021)
MMGL / Premier Edible Oils Site (ESCI #2013)

Dear Ms. McDonnell:

ERM-West, Inc. (ERM) is submitting this Quarterly Progress Report (QPR) on behalf of MMGL LLC (MMGL) to summarize Quarter 4, 2021 activities at the Premier Edible Oils (PEO) site located at 10400 North Burgard Way in Portland, Oregon.

Section II, H of the Voluntary Cleanup Agreement for the Upland Remedial Investigation/Feasibility Study and Source Control Measures between MMGL (formerly Schnitzer Investment Corporation) and the Oregon Department of Environmental Quality (DEQ), dated 6 March 2001, requires submittal QPRs summarizing site activities. The following progress report summarizes activities for Quarter 4, 2021 (October through December).

Actions Taken Quarter 4, 2021 (October through December)

- On 11 October, ERM and subcontractors replaced the malfunctioning temperature sensor and cleaned the heat exchanger.
- On 12 October, ERM conducted the GW SCM monthly water level monitoring. During this event, LNAPL was observed in MW-43. Observations are presented in Attachment A, Table Q4-2.
- On 15 October, ERM submitted the Q3 2021 Groundwater Source Control Measures (GW SCM) Quarterly Progress Report.
- On 1 November, ERM conducted the GW SCM monthly water level monitoring. During this event, LNAPL was observed in MW-43. Observations are presented in Attachment A, Table Q4-3.
- Between 2 November and 11 November, ERM conducted the GW SCM quarterly groundwater monitoring. The air sparge system was shut down while conducting these activities. There were no observations of LNAPL during this event. Observations are presented in Attachment A, Table Q4-7.
- During the month of December, the new site owner, T Dock LLC, was conducting site improvements that temporarily limited access to the groundwater monitoring wells. Water levels and transducer downloads were not collected in December due to these site access issues and unsafe weather conditions. Water levels and transducer download were rescheduled for January 3, 2022.

Data Received in Quarter 4, 2021 (October through December)

- Laboratory reports received in Quarter 4, 2021 are included in Attachment A, along with a QAQC validation memo prepared by ERM in Q4. These lab reports and the QAQC Validation Memo will be included in the Q3-Q4 2021 GW SCM Semi-Annual Monitoring Report.
- Field and analytical data collected in Quarter 4, 2021 are included in Attachment B. These will also be included in the Q3-Q4 2021 GW SCM Semi-Annual Monitoring Report, due on 31 January 2022.

Issues Observed during Quarter 4, 2021 (October through December)

Shallow Zone

Following completion of the August 2021 groundwater sampling event, the shallow air sparge system was operating at 50% of the original design flow rates. This flow rate was set to minimize potential movement of contaminants, reduce the load on the system while the ongoing programming and mechanical systems were being worked on, as detailed below.

On 11 October 2021, the shallow system temperature gauge and sensor was replaced. Following installation of the new gauge and sensor, the programming was adjusted remotely to confirm that the auto-shutdown alarm was receiving appropriate readings from the new temperature sensor. The system continued at this flow rate until it was shut down for the November 2021 sampling event (1 November through 11 November).

Following the November groundwater sampling event, the shallow zone was returned to 50% of design flow rate until the analysis of the field and analytical data from the Q3 and Q4 sampling events has been completed. Recommended flow rate adjustments will be included in the Q3-Q4 GW SCM Semi-Annual Monitoring Report.

Deep Zone

Following completion of the August 2021 groundwater sampling event, the deep air sparge system was operating at 50% of the original design flow rates. These were reduced, as detailed in the *Q1-Q2 2021 GW SCM Semi-Annual Monitoring Report* (ERM, 2021), to reduce the amount of air short-circuiting from deep wells into the International Slip, as detailed below.

The deep air sparge system operated at 50% of the original design flow rates until they were shut down again for the November 2021 sampling event. Following completion of the October 2021 groundwater water level event, Zone 5 of the deep air sparge system (the zone closest to the area where bubbling in the International Slip was observed) was turned off as part of the investigation to determine the source zone of the air short-circuiting from the deep wells in the International Slip. Observations on-site confirmed that temporarily shutting down the Zone 5 wells decreased the bubbling observed in the Slip.

On 26 October 2021, the deep air sparge system shut down due to a high flow alarm. The deep zone system was offline between 1 and 11 November during the Q4 analytical sampling event. On 9 December 2021, an investigation was conducted to determine the cause of the high flow shutdown. It was determined that the shutdown was related to the data connection from the existing flow meter to the control system on the deep air sparge system. Repair or replacement of the flow meter is scheduled for Q1 2022.

Following the November groundwater sampling event, the deep zone has remained off until the flow meter can be repaired or replaced.

Actions Scheduled for Quarter 1, 2022 (January through March)

- The Quarterly Progress Report for Quarter 4, 2021 will be prepared and submitted.
- The GW SCM Performance Monitoring Report for Quarter 3 and 4 will be prepared and submitted.
- Monthly level transducer data downloading events and a quarterly groundwater sampling and water level monitoring event will be conducted.
- Troubleshooting and/or repairs to the deep air sparge system will be conducted to address the high flow alarm and system shutdown.

If you have questions or comments pertaining to this progress report, please contact us at (503) 488-5282.

Yours sincerely



Rita Cooper
Project Manager



Brendan Robinson, PE
Partner in Charge

Attachments:

Attachment A – Q4 2021 Laboratory Reports

Attachment B – Q4 2021 Data Tables

CC w/ attachments:

Tom Graf, GrafCon

Attachment A – Q4 2021 GW SCM Laboratory Reports



Memorandum

To	Rita Cooper
From	Leslie Brooks
Date	23 December 2021
Reference	0583831
Subject	Data Review of PEO Groundwater Sampling, Fourth Quarter 2021 Pace Analytical Services, LLC Data Packages 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511.

The data quality was assessed and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, November 2020 and *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review*, November 2020. Field duplicates were assessed following *Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures*, September 2020.

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method-prescribed time period from the date of collection, with several exceptions. Samples PEO-MW-24A-202111, PEO-MW-25-202111, PEO-MW-21-202111, and PEO-MW-41-202111 were analyzed for nitrate as nitrogen past the recommended 48 hour hold time. Detected results were qualified as estimates with low bias (J-). The non-detected result for PEO-MW-41-202111 was in agreement with historical results and was qualified as estimated (UJ). The non-detected result for PEO-MW-24A-202111 was not in agreement with historical data available and was rejected (R) due to the hold time exceedance. Sample TRIP BLANK-20211108 was analyzed for TPH-GRO 15 days past the recommended 14 day hold time. The non-detect result was rejected (R) due to hold time exceedance. The samples with hold time exceedances and qualified results are presented in Table 1.

The sample shipments were received at the laboratory within the method-prescribed temperature preservation requirements of less than 6°C, with the one exception. The sample shipment associated with report 10587014 arrived at the laboratory with temperatures ranging from 4.8°C to 9.0°C. The laboratory did not report which samples were associated with which coolers, so conservatively all associated samples were qualified. For temperature sensitive methods NWTPH-Dx SG, NWTPH-Gx, 8270SIM, 8260D, SM2320B, E353.2, E300.0, NWEPH, and NWEPH, the results were qualified as estimates (J) for detects and (UJ) for non-detects. The qualified sample results are presented in Table 2.

The samples arrived in good condition and properly preserved with several exceptions. The laboratory noted that headspace was present in volatile organic analysis (VOA) vials for several

samples. In all cases, sufficient headspace-free VOA vials remained for analysis and qualifications were not necessary.

The laboratory qualified the nitrate as nitrogen results for several samples as being filtered in the laboratory prior to analysis. This filtration step is described in the referenced method and qualifications were not necessary.

BLANK EVALUATION

The method and trip blank results were non-detected for each of the target analytes, with several exceptions. Non-detected results or results greater than five times the blank concentrations for organics (ten times for inorganics) were considered not affected by the laboratory contamination and were not qualified. If the sample result was reported at a dilution, the reported value was divided by the dilution factor and the adjusted result was used for method blank comparison purposes. Results within five times the blank concentration and less than the reporting limit (RL) were qualified as non-detect (U) at the RL. Results within five times the blank concentration and greater than or equal to the RL were qualified as estimated with a high bias (J+). The blank detections and associated qualified data are presented in Table 3.

The non-detected TPH-GRO trip blank results for TRIP BLANK-20211108 from report 10586716 was rejected due to hold time exceedance. Additionally, TRIP BLANK-20211108 was not analyzed for VPH by Method NWVPH. It is not possible to assess whether TPH-GRO or VPH detections in the associated samples were potentially influenced by cross-contamination during shipment, handling, and storage.

BLANK SPIKE EVALUATION

The LCS and laboratory control sample duplicate (LCSD) recoveries and relative percent differences (RPDs) were within the laboratory's limits of acceptance, with the exceptions noted in Table 4. No data were qualified if the associated samples were non-detected. Detected sample results were qualified as estimates (J) due to high RPD.

MATRIX SPIKE EVALUATION

The laboratories prepared both project and non-project samples for matrix spike (MS) and matrix spike duplicate (MSD) analysis. Matrix spike samples from non-project parent samples are not representative of the matrix for this project and were therefore not reviewed in this validation effort. For the MS/MSDs prepared from project samples, the recoveries and RPDs were within laboratory limits of acceptance with several exceptions. No data were qualified if the sample result was greater than four times the spike concentration. The remaining non-detect sample result associated with low MS/MSD recoveries was qualified as an estimate (UJ). The MS/MSD outliers and associated qualifications can be found in Table 4.

SURROGATE SPIKE EVALUATION

The surrogate recoveries for project samples were within acceptable limits with several exceptions. Qualifications to laboratory quality control samples due to surrogate recoveries outside laboratory control limits were not necessary. Additionally, data were not qualified if the dilution factor was 10 or

greater, or if high surrogate recoveries are associated with non-detected sample results. Sample results associated with low surrogate recoveries were qualified as estimates with a low bias (J-) for detects and (UJ) for non-detects. Surrogate spikes outside control limits and associated qualified sample data are provided in Table 5.

CALIBRATION RANGE EXCEEDANCES

The manganese results for MS/MSD samples prepared from PEO-MW-24A-202111 and PEO-MW-36-202111 exceeded the instrument calibration range as noted in Table 6. Qualifications were not applied to the parent sample based on the MS/MSD recoveries exceeding the calibration range. The parent sample results were within the calibration range.

LABORATORY DUPLICATE EVALUATION

The laboratories prepared both project and non-project samples for laboratory duplicate analysis. Laboratory duplicate samples from non-project parent samples are not representative of the matrix for this project and were therefore not reviewed in this validation effort. The laboratory duplicate RPDs for samples prepared from project samples were within laboratory control limits with the exception noted in Table 7. The results for diesel fuel range silica gel (SG) in the primary and laboratory duplicate samples were greater than five times the RL and the RPD was greater than the laboratory control limit. The results were qualified as estimates (J) due to the imprecision.

FIELD DUPLICATE EVALUATION

Two samples were submitted in duplicate. ERM calculated the differences or RPDs between detected results in Table 8. An RPD control limit of 30 was used when both the sample and the field duplicate results were greater than or equal to five times the RL. A control limit of \pm two times the RL was used when at least one of the results was less than five times the reporting limit. Precision criteria was not applied if both results were less than the RL or non-detected. All analytes in the parent sample/field duplicate pairs met the control limits.

OVERALL ASSESSMENT

Two results were rejected for hold time exceedance, nitrate as nitrogen in sample PEO-MW-24A-202111 and TPH-GRO in TRIP BLANK-20211108. With exception of the rejected results, all of the data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically-defensible documents.

Table 1
Samples with Exceeded Holding Times
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Extraction Holding Time	Time Exceeded	Analysis Holding Time	Time Exceeded	Affected Analyte	ERM Qualifier
10586514	PEO-MW-24A-202111	E353.2	--	--	48 hours	243 hours (10 days)	Nitrate as N	R
	PEO-MW-25-202111	E353.2	--	--	48 hours	241 hours (10 days)	Nitrate as N	J-
	PEO-MW-21-202111	E353.2	--	--	48 hours	239 hours (10 days)	Nitrate as N	J-
10586716	TRIP BLANK-20211108	NWTPH-Gx	--	--	14 days	15 days	TPH as Gas	R
	PEO-MW-41-202111	E353.2	--	--	48 hours	123 hours (5 days)	Nitrate as N	UJ

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Notes:

J- = Estimated detection with low bias

NWTPH = Northwest total petroleum hydrocarbons

R = Result is rejected

SG = Silica gel

TPH = Total petroleum hydrocarbons

UJ = Non-detected, estimated report limit

Table 2
Samples with Exceeded Preservation Requirements
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier	
10587014	TRIP BLANK-20211109	NWTPH-Gx	4.8°C to 9.0°C	< 6°C	TPH as Gas	J	
		8260D			All in group	UJ	
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ	
	PEO-MW-36-202111	NWTPH-Dx SG			Diesel Fuel Range SG	J	
		NWTPH-Gx			Motor Oil Range SG	UJ	
		8270 SIM			TPH as Gas	J	
		8260D			All in group	J detects UJ non-detects	
		SM 2320B			All in group	J	
		E353.2			Alkalinity, Total as CaCO3	J	
		E300.0			Nitrate as N	UJ	
		NWEPH			Sulfate	J	
		PEO-MW-27-202111			NWTPH-Dx SG	EPH Aliphatic Hydrocarbon (C10-C12)	UJ
					NWTPH-Gx	VPH Aliphatic Hydrocarbon (C10-C12)	J
	8270 SIM				Diesel Fuel Range SG	J	
	8260D				Motor Oil Range SG	UJ	
	SM 2320B				TPH as Gas	UJ ¹	
	E353.2				All in group	J detects UJ non-detects	
	E300.0				All in group	UJ	
	NWEPH				Alkalinity, Total as CaCO3	J	
	PEO-MW-27-202111	NWTPH-Gx			Nitrate as N	UJ	
		NWVPH			Sulfate	J	
		NWEPH	EPH Aliphatic Hydrocarbon (C10-C12)	UJ			
		NWVPH	VPH Aliphatic Hydrocarbon (C10-C12)	UJ			

Table 2
Samples with Exceeded Preservation Requirements
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10587014	PEO-MW-Z2-202111	NWTPH-Dx SG	4.8°C to 9.0°C	< 6°C	Diesel Fuel Range SG	J
		NWTPH-Gx			Motor Oil Range SG	UJ
		8270 SIM			TPH as Gas	UJ ¹
		8260D			All in group	J detects UJ non-detects
		SM 2320B			All in group	UJ
		E353.2			Alkalinity, Total as CaCO ₃	J
		E300.0			Nitrate as N	UJ
		NWEPH			Sulfate	J
		NWVPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
	PEO-MW-26-202111	NWTPH-Dx SG	Diesel Fuel Range SG	UJ		
		NWTPH-Gx	Motor Oil Range SG	UJ		
		8270 SIM	TPH as Gas	UJ		
		8260D	All in group	J detects UJ non-detects		
		SM 2320B	All in group	UJ		
		E353.2	Alkalinity, Total as CaCO ₃	J		
		E300.0	Nitrate as N	J		
		NWEPH	Sulfate	J		
		NWVPH	EPH Aliphatic Hydrocarbon (C10-C12)	UJ		
		NWVPH	VPH Aliphatic Hydrocarbon (C10-C12)	UJ		

Table 2
Samples with Exceeded Preservation Requirements
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10587014	PEO-MW-38-202111	NWTPH-Dx SG	4.8°C to 9.0°C	< 6°C	Diesel Fuel Range SG	J
		NWTPH-Gx			Motor Oil Range SG	UJ
		8270 SIM			TPH as Gas	J
		8260D			All in group	J ² detects UJ non-detects
		SM 2320B			All in group	J
		E353.2			Alkalinity, Total as CaCO ₃	J
		E300.0			Nitrate as N	UJ
		NWEPH			Sulfate	J
		NWVPH			EPH Aliphatic Hydrocarbon (C10-C12)	J ²
		PEO-MW-37-202111			NWTPH-Dx SG	VPH Aliphatic Hydrocarbon (C10-C12)
	NWTPH-Gx				Diesel Fuel Range SG	J
	8270 SIM				Motor Oil Range SG	UJ
	8260D				TPH as Gas	UJ ¹
	SM 2320B				All in group	J detects UJ non-detects
	E353.2				All in group	UJ
	E300.0				Alkalinity, Total as CaCO ₃	J
	NWEPH				Nitrate as N	J
	NWVPH				Sulfate	J
					EPH Aliphatic Hydrocarbon (C10-C12)	UJ
		VPH Aliphatic Hydrocarbon (C10-C12)			UJ	

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Table 2
Samples with Exceeded Preservation Requirements
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
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Notes:

1 = Qualified due to the additional laboratory introduced contamination

2 = Qualified due to the additional surrogate recovery exceedance

J = Estimated detected result

J- = Estimated detection with low bias

EPH = Extractable petroleum hydrocarbons

NWEPH = Northwest extractable petroleum hydrocarbons

NWTPH = Northwest total petroleum hydrocarbons

NWVPH = Northwest volatile petroleum hydrocarbons

SG = Silica gel

TPH = Total petroleum hydrocarbons

UJ = Non-detected, estimated report limit

VPH = Volatile petroleum hydrocarbons

Table 3
Blank and Associated Suspect Sample Detections
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
10586180	MB R3727841-2	TRIP BLANK-20211102	TPH as Gas	55.4	100	44.4	100	µg/L	100 U
10586514	MB R3727489-1	TRIP BLANK-20211103	TPH as Gas	33.1	100	38.4	100	µg/L	100 U
	MB R3729286-2	PEO-MW-24A-202111	TPH as Gas	42.0	100	35.5	100	µg/L	100 U
		PEO-MW-03-202111				121	100	µg/L	J+
	TRIP BLANK-20211103	PEO-MW-06-202111	Toluene	0.70	1.0	0.26	1.0	µg/L	1.0 U
10586578	TRIP BLANK-20211104	PEO-MW-18-202111	TPH as Gas	38.2	100	48.4	100	µg/L	100 U
		PEO-MW-30-202111				100	100	µg/L	J+
		None for qualification	Toluene	0.67	1.0	--	--	µg/L	--
10586716	MB R3730015-2	PEO-MW-41-202111	TPH as Gas	66.0	100	257	100	µg/L	J+
	MB 4179907	None for qualification	Alkalinity, Total as CaCO3	2.4	5.0	--	--	mg/L	--
	MB 4168709	PEO-MW-28-202111	Manganese, Dissolved	0.20	0.50	1.8	0.50	µg/L	J+
		PEO-MW-Z1-202111				2.0	0.50	µg/L	J+
	TRIP BLANK-20211108	PEO-MW-29-202111	Toluene	0.75	1.0	2.3	1.0	µg/L	J+
10587014	MB R3731412-3	None for qualification	TPH as Gas	35.8	100	--	--	µg/L	--
	MB 4168709	None for qualification	Manganese, Dissolved	0.20	0.50	--	--	µg/L	--
	TRIP BLANK-20211109	PEO-MW-27-202111	TPH as Gas	34.0	100	88.7	100	µg/L	100 UJ ¹
		PEO-MW-Z2-202111				65.1	100	µg/L	100 UJ ¹
		PEO-MW-37-202111				34.7	100	µg/L	100 UJ ¹

Table 3
Blank and Associated Suspect Sample Detections
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Blank ID	Associated Sample	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
10587240	MB R3733486-2	TRIP BLANK-20211110	TPH as Gas	49.9	100	38.0	100	µg/L	100 U
		PEO-MW-35-202111				105	100	µg/L	J+
		PEO-MW-34-202111				104	100	µg/L	J+
	MB 4183392	None for qualification	Alkalinity, Total as CaCO3	2.3	5.0	--	--	mg/L	--
	TRIP BLANK-20211110	PEO-MW-43-202111	Toluene	0.69	1.0	0.52	1.0	µg/L	1.0 U
		PEO-MW-34-202111				0.25	1.0	µg/L	1.0 U
PEO-MW-02-202111		0.18				1.0	µg/L	1.0 U	
10587511	MB R3732718-2	PEO-MW-11-202111	TPH as Gas	43.9	100	239	500	µg/L	500 U
	MB 4183392	None for qualification	Alkalinity, Total as CaCO3	2.3	5.0	--	--	mg/L	--

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Notes:

1 = Qualified due to additional preservation condition

MB = Method blank

mg/L = Milligrams per liter

J+ = Detected results are estimated with a high bias

SG = Silica gel

TPH = Total petroleum hydrocarbons

U = Non-detected

UJ = Non-detected, estimated report limit

µg/L = Micrograms per liter

Table 4
Spike Recoveries Outside of Acceptable Limits
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
LCS/LCSD										
10586514	LCS 4163469 LCSD 4163470	None for qualification	1-Methylnaphthalene	56/75	34-125	29	20	--	--	--
		PEO-MW-25-202111	2-Methylnaphthalene	56/76	34-125	31	20	0.011	µg/L	J
		None for qualification	Acenaphthene	59/77	35-125	26	20	--	--	--
		None for qualification	Acenaphthylene	60/81	33-125	30	20	--	--	--
		PEO-MW-24A-202111	Fluorene	63/78	43-125	23	20	0.0093	µg/L	J
		PEO-MW-03-202111	Naphthalene	56/74	30-125	28	20	0.018	µg/L	J
10586578	LCS 4165218 LCSD 4165219	PEO-MW-18-202111	1-Methylnaphthalene	76/62	34-125	21	20	0.055	µg/L	J
		PEO-MW-19-202111						0.0086	µg/L	J
		PEO-MW-30-202111						0.061	µg/L	J
		PEO-MW-31-202111						0.041	µg/L	J
		PEO-MW-44-202111						0.0098	µg/L	J
		PEO-MW-18-202111	2-Methylnaphthalene	76/62	34-125	21	20	0.023	µg/L	J
		PEO-MW-19-202111						0.0096	µg/L	J
		PEO-MW-30-202111						0.027	µg/L	J
		PEO-MW-31-202111						0.021	µg/L	J
		PEO-MW-08-202111	Naphthalene	77/61	30-125	22	20	0.017	µg/L	J
	PEO-MW-18-202111	0.032						µg/L	J	
	PEO-MW-30-202111	0.19						µg/L	J	
	PEO-MW-31-202111	0.014						µg/L	J	
	LCS 4165014 LCSD 4165015	PEO-MW-08-202111	Diesel Fuel Range SG	57/84	50-150	39	20	0.19	mg/L	J
		PEO-MW-18-202111						0.40	mg/L	J
		PEO-MW-19-202111						0.13	mg/L	J
PEO-MW-30-202111		0.58						mg/L	J	
PEO-MW-31-202111		0.42						mg/L	J	
None for qualification		Motor Oil Range SG						60/87	50-150	36

Table 4
Spike Recoveries Outside of Acceptable Limits
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
MS/MSD										
10586514	PEO-MW-24A-202111 MS/MSD	None for qualification	Manganese, Dissolved	78/60	75-125	3	20	4X	--	--
10587014	PEO-MW-36-202111 MS/MSD	PEO-MW-36-202111	Manganese, Dissolved	229/253	75-125	1	20	4X	--	--
			EPH Aliphatic Hydrocarbon (C10-C12)	57.1/48.0	70-130	15.3	30	ND	µg/L	UJ
10587240	PEO-MW-43-202111 MS/MSD	None for qualification	Manganese, Dissolved	59/74	75-125	1	20	4X	--	--

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Notes:

4X = The unspiked sample result was greater than four times the spike concentration

EPH = Extractable petroleum hydrocarbons

LCS/LCSD = Laboratory control sample/laboratory control sample duplicate

MS/MSD = Matrix spike/matrix spike duplicate

ND = Not detected

RPD = Relative percent difference

SG = Silica gel

µg/L = Micrograms per liter

Table 5
Surrogate Recovery Results out of Acceptable Limits
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Affected Analyte	Dilution Factor	ERM Qualifier
10586514	PEO-MW-25-202111	NWEPH	1-Chlorooctadecane	147	60-140	EPH Aliphatic Hydrocarbon (C10-C12)	1	--
	PEO-MW-21-202111	NWEPH	1-Chlorooctadecane	147	60-140	EPH Aliphatic Hydrocarbon (C10-C12)	1	--
10586578	Laboratory Duplicate PEO-MW-19-202111	NWTPH-Dx SG	n-Triacontane	27	50-150	None	1	--
			o-Terphenyl	28	50-150	None	1	--
	PEO-MW-44-202111	NWEPH	1-Chlorooctadecane	55.9	60-140	EPH Aliphatic Hydrocarbon (C10-C12)	1	UJ
10587014	PEO-MW-38-202111	8270 SIM	p-Terphenyl-d14	45	54-125	All	1	J- detects UJ non-detects
	PEO-MW-38-202111	NWEPH	1-Chlorooctadecane	51.1	60-140	EPH Aliphatic Hydrocarbon (C10-C12)	1	J-
10587240	PEO-MW-39-202111	NWTPH-Gx	a,a,a-Trifluorotoluene	67.7	78.0-120	TPH as Gas	1	J-

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Notes:

EPH = Extractable petroleum hydrocarbons

J- = Detected results are estimated with a low bias

MB = Method blank

NWEPH = Northwest extractable petroleum hydrocarbons

NWTPH = Northwest total petroleum hydrocarbons

SIM = Selected ion monitoring

SG = Silica gel

TPH = Total petroleum hydrocarbons

UJ = Non-detected, estimated report limit

Table 6
Calibration Range Exceedances
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Analyte	Reported Concentration	Units	ERM Qualifier
10586514	PEO-MW-24A-202111 MS	Manganese, Dissolved	677	µg/L	--
	PEO-MW-24A-202111 MSD		659	µg/L	--
10587014	PEO-MW-36-202111 MS	Manganese, Dissolved	2600	µg/L	--
	PEO-MW-36-202111 MSD		2630	µg/L	--

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Notes:

MS = Matrix spike

MSD = Matrix spike duplicate

µg/L = Micrograms per liter

Table 7
Lab Duplicate Results and Calculated Relative Percent Differences
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Analyte	Concentration		Report Limit	Units	RPD (%)	Limit (%)	ERM Qualifier
			Sample	Duplicate					
10587511	PEO-MW-11-202111	Diesel Fuel Range SG	27.9	20.4	0.82	mg/L	31	30	J

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Notes:

J = Estimated detected result

mg/L = Milligrams per liter

RPD = Relative percent difference

SG = Silica gel

Table 8
Field Duplicate Evaluation
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Primary/Duplicate Sample ID	Analyte	Concentration		Report Limit		Difference	Difference Limit	Units	RPD	RPD Limit	ERM Qualifier
			Sample	Duplicate	Sample	Duplicate						
10586716	PEO-MW-28-202111 PEO-MW-Z1-202111	Total Hardness	44300	45400	3300	3300	--	--	µg/L	2.5	30	--
		Arsenic, Dissolved	0.13	0.12	0.50	0.50	NC	NC	µg/L	NC	NC	--
		Manganese, Dissolved	1.8	2.0	0.50	0.50	0.2	1.0	µg/L	--	--	--
		Alkalinity, Total as CaCO3	55.4	55.4	5.0	5.0	--	--	mg/L	0	30	--
		Sulfate	3.4	3.4	1.2	1.2	0	2.4	mg/L	--	--	--
		Nitrate as N	1.7	1.6	0.10	0.10	--	--	mg/L	6.1	30	--
10587014	PEO-MW-27-202111 PEO-MW-Z2-202111	Diesel Fuel Range SG	0.36	0.54	0.40	0.40	0.18	0.80	mg/L	--	--	--
		TPH as Gas	88.7	65.1	100	100	NC	NC	µg/L	NC	NC	--
		Total Hardness	57000	58500	3300	3300	--	--	µg/L	2.6	30	--
		Arsenic, Dissolved	42.1	40.5	0.50	0.50	--	--	µg/L	3.9	30	--
		Manganese, Dissolved	1320	1330	5.0	5.0	--	--	µg/L	0.8	30	--
		Acenaphthene	0.38	0.39	0.040	0.041	--	--	µg/L	2.6	30	--
		Acenaphthylene	0.020	0.023	0.040	0.041	NC	NC	µg/L	NC	NC	--
		Anthracene	ND ¹	0.085	0.040	0.041	0.045	0.080	µg/L	--	--	--
		Fluoranthene	0.030	0.035	0.040	0.041	NC	NC	µg/L	NC	NC	--
		Flourene	0.37	0.38	0.040	0.041	--	--	µg/L	2.7	30	--
		1-Methylnaphthalene	0.046	0.050	0.040	0.041	0.004	0.080	µg/L	--	--	--
		2-Methylnaphthalene	0.015	0.017	0.040	0.041	NC	NC	µg/L	NC	NC	--
		Naphthalene	0.095	0.10	0.040	0.041	0.01	0.080	µg/L	--	--	--
		Phenanthrene	0.079	0.022	0.040	0.041	0.057	0.080	µg/L	--	--	--
		Pyrene	0.028	0.030	0.040	0.041	NC	NC	µg/L	NC	NC	--
		Alkalinity, Total as CaCO3	41.0	40.7	5.0	5.0	--	--	mg/L	0.7	30	--
Sulfate	38.8	41.1	1.2	1.2	--	--	mg/L	5.8	30	--		

Lab packages reviewed: 10586180, 10586514, 10586578, 10586716, 10587014, 10587240, and 10587511

Table 8
Field Duplicate Evaluation
PEO Groundwater Sampling
Fourth Quarter 2021
Portland, Oregon

Lab Package	Primary/Duplicate Sample ID	Analyte	Concentration		Report Limit		Difference	Difference Limit	Units	RPD	RPD Limit	ERM Qualifier
			Sample	Duplicate	Sample	Duplicate						

Notes:

1 = Difference calculated between reporting limit of non-detect result and detected result

mg/L = Milligrams per liter

NC = Not calculated, both results below reporting limit

RPD = Relative percent difference

TPH = Total petroleum hydrocarbons

µg/L = Micrograms per liter

December 09, 2021

Joe Casey
ERM Portland
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

RE: Project: 053831-Revised Report
Pace Project No.: 10586180

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Minneapolis

The newest method revisions, 8260D and 8270E were analyzed on this project due to Pace no longer offering the previous versions.

This report was revised on December 9, 2021, to report nitrate vs nitrite on Pace samples 002-004.

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

Sincerely,



Julie Bowser
julie.bowser@pacelabs.com
612-607-6390
Project Manager

Enclosures

cc: Rita Cooper, ERM Portland

ERM Global EDD Mailbox, ERM



REPORT OF LABORATORY ANALYSIS

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December 09, 2021

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cc: Stephanie Frith, ERM Portland
Rachel James, ERM Portland



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831-Revised Report

Pace Project No.: 10586180

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208

Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008

Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831-Revised Report

Pace Project No.: 10586180

Pace Analytical Services National

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Certification #: T 104704245-17-14

Texas Mold Certification #: LAB0152

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 053831-Revised Report

Pace Project No.: 10586180

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10586180001	TRIP BLANK-20211102	Water	11/02/21 08:00	11/03/21 16:50
10586180002	PEO-MW-32-202111	Water	11/02/21 09:55	11/03/21 16:50
10586180003	PEO-MW-33-202111	Water	11/02/21 13:40	11/03/21 16:50
10586180004	PEO-MW-42-202111	Water	11/02/21 15:15	11/03/21 16:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831-Revised Report

Pace Project No.: 10586180

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10586180001	TRIP BLANK-20211102	NWTPH-Gx	MGF	2	PAN
		EPA 8260D	ZH	8	PASI-M
10586180002	PEO-MW-32-202111	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	BMB	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	KEO	1	PASI-M
		10586180003	PEO-MW-33-202111	NWTPH-Dx	TT2
NWTPH-Gx	BMB			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	WBS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M
EPA 353.2	KEO			1	PASI-M
10586180004	PEO-MW-42-202111			NWTPH-Dx	TT2
		NWTPH-Gx	BMB	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	KEO	1	PASI-M

PAN = Pace National - Mt. Juliet

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586180

Sample: TRIP BLANK-20211102 Lab ID: 10586180001 Collected: 11/02/21 08:00 Received: 11/03/21 16:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX									
Pace National - Mt. Juliet									
TPH (C06-C12)	44.4J	ug/L	100	31.6	1	11/09/21 18:23	11/09/21 18:23		B,J
Surrogates									
a,a,a-Trifluorotoluene (FID)	96.0	%	78.0-120		1	11/09/21 18:23	11/09/21 18:23	98-08-8FID	
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/11/21 21:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/11/21 21:32	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/11/21 21:32	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/11/21 21:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/11/21 21:32	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	70-130		1		11/11/21 21:32	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/11/21 21:32	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/11/21 21:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586180

Sample: PEO-MW-32-202111 Lab ID: 10586180002 Collected: 11/02/21 09:55 Received: 11/03/21 16:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.17J	mg/L	0.40	0.12	1	11/04/21 08:11	11/09/21 02:26	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/04/21 08:11	11/09/21 02:26	64742-65-0	
Surrogates									
o-Terphenyl (S)	69	%	50-150		1	11/04/21 08:11	11/09/21 02:26	84-15-1	
n-Triacontane (S)	74	%	50-150		1	11/04/21 08:11	11/09/21 02:26		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	92.9J	ug/L	100	31.6	1	11/07/21 03:10	11/07/21 03:10		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	106	%	78.0-120		1	11/07/21 03:10	11/07/21 03:10	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	113000	ug/L	3300	76.7	1	11/08/21 06:52	11/09/21 15:32		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	10.6	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:12	7440-38-2	
Manganese, Dissolved	6.5	ug/L	0.50	0.20	1	11/10/21 06:03	11/16/21 20:12	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.034J	ug/L	0.042	0.0073	1	11/04/21 08:14	11/08/21 14:39	83-32-9	
Acenaphthylene	0.0076J	ug/L	0.042	0.0064	1	11/04/21 08:14	11/08/21 14:39	208-96-8	
Anthracene	ND	ug/L	0.042	0.0056	1	11/04/21 08:14	11/08/21 14:39	120-12-7	
Benzo(a)anthracene	0.017J	ug/L	0.042	0.0095	1	11/04/21 08:14	11/08/21 14:39	56-55-3	
Benzo(a)pyrene	0.013J	ug/L	0.042	0.0093	1	11/04/21 08:14	11/08/21 14:39	50-32-8	
Benzo(b)fluoranthene	0.018J	ug/L	0.042	0.010	1	11/04/21 08:14	11/08/21 14:39	205-99-2	
Benzo(g,h,i)perylene	0.015J	ug/L	0.042	0.0085	1	11/04/21 08:14	11/08/21 14:39	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.042	0.0087	1	11/04/21 08:14	11/08/21 14:39	207-08-9	
Chrysene	0.011J	ug/L	0.042	0.0099	1	11/04/21 08:14	11/08/21 14:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.042	0.0084	1	11/04/21 08:14	11/08/21 14:39	53-70-3	
Fluoranthene	0.019J	ug/L	0.042	0.015	1	11/04/21 08:14	11/08/21 14:39	206-44-0	
Fluorene	0.0097J	ug/L	0.042	0.0064	1	11/04/21 08:14	11/08/21 14:39	86-73-7	
Indeno(1,2,3-cd)pyrene	0.012J	ug/L	0.042	0.012	1	11/04/21 08:14	11/08/21 14:39	193-39-5	
1-Methylnaphthalene	0.031J	ug/L	0.042	0.0071	1	11/04/21 08:14	11/08/21 14:39	90-12-0	
2-Methylnaphthalene	0.044	ug/L	0.042	0.0087	1	11/04/21 08:14	11/08/21 14:39	91-57-6	
Naphthalene	0.050	ug/L	0.042	0.0093	1	11/04/21 08:14	11/08/21 14:39	91-20-3	
Phenanthrene	0.021J	ug/L	0.042	0.013	1	11/04/21 08:14	11/08/21 14:39	85-01-8	
Pyrene	0.030J	ug/L	0.042	0.010	1	11/04/21 08:14	11/08/21 14:39	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%	52-125		1	11/04/21 08:14	11/08/21 14:39	321-60-8	
p-Terphenyl-d14 (S)	70	%	54-125		1	11/04/21 08:14	11/08/21 14:39	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586180

Sample: PEO-MW-32-202111 Lab ID: 10586180002 Collected: 11/02/21 09:55 Received: 11/03/21 16:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.28J	ug/L	1.0	0.12	1		11/12/21 01:13	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 01:13	100-41-4	
Toluene	0.13J	ug/L	1.0	0.11	1		11/12/21 01:13	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 01:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 01:13	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/12/21 01:13	2199-69-1	
4-Bromofluorobenzene (S)	100	%	75-125		1		11/12/21 01:13	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 01:13	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	110	mg/L	5.0	1.8	1		11/16/21 14:54		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	25.8	mg/L	1.2	0.34	1		11/12/21 23:26	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	0.031J	mg/L	0.10	0.018	1		11/04/21 09:40	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586180

Sample: PEO-MW-33-202111 Lab ID: 10586180003 Collected: 11/02/21 13:40 Received: 11/03/21 16:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/04/21 08:11	11/09/21 02:48	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/04/21 08:11	11/09/21 02:48	64742-65-0	
Surrogates									
o-Terphenyl (S)	86	%	50-150		1	11/04/21 08:11	11/09/21 02:48	84-15-1	
n-Triacontane (S)	94	%	50-150		1	11/04/21 08:11	11/09/21 02:48		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	41.7J	ug/L	100	31.6	1	11/07/21 03:34	11/07/21 03:34		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/07/21 03:34	11/07/21 03:34	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	87100	ug/L	3300	76.7	1	11/08/21 06:52	11/09/21 15:33		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	10.4	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:24	7440-38-2	
Manganese, Dissolved	745	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 20:27	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.049	ug/L	0.040	0.0069	1	11/04/21 08:14	11/08/21 15:00	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/04/21 08:14	11/08/21 15:00	208-96-8	
Anthracene	0.0088J	ug/L	0.040	0.0054	1	11/04/21 08:14	11/08/21 15:00	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	11/04/21 08:14	11/08/21 15:00	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/04/21 08:14	11/08/21 15:00	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/04/21 08:14	11/08/21 15:00	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	11/04/21 08:14	11/08/21 15:00	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/04/21 08:14	11/08/21 15:00	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/04/21 08:14	11/08/21 15:00	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/04/21 08:14	11/08/21 15:00	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/04/21 08:14	11/08/21 15:00	206-44-0	
Fluorene	0.0081J	ug/L	0.040	0.0060	1	11/04/21 08:14	11/08/21 15:00	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/04/21 08:14	11/08/21 15:00	193-39-5	
1-Methylnaphthalene	0.012J	ug/L	0.040	0.0067	1	11/04/21 08:14	11/08/21 15:00	90-12-0	
2-Methylnaphthalene	0.015J	ug/L	0.040	0.0083	1	11/04/21 08:14	11/08/21 15:00	91-57-6	
Naphthalene	0.040	ug/L	0.040	0.0088	1	11/04/21 08:14	11/08/21 15:00	91-20-3	
Phenanthrene	0.027J	ug/L	0.040	0.012	1	11/04/21 08:14	11/08/21 15:00	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	11/04/21 08:14	11/08/21 15:00	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	52-125		1	11/04/21 08:14	11/08/21 15:00	321-60-8	
p-Terphenyl-d14 (S)	84	%	54-125		1	11/04/21 08:14	11/08/21 15:00	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586180

Sample: PEO-MW-33-202111 **Lab ID: 10586180003** Collected: 11/02/21 13:40 Received: 11/03/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 01:28	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 01:28	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 01:28	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 01:28	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 01:28	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/12/21 01:28	2199-69-1	
4-Bromofluorobenzene (S)	100	%	75-125		1		11/12/21 01:28	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 01:28	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	84.9	mg/L	5.0	1.8	1		11/16/21 14:58		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	38.9	mg/L	1.2	0.34	1		11/12/21 23:41	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/04/21 09:43	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586180

Sample: PEO-MW-42-202111 Lab ID: 10586180004 Collected: 11/02/21 15:15 Received: 11/03/21 16:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/04/21 08:11	11/09/21 02:59	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/04/21 08:11	11/09/21 02:59	64742-65-0	
Surrogates									
o-Terphenyl (S)	85	%	50-150		1	11/04/21 08:11	11/09/21 02:59	84-15-1	
n-Triacontane (S)	89	%	50-150		1	11/04/21 08:11	11/09/21 02:59		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/07/21 03:57	11/07/21 03:57		
Surrogates									
a,a,a-Trifluorotoluene (FID)	110	%	78.0-120		1	11/07/21 03:57	11/07/21 03:57	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	93600	ug/L	3300	76.7	1	11/08/21 06:52	11/09/21 15:35		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	5.2	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:30	7440-38-2	
Manganese, Dissolved	502	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 20:33	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.040	0.0068	1	11/04/21 08:14	11/08/21 15:22	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0060	1	11/04/21 08:14	11/08/21 15:22	208-96-8	
Anthracene	ND	ug/L	0.040	0.0053	1	11/04/21 08:14	11/08/21 15:22	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	11/04/21 08:14	11/08/21 15:22	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/04/21 08:14	11/08/21 15:22	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0094	1	11/04/21 08:14	11/08/21 15:22	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0080	1	11/04/21 08:14	11/08/21 15:22	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0082	1	11/04/21 08:14	11/08/21 15:22	207-08-9	
Chrysene	ND	ug/L	0.040	0.0093	1	11/04/21 08:14	11/08/21 15:22	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0079	1	11/04/21 08:14	11/08/21 15:22	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/04/21 08:14	11/08/21 15:22	206-44-0	
Fluorene	ND	ug/L	0.040	0.0060	1	11/04/21 08:14	11/08/21 15:22	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/04/21 08:14	11/08/21 15:22	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.040	0.0067	1	11/04/21 08:14	11/08/21 15:22	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.040	0.0082	1	11/04/21 08:14	11/08/21 15:22	91-57-6	
Naphthalene	ND	ug/L	0.040	0.0087	1	11/04/21 08:14	11/08/21 15:22	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/04/21 08:14	11/08/21 15:22	85-01-8	
Pyrene	ND	ug/L	0.040	0.0098	1	11/04/21 08:14	11/08/21 15:22	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	80	%	52-125		1	11/04/21 08:14	11/08/21 15:22	321-60-8	
p-Terphenyl-d14 (S)	84	%	54-125		1	11/04/21 08:14	11/08/21 15:22	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586180

Sample: PEO-MW-42-202111 **Lab ID: 10586180004** Collected: 11/02/21 15:15 Received: 11/03/21 16:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 01:44	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 01:44	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 01:44	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 01:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 01:44	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/12/21 01:44	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/12/21 01:44	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 01:44	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	60.6	mg/L	5.0	1.8	1		11/16/21 15:02		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	52.8	mg/L	1.2	0.34	1		11/12/21 23:57	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/04/21 09:44	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch:	1769994	Analysis Method:	NWTPH-Gx
QC Batch Method:	8015/8021/8021B/NWTPHGX	Analysis Description:	VOA (GC) NWTPHGX
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: R3727054-2 Matrix: Water

Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/06/21 10:12	
a,a,a-Trifluorotoluene (FID)	%	108	78.0-120		11/06/21 10:12	

LABORATORY CONTROL SAMPLE: R3727054-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5460	99.3	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			97.6	78.0-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch: 1769994	Analysis Method: NWTPH-Gx
QC Batch Method: 8015/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: R3727054-2 Matrix: Water

Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/06/21 10:12	
a,a,a-Trifluorotoluene (FID)	%	108	78.0-120		11/06/21 10:12	

LABORATORY CONTROL SAMPLE: R3727054-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5460	99.3	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			97.6	78.0-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch: 1771366	Analysis Method: NWTPH-Gx
QC Batch Method: 8015/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586180001

METHOD BLANK: R3727841-2 Matrix: Water

Associated Lab Samples: 10586180001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	55.4J	100	31.6	11/09/21 17:48	J
a,a,a-Trifluorotoluene (FID)	%	95.8	78.0-120		11/09/21 17:48	

LABORATORY CONTROL SAMPLE: R3727841-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	4860	88.4	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			102	78.0-120	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch: 1771366	Analysis Method: NWTPH-Gx
QC Batch Method: 8015/8021/8021B/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586180001

METHOD BLANK: R3727841-2 Matrix: Water

Associated Lab Samples: 10586180001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	55.4J	100	31.6	11/09/21 17:48	J
a,a,a-Trifluorotoluene (FID)	%	95.8	78.0-120		11/09/21 17:48	

LABORATORY CONTROL SAMPLE: R3727841-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	4860	88.4	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			102	78.0-120	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch: 782386	Analysis Method: EPA 6020A
QC Batch Method: EPA 3020A	Analysis Description: 6020A Water Dissolved UPD4
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: 4165895 Matrix: Water

Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	11/16/21 19:14	
Manganese, Dissolved	ug/L	ND	0.50	0.20	11/16/21 19:14	

LABORATORY CONTROL SAMPLE: 4165896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	97.7	98	80-120	
Manganese, Dissolved	ug/L	100	106	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4165897 4165898

Parameter	Units	10586514002		4165898		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Arsenic, Dissolved	ug/L	1.2	100	100	97.8	95.9	97	95	75-125	2	20
Manganese, Dissolved	ug/L	599	100	100	677	659	78	60	75-125	3	20 E,P6

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch:	783256	Analysis Method:	EPA 8260D
QC Batch Method:	EPA 8260D	Analysis Description:	8260D MSV UST-WATER
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586180001, 10586180002, 10586180003, 10586180004

METHOD BLANK: 4169814 Matrix: Water
Associated Lab Samples: 10586180001, 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	11/11/21 19:58	
Ethylbenzene	ug/L	ND	1.0	0.069	11/11/21 19:58	
m&p-Xylene	ug/L	ND	2.0	0.18	11/11/21 19:58	
o-Xylene	ug/L	ND	1.0	0.12	11/11/21 19:58	
Toluene	ug/L	ND	1.0	0.11	11/11/21 19:58	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		11/11/21 19:58	
4-Bromofluorobenzene (S)	%	101	75-125		11/11/21 19:58	
Toluene-d8 (S)	%	102	75-125		11/11/21 19:58	

LABORATORY CONTROL SAMPLE & LCSD: 4169815 4169816

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.7	19.3	98	97	73-125	2	20	
Ethylbenzene	ug/L	20	18.7	18.4	93	92	75-125	2	20	
m&p-Xylene	ug/L	40	37.7	36.9	94	92	75-125	2	20	
o-Xylene	ug/L	20	18.6	18.4	93	92	75-125	1	20	
Toluene	ug/L	20	18.7	18.2	93	91	75-125	2	20	
1,2-Dichlorobenzene-d4 (S)	%				100	99	70-130			
4-Bromofluorobenzene (S)	%				100	101	75-125			
Toluene-d8 (S)	%				100	100	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10586180

QC Batch: 781500 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: 4161770 Matrix: Water

Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/08/21 11:47	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/08/21 11:47	
Acenaphthene	ug/L	ND	0.040	0.0069	11/08/21 11:47	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/08/21 11:47	
Anthracene	ug/L	ND	0.040	0.0054	11/08/21 11:47	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/08/21 11:47	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/08/21 11:47	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/08/21 11:47	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/08/21 11:47	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/08/21 11:47	
Chrysene	ug/L	ND	0.040	0.0094	11/08/21 11:47	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/08/21 11:47	
Fluoranthene	ug/L	ND	0.040	0.014	11/08/21 11:47	
Fluorene	ug/L	ND	0.040	0.0060	11/08/21 11:47	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/08/21 11:47	
Naphthalene	ug/L	ND	0.040	0.0088	11/08/21 11:47	
Phenanthrene	ug/L	ND	0.040	0.012	11/08/21 11:47	
Pyrene	ug/L	ND	0.040	0.0099	11/08/21 11:47	
2-Fluorobiphenyl (S)	%	82	52-125		11/08/21 11:47	
p-Terphenyl-d14 (S)	%	84	54-125		11/08/21 11:47	

LABORATORY CONTROL SAMPLE & LCSD: 4161771 4161772

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.85	0.80	85	80	34-125	6	20	
2-Methylnaphthalene	ug/L	1	0.86	0.83	86	83	34-125	4	20	
Acenaphthene	ug/L	1	0.88	0.80	88	80	35-125	10	20	
Acenaphthylene	ug/L	1	0.88	0.80	88	80	33-125	10	20	
Anthracene	ug/L	1	0.86	0.79	86	79	42-125	8	20	
Benzo(a)anthracene	ug/L	1	0.89	0.81	89	81	46-125	9	20	
Benzo(a)pyrene	ug/L	1	0.86	0.78	86	78	57-125	9	20	
Benzo(b)fluoranthene	ug/L	1	0.87	0.79	87	79	58-125	10	20	
Benzo(g,h,i)perylene	ug/L	1	0.89	0.85	89	85	55-125	4	20	
Benzo(k)fluoranthene	ug/L	1	0.89	0.83	89	83	55-125	7	20	
Chrysene	ug/L	1	0.86	0.80	86	80	56-125	7	20	
Dibenz(a,h)anthracene	ug/L	1	0.75	0.79	75	79	40-125	5	20	
Fluoranthene	ug/L	1	0.81	0.74	81	74	64-125	9	20	
Fluorene	ug/L	1	0.87	0.78	87	78	43-125	11	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.92	0.84	92	84	57-125	9	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

LABORATORY CONTROL SAMPLE & LCSD: 4161771		4161772								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.85	0.78	85	78	30-125	9	20	
Phenanthrene	ug/L	1	0.87	0.80	87	80	47-125	8	20	
Pyrene	ug/L	1	0.86	0.80	86	80	46-125	7	20	
2-Fluorobiphenyl (S)	%				83	79	52-125			
p-Terphenyl-d14 (S)	%				84	77	54-125			

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch:	781497	Analysis Method:	NWTPH-Dx
QC Batch Method:	EPA Mod. 3510C	Analysis Description:	NWTPH-Dx GCS LV SG
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: 4161759 Matrix: Water

Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	11/09/21 01:54	
Motor Oil Range SG	mg/L	ND	0.40	0.18	11/09/21 01:54	
n-Triacontane (S)	%	88	50-150		11/09/21 01:54	
o-Terphenyl (S)	%	83	50-150		11/09/21 01:54	

LABORATORY CONTROL SAMPLE & LCSD: 4161760 4161761

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.9	1.9	97	96	50-150	1	20	
Motor Oil Range SG	mg/L	2	1.9	1.9	97	96	50-150	0	20	
n-Triacontane (S)	%				92	94	50-150			
o-Terphenyl (S)	%				89	89	50-150			

SAMPLE DUPLICATE: 4161762

Parameter	Units	10586180002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	0.17J	0.26J		30	
Motor Oil Range SG	mg/L	ND	0.19J		30	
n-Triacontane (S)	%	74	99			
o-Terphenyl (S)	%	69	95			

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10586180

QC Batch: 784000 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: 4173774 Matrix: Water
Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	11/16/21 14:44	

LABORATORY CONTROL SAMPLE & LCSD: 4173775 4173776

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	40.9	41.0	102	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4173777 4173778

Parameter	Units	10586229008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	290	40	40	330	331	100	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4173779 4173780

Parameter	Units	10586876002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	78.6	40	40	118	117	97	95	80-120	1	20	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch: 782447

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: 4166083

Matrix: Water

Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	11/12/21 06:37	

LABORATORY CONTROL SAMPLE: 4166084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.7	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166085 4166086

Parameter	Units	10586514002		4166085		4166086		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result				
Sulfate	mg/L	8.9	50	50	52.1	50.9	87	84	80-120	2	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166087 4166088

Parameter	Units	10586514003		4166087		4166088		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result				
Sulfate	mg/L	11.4	50	50	51.3	52.4	80	82	80-120	2	20

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586180

QC Batch: 781578

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, preserved

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586180002, 10586180003, 10586180004

METHOD BLANK: 4161982

Matrix: Water

Associated Lab Samples: 10586180002, 10586180003, 10586180004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	11/04/21 09:45	

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QUALIFIERS

Project: 053831-Revised Report

Pace Project No.: 10586180

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 782219

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783256

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831-Revised Report

Pace Project No.: 10586180

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10586180002	PEO-MW-32-202111	EPA Mod. 3510C	781497	NWTPH-Dx	782398
10586180003	PEO-MW-33-202111	EPA Mod. 3510C	781497	NWTPH-Dx	782398
10586180004	PEO-MW-42-202111	EPA Mod. 3510C	781497	NWTPH-Dx	782398
10586180001	TRIP BLANK-20211102	NWTPHGX	1771366	NWTPH-Gx	1771366
10586180002	PEO-MW-32-202111	NWTPHGX	1769994	NWTPH-Gx	1769994
10586180003	PEO-MW-33-202111	NWTPHGX	1769994	NWTPH-Gx	1769994
10586180004	PEO-MW-42-202111	NWTPHGX	1769994	NWTPH-Gx	1769994
10586180002	PEO-MW-32-202111	EPA 3010A	781542	EPA 6010D	782284
10586180003	PEO-MW-33-202111	EPA 3010A	781542	EPA 6010D	782284
10586180004	PEO-MW-42-202111	EPA 3010A	781542	EPA 6010D	782284
10586180002	PEO-MW-32-202111	EPA 3020A	782386	EPA 6020A	782894
10586180003	PEO-MW-33-202111	EPA 3020A	782386	EPA 6020A	782894
10586180004	PEO-MW-42-202111	EPA 3020A	782386	EPA 6020A	782894
10586180002	PEO-MW-32-202111	EPA Mod. 3510C	781500	EPA 8270E by SIM	782219
10586180003	PEO-MW-33-202111	EPA Mod. 3510C	781500	EPA 8270E by SIM	782219
10586180004	PEO-MW-42-202111	EPA Mod. 3510C	781500	EPA 8270E by SIM	782219
10586180001	TRIP BLANK-20211102	EPA 8260D	783256		
10586180002	PEO-MW-32-202111	EPA 8260D	783256		
10586180003	PEO-MW-33-202111	EPA 8260D	783256		
10586180004	PEO-MW-42-202111	EPA 8260D	783256		
10586180002	PEO-MW-32-202111	SM 2320B	784000		
10586180003	PEO-MW-33-202111	SM 2320B	784000		
10586180004	PEO-MW-42-202111	SM 2320B	784000		
10586180002	PEO-MW-32-202111	EPA 300.0	782447		
10586180003	PEO-MW-33-202111	EPA 300.0	782447		
10586180004	PEO-MW-42-202111	EPA 300.0	782447		
10586180002	PEO-MW-32-202111	EPA 353.2	781578		
10586180003	PEO-MW-33-202111	EPA 353.2	781578		
10586180004	PEO-MW-42-202111	EPA 353.2	781578		

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CHAIN-OF-CUSTODY / Analytical Request Doc
 The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be complete

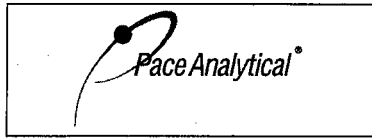
Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ERM	Report To:	Rita Cooper	Attention:	
Address:	1050 SW 6th Ave, Suite 1650 Portland, OR 97204	Copy To:		Company Name:	
Email To:	rita.cooper@erm.com	Purchase Order No.:		Address:	
Phone:	207-329-6320	Project Name:	Julie Bowser	Pace Quote Reference:	
Requested Due Date/TAT:	Standard	Project Number:	053831	Pace Project Manager:	Julie Bowser
				Pace Profile #:	

REGULATORY AGENCY	
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA
<input type="checkbox"/> OTHER	
Site Location	OR
STATE:	

ITEM #	Section D Required Client Information	Valid Matrix Codes	MATRIX CODE	MATRIX TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Requested Analysis Filtered (Y/N)											Pace Project No./ Lab I.D.																			
					COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Unpreserved	BTEX (SW8260C/SW8260C SIM)		GRO (NMTPH-GX)	VPH (NMTPH-VPH)	DRO (NMTPH-DX)	Disolved Metals (As, Mn, Ni) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NMTPH-EPH)	Nitrate (EPA 363.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)							
1			TRIP BLANK-20211102	G		11/2/21	8:00		6																														
2			PEO-MW-32-202111	G		11/2/21	9:55		19	X	X	X																											
3			PEO-MW-33-202111	G		11/2/21	13:40		19	X	X	X																											
4			PEO-MW-42-202111	G		11/2/21	15:15		19	X	X	X																											
5																																							
6																																							
7																																							
8																																							
9																																							
10																																							
11																																							
12																																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	A. Johnson / ERM	11/2/21	17:00	<i>Jeffrey Pace</i>	11/3/21	16:50

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	A. Johnson
SIGNATURE of SAMPLER:	<i>[Signature]</i>
DATE Signed (MM/DD/YY):	11/2/21



Document Name:
Sample Condition Upon Receipt (SCUR) - MN

Document No.:
ENV-FRM-MIN4-0150 Rev.02

Document Revised: 14Apr2021
Page 1 of 1

Pace Analytical Services -
Minneapolis

Sample Condition Upon Receipt

Client Name:

ERM

Project #:

WO# : 10586180

PM: JMT

Due Date: 11/17/21

CLIENT: ERM-Oregon

Courier:

Fed Ex UPS USPS Client
 Pace SpeeDee Commercial

See Exceptions
ENV-FRM-MIN4-0142

Tracking Number:

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: Temp Blank? Yes No

Thermometer: T1(0461) T2(1336) T3(0459) OS418-LS Type of Ice: Wet Blue None Dry Melted
 T4(0254) T5(0489) 160285052

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A

Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: 2.3, 4.2, 2.5 °C

Average Corrected Temp (no temp blank only): °C See Exceptions ENV-FRM-MIN4-0142 1 Container

Correction Factor: True Cooler Temp Corrected w/temp blank: 2.3, 4.2, 2.5 °C

USDA Regulated Soil: (N/A, water sample/Other:)

Date/Initials of Person Examining Contents: YJV 11/3/21

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input checked="" type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? ^{JMB 11/4/21}	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other		
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Sample # <u>2-4</u>
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input checked="" type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate <u>1/1</u> <u>1/1</u>
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Positive for Res. Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142 pH Paper Lot# Res. Chlorine 0-6 Roll <u>22292</u> 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased): <u>318759 (6)</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____
Comments/Resolution: _____

Date/Time: _____ Field Data Required? Yes No

Project Manager Review: [Signature]

Date: 11/4/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: [Signature]

Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: OR
 Cert. Needed: Yes No



Workorder: 10586180 Workorder Name: 053831

Owner Received Date: 11/3/2021 Results Requested By: 11/17/2021

Report To		Subcontract To					Requested Analysis														
Julie Bowser Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone 612-607-6390		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																			
							NWTPH-Gx														
							Preserved Containers														
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HCL	VB9H														
1	TRIP BLANK-20211102	PS	11/2/2021 08:00	10586180001	Water	2															
2	PEO-MW-32-202111	PS	11/2/2021 09:55	10586180002	Water	3															
3	PEO-MW-33-202111	PS	11/2/2021 13:40	10586180003	Water	3															
4	PEO-MW-42-202111	PS	11/2/2021 15:15	10586180004	Water	3															
5																					
																	Comments				
Transfers	Released By	Date/Time	Received By	Date/Time																	
1	<i>[Signature]</i>	11/2/21 11:30	<i>[Signature]</i>	11-5-21 11:30																	
2																					
3																					
Cooler Temperature on Receipt		°C	Custody Seal <input checked="" type="checkbox"/> Y or N		Received on Ice <input checked="" type="checkbox"/> Y or N		Samples Intact <input checked="" type="checkbox"/> Y or N														

4427571
LAB USE ONLY
-01
-02
-03
-04

1420

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

it = 9.5 + 2TB

BR
4.370243

Sample Receipt Checklist

COC Seal Present/Intact: Y N

COC Signed/Accurate: Y N

Bottles arrive intact: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

RAD Screen <0.5 mR/hr: Y N

If Applicable
VOA Zero Headspace: Y N
Pres. Correct/Check: Y N



Pace Analytical Minnesota

Julie Bowser

1700 Elm Street, Ste. 200

Minneapolis, MN 55414

RE: 053831

Work Order Number: 2111137

November 19, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 4 sample(s) on 11/5/2021 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH

Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager



CLIENT: Pace Analytical Minnesota
Project: 053831
Work Order: 2111137

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2111137-001	TRIP BLANK-20211102	11/02/2021 8:00 AM	11/05/2021 10:06 AM
2111137-002	PEO-MW-32-202111	11/02/2021 9:55 AM	11/05/2021 10:06 AM
2111137-003	PEO-MW-33-202111	11/02/2021 1:40 PM	11/05/2021 10:06 AM
2111137-004	PEO-MW-42-202111	11/02/2021 3:15 PM	11/05/2021 10:06 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Pace Analytical Minnesota
Project: 053831

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111137-001

Collection Date: 11/2/2021 8:00:00 AM

Client Sample ID: TRIP BLANK-20211102

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 4:00:48 PM
Surr: 1,4-Difluorobenzene	71.5	65 - 140		%Rec	1	11/12/2021 4:00:48 PM
Surr: Bromofluorobenzene	92.0	65 - 140		%Rec	1	11/12/2021 4:00:48 PM

Lab ID: 2111137-002

Collection Date: 11/2/2021 9:55:00 AM

Client Sample ID: PEO-MW-32-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.3		µg/L	1	11/18/2021 5:16:53 PM
Surr: 1-Chlorooctadecane	72.7	60 - 140		%Rec	1	11/18/2021 5:16:53 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 5:57:52 PM
Surr: 1,4-Difluorobenzene	75.1	65 - 140		%Rec	1	11/12/2021 5:57:52 PM
Surr: Bromofluorobenzene	97.6	65 - 140		%Rec	1	11/12/2021 5:57:52 PM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111137-003

Collection Date: 11/2/2021 1:40:00 PM

Client Sample ID: PEO-MW-33-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/18/2021 6:10:19 PM
Surr: 1-Chlorooctadecane	86.5	60 - 140		%Rec	1	11/18/2021 6:10:19 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 6:36:53 PM
Surr: 1,4-Difluorobenzene	74.7	65 - 140		%Rec	1	11/12/2021 6:36:53 PM
Surr: Bromofluorobenzene	97.8	65 - 140		%Rec	1	11/12/2021 6:36:53 PM

Lab ID: 2111137-004

Collection Date: 11/2/2021 3:15:00 PM

Client Sample ID: PEO-MW-42-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	11/18/2021 7:57:12 PM
Surr: 1-Chlorooctadecane	84.6	60 - 140		%Rec	1	11/18/2021 7:57:12 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 7:15:40 PM
Surr: 1,4-Difluorobenzene	74.1	65 - 140		%Rec	1	11/12/2021 7:15:40 PM
Surr: Bromofluorobenzene	95.4	65 - 140		%Rec	1	11/12/2021 7:15:40 PM

Work Order: 2111137
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-34348	SampType: MBLK	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: MBLKW	Batch ID: 34348					Analysis Date: 11/18/2021	SeqNo: 1454819				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	39.2		0	0						
Surr: 1-Chlorooctadecane	344		392.4		87.6	60	140				

Sample ID: 2111137-002AMS	SampType: MS	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: PEO-MW-32-202111	Batch ID: 34348					Analysis Date: 11/18/2021	SeqNo: 1454822				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	352	39.6	495.4	0	71.1	70	130				
Surr: 1-Chlorooctadecane	340		396.3		85.7	60	140				

Sample ID: LCS-34348	SampType: LCS	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: LCSW	Batch ID: 34348					Analysis Date: 11/19/2021	SeqNo: 1454826				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	353	39.4	492.8	0	71.7	70	130				
Surr: 1-Chlorooctadecane	360		394.2		91.2	60	140				

Sample ID: LCSD-34348	SampType: LCSD	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: LCSW02	Batch ID: 34348					Analysis Date: 11/19/2021	SeqNo: 1454827				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	351	39.4	492.7	0	71.3	70	130	353.3	0.553	20	
Surr: 1-Chlorooctadecane	357		394.2		90.5	60	140		0		

Work Order: 2111137
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-34397	SampType: LCS	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: LCSW	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452055					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	196	25.0	200.0	0	98.2	70	130				
Surr: 1,4-Difluorobenzene	50.3		50.00		101	65	140				
Surr: Bromofluorobenzene	49.3		50.00		98.6	65	140				

Sample ID: MB-34397	SampType: MBLK	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: MBLKW	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452061					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0						
Surr: 1,4-Difluorobenzene	35.5		50.00		70.9	65	140				
Surr: Bromofluorobenzene	45.5		50.00		91.1	65	140				

Sample ID: 2111137-004BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: PEO-MW-42-202111	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452035					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	37.4		50.00		74.8	65	140		0		
Surr: Bromofluorobenzene	48.0		50.00		96.1	65	140		0		

Sample ID: 2111199-007BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: BATCH	Batch ID: 34397				Analysis Date: 11/13/2021	SeqNo: 1452050					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	37.2		50.00		74.4	65	140		0		
Surr: Bromofluorobenzene	46.4		50.00		92.7	65	140		0		

Work Order: 2111137
CLIENT: Pace Analytical Minnesota
Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: 2111198-006BMS	SampType: MS	Units: µg/L	Prep Date: 11/10/2021	RunNo: 71311							
Client ID: BATCH	Batch ID: 34397		Analysis Date: 11/13/2021	SeqNo: 1452042							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	507	25.0	200.0	324.0	91.7	70	130				
Surr: 1,4-Difluorobenzene	52.5		50.00		105	65	140				
Surr: Bromofluorobenzene	49.3		50.00		98.7	65	140				

Client Name: **PACEMI**
 Logged by: **Clare Griggs**

Work Order Number: **2111137**
 Date Received: **11/5/2021 10:06:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
 4. Shipping container/cooler in good condition? Yes No
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes No Not Present
 6. Was an attempt made to cool the samples? Yes No NA
 7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
 8. Sample(s) in proper container(s)? Yes No
 9. Sufficient sample volume for indicated test(s)? Yes No
 10. Are samples properly preserved? Yes No
 11. Was preservative added to bottles? Yes No NA
 12. Is there headspace in the VOA vials? Yes No NA
 13. Did all samples containers arrive in good condition(unbroken)? Yes No
 14. Does paperwork match bottle labels? Yes No
 15. Are matrices correctly identified on Chain of Custody? Yes No
 16. Is it clear what analyses were requested? Yes No
 17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	4.7

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody

PASI Minnesota Laboratory



Workorder: 10586180

Workorder Name: 053831

Results Requested By: 11/17/2021

2111137



Report / Invoice To

Subcontract To

Requested Analysis

Julie Bowser
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone 612-607-6390
Email: julie.bowser@pacelabs.com

Fremont Analytical
3600 Fremont Ave N
Seattle, WA 98103

P.O. 10586180

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Date/Time	Comments
					HCL	AGIH VGBH		
1	TRIP BLANK-20211102	11/2/2021 08:00	10586180001	Water	X			
2	PEO-MW-32-202111	11/2/2021 09:55	10586180002	Water	X			
3	PEO-MW-33-202111	11/2/2021 13:40	10586180003	Water	X			
4	PEO-MW-42-202111	11/2/2021 15:15	10586180004	Water	X			
5								

Transfers	Released By	Date/Time	Received By	Date/Time	Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N
1	Julie Bowser	11/11/21 12:05	Alison Jones / FAI	11/05/2021	47	Y	Y	Y
2								
3								

November 23, 2021

Joe Casey
ERM Portland
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

RE: Project: 053831
Pace Project No.: 10586514

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Minneapolis

The newest method revisions, 8260D and 8270E were analyzed on this project due to Pace no longer offering them.

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

Sincerely,



Julie Bowser
julie.bowser@pacelabs.com
612-607-6390
Project Manager

Enclosures

cc: Rita Cooper, ERM Portland
ERM Global EDD Mailbox, ERM
Stephanie Frith, ERM Portland
Rachel James, ERM Portland



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 053831
Pace Project No.: 10586514

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008

Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831
Pace Project No.: 10586514

Pace Analytical Services National

Nevada Certification #: TN-03-2002-34	Tennessee DW/Chem/Micro Certification #: 2006
New Hampshire Certification #: 2975	Texas Certification #: T 104704245-17-14
New Jersey Certification #: TN002	Texas Mold Certification #: LAB0152
New Mexico DW Certification	USDA Soil Permit #: P330-15-00234
New York Certification #: 11742	Utah Certification #: TN00003
North Carolina Aquatic Toxicity Certification #: 41	Vermont Dept. of Health: ID# VT-2006
North Carolina Drinking Water Certification #: 21704	Virginia Certification #: VT2006
North Carolina Environmental Certificate #: 375	Virginia Certification #: 460132
North Dakota Certification #: R-140	Washington Certification #: C847
Ohio VAP Certification #: CL0069	West Virginia Certification #: 233
Oklahoma Certification #: 9915	Wisconsin Certification #: 998093910
Oregon Certification #: TN200002	Wyoming UST Certification #: via A2LA 2926.01
Pennsylvania Certification #: 68-02979	A2LA-ISO 17025 Certification #: 1461.01
Rhode Island Certification #: LAO00356	A2LA-ISO 17025 Certification #: 1461.02
South Carolina Certification #: 84004	AIHA-LAP/LLC EMLAP Certification #:100789
South Dakota Certification	

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SAMPLE SUMMARY

Project: 053831
Pace Project No.: 10586514

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10586514001	TRIP BLANK-20211103	Water	11/03/21 08:00	11/05/21 11:40
10586514002	PEO-MW-24A-202111	Water	11/03/21 09:00	11/05/21 11:40
10586514003	PEO-MW-25-202111	Water	11/03/21 10:55	11/05/21 11:40
10586514004	PEO-MW-21-202111	Water	11/03/21 12:50	11/05/21 11:40
10586514005	PEO-MW-03-202111	Water	11/03/21 14:05	11/05/21 11:40
10586514006	PEO-MW-06-202111	Water	11/03/21 15:25	11/05/21 11:40

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SAMPLE ANALYTE COUNT

Project: 053831
Pace Project No.: 10586514

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10586514001	TRIP BLANK-20211103	NWTPH-Gx	ADM	2	PAN
		EPA 8260D	ZH	8	PASI-M
10586514002	PEO-MW-24A-202111	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	JAH	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	2	PASI-M
		10586514003	PEO-MW-25-202111	NWTPH-Dx	TT2
NWTPH-Gx	JAH			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	WBS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M
EPA 353.2	JFP			2	PASI-M
10586514004	PEO-MW-21-202111			NWTPH-Dx	TT2
		NWTPH-Gx	JAH	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	2	PASI-M
		10586514005	PEO-MW-03-202111	NWTPH-Dx	TT2
NWTPH-Gx	JAH			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	WBS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M

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SAMPLE ANALYTE COUNT

Project: 053831
Pace Project No.: 10586514

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10586514006	PEO-MW-06-202111	EPA 353.2	KEO	1	PASI-M
		NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	BMB	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	KEO	1	PASI-M

PAN = Pace National - Mt. Juliet

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: TRIP BLANK-20211103 Lab ID: 10586514001 Collected: 11/03/21 08:00 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	38.4J	ug/L	100	31.6	1	11/09/21 15:07	11/09/21 15:07		B,J
Surrogates									
a,a,a-Trifluorotoluene (FID)	106	%	78.0-120		1	11/09/21 15:07	11/09/21 15:07	98-08-8FID	
8260D MSV UST									
Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 14:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 14:36	100-41-4	
Toluene	0.70J	ug/L	1.0	0.11	1		11/12/21 14:36	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 14:36	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 14:36	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/12/21 14:36	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/12/21 14:36	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		11/12/21 14:36	2037-26-5	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-24A-202111 Lab ID: 10586514002 Collected: 11/03/21 09:00 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.42	0.12	1	11/05/21 15:19	11/09/21 00:38	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.42	0.19	1	11/05/21 15:19	11/09/21 00:38	64742-65-0	
Surrogates									
o-Terphenyl (S)	84	%	50-150		1	11/05/21 15:19	11/09/21 00:38	84-15-1	
n-Triacontane (S)	71	%	50-150		1	11/05/21 15:19	11/09/21 00:38		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	35.5J	ug/L	100	31.6	1	11/10/21 04:44	11/10/21 04:44		B,J
Surrogates									
a,a,a-Trifluorotoluene (FID)	108	%	78.0-120		1	11/10/21 04:44	11/10/21 04:44	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	55600	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 12:51		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	1.2	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 19:17	7440-38-2	
Manganese, Dissolved	599	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 19:31	7439-96-5	P6
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.042	0.0072	1	11/05/21 14:45	11/08/21 18:05	83-32-9	
Acenaphthylene	ND	ug/L	0.042	0.0063	1	11/05/21 14:45	11/08/21 18:05	208-96-8	
Anthracene	ND	ug/L	0.042	0.0056	1	11/05/21 14:45	11/08/21 18:05	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.042	0.0094	1	11/05/21 14:45	11/08/21 18:05	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.042	0.0092	1	11/05/21 14:45	11/08/21 18:05	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.042	0.0099	1	11/05/21 14:45	11/08/21 18:05	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.042	0.0085	1	11/05/21 14:45	11/08/21 18:05	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.042	0.0086	1	11/05/21 14:45	11/08/21 18:05	207-08-9	
Chrysene	ND	ug/L	0.042	0.0098	1	11/05/21 14:45	11/08/21 18:05	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.042	0.0083	1	11/05/21 14:45	11/08/21 18:05	53-70-3	
Fluoranthene	ND	ug/L	0.042	0.015	1	11/05/21 14:45	11/08/21 18:05	206-44-0	
Fluorene	0.0093J	ug/L	0.042	0.0063	1	11/05/21 14:45	11/08/21 18:05	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.042	0.012	1	11/05/21 14:45	11/08/21 18:05	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.042	0.0070	1	11/05/21 14:45	11/08/21 18:05	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.042	0.0086	1	11/05/21 14:45	11/08/21 18:05	91-57-6	
Naphthalene	ND	ug/L	0.042	0.0092	1	11/05/21 14:45	11/08/21 18:05	91-20-3	
Phenanthrene	ND	ug/L	0.042	0.013	1	11/05/21 14:45	11/08/21 18:05	85-01-8	
Pyrene	ND	ug/L	0.042	0.010	1	11/05/21 14:45	11/08/21 18:05	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%	52-125		1	11/05/21 14:45	11/08/21 18:05	321-60-8	
p-Terphenyl-d14 (S)	73	%	54-125		1	11/05/21 14:45	11/08/21 18:05	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-24A-202111 Lab ID: 10586514002 Collected: 11/03/21 09:00 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 16:42	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 16:42	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 16:42	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 16:42	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 16:42	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/12/21 16:42	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/12/21 16:42	460-00-4	
Toluene-d8 (S)	101	%	75-125		1		11/12/21 16:42	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	73.5	mg/L	5.0	1.8	1		11/17/21 14:52		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	8.9	mg/L	1.2	0.34	1		11/12/21 07:24	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/15/21 11:33	14797-55-8	H3
Nitrogen, NO2 plus NO3	0.055J	mg/L	0.10	0.018	1		11/15/21 11:33		

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-25-202111 Lab ID: 10586514003 Collected: 11/03/21 10:55 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/05/21 15:19	11/09/21 00:59	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/05/21 15:19	11/09/21 00:59	64742-65-0	
Surrogates									
o-Terphenyl (S)	60	%	50-150		1	11/05/21 15:19	11/09/21 00:59	84-15-1	
n-Triacontane (S)	62	%	50-150		1	11/05/21 15:19	11/09/21 00:59		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/10/21 05:07	11/10/21 05:07		
Surrogates									
a,a,a-Trifluorotoluene (FID)	108	%	78.0-120		1	11/10/21 05:07	11/10/21 05:07	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	57900	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:04		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.19J	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 19:49	7440-38-2	
Manganese, Dissolved	16.8	ug/L	0.50	0.20	1	11/10/21 06:03	11/16/21 19:49	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0070	1	11/05/21 14:45	11/08/21 18:25	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0062	1	11/05/21 14:45	11/08/21 18:25	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/05/21 14:45	11/08/21 18:25	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/05/21 14:45	11/08/21 18:25	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/05/21 14:45	11/08/21 18:25	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/05/21 14:45	11/08/21 18:25	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/05/21 14:45	11/08/21 18:25	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/05/21 14:45	11/08/21 18:25	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/05/21 14:45	11/08/21 18:25	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/05/21 14:45	11/08/21 18:25	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/05/21 14:45	11/08/21 18:25	206-44-0	
Fluorene	ND	ug/L	0.041	0.0062	1	11/05/21 14:45	11/08/21 18:25	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/05/21 14:45	11/08/21 18:25	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.041	0.0069	1	11/05/21 14:45	11/08/21 18:25	90-12-0	
2-Methylnaphthalene	0.011J	ug/L	0.041	0.0084	1	11/05/21 14:45	11/08/21 18:25	91-57-6	
Naphthalene	ND	ug/L	0.041	0.0090	1	11/05/21 14:45	11/08/21 18:25	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.012	1	11/05/21 14:45	11/08/21 18:25	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/05/21 14:45	11/08/21 18:25	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%	52-125		1	11/05/21 14:45	11/08/21 18:25	321-60-8	
p-Terphenyl-d14 (S)	77	%	54-125		1	11/05/21 14:45	11/08/21 18:25	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-25-202111 Lab ID: 10586514003 Collected: 11/03/21 10:55 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 16:57	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 16:57	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 16:57	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 16:57	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 16:57	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/12/21 16:57	2199-69-1	
4-Bromofluorobenzene (S)	100	%	75-125		1		11/12/21 16:57	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 16:57	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	71.9	mg/L	5.0	1.8	1		11/17/21 14:57		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	11.4	mg/L	1.2	0.34	1		11/12/21 08:29	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	0.025J	mg/L	0.10	0.018	1		11/15/21 11:34	14797-55-8	H3
Nitrogen, NO2 plus NO3	0.025J	mg/L	0.10	0.018	1		11/15/21 11:34		

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-21-202111 Lab ID: 10586514004 Collected: 11/03/21 12:50 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/05/21 15:19	11/09/21 01:10	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/05/21 15:19	11/09/21 01:10	64742-65-0	
Surrogates									
o-Terphenyl (S)	88	%	50-150		1	11/05/21 15:19	11/09/21 01:10	84-15-1	
n-Triacontane (S)	85	%	50-150		1	11/05/21 15:19	11/09/21 01:10		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/10/21 05:31	11/10/21 05:31		
Surrogates									
a,a,a-Trifluorotoluene (FID)	108	%	78.0-120		1	11/10/21 05:31	11/10/21 05:31	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	42000	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:06		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.73	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 19:55	7440-38-2	
Manganese, Dissolved	128	ug/L	0.50	0.20	1	11/10/21 06:03	11/16/21 19:55	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.040	0.0070	1	11/05/21 14:45	11/08/21 18:45	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/05/21 14:45	11/08/21 18:45	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/05/21 14:45	11/08/21 18:45	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0091	1	11/05/21 14:45	11/08/21 18:45	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0089	1	11/05/21 14:45	11/08/21 18:45	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0096	1	11/05/21 14:45	11/08/21 18:45	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0082	1	11/05/21 14:45	11/08/21 18:45	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0084	1	11/05/21 14:45	11/08/21 18:45	207-08-9	
Chrysene	ND	ug/L	0.040	0.0095	1	11/05/21 14:45	11/08/21 18:45	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/05/21 14:45	11/08/21 18:45	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/05/21 14:45	11/08/21 18:45	206-44-0	
Fluorene	ND	ug/L	0.040	0.0061	1	11/05/21 14:45	11/08/21 18:45	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/05/21 14:45	11/08/21 18:45	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.040	0.0068	1	11/05/21 14:45	11/08/21 18:45	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.040	0.0084	1	11/05/21 14:45	11/08/21 18:45	91-57-6	
Naphthalene	ND	ug/L	0.040	0.0089	1	11/05/21 14:45	11/08/21 18:45	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/05/21 14:45	11/08/21 18:45	85-01-8	
Pyrene	ND	ug/L	0.040	0.010	1	11/05/21 14:45	11/08/21 18:45	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	52-125		1	11/05/21 14:45	11/08/21 18:45	321-60-8	
p-Terphenyl-d14 (S)	76	%	54-125		1	11/05/21 14:45	11/08/21 18:45	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-21-202111 Lab ID: 10586514004 Collected: 11/03/21 12:50 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 17:13	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 17:13	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 17:13	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 17:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 17:13	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/12/21 17:13	2199-69-1	
4-Bromofluorobenzene (S)	100	%	75-125		1		11/12/21 17:13	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 17:13	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	54.5	mg/L	5.0	1.8	1		11/17/21 15:02		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	3.1	mg/L	1.2	0.34	1		11/12/21 15:22	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	0.099J	mg/L	0.10	0.018	1		11/15/21 11:35	14797-55-8	H1
Nitrogen, NO2 plus NO3	0.11	mg/L	0.10	0.018	1		11/15/21 11:35		

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-03-202111									
Lab ID: 10586514005									
Collected: 11/03/21 14:05									
Received: 11/05/21 11:40									
Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C									
Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.42	0.12	1	11/05/21 15:19	11/09/21 01:21	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.42	0.19	1	11/05/21 15:19	11/09/21 01:21	64742-65-0	
Surrogates									
o-Terphenyl (S)	72	%	50-150		1	11/05/21 15:19	11/09/21 01:21	84-15-1	
n-Triacontane (S)	65	%	50-150		1	11/05/21 15:19	11/09/21 01:21		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX									
Pace National - Mt. Juliet									
TPH (C06-C12)	121	ug/L	100	31.6	1	11/10/21 05:54	11/10/21 05:54		B
Surrogates									
a,a,a-Trifluorotoluene (FID)	95.0	%	78.0-120		1	11/10/21 05:54	11/10/21 05:54	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	59100	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:08		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A									
Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.42J	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:01	7440-38-2	
Manganese, Dissolved	167	ug/L	0.50	0.20	1	11/10/21 06:03	11/16/21 20:01	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C									
Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.040	0.0069	1	11/05/21 14:45	11/08/21 19:05	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/05/21 14:45	11/08/21 19:05	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/05/21 14:45	11/08/21 19:05	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	11/05/21 14:45	11/08/21 19:05	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/05/21 14:45	11/08/21 19:05	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/05/21 14:45	11/08/21 19:05	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	11/05/21 14:45	11/08/21 19:05	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/05/21 14:45	11/08/21 19:05	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/05/21 14:45	11/08/21 19:05	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/05/21 14:45	11/08/21 19:05	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/05/21 14:45	11/08/21 19:05	206-44-0	
Fluorene	ND	ug/L	0.040	0.0060	1	11/05/21 14:45	11/08/21 19:05	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/05/21 14:45	11/08/21 19:05	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.040	0.0067	1	11/05/21 14:45	11/08/21 19:05	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.040	0.0083	1	11/05/21 14:45	11/08/21 19:05	91-57-6	
Naphthalene	0.018J	ug/L	0.040	0.0088	1	11/05/21 14:45	11/08/21 19:05	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/05/21 14:45	11/08/21 19:05	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	11/05/21 14:45	11/08/21 19:05	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	74	%	52-125		1	11/05/21 14:45	11/08/21 19:05	321-60-8	
p-Terphenyl-d14 (S)	76	%	54-125		1	11/05/21 14:45	11/08/21 19:05	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-03-202111 Lab ID: 10586514005 Collected: 11/03/21 14:05 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 17:29	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 17:29	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 17:29	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 17:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 17:29	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/12/21 17:29	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/12/21 17:29	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 17:29	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	78.5	mg/L	5.0	1.8	1		11/17/21 15:07		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	7.3	mg/L	1.2	0.34	1		11/12/21 15:52	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 13:03	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-06-202111 Lab ID: 10586514006 Collected: 11/03/21 15:25 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	1.6	mg/L	0.42	0.12	1	11/05/21 15:19	11/09/21 01:32	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.42	0.19	1	11/05/21 15:19	11/09/21 01:32	64742-65-0	
Surrogates									
o-Terphenyl (S)	87	%	50-150		1	11/05/21 15:19	11/09/21 01:32	84-15-1	
n-Triacontane (S)	75	%	50-150		1	11/05/21 15:19	11/09/21 01:32		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	2860	ug/L	100	31.6	1	11/09/21 19:00	11/09/21 19:00		
Surrogates									
a,a,a-Trifluorotoluene (FID)	101	%	78.0-120		1	11/09/21 19:00	11/09/21 19:00	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	38200	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:10		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	7.5	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:06	7440-38-2	
Manganese, Dissolved	726	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 20:09	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	1.4	ug/L	0.040	0.0069	1	11/10/21 13:22	11/11/21 18:10	83-32-9	
Acenaphthylene	0.44	ug/L	0.040	0.0061	1	11/10/21 13:22	11/11/21 18:10	208-96-8	
Anthracene	0.17	ug/L	0.040	0.0054	1	11/10/21 13:22	11/11/21 18:10	120-12-7	
Benzo(a)anthracene	0.011J	ug/L	0.040	0.0090	1	11/10/21 13:22	11/11/21 18:10	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/10/21 13:22	11/11/21 18:10	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/10/21 13:22	11/11/21 18:10	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	11/10/21 13:22	11/11/21 18:10	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/10/21 13:22	11/11/21 18:10	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/10/21 13:22	11/11/21 18:10	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/10/21 13:22	11/11/21 18:10	53-70-3	
Fluoranthene	0.048	ug/L	0.040	0.014	1	11/10/21 13:22	11/11/21 18:10	206-44-0	
Fluorene	3.3	ug/L	0.040	0.0060	1	11/10/21 13:22	11/11/21 18:10	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/10/21 13:22	11/11/21 18:10	193-39-5	
1-Methylnaphthalene	4.7	ug/L	0.040	0.0067	1	11/10/21 13:22	11/11/21 18:10	90-12-0	
2-Methylnaphthalene	4.0	ug/L	0.040	0.0083	1	11/10/21 13:22	11/11/21 18:10	91-57-6	
Naphthalene	1.7	ug/L	0.040	0.0088	1	11/10/21 13:22	11/11/21 18:10	91-20-3	
Phenanthrene	1.8	ug/L	0.040	0.012	1	11/10/21 13:22	11/11/21 18:10	85-01-8	
Pyrene	0.049	ug/L	0.040	0.0099	1	11/10/21 13:22	11/11/21 18:10	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%	52-125		1	11/10/21 13:22	11/11/21 18:10	321-60-8	
p-Terphenyl-d14 (S)	63	%	54-125		1	11/10/21 13:22	11/11/21 18:10	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586514

Sample: PEO-MW-06-202111 Lab ID: 10586514006 Collected: 11/03/21 15:25 Received: 11/05/21 11:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 17:44	71-43-2	
Ethylbenzene	0.074J	ug/L	1.0	0.069	1		11/12/21 17:44	100-41-4	
Toluene	0.26J	ug/L	1.0	0.11	1		11/12/21 17:44	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 17:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 17:44	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/12/21 17:44	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/12/21 17:44	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 17:44	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	87.0	mg/L	5.0	1.8	1		11/17/21 15:11		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	ND	mg/L	1.2	0.34	1		11/12/21 13:09	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 13:04	14797-55-8	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 1771178	Analysis Method: NWTPH-Gx
QC Batch Method: 8015/8021/8021B/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586514001, 10586514006

METHOD BLANK: R3727489-1 Matrix: Water

Associated Lab Samples: 10586514001, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	33.1J	100	31.6	11/09/21 12:06	J
a,a,a-Trifluorotoluene (FID)	%	106	78.0-120		11/09/21 12:06	

LABORATORY CONTROL SAMPLE: R3727489-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	4680	85.1	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			109	78.0-120	

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: 053831
Pace Project No.: 10586514

QC Batch: 1771178	Analysis Method: NWTPH-Gx
QC Batch Method: 8015/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586514001, 10586514006

METHOD BLANK: R3727489-1 Matrix: Water

Associated Lab Samples: 10586514001, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	33.1J	100	31.6	11/09/21 12:06	J
a,a,a-Trifluorotoluene (FID)	%	106	78.0-120		11/09/21 12:06	

LABORATORY CONTROL SAMPLE: R3727489-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	4680	85.1	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			109	78.0-120	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 1771716 Analysis Method: NWTPH-Gx
QC Batch Method: 8015/NWTPHGX Analysis Description: VOA (GC) NWTPHGX
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005

METHOD BLANK: R3729286-2 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	42.0J	100	31.6	11/10/21 04:03	J
a,a,a-Trifluorotoluene (FID)	%	108	78.0-120		11/10/21 04:03	

LABORATORY CONTROL SAMPLE: R3729286-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5740	104	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			100	78.0-120	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 1771716 Analysis Method: NWTPH-Gx
QC Batch Method: 8015/8021/8021B/NWTPHGX Analysis Description: VOA (GC) NWTPHGX
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005

METHOD BLANK: R3729286-2 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	42.0J	100	31.6	11/10/21 04:03	J
a,a,a-Trifluorotoluene (FID)	%	108	78.0-120		11/10/21 04:03	

LABORATORY CONTROL SAMPLE: R3729286-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5740	104	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			100	78.0-120	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 782386 Analysis Method: EPA 6020A
QC Batch Method: EPA 3020A Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

METHOD BLANK: 4165895 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	11/16/21 19:14	
Manganese, Dissolved	ug/L	ND	0.50	0.20	11/16/21 19:14	

LABORATORY CONTROL SAMPLE: 4165896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	97.7	98	80-120	
Manganese, Dissolved	ug/L	100	106	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4165897 4165898

Parameter	Units	10586514002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	1.2	100	100	97.8	95.9	97	95	75-125	2	20	
Manganese, Dissolved	ug/L	599	100	100	677	659	78	60	75-125	3	20	E,P6

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 783397 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586514001, 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

METHOD BLANK: 4170683 Matrix: Water
Associated Lab Samples: 10586514001, 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	11/12/21 12:30	
Ethylbenzene	ug/L	ND	1.0	0.069	11/12/21 12:30	
m&p-Xylene	ug/L	ND	2.0	0.18	11/12/21 12:30	
o-Xylene	ug/L	ND	1.0	0.12	11/12/21 12:30	
Toluene	ug/L	ND	1.0	0.11	11/12/21 12:30	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		11/12/21 12:30	
4-Bromofluorobenzene (S)	%	102	75-125		11/12/21 12:30	
Toluene-d8 (S)	%	102	75-125		11/12/21 12:30	

LABORATORY CONTROL SAMPLE & LCSD: 4170684

Parameter	Units	4170685							RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits				
Benzene	ug/L	20	19.2	18.9	96	94	73-125	2	20		
Ethylbenzene	ug/L	20	18.3	18.0	92	90	75-125	2	20		
m&p-Xylene	ug/L	40	37.0	36.4	92	91	75-125	2	20		
o-Xylene	ug/L	20	17.9	17.9	90	90	75-125	0	20		
Toluene	ug/L	20	18.2	17.9	91	90	75-125	2	20		
1,2-Dichlorobenzene-d4 (S)	%				100	100	70-130				
4-Bromofluorobenzene (S)	%				101	101	75-125				
Toluene-d8 (S)	%				101	101	75-125				

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 781866 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005

METHOD BLANK: 4163468 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/08/21 12:23	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/08/21 12:23	
Acenaphthene	ug/L	ND	0.040	0.0069	11/08/21 12:23	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/08/21 12:23	
Anthracene	ug/L	ND	0.040	0.0054	11/08/21 12:23	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/08/21 12:23	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/08/21 12:23	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/08/21 12:23	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/08/21 12:23	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/08/21 12:23	
Chrysene	ug/L	ND	0.040	0.0094	11/08/21 12:23	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/08/21 12:23	
Fluoranthene	ug/L	ND	0.040	0.014	11/08/21 12:23	
Fluorene	ug/L	ND	0.040	0.0060	11/08/21 12:23	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/08/21 12:23	
Naphthalene	ug/L	ND	0.040	0.0088	11/08/21 12:23	
Phenanthrene	ug/L	ND	0.040	0.012	11/08/21 12:23	
Pyrene	ug/L	ND	0.040	0.0099	11/08/21 12:23	
2-Fluorobiphenyl (S)	%	78	52-125		11/08/21 12:23	
p-Terphenyl-d14 (S)	%	81	54-125		11/08/21 12:23	

LABORATORY CONTROL SAMPLE & LCSD: 4163469 4163470

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.56	0.75	56	75	34-125	29	20	R1
2-Methylnaphthalene	ug/L	1	0.56	0.76	56	76	34-125	31	20	R1
Acenaphthene	ug/L	1	0.59	0.77	59	77	35-125	26	20	R1
Acenaphthylene	ug/L	1	0.60	0.81	60	81	33-125	30	20	R1
Anthracene	ug/L	1	0.70	0.78	70	78	42-125	12	20	
Benzo(a)anthracene	ug/L	1	0.75	0.81	75	81	46-125	8	20	
Benzo(a)pyrene	ug/L	1	0.73	0.78	73	78	57-125	7	20	
Benzo(b)fluoranthene	ug/L	1	0.75	0.79	75	79	58-125	6	20	
Benzo(g,h,i)perylene	ug/L	1	0.70	0.77	70	77	55-125	9	20	
Benzo(k)fluoranthene	ug/L	1	0.73	0.77	73	77	55-125	5	20	
Chrysene	ug/L	1	0.75	0.79	75	79	56-125	5	20	
Dibenz(a,h)anthracene	ug/L	1	0.68	0.72	68	72	40-125	7	20	
Fluoranthene	ug/L	1	0.74	0.81	74	81	64-125	9	20	
Fluorene	ug/L	1	0.63	0.78	63	78	43-125	23	20	R1
Indeno(1,2,3-cd)pyrene	ug/L	1	0.78	0.83	78	83	57-125	7	20	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

LABORATORY CONTROL SAMPLE & LCSD:		4163469		4163470							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Naphthalene	ug/L	1	0.56	0.74	56	74	30-125	28	20	R1	
Phenanthrene	ug/L	1	0.68	0.79	68	79	47-125	15	20		
Pyrene	ug/L	1	0.73	0.81	73	81	46-125	11	20		
2-Fluorobiphenyl (S)	%				56	76	52-125				
p-Terphenyl-d14 (S)	%				75	79	54-125				

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 782814 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586514006

METHOD BLANK: 4167783 Matrix: Water

Associated Lab Samples: 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/11/21 13:43	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/11/21 13:43	
Acenaphthene	ug/L	ND	0.040	0.0069	11/11/21 13:43	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/11/21 13:43	
Anthracene	ug/L	ND	0.040	0.0054	11/11/21 13:43	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/11/21 13:43	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/11/21 13:43	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/11/21 13:43	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/11/21 13:43	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/11/21 13:43	
Chrysene	ug/L	ND	0.040	0.0094	11/11/21 13:43	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/11/21 13:43	
Fluoranthene	ug/L	ND	0.040	0.014	11/11/21 13:43	
Fluorene	ug/L	ND	0.040	0.0060	11/11/21 13:43	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/11/21 13:43	
Naphthalene	ug/L	ND	0.040	0.0088	11/11/21 13:43	
Phenanthrene	ug/L	ND	0.040	0.012	11/11/21 13:43	
Pyrene	ug/L	ND	0.040	0.0099	11/11/21 13:43	
2-Fluorobiphenyl (S)	%	70	52-125		11/11/21 13:43	
p-Terphenyl-d14 (S)	%	72	54-125		11/11/21 13:43	

LABORATORY CONTROL SAMPLE & LCSD: 4167784 4167785

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.79	0.79	79	79	34-125	0	20	
2-Methylnaphthalene	ug/L	1	0.80	0.80	80	80	34-125	0	20	
Acenaphthene	ug/L	1	0.82	0.82	82	82	35-125	1	20	
Acenaphthylene	ug/L	1	0.82	0.82	82	82	33-125	0	20	
Anthracene	ug/L	1	0.79	0.78	79	78	42-125	1	20	
Benzo(a)anthracene	ug/L	1	0.81	0.82	81	82	46-125	1	20	
Benzo(a)pyrene	ug/L	1	0.79	0.81	79	81	57-125	2	20	
Benzo(b)fluoranthene	ug/L	1	0.82	0.80	82	80	58-125	3	20	
Benzo(g,h,i)perylene	ug/L	1	0.82	0.84	82	84	55-125	2	20	
Benzo(k)fluoranthene	ug/L	1	0.82	0.87	82	87	55-125	5	20	
Chrysene	ug/L	1	0.79	0.79	79	79	56-125	0	20	
Dibenz(a,h)anthracene	ug/L	1	0.79	0.82	79	82	40-125	3	20	
Fluoranthene	ug/L	1	0.79	0.80	79	80	64-125	1	20	
Fluorene	ug/L	1	0.81	0.81	81	81	43-125	1	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.79	0.79	79	79	57-125	0	20	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

LABORATORY CONTROL SAMPLE & LCSD: 4167784		4167785								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.80	0.80	80	80	30-125	0	20	
Phenanthrene	ug/L	1	0.80	0.81	80	81	47-125	1	20	
Pyrene	ug/L	1	0.79	0.80	79	80	46-125	2	20	
2-Fluorobiphenyl (S)	%				79	78	52-125			
p-Terphenyl-d14 (S)	%				76	78	54-125			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 781940 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

METHOD BLANK: 4163996 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	11/09/21 00:05	
Motor Oil Range SG	mg/L	ND	0.40	0.18	11/09/21 00:05	
n-Triacontane (S)	%	78	50-150		11/09/21 00:05	
o-Terphenyl (S)	%	79	50-150		11/09/21 00:05	

LABORATORY CONTROL SAMPLE & LCSD: 4163997

Parameter	Units	4163998							RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits				
Diesel Fuel Range SG	mg/L	2	1.8	1.7	91	83	50-150	9	20		
Motor Oil Range SG	mg/L	2	1.8	1.7	90	84	50-150	7	20		
n-Triacontane (S)	%				91	80	50-150				
o-Terphenyl (S)	%				88	77	50-150				

SAMPLE DUPLICATE: 4163999

Parameter	Units	10586514002		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Diesel Fuel Range SG	mg/L	ND	ND		30	
Motor Oil Range SG	mg/L	ND	ND		30	
n-Triacontane (S)	%	71	61			
o-Terphenyl (S)	%	84	71			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 784360 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

METHOD BLANK: 4175582 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	11/17/21 14:43	

LABORATORY CONTROL SAMPLE & LCSD: 4175583 4175584

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	41.6	41.6	104	104	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4175585 4175586

Parameter	Units	10587057005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	149	40	40	189	190	100	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4175587 4175588

Parameter	Units	10587130005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	187	40	40	227	227	100	99	80-120	0	20	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 782447 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

METHOD BLANK: 4166083 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004, 10586514005, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	11/12/21 06:37	

LABORATORY CONTROL SAMPLE: 4166084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.7	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166085 4166086

Parameter	Units	10586514002		4166085		4166086		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Sulfate	mg/L	8.9	50	50	52.1	50.9	87	84	80-120	2	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166087 4166088

Parameter	Units	10586514003		4166087		4166088		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Sulfate	mg/L	11.4	50	50	51.3	52.4	80	82	80-120	2	20

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REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 781910	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, preserved
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586514005, 10586514006

METHOD BLANK: 4163804 Matrix: Water
Associated Lab Samples: 10586514005, 10586514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	11/05/21 13:10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586514

QC Batch: 783745 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586514002, 10586514003, 10586514004

METHOD BLANK: 4172689 Matrix: Water
Associated Lab Samples: 10586514002, 10586514003, 10586514004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.018	11/15/21 12:02	FS

LABORATORY CONTROL SAMPLE: 4172690

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	0.97	97	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172691 4172692

Parameter	Units	10587130001		4172692		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Nitrogen, NO2 plus NO3	mg/L	<0.020	1	1	0.74	0.74	73	73	90-110	0	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172693 4172694

Parameter	Units	10587037001		4172694		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Nitrogen, NO2 plus NO3	mg/L	0.041J	1	1	0.88	0.92	84	88	90-110	4	20

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 053831
Pace Project No.: 10586514

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 782242

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783118

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783397

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

FS The sample was filtered in the laboratory prior to analysis.

H1 Analysis conducted outside the recognized method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831
Pace Project No.: 10586514

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10586514002	PEO-MW-24A-202111	EPA Mod. 3510C	781940	NWTPH-Dx	782396
10586514003	PEO-MW-25-202111	EPA Mod. 3510C	781940	NWTPH-Dx	782396
10586514004	PEO-MW-21-202111	EPA Mod. 3510C	781940	NWTPH-Dx	782396
10586514005	PEO-MW-03-202111	EPA Mod. 3510C	781940	NWTPH-Dx	782396
10586514006	PEO-MW-06-202111	EPA Mod. 3510C	781940	NWTPH-Dx	782396
10586514001	TRIP BLANK-20211103	NWTPHGX	1771178	NWTPH-Gx	1771178
10586514002	PEO-MW-24A-202111	NWTPHGX	1771716	NWTPH-Gx	1771716
10586514003	PEO-MW-25-202111	NWTPHGX	1771716	NWTPH-Gx	1771716
10586514004	PEO-MW-21-202111	NWTPHGX	1771716	NWTPH-Gx	1771716
10586514005	PEO-MW-03-202111	NWTPHGX	1771716	NWTPH-Gx	1771716
10586514006	PEO-MW-06-202111	NWTPHGX	1771178	NWTPH-Gx	1771178
10586514002	PEO-MW-24A-202111	EPA 3010A	782388	EPA 6010D	782908
10586514003	PEO-MW-25-202111	EPA 3010A	782388	EPA 6010D	782908
10586514004	PEO-MW-21-202111	EPA 3010A	782388	EPA 6010D	782908
10586514005	PEO-MW-03-202111	EPA 3010A	782388	EPA 6010D	782908
10586514006	PEO-MW-06-202111	EPA 3010A	782388	EPA 6010D	782908
10586514002	PEO-MW-24A-202111	EPA 3020A	782386	EPA 6020A	782894
10586514003	PEO-MW-25-202111	EPA 3020A	782386	EPA 6020A	782894
10586514004	PEO-MW-21-202111	EPA 3020A	782386	EPA 6020A	782894
10586514005	PEO-MW-03-202111	EPA 3020A	782386	EPA 6020A	782894
10586514006	PEO-MW-06-202111	EPA 3020A	782386	EPA 6020A	782894
10586514002	PEO-MW-24A-202111	EPA Mod. 3510C	781866	EPA 8270E by SIM	782242
10586514003	PEO-MW-25-202111	EPA Mod. 3510C	781866	EPA 8270E by SIM	782242
10586514004	PEO-MW-21-202111	EPA Mod. 3510C	781866	EPA 8270E by SIM	782242
10586514005	PEO-MW-03-202111	EPA Mod. 3510C	781866	EPA 8270E by SIM	782242
10586514006	PEO-MW-06-202111	EPA Mod. 3510C	782814	EPA 8270E by SIM	783118
10586514001	TRIP BLANK-20211103	EPA 8260D	783397		
10586514002	PEO-MW-24A-202111	EPA 8260D	783397		
10586514003	PEO-MW-25-202111	EPA 8260D	783397		
10586514004	PEO-MW-21-202111	EPA 8260D	783397		
10586514005	PEO-MW-03-202111	EPA 8260D	783397		
10586514006	PEO-MW-06-202111	EPA 8260D	783397		
10586514002	PEO-MW-24A-202111	SM 2320B	784360		
10586514003	PEO-MW-25-202111	SM 2320B	784360		
10586514004	PEO-MW-21-202111	SM 2320B	784360		
10586514005	PEO-MW-03-202111	SM 2320B	784360		
10586514006	PEO-MW-06-202111	SM 2320B	784360		
10586514002	PEO-MW-24A-202111	EPA 300.0	782447		
10586514003	PEO-MW-25-202111	EPA 300.0	782447		
10586514004	PEO-MW-21-202111	EPA 300.0	782447		
10586514005	PEO-MW-03-202111	EPA 300.0	782447		
10586514006	PEO-MW-06-202111	EPA 300.0	782447		
10586514002	PEO-MW-24A-202111	EPA 353.2	783745		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831
Pace Project No.: 10586514

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10586514003	PEO-MW-25-202111	EPA 353.2	783745		
10586514004	PEO-MW-21-202111	EPA 353.2	783745		
10586514005	PEO-MW-03-202111	EPA 353.2	781910		
10586514006	PEO-MW-06-202111	EPA 353.2	781910		

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.

Section A Required Client Information: **Section B** Required Project Information: **Section C** Invoice Information:

Company: **ERM** Report To: **Rita Cooper** Attention: _____
 Address: **1050 SW 6th Ave, Suite 1650** Copy To: _____
 Portland, OR 97204
 Email To: **rita.cooper@erm.com** Purchase Order No.: _____
 Phone: **207-329-6320** Fax: _____
 Requested Due Date/AT: **Standard** Project Number: **053831** Project Name: _____
 Company Name: _____ Address: _____
 Pace Quote Reference: **Julie Bowser** Site Location: _____
 Manager: _____ Pace Profile #: _____ STATE: _____ OR _____

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME			DATE	TIME	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH				
1	TRIP BLANK-20211103	GW	G	11/3/21	8:00		6	-	-	-	-	-	-	-	-			
2	PEO-MW-24A-202111	GW	G	11/3/21	9:00		19	X	X	X	X	-	-	-	-			
3	PEO-MW-25-202111	GW	G	11/3/21	10:55		19	X	X	X	X	-	-	-	-			
4	PEO-MW-21-202111	GW	G	11/3/21	12:50		19	X	X	X	X	-	-	-	-			
5	PEO-MW-03-202111	GW	G	11/3/21	14:05		19	X	X	X	X	-	-	-	-			
6	PEO-MW-06-202111	GW	G	11/3/21	15:25		19	X	X	X	X	-	-	-	-			
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS: _____
 RELINQUISHED BY / AFFILIATION: **A. Johnson / ERM** DATE: **11/3/21** TIME: **17:00**
 ACCEPTED BY / AFFILIATION: **AC/PACE** DATE: **11/3/21** TIME: **11:05 AM**
 SAMPLE CONDITIONS: **Temp in °C** **Received on Ice (Y/N)** **Custody Sealed Cooler (Y/N)** **Samples Intact (Y/N)**

W0#: 10586514

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **A. Johnson** DATE Signed (MM/DD/YY): **11/3/21**
 SIGNATURE of SAMPLER: _____

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.
 F-ALL-C-020rev 07, 15-Feb-2007

Sample Condition Upon Receipt **Client Name:** ERM **Project #:** _____

Courier: Fed Ex UPS USPS Client
 Pace SpeeDee Commercial

Tracking Number: _____ See Exceptions
ENV-FRM-MIN4-0142

WO# : 10586514
PM: JMT **Due Date: 11/19/21**
CLIENT: ERM-Oregon

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459) OS418-LS **Type of Ice:** Wet Blue None Dry Melted
 T4(0254) T5(0489) 160285052

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 5.7/3.6/3.7/4.1 °C **Average Corrected Temp (no temp blank only):** _____ °C

Correction Factor: 0.003 **Cooler Temp Corrected w/temp blank:** 5.7/3.6/3.7/4.1 °C See Exceptions ENV-FRM-MIN4-0142
 1 Container

USDA Regulated Soil: (N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** 11/16/21

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <u>AC Mon</u> <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input checked="" type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Field Filtered Volume Received for Dissolved Tests? ^{JMB 11/5/21} <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. If no, write ID/ Date/Time on Container Below: See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Sample # <u>001-010</u> <u>9/5</u> <input type="checkbox"/> NaOH <input checked="" type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate <u>9/5</u>
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Positive for Res. <input type="checkbox"/> Yes <input type="checkbox"/> No See Exception <input type="checkbox"/> Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No ENV-FRM-MIN4-0142
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip <u>222321</u>
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. See Exception <input type="checkbox"/> ENV-FRM-MIN4-0140
Extra labels present on soil VOA or WIDRO containers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased): <u>317614</u> <input checked="" type="checkbox"/>
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: [Signature] **Date:** 11/5/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Internal Transfer Chain of Custody

C077



Samples Pre-Logged into eCOC.

State Of Origin: OR

Cert. Needed: Yes No

Owner Received Date: 11/5/2021 Results Requested By: 11/19/2021

Workorder: 10586514 Workorder Name: 053831

Report To	Subcontract To	Requested Analysis											
Julie Bowser Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone 612-607-6390	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858												

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers					NWTPH-Gx	Comments
						HCL VG9H						
1	TRIP BLANK-20211103	PS	11/3/2021 08:00	10586514001	Water	2					X	-01
2	PEO-MW-24A-202111	PS	11/3/2021 09:00	10586514002	Water	3					X	-04
3	PEO-MW-25-202111	PS	11/3/2021 10:55	10586514003	Water	3					X	-05
4	PEO-MW-21-202111	PS	11/3/2021 12:50	10586514004	Water	3					X	-06
5	PEO-MW-03-202111	PS	11/3/2021 14:05	10586514005	Water	3					X	-07
6	PEO-MW-06-202111	PS	11/3/2021 15:25	10586514006	Water	3					X	-08

L1427950
LAB USE ONLY

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	<i>J. Pace</i>	11/5/21 16:15	<i>[Signature]</i>	11/6/21 19:30	
2					
3					

Cooler Temperature on Receipt °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

5486 8882 8358

21/11/2021
JBE

Sample Receipt Checklist

COC Seal Present/Intact: Y N If Applicable

COC Signed/Accurate: Y N VOA Zero Headspace: Y N

Bottles arrive intact: Y N Pres. Correct/Check: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

RAD Screen <0.5 mR/hr: Y N



Pace Analytical Minnesota

Julie Bowser
1700 Elm Street, Ste. 200
Minneapolis, MN 55414

RE: 053831

Work Order Number: 2111198

November 23, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 6 sample(s) on 11/9/2021 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH
Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager



Date: 11/23/2021

CLIENT: Pace Analytical Minnesota
Project: 053831
Work Order: 2111198

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2111198-001	TRIP BLANK-20211103	11/03/2021 8:00 AM	11/09/2021 11:50 AM
2111198-002	PEO-MW-24A-202111	11/03/2021 9:00 AM	11/09/2021 11:50 AM
2111198-003	PEO-MW-25-202111	11/03/2021 10:55 AM	11/09/2021 11:50 AM
2111198-004	PEO-MW-21-202111	11/03/2021 12:50 PM	11/09/2021 11:50 AM
2111198-005	PEO-MW-03-202111	11/03/2021 2:05 PM	11/09/2021 11:50 AM
2111198-006	PEO-MW-06-202111	11/03/2021 3:25 PM	11/09/2021 11:50 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

CLIENT: Pace Analytical Minnesota
Project: 053831

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111198-001

Collection Date: 11/3/2021 8:00:00 AM

Client Sample ID: TRIP BLANK-20211103

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 4:39:49 PM
Surr: 1,4-Difluorobenzene	73.6	65 - 140		%Rec	1	11/12/2021 4:39:49 PM
Surr: Bromofluorobenzene	96.0	65 - 140		%Rec	1	11/12/2021 4:39:49 PM

Lab ID: 2111198-002

Collection Date: 11/3/2021 9:00:00 AM

Client Sample ID: PEO-MW-24A-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	11/18/2021 10:37:54 PM
Surr: 1-Chlorooctadecane	71.9	60 - 140		%Rec	1	11/18/2021 10:37:54 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 8:33:06 PM
Surr: 1,4-Difluorobenzene	73.8	65 - 140		%Rec	1	11/12/2021 8:33:06 PM
Surr: Bromofluorobenzene	96.6	65 - 140		%Rec	1	11/12/2021 8:33:06 PM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111198-003 **Collection Date:** 11/3/2021 10:55:00 AM
Client Sample ID: PEO-MW-25-202111 **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	11/18/2021 11:31:09 PM
Surr: 1-Chlorooctadecane	147	60 - 140	S	%Rec	1	11/18/2021 11:31:09 PM

NOTES:

S - Outlying surrogate recovery(ies) observed (high bias). Sample is non-detect; result meets QC requirements.

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 9:11:51 PM
Surr: 1,4-Difluorobenzene	74.4	65 - 140		%Rec	1	11/12/2021 9:11:51 PM
Surr: Bromofluorobenzene	97.6	65 - 140		%Rec	1	11/12/2021 9:11:51 PM

Lab ID: 2111198-004 **Collection Date:** 11/3/2021 12:50:00 PM
Client Sample ID: PEO-MW-21-202111 **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.3		µg/L	1	11/19/2021 12:25:01 AM
Surr: 1-Chlorooctadecane	147	60 - 140	S	%Rec	1	11/19/2021 12:25:01 AM

NOTES:

S - Outlying surrogate recovery(ies) observed (high bias). Sample is non-detect; result meets QC requirements.

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 9:50:45 PM
Surr: 1,4-Difluorobenzene	74.8	65 - 140		%Rec	1	11/12/2021 9:50:45 PM
Surr: Bromofluorobenzene	97.5	65 - 140		%Rec	1	11/12/2021 9:50:45 PM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111198-005

Collection Date: 11/3/2021 2:05:00 PM

Client Sample ID: PEO-MW-03-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	11/19/2021 1:18:46 AM
Surr: 1-Chlorooctadecane	125	60 - 140		%Rec	1	11/19/2021 1:18:46 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 10:29:41 PM
Surr: 1,4-Difluorobenzene	78.7	65 - 140		%Rec	1	11/12/2021 10:29:41 PM
Surr: Bromofluorobenzene	97.8	65 - 140		%Rec	1	11/12/2021 10:29:41 PM

Lab ID: 2111198-006

Collection Date: 11/3/2021 3:25:00 PM

Client Sample ID: PEO-MW-06-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	47.2	20.4		µg/L	1	11/19/2021 2:12:37 AM
Surr: 1-Chlorooctadecane	121	60 - 140		%Rec	1	11/19/2021 2:12:37 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	324	12.2		µg/L	1	11/12/2021 11:08:41 PM
Surr: 1,4-Difluorobenzene	87.8	65 - 140		%Rec	1	11/12/2021 11:08:41 PM
Surr: Bromofluorobenzene	98.5	65 - 140		%Rec	1	11/12/2021 11:08:41 PM

Work Order: 2111198
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-34348	SampType: MBLK	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: MBLKW	Batch ID: 34348					Analysis Date: 11/18/2021	SeqNo: 1454819				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	39.2		0	0						
Surr: 1-Chlorooctadecane	344		392.4		87.6	60	140				

Sample ID: 2111137-002AMS	SampType: MS	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: BATCH	Batch ID: 34348					Analysis Date: 11/18/2021	SeqNo: 1454822				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	352	39.6	495.4	0	71.1	70	130				
Surr: 1-Chlorooctadecane	340		396.3		85.7	60	140				

Sample ID: LCS-34348	SampType: LCS	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: LCSW	Batch ID: 34348					Analysis Date: 11/19/2021	SeqNo: 1454826				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	353	39.4	492.8	0	71.7	70	130				
Surr: 1-Chlorooctadecane	360		394.2		91.2	60	140				

Sample ID: LCSD-34348	SampType: LCSD	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: LCSW02	Batch ID: 34348					Analysis Date: 11/19/2021	SeqNo: 1454827				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	351	39.4	492.7	0	71.3	70	130	353.3	0.553	20	
Surr: 1-Chlorooctadecane	357		394.2		90.5	60	140		0		

Work Order: 2111198
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-34397	SampType: LCS	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: LCSW	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452055					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	196	25.0	200.0	0	98.2	70	130				
Surr: 1,4-Difluorobenzene	50.3		50.00		101	65	140				
Surr: Bromofluorobenzene	49.3		50.00		98.6	65	140				

Sample ID: MB-34397	SampType: MBLK	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: MBLKW	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452061					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0						
Surr: 1,4-Difluorobenzene	35.5		50.00		70.9	65	140				
Surr: Bromofluorobenzene	45.5		50.00		91.1	65	140				

Sample ID: 2111137-004BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: BATCH	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452035					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	37.4		50.00		74.8	65	140		0		
Surr: Bromofluorobenzene	48.0		50.00		96.1	65	140		0		

Sample ID: 2111199-007BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: BATCH	Batch ID: 34397				Analysis Date: 11/13/2021	SeqNo: 1452050					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	37.2		50.00		74.4	65	140		0		
Surr: Bromofluorobenzene	46.4		50.00		92.7	65	140		0		

Work Order: 2111198
CLIENT: Pace Analytical Minnesota
Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: 2111198-006BMS	SampType: MS	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: PEO-MW-06-202111	Batch ID: 34397				Analysis Date: 11/13/2021	SeqNo: 1452042					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	507	25.0	200.0	324.0	91.7	70	130				
Surr: 1,4-Difluorobenzene	52.5		50.00		105	65	140				
Surr: Bromofluorobenzene	49.3		50.00		98.7	65	140				

Client Name: **PACEMI**
 Logged by: **Clare Griggs**

Work Order Number: **2111198**
 Date Received: **11/9/2021 11:50:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
 4. Shipping container/cooler in good condition? Yes No
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes No Not Present
 6. Was an attempt made to cool the samples? Yes No NA
 7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
 8. Sample(s) in proper container(s)? Yes No
 9. Sufficient sample volume for indicated test(s)? Yes No
 10. Are samples properly preserved? Yes No
 11. Was preservative added to bottles? Yes No NA
 12. Is there headspace in the VOA vials? Yes No NA
 13. Did all samples containers arrive in good condition(unbroken)? Yes No
 14. Does paperwork match bottle labels? Yes No
 15. Are matrices correctly identified on Chain of Custody? Yes No
 16. Is it clear what analyses were requested? Yes No
 17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	4.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody

PASI Minnesota Laboratory



Workorder: 10586514

Workorder Name: 053831

Results Requested By: 11/19/2021

2111198



www.pacelabs.com

Report / Invoice To

Subcontract To

Requested Analysis

Julie Bowser
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone 612-607-6390
Email: julie.bowser@pacelabs.com

Fremont Analytical
3600 Fremont Ave. N
Seattle, WA 98103

P.O. 10586514

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Date/Time	Comments
					HCL VG&H + AG1H			
1	TRIP BLANK-20211103	11/3/2021 08:00	10586514001	Water	X			
2	PEO-MW-24A-202111	11/3/2021 09:00	10586514002	Water	X			
3	PEO-MW-25-202111	11/3/2021 10:55	10586514003	Water	X			
4	PEO-MW-21-202111	11/3/2021 12:50	10586514004	Water	X			
5	PEO-MW-03-202111	11/3/2021 14:05	10586514005	Water	X			
6	PEO-MW-06-202111	11/3/2021 15:25	10586514006	Water	X			

Transfers	Released By	Date/Time	Received By	Date/Time	Received on Ice	Samples Intact
1	<i>Julie Bowser</i>	11/18/21 15:30	<i>Oliver Torres</i>	11/09/21 11:58	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2					<input type="radio"/>	<input type="radio"/>
3					<input type="radio"/>	<input type="radio"/>

Report to MDL
EQUIS EDD needed

Cooler Temperature on Receipt 4.0 °C Custody Seal or Received on Ice or Samples Intact or

November 29, 2021

Joe Casey
ERM Portland
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

RE: Project: 053831
Pace Project No.: 10586578

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Minneapolis

The newest method revisions, 8260D and 8270E were analyzed on this project due to Pace no longer offering them.

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

Sincerely,



Julie Bowser
julie.bowser@pacelabs.com
612-607-6390
Project Manager

Enclosures

cc: Rita Cooper, ERM Portland
ERM Global EDD Mailbox, ERM
Stephanie Frith, ERM Portland
Rachel James, ERM Portland



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 053831
Pace Project No.: 10586578

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008

Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831
Pace Project No.: 10586578

Pace Analytical Services National

Nevada Certification #: TN-03-2002-34	Tennessee DW/Chem/Micro Certification #: 2006
New Hampshire Certification #: 2975	Texas Mold Certification #: LAB0152
New Jersey Certification #: TN002	Texas Certification #: T 104704245-17-14
New Mexico DW Certification	USDA Soil Permit #: P330-15-00234
New York Certification #: 11742	Utah Certification #: TN00003
North Carolina Aquatic Toxicity Certification #: 41	Vermont Dept. of Health: ID# VT-2006
North Carolina Drinking Water Certification #: 21704	Virginia Certification #: VT2006
North Carolina Environmental Certificate #: 375	Virginia Certification #: 460132
North Dakota Certification #: R-140	Washington Certification #: C847
Ohio VAP Certification #: CL0069	West Virginia Certification #: 233
Oklahoma Certification #: 9915	Wisconsin Certification #: 998093910
Oregon Certification #: TN200002	Wyoming UST Certification #: via A2LA 2926.01
Pennsylvania Certification #: 68-02979	A2LA-ISO 17025 Certification #: 1461.01
Rhode Island Certification #: LAO00356	A2LA-ISO 17025 Certification #: 1461.02
South Carolina Certification #: 84004	AIHA-LAP/LLC EMLAP Certification #:100789
South Dakota Certification	

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 053831
Pace Project No.: 10586578

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10586578001	TRIP BLANK-20211104	Water	11/04/21 08:00	11/05/21 18:30
10586578002	PEO-MW-19-202111	Water	11/04/21 08:55	11/05/21 18:30
10586578003	PEO-MW-44-202111	Water	11/04/21 10:00	11/05/21 18:30
10586578004	PEO-MW-31-202111	Water	11/04/21 11:05	11/05/21 18:30
10586578005	PEO-MW-18-202111	Water	11/04/21 12:05	11/05/21 18:30
10586578006	PEO-MW-30-202111	Water	11/04/21 13:45	11/05/21 18:30
10586578007	PEO-MW-08-202111	Water	11/04/21 14:55	11/05/21 18:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831
Pace Project No.: 10586578

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10586578001	TRIP BLANK-20211104	NWTPH-Gx	ACG	2	PAN
		EPA 8260D	ZH	8	PASI-M
10586578002	PEO-MW-19-202111	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
		10586578003	PEO-MW-44-202111	NWTPH-Dx	TT2
NWTPH-Gx	ACG			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	WBS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M
EPA 353.2	AR3			1	PASI-M
10586578004	PEO-MW-31-202111			NWTPH-Dx	TT2
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
		10586578005	PEO-MW-18-202111	NWTPH-Dx	TT2
NWTPH-Gx	ACG			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	WBS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831
Pace Project No.: 10586578

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10586578006	PEO-MW-30-202111	EPA 353.2	AR3	1	PASI-M
		NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10586578007	PEO-MW-08-202111	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	WBS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M

PAN = Pace National - Mt. Juliet

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: TRIP BLANK-20211104 Lab ID: 10586578001 Collected: 11/04/21 08:00 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	38.2J	ug/L	100	31.6	1	11/11/21 12:24	11/11/21 12:24		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/11/21 12:24	11/11/21 12:24	98-08-8FID	
8260D MSV UST									
Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 18:16	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 18:16	100-41-4	
Toluene	0.67J	ug/L	1.0	0.11	1		11/12/21 18:16	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 18:16	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 18:16	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/12/21 18:16	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/12/21 18:16	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 18:16	2037-26-5	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-19-202111 Lab ID: 10586578002 Collected: 11/04/21 08:55 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.13J	mg/L	0.40	0.12	1	11/08/21 11:09	11/20/21 01:21	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/08/21 11:09	11/20/21 01:21	64742-65-0	
Surrogates									
o-Terphenyl (S)	92	%	50-150		1	11/08/21 11:09	11/20/21 01:21	84-15-1	
n-Triacontane (S)	95	%	50-150		1	11/08/21 11:09	11/20/21 01:21		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/11/21 13:33	11/11/21 13:33		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/11/21 13:33	11/11/21 13:33	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	75100	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:11		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.43J	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:36	7440-38-2	
Manganese, Dissolved	1540	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 20:39	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0070	1	11/08/21 13:14	11/09/21 13:01	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 13:01	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/08/21 13:14	11/09/21 13:01	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/08/21 13:14	11/09/21 13:01	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/08/21 13:14	11/09/21 13:01	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/08/21 13:14	11/09/21 13:01	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/08/21 13:14	11/09/21 13:01	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/08/21 13:14	11/09/21 13:01	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/08/21 13:14	11/09/21 13:01	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/08/21 13:14	11/09/21 13:01	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/08/21 13:14	11/09/21 13:01	206-44-0	
Fluorene	0.0091J	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 13:01	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/08/21 13:14	11/09/21 13:01	193-39-5	
1-Methylnaphthalene	0.0086J	ug/L	0.041	0.0069	1	11/08/21 13:14	11/09/21 13:01	90-12-0	
2-Methylnaphthalene	0.0096J	ug/L	0.041	0.0084	1	11/08/21 13:14	11/09/21 13:01	91-57-6	
Naphthalene	ND	ug/L	0.041	0.0090	1	11/08/21 13:14	11/09/21 13:01	91-20-3	
Phenanthrene	0.016J	ug/L	0.041	0.012	1	11/08/21 13:14	11/09/21 13:01	85-01-8	
Pyrene	0.019J	ug/L	0.041	0.010	1	11/08/21 13:14	11/09/21 13:01	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	78	%	52-125		1	11/08/21 13:14	11/09/21 13:01	321-60-8	
p-Terphenyl-d14 (S)	76	%	54-125		1	11/08/21 13:14	11/09/21 13:01	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-19-202111 Lab ID: 10586578002 Collected: 11/04/21 08:55 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 20:21	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 20:21	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 20:21	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 20:21	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 20:21	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/12/21 20:21	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/12/21 20:21	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 20:21	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	134	mg/L	5.0	1.8	1		11/18/21 15:39		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	8.7	mg/L	1.2	0.34	1		11/12/21 16:07	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 20:23	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-44-202111 Lab ID: 10586578003 Collected: 11/04/21 10:00 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/08/21 11:09	11/20/21 01:43	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/08/21 11:09	11/20/21 01:43	64742-65-0	
Surrogates									
o-Terphenyl (S)	67	%	50-150		1	11/08/21 11:09	11/20/21 01:43	84-15-1	
n-Triacontane (S)	65	%	50-150		1	11/08/21 11:09	11/20/21 01:43		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/11/21 13:57	11/11/21 13:57		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/11/21 13:57	11/11/21 13:57	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	75500	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:13		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	2.1	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:42	7440-38-2	
Manganese, Dissolved	329	ug/L	0.50	0.20	1	11/10/21 06:03	11/16/21 20:42	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.0081J	ug/L	0.040	0.0069	1	11/08/21 13:14	11/09/21 13:23	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/08/21 13:14	11/09/21 13:23	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/08/21 13:14	11/09/21 13:23	120-12-7	
Benzo(a)anthracene	0.011J	ug/L	0.040	0.0090	1	11/08/21 13:14	11/09/21 13:23	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/08/21 13:14	11/09/21 13:23	50-32-8	
Benzo(b)fluoranthene	0.010J	ug/L	0.040	0.0095	1	11/08/21 13:14	11/09/21 13:23	205-99-2	
Benzo(g,h,i)perylene	0.010J	ug/L	0.040	0.0081	1	11/08/21 13:14	11/09/21 13:23	191-24-2	
Benzo(k)fluoranthene	0.0091J	ug/L	0.040	0.0083	1	11/08/21 13:14	11/09/21 13:23	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/08/21 13:14	11/09/21 13:23	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/08/21 13:14	11/09/21 13:23	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/08/21 13:14	11/09/21 13:23	206-44-0	
Fluorene	ND	ug/L	0.040	0.0060	1	11/08/21 13:14	11/09/21 13:23	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/08/21 13:14	11/09/21 13:23	193-39-5	
1-Methylnaphthalene	0.0098J	ug/L	0.040	0.0067	1	11/08/21 13:14	11/09/21 13:23	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.040	0.0083	1	11/08/21 13:14	11/09/21 13:23	91-57-6	
Naphthalene	ND	ug/L	0.040	0.0088	1	11/08/21 13:14	11/09/21 13:23	91-20-3	
Phenanthrene	0.014J	ug/L	0.040	0.012	1	11/08/21 13:14	11/09/21 13:23	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	11/08/21 13:14	11/09/21 13:23	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%	52-125		1	11/08/21 13:14	11/09/21 13:23	321-60-8	
p-Terphenyl-d14 (S)	62	%	54-125		1	11/08/21 13:14	11/09/21 13:23	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-44-202111 Lab ID: 10586578003 Collected: 11/04/21 10:00 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.21J	ug/L	1.0	0.12	1		11/12/21 20:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 20:36	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 20:36	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 20:36	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 20:36	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/12/21 20:36	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/12/21 20:36	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 20:36	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	107	mg/L	5.0	1.8	1		11/18/21 15:44		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	15.4	mg/L	1.2	0.34	1		11/12/21 16:23	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 20:28	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-31-202111 Lab ID: 10586578004 Collected: 11/04/21 11:05 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.42	mg/L	0.39	0.12	1	11/08/21 11:09	11/20/21 01:55	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.39	0.18	1	11/08/21 11:09	11/20/21 01:55	64742-65-0	
Surrogates									
o-Terphenyl (S)	80	%	50-150		1	11/08/21 11:09	11/20/21 01:55	84-15-1	
n-Triacontane (S)	84	%	50-150		1	11/08/21 11:09	11/20/21 01:55		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/11/21 14:20	11/11/21 14:20		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/11/21 14:20	11/11/21 14:20	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	173000	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:15		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.21J	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 20:48	7440-38-2	
Manganese, Dissolved	1220	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 20:51	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0070	1	11/08/21 13:14	11/09/21 17:13	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 17:13	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/08/21 13:14	11/09/21 17:13	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/08/21 13:14	11/09/21 17:13	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/08/21 13:14	11/09/21 17:13	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/08/21 13:14	11/09/21 17:13	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/08/21 13:14	11/09/21 17:13	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/08/21 13:14	11/09/21 17:13	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/08/21 13:14	11/09/21 17:13	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/08/21 13:14	11/09/21 17:13	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/08/21 13:14	11/09/21 17:13	206-44-0	
Fluorene	ND	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 17:13	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/08/21 13:14	11/09/21 17:13	193-39-5	
1-Methylnaphthalene	0.041	ug/L	0.041	0.0069	1	11/08/21 13:14	11/09/21 17:13	90-12-0	
2-Methylnaphthalene	0.021J	ug/L	0.041	0.0084	1	11/08/21 13:14	11/09/21 17:13	91-57-6	
Naphthalene	0.014J	ug/L	0.041	0.0090	1	11/08/21 13:14	11/09/21 17:13	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.012	1	11/08/21 13:14	11/09/21 17:13	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/08/21 13:14	11/09/21 17:13	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	59	%	52-125		1	11/08/21 13:14	11/09/21 17:13	321-60-8	
p-Terphenyl-d14 (S)	55	%	54-125		1	11/08/21 13:14	11/09/21 17:13	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-31-202111 Lab ID: 10586578004 Collected: 11/04/21 11:05 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 20:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 20:52	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 20:52	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 20:52	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 20:52	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/12/21 20:52	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		11/12/21 20:52	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		11/12/21 20:52	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	101	mg/L	5.0	1.8	1		11/18/21 15:49		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	95.5	mg/L	6.0	1.7	5		11/13/21 00:14	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 20:29	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-18-202111 Lab ID: 10586578005 Collected: 11/04/21 12:05 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.40J	mg/L	0.41	0.12	1	11/08/21 11:09	11/20/21 02:06	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.41	0.19	1	11/08/21 11:09	11/20/21 02:06	64742-65-0	
Surrogates									
o-Terphenyl (S)	64	%	50-150		1	11/08/21 11:09	11/20/21 02:06	84-15-1	
n-Triacontane (S)	66	%	50-150		1	11/08/21 11:09	11/20/21 02:06		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	48.4J	ug/L	100	31.6	1	11/11/21 14:43	11/11/21 14:43		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/11/21 14:43	11/11/21 14:43	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	119000	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:16		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	2.2	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 21:00	7440-38-2	
Manganese, Dissolved	1150	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 21:03	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.38	ug/L	0.041	0.0071	1	11/08/21 13:14	11/09/21 14:07	83-32-9	
Acenaphthylene	0.020J	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 14:07	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/08/21 13:14	11/09/21 14:07	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0093	1	11/08/21 13:14	11/09/21 14:07	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0091	1	11/08/21 13:14	11/09/21 14:07	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0098	1	11/08/21 13:14	11/09/21 14:07	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/08/21 13:14	11/09/21 14:07	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0085	1	11/08/21 13:14	11/09/21 14:07	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/08/21 13:14	11/09/21 14:07	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0082	1	11/08/21 13:14	11/09/21 14:07	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/08/21 13:14	11/09/21 14:07	206-44-0	
Fluorene	0.031J	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 14:07	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/08/21 13:14	11/09/21 14:07	193-39-5	
1-Methylnaphthalene	0.055	ug/L	0.041	0.0069	1	11/08/21 13:14	11/09/21 14:07	90-12-0	
2-Methylnaphthalene	0.023J	ug/L	0.041	0.0085	1	11/08/21 13:14	11/09/21 14:07	91-57-6	
Naphthalene	0.032J	ug/L	0.041	0.0090	1	11/08/21 13:14	11/09/21 14:07	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.013	1	11/08/21 13:14	11/09/21 14:07	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/08/21 13:14	11/09/21 14:07	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	69	%	52-125		1	11/08/21 13:14	11/09/21 14:07	321-60-8	
p-Terphenyl-d14 (S)	64	%	54-125		1	11/08/21 13:14	11/09/21 14:07	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-18-202111 Lab ID: 10586578005 Collected: 11/04/21 12:05 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.27J	ug/L	1.0	0.10	1		11/15/21 17:37	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 17:37	100-41-4	
Toluene	ND	ug/L	1.0	0.10	1		11/15/21 17:37	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.20	1		11/15/21 17:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 17:37	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		11/15/21 17:37	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/15/21 17:37	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/15/21 17:37	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	87.3	mg/L	5.0	1.8	1		11/18/21 15:54		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	94.1	mg/L	1.2	0.34	1		11/12/21 18:54	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 20:30	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-30-202111 Lab ID: 10586578006 Collected: 11/04/21 13:45 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.58	mg/L	0.40	0.12	1	11/08/21 11:09	11/20/21 02:17	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/08/21 11:09	11/20/21 02:17	64742-65-0	
Surrogates									
o-Terphenyl (S)	50	%	50-150		1	11/08/21 11:09	11/20/21 02:17	84-15-1	
n-Triacontane (S)	52	%	50-150		1	11/08/21 11:09	11/20/21 02:17		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	100J	ug/L	100	31.6	1	11/11/21 15:07	11/11/21 15:07		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/11/21 15:07	11/11/21 15:07	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	73200	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:21		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	18.3	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 21:06	7440-38-2	
Manganese, Dissolved	1760	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 21:09	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.20	ug/L	0.040	0.0069	1	11/08/21 13:14	11/09/21 17:33	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/08/21 13:14	11/09/21 17:33	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/08/21 13:14	11/09/21 17:33	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	11/08/21 13:14	11/09/21 17:33	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/08/21 13:14	11/09/21 17:33	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/08/21 13:14	11/09/21 17:33	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	11/08/21 13:14	11/09/21 17:33	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/08/21 13:14	11/09/21 17:33	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/08/21 13:14	11/09/21 17:33	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/08/21 13:14	11/09/21 17:33	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/08/21 13:14	11/09/21 17:33	206-44-0	
Fluorene	0.15	ug/L	0.040	0.0060	1	11/08/21 13:14	11/09/21 17:33	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/08/21 13:14	11/09/21 17:33	193-39-5	
1-Methylnaphthalene	0.061	ug/L	0.040	0.0067	1	11/08/21 13:14	11/09/21 17:33	90-12-0	
2-Methylnaphthalene	0.027J	ug/L	0.040	0.0083	1	11/08/21 13:14	11/09/21 17:33	91-57-6	
Naphthalene	0.19	ug/L	0.040	0.0088	1	11/08/21 13:14	11/09/21 17:33	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/08/21 13:14	11/09/21 17:33	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	11/08/21 13:14	11/09/21 17:33	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	55	%	52-125		1	11/08/21 13:14	11/09/21 17:33	321-60-8	
p-Terphenyl-d14 (S)	55	%	54-125		1	11/08/21 13:14	11/09/21 17:33	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-30-202111 Lab ID: 10586578006 Collected: 11/04/21 13:45 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.24J	ug/L	1.0	0.10	1		11/15/21 17:53	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 17:53	100-41-4	
Toluene	ND	ug/L	1.0	0.10	1		11/15/21 17:53	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.20	1		11/15/21 17:53	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 17:53	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		11/15/21 17:53	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/15/21 17:53	460-00-4	
Toluene-d8 (S)	104	%	75-125		1		11/15/21 17:53	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	86.7	mg/L	5.0	1.8	1		11/18/21 15:59		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	22.6	mg/L	1.2	0.34	1		11/12/21 19:09	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 20:32	14797-55-8	FS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-08-202111 Lab ID: 10586578007 Collected: 11/04/21 14:55 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.19J	mg/L	0.39	0.12	1	11/08/21 11:09	11/20/21 02:28	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.39	0.18	1	11/08/21 11:09	11/20/21 02:28	64742-65-0	
Surrogates									
o-Terphenyl (S)	77	%	50-150		1	11/08/21 11:09	11/20/21 02:28	84-15-1	
n-Triacontane (S)	80	%	50-150		1	11/08/21 11:09	11/20/21 02:28		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/11/21 15:30	11/11/21 15:30		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/11/21 15:30	11/11/21 15:30	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	56800	ug/L	3300	76.7	1	11/10/21 05:52	11/15/21 13:23		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	2.0	ug/L	0.50	0.083	1	11/10/21 06:03	11/16/21 21:12	7440-38-2	
Manganese, Dissolved	779	ug/L	5.0	2.0	10	11/10/21 06:03	11/16/21 21:15	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0070	1	11/08/21 13:14	11/09/21 14:52	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 14:52	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/08/21 13:14	11/09/21 14:52	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/08/21 13:14	11/09/21 14:52	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/08/21 13:14	11/09/21 14:52	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/08/21 13:14	11/09/21 14:52	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/08/21 13:14	11/09/21 14:52	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/08/21 13:14	11/09/21 14:52	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/08/21 13:14	11/09/21 14:52	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/08/21 13:14	11/09/21 14:52	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/08/21 13:14	11/09/21 14:52	206-44-0	
Fluorene	ND	ug/L	0.041	0.0062	1	11/08/21 13:14	11/09/21 14:52	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/08/21 13:14	11/09/21 14:52	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.041	0.0069	1	11/08/21 13:14	11/09/21 14:52	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.041	0.0084	1	11/08/21 13:14	11/09/21 14:52	91-57-6	
Naphthalene	0.017J	ug/L	0.041	0.0090	1	11/08/21 13:14	11/09/21 14:52	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.012	1	11/08/21 13:14	11/09/21 14:52	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/08/21 13:14	11/09/21 14:52	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	64	%	52-125		1	11/08/21 13:14	11/09/21 14:52	321-60-8	
p-Terphenyl-d14 (S)	64	%	54-125		1	11/08/21 13:14	11/09/21 14:52	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10586578

Sample: PEO-MW-08-202111 Lab ID: 10586578007 Collected: 11/04/21 14:55 Received: 11/05/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/12/21 21:08	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/12/21 21:08	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/12/21 21:08	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/12/21 21:08	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/12/21 21:08	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/12/21 21:08	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/12/21 21:08	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/12/21 21:08	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	25.3	mg/L	5.0	1.8	1		11/18/21 16:21		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	65.5	mg/L	1.2	0.34	1		11/12/21 19:24	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/05/21 20:33	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 1772575	Analysis Method: NWTPH-Gx
QC Batch Method: NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586578001, 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: R3729512-2 Matrix: Water
Associated Lab Samples: 10586578001, 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/11/21 11:07	
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/11/21 11:07	

LABORATORY CONTROL SAMPLE: R3729512-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5900	107	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			98.4	78.0-120	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 1772575	Analysis Method: NWTPH-Gx
QC Batch Method: 8021B/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586578001, 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: R3729512-2 Matrix: Water
Associated Lab Samples: 10586578001, 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/11/21 11:07	
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/11/21 11:07	

LABORATORY CONTROL SAMPLE: R3729512-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5900	107	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			98.4	78.0-120	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 782386 Analysis Method: EPA 6020A
QC Batch Method: EPA 3020A Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: 4165895 Matrix: Water
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	11/16/21 19:14	
Manganese, Dissolved	ug/L	ND	0.50	0.20	11/16/21 19:14	

LABORATORY CONTROL SAMPLE: 4165896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	97.7	98	80-120	
Manganese, Dissolved	ug/L	100	106	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4165897 4165898

Parameter	Units	10586514002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	1.2	100	100	97.8	95.9	97	95	75-125	2	20	
Manganese, Dissolved	ug/L	599	100	100	677	659	78	60	75-125	3	20	E,P6

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 783428 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586578001, 10586578002, 10586578003, 10586578004, 10586578007

METHOD BLANK: 4171000 Matrix: Water
Associated Lab Samples: 10586578001, 10586578002, 10586578003, 10586578004, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	11/12/21 12:45	
Ethylbenzene	ug/L	ND	1.0	0.069	11/12/21 12:45	
m&p-Xylene	ug/L	ND	2.0	0.18	11/12/21 12:45	
o-Xylene	ug/L	ND	1.0	0.12	11/12/21 12:45	
Toluene	ug/L	ND	1.0	0.11	11/12/21 12:45	
1,2-Dichlorobenzene-d4 (S)	%	101	70-130		11/12/21 12:45	
4-Bromofluorobenzene (S)	%	101	75-125		11/12/21 12:45	
Toluene-d8 (S)	%	101	75-125		11/12/21 12:45	

LABORATORY CONTROL SAMPLE & LCSD: 4171001

Parameter	Units	4171001		4171002		% Rec	% Rec	% Rec	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec						
Benzene	ug/L	20	18.8	18.8	94	94	73-125	0	20		
Ethylbenzene	ug/L	20	17.8	17.6	89	88	75-125	1	20		
m&p-Xylene	ug/L	40	36.2	35.8	90	90	75-125	1	20		
o-Xylene	ug/L	20	17.5	17.6	87	88	75-125	0	20		
Toluene	ug/L	20	17.8	17.7	89	89	75-125	1	20		
1,2-Dichlorobenzene-d4 (S)	%				100	100	70-130				
4-Bromofluorobenzene (S)	%				102	101	75-125				
Toluene-d8 (S)	%				101	100	75-125				

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 783858	Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D	Analysis Description: 8260D MSV UST-WATER
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586578005, 10586578006

METHOD BLANK: 4173111 Matrix: Water

Associated Lab Samples: 10586578005, 10586578006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.10	11/15/21 15:47	
Ethylbenzene	ug/L	ND	1.0	0.11	11/15/21 15:47	
m&p-Xylene	ug/L	ND	2.0	0.20	11/15/21 15:47	
o-Xylene	ug/L	ND	1.0	0.18	11/15/21 15:47	
Toluene	ug/L	ND	1.0	0.10	11/15/21 15:47	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		11/15/21 15:47	
4-Bromofluorobenzene (S)	%	102	75-125		11/15/21 15:47	
Toluene-d8 (S)	%	102	75-125		11/15/21 15:47	

LABORATORY CONTROL SAMPLE & LCSD: 4173112 4173113

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.3	18.9	97	95	73-125	2	20	
Ethylbenzene	ug/L	20	17.8	17.5	89	87	75-125	2	20	
m&p-Xylene	ug/L	40	36.0	35.5	90	89	75-125	1	20	
o-Xylene	ug/L	20	17.7	17.5	89	88	75-125	1	20	
Toluene	ug/L	20	17.9	17.9	90	89	75-125	0	20	
1,2-Dichlorobenzene-d4 (S)	%				101	101	70-130			
4-Bromofluorobenzene (S)	%				104	103	75-125			
Toluene-d8 (S)	%				100	101	75-125			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 782210 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: 4165217 Matrix: Water
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/09/21 09:21	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/09/21 09:21	
Acenaphthene	ug/L	ND	0.040	0.0069	11/09/21 09:21	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/09/21 09:21	
Anthracene	ug/L	ND	0.040	0.0054	11/09/21 09:21	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/09/21 09:21	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/09/21 09:21	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/09/21 09:21	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/09/21 09:21	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/09/21 09:21	
Chrysene	ug/L	ND	0.040	0.0094	11/09/21 09:21	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/09/21 09:21	
Fluoranthene	ug/L	ND	0.040	0.014	11/09/21 09:21	
Fluorene	ug/L	ND	0.040	0.0060	11/09/21 09:21	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/09/21 09:21	
Naphthalene	ug/L	ND	0.040	0.0088	11/09/21 09:21	
Phenanthrene	ug/L	ND	0.040	0.012	11/09/21 09:21	
Pyrene	ug/L	ND	0.040	0.0099	11/09/21 09:21	
2-Fluorobiphenyl (S)	%	74	52-125		11/09/21 09:21	
p-Terphenyl-d14 (S)	%	73	54-125		11/09/21 09:21	

LABORATORY CONTROL SAMPLE & LCSD: 4165218

4165219

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.76	0.62	76	62	34-125	21	20	R1
2-Methylnaphthalene	ug/L	1	0.76	0.62	76	62	34-125	21	20	R1
Acenaphthene	ug/L	1	0.78	0.66	78	66	35-125	17	20	
Acenaphthylene	ug/L	1	0.78	0.67	78	67	33-125	16	20	
Anthracene	ug/L	1	0.75	0.73	75	73	42-125	3	20	
Benzo(a)anthracene	ug/L	1	0.77	0.77	77	77	46-125	1	20	
Benzo(a)pyrene	ug/L	1	0.76	0.76	76	76	57-125	0	20	
Benzo(b)fluoranthene	ug/L	1	0.76	0.76	76	76	58-125	0	20	
Benzo(g,h,i)perylene	ug/L	1	0.73	0.73	73	73	55-125	0	20	
Benzo(k)fluoranthene	ug/L	1	0.78	0.77	78	77	55-125	1	20	
Chrysene	ug/L	1	0.76	0.76	76	76	56-125	0	20	
Dibenz(a,h)anthracene	ug/L	1	0.67	0.69	67	69	40-125	2	20	
Fluoranthene	ug/L	1	0.73	0.74	73	74	64-125	2	20	
Fluorene	ug/L	1	0.76	0.69	76	69	43-125	9	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.79	0.78	79	78	57-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

LABORATORY CONTROL SAMPLE & LCSD:		4165218	4165219				% Rec		Max	
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.77	0.61	77	61	30-125	22	20	R1
Phenanthrene	ug/L	1	0.77	0.74	77	74	47-125	3	20	
Pyrene	ug/L	1	0.75	0.75	75	75	46-125	1	20	
2-Fluorobiphenyl (S)	%				77	61	52-125			
p-Terphenyl-d14 (S)	%				75	71	54-125			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 782137 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: 4165013 Matrix: Water
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	11/20/21 00:47	
Motor Oil Range SG	mg/L	ND	0.40	0.18	11/20/21 00:47	
n-Triacontane (S)	%	75	50-150		11/20/21 00:47	
o-Terphenyl (S)	%	75	50-150		11/20/21 00:47	

LABORATORY CONTROL SAMPLE & LCSD: 4165014 4165015

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.1	1.7	57	84	50-150	39	20	R1
Motor Oil Range SG	mg/L	2	1.2	1.7	60	87	50-150	36	20	R1
n-Triacontane (S)	%				52	80	50-150			
o-Terphenyl (S)	%				50	74	50-150			

SAMPLE DUPLICATE: 4165016

Parameter	Units	10586578002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	0.13J	ND		30	
Motor Oil Range SG	mg/L	ND	ND		30	
n-Triacontane (S)	%	95	27			P2,S0
o-Terphenyl (S)	%	92	28			P2,S0

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 784720 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: 4177357 Matrix: Water
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	11/18/21 13:57	

LABORATORY CONTROL SAMPLE & LCSD: 4177358 4177359

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	40.8	40.3	102	101	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4177360 4177361

Parameter	Units	10586562001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	65.9	40	40	105	104	97	96	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4177362 4177363

Parameter	Units	10586578006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	86.7	40	40	125	124	96	94	80-120	1	20	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch: 782447 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: 4166083 Matrix: Water
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	11/12/21 06:37	

LABORATORY CONTROL SAMPLE: 4166084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.7	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166085 4166086

Parameter	Units	10586514002		4166085		4166086		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Sulfate	mg/L	8.9	50	50	50	52.1	50.9	87	84	80-120	2	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166087 4166088

Parameter	Units	10586514003		4166087		4166088		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Sulfate	mg/L	11.4	50	50	50	51.3	52.4	80	82	80-120	2	20

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10586578

QC Batch:	781985	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, preserved
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

METHOD BLANK: 4164286 Matrix: Water
Associated Lab Samples: 10586578002, 10586578003, 10586578004, 10586578005, 10586578006, 10586578007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	11/05/21 20:26	FS

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QUALIFIERS

Project: 053831
Pace Project No.: 10586578

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 782461

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783428

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783858

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

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

FS The sample was filtered in the laboratory prior to analysis.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

P2 Re-extraction or re-analysis could not be performed due to insufficient sample amount.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

R1 RPD value was outside control limits.

S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831
Pace Project No.: 10586578

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10586578002	PEO-MW-19-202111	EPA Mod. 3510C	782137	NWTPH-Dx	782584
10586578003	PEO-MW-44-202111	EPA Mod. 3510C	782137	NWTPH-Dx	782584
10586578004	PEO-MW-31-202111	EPA Mod. 3510C	782137	NWTPH-Dx	782584
10586578005	PEO-MW-18-202111	EPA Mod. 3510C	782137	NWTPH-Dx	782584
10586578006	PEO-MW-30-202111	EPA Mod. 3510C	782137	NWTPH-Dx	782584
10586578007	PEO-MW-08-202111	EPA Mod. 3510C	782137	NWTPH-Dx	782584
10586578001	TRIP BLANK-20211104	NWTPHGx	1772575	NWTPH-Gx	1772575
10586578002	PEO-MW-19-202111	NWTPHGx	1772575	NWTPH-Gx	1772575
10586578003	PEO-MW-44-202111	NWTPHGx	1772575	NWTPH-Gx	1772575
10586578004	PEO-MW-31-202111	NWTPHGx	1772575	NWTPH-Gx	1772575
10586578005	PEO-MW-18-202111	NWTPHGx	1772575	NWTPH-Gx	1772575
10586578006	PEO-MW-30-202111	NWTPHGx	1772575	NWTPH-Gx	1772575
10586578007	PEO-MW-08-202111	NWTPHGx	1772575	NWTPH-Gx	1772575
10586578002	PEO-MW-19-202111	EPA 3010A	782388	EPA 6010D	782908
10586578003	PEO-MW-44-202111	EPA 3010A	782388	EPA 6010D	782908
10586578004	PEO-MW-31-202111	EPA 3010A	782388	EPA 6010D	782908
10586578005	PEO-MW-18-202111	EPA 3010A	782388	EPA 6010D	782908
10586578006	PEO-MW-30-202111	EPA 3010A	782388	EPA 6010D	782908
10586578007	PEO-MW-08-202111	EPA 3010A	782388	EPA 6010D	782908
10586578002	PEO-MW-19-202111	EPA 3020A	782386	EPA 6020A	782894
10586578003	PEO-MW-44-202111	EPA 3020A	782386	EPA 6020A	782894
10586578004	PEO-MW-31-202111	EPA 3020A	782386	EPA 6020A	782894
10586578005	PEO-MW-18-202111	EPA 3020A	782386	EPA 6020A	782894
10586578006	PEO-MW-30-202111	EPA 3020A	782386	EPA 6020A	782894
10586578007	PEO-MW-08-202111	EPA 3020A	782386	EPA 6020A	782894
10586578002	PEO-MW-19-202111	EPA Mod. 3510C	782210	EPA 8270E by SIM	782461
10586578003	PEO-MW-44-202111	EPA Mod. 3510C	782210	EPA 8270E by SIM	782461
10586578004	PEO-MW-31-202111	EPA Mod. 3510C	782210	EPA 8270E by SIM	782461
10586578005	PEO-MW-18-202111	EPA Mod. 3510C	782210	EPA 8270E by SIM	782461
10586578006	PEO-MW-30-202111	EPA Mod. 3510C	782210	EPA 8270E by SIM	782461
10586578007	PEO-MW-08-202111	EPA Mod. 3510C	782210	EPA 8270E by SIM	782461
10586578001	TRIP BLANK-20211104	EPA 8260D	783428		
10586578002	PEO-MW-19-202111	EPA 8260D	783428		
10586578003	PEO-MW-44-202111	EPA 8260D	783428		
10586578004	PEO-MW-31-202111	EPA 8260D	783428		
10586578005	PEO-MW-18-202111	EPA 8260D	783858		
10586578006	PEO-MW-30-202111	EPA 8260D	783858		
10586578007	PEO-MW-08-202111	EPA 8260D	783428		
10586578002	PEO-MW-19-202111	SM 2320B	784720		
10586578003	PEO-MW-44-202111	SM 2320B	784720		
10586578004	PEO-MW-31-202111	SM 2320B	784720		
10586578005	PEO-MW-18-202111	SM 2320B	784720		
10586578006	PEO-MW-30-202111	SM 2320B	784720		
10586578007	PEO-MW-08-202111	SM 2320B	784720		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831
Pace Project No.: 10586578

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10586578002	PEO-MW-19-202111	EPA 300.0	782447		
10586578003	PEO-MW-44-202111	EPA 300.0	782447		
10586578004	PEO-MW-31-202111	EPA 300.0	782447		
10586578005	PEO-MW-18-202111	EPA 300.0	782447		
10586578006	PEO-MW-30-202111	EPA 300.0	782447		
10586578007	PEO-MW-08-202111	EPA 300.0	782447		
10586578002	PEO-MW-19-202111	EPA 353.2	781985		
10586578003	PEO-MW-44-202111	EPA 353.2	781985		
10586578004	PEO-MW-31-202111	EPA 353.2	781985		
10586578005	PEO-MW-18-202111	EPA 353.2	781985		
10586578006	PEO-MW-30-202111	EPA 353.2	781985		
10586578007	PEO-MW-08-202111	EPA 353.2	781985		

REPORT OF LABORATORY ANALYSIS

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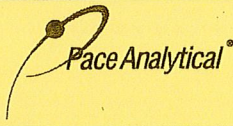
WO#: 10586578

10586578

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: ERM		Report To: Rita Cooper		Attention:	
Address: 1050 SW 6th Ave, Suite 1650 Portland, OR 97204		Copy To:		Company Name:	
Email To: rita.cooper@erm.com		Purchase Order No.:		Address:	
Phone: 207-329-6320 Fax:		Project Name: Julie Bowser		Pace Quote Reference:	
Requested Due Date/TAT: Standard		Project Number: 053831		Pace Project Manager:	
				Pace Profile #:	
REGULATORY AGENCY			REGULATORY AGENCY		
<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____			<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____		
Site Location		OR		STATE:	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SL OIL SOLID WIP AR OT TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Y/N	Requested Analysis Filtered (Y/N)											Pace Project No. / Lab I.D.											
				COMPOSITE START	COMPOSITE END				DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE		TIME										
1	TRIP BLANK-20211104		G	11/4/21	8:00		6		Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	GRG (NWTFH-GX)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTFH-VPH)	DRO (NWTFH-DX)	Dissolved Metals (As, Mn) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTFH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	001	
2	PEO-MW-19-202111		G	11/4/21	8:55		19	X	X	X	X	X	X	X	X	X	3	3	3	2	1	X	2	2	1	1	X	1	X	002	
3	PEO-MW-44-202111		G	11/4/21	10:00		19	X	X	X	X	X	X	X	X	X	3	3	3	2	1	X	2	2	1	1	X	1	X	003	
4	PEO-MW-31-202111		G	11/4/21	11:05		19	X	X	X	X	X	X	X	X	X	3	3	3	2	1	X	2	2	1	1	X	1	X	004	
5	PEO-MW-18-202111		G	11/4/21	12:05		19	X	X	X	X	X	X	X	X	X	3	3	3	2	1	X	2	2	1	1	X	1	X	005	
6	PEO-MW-30-202111		G	11/4/21	13:45		19	X	X	X	X	X	X	X	X	X	3	3	3	2	1	X	2	2	1	1	X	1	X	006	
7	PEO-MW-08-202111		G	11/4/21	14:55		19	X	X	X	X	X	X	X	X	X	3	3	3	2	1	X	2	2	1	1	X	1	X	007	
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		DATE		TIME		DATE		TIME		SAMPLE CONDITIONS	
	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	Temp in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
			A. Johnson / ERM		11/4/21	17:00								
SAMPLER NAME AND SIGNATURE														
PRINT Name of SAMPLER: A. Johnson														
SIGNATURE of SAMPLER:														
DATE Signed (MM/DD/YYYY): 11/4/21														



Document Name: Sample Condition Upon Receipt (SCUR) - MN

Document Revised: 14Apr2021 Page 1 of 1

Document No.: ENV-FRM-MIN4-0150 Rev.02

Pace Analytical Services - Minneapolis

Sample Condition Upon Receipt

Client Name: ERM

Project #:

WO#: 10586578

PM: JMT

Due Date: 11/22/21

CLIENT: ERM-Oregon

Courier: Fed Ex, UPS, USPS, Client, Pace, Speedee, Commercial

See Exceptions ENV-FRM-MIN4-0142

Tracking Number:

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap, Bubble Bags, None, Other: plastic bag Temp Blank? Yes No

Thermometer: T1(0461), T2(1336), T3(0459), OS418-LS, T4(0254), T5(0489), 160285052 Type of Ice: Wet, Blue, None, Dry, Melted

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A

Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: 1.5, 3.1, 2.4, 4.5 °C

Average Corrected Temp (no temp blank only): °C See Exceptions ENV-FRM-MIN4-0142 1 Container

Correction Factor: true Cooler Temp Corrected w/temp blank: 1.5, 3.1, 2.4, 4.5 °C

USDA Regulated Soil: N/A, water sample/Other:

Date/Initials of Person Examining Contents: SK 11/5/21

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

Table with 2 columns: Questions and COMMENTS. Contains 14 rows of questions regarding custody, analysis, and labeling.

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: Date/Time: Field Data Required? Yes No

Project Manager Review:

Date: 11/8/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by:

SK (3)



Document Name:
Headspace Exception

Document Revised: 26Mar2020
Page 1 of 1

Document No.:
ENV-FRM-MIN4-0140 Rev.00

Pace Analytical Services -
Minneapolis

Sample ID	Headspace greater than 6mm	Headspace less than 6mm	No Headspace	Total Vials	Sediment Present?
PEO-MW-19-20 2111	1	1	7	9	Y
44	1	0	8	↓	↓
31	1	1	7		
18	2	1	6		
30	1	3	5		
08	0	0	9		



Pace Analytical Minnesota

Julie Bowser
1700 Elm Street, Ste. 200
Minneapolis, MN 55414

RE: 053831

Work Order Number: 2111199

November 23, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 7 sample(s) on 11/9/2021 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH
Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager



Date: 11/23/2021

CLIENT: Pace Analytical Minnesota
Project: 053831
Work Order: 2111199

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2111199-001	TRIP BLANK-20211104	11/04/2021 8:00 AM	11/09/2021 11:47 AM
2111199-002	PEO-MW-19-202111	11/04/2021 8:55 AM	11/09/2021 11:47 AM
2111199-003	PEO-MW-44-202111	11/04/2021 10:00 AM	11/09/2021 11:47 AM
2111199-004	PEO-MW-31-202111	11/04/2021 11:05 AM	11/09/2021 11:47 AM
2111199-005	PEO-MW-18-202111	11/04/2021 12:05 PM	11/09/2021 11:47 AM
2111199-006	PEO-MW-30-202111	11/04/2021 1:45 PM	11/09/2021 11:47 AM
2111199-007	PEO-MW-08-202111	11/04/2021 2:55 PM	11/09/2021 11:47 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

CLIENT: Pace Analytical Minnesota

Project: 053831

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



CLIENT: Pace Analytical Minnesota

Project: 053831

Lab ID: 2111199-001

Collection Date: 11/4/2021 8:00:00 AM

Client Sample ID: TRIP BLANK-20211104

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/12/2021 5:18:55 PM
Surr: 1,4-Difluorobenzene	73.6	65 - 140		%Rec	1	11/12/2021 5:18:55 PM
Surr: Bromofluorobenzene	97.3	65 - 140		%Rec	1	11/12/2021 5:18:55 PM

Lab ID: 2111199-002

Collection Date: 11/4/2021 8:55:00 AM

Client Sample ID: PEO-MW-19-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/19/2021 3:35:12 PM
Surr: 1-Chlorooctadecane	112	60 - 140		%Rec	1	11/19/2021 3:35:12 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/13/2021 1:05:43 AM
Surr: 1,4-Difluorobenzene	74.4	65 - 140		%Rec	1	11/13/2021 1:05:43 AM
Surr: Bromofluorobenzene	97.5	65 - 140		%Rec	1	11/13/2021 1:05:43 AM



CLIENT: Pace Analytical Minnesota

Project: 053831

Lab ID: 2111199-003

Collection Date: 11/4/2021 10:00:00 AM

Client Sample ID: PEO-MW-44-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	11/19/2021 4:28:22 PM
Surr: 1-Chlorooctadecane	55.9	60 - 140	S	%Rec	1	11/19/2021 4:28:22 PM

NOTES:

S - Outlying surrogate recovery(ies) observed.

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/13/2021 1:44:32 AM
Surr: 1,4-Difluorobenzene	76.1	65 - 140		%Rec	1	11/13/2021 1:44:32 AM
Surr: Bromofluorobenzene	98.6	65 - 140		%Rec	1	11/13/2021 1:44:32 AM

Lab ID: 2111199-004

Collection Date: 11/4/2021 11:05:00 AM

Client Sample ID: PEO-MW-31-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	11/19/2021 5:21:51 PM
Surr: 1-Chlorooctadecane	71.0	60 - 140		%Rec	1	11/19/2021 5:21:51 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/13/2021 2:23:26 AM
Surr: 1,4-Difluorobenzene	74.1	65 - 140		%Rec	1	11/13/2021 2:23:26 AM
Surr: Bromofluorobenzene	95.0	65 - 140		%Rec	1	11/13/2021 2:23:26 AM



CLIENT: Pace Analytical Minnesota

Project: 053831

Lab ID: 2111199-005

Collection Date: 11/4/2021 12:05:00 PM

Client Sample ID: PEO-MW-18-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.3		µg/L	1	11/19/2021 6:15:27 PM
Surr: 1-Chlorooctadecane	103	60 - 140		%Rec	1	11/19/2021 6:15:27 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/13/2021 3:02:21 AM
Surr: 1,4-Difluorobenzene	74.8	65 - 140		%Rec	1	11/13/2021 3:02:21 AM
Surr: Bromofluorobenzene	95.2	65 - 140		%Rec	1	11/13/2021 3:02:21 AM

Lab ID: 2111199-006

Collection Date: 11/4/2021 1:45:00 PM

Client Sample ID: PEO-MW-30-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	11/19/2021 7:08:55 PM
Surr: 1-Chlorooctadecane	95.2	60 - 140		%Rec	1	11/19/2021 7:08:55 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/13/2021 3:41:10 AM
Surr: 1,4-Difluorobenzene	76.3	65 - 140		%Rec	1	11/13/2021 3:41:10 AM
Surr: Bromofluorobenzene	97.8	65 - 140		%Rec	1	11/13/2021 3:41:10 AM



CLIENT: Pace Analytical Minnesota

Project: 053831

Lab ID: 2111199-007

Collection Date: 11/4/2021 2:55:00 PM

Client Sample ID: PEO-MW-08-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34348

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/19/2021 8:02:42 PM
Surr: 1-Chlorooctadecane	97.4	60 - 140		%Rec	1	11/19/2021 8:02:42 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34397

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/13/2021 4:20:02 AM
Surr: 1,4-Difluorobenzene	76.6	65 - 140		%Rec	1	11/13/2021 4:20:02 AM
Surr: Bromofluorobenzene	95.8	65 - 140		%Rec	1	11/13/2021 4:20:02 AM

Work Order: 2111199
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-34348	SampType: MBLK	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: MBLKW	Batch ID: 34348					Analysis Date: 11/18/2021	SeqNo: 1454819				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	39.2		0	0						
Surr: 1-Chlorooctadecane	344		392.4		87.6	60	140				

Sample ID: 2111137-002AMS	SampType: MS	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: BATCH	Batch ID: 34348					Analysis Date: 11/18/2021	SeqNo: 1454822				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	352	39.6	495.4	0	71.1	70	130				
Surr: 1-Chlorooctadecane	340		396.3		85.7	60	140				

Sample ID: LCS-34348	SampType: LCS	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: LCSW	Batch ID: 34348					Analysis Date: 11/19/2021	SeqNo: 1454826				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	353	39.4	492.8	0	71.7	70	130				
Surr: 1-Chlorooctadecane	360		394.2		91.2	60	140				

Sample ID: LCSD-34348	SampType: LCSD	Units: µg/L				Prep Date: 11/8/2021	RunNo: 71434				
Client ID: LCSW02	Batch ID: 34348					Analysis Date: 11/19/2021	SeqNo: 1454827				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	351	39.4	492.7	0	71.3	70	130	353.3	0.553	20	
Surr: 1-Chlorooctadecane	357		394.2		90.5	60	140		0		

Work Order: 2111199
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-34397	SampType: LCS	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: LCSW	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452055					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	196	25.0	200.0	0	98.2	70	130				
Surr: 1,4-Difluorobenzene	50.3		50.00		101	65	140				
Surr: Bromofluorobenzene	49.3		50.00		98.6	65	140				

Sample ID: MB-34397	SampType: MBLK	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: MBLKW	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452061					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0						
Surr: 1,4-Difluorobenzene	35.5		50.00		70.9	65	140				
Surr: Bromofluorobenzene	45.5		50.00		91.1	65	140				

Sample ID: 2111137-004BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: BATCH	Batch ID: 34397				Analysis Date: 11/12/2021	SeqNo: 1452035					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	37.4		50.00		74.8	65	140		0		
Surr: Bromofluorobenzene	48.0		50.00		96.1	65	140		0		

Sample ID: 2111199-007BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/10/2021	RunNo: 71311					
Client ID: PEO-MW-08-202111	Batch ID: 34397				Analysis Date: 11/13/2021	SeqNo: 1452050					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	37.2		50.00		74.4	65	140		0		
Surr: Bromofluorobenzene	46.4		50.00		92.7	65	140		0		

Work Order: 2111199
CLIENT: Pace Analytical Minnesota
Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: 2111198-006BMS	SampType: MS	Units: µg/L	Prep Date: 11/10/2021	RunNo: 71311							
Client ID: BATCH	Batch ID: 34397		Analysis Date: 11/13/2021	SeqNo: 1452042							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	507	25.0	200.0	324.0	91.7	70	130				
Surr: 1,4-Difluorobenzene	52.5		50.00		105	65	140				
Surr: Bromofluorobenzene	49.3		50.00		98.7	65	140				

Client Name: **PACEMI**
 Logged by: **Clare Griggs**

Work Order Number: **2111199**
 Date Received: **11/9/2021 11:47:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
 4. Shipping container/cooler in good condition? Yes No
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes No Not Present
 6. Was an attempt made to cool the samples? Yes No NA
 7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
 8. Sample(s) in proper container(s)? Yes No
 9. Sufficient sample volume for indicated test(s)? Yes No
 10. Are samples properly preserved? Yes No
 11. Was preservative added to bottles? Yes No NA
 12. Is there headspace in the VOA vials? Yes No NA
 13. Did all samples containers arrive in good condition(unbroken)? Yes No
 14. Does paperwork match bottle labels? Yes No
 15. Are matrices correctly identified on Chain of Custody? Yes No
 16. Is it clear what analyses were requested? Yes No
 17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text" value="Julie Bowser"/>	Date:	<input type="text" value="11/9/2021"/>
By Whom:	<input type="text" value="Clare Griggs"/>	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text" value="Headspace"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	4.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody

PASI Minnesota Laboratory
 Workorder: 10586578

Worker Name: 053831

Results Requested By: 11/22/2021

Report / Invoice To: Julie Bowser
 Pace Analytical Minnesota
 1700 Elm Street
 Minneapolis, MN 55414
 Phone 612-607-6390
 Email: julie.bowser@pacelabs.com

Subcontract To: Fremont Analytical
 3600 Fremont Ave N
 Seattle WA, 98103

P.O. 10586578

2111199



State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Comments
					HCL VG9H + AG1H		
1	TRIP BLANK-20211104	11/4/2021 08:00	10586578001	Water	2		
2	PEO-MW-19-202111	11/4/2021 08:55	10586578002	Water	5		
3	PEO-MW-44-202111	11/4/2021 10:00	10586578003	Water	5		
4	PEO-MW-31-202111	11/4/2021 11:05	10586578004	Water	5		
5	PEO-MW-18-202111	11/4/2021 12:05	10586578005	Water	5		
6	PEO-MW-30-202111	11/4/2021 13:45	10586578006	Water	5		
7	PEO-MW-08-202111	11/4/2021 14:55	10586578007	Water	5		

Transfers	Released By	Date/Time	Received By	Date/Time	Custody Seal	Received on Ice	Samples Intact
1	<i>Julie Bowser</i>	11/18/21 5:20	<i>Steph FAF</i>	11/19/21 11:47	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

report to MDL
 EQUIS EDD needed

December 21, 2021

Joe Casey
ERM Portland
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

RE: Project: 053831-Revised Report
Pace Project No.: 10586716

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Minneapolis

The newest method revisions, 8260D and 8270E were analyzed on this project due to Pace no longer offering them.

This report was revised on December 21, 2021 to add the subcontract report.

This report was revised on December 16, 2021 to add NWTPH-Gx to the trip blank.

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

Sincerely,



Julie Bowser
julie.bowser@pacelabs.com
612-607-6390
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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December 21, 2021

Page 2

cc: Rita Cooper, ERM Portland
ERM Global EDD Mailbox, ERM
Stephanie Frith, ERM Portland
Rachel James, ERM Portland



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831-Revised Report
Pace Project No.: 10586716

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008

Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831-Revised Report

Pace Project No.: 10586716

Pace Analytical Services National

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 053831-Revised Report

Pace Project No.: 10586716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10586716001	TRIP BLANK-20211108	Water	11/08/21 08:00	11/09/21 18:30
10586716002	PEO-MW-41-202111	Water	11/08/21 09:05	11/09/21 18:30
10586716003	PEO-MW-40-202111	Water	11/08/21 10:40	11/09/21 18:30
10586716004	PEO-MW-45-202111	Water	11/08/21 12:10	11/09/21 18:30
10586716005	PEO-MW-28-202111	Water	11/08/21 13:35	11/09/21 18:30
10586716006	PEO-MW-Z1-202111	Water	11/08/21 13:40	11/09/21 18:30
10586716007	PEO-MW-29-202111	Water	11/08/21 15:45	11/09/21 18:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831-Revised Report

Pace Project No.: 10586716

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10586716001	TRIP BLANK-20211108	NWTPH-Gx	TM2	2	PASI-M
		EPA 8260D	ZH	8	PASI-M
10586716002	PEO-MW-41-202111	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	JAH	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	3	PASI-M
		10586716003	PEO-MW-40-202111	NWTPH-Dx	TT2
NWTPH-Gx	JAH			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	RJS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M
EPA 353.2	JFP			1	PASI-M
10586716004	PEO-MW-45-202111			NWTPH-Dx	TT2
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	1	PASI-M
		10586716005	PEO-MW-28-202111	NWTPH-Dx	TT2
NWTPH-Gx	ACG			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	RJS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831-Revised Report

Pace Project No.: 10586716

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10586716006	PEO-MW-Z1-202111	EPA 353.2	JFP	1	PASI-M
		NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
10586716007	PEO-MW-29-202111	EPA 353.2	JFP	1	PASI-M
		NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
EPA 353.2	JFP	1	PASI-M		

PAN = Pace National - Mt. Juliet

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: TRIP BLANK-20211108 **Lab ID: 10586716001** Collected: 11/08/21 08:00 Received: 11/09/21 18:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV									
Analytical Method: NWTPH-Gx									
Pace Analytical Services - Minneapolis									
TPH as Gas	ND	ug/L	100	42.8	1		12/07/21 12:03		H3
Surrogates									
a,a,a-Trifluorotoluene (S)	82	%	50-150		1		12/07/21 12:03	98-08-8	
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 00:47	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 00:47	100-41-4	
Toluene	0.75J	ug/L	1.0	0.11	1		11/13/21 00:47	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 00:47	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 00:47	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 00:47	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 00:47	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 00:47	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-41-202111 Lab ID: 10586716002 Collected: 11/08/21 09:05 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.41	0.12	1	11/10/21 14:01	11/19/21 23:17	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.41	0.19	1	11/10/21 14:01	11/19/21 23:17	64742-65-0	
Surrogates									
o-Terphenyl (S)	78	%	50-150		1	11/10/21 14:01	11/19/21 23:17	84-15-1	
n-Triacontane (S)	80	%	50-150		1	11/10/21 14:01	11/19/21 23:17		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	257	ug/L	100	31.6	1	11/12/21 23:05	11/12/21 23:05		B
Surrogates									
a,a,a-Trifluorotoluene (FID)	85.9	%	78.0-120		1	11/12/21 23:05	11/12/21 23:05	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	45800	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:01		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	1.6	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:15	7440-38-2	
Manganese, Dissolved	446	ug/L	0.50	0.20	1	11/12/21 13:56	11/19/21 23:15	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0071	1	11/10/21 13:22	11/11/21 20:23	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0063	1	11/10/21 13:22	11/11/21 20:23	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/10/21 13:22	11/11/21 20:23	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0093	1	11/10/21 13:22	11/11/21 20:23	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0091	1	11/10/21 13:22	11/11/21 20:23	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0098	1	11/10/21 13:22	11/11/21 20:23	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0084	1	11/10/21 13:22	11/11/21 20:23	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0085	1	11/10/21 13:22	11/11/21 20:23	207-08-9	
Chrysene	ND	ug/L	0.041	0.0097	1	11/10/21 13:22	11/11/21 20:23	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0082	1	11/10/21 13:22	11/11/21 20:23	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.015	1	11/10/21 13:22	11/11/21 20:23	206-44-0	
Fluorene	ND	ug/L	0.041	0.0062	1	11/10/21 13:22	11/11/21 20:23	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.012	1	11/10/21 13:22	11/11/21 20:23	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.041	0.0069	1	11/10/21 13:22	11/11/21 20:23	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.041	0.0085	1	11/10/21 13:22	11/11/21 20:23	91-57-6	
Naphthalene	ND	ug/L	0.041	0.0091	1	11/10/21 13:22	11/11/21 20:23	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.013	1	11/10/21 13:22	11/11/21 20:23	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/10/21 13:22	11/11/21 20:23	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%	52-125		1	11/10/21 13:22	11/11/21 20:23	321-60-8	
p-Terphenyl-d14 (S)	58	%	54-125		1	11/10/21 13:22	11/11/21 20:23	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-41-202111 Lab ID: 10586716002 Collected: 11/08/21 09:05 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.22J	ug/L	1.0	0.12	1		11/13/21 04:56	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 04:56	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 04:56	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 04:56	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 04:56	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 04:56	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 04:56	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 04:56	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	68.3	mg/L	5.0	1.8	1		11/20/21 17:44		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	0.55J	mg/L	1.2	0.34	1		11/12/21 21:25	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/15/21 12:01	14797-55-8	H1
Nitrite as N	0.035J	mg/L	0.10	0.011	1		11/10/21 09:25	14797-65-0	H5
Nitrogen, NO2 plus NO3	0.031J	mg/L	0.10	0.018	1		11/15/21 12:01		

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-40-202111 Lab ID: 10586716003 Collected: 11/08/21 10:40 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/10/21 14:01	11/19/21 23:40	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/10/21 14:01	11/19/21 23:40	64742-65-0	
Surrogates									
o-Terphenyl (S)	81	%	50-150		1	11/10/21 14:01	11/19/21 23:40	84-15-1	
n-Triacontane (S)	79	%	50-150		1	11/10/21 14:01	11/19/21 23:40		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/12/21 23:29	11/12/21 23:29		
Surrogates									
a,a,a-Trifluorotoluene (FID)	95.0	%	78.0-120		1	11/12/21 23:29	11/12/21 23:29	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	86700	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:02		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	4.3	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:18	7440-38-2	
Manganese, Dissolved	1330	ug/L	5.0	2.0	10	11/12/21 13:56	11/22/21 14:00	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.040	0.0070	1	11/10/21 13:22	11/11/21 20:45	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/10/21 13:22	11/11/21 20:45	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/10/21 13:22	11/11/21 20:45	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0091	1	11/10/21 13:22	11/11/21 20:45	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0089	1	11/10/21 13:22	11/11/21 20:45	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0096	1	11/10/21 13:22	11/11/21 20:45	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0082	1	11/10/21 13:22	11/11/21 20:45	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0084	1	11/10/21 13:22	11/11/21 20:45	207-08-9	
Chrysene	ND	ug/L	0.040	0.0095	1	11/10/21 13:22	11/11/21 20:45	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/10/21 13:22	11/11/21 20:45	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/10/21 13:22	11/11/21 20:45	206-44-0	
Fluorene	ND	ug/L	0.040	0.0061	1	11/10/21 13:22	11/11/21 20:45	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/10/21 13:22	11/11/21 20:45	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.040	0.0068	1	11/10/21 13:22	11/11/21 20:45	90-12-0	
2-Methylnaphthalene	0.0097J	ug/L	0.040	0.0084	1	11/10/21 13:22	11/11/21 20:45	91-57-6	
Naphthalene	ND	ug/L	0.040	0.0089	1	11/10/21 13:22	11/11/21 20:45	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/10/21 13:22	11/11/21 20:45	85-01-8	
Pyrene	ND	ug/L	0.040	0.010	1	11/10/21 13:22	11/11/21 20:45	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	73	%	52-125		1	11/10/21 13:22	11/11/21 20:45	321-60-8	
p-Terphenyl-d14 (S)	58	%	54-125		1	11/10/21 13:22	11/11/21 20:45	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-40-202111 Lab ID: 10586716003 Collected: 11/08/21 10:40 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 05:12	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 05:12	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 05:12	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 05:12	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 05:12	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 05:12	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 05:12	460-00-4	
Toluene-d8 (S)	101	%	75-125		1		11/13/21 05:12	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	44.5	mg/L	5.0	1.8	1		11/20/21 15:03		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	59.6	mg/L	1.2	0.34	1		11/12/21 21:40	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/10/21 09:26	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-45-202111 **Lab ID: 10586716004** Collected: 11/08/21 12:10 Received: 11/09/21 18:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/10/21 14:01	11/19/21 23:51	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/10/21 14:01	11/19/21 23:51	64742-65-0	
Surrogates									
o-Terphenyl (S)	66	%	50-150		1	11/10/21 14:01	11/19/21 23:51	84-15-1	
n-Triacontane (S)	70	%	50-150		1	11/10/21 14:01	11/19/21 23:51		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/14/21 02:31	11/14/21 02:31		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/14/21 02:31	11/14/21 02:31	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	58600	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:07		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.11J	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:22	7440-38-2	
Manganese, Dissolved	286	ug/L	0.50	0.20	1	11/12/21 13:56	11/19/21 23:22	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0071	1	11/10/21 13:22	11/11/21 21:07	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0063	1	11/10/21 13:22	11/11/21 21:07	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/10/21 13:22	11/11/21 21:07	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0093	1	11/10/21 13:22	11/11/21 21:07	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0091	1	11/10/21 13:22	11/11/21 21:07	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0098	1	11/10/21 13:22	11/11/21 21:07	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0084	1	11/10/21 13:22	11/11/21 21:07	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0085	1	11/10/21 13:22	11/11/21 21:07	207-08-9	
Chrysene	ND	ug/L	0.041	0.0097	1	11/10/21 13:22	11/11/21 21:07	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0082	1	11/10/21 13:22	11/11/21 21:07	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.015	1	11/10/21 13:22	11/11/21 21:07	206-44-0	
Fluorene	ND	ug/L	0.041	0.0062	1	11/10/21 13:22	11/11/21 21:07	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.012	1	11/10/21 13:22	11/11/21 21:07	193-39-5	
1-Methylnaphthalene	0.010J	ug/L	0.041	0.0069	1	11/10/21 13:22	11/11/21 21:07	90-12-0	
2-Methylnaphthalene	0.013J	ug/L	0.041	0.0085	1	11/10/21 13:22	11/11/21 21:07	91-57-6	
Naphthalene	0.0093J	ug/L	0.041	0.0091	1	11/10/21 13:22	11/11/21 21:07	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.013	1	11/10/21 13:22	11/11/21 21:07	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/10/21 13:22	11/11/21 21:07	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%	52-125		1	11/10/21 13:22	11/11/21 21:07	321-60-8	
p-Terphenyl-d14 (S)	65	%	54-125		1	11/10/21 13:22	11/11/21 21:07	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-45-202111 **Lab ID: 10586716004** Collected: 11/08/21 12:10 Received: 11/09/21 18:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 05:27	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 05:27	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 05:27	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 05:27	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 05:27	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 05:27	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 05:27	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 05:27	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	1.8J	mg/L	5.0	1.8	1		11/20/21 15:38		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	58.8	mg/L	1.2	0.34	1		11/12/21 21:56	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	0.74	mg/L	0.10	0.018	1		11/10/21 09:27	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-28-202111 Lab ID: 10586716005 Collected: 11/08/21 13:35 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/10/21 14:01	11/20/21 00:02	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/10/21 14:01	11/20/21 00:02	64742-65-0	
Surrogates									
o-Terphenyl (S)	78	%	50-150		1	11/10/21 14:01	11/20/21 00:02	84-15-1	
n-Triacontane (S)	80	%	50-150		1	11/10/21 14:01	11/20/21 00:02		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/14/21 02:55	11/14/21 02:55		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/14/21 02:55	11/14/21 02:55	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	44300	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:09		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.13J	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:25	7440-38-2	
Manganese, Dissolved	1.8	ug/L	0.50	0.20	1	11/12/21 13:56	11/19/21 23:25	7439-96-5	B
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0070	1	11/10/21 13:22	11/11/21 21:29	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0062	1	11/10/21 13:22	11/11/21 21:29	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/10/21 13:22	11/11/21 21:29	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/10/21 13:22	11/11/21 21:29	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/10/21 13:22	11/11/21 21:29	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/10/21 13:22	11/11/21 21:29	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/10/21 13:22	11/11/21 21:29	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/10/21 13:22	11/11/21 21:29	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/10/21 13:22	11/11/21 21:29	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/10/21 13:22	11/11/21 21:29	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/10/21 13:22	11/11/21 21:29	206-44-0	
Fluorene	ND	ug/L	0.041	0.0062	1	11/10/21 13:22	11/11/21 21:29	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/10/21 13:22	11/11/21 21:29	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.041	0.0069	1	11/10/21 13:22	11/11/21 21:29	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.041	0.0084	1	11/10/21 13:22	11/11/21 21:29	91-57-6	
Naphthalene	ND	ug/L	0.041	0.0090	1	11/10/21 13:22	11/11/21 21:29	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.012	1	11/10/21 13:22	11/11/21 21:29	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/10/21 13:22	11/11/21 21:29	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	52-125		1	11/10/21 13:22	11/11/21 21:29	321-60-8	
p-Terphenyl-d14 (S)	64	%	54-125		1	11/10/21 13:22	11/11/21 21:29	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-28-202111 **Lab ID: 10586716005** Collected: 11/08/21 13:35 Received: 11/09/21 18:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 05:43	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 05:43	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 05:43	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 05:43	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 05:43	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 05:43	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 05:43	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 05:43	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	55.4	mg/L	5.0	1.8	1		11/20/21 15:19		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	3.4	mg/L	1.2	0.34	1		11/12/21 22:11	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	1.7	mg/L	0.10	0.018	1		11/10/21 09:28	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-Z1-202111 Lab ID: 10586716006 Collected: 11/08/21 13:40 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/10/21 14:01	11/20/21 00:13	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/10/21 14:01	11/20/21 00:13	64742-65-0	
Surrogates									
o-Terphenyl (S)	51	%	50-150		1	11/10/21 14:01	11/20/21 00:13	84-15-1	
n-Triacontane (S)	50	%	50-150		1	11/10/21 14:01	11/20/21 00:13		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/14/21 03:18	11/14/21 03:18		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/14/21 03:18	11/14/21 03:18	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	45400	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:11		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	0.12J	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:28	7440-38-2	
Manganese, Dissolved	2.0	ug/L	0.50	0.20	1	11/12/21 13:56	11/19/21 23:28	7439-96-5	B
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0071	1	11/10/21 13:22	11/11/21 21:51	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0063	1	11/10/21 13:22	11/11/21 21:51	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/10/21 13:22	11/11/21 21:51	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0093	1	11/10/21 13:22	11/11/21 21:51	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0091	1	11/10/21 13:22	11/11/21 21:51	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0098	1	11/10/21 13:22	11/11/21 21:51	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0084	1	11/10/21 13:22	11/11/21 21:51	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0085	1	11/10/21 13:22	11/11/21 21:51	207-08-9	
Chrysene	ND	ug/L	0.041	0.0097	1	11/10/21 13:22	11/11/21 21:51	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0082	1	11/10/21 13:22	11/11/21 21:51	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.015	1	11/10/21 13:22	11/11/21 21:51	206-44-0	
Fluorene	ND	ug/L	0.041	0.0062	1	11/10/21 13:22	11/11/21 21:51	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.012	1	11/10/21 13:22	11/11/21 21:51	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.041	0.0069	1	11/10/21 13:22	11/11/21 21:51	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.041	0.0085	1	11/10/21 13:22	11/11/21 21:51	91-57-6	
Naphthalene	ND	ug/L	0.041	0.0091	1	11/10/21 13:22	11/11/21 21:51	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.013	1	11/10/21 13:22	11/11/21 21:51	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/10/21 13:22	11/11/21 21:51	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%	52-125		1	11/10/21 13:22	11/11/21 21:51	321-60-8	
p-Terphenyl-d14 (S)	66	%	54-125		1	11/10/21 13:22	11/11/21 21:51	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-Z1-202111 Lab ID: 10586716006 Collected: 11/08/21 13:40 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 05:59	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 05:59	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 05:59	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 05:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 05:59	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 05:59	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/13/21 05:59	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 05:59	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	55.4	mg/L	5.0	1.8	1		11/20/21 15:24		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	3.4	mg/L	1.2	0.34	1		11/12/21 22:26	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	1.6	mg/L	0.10	0.018	1		11/10/21 09:29	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-29-202111 Lab ID: 10586716007 Collected: 11/08/21 15:45 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	1.3	mg/L	0.44	0.13	1	11/10/21 14:01	11/20/21 00:25	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.44	0.20	1	11/10/21 14:01	11/20/21 00:25	64742-65-0	
Surrogates									
o-Terphenyl (S)	63	%	50-150		1	11/10/21 14:01	11/20/21 00:25	84-15-1	
n-Triacontane (S)	69	%	50-150		1	11/10/21 14:01	11/20/21 00:25		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	2120	ug/L	100	31.6	1	11/14/21 03:41	11/14/21 03:41		
Surrogates									
a,a,a-Trifluorotoluene (FID)	93.2	%	78.0-120		1	11/14/21 03:41	11/14/21 03:41	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	165000	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:12		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	33.1	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:35	7440-38-2	
Manganese, Dissolved	3720	ug/L	5.0	2.0	10	11/12/21 13:56	11/22/21 14:03	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	1.1	ug/L	0.040	0.0070	1	11/10/21 13:22	11/11/21 22:13	83-32-9	
Acenaphthylene	0.13	ug/L	0.040	0.0061	1	11/10/21 13:22	11/11/21 22:13	208-96-8	
Anthracene	0.056	ug/L	0.040	0.0054	1	11/10/21 13:22	11/11/21 22:13	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0091	1	11/10/21 13:22	11/11/21 22:13	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0089	1	11/10/21 13:22	11/11/21 22:13	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0096	1	11/10/21 13:22	11/11/21 22:13	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0082	1	11/10/21 13:22	11/11/21 22:13	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0084	1	11/10/21 13:22	11/11/21 22:13	207-08-9	
Chrysene	ND	ug/L	0.040	0.0095	1	11/10/21 13:22	11/11/21 22:13	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/10/21 13:22	11/11/21 22:13	53-70-3	
Fluoranthene	0.067	ug/L	0.040	0.014	1	11/10/21 13:22	11/11/21 22:13	206-44-0	
Fluorene	1.1	ug/L	0.040	0.0061	1	11/10/21 13:22	11/11/21 22:13	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/10/21 13:22	11/11/21 22:13	193-39-5	
1-Methylnaphthalene	0.84	ug/L	0.040	0.0068	1	11/10/21 13:22	11/11/21 22:13	90-12-0	
2-Methylnaphthalene	0.12	ug/L	0.040	0.0084	1	11/10/21 13:22	11/11/21 22:13	91-57-6	
Naphthalene	1.2	ug/L	0.040	0.0089	1	11/10/21 13:22	11/11/21 22:13	91-20-3	
Phenanthrene	0.51	ug/L	0.040	0.012	1	11/10/21 13:22	11/11/21 22:13	85-01-8	
Pyrene	0.078	ug/L	0.040	0.010	1	11/10/21 13:22	11/11/21 22:13	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	71	%	52-125		1	11/10/21 13:22	11/11/21 22:13	321-60-8	
p-Terphenyl-d14 (S)	58	%	54-125		1	11/10/21 13:22	11/11/21 22:13	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10586716

Sample: PEO-MW-29-202111 Lab ID: 10586716007 Collected: 11/08/21 15:45 Received: 11/09/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	1.7	ug/L	1.0	0.10	1		11/15/21 18:24	71-43-2	
Ethylbenzene	1.1	ug/L	1.0	0.11	1		11/15/21 18:24	100-41-4	
Toluene	2.3	ug/L	1.0	0.10	1		11/15/21 18:24	108-88-3	
m&p-Xylene	3.2	ug/L	2.0	0.20	1		11/15/21 18:24	179601-23-1	
o-Xylene	0.73J	ug/L	1.0	0.18	1		11/15/21 18:24	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	103	%	70-130		1		11/15/21 18:24	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		11/15/21 18:24	460-00-4	
Toluene-d8 (S)	104	%	75-125		1		11/15/21 18:24	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	202	mg/L	5.0	1.8	1		11/20/21 15:28		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	ND	mg/L	1.2	0.34	1		11/12/21 23:11	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/10/21 09:31	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 1773248	Analysis Method: NWTPH-Gx
QC Batch Method: NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586716002, 10586716003

METHOD BLANK: R3730015-2 Matrix: Water

Associated Lab Samples: 10586716002, 10586716003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	66.0J	100	31.6	11/12/21 15:30	J
a,a,a-Trifluorotoluene (FID)	%	95.3	78.0-120		11/12/21 15:30	

LABORATORY CONTROL SAMPLE: R3730015-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	4170	75.8	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			99.2	78.0-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 1773248

Analysis Method: NWTPH-Gx

QC Batch Method: 8021B/NWTPHGX

Analysis Description: VOA (GC) NWTPHGX

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586716002, 10586716003

METHOD BLANK: R3730015-2

Matrix: Water

Associated Lab Samples: 10586716002, 10586716003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	66.0J	100	31.6	11/12/21 15:30	J
a,a,a-Trifluorotoluene (FID)	%	95.3	78.0-120		11/12/21 15:30	

LABORATORY CONTROL SAMPLE: R3730015-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	4170	75.8	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			99.2	78.0-120	

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: 053831-Revised Report

Pace Project No.: 10586716

QC Batch:	1773344	Analysis Method:	NWTPH-Gx
QC Batch Method:	8015/8021/8021B/NWTPHGX	Analysis Description:	VOA (GC) NWTPHGX
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: R3731158-2 Matrix: Water

Associated Lab Samples: 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/13/21 19:56	
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/13/21 19:56	

LABORATORY CONTROL SAMPLE: R3731158-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5480	99.6	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			99.1	78.0-120	

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: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 1773344	Analysis Method: NWTPH-Gx
QC Batch Method: 8015/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: R3731158-2 Matrix: Water
Associated Lab Samples: 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/13/21 19:56	
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/13/21 19:56	

LABORATORY CONTROL SAMPLE: R3731158-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5480	99.6	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			99.1	78.0-120	

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10586716

QC Batch: 787620	Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx	Analysis Description: NWTPH-Gx Water
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586716001

METHOD BLANK: 4192617 Matrix: Water

Associated Lab Samples: 10586716001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	12/07/21 11:36	
a,a,a-Trifluorotoluene (S)	%.	76	50-150		12/07/21 11:36	

LABORATORY CONTROL SAMPLE & LCSD: 4192619 4192620

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	870	872	87	87	75-127	0	20	
a,a,a-Trifluorotoluene (S)	%.				88	91	50-150			

SAMPLE DUPLICATE: 4192633

Parameter	Units	10590632001 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	5970	6180	3	30	CL,E
a,a,a-Trifluorotoluene (S)	%.	27	26			S0

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 783016 Analysis Method: EPA 6020A
 QC Batch Method: EPA 3020A Analysis Description: 6020A Water Dissolved UPD4
 Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: 4168709 Matrix: Water

Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	11/19/21 23:08	
Manganese, Dissolved	ug/L	0.20J	0.50	0.20	11/19/21 23:08	

LABORATORY CONTROL SAMPLE: 4168710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	110	110	80-120	
Manganese, Dissolved	ug/L	100	111	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4168711 4168712

Parameter	Units	10587014002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	29.7	100	100	138	140	109	110	75-125	1	20	
Manganese, Dissolved	ug/L	2370	100	100	2600	2630	229	253	75-125	1	20	E,P6

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 783431 Analysis Method: EPA 8260D
 QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10586716001, 10586716002, 10586716003, 10586716004, 10586716005, 10586716006

METHOD BLANK: 4171020 Matrix: Water
 Associated Lab Samples: 10586716001, 10586716002, 10586716003, 10586716004, 10586716005, 10586716006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	11/13/21 00:00	
Ethylbenzene	ug/L	ND	1.0	0.069	11/13/21 00:00	
m&p-Xylene	ug/L	ND	2.0	0.18	11/13/21 00:00	
o-Xylene	ug/L	ND	1.0	0.12	11/13/21 00:00	
Toluene	ug/L	ND	1.0	0.11	11/13/21 00:00	
1,2-Dichlorobenzene-d4 (S)	%	101	70-130		11/13/21 00:00	
4-Bromofluorobenzene (S)	%	101	75-125		11/13/21 00:00	
Toluene-d8 (S)	%	102	75-125		11/13/21 00:00	

LABORATORY CONTROL SAMPLE: 4171021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.8	94	73-125	
Ethylbenzene	ug/L	20	17.5	88	75-125	
m&p-Xylene	ug/L	40	35.1	88	75-125	
o-Xylene	ug/L	20	17.3	87	75-125	
Toluene	ug/L	20	17.7	88	75-125	
1,2-Dichlorobenzene-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4171052 4171053

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10587014002 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	5.8	10	10	14.6	15.9	88	101	60-125	9	30
Ethylbenzene	ug/L	1.6	10	10	8.5	10	70	84	61-125	15	30
m&p-Xylene	ug/L	8.0	20	20	21.6	24.4	68	82	62-125	12	30
o-Xylene	ug/L	3.8	10	10	10.5	12.0	67	82	60-127	13	30
Toluene	ug/L	7.8	10	10	15.7	17.0	79	91	61-125	8	30
1,2-Dichlorobenzene-d4 (S)	%						101	102	70-130		
4-Bromofluorobenzene (S)	%						103	103	75-125		
Toluene-d8 (S)	%						103	103	75-125		

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 783858

Analysis Method: EPA 8260D

QC Batch Method: EPA 8260D

Analysis Description: 8260D MSV UST-WATER

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586716007

METHOD BLANK: 4173111

Matrix: Water

Associated Lab Samples: 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.10	11/15/21 15:47	
Ethylbenzene	ug/L	ND	1.0	0.11	11/15/21 15:47	
m&p-Xylene	ug/L	ND	2.0	0.20	11/15/21 15:47	
o-Xylene	ug/L	ND	1.0	0.18	11/15/21 15:47	
Toluene	ug/L	ND	1.0	0.10	11/15/21 15:47	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		11/15/21 15:47	
4-Bromofluorobenzene (S)	%	102	75-125		11/15/21 15:47	
Toluene-d8 (S)	%	102	75-125		11/15/21 15:47	

LABORATORY CONTROL SAMPLE & LCSD: 4173112

4173113

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.3	18.9	97	95	73-125	2	20	
Ethylbenzene	ug/L	20	17.8	17.5	89	87	75-125	2	20	
m&p-Xylene	ug/L	40	36.0	35.5	90	89	75-125	1	20	
o-Xylene	ug/L	20	17.7	17.5	89	88	75-125	1	20	
Toluene	ug/L	20	17.9	17.9	90	89	75-125	0	20	
1,2-Dichlorobenzene-d4 (S)	%				101	101	70-130			
4-Bromofluorobenzene (S)	%				104	103	75-125			
Toluene-d8 (S)	%				100	101	75-125			

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 782814 Analysis Method: EPA 8270E by SIM
 QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: 4167783 Matrix: Water
 Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/11/21 13:43	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/11/21 13:43	
Acenaphthene	ug/L	ND	0.040	0.0069	11/11/21 13:43	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/11/21 13:43	
Anthracene	ug/L	ND	0.040	0.0054	11/11/21 13:43	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/11/21 13:43	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/11/21 13:43	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/11/21 13:43	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/11/21 13:43	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/11/21 13:43	
Chrysene	ug/L	ND	0.040	0.0094	11/11/21 13:43	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/11/21 13:43	
Fluoranthene	ug/L	ND	0.040	0.014	11/11/21 13:43	
Fluorene	ug/L	ND	0.040	0.0060	11/11/21 13:43	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/11/21 13:43	
Naphthalene	ug/L	ND	0.040	0.0088	11/11/21 13:43	
Phenanthrene	ug/L	ND	0.040	0.012	11/11/21 13:43	
Pyrene	ug/L	ND	0.040	0.0099	11/11/21 13:43	
2-Fluorobiphenyl (S)	%	70	52-125		11/11/21 13:43	
p-Terphenyl-d14 (S)	%	72	54-125		11/11/21 13:43	

LABORATORY CONTROL SAMPLE & LCSD: 4167784 4167785

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.79	0.79	79	79	34-125	0	20	
2-Methylnaphthalene	ug/L	1	0.80	0.80	80	80	34-125	0	20	
Acenaphthene	ug/L	1	0.82	0.82	82	82	35-125	1	20	
Acenaphthylene	ug/L	1	0.82	0.82	82	82	33-125	0	20	
Anthracene	ug/L	1	0.79	0.78	79	78	42-125	1	20	
Benzo(a)anthracene	ug/L	1	0.81	0.82	81	82	46-125	1	20	
Benzo(a)pyrene	ug/L	1	0.79	0.81	79	81	57-125	2	20	
Benzo(b)fluoranthene	ug/L	1	0.82	0.80	82	80	58-125	3	20	
Benzo(g,h,i)perylene	ug/L	1	0.82	0.84	82	84	55-125	2	20	
Benzo(k)fluoranthene	ug/L	1	0.82	0.87	82	87	55-125	5	20	
Chrysene	ug/L	1	0.79	0.79	79	79	56-125	0	20	
Dibenz(a,h)anthracene	ug/L	1	0.79	0.82	79	82	40-125	3	20	
Fluoranthene	ug/L	1	0.79	0.80	79	80	64-125	1	20	
Fluorene	ug/L	1	0.81	0.81	81	81	43-125	1	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.79	0.79	79	79	57-125	0	20	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

LABORATORY CONTROL SAMPLE & LCSD: 4167784		4167785									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Naphthalene	ug/L	1	0.80	0.80	80	80	30-125	0	20		
Phenanthrene	ug/L	1	0.80	0.81	80	81	47-125	1	20		
Pyrene	ug/L	1	0.79	0.80	79	80	46-125	2	20		
2-Fluorobiphenyl (S)	%				79	78	52-125				
p-Terphenyl-d14 (S)	%				76	78	54-125				

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10586716

QC Batch: 782807 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: 4167751 Matrix: Water
Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	11/19/21 22:44	
Motor Oil Range SG	mg/L	ND	0.40	0.18	11/19/21 22:44	
n-Triacontane (S)	%	55	50-150		11/19/21 22:44	
o-Terphenyl (S)	%	74	50-150		11/19/21 22:44	

LABORATORY CONTROL SAMPLE & LCSD: 4167752

Parameter	Units	4167753							RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits				
Diesel Fuel Range SG	mg/L	2	1.8	1.7	91	83	50-150	9	20		
Motor Oil Range SG	mg/L	2	1.9	1.8	94	88	50-150	6	20		
n-Triacontane (S)	%				83	72	50-150				
o-Terphenyl (S)	%				90	84	50-150				

SAMPLE DUPLICATE: 4167754

Parameter	Units	10586716002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	ND	ND		30	
Motor Oil Range SG	mg/L	ND	ND		30	
n-Triacontane (S)	%	80	79			
o-Terphenyl (S)	%	78	75			

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10586716

QC Batch: 785037 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10586716002

METHOD BLANK: 4179907 Matrix: Water
Associated Lab Samples: 10586716002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	2.4J	5.0	1.8	11/20/21 15:29	

LABORATORY CONTROL SAMPLE & LCSD: 4179908 4179909

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	42.1	42.2	105	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4179910 4179911

Parameter	Units	10587202001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	106	40	40	145	145	99	99	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4179912 4179913

Parameter	Units	10587202013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	160	40	40	196	196	91	90	80-120	0	20	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 785038 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: 4179914 Matrix: Water
 Associated Lab Samples: 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	11/20/21 14:54	

LABORATORY CONTROL SAMPLE & LCSD: 4179915 4179916

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	40.6	40.9	102	102	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4179917 4179918

Parameter	Units	10586716003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	44.5	40	40	81.9	82.5	93	95	80-120	1	20	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch: 782447 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: 4166083 Matrix: Water
 Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	11/12/21 06:37	

LABORATORY CONTROL SAMPLE: 4166084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.7	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166085 4166086

Parameter	Units	10586514002		4166085		4166086		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Sulfate	mg/L	8.9	50	50	50	52.1	50.9	87	84	80-120	2	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4166087 4166088

Parameter	Units	10586514003		4166087		4166088		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Sulfate	mg/L	11.4	50	50	50	51.3	52.4	80	82	80-120	2	20

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10586716

QC Batch:	782721	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, preserved
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

METHOD BLANK: 4167357 Matrix: Water

Associated Lab Samples: 10586716002, 10586716003, 10586716004, 10586716005, 10586716006, 10586716007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	11/10/21 09:44	FS
Nitrite as N	mg/L	ND	0.10	0.011	11/10/21 09:44	FS

LABORATORY CONTROL SAMPLE: 4167358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrite as N	mg/L	1	1.0	105	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4167359 4167360

Parameter	Units	10586856001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrite as N	mg/L	0.17	1	1	1.2	1.1	107	95	90-110	10	20	

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REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10586716

QC Batch: 783745	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, preserved
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10586716002

METHOD BLANK: 4172689 Matrix: Water

Associated Lab Samples: 10586716002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.018	11/15/21 12:02	FS

LABORATORY CONTROL SAMPLE: 4172690

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	0.97	97	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172691 4172692

Parameter	Units	10587130001		4172691		4172692		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec				
Nitrogen, NO2 plus NO3	mg/L	<0.020	1	1	0.74	0.74	73	73	90-110	0	20 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172693 4172694

Parameter	Units	10587037001		4172693		4172694		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec				
Nitrogen, NO2 plus NO3	mg/L	0.041J	1	1	0.88	0.92	84	88	90-110	4	20 M1

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: 053831-Revised Report

Pace Project No.: 10586716

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 783118

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783858

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 787620

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

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

FS The sample was filtered in the laboratory prior to analysis.

H1 Analysis conducted outside the recognized method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

H5 Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

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

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QUALIFIERS

Project: 053831-Revised Report

Pace Project No.: 10586716

ANALYTE QUALIFIERS

- P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
- S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831-Revised Report

Pace Project No.: 10586716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10586716002	PEO-MW-41-202111	EPA Mod. 3510C	782807	NWTPH-Dx	785207
10586716003	PEO-MW-40-202111	EPA Mod. 3510C	782807	NWTPH-Dx	785207
10586716004	PEO-MW-45-202111	EPA Mod. 3510C	782807	NWTPH-Dx	785207
10586716005	PEO-MW-28-202111	EPA Mod. 3510C	782807	NWTPH-Dx	785207
10586716006	PEO-MW-Z1-202111	EPA Mod. 3510C	782807	NWTPH-Dx	785207
10586716007	PEO-MW-29-202111	EPA Mod. 3510C	782807	NWTPH-Dx	785207
10586716002	PEO-MW-41-202111	NWTPHGX	1773248	NWTPH-Gx	1773248
10586716003	PEO-MW-40-202111	NWTPHGX	1773248	NWTPH-Gx	1773248
10586716004	PEO-MW-45-202111	NWTPHGX	1773344	NWTPH-Gx	1773344
10586716005	PEO-MW-28-202111	NWTPHGX	1773344	NWTPH-Gx	1773344
10586716006	PEO-MW-Z1-202111	NWTPHGX	1773344	NWTPH-Gx	1773344
10586716007	PEO-MW-29-202111	NWTPHGX	1773344	NWTPH-Gx	1773344
10586716001	TRIP BLANK-20211108	NWTPH-Gx	787620		
10586716002	PEO-MW-41-202111	EPA 3010A	783010	EPA 6010D	783593
10586716003	PEO-MW-40-202111	EPA 3010A	783010	EPA 6010D	783593
10586716004	PEO-MW-45-202111	EPA 3010A	783010	EPA 6010D	783593
10586716005	PEO-MW-28-202111	EPA 3010A	783010	EPA 6010D	783593
10586716006	PEO-MW-Z1-202111	EPA 3010A	783010	EPA 6010D	783593
10586716007	PEO-MW-29-202111	EPA 3010A	783010	EPA 6010D	783593
10586716002	PEO-MW-41-202111	EPA 3020A	783016	EPA 6020A	783783
10586716003	PEO-MW-40-202111	EPA 3020A	783016	EPA 6020A	783783
10586716004	PEO-MW-45-202111	EPA 3020A	783016	EPA 6020A	783783
10586716005	PEO-MW-28-202111	EPA 3020A	783016	EPA 6020A	783783
10586716006	PEO-MW-Z1-202111	EPA 3020A	783016	EPA 6020A	783783
10586716007	PEO-MW-29-202111	EPA 3020A	783016	EPA 6020A	783783
10586716002	PEO-MW-41-202111	EPA Mod. 3510C	782814	EPA 8270E by SIM	783118
10586716003	PEO-MW-40-202111	EPA Mod. 3510C	782814	EPA 8270E by SIM	783118
10586716004	PEO-MW-45-202111	EPA Mod. 3510C	782814	EPA 8270E by SIM	783118
10586716005	PEO-MW-28-202111	EPA Mod. 3510C	782814	EPA 8270E by SIM	783118
10586716006	PEO-MW-Z1-202111	EPA Mod. 3510C	782814	EPA 8270E by SIM	783118
10586716007	PEO-MW-29-202111	EPA Mod. 3510C	782814	EPA 8270E by SIM	783118
10586716001	TRIP BLANK-20211108	EPA 8260D	783431		
10586716002	PEO-MW-41-202111	EPA 8260D	783431		
10586716003	PEO-MW-40-202111	EPA 8260D	783431		
10586716004	PEO-MW-45-202111	EPA 8260D	783431		
10586716005	PEO-MW-28-202111	EPA 8260D	783431		
10586716006	PEO-MW-Z1-202111	EPA 8260D	783431		
10586716007	PEO-MW-29-202111	EPA 8260D	783858		
10586716002	PEO-MW-41-202111	SM 2320B	785037		
10586716003	PEO-MW-40-202111	SM 2320B	785038		
10586716004	PEO-MW-45-202111	SM 2320B	785038		
10586716005	PEO-MW-28-202111	SM 2320B	785038		
10586716006	PEO-MW-Z1-202111	SM 2320B	785038		
10586716007	PEO-MW-29-202111	SM 2320B	785038		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831-Revised Report

Pace Project No.: 10586716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10586716002	PEO-MW-41-202111	EPA 300.0	782447		
10586716003	PEO-MW-40-202111	EPA 300.0	782447		
10586716004	PEO-MW-45-202111	EPA 300.0	782447		
10586716005	PEO-MW-28-202111	EPA 300.0	782447		
10586716006	PEO-MW-Z1-202111	EPA 300.0	782447		
10586716007	PEO-MW-29-202111	EPA 300.0	782447		
10586716002	PEO-MW-41-202111	EPA 353.2	782721		
10586716002	PEO-MW-41-202111	EPA 353.2	783745		
10586716003	PEO-MW-40-202111	EPA 353.2	782721		
10586716004	PEO-MW-45-202111	EPA 353.2	782721		
10586716005	PEO-MW-28-202111	EPA 353.2	782721		
10586716006	PEO-MW-Z1-202111	EPA 353.2	782721		
10586716007	PEO-MW-29-202111	EPA 353.2	782721		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt **Client Name:** ERM **Project #:** _____

WO#: 10586716

PM: JMT Due Date: 11/24/21
 CLIENT: ERM-Oregon

Courier: Fed Ex UPS USPS ~~Client~~
 Pace Speedee Commercial

Tracking Number: 5X 11/9/21 See Exceptions
 ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: plastic bag **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459) OS418-LS **Type of Ice:** Wet Blue None Dry Melted
 T4(0254) T5(0489) 160285052

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 5.0, 1.5, 4.8, 5.8, 5.8 °C **Average Corrected Temp (no temp blank only):** _____ °C See Exceptions ENV-FRM-MIN4-0142 1 Container

Correction Factor: none **Cooler Temp Corrected w/temp blank:** 5.0, 1.5, 4.8, 5.8, 5.8 °C

USDA Regulated Soil: N/A, water sample/Other: _____ **Date/Initials of Person Examining Contents:** 5X 11/9/21

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/GOC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input checked="" type="checkbox"/> Nitrate <input checked="" type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Sample # <u>01 - 06</u>
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input checked="" type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. Chlorine? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No pH Paper Lot# <u>1/1</u> <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Extra labels present on soil VOA of WIDRO containers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Headspace in VOA Vials (greater than 6mm)? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>230320</u>
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception ENV-FRM-MIN4-0140
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased): <u>HCL 317014(6)</u>

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: [Signature] **Date:** 11/10/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).



Pace Analytical Minnesota

Julie Bowser
1700 Elm Street, Ste. 200
Minneapolis, MN 55414

RE: 053831

Work Order Number: 2111245

November 30, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 7 sample(s) on 11/11/2021 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH
Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

CLIENT: Pace Analytical Minnesota
Project: 053831
Work Order: 2111245

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2111245-001	TRIP BLANK-20211108	11/08/2021 8:00 AM	11/11/2021 12:36 PM
2111245-002	PEO-MW-41-202111	11/08/2021 9:05 AM	11/11/2021 12:36 PM
2111245-003	PEO-MW-40-202111	11/08/2021 10:40 AM	11/11/2021 12:36 PM
2111245-004	PEO-MW-45-202111	11/08/2021 12:10 PM	11/11/2021 12:36 PM
2111245-005	PEO-MW-28-202111	11/08/2021 1:35 PM	11/11/2021 12:36 PM
2111245-006	PEO-MW-Z1-202111	11/08/2021 1:40 PM	11/11/2021 12:36 PM
2111245-007	PEO-MW-29-202111	11/08/2021 3:45 PM	11/11/2021 12:36 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Pace Analytical Minnesota
Project: 053831

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111245-002

Collection Date: 11/8/2021 9:05:00 AM

Client Sample ID: PEO-MW-41-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/29/2021 11:23:50 PM
Surr: 1-Chlorooctadecane	84.5	60 - 140		%Rec	1	11/29/2021 11:23:50 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 6:38:28 AM
Surr: 1,4-Difluorobenzene	78.1	65 - 140		%Rec	1	11/18/2021 6:38:28 AM
Surr: Bromofluorobenzene	94.6	65 - 140		%Rec	1	11/18/2021 6:38:28 AM

Lab ID: 2111245-003

Collection Date: 11/8/2021 10:40:00 AM

Client Sample ID: PEO-MW-40-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/30/2021 12:17:23 AM
Surr: 1-Chlorooctadecane	69.1	60 - 140		%Rec	1	11/30/2021 12:17:23 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 7:17:19 AM
Surr: 1,4-Difluorobenzene	78.1	65 - 140		%Rec	1	11/18/2021 7:17:19 AM
Surr: Bromofluorobenzene	96.0	65 - 140		%Rec	1	11/18/2021 7:17:19 AM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111245-004

Collection Date: 11/8/2021 12:10:00 PM

Client Sample ID: PEO-MW-45-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	11/30/2021 1:11:06 AM
Surr: 1-Chlorooctadecane	84.9	60 - 140		%Rec	1	11/30/2021 1:11:06 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 7:56:10 AM
Surr: 1,4-Difluorobenzene	78.4	65 - 140		%Rec	1	11/18/2021 7:56:10 AM
Surr: Bromofluorobenzene	95.4	65 - 140		%Rec	1	11/18/2021 7:56:10 AM

Lab ID: 2111245-005

Collection Date: 11/8/2021 1:35:00 PM

Client Sample ID: PEO-MW-28-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/30/2021 2:04:48 AM
Surr: 1-Chlorooctadecane	82.9	60 - 140		%Rec	1	11/30/2021 2:04:48 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 9:14:01 AM
Surr: 1,4-Difluorobenzene	78.1	65 - 140		%Rec	1	11/18/2021 9:14:01 AM
Surr: Bromofluorobenzene	94.6	65 - 140		%Rec	1	11/18/2021 9:14:01 AM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111245-006

Collection Date: 11/8/2021 1:40:00 PM

Client Sample ID: PEO-MW-Z1-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	11/30/2021 2:58:41 AM
Surr: 1-Chlorooctadecane	82.6	60 - 140		%Rec	1	11/30/2021 2:58:41 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 9:53:02 AM
Surr: 1,4-Difluorobenzene	78.2	65 - 140		%Rec	1	11/18/2021 9:53:02 AM
Surr: Bromofluorobenzene	95.7	65 - 140		%Rec	1	11/18/2021 9:53:02 AM

Lab ID: 2111245-007

Collection Date: 11/8/2021 3:45:00 PM

Client Sample ID: PEO-MW-29-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.3		µg/L	1	11/30/2021 3:52:25 AM
Surr: 1-Chlorooctadecane	70.8	60 - 140		%Rec	1	11/30/2021 3:52:25 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	222	12.2		µg/L	1	11/18/2021 5:40:52 PM
Surr: 1,4-Difluorobenzene	99.8	65 - 140		%Rec	1	11/18/2021 5:40:52 PM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	11/18/2021 5:40:52 PM

Work Order: 2111245
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-34430	SampType: MBLK	Units: µg/L	Prep Date: 11/12/2021	RunNo: 71601							
Client ID: MBLKW	Batch ID: 34430		Analysis Date: 11/29/2021	SeqNo: 1458368							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	39.8		0	0						
Surr: 1-Chlorooctadecane	323		398.2		81.0	60	140				

Sample ID: 2111279-002BMS	SampType: MS	Units: µg/L	Prep Date: 11/12/2021	RunNo: 71601							
Client ID: BATCH	Batch ID: 34430		Analysis Date: 11/30/2021	SeqNo: 1458535							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	280	39.2	490.2	0	57.1	70	130				S
Surr: 1-Chlorooctadecane	312		392.2		79.6	60	140				

NOTES:
 S - Outlying spike recovery(ies) observed.

Sample ID: LCS-34430	SampType: LCS	Units: µg/L	Prep Date: 11/12/2021	RunNo: 71601							
Client ID: LCSW	Batch ID: 34430		Analysis Date: 11/30/2021	SeqNo: 1458536							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	348	39.8	497.5	0	70.0	70	130				
Surr: 1-Chlorooctadecane	381		398.0		95.8	60	140				

Sample ID: LCSD-34430	SampType: LCSD	Units: µg/L	Prep Date: 11/12/2021	RunNo: 71601							
Client ID: LCSW02	Batch ID: 34430		Analysis Date: 11/30/2021	SeqNo: 1458382							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	348	39.6	494.8	0	70.4	70	130	0	0	20	
Surr: 1-Chlorooctadecane	365		395.8		92.2	60	140		0		

Work Order: 2111245
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-34481	SampType: LCS	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: LCSW	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455290					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	194	25.0	200.0	0	97.2	70	130				
Surr: 1,4-Difluorobenzene	52.2		50.00		104	65	140				
Surr: Bromofluorobenzene	48.3		50.00		96.6	65	140				

Sample ID: MB-34481	SampType: MBLK	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: MBLKW	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455289					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0						
Surr: 1,4-Difluorobenzene	37.6		50.00		75.3	65	140				
Surr: Bromofluorobenzene	47.8		50.00		95.7	65	140				

Sample ID: 2111245-004BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: PEO-MW-45-202111	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455272					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	38.8		50.00		77.7	65	140		0		
Surr: Bromofluorobenzene	47.4		50.00		94.7	65	140		0		

Sample ID: 2111279-002AMS	SampType: MS	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: BATCH	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455278					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	294	25.0	200.0	95.89	99.3	70	130				
Surr: 1,4-Difluorobenzene	49.5		50.00		99.1	65	140				
Surr: Bromofluorobenzene	47.9		50.00		95.8	65	140				

Work Order: 2111245
CLIENT: Pace Analytical Minnesota
Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: 2111279-002AMSD	SampType: MSD	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: BATCH	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455279					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	301	25.0	200.0	95.89	102	70	130	294.4	2.05	30	
Surr: 1,4-Difluorobenzene	49.5		50.00		98.9	65	140		0		
Surr: Bromofluorobenzene	47.4		50.00		94.8	65	140		0		

Client Name: **PACEMI**

 Work Order Number: **2111245**

 Logged by: **Clare Griggs**

 Date Received: **11/11/2021 12:36:00 PM**
Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
4. Shipping container/cooler in good condition? Yes No
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes No Not Present
6. Was an attempt made to cool the samples? Yes No NA
7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
8. Sample(s) in proper container(s)? Yes No
9. Sufficient sample volume for indicated test(s)? Yes No
10. Are samples properly preserved? Yes No
11. Was preservative added to bottles? Yes No NA
12. Is there headspace in the VOA vials? Yes No NA
13. Did all samples containers arrive in good condition(unbroken)? Yes No
14. Does paperwork match bottle labels? Yes No
15. Are matrices correctly identified on Chain of Custody? Yes No
16. Is it clear what analyses were requested? Yes No
17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text" value="Julie Bowser"/>	Date:	<input type="text" value="11/11/2021"/>
By Whom:	<input type="text" value="Clare Griggs"/>	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text" value="only received partial volume, cooler 2 of 2 not yet received. No trip blank was received."/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Volume received:
 MW-41 = 2 HCL 1L ambers, 1 HCL VOA
 MW-40 = 2 HCL 1L ambers, 1 HCL VOA
 MW-45 = 2 HCL 1L ambers, 1 HCL VOA
 MW-28 = 2 HCL VOAs
 MW-21 = 2 HCL VOAs
 MW-29 = 2 HCL VOAs

Item Information

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Original

Client Name: PACEMI	Work Order Number: 2111245
Logged by: Clare Griggs	Date Received: 11/11/2021 12:36:00 PM

Item #	Temp °C
Sample	3.8

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
4. Shipping container/cooler in good condition? Yes No
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes No Not Present
6. Was an attempt made to cool the samples? Yes No NA
7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
8. Sample(s) in proper container(s)? Yes No
9. Sufficient sample volume for indicated test(s)? Yes No
10. Are samples properly preserved? Yes No
11. Was preservative added to bottles? Yes No NA
12. Is there headspace in the VOA vials? Yes No NA
13. Did all samples containers arrive in good condition(unbroken)? Yes No
14. Does paperwork match bottle labels? Yes No
15. Are matrices correctly identified on Chain of Custody? Yes No
16. Is it clear what analyses were requested? Yes No
17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: <input type="text"/>	Date: <input type="text"/>
By Whom: <input type="text"/>	Via: <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding: <input type="text"/>	
Client Instructions: <input type="text"/>	

19. Additional remarks:

This Checklist corresponds to additional volume that was received on 11/12/21.

Item Information

Item #	Temp °C
Sample	5.7

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody

PASI Minnesota Laboratory



2111245



Workorder: 10586716

Workorder Name: 053831

Results Requested By: 11/24/2021

Report / Invoice To

Subcontract To

Requested Analysis

Julie Bowser

Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone 612-607-6390
Email: julie.bowser@pacelabs.com

Fremont Analytical
3600 Fremont Ave N
Seattle, WA 98103

P.O. 10586716

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		NWTPH VPH (Aliphatics C10-C12)	NWTPH EPH (Aliphatics C10-C12)	LAB USE ONLY
					HCL VG9H	AG1H			
1	TRIP BLANK-20211108	11/8/2021 08:00	10586716001	Water	2		X		
2	PEO-MMW-41-202111	11/8/2021 09:05	10586716002	Water	5		X	X	
3	PEO-MMW-40-202111	11/8/2021 10:40	10586716003	Water	5		X	X	
4	PEO-MMW-45-202111	11/8/2021 12:10	10586716004	Water	5		X	X	
5	PEO-MMW-28-202111	11/8/2021 13:35	10586716005	Water	5		X	X	
6	PEO-MMW-Z1-202111	11/8/2021 13:40	10586716006	Water	5		X	X	
7	PEO-MMW-29-202111	11/8/2021 15:45	10586716007	Water	5		X	X	
Comments									
Transfers	Released By	Date/Time	Received By	Date/Time	J flag to MDL EQUIS EDD needed				
1	<i>Julie Bowser</i>	11/21/21	<i>[Signature]</i>	11/21/21					
2									
3									

Cooler Temperature on Receipt °C

Custody Seal Y or N

Received on Ice Y or N

Samples Intact Y or N

December 02, 2021

Joe Casey
ERM Portland
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

RE: Project: 053831
Pace Project No.: 10587014

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Minneapolis

The newest method revisions, 8260D and 8270E were analyzed on this project due to Pace no longer offering them.

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

Sincerely,



Julie Bowser
julie.bowser@pacelabs.com
612-607-6390
Project Manager

Enclosures

cc: Rita Cooper, ERM Portland
ERM Global EDD Mailbox, ERM
Stephanie Frith, ERM Portland
Rachel James, ERM Portland



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 053831
Pace Project No.: 10587014

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208

Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008

Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831
Pace Project No.: 10587014

Pace Analytical Services National

Nevada Certification #: TN-03-2002-34	Tennessee DW/Chem/Micro Certification #: 2006
New Hampshire Certification #: 2975	Texas Certification #: T 104704245-17-14
New Jersey Certification #: TN002	Texas Mold Certification #: LAB0152
New Mexico DW Certification	USDA Soil Permit #: P330-15-00234
New York Certification #: 11742	Utah Certification #: TN00003
North Carolina Aquatic Toxicity Certification #: 41	Vermont Dept. of Health: ID# VT-2006
North Carolina Drinking Water Certification #: 21704	Virginia Certification #: VT2006
North Carolina Environmental Certificate #: 375	Virginia Certification #: 460132
North Dakota Certification #: R-140	Washington Certification #: C847
Ohio VAP Certification #: CL0069	West Virginia Certification #: 233
Oklahoma Certification #: 9915	Wisconsin Certification #: 998093910
Oregon Certification #: TN200002	Wyoming UST Certification #: via A2LA 2926.01
Pennsylvania Certification #: 68-02979	A2LA-ISO 17025 Certification #: 1461.01
Rhode Island Certification #: LAO00356	A2LA-ISO 17025 Certification #: 1461.02
South Carolina Certification #: 84004	AIHA-LAP/LLC EMLAP Certification #:100789
South Dakota Certification	

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 053831
Pace Project No.: 10587014

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10587014001	TRIP BLANK-20211109	Water	11/09/21 08:00	11/10/21 18:30
10587014002	PEO-MW-36-202111	Water	11/09/21 09:30	11/10/21 18:30
10587014003	PEO-MW-27-202111	Water	11/09/21 11:30	11/10/21 18:30
10587014004	PEO-MW-Z2-202111	Water	11/09/21 11:35	11/10/21 18:30
10587014005	PEO-MW-26-202111	Water	11/09/21 12:50	11/10/21 18:30
10587014006	PEO-MW-38-202111	Water	11/09/21 14:15	11/10/21 18:30
10587014007	PEO-MW-37-202111	Water	11/09/21 15:40	11/10/21 18:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831
Pace Project No.: 10587014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10587014001	TRIP BLANK-20211109	NWTPH-Gx	MGF	2	PAN
		EPA 8260D	ZH	8	PASI-M
10587014002	PEO-MW-36-202111	NWTPH-Dx	EB3	4	PASI-M
		NWTPH-Gx	MGF	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
		10587014003	PEO-MW-27-202111	NWTPH-Dx	EB3
NWTPH-Gx	MGF			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	RJS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M
EPA 353.2	AR3			1	PASI-M
10587014004	PEO-MW-Z2-202111			NWTPH-Dx	EB3
		NWTPH-Gx	MGF	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
		10587014005	PEO-MW-26-202111	NWTPH-Dx	EB3
NWTPH-Gx	MGF			2	PAN
EPA 6010D	IP			1	PASI-M
EPA 6020A	RJS			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831
Pace Project No.: 10587014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10587014006	PEO-MW-38-202111	EPA 353.2	AR3	1	PASI-M
		NWTPH-Dx	EB3	4	PASI-M
		NWTPH-Gx	BMB	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
10587014007	PEO-MW-37-202111	EPA 353.2	AR3	1	PASI-M
		NWTPH-Dx	EB3	4	PASI-M
		NWTPH-Gx	MGF	2	PAN
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
EPA 353.2	AR3	1	PASI-M		

PAN = Pace National - Mt. Juliet

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: TRIP BLANK-20211109 **Lab ID: 10587014001** Collected: 11/09/21 08:00 Received: 11/10/21 18:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX									
Pace National - Mt. Juliet									
TPH (C06-C12)	34.0J	ug/L	100	31.6	1	11/16/21 06:11	11/16/21 06:11		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	107	%	78.0-120		1	11/16/21 06:11	11/16/21 06:11	98-08-8FID	
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 01:02	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 01:02	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 01:02	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 01:02	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 01:02	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		11/13/21 01:02	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 01:02	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 01:02	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-36-202111 Lab ID: 10587014002 Collected: 11/09/21 09:30 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	3.1	mg/L	0.40	0.12	1	11/11/21 09:23	11/19/21 21:12	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/11/21 09:23	11/19/21 21:12	64742-65-0	
Surrogates									
o-Terphenyl (S)	83	%	50-150		1	11/11/21 09:23	11/19/21 21:12	84-15-1	
n-Triacontane (S)	102	%	50-150		1	11/11/21 09:23	11/19/21 21:12		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	763	ug/L	100	31.6	1	11/16/21 09:17	11/16/21 09:17		
Surrogates									
a,a,a-Trifluorotoluene (FID)	84.1	%	78.0-120		1	11/16/21 09:17	11/16/21 09:17	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	146000	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:14		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	29.7	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:48	7440-38-2	
Manganese, Dissolved	2370	ug/L	5.0	2.0	10	11/12/21 13:56	11/22/21 14:06	7439-96-5	P6
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	1.8	ug/L	0.040	0.0069	1	11/11/21 09:19	11/15/21 14:08	83-32-9	
Acenaphthylene	0.25	ug/L	0.040	0.0061	1	11/11/21 09:19	11/15/21 14:08	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/11/21 09:19	11/15/21 14:08	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	11/11/21 09:19	11/15/21 14:08	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 14:08	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/11/21 09:19	11/15/21 14:08	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	11/11/21 09:19	11/15/21 14:08	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 14:08	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/11/21 09:19	11/15/21 14:08	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/11/21 09:19	11/15/21 14:08	53-70-3	
Fluoranthene	0.063	ug/L	0.040	0.014	1	11/11/21 09:19	11/15/21 14:08	206-44-0	
Fluorene	1.7	ug/L	0.040	0.0060	1	11/11/21 09:19	11/15/21 14:08	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/11/21 09:19	11/15/21 14:08	193-39-5	
1-Methylnaphthalene	1.4	ug/L	0.040	0.0067	1	11/11/21 09:19	11/15/21 14:08	90-12-0	
2-Methylnaphthalene	0.22	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 14:08	91-57-6	
Naphthalene	1.5	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 14:08	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/11/21 09:19	11/15/21 14:08	85-01-8	
Pyrene	0.074	ug/L	0.040	0.0099	1	11/11/21 09:19	11/15/21 14:08	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	73	%	52-125		1	11/11/21 09:19	11/15/21 14:08	321-60-8	
p-Terphenyl-d14 (S)	69	%	54-125		1	11/11/21 09:19	11/15/21 14:08	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-36-202111 Lab ID: 10587014002 Collected: 11/09/21 09:30 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	5.8	ug/L	1.0	0.12	1		11/13/21 06:45	71-43-2	
Ethylbenzene	1.6	ug/L	1.0	0.069	1		11/13/21 06:45	100-41-4	
Toluene	7.8	ug/L	1.0	0.11	1		11/13/21 06:45	108-88-3	
m&p-Xylene	8.0	ug/L	2.0	0.18	1		11/13/21 06:45	179601-23-1	
o-Xylene	3.8	ug/L	1.0	0.12	1		11/13/21 06:45	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 06:45	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		11/13/21 06:45	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		11/13/21 06:45	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	182	mg/L	5.0	1.8	1		11/23/21 14:48		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	3.0	mg/L	1.2	0.34	1		11/15/21 15:08	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/10/21 23:05	14797-55-8	FS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-27-202111 Lab ID: 10587014003 Collected: 11/09/21 11:30 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.36J	mg/L	0.40	0.12	1	11/11/21 09:23	11/19/21 21:46	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/11/21 09:23	11/19/21 21:46	64742-65-0	
Surrogates									
o-Terphenyl (S)	82	%	50-150		1	11/11/21 09:23	11/19/21 21:46	84-15-1	
n-Triacontane (S)	95	%	50-150		1	11/11/21 09:23	11/19/21 21:46		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	88.7J	ug/L	100	31.6	1	11/16/21 09:40	11/16/21 09:40		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	107	%	78.0-120		1	11/16/21 09:40	11/16/21 09:40	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	57000	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:22		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	42.1	ug/L	0.50	0.083	1	11/12/21 13:56	11/19/21 23:32	7440-38-2	
Manganese, Dissolved	1320	ug/L	5.0	2.0	10	11/12/21 13:56	11/23/21 16:08	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.38	ug/L	0.040	0.0069	1	11/11/21 09:19	11/15/21 19:57	83-32-9	
Acenaphthylene	0.020J	ug/L	0.040	0.0061	1	11/11/21 09:19	11/15/21 19:57	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/11/21 09:19	11/15/21 19:57	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0091	1	11/11/21 09:19	11/15/21 19:57	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0089	1	11/11/21 09:19	11/15/21 19:57	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0096	1	11/11/21 09:19	11/15/21 19:57	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0082	1	11/11/21 09:19	11/15/21 19:57	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 19:57	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/11/21 09:19	11/15/21 19:57	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/11/21 09:19	11/15/21 19:57	53-70-3	
Fluoranthene	0.030J	ug/L	0.040	0.014	1	11/11/21 09:19	11/15/21 19:57	206-44-0	
Fluorene	0.37	ug/L	0.040	0.0061	1	11/11/21 09:19	11/15/21 19:57	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/11/21 09:19	11/15/21 19:57	193-39-5	
1-Methylnaphthalene	0.046	ug/L	0.040	0.0068	1	11/11/21 09:19	11/15/21 19:57	90-12-0	
2-Methylnaphthalene	0.015J	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 19:57	91-57-6	
Naphthalene	0.095	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 19:57	91-20-3	
Phenanthrene	0.079	ug/L	0.040	0.012	1	11/11/21 09:19	11/15/21 19:57	85-01-8	
Pyrene	0.028J	ug/L	0.040	0.0099	1	11/11/21 09:19	11/15/21 19:57	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%	52-125		1	11/11/21 09:19	11/15/21 19:57	321-60-8	
p-Terphenyl-d14 (S)	66	%	54-125		1	11/11/21 09:19	11/15/21 19:57	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-27-202111 Lab ID: 10587014003 Collected: 11/09/21 11:30 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 06:14	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 06:14	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 06:14	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 06:14	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 06:14	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		11/13/21 06:14	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/13/21 06:14	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 06:14	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	41.0	mg/L	5.0	1.8	1		11/23/21 15:13		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	38.8	mg/L	1.2	0.34	1		11/15/21 15:55	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/10/21 23:08	14797-55-8	FS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-Z2-202111 Lab ID: 10587014004 Collected: 11/09/21 11:35 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.54	mg/L	0.40	0.12	1	11/11/21 09:23	11/19/21 21:58	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/11/21 09:23	11/19/21 21:58	64742-65-0	
Surrogates									
o-Terphenyl (S)	86	%	50-150		1	11/11/21 09:23	11/19/21 21:58	84-15-1	
n-Triacontane (S)	98	%	50-150		1	11/11/21 09:23	11/19/21 21:58		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	65.1J	ug/L	100	31.6	1	11/16/21 10:03	11/16/21 10:03		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	107	%	78.0-120		1	11/16/21 10:03	11/16/21 10:03	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	58500	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:28		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	40.5	ug/L	0.50	0.083	1	11/12/21 13:56	11/20/21 00:05	7440-38-2	
Manganese, Dissolved	1330	ug/L	5.0	2.0	10	11/12/21 13:56	11/23/21 16:12	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.39	ug/L	0.041	0.0070	1	11/11/21 09:19	11/15/21 20:19	83-32-9	
Acenaphthylene	0.023J	ug/L	0.041	0.0062	1	11/11/21 09:19	11/15/21 20:19	208-96-8	
Anthracene	0.085	ug/L	0.041	0.0054	1	11/11/21 09:19	11/15/21 20:19	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/11/21 09:19	11/15/21 20:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/11/21 09:19	11/15/21 20:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/11/21 09:19	11/15/21 20:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0082	1	11/11/21 09:19	11/15/21 20:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/11/21 09:19	11/15/21 20:19	207-08-9	
Chrysene	ND	ug/L	0.041	0.0095	1	11/11/21 09:19	11/15/21 20:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/11/21 09:19	11/15/21 20:19	53-70-3	
Fluoranthene	0.035J	ug/L	0.041	0.014	1	11/11/21 09:19	11/15/21 20:19	206-44-0	
Fluorene	0.38	ug/L	0.041	0.0061	1	11/11/21 09:19	11/15/21 20:19	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/11/21 09:19	11/15/21 20:19	193-39-5	
1-Methylnaphthalene	0.050	ug/L	0.041	0.0068	1	11/11/21 09:19	11/15/21 20:19	90-12-0	
2-Methylnaphthalene	0.017J	ug/L	0.041	0.0084	1	11/11/21 09:19	11/15/21 20:19	91-57-6	
Naphthalene	0.10	ug/L	0.041	0.0089	1	11/11/21 09:19	11/15/21 20:19	91-20-3	
Phenanthrene	0.022J	ug/L	0.041	0.012	1	11/11/21 09:19	11/15/21 20:19	85-01-8	
Pyrene	0.030J	ug/L	0.041	0.010	1	11/11/21 09:19	11/15/21 20:19	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%	52-125		1	11/11/21 09:19	11/15/21 20:19	321-60-8	
p-Terphenyl-d14 (S)	70	%	54-125		1	11/11/21 09:19	11/15/21 20:19	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-Z2-202111 Lab ID: 10587014004 Collected: 11/09/21 11:35 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 06:29	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 06:29	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 06:29	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 06:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 06:29	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 06:29	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 06:29	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 06:29	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	40.7	mg/L	5.0	1.8	1		11/23/21 15:25		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	41.1	mg/L	1.2	0.34	1		11/15/21 18:35	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/10/21 23:09	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-26-202111 Lab ID: 10587014005 Collected: 11/09/21 12:50 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	ND	mg/L	0.40	0.12	1	11/11/21 09:23	11/19/21 22:09	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/11/21 09:23	11/19/21 22:09	64742-65-0	
Surrogates									
o-Terphenyl (S)	70	%	50-150		1	11/11/21 09:23	11/19/21 22:09	84-15-1	
n-Triacontane (S)	79	%	50-150		1	11/11/21 09:23	11/19/21 22:09		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/16/21 10:27	11/16/21 10:27		
Surrogates									
a,a,a-Trifluorotoluene (FID)	108	%	78.0-120		1	11/16/21 10:27	11/16/21 10:27	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	33800	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:29		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	1.1	ug/L	0.50	0.083	1	11/12/21 13:56	11/20/21 00:09	7440-38-2	
Manganese, Dissolved	116	ug/L	0.50	0.20	1	11/12/21 13:56	11/20/21 00:09	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.0069J	ug/L	0.040	0.0069	1	11/11/21 09:19	11/15/21 15:57	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/11/21 09:19	11/15/21 15:57	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/11/21 09:19	11/15/21 15:57	120-12-7	
Benzo(a)anthracene	0.010J	ug/L	0.040	0.0090	1	11/11/21 09:19	11/15/21 15:57	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 15:57	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/11/21 09:19	11/15/21 15:57	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	11/11/21 09:19	11/15/21 15:57	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 15:57	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/11/21 09:19	11/15/21 15:57	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/11/21 09:19	11/15/21 15:57	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/11/21 09:19	11/15/21 15:57	206-44-0	
Fluorene	0.0077J	ug/L	0.040	0.0060	1	11/11/21 09:19	11/15/21 15:57	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/11/21 09:19	11/15/21 15:57	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.040	0.0067	1	11/11/21 09:19	11/15/21 15:57	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 15:57	91-57-6	
Naphthalene	0.0090J	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 15:57	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/11/21 09:19	11/15/21 15:57	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	11/11/21 09:19	11/15/21 15:57	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	69	%	52-125		1	11/11/21 09:19	11/15/21 15:57	321-60-8	
p-Terphenyl-d14 (S)	77	%	54-125		1	11/11/21 09:19	11/15/21 15:57	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-26-202111 Lab ID: 10587014005 Collected: 11/09/21 12:50 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 07:01	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 07:01	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 07:01	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 07:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 07:01	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 07:01	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/13/21 07:01	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 07:01	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	26.2	mg/L	5.0	1.8	1		11/23/21 15:29		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	26.8	mg/L	1.2	0.34	1		11/15/21 18:51	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	0.056J	mg/L	0.10	0.018	1		11/10/21 23:11	14797-55-8	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-38-202111 Lab ID: 10587014006 Collected: 11/09/21 14:15 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	28.2	mg/L	2.0	0.59	5	11/11/21 09:23	11/22/21 17:11	68334-30-5	
Motor Oil Range SG	ND	mg/L	2.0	0.92	5	11/11/21 09:23	11/22/21 17:11	64742-65-0	
Surrogates									
o-Terphenyl (S)	137	%	50-150		5	11/11/21 09:23	11/22/21 17:11	84-15-1	
n-Triacontane (S)	107	%	50-150		5	11/11/21 09:23	11/22/21 17:11		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	5540	ug/L	500	158	5	11/18/21 20:42	11/18/21 20:42		
Surrogates									
a,a,a-Trifluorotoluene (FID)	97.6	%	78.0-120		5	11/18/21 20:42	11/18/21 20:42	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	135000	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:31		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	45.0	ug/L	0.50	0.083	1	11/12/21 13:56	11/20/21 00:12	7440-38-2	
Manganese, Dissolved	1250	ug/L	5.0	2.0	10	11/12/21 13:56	11/22/21 14:20	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	2.5	ug/L	0.040	0.0069	1	11/11/21 09:19	11/15/21 16:19	83-32-9	
Acenaphthylene	0.37	ug/L	0.040	0.0061	1	11/11/21 09:19	11/15/21 16:19	208-96-8	
Anthracene	1.2	ug/L	0.040	0.0054	1	11/11/21 09:19	11/15/21 16:19	120-12-7	
Benzo(a)anthracene	0.10	ug/L	0.040	0.0090	1	11/11/21 09:19	11/15/21 16:19	56-55-3	
Benzo(a)pyrene	0.072	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 16:19	50-32-8	
Benzo(b)fluoranthene	0.068	ug/L	0.040	0.0095	1	11/11/21 09:19	11/15/21 16:19	205-99-2	
Benzo(g,h,i)perylene	0.053	ug/L	0.040	0.0081	1	11/11/21 09:19	11/15/21 16:19	191-24-2	
Benzo(k)fluoranthene	0.024J	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 16:19	207-08-9	
Chrysene	0.20	ug/L	0.040	0.0094	1	11/11/21 09:19	11/15/21 16:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/11/21 09:19	11/15/21 16:19	53-70-3	
Fluoranthene	0.29	ug/L	0.040	0.014	1	11/11/21 09:19	11/15/21 16:19	206-44-0	
Fluorene	3.2	ug/L	0.040	0.0060	1	11/11/21 09:19	11/15/21 16:19	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/11/21 09:19	11/15/21 16:19	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.040	0.0067	1	11/11/21 09:19	11/15/21 16:19	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 16:19	91-57-6	
Naphthalene	1.0	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 16:19	91-20-3	
Phenanthrene	3.4	ug/L	0.040	0.012	1	11/11/21 09:19	11/15/21 16:19	85-01-8	
Pyrene	0.75	ug/L	0.040	0.0099	1	11/11/21 09:19	11/15/21 16:19	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%	52-125		1	11/11/21 09:19	11/15/21 16:19	321-60-8	
p-Terphenyl-d14 (S)	45	%	54-125		1	11/11/21 09:19	11/15/21 16:19	1718-51-0	S5

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-38-202111 Lab ID: 10587014006 Collected: 11/09/21 14:15 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	4.0	ug/L	1.0	0.10	1		11/15/21 18:40	71-43-2	
Ethylbenzene	0.82J	ug/L	1.0	0.11	1		11/15/21 18:40	100-41-4	
Toluene	3.3	ug/L	1.0	0.10	1		11/15/21 18:40	108-88-3	
m&p-Xylene	3.9	ug/L	2.0	0.20	1		11/15/21 18:40	179601-23-1	
o-Xylene	2.0	ug/L	1.0	0.18	1		11/15/21 18:40	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	103	%	70-130		1		11/15/21 18:40	2199-69-1	
4-Bromofluorobenzene (S)	105	%	75-125		1		11/15/21 18:40	460-00-4	
Toluene-d8 (S)	106	%	75-125		1		11/15/21 18:40	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	163	mg/L	5.0	1.8	1		11/23/21 15:32		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	0.70J	mg/L	1.2	0.34	1		11/15/21 19:07	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/10/21 23:12	14797-55-8	FS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-37-202111 Lab ID: 10587014007 Collected: 11/09/21 15:40 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.24J	mg/L	0.40	0.12	1	11/11/21 09:23	11/19/21 22:32	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/11/21 09:23	11/19/21 22:32	64742-65-0	
Surrogates									
o-Terphenyl (S)	92	%	50-150		1	11/11/21 09:23	11/19/21 22:32	84-15-1	
n-Triacontane (S)	110	%	50-150		1	11/11/21 09:23	11/19/21 22:32		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	34.7J	ug/L	100	31.6	1	11/16/21 10:50	11/16/21 10:50		J
Surrogates									
a,a,a-Trifluorotoluene (FID)	107	%	78.0-120		1	11/16/21 10:50	11/16/21 10:50	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	62000	ug/L	3300	76.7	1	11/12/21 13:14	11/17/21 12:33		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	2.1	ug/L	0.50	0.083	1	11/12/21 13:56	11/20/21 00:15	7440-38-2	
Manganese, Dissolved	75.4	ug/L	0.50	0.20	1	11/12/21 13:56	11/20/21 00:15	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.024J	ug/L	0.040	0.0069	1	11/11/21 09:19	11/15/21 16:41	83-32-9	
Acenaphthylene	0.0074J	ug/L	0.040	0.0061	1	11/11/21 09:19	11/15/21 16:41	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/11/21 09:19	11/15/21 16:41	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	11/11/21 09:19	11/15/21 16:41	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 16:41	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/11/21 09:19	11/15/21 16:41	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	11/11/21 09:19	11/15/21 16:41	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 16:41	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/11/21 09:19	11/15/21 16:41	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/11/21 09:19	11/15/21 16:41	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/11/21 09:19	11/15/21 16:41	206-44-0	
Fluorene	0.029J	ug/L	0.040	0.0060	1	11/11/21 09:19	11/15/21 16:41	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/11/21 09:19	11/15/21 16:41	193-39-5	
1-Methylnaphthalene	0.020J	ug/L	0.040	0.0067	1	11/11/21 09:19	11/15/21 16:41	90-12-0	
2-Methylnaphthalene	0.019J	ug/L	0.040	0.0083	1	11/11/21 09:19	11/15/21 16:41	91-57-6	
Naphthalene	0.033J	ug/L	0.040	0.0088	1	11/11/21 09:19	11/15/21 16:41	91-20-3	
Phenanthrene	0.031J	ug/L	0.040	0.012	1	11/11/21 09:19	11/15/21 16:41	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	11/11/21 09:19	11/15/21 16:41	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	52-125		1	11/11/21 09:19	11/15/21 16:41	321-60-8	
p-Terphenyl-d14 (S)	75	%	54-125		1	11/11/21 09:19	11/15/21 16:41	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587014

Sample: PEO-MW-37-202111 Lab ID: 10587014007 Collected: 11/09/21 15:40 Received: 11/10/21 18:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.12	1		11/13/21 07:16	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		11/13/21 07:16	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		11/13/21 07:16	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		11/13/21 07:16	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		11/13/21 07:16	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/13/21 07:16	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/13/21 07:16	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/13/21 07:16	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	48.7	mg/L	5.0	1.8	1		11/23/21 15:41		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	34.4	mg/L	1.2	0.34	1		11/15/21 19:23	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	0.024J	mg/L	0.10	0.018	1		11/10/21 23:13	14797-55-8	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 1774385 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPHGX Analysis Description: VOA (GC) NWTPHGX
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10587014001, 10587014002, 10587014003, 10587014004, 10587014005, 10587014007

METHOD BLANK: R3731084-2 Matrix: Water
Associated Lab Samples: 10587014001, 10587014002, 10587014003, 10587014004, 10587014005, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/16/21 04:30	
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/16/21 04:30	

LABORATORY CONTROL SAMPLE: R3731084-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5310	96.5	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			100	78.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3731084-3 R3731084-4

Parameter	Units	10587014002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH (C06-C12)	ug/L	763	5500	5500	3010	3500	40.9	49.8	10.0-155	15.1	21	
a,a,a-Trifluorotoluene (FID)	%						85.4	84.1	78.0-120			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 1774385 Analysis Method: NWTPH-Gx
QC Batch Method: 8021B/NWTPHGX Analysis Description: VOA (GC) NWTPHGX
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 10587014001, 10587014002, 10587014003, 10587014004, 10587014005, 10587014007

METHOD BLANK: R3731084-2 Matrix: Water
Associated Lab Samples: 10587014001, 10587014002, 10587014003, 10587014004, 10587014005, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	ND	100	31.6	11/16/21 04:30	
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/16/21 04:30	

LABORATORY CONTROL SAMPLE: R3731084-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5310	96.5	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			100	78.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3731084-3 R3731084-4

Parameter	Units	10587014002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH (C06-C12)	ug/L	763	5500	5500	3010	3500	40.9	49.8	10.0-155	15.1	21	
a,a,a-Trifluorotoluene (FID)	%						85.4	84.1	78.0-120			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 1776661	Analysis Method: NWTPH-Gx
QC Batch Method: NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10587014006

METHOD BLANK: R3731412-3 Matrix: Water

Associated Lab Samples: 10587014006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	35.8J	100	31.6	11/18/21 15:13	J
a,a,a-Trifluorotoluene (FID)	%	95.9	78.0-120		11/18/21 15:13	

LABORATORY CONTROL SAMPLE & LCSD: R3731412-2 R3731412-4

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH (C06-C12)	ug/L	5500	4970	5430	90.4	98.7	70.0-124	8.85	20	
a,a,a-Trifluorotoluene (FID)	%				103	99.6	78.0-120			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 1776661	Analysis Method: NWTPH-Gx
QC Batch Method: 8021B/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10587014006

METHOD BLANK: R3731412-3 Matrix: Water
Associated Lab Samples: 10587014006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	35.8J	100	31.6	11/18/21 15:13	J
a,a,a-Trifluorotoluene (FID)	%	95.9	78.0-120		11/18/21 15:13	

Parameter	Units	R3731412-2		R3731412-4		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec				
TPH (C06-C12)	ug/L	5500	4970	5430	90.4	98.7	70.0-124	8.85	20
a,a,a-Trifluorotoluene (FID)	%				103	99.6	78.0-120		

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 783016 Analysis Method: EPA 6020A
QC Batch Method: EPA 3020A Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

METHOD BLANK: 4168709 Matrix: Water
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	11/19/21 23:08	
Manganese, Dissolved	ug/L	0.20J	0.50	0.20	11/19/21 23:08	

LABORATORY CONTROL SAMPLE: 4168710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	110	110	80-120	
Manganese, Dissolved	ug/L	100	111	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4168711 4168712

Parameter	Units	10587014002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	29.7	100	100	138	140	109	110	75-125	1	20	
Manganese, Dissolved	ug/L	2370	100	100	2600	2630	229	253	75-125	1	20	E,P6

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 783431 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587014001, 10587014002, 10587014003, 10587014004

METHOD BLANK: 4171020 Matrix: Water
Associated Lab Samples: 10587014001, 10587014002, 10587014003, 10587014004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	11/13/21 00:00	
Ethylbenzene	ug/L	ND	1.0	0.069	11/13/21 00:00	
m&p-Xylene	ug/L	ND	2.0	0.18	11/13/21 00:00	
o-Xylene	ug/L	ND	1.0	0.12	11/13/21 00:00	
Toluene	ug/L	ND	1.0	0.11	11/13/21 00:00	
1,2-Dichlorobenzene-d4 (S)	%	101	70-130		11/13/21 00:00	
4-Bromofluorobenzene (S)	%	101	75-125		11/13/21 00:00	
Toluene-d8 (S)	%	102	75-125		11/13/21 00:00	

LABORATORY CONTROL SAMPLE: 4171021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.8	94	73-125	
Ethylbenzene	ug/L	20	17.5	88	75-125	
m&p-Xylene	ug/L	40	35.1	88	75-125	
o-Xylene	ug/L	20	17.3	87	75-125	
Toluene	ug/L	20	17.7	88	75-125	
1,2-Dichlorobenzene-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4171052 4171053

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10587014002 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	5.8	10	10	14.6	15.9	88	101	60-125	9	30
Ethylbenzene	ug/L	1.6	10	10	8.5	10	70	84	61-125	15	30
m&p-Xylene	ug/L	8.0	20	20	21.6	24.4	68	82	62-125	12	30
o-Xylene	ug/L	3.8	10	10	10.5	12.0	67	82	60-127	13	30
Toluene	ug/L	7.8	10	10	15.7	17.0	79	91	61-125	8	30
1,2-Dichlorobenzene-d4 (S)	%						101	102	70-130		
4-Bromofluorobenzene (S)	%						103	103	75-125		
Toluene-d8 (S)	%						103	103	75-125		

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 783438 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587014005, 10587014007

METHOD BLANK: 4171046 Matrix: Water

Associated Lab Samples: 10587014005, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	11/13/21 00:15	
Ethylbenzene	ug/L	ND	1.0	0.069	11/13/21 00:15	
m&p-Xylene	ug/L	ND	2.0	0.18	11/13/21 00:15	
o-Xylene	ug/L	ND	1.0	0.12	11/13/21 00:15	
Toluene	ug/L	ND	1.0	0.11	11/13/21 00:15	
1,2-Dichlorobenzene-d4 (S)	%	101	70-130		11/13/21 00:15	
4-Bromofluorobenzene (S)	%	102	75-125		11/13/21 00:15	
Toluene-d8 (S)	%	102	75-125		11/13/21 00:15	

LABORATORY CONTROL SAMPLE: 4171047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.2	91	73-125	
Ethylbenzene	ug/L	20	16.9	85	75-125	
m&p-Xylene	ug/L	40	34.0	85	75-125	
o-Xylene	ug/L	20	16.9	84	75-125	
Toluene	ug/L	20	17.3	86	75-125	
1,2-Dichlorobenzene-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			102	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4171048 4171049

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10587336017 Result	Spike Conc.	Spike Conc.	Result							
Benzene	ug/L	ND	10	10	10.6	10.5	106	104	60-125	2	30	
Ethylbenzene	ug/L	ND	10	10	8.8	9.0	88	90	61-125	3	30	
m&p-Xylene	ug/L	ND	20	20	17.0	17.7	85	88	62-125	4	30	
o-Xylene	ug/L	ND	10	10	8.7	8.6	87	86	60-127	1	30	
Toluene	ug/L	ND	10	10	9.4	9.7	94	97	61-125	3	30	
1,2-Dichlorobenzene-d4 (S)	%						100	100	70-130			
4-Bromofluorobenzene (S)	%						102	102	75-125			
Toluene-d8 (S)	%						102	103	75-125			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 783858	Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D	Analysis Description: 8260D MSV UST-WATER
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587014006

METHOD BLANK: 4173111 Matrix: Water

Associated Lab Samples: 10587014006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.10	11/15/21 15:47	
Ethylbenzene	ug/L	ND	1.0	0.11	11/15/21 15:47	
m&p-Xylene	ug/L	ND	2.0	0.20	11/15/21 15:47	
o-Xylene	ug/L	ND	1.0	0.18	11/15/21 15:47	
Toluene	ug/L	ND	1.0	0.10	11/15/21 15:47	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		11/15/21 15:47	
4-Bromofluorobenzene (S)	%	102	75-125		11/15/21 15:47	
Toluene-d8 (S)	%	102	75-125		11/15/21 15:47	

LABORATORY CONTROL SAMPLE & LCSD: 4173112 4173113

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.3	18.9	97	95	73-125	2	20	
Ethylbenzene	ug/L	20	17.8	17.5	89	87	75-125	2	20	
m&p-Xylene	ug/L	40	36.0	35.5	90	89	75-125	1	20	
o-Xylene	ug/L	20	17.7	17.5	89	88	75-125	1	20	
Toluene	ug/L	20	17.9	17.9	90	89	75-125	0	20	
1,2-Dichlorobenzene-d4 (S)	%				101	101	70-130			
4-Bromofluorobenzene (S)	%				104	103	75-125			
Toluene-d8 (S)	%				100	101	75-125			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 783038 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

METHOD BLANK: 4168786 Matrix: Water
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/15/21 13:02	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/15/21 13:02	
Acenaphthene	ug/L	ND	0.040	0.0069	11/15/21 13:02	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/15/21 13:02	
Anthracene	ug/L	ND	0.040	0.0054	11/15/21 13:02	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/15/21 13:02	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/15/21 13:02	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/15/21 13:02	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/15/21 13:02	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/15/21 13:02	
Chrysene	ug/L	ND	0.040	0.0094	11/15/21 13:02	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/15/21 13:02	
Fluoranthene	ug/L	ND	0.040	0.014	11/15/21 13:02	
Fluorene	ug/L	ND	0.040	0.0060	11/15/21 13:02	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/15/21 13:02	
Naphthalene	ug/L	ND	0.040	0.0088	11/15/21 13:02	
Phenanthrene	ug/L	ND	0.040	0.012	11/15/21 13:02	
Pyrene	ug/L	ND	0.040	0.0099	11/15/21 13:02	
2-Fluorobiphenyl (S)	%	69	52-125		11/15/21 13:02	
p-Terphenyl-d14 (S)	%	72	54-125		11/15/21 13:02	

LABORATORY CONTROL SAMPLE: 4168787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	1	0.74	74	34-125	
2-Methylnaphthalene	ug/L	1	0.75	75	34-125	
Acenaphthene	ug/L	1	0.77	77	35-125	
Acenaphthylene	ug/L	1	0.77	77	33-125	
Anthracene	ug/L	1	0.76	76	42-125	
Benzo(a)anthracene	ug/L	1	0.81	81	46-125	
Benzo(a)pyrene	ug/L	1	0.78	78	57-125	
Benzo(b)fluoranthene	ug/L	1	0.77	77	58-125	
Benzo(g,h,i)perylene	ug/L	1	0.86	86	55-125	
Benzo(k)fluoranthene	ug/L	1	0.85	85	55-125	
Chrysene	ug/L	1	0.77	77	56-125	
Dibenz(a,h)anthracene	ug/L	1	0.78	78	40-125	
Fluoranthene	ug/L	1	0.77	77	64-125	
Fluorene	ug/L	1	0.76	76	43-125	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.83	83	57-125	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

LABORATORY CONTROL SAMPLE: 4168787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	1	0.74	74	30-125	
Phenanthrene	ug/L	1	0.79	79	47-125	
Pyrene	ug/L	1	0.80	80	46-125	
2-Fluorobiphenyl (S)	%			72	52-125	
p-Terphenyl-d14 (S)	%			76	54-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4168788 4168789

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10587014002 Result	Spike Conc.	Spike Conc.	MS Result						
1-Methylnaphthalene	ug/L	1.4	1	1	2.0	2.1	62	68	30-150	2	30
2-Methylnaphthalene	ug/L	0.22	1	1	1.3	1.2	101	102	30-150	1	30
Acenaphthene	ug/L	1.8	1	1	2.7	2.8	80	95	30-125	5	30
Acenaphthylene	ug/L	0.25	1	1	1.0	1.1	74	84	30-125	9	30
Anthracene	ug/L	ND	1	1	0.86	0.88	85	88	42-125	2	30
Benzo(a)anthracene	ug/L	ND	1	1	0.75	0.75	74	75	46-125	0	30
Benzo(a)pyrene	ug/L	ND	1	1	0.68	0.68	67	68	53-125	0	30
Benzo(b)fluoranthene	ug/L	ND	1	1	0.69	0.69	68	69	54-125	1	30
Benzo(g,h,i)perylene	ug/L	ND	1	1	0.75	0.74	74	74	55-125	1	30
Benzo(k)fluoranthene	ug/L	ND	1	1	0.70	0.69	69	69	55-125	1	30
Chrysene	ug/L	ND	1	1	0.75	0.75	74	75	52-125	1	30
Dibenz(a,h)anthracene	ug/L	ND	1	1	0.69	0.68	68	68	40-125	1	30
Fluoranthene	ug/L	0.063	1	1	0.83	0.83	75	77	61-125	1	30
Fluorene	ug/L	1.7	1	1	2.2	2.3	57	67	43-125	4	30
Indeno(1,2,3-cd)pyrene	ug/L	ND	1	1	0.68	0.68	67	68	54-125	0	30
Naphthalene	ug/L	1.5	1	1	2.4	2.4	90	98	30-125	2	30
Phenanthrene	ug/L	ND	1	1	0.81	0.82	80	82	44-125	1	30
Pyrene	ug/L	0.074	1	1	0.81	0.81	73	74	46-125	0	30
2-Fluorobiphenyl (S)	%						77	75	52-125		
p-Terphenyl-d14 (S)	%						69	68	54-125		

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 783026 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

METHOD BLANK: 4168751 Matrix: Water
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	11/19/21 20:48	
Motor Oil Range SG	mg/L	ND	0.40	0.18	11/19/21 20:48	
n-Triacontane (S)	%	103	50-150		11/19/21 20:48	
o-Terphenyl (S)	%	84	50-150		11/19/21 20:48	

LABORATORY CONTROL SAMPLE: 4168752

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.9	93	50-150	
Motor Oil Range SG	mg/L	2	1.9	97	50-150	
n-Triacontane (S)	%			102	50-150	
o-Terphenyl (S)	%			84	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4168754 4168755

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10587014002 Result	Spike Conc.	Spike Conc.	Result						
Diesel Fuel Range SG	mg/L	3.1	2	2	6.1	5.7	149	128	50-150	7	30
Motor Oil Range SG	mg/L	ND	2	2	2.1	2.1	96	98	50-150	1	30
n-Triacontane (S)	%						99	92	50-150		
o-Terphenyl (S)	%						88	88	50-150		

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 785338 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

METHOD BLANK: 4181280 Matrix: Water
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	11/23/21 13:26	

LABORATORY CONTROL SAMPLE & LCSD: 4181281 4181282

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	40.7	40.7	102	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4181283 4181284

Parameter	Units	10587014002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	182	40	40	221	221	97	96	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4181285 4181286

Parameter	Units	10587014003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	41.0	40	40	79.5	79.3	96	96	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 783714 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

METHOD BLANK: 4172673 Matrix: Water
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	11/15/21 13:32	

LABORATORY CONTROL SAMPLE: 4172674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	45.6	91	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172675 4172676

Parameter	Units	10587014002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	3.0	50	50	50.5	52.0	95	98	80-120	3	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587014

QC Batch: 782985	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, preserved
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

METHOD BLANK: 4168614 Matrix: Water
Associated Lab Samples: 10587014002, 10587014003, 10587014004, 10587014005, 10587014006, 10587014007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	11/11/21 22:39	FS

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 053831
Pace Project No.: 10587014

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 10587014

[2] The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: 783858

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

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

FS The sample was filtered in the laboratory prior to analysis.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831
Pace Project No.: 10587014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10587014002	PEO-MW-36-202111	EPA Mod. 3510C	783026	NWTPH-Dx	785233
10587014003	PEO-MW-27-202111	EPA Mod. 3510C	783026	NWTPH-Dx	785233
10587014004	PEO-MW-Z2-202111	EPA Mod. 3510C	783026	NWTPH-Dx	785233
10587014005	PEO-MW-26-202111	EPA Mod. 3510C	783026	NWTPH-Dx	785233
10587014006	PEO-MW-38-202111	EPA Mod. 3510C	783026	NWTPH-Dx	785233
10587014007	PEO-MW-37-202111	EPA Mod. 3510C	783026	NWTPH-Dx	785233
10587014001	TRIP BLANK-20211109	NWTPHGX	1774385	NWTPH-Gx	1774385
10587014002	PEO-MW-36-202111	NWTPHGX	1774385	NWTPH-Gx	1774385
10587014003	PEO-MW-27-202111	NWTPHGX	1774385	NWTPH-Gx	1774385
10587014004	PEO-MW-Z2-202111	NWTPHGX	1774385	NWTPH-Gx	1774385
10587014005	PEO-MW-26-202111	NWTPHGX	1774385	NWTPH-Gx	1774385
10587014006	PEO-MW-38-202111	NWTPHGX	1776661	NWTPH-Gx	1776661
10587014007	PEO-MW-37-202111	NWTPHGX	1774385	NWTPH-Gx	1774385
10587014002	PEO-MW-36-202111	EPA 3010A	783010	EPA 6010D	783593
10587014003	PEO-MW-27-202111	EPA 3010A	783010	EPA 6010D	783593
10587014004	PEO-MW-Z2-202111	EPA 3010A	783010	EPA 6010D	783593
10587014005	PEO-MW-26-202111	EPA 3010A	783010	EPA 6010D	783593
10587014006	PEO-MW-38-202111	EPA 3010A	783010	EPA 6010D	783593
10587014007	PEO-MW-37-202111	EPA 3010A	783010	EPA 6010D	783593
10587014002	PEO-MW-36-202111	EPA 3020A	783016	EPA 6020A	783783
10587014003	PEO-MW-27-202111	EPA 3020A	783016	EPA 6020A	783783
10587014004	PEO-MW-Z2-202111	EPA 3020A	783016	EPA 6020A	783783
10587014005	PEO-MW-26-202111	EPA 3020A	783016	EPA 6020A	783783
10587014006	PEO-MW-38-202111	EPA 3020A	783016	EPA 6020A	783783
10587014007	PEO-MW-37-202111	EPA 3020A	783016	EPA 6020A	783783
10587014002	PEO-MW-36-202111	EPA Mod. 3510C	783038	EPA 8270E by SIM	783743
10587014003	PEO-MW-27-202111	EPA Mod. 3510C	783038	EPA 8270E by SIM	783743
10587014004	PEO-MW-Z2-202111	EPA Mod. 3510C	783038	EPA 8270E by SIM	783743
10587014005	PEO-MW-26-202111	EPA Mod. 3510C	783038	EPA 8270E by SIM	783743
10587014006	PEO-MW-38-202111	EPA Mod. 3510C	783038	EPA 8270E by SIM	783743
10587014007	PEO-MW-37-202111	EPA Mod. 3510C	783038	EPA 8270E by SIM	783743
10587014001	TRIP BLANK-20211109	EPA 8260D	783431		
10587014002	PEO-MW-36-202111	EPA 8260D	783431		
10587014003	PEO-MW-27-202111	EPA 8260D	783431		
10587014004	PEO-MW-Z2-202111	EPA 8260D	783431		
10587014005	PEO-MW-26-202111	EPA 8260D	783438		
10587014006	PEO-MW-38-202111	EPA 8260D	783858		
10587014007	PEO-MW-37-202111	EPA 8260D	783438		
10587014002	PEO-MW-36-202111	SM 2320B	785338		
10587014003	PEO-MW-27-202111	SM 2320B	785338		
10587014004	PEO-MW-Z2-202111	SM 2320B	785338		
10587014005	PEO-MW-26-202111	SM 2320B	785338		
10587014006	PEO-MW-38-202111	SM 2320B	785338		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831
Pace Project No.: 10587014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10587014007	PEO-MW-37-202111	SM 2320B	785338		
10587014002	PEO-MW-36-202111	EPA 300.0	783714		
10587014003	PEO-MW-27-202111	EPA 300.0	783714		
10587014004	PEO-MW-Z2-202111	EPA 300.0	783714		
10587014005	PEO-MW-26-202111	EPA 300.0	783714		
10587014006	PEO-MW-38-202111	EPA 300.0	783714		
10587014007	PEO-MW-37-202111	EPA 300.0	783714		
10587014002	PEO-MW-36-202111	EPA 353.2	782985		
10587014003	PEO-MW-27-202111	EPA 353.2	782985		
10587014004	PEO-MW-Z2-202111	EPA 353.2	782985		
10587014005	PEO-MW-26-202111	EPA 353.2	782985		
10587014006	PEO-MW-38-202111	EPA 353.2	782985		
10587014007	PEO-MW-37-202111	EPA 353.2	782985		

REPORT OF LABORATORY ANALYSIS

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10587014

Section A
Required Client Information:

Section B
Required Project Information:

Section C
Invoice Information:

Company: **ERM** Report To: **Rita Cooper** Copy To: _____
 Address: **1050 SW 6th Ave, Suite 1650**
 Portland, OR 97204
 Email To: **rita.cooper@erm.com** Purchase Order No.: _____
 Phone: **207-329-6320** Fax: _____ Project Name: **Julie Bowser**
 Requested Due Date/TAT: **Standard** Project Number: **053831** Pace Profile #: _____

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____

Site Location _____ OR _____
 STATE: _____

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE FOODS WATER DW WT WATER WASTE WATER P WASTE WATER P PRODUCT SL SOIL/SOLID OIL WPE WIP AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS		Unpreserved H ₂ O ₂ HNO ₃ HCl NaOH Na ₂ O ₂ Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.	
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME				DATE
1	TRIP BLANK-20211104				G	GW	6					001
2	PEO-MW-36-202111				G	GW	57	X	X	X	X	002
3	PEO-MW-27-202111				G	GW	19	X	X	X	X	003
4	PEO-MW-22-202111				G	GW	19	X	X	X	X	004
5	PEO-MW-26-202111				G	GW	19	X	X	X	X	005
6	PEO-MW-38-202111				G	GW	19	X	X	X	X	006
7	PEO-MW-37-202111				G	GW	19	X	X	X	X	007
8												
9												
10												
11												
12												

RELINQUISHED BY / AFFILIATION: **A. Johnson / ERM** DATE: **11/9/21** TIME: **17:00**
 ACCEPTED BY / AFFILIATION: *[Signature]* DATE: **11/9/21** TIME: **18:30**
 ADDITIONAL COMMENTS: _____
 SAMPLE CONDITIONS: **y y y**
 Received on Ice Custody Sealed Cooler Samples Intact

Temp in C _____

DATE Signed (MM/DD/YYYY): **11/9/21**

PRINT Name of SAMPLER: **A. Johnson**
 SIGNATURE OF SAMPLER: *[Signature]*

Sample Condition Upon Receipt

Client Name: ERM

Project #: _____

WO# : 10587014

PM: JMT Due Date: 11/29/21

CLIENT: ERM-Oregon

Courier: Fed Ex UPS USPS Client
 Pace SpeedDee Commercial

See Exceptions
ENV-FRM-MIN4-0142

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer: T1(0461) T2(1336) T3(0459) OS418-LS Type of Ice: Wet Blue None Dry Melted
 T4(0254) T5(0489) 160285052

Did Samples Originate in West Virginia? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Were All Container Temps Taken? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Temp should be above freezing to 6°C	Cooler Temp Read w/temp blank: <u>4.9, 8.0, 9.1, 5.2, 6.3</u> °C
Correction Factor: <u>-0.1</u>	Cooler Temp Corrected w/temp blank: <u>4.8, 7.9, 9.0, 5.1, 6.2</u> °C
Average Corrected Temp (no temp blank only): _____ °C	<input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142 <input type="checkbox"/> 1 Container

USDA Regulated Soil: (N/A water sample/Other: _____) Date/Initials of Person Examining Contents: 411 11/10/21
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input checked="" type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Sample # <u>2-7</u> <input type="checkbox"/> NaOH <input checked="" type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate <u>1/1</u> <u>1/1</u>
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Positive for Res. Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No pH Paper Lot# See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip <u>230320</u>
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. See Exception <input type="checkbox"/> ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): <u>318759 (6)</u>

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____
 Comments/Resolution: 11/11 emailed to verify OK to proceed out of temp

Field Data Required? Yes No

Project Manager Review: [Signature]

Date: 11/11/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: 411

3



Pace Analytical Minnesota

Julie Bowser
1700 Elm Street, Ste. 200
Minneapolis, MN 55414

RE: 053831

Work Order Number: 2111279

December 01, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 7 sample(s) on 11/12/2021 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH
Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager



CLIENT: Pace Analytical Minnesota
Project: 053831
Work Order: 2111279

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2111279-001	TRIP BLANK-20211109	11/09/2021 8:00 AM	11/12/2021 12:23 PM
2111279-002	PEO-MW-36-202111	11/09/2021 9:30 AM	11/12/2021 12:23 PM
2111279-002	PEO-MW-36-202111	11/09/2021 9:30 AM	11/12/2021 12:23 PM
2111279-003	PEO-MW-27-202111	11/09/2021 11:30 AM	11/12/2021 12:23 PM
2111279-004	PEO-MW-Z2-202111	11/09/2021 11:35 AM	11/12/2021 12:23 PM
2111279-005	PEO-MW-26-202111	11/09/2021 12:50 PM	11/12/2021 12:23 PM
2111279-006	PEO-MW-38-202111	11/09/2021 2:15 PM	11/12/2021 12:23 PM
2111279-007	PEO-MW-37-202111	11/09/2021 3:40 PM	11/12/2021 12:23 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Pace Analytical Minnesota
Project: 053831

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111279-001

Collection Date: 11/9/2021 8:00:00 AM

Client Sample ID: TRIP BLANK-20211109

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 5:20:25 AM
Surr: 1,4-Difluorobenzene	75.3	65 - 140		%Rec	1	11/18/2021 5:20:25 AM
Surr: Bromofluorobenzene	95.6	65 - 140		%Rec	1	11/18/2021 5:20:25 AM

Lab ID: 2111279-002

Collection Date: 11/9/2021 9:30:00 AM

Client Sample ID: PEO-MW-36-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/30/2021 5:40:41 AM
Surr: 1-Chlorooctadecane	77.7	60 - 140		%Rec	1	11/30/2021 5:40:41 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	95.9	12.2		µg/L	1	11/18/2021 6:19:53 PM
Surr: 1,4-Difluorobenzene	84.8	65 - 140		%Rec	1	11/18/2021 6:19:53 PM
Surr: Bromofluorobenzene	93.9	65 - 140		%Rec	1	11/18/2021 6:19:53 PM

Lab ID: 2111279-002

Collection Date: 11/9/2021 9:30:00 AM

Client Sample ID: PEO-MW-36-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/30/2021 5:40:41 AM
Surr: 1-Chlorooctadecane	77.7	60 - 140		%Rec	1	11/30/2021 5:40:41 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	95.9	12.2		µg/L	1	11/18/2021 6:19:53 PM
Surr: 1,4-Difluorobenzene	84.8	65 - 140		%Rec	1	11/18/2021 6:19:53 PM
Surr: Bromofluorobenzene	93.9	65 - 140		%Rec	1	11/18/2021 6:19:53 PM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111279-003

Collection Date: 11/9/2021 11:30:00 AM

Client Sample ID: PEO-MW-27-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
<u>Extractable Petroleum Hydrocarbons by NWEPH</u>				Batch ID: 34430		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	11/30/2021 8:22:14 PM
Surr: 1-Chlorooctadecane	63.7	60 - 140		%Rec	1	11/30/2021 8:22:14 PM

<u>Volatile Petroleum Hydrocarbons by NWVPH</u>				Batch ID: 34481		Analyst: SLL
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 1:08:19 PM
Surr: 1,4-Difluorobenzene	76.3	65 - 140		%Rec	1	11/18/2021 1:08:19 PM
Surr: Bromofluorobenzene	95.0	65 - 140		%Rec	1	11/18/2021 1:08:19 PM

Lab ID: 2111279-004

Collection Date: 11/9/2021 11:35:00 AM

Client Sample ID: PEO-MW-Z2-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
<u>Extractable Petroleum Hydrocarbons by NWEPH</u>				Batch ID: 34430		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	11/30/2021 9:15:26 PM
Surr: 1-Chlorooctadecane	67.8	60 - 140		%Rec	1	11/30/2021 9:15:26 PM

<u>Volatile Petroleum Hydrocarbons by NWVPH</u>				Batch ID: 34481		Analyst: SLL
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 1:47:14 PM
Surr: 1,4-Difluorobenzene	75.5	65 - 140		%Rec	1	11/18/2021 1:47:14 PM
Surr: Bromofluorobenzene	95.0	65 - 140		%Rec	1	11/18/2021 1:47:14 PM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111279-005

Collection Date: 11/9/2021 12:50:00 PM

Client Sample ID: PEO-MW-26-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	11/30/2021 10:08:33 PM
Surr: 1-Chlorooctadecane	68.2	60 - 140		%Rec	1	11/30/2021 10:08:33 PM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 2:26:02 PM
Surr: 1,4-Difluorobenzene	75.6	65 - 140		%Rec	1	11/18/2021 2:26:02 PM
Surr: Bromofluorobenzene	96.2	65 - 140		%Rec	1	11/18/2021 2:26:02 PM

Lab ID: 2111279-006

Collection Date: 11/9/2021 2:15:00 PM

Client Sample ID: PEO-MW-38-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34430 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	905	20.5		µg/L	1	11/30/2021 11:02:01 PM
Surr: 1-Chlorooctadecane	51.1	60 - 140	S	%Rec	1	11/30/2021 11:02:01 PM

NOTES:

S - Outlying surrogate recovery(ies) observed.

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34481 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	900	611	DJ	µg/L	50	11/18/2021 5:01:49 PM
Surr: 1,4-Difluorobenzene	107	65 - 140		%Rec	1	11/18/2021 6:58:46 PM
Surr: Bromofluorobenzene	96.7	65 - 140	D	%Rec	50	11/18/2021 5:01:49 PM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111279-007

Collection Date: 11/9/2021 3:40:00 PM

Client Sample ID: PEO-MW-37-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
<u>Extractable Petroleum Hydrocarbons by NWEPH</u>				Batch ID: 34430		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	11/30/2021 11:55:23 PM
Surr: 1-Chlorooctadecane	74.6	60 - 140		%Rec	1	11/30/2021 11:55:23 PM
<u>Volatile Petroleum Hydrocarbons by NWVPH</u>				Batch ID: 34481		Analyst: SLL
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/18/2021 3:04:35 PM
Surr: 1,4-Difluorobenzene	77.2	65 - 140		%Rec	1	11/18/2021 3:04:35 PM
Surr: Bromofluorobenzene	93.6	65 - 140		%Rec	1	11/18/2021 3:04:35 PM

Work Order: 2111279
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-34430	SampType: MBLK	Units: µg/L			Prep Date: 11/12/2021	RunNo: 71601					
Client ID: MBLKW	Batch ID: 34430				Analysis Date: 11/29/2021	SeqNo: 1458368					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	39.8		0	0						
Surr: 1-Chlorooctadecane	323		398.2		81.0	60	140				

Sample ID: 2111279-002BMS	SampType: MS	Units: µg/L			Prep Date: 11/12/2021	RunNo: 71601					
Client ID: PEO-MW-36-202111	Batch ID: 34430				Analysis Date: 11/30/2021	SeqNo: 1458535					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	280	39.2	490.2	0	57.1	70	130				S
Surr: 1-Chlorooctadecane	312		392.2		79.6	60	140				

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: LCS-34430	SampType: LCS	Units: µg/L			Prep Date: 11/12/2021	RunNo: 71601					
Client ID: LCSW	Batch ID: 34430				Analysis Date: 11/30/2021	SeqNo: 1458536					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	348	39.8	497.5	0	70.0	70	130				
Surr: 1-Chlorooctadecane	381		398.0		95.8	60	140				

Sample ID: LCSD-34430	SampType: LCSD	Units: µg/L			Prep Date: 11/12/2021	RunNo: 71601					
Client ID: LCSW02	Batch ID: 34430				Analysis Date: 11/30/2021	SeqNo: 1458382					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	348	39.6	494.8	0	70.4	70	130	0	0	20	
Surr: 1-Chlorooctadecane	365		395.8		92.2	60	140		0		

Work Order: 2111279
CLIENT: Pace Analytical Minnesota
Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: 2111279-002BMSD	SampType: MSD	Units: µg/L	Prep Date: 11/12/2021	RunNo: 71601							
Client ID: PEO-MW-36-202111	Batch ID: 34430		Analysis Date: 11/30/2021	SeqNo: 1459387							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	240	40.0	499.8	0	48.0	70	130	279.7	15.3	30	S
Surr: 1-Chlorooctadecane	257		399.9		64.2	60	140		0		

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2111279
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVP

Sample ID: LCS-34481	SampType: LCS	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: LCSW	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455290					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	194	25.0	200.0	0	97.2	70	130				
Surr: 1,4-Difluorobenzene	52.2		50.00		104	65	140				
Surr: Bromofluorobenzene	48.3		50.00		96.6	65	140				

Sample ID: MB-34481	SampType: MBLK	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: MBLKW	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455289					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0						
Surr: 1,4-Difluorobenzene	37.6		50.00		75.3	65	140				
Surr: Bromofluorobenzene	47.8		50.00		95.7	65	140				

Sample ID: 2111245-004BDUP	SampType: DUP	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: BATCH	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455272					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	38.8		50.00		77.7	65	140		0		
Surr: Bromofluorobenzene	47.4		50.00		94.7	65	140		0		

Sample ID: 2111279-002AMS	SampType: MS	Units: µg/L			Prep Date: 11/17/2021	RunNo: 71463					
Client ID: PEO-MW-36-202111	Batch ID: 34481				Analysis Date: 11/18/2021	SeqNo: 1455278					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	294	25.0	200.0	95.89	99.3	70	130				
Surr: 1,4-Difluorobenzene	49.5		50.00		99.1	65	140				
Surr: Bromofluorobenzene	47.9		50.00		95.8	65	140				

Work Order: 2111279
CLIENT: Pace Analytical Minnesota
Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: 2111279-002AMSD	SampType: MSD	Units: µg/L	Prep Date: 11/17/2021	RunNo: 71463							
Client ID: PEO-MW-36-202111	Batch ID: 34481		Analysis Date: 11/18/2021	SeqNo: 1455279							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	301	25.0	200.0	95.89	102	70	130	294.4	2.05	30	
Surr: 1,4-Difluorobenzene	49.5		50.00		98.9	65	140		0		
Surr: Bromofluorobenzene	47.4		50.00		94.8	65	140		0		

Client Name: PACEMI	Work Order Number: 2111279
Logged by: Gabrielle Coeuille	Date Received: 11/12/2021 12:23:00 PM

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
4. Shipping container/cooler in good condition? Yes No
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes No Not Present
6. Was an attempt made to cool the samples? Yes No NA
7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
8. Sample(s) in proper container(s)? Yes No
9. Sufficient sample volume for indicated test(s)? Yes No
10. Are samples properly preserved? Yes No
11. Was preservative added to bottles? Yes No NA
12. Is there headspace in the VOA vials? Yes No NA
13. Did all samples containers arrive in good condition(unbroken)? Yes No
14. Does paperwork match bottle labels? Yes No
15. Are matrices correctly identified on Chain of Custody? Yes No
16. Is it clear what analyses were requested? Yes No
17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample 1	3.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody

PASI Minnesota Laboratory



2111279

Pace Analytical
www.pacelabs.com

Workorder: 10587014

Workorder Name: 053831

Results Requested By: 11/29/2021

Report / Invoice To

Subcontract To

Requested Analysis

Julie Bowser
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone 612-607-6390
Email: julie.bowser@pacelabs.com

Fremont Analytical
3600 Fremont Ave. N
Seattle, WA 98103

P.O. 10587014

State of Sample Origin: OR

Preserved Containers

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	HCL VG9H + AG1H	NWTPH VPH (Aliphatics C10-C12)	NWTPH EPH (Aliphatics C10-C12)	LAB USE ONLY
1	TRIP BLANK-20211109	11/9/2021 08:00	10587014001	Water	2	X		
2	PEO-MW-36-202111	11/9/2021 09:30	10587014002	Water	15	X		MS/MSD 9 VG9H 5 AG1H
3	PEO-MW-27-202111	11/9/2021 11:30	10587014003	Water	3	X		
4	PEO-MW-Z2-202111	11/9/2021 11:35	10587014004	Water	3	X		
5	PEO-MW-26-202111	11/9/2021 12:50	10587014005	Water	3	X		
6	PEO-MW-38-202111	11/9/2021 14:15	10587014006	Water	3	X		
7	PEO-MW-37-202111	11/9/2021 15:40	10587014007	Water	3	X		

Comments: report to MDL EQUIS EDD needed

Transfers	Released By	Date/Time	Received By	Date/Time	Cooler Temperature on Receipt °C	Custody Seal	Received on Ice	Samples Intact
1	<i>Julie Bowser</i>	11/12/21	<i>[Signature]</i>	11/22/21	58	Y	Y	Y
2								
3								

34 OK with us

December 14, 2021

Joe Casey
ERM Portland
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

RE: Project: 053831-Revised Report
Pace Project No.: 10587240

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Minneapolis

The newest method revisions, 8260D and 8270E were analyzed on this project due to Pace no longer offering them.

This report was revised on December 14, 2021, to update the sample ID's on the subcontract labs report.

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

Sincerely,



Julie Bowser
julie.bowser@pacelabs.com
612-607-6390
Project Manager

Enclosures

cc: Rita Cooper, ERM Portland
ERM Global EDD Mailbox, ERM
Stephanie Frith, ERM Portland

Rachel James, ERM Portland



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 053831-Revised Report

Pace Project No.: 10587240

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

A2LA Certification #: 2926.01*

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009*

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014*

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605*

Georgia Certification #: 959

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086*

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064*

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137*

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240*

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081*

New Jersey Certification #: MN002

New York Certification #: 11647*

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Ohio VAP Certification (1800) #: CL110*

Oklahoma Certification #: 9507*

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001*

Pennsylvania Certification #: 68-00563*

Puerto Rico Certification #: MN00064

South Carolina Certification #:74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192*

Utah Certification #: MN00064*

Vermont Certification #: VT-027053137

Virginia Certification #: 460163*

Washington Certification #: C486*

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 053831-Revised Report

Pace Project No.: 10587240

Pace Analytical Services National

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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SAMPLE SUMMARY

Project: 053831-Revised Report
Pace Project No.: 10587240

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10587240001	TRIP BLANK-20211110	Water	11/10/21 08:00	11/11/21 18:50
10587240002	PEO-MW-43-202111	Water	11/10/21 08:30	11/11/21 18:50
10587240003	PEO-MW-39-202111	Water	11/10/21 09:50	11/11/21 18:50
10587240004	PEO-MW-35-202111	Water	11/10/21 10:55	11/11/21 18:50
10587240005	PEO-MW-34-202111	Water	11/10/21 11:50	11/11/21 18:50
10587240006	PEO-MW-02-202111	Water	11/10/21 14:10	11/11/21 18:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831-Revised Report

Pace Project No.: 10587240

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10587240001	TRIP BLANK-20211110	NWTPH-Gx	JAH	2	PAN
		EPA 8260D	ZH	8	PASI-M
10587240002	PEO-MW-43-202111	NWTPH-Dx	EB3	4	PASI-M
		NWTPH-Gx	JAH	2	PAN
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	PW1	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
		10587240003	PEO-MW-39-202111	NWTPH-Dx	EB3
NWTPH-Gx	JAH			2	PAN
EPA 6010D	DM			1	PASI-M
EPA 6020A	PW1			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M
EPA 353.2	AR3			1	PASI-M
10587240004	PEO-MW-35-202111			NWTPH-Dx	EB3
		NWTPH-Gx	JAH	2	PAN
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	PW1	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
		10587240005	PEO-MW-34-202111	NWTPH-Dx	EB3
NWTPH-Gx	JAH			2	PAN
EPA 6010D	DM			1	PASI-M
EPA 6020A	PW1			2	PASI-M
EPA 8270E by SIM	SP2			20	PASI-M
EPA 8260D	ZH			8	PASI-M
SM 2320B	AB3			1	PASI-M
EPA 300.0	KEO			1	PASI-M

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SAMPLE ANALYTE COUNT

Project: 053831-Revised Report

Pace Project No.: 10587240

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10587240006	PEO-MW-02-202111	EPA 353.2	AR3	1	PASI-M
		NWTPH-Dx	EB3	4	PASI-M
		NWTPH-Gx	JAH	2	PAN
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	PW1	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M

PAN = Pace National - Mt. Juliet

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: TRIP BLANK-20211110 Lab ID: 10587240001 Collected: 11/10/21 08:00 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX									
Pace National - Mt. Juliet									
TPH (C06-C12)	38.0J	ug/L	100	31.6	1	11/18/21 15:17	11/18/21 15:17		B,J
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/18/21 15:17	11/18/21 15:17	98-08-8FID	
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.10	1		11/15/21 16:19	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 16:19	100-41-4	
Toluene	0.69J	ug/L	1.0	0.10	1		11/15/21 16:19	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.20	1		11/15/21 16:19	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 16:19	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/15/21 16:19	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/15/21 16:19	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/15/21 16:19	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-43-202111 Lab ID: 10587240002 Collected: 11/10/21 08:30 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	3.0	mg/L	0.39	0.12	1	11/12/21 13:23	11/19/21 18:08	68334-30-5	
Motor Oil Range SG	0.29J	mg/L	0.39	0.18	1	11/12/21 13:23	11/19/21 18:08	64742-65-0	
Surrogates									
o-Terphenyl (S)	80	%	50-150		1	11/12/21 13:23	11/19/21 18:08	84-15-1	
n-Triacontane (S)	73	%	50-150		1	11/12/21 13:23	11/19/21 18:08		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	1350	ug/L	100	31.6	1	11/18/21 16:26	11/18/21 16:26		
Surrogates									
a,a,a-Trifluorotoluene (FID)	106	%	78.0-120		1	11/18/21 16:26	11/18/21 16:26	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	69500	ug/L	3300	76.7	1	11/16/21 13:55	11/22/21 11:40		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	27.4	ug/L	2.5	0.41	5	11/16/21 13:55	11/22/21 18:12	7440-38-2	
Manganese, Dissolved	1750	ug/L	2.5	1.0	5	11/16/21 13:55	11/22/21 18:12	7439-96-5	P6
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.74	ug/L	0.041	0.0070	1	11/12/21 12:01	11/15/21 18:08	83-32-9	
Acenaphthylene	0.032J	ug/L	0.041	0.0062	1	11/12/21 12:01	11/15/21 18:08	208-96-8	
Anthracene	0.047	ug/L	0.041	0.0055	1	11/12/21 12:01	11/15/21 18:08	120-12-7	
Benzo(a)anthracene	0.012J	ug/L	0.041	0.0092	1	11/12/21 12:01	11/15/21 18:08	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/12/21 12:01	11/15/21 18:08	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/12/21 12:01	11/15/21 18:08	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/12/21 12:01	11/15/21 18:08	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/12/21 12:01	11/15/21 18:08	207-08-9	
Chrysene	0.012J	ug/L	0.041	0.0096	1	11/12/21 12:01	11/15/21 18:08	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/12/21 12:01	11/15/21 18:08	53-70-3	
Fluoranthene	0.027J	ug/L	0.041	0.014	1	11/12/21 12:01	11/15/21 18:08	206-44-0	
Fluorene	0.36	ug/L	0.041	0.0062	1	11/12/21 12:01	11/15/21 18:08	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/12/21 12:01	11/15/21 18:08	193-39-5	
1-Methylnaphthalene	0.28	ug/L	0.041	0.0069	1	11/12/21 12:01	11/15/21 18:08	90-12-0	
2-Methylnaphthalene	0.030J	ug/L	0.041	0.0084	1	11/12/21 12:01	11/15/21 18:08	91-57-6	
Naphthalene	0.48	ug/L	0.041	0.0090	1	11/12/21 12:01	11/15/21 18:08	91-20-3	
Phenanthrene	0.068	ug/L	0.041	0.012	1	11/12/21 12:01	11/15/21 18:08	85-01-8	
Pyrene	0.052	ug/L	0.041	0.010	1	11/12/21 12:01	11/15/21 18:08	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%	52-125		1	11/12/21 12:01	11/15/21 18:08	321-60-8	
p-Terphenyl-d14 (S)	54	%	54-125		1	11/12/21 12:01	11/15/21 18:08	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-43-202111 Lab ID: 10587240002 Collected: 11/10/21 08:30 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.96J	ug/L	1.0	0.10	1		11/15/21 19:26	71-43-2	
Ethylbenzene	0.45J	ug/L	1.0	0.11	1		11/15/21 19:26	100-41-4	
Toluene	0.52J	ug/L	1.0	0.10	1		11/15/21 19:26	108-88-3	
m&p-Xylene	1.8J	ug/L	2.0	0.20	1		11/15/21 19:26	179601-23-1	
o-Xylene	0.35J	ug/L	1.0	0.18	1		11/15/21 19:26	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		11/15/21 19:26	2199-69-1	
4-Bromofluorobenzene (S)	105	%	75-125		1		11/15/21 19:26	460-00-4	
Toluene-d8 (S)	104	%	75-125		1		11/15/21 19:26	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	94.2	mg/L	5.0	1.8	1		11/24/21 11:53		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	3.8	mg/L	1.2	0.34	1		11/18/21 14:11	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/11/21 22:44	14797-55-8	FS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-39-202111 Lab ID: 10587240003 Collected: 11/10/21 09:50 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	7.6	mg/L	0.40	0.12	1	11/12/21 13:23	11/19/21 18:31	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/12/21 13:23	11/19/21 18:31	64742-65-0	
Surrogates									
o-Terphenyl (S)	84	%	50-150		1	11/12/21 13:23	11/19/21 18:31	84-15-1	
n-Triacontane (S)	73	%	50-150		1	11/12/21 13:23	11/19/21 18:31		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	2600	ug/L	100	31.6	1	11/18/21 16:50	11/18/21 16:50		
Surrogates									
a,a,a-Trifluorotoluene (FID)	67.7	%	78.0-120		1	11/18/21 16:50	11/18/21 16:50	98-08-8FID	SR
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	158000	ug/L	3300	76.7	1	11/16/21 13:55	11/22/21 11:42		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	51.3	ug/L	2.5	0.41	5	11/16/21 13:55	11/22/21 18:35	7440-38-2	
Manganese, Dissolved	3300	ug/L	10.0	4.0	20	11/16/21 13:55	11/23/21 13:10	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	2.0	ug/L	0.040	0.0070	1	11/12/21 12:01	11/15/21 18:30	83-32-9	
Acenaphthylene	0.31	ug/L	0.040	0.0061	1	11/12/21 12:01	11/15/21 18:30	208-96-8	
Anthracene	0.081	ug/L	0.040	0.0054	1	11/12/21 12:01	11/15/21 18:30	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0091	1	11/12/21 12:01	11/15/21 18:30	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0089	1	11/12/21 12:01	11/15/21 18:30	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0096	1	11/12/21 12:01	11/15/21 18:30	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0082	1	11/12/21 12:01	11/15/21 18:30	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0084	1	11/12/21 12:01	11/15/21 18:30	207-08-9	
Chrysene	ND	ug/L	0.040	0.0095	1	11/12/21 12:01	11/15/21 18:30	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/12/21 12:01	11/15/21 18:30	53-70-3	
Fluoranthene	0.054	ug/L	0.040	0.014	1	11/12/21 12:01	11/15/21 18:30	206-44-0	
Fluorene	2.1	ug/L	0.040	0.0061	1	11/12/21 12:01	11/15/21 18:30	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/12/21 12:01	11/15/21 18:30	193-39-5	
1-Methylnaphthalene	11.4	ug/L	0.081	0.014	2	11/12/21 12:01	11/16/21 11:59	90-12-0	
2-Methylnaphthalene	0.48	ug/L	0.040	0.0084	1	11/12/21 12:01	11/15/21 18:30	91-57-6	
Naphthalene	1.9	ug/L	0.040	0.0089	1	11/12/21 12:01	11/15/21 18:30	91-20-3	
Phenanthrene	1.3	ug/L	0.040	0.012	1	11/12/21 12:01	11/15/21 18:30	85-01-8	
Pyrene	ND	ug/L	0.040	0.010	1	11/12/21 12:01	11/15/21 18:30	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	84	%	52-125		1	11/12/21 12:01	11/15/21 18:30	321-60-8	
p-Terphenyl-d14 (S)	72	%	54-125		1	11/12/21 12:01	11/15/21 18:30	1718-51-0	

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-39-202111 Lab ID: 10587240003 Collected: 11/10/21 09:50 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	34.9	ug/L	1.0	0.10	1		11/15/21 19:42	71-43-2	
Ethylbenzene	7.9	ug/L	1.0	0.11	1		11/15/21 19:42	100-41-4	
Toluene	24.1	ug/L	1.0	0.10	1		11/15/21 19:42	108-88-3	
m&p-Xylene	30.9	ug/L	2.0	0.20	1		11/15/21 19:42	179601-23-1	
o-Xylene	10.5	ug/L	1.0	0.18	1		11/15/21 19:42	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		11/15/21 19:42	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		11/15/21 19:42	460-00-4	
Toluene-d8 (S)	105	%	75-125		1		11/15/21 19:42	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	219	mg/L	5.0	1.8	1		11/24/21 11:58		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	ND	mg/L	1.2	0.34	1		11/18/21 15:31	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/11/21 22:45	14797-55-8	FS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-35-202111 Lab ID: 10587240004 Collected: 11/10/21 10:55 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	0.39J	mg/L	0.40	0.12	1	11/12/21 13:23	11/19/21 18:42	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	11/12/21 13:23	11/19/21 18:42	64742-65-0	
Surrogates									
o-Terphenyl (S)	75	%	50-150		1	11/12/21 13:23	11/19/21 18:42	84-15-1	
n-Triacontane (S)	61	%	50-150		1	11/12/21 13:23	11/19/21 18:42		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	105	ug/L	100	31.6	1	11/18/21 17:13	11/18/21 17:13		B
Surrogates									
a,a,a-Trifluorotoluene (FID)	107	%	78.0-120		1	11/18/21 17:13	11/18/21 17:13	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	36500	ug/L	3300	76.7	1	11/16/21 13:55	11/22/21 11:55		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	13.5	ug/L	2.5	0.41	5	11/16/21 13:55	11/22/21 18:38	7440-38-2	
Manganese, Dissolved	776	ug/L	2.5	1.0	5	11/16/21 13:55	11/22/21 18:38	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.076	ug/L	0.040	0.0070	1	11/12/21 12:01	11/15/21 18:52	83-32-9	
Acenaphthylene	0.012J	ug/L	0.040	0.0061	1	11/12/21 12:01	11/15/21 18:52	208-96-8	
Anthracene	0.039J	ug/L	0.040	0.0054	1	11/12/21 12:01	11/15/21 18:52	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0091	1	11/12/21 12:01	11/15/21 18:52	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0089	1	11/12/21 12:01	11/15/21 18:52	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0096	1	11/12/21 12:01	11/15/21 18:52	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0082	1	11/12/21 12:01	11/15/21 18:52	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0084	1	11/12/21 12:01	11/15/21 18:52	207-08-9	
Chrysene	ND	ug/L	0.040	0.0095	1	11/12/21 12:01	11/15/21 18:52	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/12/21 12:01	11/15/21 18:52	53-70-3	
Fluoranthene	0.045	ug/L	0.040	0.014	1	11/12/21 12:01	11/15/21 18:52	206-44-0	
Fluorene	0.035J	ug/L	0.040	0.0061	1	11/12/21 12:01	11/15/21 18:52	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/12/21 12:01	11/15/21 18:52	193-39-5	
1-Methylnaphthalene	0.11	ug/L	0.040	0.0068	1	11/12/21 12:01	11/15/21 18:52	90-12-0	
2-Methylnaphthalene	0.010J	ug/L	0.040	0.0084	1	11/12/21 12:01	11/15/21 18:52	91-57-6	
Naphthalene	0.030J	ug/L	0.040	0.0089	1	11/12/21 12:01	11/15/21 18:52	91-20-3	
Phenanthrene	0.046	ug/L	0.040	0.012	1	11/12/21 12:01	11/15/21 18:52	85-01-8	
Pyrene	0.046	ug/L	0.040	0.010	1	11/12/21 12:01	11/15/21 18:52	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	71	%	52-125		1	11/12/21 12:01	11/15/21 18:52	321-60-8	
p-Terphenyl-d14 (S)	71	%	54-125		1	11/12/21 12:01	11/15/21 18:52	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-35-202111 Lab ID: 10587240004 Collected: 11/10/21 10:55 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.10	1		11/15/21 19:58	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 19:58	100-41-4	
Toluene	ND	ug/L	1.0	0.10	1		11/15/21 19:58	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.20	1		11/15/21 19:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 19:58	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/15/21 19:58	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/15/21 19:58	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/15/21 19:58	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	32.2	mg/L	5.0	1.8	1		11/24/21 12:15		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	24.9	mg/L	1.2	0.34	1		11/18/21 12:56	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/11/21 22:46	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-34-202111 Lab ID: 10587240005 Collected: 11/10/21 11:50 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	4.1	mg/L	0.45	0.13	1	11/12/21 13:23	11/19/21 18:54	68334-30-5	
Motor Oil Range SG	0.58	mg/L	0.45	0.21	1	11/12/21 13:23	11/19/21 18:54	64742-65-0	
Surrogates									
o-Terphenyl (S)	77	%	50-150		1	11/12/21 13:23	11/19/21 18:54	84-15-1	
n-Triacontane (S)	61	%	50-150		1	11/12/21 13:23	11/19/21 18:54		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	104	ug/L	100	31.6	1	11/18/21 17:36	11/18/21 17:36		B
Surrogates									
a,a,a-Trifluorotoluene (FID)	108	%	78.0-120		1	11/18/21 17:36	11/18/21 17:36	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	83500	ug/L	3300	76.7	1	11/16/21 13:55	11/22/21 11:57		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	4.4	ug/L	2.5	0.41	5	11/16/21 13:55	11/22/21 18:41	7440-38-2	
Manganese, Dissolved	1960	ug/L	2.5	1.0	5	11/16/21 13:55	11/22/21 18:41	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.25	ug/L	0.041	0.0070	1	11/12/21 12:01	11/15/21 19:13	83-32-9	
Acenaphthylene	0.027J	ug/L	0.041	0.0062	1	11/12/21 12:01	11/15/21 19:13	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/12/21 12:01	11/15/21 19:13	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/12/21 12:01	11/15/21 19:13	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/12/21 12:01	11/15/21 19:13	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/12/21 12:01	11/15/21 19:13	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	0.0083	1	11/12/21 12:01	11/15/21 19:13	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/12/21 12:01	11/15/21 19:13	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/12/21 12:01	11/15/21 19:13	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/12/21 12:01	11/15/21 19:13	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/12/21 12:01	11/15/21 19:13	206-44-0	
Fluorene	0.091	ug/L	0.041	0.0062	1	11/12/21 12:01	11/15/21 19:13	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/12/21 12:01	11/15/21 19:13	193-39-5	
1-Methylnaphthalene	0.17	ug/L	0.041	0.0069	1	11/12/21 12:01	11/15/21 19:13	90-12-0	
2-Methylnaphthalene	0.073	ug/L	0.041	0.0084	1	11/12/21 12:01	11/15/21 19:13	91-57-6	
Naphthalene	0.22	ug/L	0.041	0.0090	1	11/12/21 12:01	11/15/21 19:13	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.012	1	11/12/21 12:01	11/15/21 19:13	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/12/21 12:01	11/15/21 19:13	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	76	%	52-125		1	11/12/21 12:01	11/15/21 19:13	321-60-8	
p-Terphenyl-d14 (S)	62	%	54-125		1	11/12/21 12:01	11/15/21 19:13	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-34-202111 Lab ID: 10587240005 Collected: 11/10/21 11:50 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.35J	ug/L	1.0	0.10	1		11/15/21 20:13	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 20:13	100-41-4	
Toluene	0.25J	ug/L	1.0	0.10	1		11/15/21 20:13	108-88-3	
m&p-Xylene	0.20J	ug/L	2.0	0.20	1		11/15/21 20:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 20:13	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		11/15/21 20:13	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/15/21 20:13	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/15/21 20:13	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	46.5	mg/L	5.0	1.8	1		11/24/21 12:18		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	63.1	mg/L	1.2	0.34	1		11/18/21 13:11	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/11/21 22:47	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-02-202111 Lab ID: 10587240006 Collected: 11/10/21 14:10 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	10.1	mg/L	0.45	0.13	1	11/12/21 13:23	11/19/21 19:05	68334-30-5	
Motor Oil Range SG	0.74	mg/L	0.45	0.21	1	11/12/21 13:23	11/19/21 19:05	64742-65-0	
Surrogates									
o-Terphenyl (S)	70	%	50-150		1	11/12/21 13:23	11/19/21 19:05	84-15-1	
n-Triacontane (S)	59	%	50-150		1	11/12/21 13:23	11/19/21 19:05		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	5000	1580	50	11/18/21 22:15	11/18/21 22:15		
Surrogates									
a,a,a-Trifluorotoluene (FID)	108	%	78.0-120		50	11/18/21 22:15	11/18/21 22:15	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	157000	ug/L	3300	76.7	1	11/16/21 13:55	11/22/21 11:59		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	19.0	ug/L	2.5	0.41	5	11/16/21 13:55	11/22/21 18:45	7440-38-2	
Manganese, Dissolved	2400	ug/L	10.0	4.0	20	11/16/21 13:55	11/23/21 13:13	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	ND	ug/L	0.041	0.0070	1	11/12/21 12:01	11/15/21 19:35	83-32-9	
Acenaphthylene	ND	ug/L	0.041	0.0062	1	11/12/21 12:01	11/15/21 19:35	208-96-8	
Anthracene	ND	ug/L	0.041	0.0055	1	11/12/21 12:01	11/15/21 19:35	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	0.0092	1	11/12/21 12:01	11/15/21 19:35	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	0.0090	1	11/12/21 12:01	11/15/21 19:35	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	0.0097	1	11/12/21 12:01	11/15/21 19:35	205-99-2	
Benzo(g,h,i)perylene	0.022J	ug/L	0.041	0.0083	1	11/12/21 12:01	11/15/21 19:35	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	0.0084	1	11/12/21 12:01	11/15/21 19:35	207-08-9	
Chrysene	ND	ug/L	0.041	0.0096	1	11/12/21 12:01	11/15/21 19:35	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	0.0081	1	11/12/21 12:01	11/15/21 19:35	53-70-3	
Fluoranthene	ND	ug/L	0.041	0.014	1	11/12/21 12:01	11/15/21 19:35	206-44-0	
Fluorene	0.076	ug/L	0.041	0.0062	1	11/12/21 12:01	11/15/21 19:35	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	0.011	1	11/12/21 12:01	11/15/21 19:35	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.041	0.0069	1	11/12/21 12:01	11/15/21 19:35	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.041	0.0084	1	11/12/21 12:01	11/15/21 19:35	91-57-6	
Naphthalene	0.084	ug/L	0.041	0.0090	1	11/12/21 12:01	11/15/21 19:35	91-20-3	
Phenanthrene	ND	ug/L	0.041	0.012	1	11/12/21 12:01	11/15/21 19:35	85-01-8	
Pyrene	ND	ug/L	0.041	0.010	1	11/12/21 12:01	11/15/21 19:35	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	74	%	52-125		1	11/12/21 12:01	11/15/21 19:35	321-60-8	
p-Terphenyl-d14 (S)	56	%	54-125		1	11/12/21 12:01	11/15/21 19:35	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831-Revised Report

Pace Project No.: 10587240

Sample: PEO-MW-02-202111 Lab ID: 10587240006 Collected: 11/10/21 14:10 Received: 11/11/21 18:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.38J	ug/L	1.0	0.10	1		11/15/21 20:29	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 20:29	100-41-4	
Toluene	0.18J	ug/L	1.0	0.10	1		11/15/21 20:29	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.20	1		11/15/21 20:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 20:29	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/15/21 20:29	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		11/15/21 20:29	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		11/15/21 20:29	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	139	mg/L	5.0	1.8	1		11/24/21 12:22		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	66.3	mg/L	1.2	0.34	1		11/18/21 13:26	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/11/21 22:49	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10587240

QC Batch: 1776771 Analysis Method: NWTPH-Gx
 QC Batch Method: 8015/8021/8021B/NWTPHGX Analysis Description: VOA (GC) NWTPHGX
 Laboratory: Pace National - Mt. Juliet
 Associated Lab Samples: 10587240001, 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: R3733486-2 Matrix: Water
 Associated Lab Samples: 10587240001, 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	49.9J	100	31.6	11/18/21 14:05	J
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/18/21 14:05	

LABORATORY CONTROL SAMPLE: R3733486-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5520	100	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			96.1	78.0-120	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10587240

QC Batch:	1776771	Analysis Method:	NWTPH-Gx
QC Batch Method:	8015/NWTPHGX	Analysis Description:	VOA (GC) NWTPHGX
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 10587240001, 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: R3733486-2 Matrix: Water
Associated Lab Samples: 10587240001, 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	49.9J	100	31.6	11/18/21 14:05	J
a,a,a-Trifluorotoluene (FID)	%	109	78.0-120		11/18/21 14:05	

LABORATORY CONTROL SAMPLE: R3733486-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5520	100	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			96.1	78.0-120	

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: 053831-Revised Report
Pace Project No.: 10587240

QC Batch: 783654 Analysis Method: EPA 6020A
QC Batch Method: EPA 3020A Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: 4172456 Matrix: Water
Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	11/22/21 18:05	
Manganese, Dissolved	ug/L	ND	0.50	0.20	11/22/21 18:05	

LABORATORY CONTROL SAMPLE: 4172457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	101	101	80-120	
Manganese, Dissolved	ug/L	100	109	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172458 4172459

Parameter	Units	10587240002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	27.4	100	100	140	142	113	115	75-125	1	20	
Manganese, Dissolved	ug/L	1750	100	100	1810	1830	59	74	75-125	1	20	P6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10587240

QC Batch: 783858 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587240001, 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: 4173111 Matrix: Water
Associated Lab Samples: 10587240001, 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.10	11/15/21 15:47	
Ethylbenzene	ug/L	ND	1.0	0.11	11/15/21 15:47	
m&p-Xylene	ug/L	ND	2.0	0.20	11/15/21 15:47	
o-Xylene	ug/L	ND	1.0	0.18	11/15/21 15:47	
Toluene	ug/L	ND	1.0	0.10	11/15/21 15:47	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		11/15/21 15:47	
4-Bromofluorobenzene (S)	%	102	75-125		11/15/21 15:47	
Toluene-d8 (S)	%	102	75-125		11/15/21 15:47	

LABORATORY CONTROL SAMPLE & LCSD: 4173112 4173113

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.3	18.9	97	95	73-125	2	20	
Ethylbenzene	ug/L	20	17.8	17.5	89	87	75-125	2	20	
m&p-Xylene	ug/L	40	36.0	35.5	90	89	75-125	1	20	
o-Xylene	ug/L	20	17.7	17.5	89	88	75-125	1	20	
Toluene	ug/L	20	17.9	17.9	90	89	75-125	0	20	
1,2-Dichlorobenzene-d4 (S)	%				101	101	70-130			
4-Bromofluorobenzene (S)	%				104	103	75-125			
Toluene-d8 (S)	%				100	101	75-125			

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10587240

QC Batch: 783388 Analysis Method: EPA 8270E by SIM
 QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: 4170548 Matrix: Water
 Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/15/21 11:57	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/15/21 11:57	
Acenaphthene	ug/L	ND	0.040	0.0069	11/15/21 11:57	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/15/21 11:57	
Anthracene	ug/L	ND	0.040	0.0054	11/15/21 11:57	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/15/21 11:57	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/15/21 11:57	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/15/21 11:57	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/15/21 11:57	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/15/21 11:57	
Chrysene	ug/L	ND	0.040	0.0094	11/15/21 11:57	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/15/21 11:57	
Fluoranthene	ug/L	ND	0.040	0.014	11/15/21 11:57	
Fluorene	ug/L	ND	0.040	0.0060	11/15/21 11:57	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/15/21 11:57	
Naphthalene	ug/L	ND	0.040	0.0088	11/15/21 11:57	
Phenanthrene	ug/L	ND	0.040	0.012	11/15/21 11:57	
Pyrene	ug/L	ND	0.040	0.0099	11/15/21 11:57	
2-Fluorobiphenyl (S)	%	78	52-125		11/15/21 11:57	
p-Terphenyl-d14 (S)	%	80	54-125		11/15/21 11:57	

LABORATORY CONTROL SAMPLE & LCSD: 4170549 4170550

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.73	0.70	73	70	34-125	4	20	
2-Methylnaphthalene	ug/L	1	0.73	0.71	73	71	34-125	4	20	
Acenaphthene	ug/L	1	0.77	0.73	77	73	35-125	6	20	
Acenaphthylene	ug/L	1	0.77	0.73	77	73	33-125	6	20	
Anthracene	ug/L	1	0.77	0.75	77	75	42-125	2	20	
Benzo(a)anthracene	ug/L	1	0.82	0.80	82	80	46-125	3	20	
Benzo(a)pyrene	ug/L	1	0.76	0.78	76	78	57-125	2	20	
Benzo(b)fluoranthene	ug/L	1	0.78	0.78	78	78	58-125	1	20	
Benzo(g,h,i)perylene	ug/L	1	0.84	0.85	84	85	55-125	1	20	
Benzo(k)fluoranthene	ug/L	1	0.80	0.79	80	79	55-125	1	20	
Chrysene	ug/L	1	0.83	0.78	83	78	56-125	6	20	
Dibenz(a,h)anthracene	ug/L	1	0.79	0.79	79	79	40-125	0	20	
Fluoranthene	ug/L	1	0.77	0.75	77	75	64-125	2	20	
Fluorene	ug/L	1	0.77	0.72	77	72	43-125	8	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.82	0.80	82	80	57-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10587240

Parameter	Units	Spike Conc.	4170549		4170550		% Rec Limits	RPD	Max RPD	Qualifiers
			LCS Result	LCSD Result	LCS % Rec	LCSD % Rec				
Naphthalene	ug/L	1	0.72	0.69	72	69	30-125	4	20	
Phenanthrene	ug/L	1	0.80	0.77	80	77	47-125	4	20	
Pyrene	ug/L	1	0.80	0.80	80	80	46-125	1	20	
2-Fluorobiphenyl (S)	%				73	69	52-125			
p-Terphenyl-d14 (S)	%				74	75	54-125			

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10587240

QC Batch: 783385 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: 4170537 Matrix: Water
Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	11/19/21 17:33	
Motor Oil Range SG	mg/L	ND	0.40	0.18	11/19/21 17:33	
n-Triacontane (S)	%	71	50-150		11/19/21 17:33	
o-Terphenyl (S)	%	85	50-150		11/19/21 17:33	

LABORATORY CONTROL SAMPLE & LCSD: 4170538

Parameter	Units	4170539							RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits				
Diesel Fuel Range SG	mg/L	2	1.7	1.5	84	77	50-150	9	20		
Motor Oil Range SG	mg/L	2	1.7	1.6	87	81	50-150	7	20		
n-Triacontane (S)	%				67	65	50-150				
o-Terphenyl (S)	%				80	74	50-150				

SAMPLE DUPLICATE: 4170540

Parameter	Units	10587240002		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Diesel Fuel Range SG	mg/L	3.0	3.1	2	30	
Motor Oil Range SG	mg/L	0.29J	0.29J		30	
n-Triacontane (S)	%	73	55			
o-Terphenyl (S)	%	80	82			

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QUALITY CONTROL DATA

Project: 053831-Revised Report
Pace Project No.: 10587240

QC Batch: 785726 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: 4183392 Matrix: Water
Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	2.3J	5.0	1.8	11/24/21 11:16	

LABORATORY CONTROL SAMPLE & LCSD: 4183393 4183394

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	41.8	42.0	105	105	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4183395 4183396

Parameter	Units	10587178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	302	40	40	343	343	102	103	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4183397 4183398

Parameter	Units	10587258002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	154	40	40	192	193	95	98	80-120	0	20	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10587240

QC Batch: 784074	Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: 4174135 Matrix: Water

Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	11/18/21 10:47	

LABORATORY CONTROL SAMPLE: 4174136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	45.0	90	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4174137 4174138

Parameter	Units	10587240002		4174138		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfate	mg/L	3.8	50	46.4	47.0	85	86	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4174139 4174140

Parameter	Units	10587240003		4174140		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfate	mg/L	ND	50	43.3	43.7	86	87	80-120	1	20	

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QUALITY CONTROL DATA

Project: 053831-Revised Report

Pace Project No.: 10587240

QC Batch: 783283

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, preserved

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

METHOD BLANK: 4169968

Matrix: Water

Associated Lab Samples: 10587240002, 10587240003, 10587240004, 10587240005, 10587240006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	11/11/21 22:56	FS

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QUALIFIERS

Project: 053831-Revised Report

Pace Project No.: 10587240

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 10587240003

[1] Volatile Organic Compounds (GC) by Method NWTPHGX - Surrogate failure due to matrix interference.

Sample: 10587240006

[1] Volatile Organic Compounds (GC) by Method NWTPHGX - Lowest possible dilution due to sample foaming.

BATCH QUALIFIERS

Batch: 783744

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783858

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

FS The sample was filtered in the laboratory prior to analysis.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

SR Surrogate recovery was below laboratory control limits. Results may be biased low.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831-Revised Report
Pace Project No.: 10587240

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10587240002	PEO-MW-43-202111	EPA Mod. 3510C	783385	NWTPH-Dx	785219
10587240003	PEO-MW-39-202111	EPA Mod. 3510C	783385	NWTPH-Dx	785219
10587240004	PEO-MW-35-202111	EPA Mod. 3510C	783385	NWTPH-Dx	785219
10587240005	PEO-MW-34-202111	EPA Mod. 3510C	783385	NWTPH-Dx	785219
10587240006	PEO-MW-02-202111	EPA Mod. 3510C	783385	NWTPH-Dx	785219
10587240001	TRIP BLANK-20211110	NWTPHGX	1776771	NWTPH-Gx	1776771
10587240002	PEO-MW-43-202111	NWTPHGX	1776771	NWTPH-Gx	1776771
10587240003	PEO-MW-39-202111	NWTPHGX	1776771	NWTPH-Gx	1776771
10587240004	PEO-MW-35-202111	NWTPHGX	1776771	NWTPH-Gx	1776771
10587240005	PEO-MW-34-202111	NWTPHGX	1776771	NWTPH-Gx	1776771
10587240006	PEO-MW-02-202111	NWTPHGX	1776771	NWTPH-Gx	1776771
10587240002	PEO-MW-43-202111	EPA 3010A	783655	EPA 6010D	784257
10587240003	PEO-MW-39-202111	EPA 3010A	783655	EPA 6010D	784257
10587240004	PEO-MW-35-202111	EPA 3010A	783655	EPA 6010D	784257
10587240005	PEO-MW-34-202111	EPA 3010A	783655	EPA 6010D	784257
10587240006	PEO-MW-02-202111	EPA 3010A	783655	EPA 6010D	784257
10587240002	PEO-MW-43-202111	EPA 3020A	783654	EPA 6020A	784252
10587240003	PEO-MW-39-202111	EPA 3020A	783654	EPA 6020A	784252
10587240004	PEO-MW-35-202111	EPA 3020A	783654	EPA 6020A	784252
10587240005	PEO-MW-34-202111	EPA 3020A	783654	EPA 6020A	784252
10587240006	PEO-MW-02-202111	EPA 3020A	783654	EPA 6020A	784252
10587240002	PEO-MW-43-202111	EPA Mod. 3510C	783388	EPA 8270E by SIM	783744
10587240003	PEO-MW-39-202111	EPA Mod. 3510C	783388	EPA 8270E by SIM	783744
10587240004	PEO-MW-35-202111	EPA Mod. 3510C	783388	EPA 8270E by SIM	783744
10587240005	PEO-MW-34-202111	EPA Mod. 3510C	783388	EPA 8270E by SIM	783744
10587240006	PEO-MW-02-202111	EPA Mod. 3510C	783388	EPA 8270E by SIM	783744
10587240001	TRIP BLANK-20211110	EPA 8260D	783858		
10587240002	PEO-MW-43-202111	EPA 8260D	783858		
10587240003	PEO-MW-39-202111	EPA 8260D	783858		
10587240004	PEO-MW-35-202111	EPA 8260D	783858		
10587240005	PEO-MW-34-202111	EPA 8260D	783858		
10587240006	PEO-MW-02-202111	EPA 8260D	783858		
10587240002	PEO-MW-43-202111	SM 2320B	785726		
10587240003	PEO-MW-39-202111	SM 2320B	785726		
10587240004	PEO-MW-35-202111	SM 2320B	785726		
10587240005	PEO-MW-34-202111	SM 2320B	785726		
10587240006	PEO-MW-02-202111	SM 2320B	785726		
10587240002	PEO-MW-43-202111	EPA 300.0	784074		
10587240003	PEO-MW-39-202111	EPA 300.0	784074		
10587240004	PEO-MW-35-202111	EPA 300.0	784074		
10587240005	PEO-MW-34-202111	EPA 300.0	784074		
10587240006	PEO-MW-02-202111	EPA 300.0	784074		
10587240002	PEO-MW-43-202111	EPA 353.2	783283		
10587240003	PEO-MW-39-202111	EPA 353.2	783283		
10587240004	PEO-MW-35-202111	EPA 353.2	783283		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

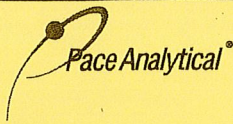
Project: 053831-Revised Report

Pace Project No.: 10587240

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10587240005	PEO-MW-34-202111	EPA 353.2	783283		
10587240006	PEO-MW-02-202111	EPA 353.2	783283		

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Document Name: Sample Condition Upon Receipt (SCUR) - MN

Document Revised: 14Apr2021 Page 1 of 1

Document No.: ENV-FRM-MIN4-0150 Rev.02

Pace Analytical Services - Minneapolis

Sample Condition Upon Receipt

Client Name: ERM

Project #:

WO#: 10587240

PM: JMT

Due Date: 11/30/21

CLIENT: ERM-Oregon

Courier: Fed Ex, UPS, USPS, Client, Pace, Speedee, Commercial

See Exceptions ENV-FRM-MIN4-0142

Tracking Number:

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap, Bubble Bags, None, Other Temp Blank? Yes No

Thermometer: T1(0461), T2(1336), T3(0459), OS418-LS, T4(0254), T5(0489), 160285052 Type of Ice: Wet, Blue, None, Dry, Melted

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A

Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: 4.2, 2.5, 3.9 °C

Average Corrected Temp (no temp blank only): °C See Exceptions ENV-FRM-MIN4-0142 1 Container

Correction Factor: true Cooler Temp Corrected w/temp blank: 4.2, 2.5, 3.9 °C

USDA Regulated Soil: N/A, water sample/Other:

Date/Initials of Person Examining Contents: JMT 11/11/21

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

Table with 13 rows and 2 columns. Left column contains questions about custody, analysis, and containers. Right column contains checkboxes for Yes/No/N/A and a 'COMMENTS' section with handwritten notes like 'Sample # 2-6' and 'pH Paper Lot# 230320'.

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: Date/Time: Field Data Required? Yes No

Project Manager Review: [Signature]

Date: 11/12/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: YW(3)



Pace Analytical Minnesota

Julie Bowser
1700 Elm Street, Ste. 200
Minneapolis, MN 55414

RE: 053831

Work Order Number: 2111376

December 06, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 6 sample(s) on 11/17/2021 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH
Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

CLIENT: Pace Analytical Minnesota
Project: 053831
Work Order: 2111376

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2111376-001	TRIP BLANK-20211110	11/10/2021 8:00 AM	11/17/2021 1:27 PM
2111376-002	PEO-MW-43-202111	11/10/2021 8:30 AM	11/17/2021 1:27 PM
2111376-003	PEO-MW-39-202111	11/10/2021 9:50 AM	11/17/2021 1:27 PM
2111376-004	PEO-MW-35-202111	11/10/2021 10:55 AM	11/17/2021 1:27 PM
2111376-005	PEO-MW-34-202111	11/10/2021 11:50 AM	11/17/2021 1:27 PM
2111376-006	PEO-MW-02-202111	11/10/2021 2:10 PM	11/17/2021 1:27 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Pace Analytical Minnesota
Project: 053831

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

12/13/21: Revision 1 includes correction to sample IDs.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111376-001

Collection Date: 11/10/2021 8:00:00 AM

Client Sample ID: TRIP BLANK-20211110

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/23/2021 1:36:16 AM
Surr: 1,4-Difluorobenzene	84.4	65 - 140		%Rec	1	11/23/2021 1:36:16 AM
Surr: Bromofluorobenzene	99.7	65 - 140		%Rec	1	11/23/2021 1:36:16 AM

Lab ID: 2111376-002

Collection Date: 11/10/2021 8:30:00 AM

Client Sample ID: PEO-MW-43-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34498 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	112	20.4		µg/L	1	12/3/2021 4:48:36 AM
Surr: 1-Chlorooctadecane	122	60 - 140		%Rec	1	12/3/2021 4:48:36 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	653	12.2		µg/L	1	11/23/2021 9:22:54 AM
Surr: 1,4-Difluorobenzene	96.0	65 - 140		%Rec	1	11/23/2021 9:22:54 AM
Surr: Bromofluorobenzene	124	65 - 140		%Rec	1	11/23/2021 9:22:54 AM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111376-003

Collection Date: 11/10/2021 9:50:00 AM

Client Sample ID: PEO-MW-39-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34498 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	30.1	20.6	J	µg/L	1	12/3/2021 5:40:57 AM
Surr: 1-Chlorooctadecane	75.9	60 - 140		%Rec	1	12/3/2021 5:40:57 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	208	12.2		µg/L	1	11/23/2021 10:01:49 AM
Surr: 1,4-Difluorobenzene	137	65 - 140		%Rec	1	11/23/2021 10:01:49 AM
Surr: Bromofluorobenzene	108	65 - 140		%Rec	1	11/23/2021 10:01:49 AM

Lab ID: 2111376-004

Collection Date: 11/10/2021 10:55:00 AM

Client Sample ID: PEO-MW-35-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34498 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	12/3/2021 6:33:29 AM
Surr: 1-Chlorooctadecane	79.2	60 - 140		%Rec	1	12/3/2021 6:33:29 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/23/2021 6:08:24 AM
Surr: 1,4-Difluorobenzene	85.9	65 - 140		%Rec	1	11/23/2021 6:08:24 AM
Surr: Bromofluorobenzene	98.5	65 - 140		%Rec	1	11/23/2021 6:08:24 AM



CLIENT: Pace Analytical Minnesota
Project: 053831

Lab ID: 2111376-005

Collection Date: 11/10/2021 11:50:00 AM

Client Sample ID: PEO-MW-34-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34498 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	12/3/2021 7:25:51 AM
Surr: 1-Chlorooctadecane	72.3	60 - 140		%Rec	1	12/3/2021 7:25:51 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/23/2021 7:26:19 AM
Surr: 1,4-Difluorobenzene	87.6	65 - 140		%Rec	1	11/23/2021 7:26:19 AM
Surr: Bromofluorobenzene	100	65 - 140		%Rec	1	11/23/2021 7:26:19 AM

Lab ID: 2111376-006

Collection Date: 11/10/2021 2:10:00 PM

Client Sample ID: PEO-MW-02-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34498 Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	68.5	20.6		µg/L	1	12/3/2021 8:19:33 AM
Surr: 1-Chlorooctadecane	96.6	60 - 140		%Rec	1	12/3/2021 8:19:33 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532 Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/23/2021 8:05:11 AM
Surr: 1,4-Difluorobenzene	85.6	65 - 140		%Rec	1	11/23/2021 8:05:11 AM
Surr: Bromofluorobenzene	100	65 - 140		%Rec	1	11/23/2021 8:05:11 AM

Work Order: 2111376
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-34498	SampType: MBLK	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: MBLKW	Batch ID: 34498					Analysis Date: 12/2/2021	SeqNo: 1462206				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	39.3		0	0						
Surr: 1-Chlorooctadecane	319		393.0		81.1	60	140				

Sample ID: LCS-34498	SampType: LCS	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: LCSW	Batch ID: 34498					Analysis Date: 12/4/2021	SeqNo: 1462214				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	357	39.5	493.1	0	72.3	70	130				
Surr: 1-Chlorooctadecane	367		394.5		93.0	60	140				

Sample ID: LCS-34498	SampType: LCS	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: LCSW02	Batch ID: 34498					Analysis Date: 12/4/2021	SeqNo: 1462215				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	354	39.7	496.5	0	71.3	70	130	356.7	0.730	20	
Surr: 1-Chlorooctadecane	379		397.2		95.4	60	140		0		

Sample ID: 2111361-003BMS	SampType: MS	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: BATCH	Batch ID: 34498					Analysis Date: 12/4/2021	SeqNo: 1462236				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	326	39.6	494.5	0	65.9	70	130				S
Surr: 1-Chlorooctadecane	335		395.6		84.7	60	140				

NOTES:
 S - Outlying spike recovery observed (C10-C12).

Work Order: 2111376
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-34532	SampType: LCS	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: LCSW	Batch ID: 34532					Analysis Date: 11/22/2021	SeqNo: 1461207				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	198	25.0	200.0	0	99.0	70	130				
Surr: 1,4-Difluorobenzene	52.0		50.00		104	65	140				
Surr: Bromofluorobenzene	52.4		50.00		105	65	140				

Sample ID: MB-34532	SampType: MBLK	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: MBLKW	Batch ID: 34532					Analysis Date: 11/23/2021	SeqNo: 1461206				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0						
Surr: 1,4-Difluorobenzene	41.7		50.00		83.4	65	140				
Surr: Bromofluorobenzene	50.1		50.00		100	65	140				

Sample ID: 2111376-004BDUP	SampType: DUP	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: PEO-MW-35-202111	Batch ID: 34532					Analysis Date: 11/23/2021	SeqNo: 1461197				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	42.5		50.00		85.0	65	140		0		
Surr: Bromofluorobenzene	51.6		50.00		103	65	140		0		

Sample ID: 2111376-005BMS	SampType: MS	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: PEO-MW-34-202111	Batch ID: 34532					Analysis Date: 11/23/2021	SeqNo: 1461199				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	205	25.0	200.0	0	102	70	130				
Surr: 1,4-Difluorobenzene	52.1		50.00		104	65	140				
Surr: Bromofluorobenzene	50.1		50.00		100	65	140				

Client Name: PACEMI	Work Order Number: 2111376
Logged by: Clare Griggs	Date Received: 11/17/2021 1:27:00 PM

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
4. Shipping container/cooler in good condition? Yes No
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes No Not Present
6. Was an attempt made to cool the samples? Yes No NA
7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
8. Sample(s) in proper container(s)? Yes No
9. Sufficient sample volume for indicated test(s)? Yes No
10. Are samples properly preserved? Yes No
11. Was preservative added to bottles? Yes No NA
12. Is there headspace in the VOA vials? Yes No NA
13. Did all samples containers arrive in good condition(unbroken)? Yes No
14. Does paperwork match bottle labels? Yes No
15. Are matrices correctly identified on Chain of Custody? Yes No
16. Is it clear what analyses were requested? Yes No
17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	2.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody

PASI Minnesota Laboratory



2111356



Workorder: 10587240

Workorder Name: 053831

Results Requested By: 11/30/2021

Report / Invoice To

Subcontract To

Requested Analysis

Julie Bowser
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone 612-607-6390
Email: julie.bowser@pacelabs.com

Fremont Analytical
3600 Fremont Ave. N
Seattle, WA 98103

P.O. 10587240

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		NWTPH VPH (Aliphatics C10-C12)	NWTPH EPH (Aliphatics C10-C12)	LAB USE ONLY
					HCL VG9H	AG1H			
1	TRIP BLANK-20211110	11/10/2021 08:00	10587240001	Water	2		X		
2	PEO-MW-43-202111	11/10/2021 08:30	10587240002	Water	5		X		
3	PEO-MW-39-202111	11/10/2021 09:50	10587240003	Water	5		X		
4	PEO-MW-35-202111	11/10/2021 10:55	10587240004	Water	5		X		
5	PEO-MW-34-202111	11/10/2021 11:50	10587240005	Water	5		X		
6	PEO-MW-02-202111	11/10/2021 14:10	10587240006	Water	5		X		

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	<i>Julie Bowser</i>	11/15/21	<i>Julie Bowser</i>	11/17/21	report to MDL EQUIS EDD needed
2					
3					

Cooler Temperature on Receipt °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

December 06, 2021

Joe Casey
ERM Portland
1050 SW 6th Ave
Suite 1650
Portland, OR 97204

RE: Project: 053831
Pace Project No.: 10587511

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on November 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Minneapolis

The newest method revisions, 8260D and 8270E were analyzed on this project due to Pace no longer offering them.

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

Sincerely,



Julie Bowser
julie.bowser@pacelabs.com
612-607-6390
Project Manager

Enclosures

cc: Rita Cooper, ERM Portland
ERM Global EDD Mailbox, ERM
Stephanie Frith, ERM Portland
Rachel James, ERM Portland



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 053831
Pace Project No.: 10587511

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008

Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 053831
Pace Project No.: 10587511

Pace Analytical Services National

Nevada Certification #: TN-03-2002-34	Tennessee DW/Chem/Micro Certification #: 2006
New Hampshire Certification #: 2975	Texas Certification #: T 104704245-17-14
New Jersey Certification #: TN002	Texas Mold Certification #: LAB0152
New Mexico DW Certification	USDA Soil Permit #: P330-15-00234
New York Certification #: 11742	Utah Certification #: TN00003
North Carolina Aquatic Toxicity Certification #: 41	Vermont Dept. of Health: ID# VT-2006
North Carolina Drinking Water Certification #: 21704	Virginia Certification #: VT2006
North Carolina Environmental Certificate #: 375	Virginia Certification #: 460132
North Dakota Certification #: R-140	Washington Certification #: C847
Ohio VAP Certification #: CL0069	West Virginia Certification #: 233
Oklahoma Certification #: 9915	Wisconsin Certification #: 998093910
Oregon Certification #: TN200002	Wyoming UST Certification #: via A2LA 2926.01
Pennsylvania Certification #: 68-02979	A2LA-ISO 17025 Certification #: 1461.01
Rhode Island Certification #: LAO00356	A2LA-ISO 17025 Certification #: 1461.02
South Carolina Certification #: 84004	AIHA-LAP/LLC EMLAP Certification #:100789
South Dakota Certification	

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 053831
Pace Project No.: 10587511

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10587511001	TRIP BLANK-2021111	Water	11/11/21 08:00	11/12/21 18:17
10587511002	PEO-MW-11-202111	Water	11/11/21 08:25	11/12/21 18:17

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 053831
Pace Project No.: 10587511

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10587511001	TRIP BLANK-2021111	NWTPH-Gx	ACG	2	PAN
		EPA 8260D	ZH	8	PASI-M
10587511002	PEO-MW-11-202111	NWTPH-Dx	EB3	4	PASI-M
		NWTPH-Gx	ACG	2	PAN
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	PW1	2	PASI-M
		EPA 8270E by SIM	SP2	20	PASI-M
		EPA 8260D	ZH	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
EPA 353.2	AR3	1	PASI-M		

PAN = Pace National - Mt. Juliet

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587511

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: TRIP BLANK-2021111									
Lab ID: 10587511001									
Collected: 11/11/21 08:00 Received: 11/12/21 18:17 Matrix: Water									
VOA (GC) NWTPHGX Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	ND	ug/L	100	31.6	1	11/19/21 14:51	11/19/21 14:51		
Surrogates									
a,a,a-Trifluorotoluene (FID)	109	%	78.0-120		1	11/19/21 14:51	11/19/21 14:51	98-08-8FID	
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	ND	ug/L	1.0	0.10	1		11/15/21 16:34	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 16:34	100-41-4	
Toluene	ND	ug/L	1.0	0.10	1		11/15/21 16:34	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.20	1		11/15/21 16:34	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 16:34	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		11/15/21 16:34	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		11/15/21 16:34	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		11/15/21 16:34	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587511

Sample: PEO-MW-11-202111 Lab ID: 10587511002 Collected: 11/11/21 08:25 Received: 11/12/21 18:17 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV									
Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Diesel Fuel Range SG	27.9	mg/L	0.82	0.24	2	11/14/21 13:17	11/22/21 16:25	68334-30-5	D6
Motor Oil Range SG	1.1	mg/L	0.82	0.37	2	11/14/21 13:17	11/22/21 16:25	64742-65-0	
Surrogates									
o-Terphenyl (S)	137	%	50-150		2	11/14/21 13:17	11/22/21 16:25	84-15-1	
n-Triacontane (S)	94	%	50-150		2	11/14/21 13:17	11/22/21 16:25		
VOA (GC) NWTPHGX									
Analytical Method: NWTPH-Gx Preparation Method: NWTPHGX Pace National - Mt. Juliet									
TPH (C06-C12)	239J	ug/L	500	158	5	11/19/21 21:26	11/19/21 21:26		B,J
Surrogates									
a,a,a-Trifluorotoluene (FID)	108	%	78.0-120		5	11/19/21 21:26	11/19/21 21:26	98-08-8FID	
6010D MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis									
Total Hardness by 2340B, Dissolved	244000	ug/L	3300	76.7	1	11/16/21 13:55	11/22/21 12:00		
6020A MET ICPMS, Dissolved									
Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis									
Arsenic, Dissolved	44.1	ug/L	2.5	0.41	5	11/16/21 13:55	11/22/21 18:48	7440-38-2	
Manganese, Dissolved	3130	ug/L	10.0	4.0	20	11/16/21 13:55	11/23/21 13:17	7439-96-5	
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis									
Acenaphthene	0.51	ug/L	0.040	0.0069	1	11/15/21 11:06	11/16/21 14:35	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	11/15/21 11:06	11/16/21 14:35	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	11/15/21 11:06	11/16/21 14:35	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	11/15/21 11:06	11/16/21 14:35	56-55-3	
Benzo(a)pyrene	0.013J	ug/L	0.040	0.0088	1	11/15/21 11:06	11/16/21 14:35	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0095	1	11/15/21 11:06	11/16/21 14:35	205-99-2	
Benzo(g,h,i)perylene	0.013J	ug/L	0.040	0.0081	1	11/15/21 11:06	11/16/21 14:35	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	11/15/21 11:06	11/16/21 14:35	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	11/15/21 11:06	11/16/21 14:35	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	11/15/21 11:06	11/16/21 14:35	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	11/15/21 11:06	11/16/21 14:35	206-44-0	
Fluorene	ND	ug/L	0.040	0.0060	1	11/15/21 11:06	11/16/21 14:35	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	11/15/21 11:06	11/16/21 14:35	193-39-5	
1-Methylnaphthalene	0.15	ug/L	0.040	0.0067	1	11/15/21 11:06	11/16/21 14:35	90-12-0	
2-Methylnaphthalene	0.040J	ug/L	0.040	0.0083	1	11/15/21 11:06	11/16/21 14:35	91-57-6	
Naphthalene	0.18	ug/L	0.040	0.0088	1	11/15/21 11:06	11/16/21 14:35	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	11/15/21 11:06	11/16/21 14:35	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	11/15/21 11:06	11/16/21 14:35	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	52-125		1	11/15/21 11:06	11/16/21 14:35	321-60-8	
p-Terphenyl-d14 (S)	60	%	54-125		1	11/15/21 11:06	11/16/21 14:35	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 053831
Pace Project No.: 10587511

Sample: PEO-MW-11-202111 Lab ID: 10587511002 Collected: 11/11/21 08:25 Received: 11/12/21 18:17 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	0.14J	ug/L	1.0	0.10	1		11/15/21 21:00	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.11	1		11/15/21 21:00	100-41-4	
Toluene	0.12J	ug/L	1.0	0.10	1		11/15/21 21:00	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.20	1		11/15/21 21:00	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.18	1		11/15/21 21:00	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		1		11/15/21 21:00	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		11/15/21 21:00	460-00-4	
Toluene-d8 (S)	104	%	75-125		1		11/15/21 21:00	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	336	mg/L	5.0	1.8	1		11/24/21 13:32		
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Minneapolis									
Sulfate	5.6	mg/L	1.2	0.34	1		11/18/21 12:40	14808-79-8	
353.2 Nitrate + Nitrite									
Analytical Method: EPA 353.2									
Pace Analytical Services - Minneapolis									
Nitrate as N	ND	mg/L	0.10	0.018	1		11/12/21 19:35	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 1777071 Analysis Method: NWTPH-Gx
QC Batch Method: 8015/8021/8021B/NWTPHGX Analysis Description: VOA (GC) NWTPHGX
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10587511001, 10587511002

METHOD BLANK: R3732718-2 Matrix: Water

Associated Lab Samples: 10587511001, 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	43.9J	100	31.6	11/19/21 14:05	J
a,a,a-Trifluorotoluene (FID)	%	108	78.0-120		11/19/21 14:05	

LABORATORY CONTROL SAMPLE: R3732718-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5580	101	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			102	78.0-120	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 1777071	Analysis Method: NWTPH-Gx
QC Batch Method: 8015/NWTPHGX	Analysis Description: VOA (GC) NWTPHGX
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10587511001, 10587511002

METHOD BLANK: R3732718-2 Matrix: Water

Associated Lab Samples: 10587511001, 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH (C06-C12)	ug/L	43.9J	100	31.6	11/19/21 14:05	J
a,a,a-Trifluorotoluene (FID)	%	108	78.0-120		11/19/21 14:05	

LABORATORY CONTROL SAMPLE: R3732718-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH (C06-C12)	ug/L	5500	5580	101	70.0-124	
a,a,a-Trifluorotoluene (FID)	%			102	78.0-120	

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 783654	Analysis Method: EPA 6020A
QC Batch Method: EPA 3020A	Analysis Description: 6020A Water Dissolved UPD4
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587511002

METHOD BLANK: 4172456 Matrix: Water

Associated Lab Samples: 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	11/22/21 18:05	
Manganese, Dissolved	ug/L	ND	0.50	0.20	11/22/21 18:05	

LABORATORY CONTROL SAMPLE: 4172457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	101	101	80-120	
Manganese, Dissolved	ug/L	100	109	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172458 4172459

Parameter	Units	10587240002		4172458		4172459		% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Arsenic, Dissolved	ug/L	27.4	100	100	140	142	113	115	75-125	1	20	
Manganese, Dissolved	ug/L	1750	100	100	1810	1830	59	74	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 783858 Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587511001, 10587511002

METHOD BLANK: 4173111 Matrix: Water
Associated Lab Samples: 10587511001, 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.10	11/15/21 15:47	
Ethylbenzene	ug/L	ND	1.0	0.11	11/15/21 15:47	
m&p-Xylene	ug/L	ND	2.0	0.20	11/15/21 15:47	
o-Xylene	ug/L	ND	1.0	0.18	11/15/21 15:47	
Toluene	ug/L	ND	1.0	0.10	11/15/21 15:47	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		11/15/21 15:47	
4-Bromofluorobenzene (S)	%	102	75-125		11/15/21 15:47	
Toluene-d8 (S)	%	102	75-125		11/15/21 15:47	

LABORATORY CONTROL SAMPLE & LCSD: 4173112 4173113

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.3	18.9	97	95	73-125	2	20	
Ethylbenzene	ug/L	20	17.8	17.5	89	87	75-125	2	20	
m&p-Xylene	ug/L	40	36.0	35.5	90	89	75-125	1	20	
o-Xylene	ug/L	20	17.7	17.5	89	88	75-125	1	20	
Toluene	ug/L	20	17.9	17.9	90	89	75-125	0	20	
1,2-Dichlorobenzene-d4 (S)	%				101	101	70-130			
4-Bromofluorobenzene (S)	%				104	103	75-125			
Toluene-d8 (S)	%				100	101	75-125			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 783759 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA Mod. 3510C Analysis Description: 8270E Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587511002

METHOD BLANK: 4172732 Matrix: Water

Associated Lab Samples: 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	11/16/21 10:17	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	11/16/21 10:17	
Acenaphthene	ug/L	ND	0.040	0.0069	11/16/21 10:17	
Acenaphthylene	ug/L	ND	0.040	0.0061	11/16/21 10:17	
Anthracene	ug/L	ND	0.040	0.0054	11/16/21 10:17	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	11/16/21 10:17	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	11/16/21 10:17	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	11/16/21 10:17	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	11/16/21 10:17	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	11/16/21 10:17	
Chrysene	ug/L	ND	0.040	0.0094	11/16/21 10:17	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	11/16/21 10:17	
Fluoranthene	ug/L	ND	0.040	0.014	11/16/21 10:17	
Fluorene	ug/L	ND	0.040	0.0060	11/16/21 10:17	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	11/16/21 10:17	
Naphthalene	ug/L	ND	0.040	0.0088	11/16/21 10:17	
Phenanthrene	ug/L	ND	0.040	0.012	11/16/21 10:17	
Pyrene	ug/L	ND	0.040	0.0099	11/16/21 10:17	
2-Fluorobiphenyl (S)	%	74	52-125		11/16/21 10:17	
p-Terphenyl-d14 (S)	%	81	54-125		11/16/21 10:17	

LABORATORY CONTROL SAMPLE & LCSD: 4172733 4172734

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.71	0.75	71	75	34-125	6	20	
2-Methylnaphthalene	ug/L	1	0.72	0.75	72	75	34-125	4	20	
Acenaphthene	ug/L	1	0.74	0.80	74	80	35-125	8	20	
Acenaphthylene	ug/L	1	0.74	0.79	74	79	33-125	6	20	
Anthracene	ug/L	1	0.77	0.83	77	83	42-125	8	20	
Benzo(a)anthracene	ug/L	1	0.79	0.89	79	89	46-125	12	20	
Benzo(a)pyrene	ug/L	1	0.76	0.87	76	87	57-125	13	20	
Benzo(b)fluoranthene	ug/L	1	0.74	0.87	74	87	58-125	16	20	
Benzo(g,h,i)perylene	ug/L	1	0.87	0.99	87	99	55-125	13	20	
Benzo(k)fluoranthene	ug/L	1	0.80	0.92	80	92	55-125	13	20	
Chrysene	ug/L	1	0.80	0.87	80	87	56-125	9	20	
Dibenz(a,h)anthracene	ug/L	1	0.80	0.91	80	91	40-125	13	20	
Fluoranthene	ug/L	1	0.75	0.84	75	84	64-125	11	20	
Fluorene	ug/L	1	0.74	0.80	74	80	43-125	9	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.81	0.92	81	92	57-125	14	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

LABORATORY CONTROL SAMPLE & LCSD: 4172733			4172734							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.71	0.75	71	75	30-125	6	20	
Phenanthrene	ug/L	1	0.77	0.88	77	88	47-125	13	20	
Pyrene	ug/L	1	0.78	0.88	78	88	46-125	13	20	
2-Fluorobiphenyl (S)	%				70	74	52-125			
p-Terphenyl-d14 (S)	%				75	84	54-125			

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 783605	Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C	Analysis Description: NWTPH-Dx GCS LV SG
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587511002

METHOD BLANK: 4172303 Matrix: Water
Associated Lab Samples: 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	11/19/21 19:40	
Motor Oil Range SG	mg/L	ND	0.40	0.18	11/19/21 19:40	
n-Triacontane (S)	%	69	50-150		11/19/21 19:40	
o-Terphenyl (S)	%	71	50-150		11/19/21 19:40	

LABORATORY CONTROL SAMPLE & LCSD: 4172304

Parameter	Units	4172305								Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	
Diesel Fuel Range SG	mg/L	2	1.9	1.9	94	95	50-150	1	20	
Motor Oil Range SG	mg/L	2	1.9	2.0	97	99	50-150	2	20	
n-Triacontane (S)	%				95	95	50-150			
o-Terphenyl (S)	%				89	88	50-150			

SAMPLE DUPLICATE: 4172306

Parameter	Units	10587511002				Qualifiers
		Result	Dup Result	RPD	Max RPD	
Diesel Fuel Range SG	mg/L	27.9	20.4	31	30 D6	
Motor Oil Range SG	mg/L	1.1	0.90	24	30	
n-Triacontane (S)	%	94	80			
o-Terphenyl (S)	%	137	119			

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 785726 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10587511002

METHOD BLANK: 4183392 Matrix: Water
Associated Lab Samples: 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	2.3J	5.0	1.8	11/24/21 11:16	

LABORATORY CONTROL SAMPLE & LCSD: 4183393 4183394

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	41.8	42.0	105	105	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4183395 4183396

Parameter	Units	10587178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	302	40	40	343	343	102	103	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4183397 4183398

Parameter	Units	10587258002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	154	40	40	192	193	95	98	80-120	0	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 783685 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10587511002

METHOD BLANK: 4172571 Matrix: Water
Associated Lab Samples: 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	11/17/21 21:18	

LABORATORY CONTROL SAMPLE: 4172572

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.5	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172573 4172574

Parameter	Units	10586566001		4172573		4172574		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MS Spike Conc.	MSD Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Sulfate	mg/L	2.8	50	50	50	44.1	43.8	82	82	80-120	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4172575 4172576

Parameter	Units	10586566002		4172575		4172576		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MS Spike Conc.	MSD Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Sulfate	mg/L	315	500	500	500	737	754	84	88	80-120	2	20

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 053831
Pace Project No.: 10587511

QC Batch: 783484	Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2	Analysis Description: 353.2 Nitrate + Nitrite, preserved
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10587511002

METHOD BLANK: 4171743 Matrix: Water

Associated Lab Samples: 10587511002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	11/12/21 19:39	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 053831
Pace Project No.: 10587511

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 10587511002

[1] Volatile Organic Compounds (GC) by Method NWTPHGX - Lowest possible dilution due to sample foaming.

BATCH QUALIFIERS

Batch: 783858

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 783983

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 053831
Pace Project No.: 10587511

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10587511002	PEO-MW-11-202111	EPA Mod. 3510C	783605	NWTPH-Dx	785232
10587511001	TRIP BLANK-2021111	NWTPHGX	1777071	NWTPH-Gx	1777071
10587511002	PEO-MW-11-202111	NWTPHGX	1777071	NWTPH-Gx	1777071
10587511002	PEO-MW-11-202111	EPA 3010A	783655	EPA 6010D	784257
10587511002	PEO-MW-11-202111	EPA 3020A	783654	EPA 6020A	784252
10587511002	PEO-MW-11-202111	EPA Mod. 3510C	783759	EPA 8270E by SIM	783983
10587511001	TRIP BLANK-2021111	EPA 8260D	783858		
10587511002	PEO-MW-11-202111	EPA 8260D	783858		
10587511002	PEO-MW-11-202111	SM 2320B	785726		
10587511002	PEO-MW-11-202111	EPA 300.0	783685		
10587511002	PEO-MW-11-202111	EPA 353.2	783484		

REPORT OF LABORATORY ANALYSIS

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Document Name: Sample Condition Upon Receipt (SCUR) - MN

Document Revised: 14Apr2021

Page 1 of 1

Document No.: ENV-FRM-MIN4-0150 Rev.02

Pace Analytical Services - Minneapolis

Sample Condition Upon Receipt

Client Name: ERM

Project #: WO#: 10587511

PM: JMT Due Date: 11/30/21 CLIENT: ERM-Oregon

Courier: [X] Pace [] Fed Ex [] UPS [] USPS [] Client [] Commercial [] See Exceptions []

Tracking Number: ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? [X] Yes [] No Seals Intact? [X] Yes [] No Biological Tissue Frozen? [] Yes [] No [X] N/A

Packing Material: [X] Bubble Wrap [X] Bubble Bags [] None [] Other: Temp Blank? [X] Yes [] No

Thermometer: [X] T1(0461) [] T2(1336) [] T3(0459) [] OS418-LS Type of Ice: [] Wet [X] Blue [] None [] Dry [] Melted [] T4(0254) [] T5(0489) [] 160285052

Did Samples Originate in West Virginia? [] Yes [X] No Were All Container Temps Taken? [] Yes [] No [X] N/A

Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: 5.5 °C Average Corrected Temp (no temp blank only): °C Correction Factor: true Cooler Temp Corrected w/temp blank: 5.5 °C

USDA Regulated Soil: ([X] N/A, water sample/Other:) Date/Initials of Person Examining Contents: SX 11/12/21

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

Table with 2 columns: Questions and COMMENTS. Contains 14 numbered rows of inspection criteria and their status.

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: Date/Time: Field Data Required? [] Yes [] No

Project Manager Review: Date: 11/15/21

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: SX(2) Page 22 of 33

Internal Transfer Chain of Custody

F218



Samples Pre-Logged into eCOC.

State Of Origin: OR

Cert. Needed: Yes

No

Workorder: 10587511 Workorder Name: 053831

Owner Received Date: 11/12/2021 Results Requested By: 12/1/2021

Report To		Subcontract To					Requested Analysis														
Julie Bowser Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone 612-607-6390		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																			
							NWTPH Gx														
							Preserved Containers														
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HCL															
1	TRIP BLANK-2021111	PS	11/11/2021 08:00	10587511001	Water	2															
2	PEO-MW-11-202111	PS	11/11/2021 08:25	10587511002	Water	3															
3																					
4																					
5																					

L1431783
LAB USE ONLY

Transfers						Comments									
Released By	Date/Time	Received By	Date/Time												
<i>[Signature]</i>	11/15/21 1500	<i>[Signature]</i>	11/16/21			0915									

Cooler Temperature on Receipt °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

2.8 to 2.8
A780

Sample Receipt Checklist
 COC Seal Present/Intact: N If Applicable
 COC Signed Accurate: N VOA Zero Headspace: Y N
 Bottles arrive intact: N Pres. Correct/Check: Y N
 Correct bottles used: N
 Sufficient volume sent: N
 RAD Screen <0.5 mR/hr: N

5466 8882 9160



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Pace Analytical Minnesota

Julie Bowser
1700 Elm Street, Ste. 200
Minneapolis, MN 55414

RE: 053831

Work Order Number: 2111377

December 06, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 2 sample(s) on 11/17/2021 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH
Volatile Petroleum Hydrocarbons by NWVPH

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

www.fremontanalytical.com



Date: 12/06/2021

CLIENT: Pace Analytical Minnesota
Project: 053831
Work Order: 2111377

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2111377-001	TRIP BLANK-202111	11/11/2021 8:00 AM	11/17/2021 1:22 PM
2111377-002	PEO-MW-11-202111	11/11/2021 8:25 AM	11/17/2021 1:22 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Pace Analytical Minnesota

Project: 053831

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



CLIENT: Pace Analytical Minnesota

Project: 053831

Lab ID: 2111377-001

Collection Date: 11/11/2021 8:00:00 AM

Client Sample ID: TRIP BLANK-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	11/23/2021 2:15:03 AM
Surr: 1,4-Difluorobenzene	82.2	65 - 140		%Rec	1	11/23/2021 2:15:03 AM
Surr: Bromofluorobenzene	98.6	65 - 140		%Rec	1	11/23/2021 2:15:03 AM

Lab ID: 2111377-002

Collection Date: 11/11/2021 8:25:00 AM

Client Sample ID: PEO-MW-11-202111

Matrix: Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 34498

Analyst: MM

Aliphatic Hydrocarbon (C10-C12)	1,080	20.5		µg/L	1	12/3/2021 9:13:14 AM
Surr: 1-Chlorooctadecane	67.6	60 - 140		%Rec	1	12/3/2021 9:13:14 AM

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 34532

Analyst: SLL

Aliphatic Hydrocarbon (C10-C12)	543	12.2		µg/L	1	11/23/2021 8:44:06 AM
Surr: 1,4-Difluorobenzene	86.3	65 - 140		%Rec	1	11/23/2021 8:44:06 AM
Surr: Bromofluorobenzene	128	65 - 140		%Rec	1	11/23/2021 8:44:06 AM

Work Order: 2111377
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-34498	SampType: MBLK	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: MBLKW	Batch ID: 34498					Analysis Date: 12/2/2021	SeqNo: 1462206				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	39.3		0	0						
Surr: 1-Chlorooctadecane	319		393.0		81.1	60	140				

Sample ID: LCS-34498	SampType: LCS	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: LCSW	Batch ID: 34498					Analysis Date: 12/4/2021	SeqNo: 1462214				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	357	39.5	493.1	0	72.3	70	130				
Surr: 1-Chlorooctadecane	367		394.5		93.0	60	140				

Sample ID: LCSD-34498	SampType: LCSD	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: LCSW02	Batch ID: 34498					Analysis Date: 12/4/2021	SeqNo: 1462215				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	354	39.7	496.5	0	71.3	70	130	356.7	0.730	20	
Surr: 1-Chlorooctadecane	379		397.2		95.4	60	140		0		

Sample ID: 2111361-003BMS	SampType: MS	Units: µg/L				Prep Date: 11/18/2021	RunNo: 71733				
Client ID: BATCH	Batch ID: 34498					Analysis Date: 12/4/2021	SeqNo: 1462236				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	326	39.6	494.5	0	65.9	70	130				S
Surr: 1-Chlorooctadecane	335		395.6		84.7	60	140				

NOTES:
 S - Outlying spike recovery observed (C10-C12).

Work Order: 2111377
 CLIENT: Pace Analytical Minnesota
 Project: 053831

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-34532	SampType: LCS	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: LCSW	Batch ID: 34532					Analysis Date: 11/22/2021	SeqNo: 1461207				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	198	25.0	200.0	0	99.0	70	130				
Surr: 1,4-Difluorobenzene	52.0		50.00		104	65	140				
Surr: Bromofluorobenzene	52.4		50.00		105	65	140				

Sample ID: MB-34532	SampType: MBLK	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: MBLKW	Batch ID: 34532					Analysis Date: 11/23/2021	SeqNo: 1461206				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0						
Surr: 1,4-Difluorobenzene	41.7		50.00		83.4	65	140				
Surr: Bromofluorobenzene	50.1		50.00		100	65	140				

Sample ID: 2111376-004BDUP	SampType: DUP	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: BATCH	Batch ID: 34532					Analysis Date: 11/23/2021	SeqNo: 1461197				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	25.0		0	0			0	0	25	
Surr: 1,4-Difluorobenzene	42.5		50.00		85.0	65	140		0		
Surr: Bromofluorobenzene	51.6		50.00		103	65	140		0		

Sample ID: 2111376-005BMS	SampType: MS	Units: µg/L				Prep Date: 11/22/2021	RunNo: 71692				
Client ID: BATCH	Batch ID: 34532					Analysis Date: 11/23/2021	SeqNo: 1461199				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	205	25.0	200.0	0	102	70	130				
Surr: 1,4-Difluorobenzene	52.1		50.00		104	65	140				
Surr: Bromofluorobenzene	50.1		50.00		100	65	140				

Client Name: **PACEMI**

 Work Order Number: **2111377**

 Logged by: **Clare Griggs**

 Date Received: **11/17/2021 1:22:00 PM**
Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes No NA
4. Shipping container/cooler in good condition? Yes No
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes No Not Present
6. Was an attempt made to cool the samples? Yes No NA
7. Were all items received at a temperature of >2°C to 6°C * Yes No NA
8. Sample(s) in proper container(s)? Yes No
9. Sufficient sample volume for indicated test(s)? Yes No
10. Are samples properly preserved? Yes No
11. Was preservative added to bottles? Yes No NA
12. Is there headspace in the VOA vials? Yes No NA
13. Did all samples containers arrive in good condition(unbroken)? Yes No
14. Does paperwork match bottle labels? Yes No
15. Are matrices correctly identified on Chain of Custody? Yes No
16. Is it clear what analyses were requested? Yes No
17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	3.2

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody

PASI Minnesota Laboratory



2111347



www.pacelabs.com

Report / Invoice To

Workorder: 10587511

Workorder Name: 053831

Results Requested By: 12/1/2021

Subcontract To

Fremont Analytical
3600 Fremont Ave N
Seattle, WA 98103

Requested Analysis

Julie Bowser
Pace Analytical Minnesota
1700 Elm Street
Minneapolis, MN 55414
Phone 612-607-6390
Email: julie.bowser@pacelabs.com

P.O. 10587511

State of Sample Origin: OR

Preserved Containers

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers	NWTPH VPH (Aliphatics C10-C12)	NWTPH EPH (Aliphatics C10-C12)	Comments	LAB USE ONLY
1	TRIP BLANK-20211111	11/11/2021 08:00	10587511001	Water		X			
2	PEO-MW-11-202111	11/11/2021 08:25	10587511002	Water		X	X		
3									
4									
5									

Transfers	Released By	Date/Time	Received By	Date/Time	Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N
1	<i>Julie Bowser</i>	11/11/21 14:38	<i>Justin Hoop</i>	11/19 13:02				
2								
3								

J flag to MDL
EQUIS EDD needed

Attachment B – Q4 2021 GW SCM Data Tables

Table Q4-1
Monitoring Well Summary
Premier Edible Oils
Portland, Oregon

Well Identification	Status	Well Depth (ft)	Screen Zone	Screen Interval (ft bgs)		Measuring Point (Top of Casing) ft-NAVD88	Sitewide Monitoring Point	Water Level Monitoring Point ¹	Transducer Installed	Quarterly Monitoring ²
				Top	Bottom					
MW-02	Active	26	Shallow	11	26	31.18	X	X		X
MW-03	Active	26	Shallow	11	26	31.67	X	X		X
MW-04	Active	26	Shallow	11	26	31.37				
MW-05	Active	26	Shallow	11	26	31.27				
MW-06	Active	27	Shallow	12	27	31.23	X	X		X
MW-07	Decommissioned 1/14/2021									
MW-08	Active	27	Shallow	12	27	30.93	X	X	X	X
MW-11	Active	27	Shallow	12	27	31.06	X	X	X	X
MW-18	Active	27	Shallow	12	27	30.87	X	X	X	X
MW-19	Active	27	Shallow	12	27	31.7	X	X		X
MW-21	Active	27	Shallow	12	27	31.36	X	X	X	X
MW-24A	Active	27	Shallow	12	27	32.35	X	X		X
MW-25	Active	-	Shallow	-	-	31.78	X	X		X
MW-26	Active	39	Deep	34	39	31.89	X	X		X
MW-27	Active	40	Deep	35	40	31.46	X	X	X	X
MW-28	Active	28	Shallow	13	28	31.26	X	X	X	X
MW-29	Active	30	Shallow	13	28	31.9	X	X		X
MW-30	Active	28	Shallow	13	28	31.05	X	X	X	X
MW-31	Active	28	Shallow	13	28	30.77	X	X		X
MW-32	Active	40	Deep	35	40	31.08	X	X	X	X
MW-33	Active	40	Deep	35	40	30.88	X	X	X	X
MW-34	Active	28	Shallow	13	28	30.72	X	X	X	X
MW-35	Active	40	Deep	35	40	30.83	X	X	X	X
MW-36	Active	30	Shallow	15	30	30.16	X	X	X	X
MW-37	Active	40	Deep	35	40	31.27	X	X		X
MW-38	Active	27	Shallow	13	27	31.54	X	X		X
MW-39	Active	30	Shallow	15	30	31.08	X	X		X
MW-40	Active	40	Deep	35	40	31.71	X	X	X	X
MW-41	Active	27	Shallow	13	27	31.32	X	X	X	X
MW-42	Active	40	Deep	35	40	31.94	X	X	X	X
MW-43	Active	30	Shallow	15	30	31.39	X	X		X
MW-44	Active	25	Shallow	10	25	30.98	X	X		X
MW-45	Active	30	Shallow	15	30	31.70	X	X		X

Notes:
 * = Not Surveyed
 - = not applicable
¹ = Manual water level measurement collected monthly
² = Groundwater analytical samples
 NAVD88 = North America Vertical Datum 1988

Table Q4-1
Groundwater Elevations - October 2021
Premier Edible Oils
Portland, Oregon

Well Identification	Screen Zone	Measuring Point (Top of Casing) ft-NAVD88	Date	Depth to Groundwater feet-btc	Depth to Product feet-btc	Product Thickness feet	Product Volume gal	Groundwater Elevation ft-NAVD88
MW-02	Shallow	31.18	10/12/2021	23.77	-	ND	-	7.41
MW-03	Shallow	31.67	10/12/2021	23.53	-	ND	-	8.14
MW-06	Shallow	31.23	10/12/2021	23.08	-	ND	-	8.15
MW-07	Decommissioned 1/14/2021							
MW-08	Shallow	30.93	10/12/2021	23.47	-	ND	-	7.46
MW-11	Shallow	31.06	10/12/2021	23.41	-	ND	-	7.65
MW-18	Shallow	30.87	10/12/2021	23.40	-	ND	-	7.47
MW-19	Shallow	31.70	10/12/2021	24.70	-	ND	-	7.00
MW-21	Shallow	31.36	10/12/2021	16.07	-	ND	-	15.29
MW-24A	Shallow	32.35	10/12/2021	20.07	-	ND	-	12.28
MW-25	Shallow	31.78	10/12/2021	24.38	-	ND	-	7.40
MW-26	Deep	31.89	10/12/2021	25.57	-	ND	-	6.32
MW-27	Deep	31.46	10/12/2021	24.66	-	ND	-	6.80
MW-28	Shallow	31.26	10/12/2021	23.76	-	ND	-	7.50
MW-29	Shallow	31.90	10/12/2021	22.10	-	ND	-	9.80
MW-30	Shallow	31.05	10/12/2021	23.46	-	ND	-	7.59
MW-31	Shallow	30.77	10/12/2021	23.24	-	ND	-	7.53
MW-32	Deep	31.08	10/12/2021	23.80	-	ND	-	7.28
MW-33	Deep	30.88	10/12/2021	24.14	-	ND	-	6.74
MW-34	Shallow	30.72	10/12/2021	23.24	-	ND	-	7.48
MW-35	Deep	30.83	10/12/2021	23.66	-	ND	-	7.17
MW-36	Shallow	30.16	10/12/2021	23.14	-	ND	-	7.02
MW-37	Deep	31.27	10/12/2021	24.21	-	ND	-	7.06
MW-38	Shallow	31.54	10/12/2021	22.61	-	ND	-	8.93
MW-39	Shallow	31.08	10/12/2021	24.04	-	ND	-	7.04
MW-40	Deep	31.71	10/12/2021	24.66	-	ND	-	7.05
MW-41	Shallow	31.32	10/12/2021	18.87	-	ND	-	12.45
MW-42	Deep	31.94	10/12/2021	24.92	-	ND	-	7.02
MW-43	Shallow	31.39	10/12/2021	24.29	24.07	0.22	0.04	7.28
MW-44	Shallow	30.98	10/12/2021	23.18	-	ND	-	7.80
MW-45	Shallow	31.70	10/12/2021	23.84	-	ND	-	7.86

Notes:

- = not applicable

NAVD88 = North America Vertical Datum 1988

ND = Non-detect

Corrected groundwater water elevation (GWE) calculated as: $GWE_{corr} = GWE + (LNAPL_{thickness} * SG)$

Specific Gravity (SG) of light nonaqueous phase liquid (LNAPL) assumed to be 0.8 based on analysis of LNAPL

Table Q4-1
Groundwater Elevations - November 2021
Premier Edible Oils
Portland, Oregon

Well Identification	Screen Zone	Measuring Point (Top of Casing) ft-NAVD88	Date	Depth to Groundwater feet-btc	Depth to Product feet-btc	Product Thickness feet	Product Volume gal	Groundwater Elevation ft-NAVD88
MW-02	Shallow	31.18	11/1/2021	23.57	-	ND	-	7.61
MW-03	Shallow	31.67	11/1/2021	23.34	-	ND	-	8.33
MW-06	Shallow	31.23	11/1/2021	23.06	-	ND	-	8.17
MW-07	Shallow	Decommissioned 1/14/2021						
MW-08	Shallow	30.93	11/1/2021	23.11	-	ND	-	7.82
MW-11	Shallow	31.06	11/1/2021	23.69	-	ND	-	7.37
MW-18	Shallow	30.87	11/1/2021	23.10	-	ND	-	7.77
MW-19	Shallow	31.70	11/1/2021	23.70	-	ND	-	8.00
MW-21	Shallow	31.36	11/1/2021	16.11	-	ND	-	15.25
MW-24A	Shallow	32.35	11/1/2021	19.94	-	ND	-	12.41
MW-25	Shallow	31.78	11/1/2021	23.87	-	ND	-	7.91
MW-26	Deep	31.89	11/1/2021	24.70	-	ND	-	7.19
MW-27	Deep	31.46	11/1/2021	24.54	-	ND	-	6.92
MW-28	Shallow	31.26	11/1/2021	23.72	-	ND	-	7.54
MW-29	Shallow	31.90	11/1/2021	22.88	-	ND	-	9.02
MW-30	Shallow	31.05	11/1/2021	23.28	-	ND	-	7.77
MW-31	Shallow	30.77	11/1/2021	23.08	-	ND	-	7.69
MW-32	Deep	31.08	11/1/2021	23.64	-	ND	-	7.44
MW-33	Deep	30.88	11/1/2021	23.73	-	ND	-	7.15
MW-34	Shallow	30.72	11/1/2021	23.44	-	ND	-	7.28
MW-35	Deep	30.83	11/1/2021	23.99	-	ND	-	6.84
MW-36	Shallow	30.16	11/1/2021	23.04	-	ND	-	7.12
MW-37	Deep	31.27	11/1/2021	24.31	-	ND	-	6.96
MW-38	Shallow	31.54	11/1/2021	22.90	-	ND	-	8.64
MW-39	Shallow	31.08	11/1/2021	23.96	-	ND	-	7.12
MW-40	Deep	31.71	11/1/2021	24.90	-	ND	-	6.81
MW-41	Shallow	31.32	11/1/2021	18.75	-	ND	-	12.57
MW-42	Deep	31.94	11/1/2021	25.26	-	ND	-	6.68
MW-43	Shallow	31.39	11/1/2021	24.08	24.04	0.04	0.01	7.34
MW-44	Shallow	30.98	11/1/2021	23.10	-	ND	-	7.88
MW-45	Shallow	31.70	11/1/2021	24.53	-	ND	-	7.17

Notes:

- = not applicable

NAVD88 = North America Vertical Datum 1988

ND = Non-detect

Corrected groundwater water elevation (GWE) calculated as: $GWE_{corr} = GWE + (NAPL_{thickness} * SG)$

Specific Gravity (SG) of light nonaqueous phase liquid (LNAPL) assumed to be 0.8 based on analysis of LNAPL

Table Q4-1
Groundwater Elevations - December 2021
Premier Edible Oils
Portland, Oregon

Well Identification	Screen Zone	Measuring Point (Top of Casing) ft-NAVD88	Date	Depth to Groundwater feet-btc	Depth to Product feet-btc	Product Thickness feet	Product Volume gal	Groundwater Elevation ft-NAVD88	
MW-02	Shallow	31.18	1/3/2022	18.36	-	ND	-	12.82	
MW-03	Shallow	31.67	1/3/2022	17.19	-	ND	-	14.48	
MW-06	Shallow	31.23	1/3/2022	17.45	-	ND	-	13.78	
MW-07	Decommissioned 1/14/2021								
MW-08	Shallow	30.93	1/3/2022	18.19	-	ND	-	12.74	
MW-11	Shallow	31.06	1/3/2022	18.24	-	ND	-	12.82	
MW-18	Shallow	30.87	1/3/2022	18.30	-	ND	-	12.57	
MW-19	Shallow	31.70	1/3/2022	18.35	-	ND	-	13.35	
MW-21	Shallow	31.36	1/3/2022	13.08	-	ND	-	18.28	
MW-24A	Shallow	32.35	1/3/2022	17.35	-	ND	-	15.00	
MW-25	Shallow	31.78	Inaccessible						
MW-26	Deep	31.89	1/3/2022	20.05	-	ND	-	11.84	
MW-27	Deep	31.46	1/3/2022	19.50	-	ND	-	11.96	
MW-28	Shallow	31.26	1/3/2022	18.81	-	ND	-	12.45	
MW-29	Shallow	31.90	1/3/2022	18.89	-	ND	-	13.01	
MW-30	Shallow	31.05	1/3/2022	18.07	-	ND	-	12.98	
MW-31	Shallow	30.77	1/3/2022	18.05	-	ND	-	12.72	
MW-32	Deep	31.08	1/3/2022	19.11	-	ND	-	11.97	
MW-33	Deep	30.88	1/3/2022	20.43	-	ND	-	10.45	
MW-34	Shallow	30.72	1/3/2022	18.20	-	ND	-	12.52	
MW-35	Deep	30.83	1/3/2022	19.05	-	ND	-	11.78	
MW-36	Shallow	30.16	1/3/2022	18.01	-	ND	-	12.15	
MW-37	Deep	31.27	1/3/2022	19.45	-	ND	-	11.82	
MW-38	Shallow	31.54	1/3/2022	18.30	-	ND	-	13.24	
MW-39	Shallow	31.08	1/3/2022	19.10	-	ND	-	11.98	
MW-40	Deep	31.71	1/3/2022	19.71	-	ND	-	12.00	
MW-41	Shallow	31.32	1/3/2022	15.84	-	ND	-	15.48	
MW-42	Deep	31.94	1/3/2022	20.04	-	ND	-	11.90	
MW-43	Shallow	31.39	1/3/2022	19.33	-	ND	-	12.06	
MW-44	Shallow	30.98	1/3/2022	17.98	-	ND	-	13.00	
MW-45	Shallow	31.70	1/3/2022	20.51	-	ND	-	11.19	

Notes:

Water levels were not collected in December 2021 due to access issues and unsafe weather conditions.

- = not applicable

NAVD88 = North America Vertical Datum 1988

ND = Non-detect

Corrected groundwater water elevation (GWE) calculated as: $GWE_{corr} = GWE + (LNAPL_{thickness} * SG)$

Specific Gravity (SG) of light nonaqueous phase liquid (LNAPL) assumed to be 0.8 based on analysis of LNAPL

Table Q4-1
Transducer Calibration Offsets
Premier Edible Oils
Portland, Oregon

Calibration Event	Measurement	MW-08	MW-11	MW-18	MW-21	MW-27	MW-28	MW-30	MW-32	MW-33	MW-34	MW-35	MW-36	MW-40	MW-41	MW-42
1/18/2021	DTW measured (ft BTOC)	16.93	16.66	17.07	13.06	19.79	17.28	16.45	17.27	19.02	18.15	19.94	16.39	19.76	13.48	19.95
	DTW calculated (ft BTOC)	16.56	17.56	17.19	13.10	20.01	18.11	16.87	18.52	19.33	18.33	20.00	16.59	20.23	15.69	20.46
	Calibration Offset	-0.37	0.90	0.12	0.04	0.22	0.83	0.42	1.25	0.31	0.18	0.06	0.20	0.47	2.21	0.51
2/4/2021	DTW measured (ft BTOC)	19.32	18.59	19.21	13.38	20.04	20.31	18.91	19.88	19.40	18.35	19.52	18.39	20.26	13.89	20.83
	DTW calculated (ft BTOC)	19.29	19.47	19.26	13.41	20.22	20.43	19.26	20.15	19.76	18.29	20.05	18.87	20.74	16.04	20.88
	Calibration Offset	-0.03	0.88	0.05	0.03	0.18	0.12	0.35	0.27	0.36	-0.06	0.53	0.48	0.48	2.15	0.05
3/9/2021	DTW measured (ft BTOC)	20.10	18.21	20.31	13.23	23.23	20.65	19.52	21.39	22.28	17.25	22.73	20.92	23.33	13.89	23.86
	DTW calculated (ft BTOC)	20.05	19.13	20.49	13.35	23.18	20.59	19.92	21.79	22.44	17.67	23.28	21.09	23.77	16.16	24.34
	Calibration Offset	-0.05	0.92	0.18	0.12	-0.05	-0.06	0.40	0.40	0.16	0.42	0.55	0.17	0.44	2.27	0.48
4/13/2021	DTW measured (ft BTOC)	21.81	19.63	21.38	13.91	23.18	21.62	21.52	21.78	22.33	18.73	23.03	21.34	23.21	14.68	23.43
	DTW calculated (ft BTOC)	21.70	20.48	21.49	13.95	23.32	21.63	21.81	22.16	22.27	19.00	23.35	21.51	23.52	16.88	23.77
	Calibration Offset	-0.11	0.85	0.11	0.04	0.14	0.01	0.29	0.38	-0.06	0.27	0.32	0.17	0.31	2.20	0.34
5/3/2021	DTW measured (ft BTOC)	21.11	20.31	20.84	14.22	21.97	21.46	21.22	21.94	21.38	19.93	21.14	20.84	22.21	15.04	22.51
	DTW calculated (ft BTOC)	21.10	21.12	20.93	14.23	21.87	21.52	21.53	22.34	21.42	20.30	21.61	20.84	22.46	17.20	22.74
	Calibration Offset	-0.01	0.81	0.09	0.01	-0.10	0.06	0.31	0.40	0.04	0.37	0.47	0.00	0.25	2.16	0.23
6/14/2021	DTW measured (ft BTOC)	20.46	19.21	20.08	14.75	21.47	20.23	20.32	20.96	20.71	19.71	21.14	19.68	21.53	15.57	21.88
	DTW calculated (ft BTOC)	20.43	19.93	20.16	14.73	21.42	20.30	20.64	21.43	20.78	20.06	21.57	19.71	21.57	17.74	21.88
	Calibration Offset	-0.03	0.72	0.08	-0.02	-0.05	0.07	0.32	0.47	0.07	0.35	0.43	0.03	0.04	2.17	0.00
7/14/2021	DTW measured (ft BTOC)	21.66	19.92	21.21	15.13	22.44	21.49	21.57	21.28	21.61	20.29	22.25	20.75	22.75	15.96	23.00
	DTW calculated (ft BTOC)	21.62	20.59	21.33	15.11	22.23	21.53	21.88	21.69	21.54	20.52	22.66	20.78	23.10	18.14	23.39
	Calibration Offset	-0.04	0.67	0.12	-0.02	-0.21	0.04	0.31	0.41	-0.07	0.23	0.41	0.03	0.35	2.18	0.39
8/2/2021	DTW measured (ft BTOC)	22.56	25.10	22.04	15.41	25.15	23.68	22.63	23.61	24.18	27.30	24.45	23.33	25.25	16.24	25.90
	DTW calculated (ft BTOC)	22.47	25.30	22.08	15.41	25.18	23.67	22.86	24.13	24.22	27.81	24.90	23.35	25.79	18.36	26.19
	Calibration Offset	-0.09	0.20	0.04	0.00	0.03	-0.01	0.23	0.52	0.04	0.51	0.45	0.02	0.54	2.12	0.29
9/16/2021	DTW measured (ft BTOC)	23.55	22.92	23.49	15.91	26.30	24.25	23.47	24.26	25.16	22.74	25.71	23.71	26.32	16.76	26.75
	DTW calculated (ft BTOC)	23.49	23.64	23.53	15.84	26.45	24.26	23.70	24.50	25.16	22.95	25.85	23.85	26.64	18.88	27.04
	Calibration Offset	-0.06	0.72	0.04	-0.07	0.15	0.01	0.23	0.24	0.00	0.21	0.14	0.14	0.32	2.12	0.29
10/12/2021	DTW measured (ft BTOC)	23.47	22.66	23.40	16.07	24.66	23.76	23.46	23.80	24.14	23.24	23.66	23.14	24.66	16.87	24.92
	DTW calculated (ft BTOC)	23.47	23.26	23.39	16.02	24.89	23.77	23.76	24.19	23.90	23.38	24.06	23.19	24.95	19.01	25.03
	Calibration Offset	0.00	0.60	-0.01	-0.05	0.23	0.01	0.30	0.39	-0.24	0.14	0.40	0.05	0.29	2.14	0.11
11/1/2021	DTW measured (ft BTOC)	23.11	22.94	23.10	16.11	24.54	23.72	23.28	23.64	23.73	23.44	23.99	23.04	24.90	16.75	25.26
	DTW calculated (ft BTOC)	23.07	23.63	23.08	16.00	24.52	23.71	23.45	23.90	23.78	23.55	24.25	23.02	24.99	18.89	25.28
	Calibration Offset	-0.04	0.69	-0.02	-0.11	-0.02	-0.01	0.17	0.26	0.05	0.11	0.26	-0.02	0.09	2.14	0.02
01/03/2022 ³	DTW measured (ft BTOC)	18.19	17.49	18.30	13.08	19.50	18.81	18.03	19.11	20.43	18.20	19.05	18.01	19.71	13.84	20.04
	DTW calculated (ft BTOC)	18.15	18.14	18.35	13.10	19.51	18.76	18.40	19.36	19.15	18.27	19.51	18.16	20.14	16.09	20.20
	Calibration Offset	-0.04	0.65	0.05	0.02	0.01	-0.05	0.37	0.25	-1.28	0.07	0.46	0.15	0.43	2.25	0.16

Notes:
 NAVD88 = North America Vertical Datum 1988
 DTW = Depth to Water
 BTOC = Below Top of Casing
 1 = Datalogger depth adjusted up by 0.75 ft on 4/8/2020
 2 = Pressure transducer stopped working on 3/9/2020. Replace on 4/8/2020.
 3 = Pressure transducers were not calibrated in December due to access and weather issues. Calibration completed in January 2022.

Table Q4-1
Horizontal and Vertical Gradients - Barrier Wall
Premier Edible Oils
Portland, Oregon

Well Identification	Measuring Point (Top of Casing) ft-NAVD88	Screen Interval (ft bgs)		Groundwater Elevation ft-NAVD88			Gradient ^{1,2} ft/ft		
		Top	Bottom	10/12/2021	11/1/2021	1/3/2022	10/12/2021	11/1/2021	1/3/2022
Shallow Horizontal Gradient									
MW-30	31.05	13.00	28.00	7.59	7.77	12.98	0.0018	0.0024	0.0077
MW-31	30.77	13.00	28.00	7.53	7.69	12.72			
MW-30	31.05	13.00	28.00	7.59	7.77	12.98	0.0028	0.0000	0.0094
MW-18	30.87	12.00	27.00	7.47	7.77	12.57			
MW-34	30.72	13.00	28.00	7.48	7.28	12.52	0.0165	0.0057	0.0133
MW-36	30.16	15.00	30.00	7.02	7.12	12.15			
MW-38	31.54	13.00	27.00	8.93	8.64	13.24	0.0789	0.0635	0.0526
MW-39	31.08	15.00	30.00	7.04	7.12	11.98			
MW-29	31.90	13.00	28.00	9.80	9.02	13.01	0.0485	0.0322	0.0182
MW-43	31.39	15.00	30.00	7.28	7.34	12.06			
MW-41	31.32	13.00	27.00	12.45	12.57	15.48	0.0060	0.0057	0.0170
MW-24A	32.35	12.00	27.00	12.28	12.41	15.00			
Average Shallow Horizontal Gradient							0.0257	0.0182	0.0197
Deep Horizontal Gradient									
MW-32	31.08	35.00	40.00	7.28	7.44	11.97	0.0062	0.0033	0.0173
MW-33	30.88	35.00	40.00	6.74	7.15	10.45			
MW-35	30.83	35.00	40.00	7.17	6.84	11.78	0.0092	-0.0020	-0.0045
MW-27	31.46	35.00	40.00	6.80	6.92	11.96			
MW-37	31.27	35.00	40.00	7.06	6.96	11.82	0.0040	0.0006	-0.0022
MW-27	31.46	35.00	40.00	6.80	6.92	11.96			
MW-37	31.27	35.00	40.00	7.06	6.96	11.82	0.0107	-0.0033	-0.0003
MW-26	31.89	34.00	39.00	6.32	7.19	11.84			
MW-40	31.71	35.00	40.00	7.05	6.81	12.00	0.0009	0.0041	0.0031
MW-42	31.94	35.00	40.00	7.02	6.68	11.90			
Average Deep Horizontal Gradient							0.0062	0.0005	0.0027
Vertical Gradients³									
MW-32	31.08	35.00	40.00	7.28	7.44	11.97	-0.0443	-0.0471	-0.1443
MW-30	31.05	13.00	28.00	7.59	7.77	12.98			
MW-35	30.83	35.00	40.00	7.17	6.84	11.78	-0.0443	-0.0629	-0.1057
MW-34	30.72	13.00	28.00	7.48	7.28	12.52			
MW-37	31.27	35.00	40.00	7.06	6.96	11.82	-0.2338	-0.2100	-0.1775
MW-38	31.54	13.00	27.00	8.93	8.64	13.24			
MW-40	31.71	35.00	40.00	7.05	6.81	12.00	-0.6750	-0.7200	-0.4350
MW-41	31.32	13.00	27.00	12.45	12.57	15.48			
Average Vertical Gradient							-0.2493	-0.2600	-0.2156

Notes:

NAVD88 = North America Vertical Datum 1988

¹ = Positive horizontal gradients indicate flow toward the river; negative horizontal gradients indicate flow away from the river.

² = Positive vertical gradients indicate upward flow; negative vertical gradients indicate downward flow.

³ = Vertical Gradients measured using bottom of upper casing screen to top of lower casing screen elevations.

Table Q4-1
LNAPL Observations during Groundwater Sampling Event
Premier Edible Oils
Portland, Oregon

Well Identification	Screen Zone	Measuring Point ft-NAVD88	Date	Depth to Groundwater feet-btc	Depth to Product feet-btc	Product Thickness feet	Product Volume gal	Groundwater Elevation ft-NAVD88
MW-02	Shallow	31.18	11/10/2021	22.00	-	ND	-	9.18
MW-03	Shallow	31.67	11/3/2021	23.03	-	ND	-	8.64
MW-06	Shallow	31.23	11/3/2021	22.80	-	ND	-	8.43
MW-07	Shallow	Decommissioned 1/14/2021						
MW-08	Shallow	30.93	11/4/2021	22.58	-	ND	-	8.35
MW-11	Shallow	31.06	11/11/2021	22.03	-	ND	-	9.03
MW-18	Shallow	30.87	11/4/2021	22.20	-	ND	-	8.67
MW-19	Shallow	31.70	11/4/2021	23.37	-	ND	-	8.33
MW-21	Shallow	31.36	11/3/2021	16.04	-	ND	-	15.32
MW-24A	Shallow	32.35	11/3/2021	19.84	-	ND	-	12.51
MW-25	Shallow	31.78	11/3/2021	22.92	-	ND	-	8.86
MW-26	Deep	31.89	11/9/2021	21.98	-	ND	-	9.91
MW-27	Deep	31.46	11/9/2021	20.98	-	ND	-	10.48
MW-28	Shallow	31.26	11/8/2021	22.05	-	ND	-	9.21
MW-29	Shallow	31.90	11/8/2021	22.63	-	ND	-	9.27
MW-30	Shallow	31.05	11/4/2021	22.74	-	ND	-	8.31
MW-31	Shallow	30.77	11/4/2021	22.16	-	ND	-	8.61
MW-32	Deep	31.08	11/2/2021	22.80	-	ND	-	8.28
MW-33	Deep	30.88	11/2/2021	23.46	-	ND	-	7.42
MW-34	Shallow	30.72	11/10/2021	21.65	-	ND	-	9.07
MW-35	Deep	30.83	11/10/2021	21.23	-	ND	-	9.60
MW-36	Shallow	30.16	11/9/2021	20.35	-	ND	-	9.81
MW-37	Deep	31.27	11/9/2021	21.78	-	ND	-	9.49
MW-38	Shallow	31.54	11/9/2021	21.64	-	ND	-	9.90
MW-39	Shallow	31.08	11/10/2021	21.95	-	ND	-	9.13
MW-40	Deep	31.71	11/8/2021	22.13	-	ND	-	9.58
MW-41	Shallow	31.32	11/8/2021	18.57	-	ND	-	12.75
MW-42	Deep	31.94	11/2/2021	23.79	-	ND	-	8.15
MW-43	Shallow	31.39	11/10/2021	21.50	-	ND	-	9.89
MW-44	Shallow	30.98	11/4/2021	22.49	-	ND	-	8.49
MW-45	Shallow	31.70	11/8/2021	22.35	-	ND	-	9.35

Notes:

* = Not Surveyed

- = not applicable

NAVD88 = North America Vertical Datum 1988

ND = Non-detect

Corrected groundwater water elevation (GWE) calculated as: $GWE_{corr} = GWE + (LNAPL_{thickness} * SG)$

Specific Gravity (SG) of light nonaqueous phase liquid (LNAPL) assumed to be 0.8 based on analysis of LNAPL

Table Q4-1
LNAPL Recovery Volumes
Premier Edible Oils
Portland, Oregon

Quarter	Date	MW-02 gal	MW-11 gal	MW-34 gal	MW-38 gal	MW-39 gal	MW-43 gal	Total gal
Q1 2021	-	-	-	-	-	-	-	0.00
Q2 2021	-	-	-	-	-	-	-	0.00
Q3 2021	8/12/2021	-	-	-	-	0.01	-	0.00
Q4 2021	-	-	-	-	-	-	-	0.00
Total Recovered		0.00	0.00	0.00	0.00	0.01	0.00	0.00

Notes:

- = not applicable

* = approximate value

Table Q4-1
Groundwater Field Parameters - November 2021
Premier Edible Oils, 10400 N Burgard Way
Portland OR

Monitoring Well	Date	pH	Specific Conductance $\mu\text{S}/\text{cm}$	Temperature $^{\circ}\text{C}$	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU
MW-02	11/10/2021	6.32	582	31.34	-64.5	0.53	33.9
MW-03	11/3/2021	6.26	181	17.01	9.3	1.46	37.2
MW-06	11/3/2021	6.5	202	16.22	-71.2	0.7	10
MW-07	Decommissioned 1/14/2021						
MW-08	11/4/2021	5.89	228	21.17	55	0.64	49.2
MW-11	11/11/2021	6.73	830	30.11	-115.2	0.44	71.7
MW-18	11/4/2021	6.41	405	18.05	-68.1	0.9	37.6
MW-19	11/4/2021	6.18	241	16.37	54.423	2.4	88.2
MW-21	11/3/2021	6.56	116	17.34	-7.6	1.82	2.99
MW-24A	11/3/2021	6.13	125	16.36	82.7	3.92	1000
MW-25	11/3/2021	6.22	143	15.74	84.5	2.23	--
MW-26	11/9/2021	6.23	112	20.72	44.5	1.17	18.9
MW-27	11/9/2021	6.75	225	24.38	-111.5	0.4	37.8
MW-28	11/8/2021	6.29	119	18.51	66.8	5.87	26.1
MW-29	11/8/2021	6.43	594	21.83	-94.1	0.43	718
MW-30	11/4/2021	6.7	295	20.5	-129.5	0.58	199
MW-31	11/4/2021	6.24	400	18.78	67.2	0.91	21
MW-32	11/2/2021	10.19	261	18.43	-43.4	7.45	--
MW-33	11/2/2021	8.54	252	20.52	-243.3	0.39	0.65
MW-34	11/10/2021	6.36	337	31.17	-72.3	0.42	48
MW-35	11/10/2021	6.75	173	27.88	-95.3	0.36	14.2
MW-36	11/9/2021	6.44	490	27.43	-91.1	0.49	101
MW-37	11/9/2021	7.38	184	22.67	-13.6	0.68	35.6
MW-38	11/9/2021	6.35	496	24.18	-82.9	0.37	46.3
MW-39	11/10/2021	6.53	600	22.05	-96.5	0.56	19.6
MW-40	11/8/2021	6.72	241	16.67	-85.4	0.75	68
MW-41	11/8/2021	6.24	138	16.92	21	1.14	359
MW-42	11/2/2021	8.66	233	16.87	-183.3	0.56	1.03
MW-43	11/10/2021	6.46	297	21.71	-110.4	0.82	99.8
MW-44	11/4/2021	6.45	207	17.3	50.522	2.83	36
MW-45	11/8/2021	5.33	161	18.51	97.8	2.49	24.8

Notes:

-- = not analyzed

$^{\circ}\text{C}$ = degrees Celsius

mg/L = milligrams per liter

mV = millivolts

NTU = Nephelometric Turbidity Units

ORP = oxidation reduction potential, measured in millivolts (mV)

pH standard units

$\mu\text{S}/\text{cm}$ = microsiemens per centimeter

Empty cells = Not measured.

Table Q4-10
Groundwater Analytical Data - Petroleum Related Compounds
Premier Edible Oils, 10400 N Burgard Way
Portland OR

Well	Sample Date	EPA 8620B					NWTPH-Dx, SGT		NWTPH-Gx	NWEPH	NWVPH
		Analyte	Benzene	Ethylbenzene	m,p-Xylenes	o-Xylene	Toluene	Motor Oil Range Organics (C24-C36) ²	TPH Diesel Range Organics ³	TPH-GRO (Gasoline Range Organics) ⁴	C10-C12-Aliphatics
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Selected GW SCM Performance Evaluation Criteria		1.4	210	13	13	1,500	NS	1000	1000	2.6	2.6
Groundwater Cleanup Levels ¹		0.44	7.3	13	13	9.8	NS	NS	NS	2.6	2.6
MW-02	11/10/2021	0.38 j	< 0.11	< 0.20	< 0.18	< 1.0 U	740	10,100	< 1,580	68.5	< 12.2
MW-03	11/3/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 190	< 120	121 J+	< 20.5	< 12.2
MW-06	11/3/2021	< 0.12	0.074 j	< 0.18	< 0.12	< 1.0 U	< 190	1,600	2,860	47.2	324
MW-08	11/4/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	190 J	< 31.6	< 20.6	< 12.2
MW-11	11/11/2021	0.14 j	< 0.11	< 0.20	< 0.18	0.12 j	1,100	27,900 J	< 500 U	1,080	543
MW-18	11/4/2021	0.27 j	< 0.11	< 0.20	< 0.18	< 0.10	< 190	400 J	< 100 U	< 20.3	< 12.2
MW-19	11/4/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	130 J	< 31.6	< 20.6	< 12.2
MW-21	11/3/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.3	< 12.2
MW-24A	11/3/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 190	< 120	< 100 U	< 20.5	< 12.2
MW-25	11/3/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.5	< 12.2
MW-26	11/9/2021	< 0.12 UJ	< 0.069 UJ	< 0.18 UJ	< 0.12 UJ	< 0.11 UJ	< 180 UJ	< 120 UJ	< 31.6 UJ	< 20.4 UJ	< 12.2 UJ
MW-27	11/9/2021	< 0.12 UJ	< 0.069 UJ	< 0.18 UJ	< 0.12 UJ	< 0.11 UJ	< 180 UJ	360 J	< 100 UJ	< 20.4 UJ	< 12.2 UJ
MW-27 Dup	11/9/2021	< 0.12 UJ	< 0.069 UJ	< 0.18 UJ	< 0.12 UJ	< 0.11 UJ	< 180 UJ	540 J	< 100 UJ	< 20.4 UJ	< 12.2 UJ
MW-28	11/8/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.6	< 12.2
MW-28 Dup	11/8/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.5	< 12.2
MW-29	11/8/2021	1.7	1.1	3.2	0.73 j	2.3 J+	< 200	1,300	2,120	< 20.3	222
MW-30	11/4/2021	0.24 j	< 0.11	< 0.20	< 0.18	< 0.10	< 180	580 J	100 J+	< 20.4	< 12.2
MW-31	11/4/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	420 J	< 31.6	< 20.5	< 12.2
MW-32	11/2/2021	0.28 j	< 0.069	< 0.18	< 0.12	0.13 j	< 180	170 j	92.9 j	< 20.3	< 12.2
MW-33	11/2/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	41.7 j	< 20.6	< 12.2
MW-34	11/10/2021	0.35 j	< 0.11	0.20 j	< 0.18	< 1.0 U	580	4,100	104 J+	< 20.6	< 12.2
MW-35	11/10/2021	< 0.10	< 0.11	< 0.20	< 0.18	< 0.10	< 180	390 j	105 J+	< 20.6	< 12.2
MW-36	11/9/2021	5.8 J	1.6 J	8.0 J	3.8 J	7.8 J	< 180 UJ	3,100 J	763 J	< 20.6 UJ	95.9 J
MW-37	11/9/2021	< 0.12 UJ	< 0.069 UJ	< 0.18 UJ	< 0.12 UJ	< 0.11 UJ	< 180 UJ	240 J	< 100 UJ	< 20.6 UJ	< 12.2 UJ
MW-38	11/9/2021	4.0 J	0.82 J	3.9 J	2.0 J	3.3 J	< 920 UJ	28,200 J	5,540 J	905 J-	900 J
MW-39	11/10/2021	34.9	7.9	30.9	10.5	24.1	< 180	7,600	2,600 J-	30.1 j	208
MW-40	11/8/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.6	< 12.2
MW-41	11/8/2021	0.22 j	< 0.069	< 0.18	< 0.12	< 0.11	< 190	< 120	257 J+	< 20.6	< 12.2
MW-42	11/2/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.4	< 12.2
MW-43	11/10/2021	0.96 j	0.45 j	1.8 j	0.35 j	< 1.0 U	290 j	3,000	1,350	112	653
MW-44	11/4/2021	0.21 j	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.5 UJ	< 12.2
MW-45	11/8/2021	< 0.12	< 0.069	< 0.18	< 0.12	< 0.11	< 180	< 120	< 31.6	< 20.4	< 12.2

Notes:

- Groundwater Cleanup Levels as defined in Table 17 of the Portland Harbor Superfund Site Record of Decision
- Solubility of Motor Oil Range Organics ranges from 3.7 ug/L - 260 ug/L at 20C (EPA 2015). Results within or greater than this range are above saturation and indicate the likely presence of residual LNAPL in the well or adjacent groundwater.
- Solubility of Diesel Range Organics ranges from 220 ug/L - 27,800 ug/L at 20C (EPA 2015). Results within or greater than this range are above saturation and indicate the likely presence of residual LNAPL in the well or adjacent groundwater.
- Solubility of Gasoline Range Organics ranges from 9,500 ug/L - 1,790,000 ug/L at 20C (EPA 2015). Results within or greater than this range are above saturation and indicate the likely presence of residual LNAPL in the well or adjacent groundwater.

< = Compound not detected. Reportable detection limit shown.

-- = not analyzed

µg/L = micrograms per liter

GW SCM = Groundwater Source Control Measure

NS = No Standard

Dup = Field Duplicate Sample

Bolded values indicate concentrations above the Reportable Detection Limit.

Shaded values indicate concentrations above the GW SCM Performance Evaluation Criteria.

Qualifiers - Organics

j = The result is an estimated concentration, detected between the Method Detection Limit and the Reporting Limit.

J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits

J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits

NJ = Evidence of the compound at an estimated quantity.

UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

U = Analyte was analyzed for, but not detected.

R = Sample result is rejected and not used for decision making purposes based on evaluation of quality control data.

NWTPH-Dx, SGT analyses performed by PACE.

NWTPH-Gx analyses performed by PACE.

NWVPH analyses performed by Fremont.

NWEPH analyses performed by Fremont.

Table Q4-11

Groundwater Analytical Data - Semi-volatile Organic Compounds and Metals
Premier Edible Oils, 10400 N Burgard Way
Portland, Oregon

Method		EPA 6020A		EPA 8270 by SIM				
Analyte		Arsenic	Manganese	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene
Unit		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Selected GW SCM Performance Evaluation Criteria		2.1	1,925	NS	NS	99	NS	4,000
Groundwater Cleanup Levels ¹		0.018	430	NS	NS	23	NS	0.73
Well	Sample Date							
MW-02	11/10/2021	19.0	2,400	< 0.0069	< 0.0084	< 0.0070	< 0.0062	< 0.0055
MW-03	11/3/2021	0.42 j	167	< 0.0067	< 0.0083	< 0.0069	< 0.0061	< 0.0054
MW-06	11/3/2021	7.5	726	4.7	4.0	1.4	0.44	0.17
MW-08	11/4/2021	2.0	779	< 0.0069	< 0.0084	< 0.0070	< 0.0062	< 0.0055
MW-11	11/11/2021	44.1	3,130	0.15	0.040 j	0.51	< 0.0061	< 0.0054
MW-18	11/4/2021	2.2	1,150	0.055 J	0.023 J	0.38	0.020 j	< 0.0055
MW-19	11/4/2021	0.43 j	1,540	0.0086 J	0.0096 J	< 0.0070	< 0.0062	< 0.0055
MW-21	11/3/2021	0.73	128	< 0.0068	< 0.0084	< 0.0070	< 0.0061	< 0.0054
MW-24A	11/3/2021	1.2	599	< 0.0070	< 0.0086	< 0.0072	< 0.0063	< 0.0056
MW-25	11/3/2021	0.19 j	16.8	< 0.0069	0.011 J	< 0.0070	< 0.0062	< 0.0055
MW-26	11/9/2021	1.1	116	< 0.0067 UJ	< 0.0083 UJ	0.0069 J	< 0.0061 UJ	< 0.0054 UJ
MW-27	11/9/2021	42.1	1,320	0.046 J	0.015 J	0.38 J	0.020 J	< 0.0054 UJ
MW-27 Dup	11/9/2021	40.5	1,330	0.050 J	0.017 J	0.39 J	0.023 J	0.085 J
MW-28	11/8/2021	0.13 j	1.8 J+	< 0.0069	< 0.0084	< 0.0070	< 0.0062	< 0.0055
MW-28 Dup	11/8/2021	0.12 j	2.0 J+	< 0.0069	< 0.0085	< 0.0071	< 0.0063	< 0.0055
MW-29	11/8/2021	33.1	3,720	0.84	0.12	1.1	0.13	0.056
MW-30	11/4/2021	18.3	1,760	0.061 J	0.027 J	0.20	< 0.0061	< 0.0054
MW-31	11/4/2021	0.21 j	1,220	0.041 J	0.021 J	< 0.0070	< 0.0062	< 0.0055
MW-32	11/2/2021	10.6	6.5	0.031 j	0.044	0.034 j	0.0076 j	< 0.0056
MW-33	11/2/2021	10.4	745	0.012 j	0.015 j	0.049	< 0.0061	0.0088 j
MW-34	11/10/2021	4.4	1,960	0.17	0.073	0.25	0.027 j	< 0.0055
MW-35	11/10/2021	13.5	776	0.11	0.010 j	0.076	0.012 j	0.039 j
MW-36	11/9/2021	29.7	2,370	1.4 J	0.22 J	1.8 J	0.25 J	< 0.0054 UJ
MW-37	11/9/2021	2.1	75.4	0.020 J	0.019 J	0.024 J	0.0074 J	< 0.0054 UJ
MW-38	11/9/2021	45.0	1,250	< 0.0067 UJ	< 0.0083 UJ	2.5 J-	0.37 J-	1.2 J-
MW-39	11/10/2021	51.3	3,300	11.4	0.48	2.0	0.31	0.081
MW-40	11/8/2021	4.3	1,330	< 0.0068	0.0097 j	< 0.0070	< 0.0061	< 0.0054
MW-41	11/8/2021	1.6	446	< 0.0069	< 0.0085	< 0.0071	< 0.0063	< 0.0055
MW-42	11/2/2021	5.2	502	< 0.0067	< 0.0082	< 0.0068	< 0.0060	< 0.0053
MW-43	11/10/2021	27.4	1,750	0.28	0.030 j	0.74	0.032 j	0.047
MW-44	11/4/2021	2.1	329	0.0098 J	< 0.0083	0.0081 j	< 0.0061	< 0.0054
MW-45	11/8/2021	0.11 j	286	0.010 j	0.013 j	< 0.0071	< 0.0063	< 0.0055

Notes:

1. Groundwater Cleanup Levels as defined in Table 17 of the Portland Harbor Superfund Site Record of Decision

< = Compound not detected. Reportable detection limit shown.

-- = not analyzed

µg/L = micrograms per liter

GW SCM = Groundwater Source Control Measure

NS = No Standard

Dup = Field Duplicate Sample

Bolded values indicate concentrations above the Reportable Detection Limit.

Shaded values indicate concentrations above the GW SCM Performance Evaluation Criteria.

Qualifiers - Organics

j = The result is an estimated concentration, detected between the Method Detection Limit and the Reporting Limit.

J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits

J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits

NJ = Evidence of the compound at an estimated quantity.

UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

U = Analyte was analyzed for, but not detected.

R = Sample result is rejected and not used for decision making purposes based on evaluation of quality control data.

EPA 6020A analyses performed by PACE.

EPA 8270 BY SIM analyses performed by PACE.

Table Q4-11
Groundwater Analytical Data - Semi-volatile
Premier Edible Oils, 10400 N Burgard Way
Portland, Oregon

Method		EPA 827				
Analyte		Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene
Unit		µg/L	µg/L	µg/L	µg/L	µg/L
Selected GW SCM Performance Evaluation Criteria		0.0018	0.0018	0.0018	0.0018	0.0018
Groundwater Cleanup Levels ¹		0.0012	0.00012	0.0012	NS	0.0013
Well	Sample Date					
MW-02	11/10/2021	< 0.0092	< 0.0090	< 0.0097	0.022 j	< 0.0084
MW-03	11/3/2021	< 0.0090	< 0.0088	< 0.0095	< 0.0081	< 0.0083
MW-06	11/3/2021	0.011 j	< 0.0088	< 0.0095	< 0.0081	< 0.0083
MW-08	11/4/2021	< 0.0092	< 0.0090	< 0.0097	< 0.0083	< 0.0084
MW-11	11/11/2021	< 0.0090	0.013 j	< 0.0095	0.013 j	< 0.0083
MW-18	11/4/2021	< 0.0093	< 0.0091	< 0.0098	< 0.0083	< 0.0085
MW-19	11/4/2021	< 0.0092	< 0.0090	< 0.0097	< 0.0083	< 0.0084
MW-21	11/3/2021	< 0.0091	< 0.0089	< 0.0096	< 0.0082	< 0.0084
MW-24A	11/3/2021	< 0.0094	< 0.0092	< 0.0099	< 0.0085	< 0.0086
MW-25	11/3/2021	< 0.0092	< 0.0090	< 0.0097	< 0.0083	< 0.0084
MW-26	11/9/2021	0.010 J	< 0.0088 UJ	< 0.0095 UJ	< 0.0081 UJ	< 0.0083 UJ
MW-27	11/9/2021	< 0.0091 UJ	< 0.0089 UJ	< 0.0096 UJ	< 0.0082 UJ	< 0.0083 UJ
MW-27 Dup	11/9/2021	< 0.0092 UJ	< 0.0090 UJ	< 0.0097 UJ	< 0.0082 UJ	< 0.0084 UJ
MW-28	11/8/2021	< 0.0092	< 0.0090	< 0.0097	< 0.0083	< 0.0084
MW-28 Dup	11/8/2021	< 0.0093	< 0.0091	< 0.0098	< 0.0084	< 0.0085
MW-29	11/8/2021	< 0.0091	< 0.0089	< 0.0096	< 0.0082	< 0.0084
MW-30	11/4/2021	< 0.0090	< 0.0088	< 0.0095	< 0.0081	< 0.0083
MW-31	11/4/2021	< 0.0092	< 0.0090	< 0.0097	< 0.0083	< 0.0084
MW-32	11/2/2021	0.017 j	0.013 j	0.018 j	0.015 j	< 0.0087
MW-33	11/2/2021	< 0.0090	< 0.0088	< 0.0095	< 0.0081	< 0.0083
MW-34	11/10/2021	< 0.0092	< 0.0090	< 0.0097	< 0.0083	< 0.0084
MW-35	11/10/2021	< 0.0091	< 0.0089	< 0.0096	< 0.0082	< 0.0084
MW-36	11/9/2021	< 0.0090 UJ	< 0.0088 UJ	< 0.0095 UJ	< 0.0081 UJ	< 0.0083 UJ
MW-37	11/9/2021	< 0.0090 UJ	< 0.0088 UJ	< 0.0095 UJ	< 0.0081 UJ	< 0.0083 UJ
MW-38	11/9/2021	0.10 J-	0.072 J-	0.068 J-	0.053 J-	0.024 J-
MW-39	11/10/2021	< 0.0091	< 0.0089	< 0.0096	< 0.0082	< 0.0084
MW-40	11/8/2021	< 0.0091	< 0.0089	< 0.0096	< 0.0082	< 0.0084
MW-41	11/8/2021	< 0.0093	< 0.0091	< 0.0098	< 0.0084	< 0.0085
MW-42	11/2/2021	< 0.0090	< 0.0088	< 0.0094	< 0.0080	< 0.0082
MW-43	11/10/2021	0.012 j	< 0.0090	< 0.0097	< 0.0083	< 0.0084
MW-44	11/4/2021	0.011 j	< 0.0088	0.010 j	0.010 j	0.0091 j
MW-45	11/8/2021	< 0.0093	< 0.0091	< 0.0098	< 0.0084	< 0.0085

Notes:

1. Groundwater Cleanup Levels as defined in Table 17 of the P
 < = Compound not detected. Reportable detection limit shown.
 -- = not analyzed
 µg/L = micrograms per liter
 GW SCM = Groundwater Source Control Measure
 NS = No Standard
 Dup = Field Duplicate Sample
 Bolded values indicate concentrations above the Reportable De
 Shaded values indicate concentrations above the GW SCM Pei

Qualifiers - Organics

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 NJ = Evidence of the compound at an estimated quantity.
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 U = Analyte was analyzed for, but not detected.
 R = Sample result is rejected and not used for decision making
 EPA 6020A analyses performed by PACE.
 EPA 8270 BY SIM analyses performed by PACE.

Table Q4-11
Groundwater Analytical Data - Semi-volatile
Premier Edible Oils, 10400 N Burgard Way
Portland, Oregon

Method by SIM						
Analyte		Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene
Unit		µg/L	µg/L	µg/L	µg/L	µg/L
Selected GW SCM Performance Evaluation Criteria		0.0018	0.0018	14	530	0.0018
Groundwater Cleanup Levels ¹		0.0013	0.00012	NS	NS	0.0012
Well	Sample Date					
MW-02	11/10/2021	< 0.0096	< 0.0081	< 0.014	0.076	< 0.011
MW-03	11/3/2021	< 0.0094	< 0.0080	< 0.014	< 0.0060	< 0.011
MW-06	11/3/2021	< 0.0094	< 0.0080	0.048	3.3	< 0.011
MW-08	11/4/2021	< 0.0096	< 0.0081	< 0.014	< 0.0062	< 0.011
MW-11	11/11/2021	< 0.0094	< 0.0080	< 0.014	< 0.0060	< 0.011
MW-18	11/4/2021	< 0.0096	< 0.0082	< 0.014	0.031 j	< 0.011
MW-19	11/4/2021	< 0.0096	< 0.0081	< 0.014	0.0091 j	< 0.011
MW-21	11/3/2021	< 0.0095	< 0.0080	< 0.014	< 0.0061	< 0.011
MW-24A	11/3/2021	< 0.0098	< 0.0083	< 0.015	0.0093 J	< 0.012
MW-25	11/3/2021	< 0.0096	< 0.0081	< 0.014	< 0.0062	< 0.011
MW-26	11/9/2021	< 0.0094 UJ	< 0.0080 UJ	< 0.014 UJ	0.0077 J	< 0.011 UJ
MW-27	11/9/2021	< 0.0094 UJ	< 0.0080 UJ	0.030 J	0.37 J	< 0.011 UJ
MW-27 Dup	11/9/2021	< 0.0095 UJ	< 0.0081 UJ	0.035 J	0.38 J	< 0.011 UJ
MW-28	11/8/2021	< 0.0096	< 0.0081	< 0.014	< 0.0062	< 0.011
MW-28 Dup	11/8/2021	< 0.0097	< 0.0082	< 0.015	< 0.0062	< 0.012
MW-29	11/8/2021	< 0.0095	< 0.0080	0.067	1.1	< 0.011
MW-30	11/4/2021	< 0.0094	< 0.0080	< 0.014	0.15	< 0.011
MW-31	11/4/2021	< 0.0096	< 0.0081	< 0.014	< 0.0062	< 0.011
MW-32	11/2/2021	0.011 j	< 0.0084	0.019 j	0.0097 j	0.012 j
MW-33	11/2/2021	< 0.0094	< 0.0080	< 0.014	0.0081 j	< 0.011
MW-34	11/10/2021	< 0.0096	< 0.0081	< 0.014	0.091	< 0.011
MW-35	11/10/2021	< 0.0095	< 0.0080	0.045	0.035 j	< 0.011
MW-36	11/9/2021	< 0.0094 UJ	< 0.0080 UJ	0.063 J	1.7 J	< 0.011 UJ
MW-37	11/9/2021	< 0.0094 UJ	< 0.0080 UJ	< 0.014 UJ	0.029 J	< 0.011 UJ
MW-38	11/9/2021	0.20 J-	< 0.0080 UJ	0.29 J-	3.2 J-	< 0.011 UJ
MW-39	11/10/2021	< 0.0095	< 0.0080	0.054	2.1	< 0.011
MW-40	11/8/2021	< 0.0095	< 0.0080	< 0.014	< 0.0061	< 0.011
MW-41	11/8/2021	< 0.0097	< 0.0082	< 0.015	< 0.0062	< 0.012
MW-42	11/2/2021	< 0.0093	< 0.0079	< 0.014	< 0.0060	< 0.011
MW-43	11/10/2021	0.012 j	< 0.0081	0.027 j	0.36	< 0.011
MW-44	11/4/2021	< 0.0094	< 0.0080	< 0.014	< 0.0060	< 0.011
MW-45	11/8/2021	< 0.0097	< 0.0082	< 0.015	< 0.0062	< 0.012

Notes:

1. Groundwater Cleanup Levels as defined in Table 17 of the P
 < = Compound not detected. Reportable detection limit shown.
 -- = not analyzed
 µg/L = micrograms per liter
 GW SCM = Groundwater Source Control Measure
 NS = No Standard
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 NJ = Evidence of the compound at an estimated quantity.
 UJ = Analyte was analyzed for, but not detected. The detection
 U = Analyte was analyzed for, but not detected.
 R = Sample result is rejected and not used for decision making
 EPA 6020A analyses performed by PACE.
 EPA 8270 BY SIM analyses performed by PACE.

Table Q4-11
Groundwater Analytical Data - Semi-volatile
Premier Edible Oils, 10400 N Burgard Way
Portland, Oregon

Method		EPA 8270 by SIM			Calculated
Analyte	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene	
Unit	µg/L	µg/L	µg/L	TEQ (ND=0)	
Selected GW SCM Performance Evaluation Criteria	12	NS	400	0.0018	
Groundwater Cleanup Levels ¹	NS	NS	NS	0.00012	
Well	Sample Date				
MW-02	11/10/2021	0.084	< 0.012	< 0.010	< 0.011 U
MW-03	11/3/2021	0.018 J	< 0.012	< 0.0099	< 0.011 U
MW-06	11/3/2021	1.7	1.8	0.049	0.0011
MW-08	11/4/2021	0.017 J	< 0.012	< 0.010	< 0.011 U
MW-11	11/11/2021	0.18	< 0.012	< 0.0099	0.013
MW-18	11/4/2021	0.032 J	< 0.013	< 0.010	< 0.011 U
MW-19	11/4/2021	< 0.0090	0.016 j	0.019 j	< 0.011 U
MW-21	11/3/2021	< 0.0089	< 0.012	< 0.010	< 0.011 U
MW-24A	11/3/2021	< 0.0092	< 0.013	< 0.010	< 0.012 U
MW-25	11/3/2021	< 0.0090	< 0.012	< 0.010	< 0.011 U
MW-26	11/9/2021	0.0090 J	< 0.012 UJ	< 0.0099 UJ	0.0010
MW-27	11/9/2021	0.095 J	0.079 J	0.028 J	< 0.011 U
MW-27 Dup	11/9/2021	0.10 J	0.022 J	0.030 J	< 0.011 U
MW-28	11/8/2021	< 0.0090	< 0.012	< 0.010	< 0.011 U
MW-28 Dup	11/8/2021	< 0.0091	< 0.013	< 0.010	< 0.012 U
MW-29	11/8/2021	1.2	0.51	0.078	< 0.011 U
MW-30	11/4/2021	0.19 J	< 0.012	< 0.0099	< 0.011 U
MW-31	11/4/2021	0.014 J	< 0.012	< 0.010	< 0.011 U
MW-32	11/2/2021	0.050	0.021 j	0.030 j	0.018
MW-33	11/2/2021	0.040	0.027 j	< 0.0099	< 0.011 U
MW-34	11/10/2021	0.22	< 0.012	< 0.010	< 0.011 U
MW-35	11/10/2021	0.030 j	0.046	0.046	< 0.011 U
MW-36	11/9/2021	1.5 J	< 0.012 UJ	0.074 J	< 0.011 U
MW-37	11/9/2021	0.033 J	0.031 J	< 0.0099 UJ	< 0.011 U
MW-38	11/9/2021	1.0 J-	3.4 J-	0.75 J-	0.089
MW-39	11/10/2021	1.9	1.3	< 0.010	< 0.011 U
MW-40	11/8/2021	< 0.0089	< 0.012	< 0.010	< 0.011 U
MW-41	11/8/2021	< 0.0091	< 0.013	< 0.010	< 0.012 U
MW-42	11/2/2021	< 0.0087	< 0.012	< 0.0098	< 0.011 U
MW-43	11/10/2021	0.48	0.068	0.052	0.0012
MW-44	11/4/2021	< 0.0088	0.014 j	< 0.0099	0.0022
MW-45	11/8/2021	0.0093 j	< 0.013	< 0.010	< 0.012 U

Notes:

1. Groundwater Cleanup Levels as defined in Table 17 of the P.
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-- = not analyzed

µg/L = micrograms per liter

GW SCM = Groundwater Source Control Measure

NS = No Standard

Dup = Field Duplicate Sample

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Qualifiers - Organics

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EPA 6020A analyses performed by PACE.

EPA 8270 BY SIM analyses performed by PACE.

Table Q4-12
Groundwater Analytical Data - Water Quality Parameters
Premier Edible Oils, 10400 N Burgard Way
Portland, Oregon

Method		EPA 353.2	EPA 300.0	SM2320B	SM2340B
Analyte		Nitrate as N	Sulfate	Alkalinity, Total as CaCO3	Hardness as CaCO3
Unit		µg/L	µg/L	µg/L	µg/L
Selected GW SCM Performance Evaluation Criteria		10,000	NS	20,000	NS
Well	Sample Date				
MW-02	11/10/2021	< 18	66,300	139,000	157,000
MW-03	11/3/2021	< 18	7,300	78,500	59,100
MW-06	11/3/2021	< 18	< 340	87,000	38,200
MW-08	11/4/2021	< 18	65,500	25,300	56,800
MW-11	11/11/2021	< 18	5,600	336,000	244,000
MW-18	11/4/2021	< 18	94,100	87,300	119,000
MW-19	11/4/2021	< 18	8,700	134,000	75,100
MW-21	11/3/2021	99 J-	3,100	54,500	42,000
MW-24A	11/3/2021	R	8,900	73,500	55,600
MW-25	11/3/2021	25 J-	11,400	71,900	57,900
MW-26	11/9/2021	56 J	26,800 J	26,200 J	33,800
MW-27	11/9/2021	< 18 UJ	38,800 J	41,000 J	57,000
MW-27 Dup	11/9/2021	< 18 UJ	41,100 J	40,700 J	58,500
MW-28	11/8/2021	1,700	3,400	55,400	44,300
MW-28 Dup	11/8/2021	1,600	3,400	55,400	45,400
MW-29	11/8/2021	< 18	< 340	202,000	165,000
MW-30	11/4/2021	< 18	22,600	86,700	73,200
MW-31	11/4/2021	< 18	95,500	101,000	173,000
MW-32	11/2/2021	31 j	25,800	110,000	113,000
MW-33	11/2/2021	< 18	38,900	84,900	87,100
MW-34	11/10/2021	< 18	63,100	46,500	83,500
MW-35	11/10/2021	< 18	24,900	32,200	36,500
MW-36	11/9/2021	< 18 UJ	3,000 J	182,000 J	146,000
MW-37	11/9/2021	24 J	34,400 J	48,700 J	62,000
MW-38	11/9/2021	< 18 UJ	700 J	163,000 J	135,000
MW-39	11/10/2021	< 18	< 340	219,000	158,000
MW-40	11/8/2021	< 18	59,600	44,500	86,700
MW-41	11/8/2021	< 18 UJ	550 j	68,300	45,800
MW-42	11/2/2021	< 18	52,800	60,600	93,600
MW-43	11/10/2021	< 18	3,800	94,200	69,500
MW-44	11/4/2021	< 18	15,400	107,000	75,500
MW-45	11/8/2021	740	58,800	1,800 j	58,600

Notes:

< = Compound not detected. Reportable detection limit shown.

-- = not analyzed

µg/L = micrograms per liter

GW SCM = Groundwater Source Control Measure

NS = No Standard for GW SCM Performance Evaluation

Dup = Field Duplicate Sample

Bolded values indicate concentrations above the Reportable Detection Limit.

Shaded values indicate concentrations above the GW SCM Performance Evaluation Criteria.

Qualifiers - Organics

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J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits

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EPA 300.0 analyses performed by PACE.

EPA 353.2 analyses performed by PACE.

SM2320B analyses performed by PACE.

SM2340B analyses performed by PACE.